

Monday A.M.

Union

U11A Moscone South: I04 Monday 0800h **The 12 January 2010 M7.0 Haiti Earthquake I**

Presiding: **E Calais**, Purdue University; **S E Hough**, U.S. Geological Survey

0800h **U11A-01** The January 12, 2010, Mw 7.0 earthquake in Haiti: context and mechanism from an integrated geodetic study: **E Calais**, A M Freed, G S Mattioli, F Amelung, S Jonsson, P E Jansma, T H Dixon, C Prepetit, R Momplaisir

0815h **U11A-02** The Role of Science and Engineering in Rebuilding a More Resilient Haiti (*Invited*): **D Applegate**

0830h **U11A-03** Networks in disasters: Multidisciplinary communication and coordination in response and recovery to the 2010 Haiti Earthquake (*Invited*): **B G McAdoo**, J Augenstein, L Comfort, L Huggins, N Krenitsky, S Scheinert, T Serrant, M Siciliano, S Stebbins, P Sweeney, Title of Team: University of Pittsburgh Haiti Reconnaissance Team

0845h **U11A-04** The Role of Science and Engineering in Response and Reconstruction Following the 2010 Haiti Earthquake (*Invited*): **W D Pennington**

0900h **U11A-05** The Enriquillo-Plantain Garden Fault in Haiti: Holocene Offsets and Seismic Hazard: **C S Prentice**, A J Crone, P Mann, R D Gold, K W Hudnut, P Jean, R W Briggs

0915h **U11A-06** The 2010 Haiti earthquake sequence: new insight of the tectonic pattern from aftershocks and marine geophysical data : Haiti-OBS cruise: **B F Mercier De Lepinay**, Y Mazabraud, F Klingelhoefer, V Clouard, Y Hello, D Graindorge, B Marcaillou, J Crozon, J Saurel, P Charvis, B S Mildor, A Deschamps, M Bouin, J Perrot

0930h **U11A-07** Seismic Monitoring and Post-Seismic Investigations following the 12 January 2010 Mw 7.0 Haiti Earthquake (*Invited*): **J Altidor**, A Dieuseul, W L Ellsworth, D D Given, S E Hough, M G Janvier, J Z Maharrey, M E Meremonte, B S Mildor, C Prepetit, A Yong

0945h **U11A-08** Triggering of the 2010 Haiti earthquake by hurricanes and possibly deforestation: **S Wdowinski**, I Tsukanov, S Hong, F Amelung

Atmospheric Sciences

A11A Moscone South: Poster Hall Monday 0800h **High-Resolution Active Optical Remote Sensing of Atmospheric Processes I Posters**

Presiding: **D M Tratt**, The Aerospace Corporation; **S Ismail**, NASA Langley Research Center; **S Lolli**, Leosphere

0800h **A11A-0022 POSTER** A new approach proposed to Fourier transform spectroscopy using a broad-band laser source: **K Sung**, P Chen, T J Crawford

0800h **A11A-0023 POSTER** Trace Gas Measurements on Mars and Earth using Optical Parametric Generation: **K Numata**, H Riris, S Li, X Sun, J B Abshire

0800h **A11A-0024 POSTER** LASE system upgrade and measurements from the NASA GRIP field experiment: **S Kooi**, S Ismail, R A Ferrare, J W Hair, A Notari, J E Collins, A R Nehrir, C F Butler, J Halverson

0800h **A11A-0025 POSTER** Uncertainty in Cloud Aerosol Transport System (CATS) Doppler Lidar Products and Measurements:

P A Selmer

0800h **A11A-0026 POSTER** Seasonally Averaged CALIPSO Lidar Extinction Profiles Provide Three-Dimensional Distribution of Saharan Dust Over Northern Continental Africa: **J L Tackett**, D M Winker, C R Trepte

0800h **A11A-0027 POSTER** The New and Improved Purple Crow Lidar: **R J Sica**, P S Argall, J Bandoro, B Iserhienrhien, J Khanna, E M McCullough, K F Olofson, R Wing

0800h **A11A-0028 POSTER** Development of a High Spectral Resolution Lidar (HSRL) Based on a Confocal Optical Filter for Aerosol Studies: **K S Repasky**, D S Hoffman, J A Reagan, J Carlsten

0800h **A11A-0029 POSTER** Fugitive Dust Emission Factors for Puff and Mobile Military Sources Measured by Micro-pulse Lidar – A Summary of Results: **W Yuen**, K Du, M J Rood, M R Kemme, B Kim, R A Hashmonay

0800h **A11A-0030 POSTER** Quality Assured Aerosol Products from the NASA Micro Pulse Lidar Network (MPLNET): **E J Welton**, L R Belcher, J Campbell, T Berkoff, S A Stewart, J R Lewis

0800h **A11A-0031 POSTER** Calibration of elastic scattering lidar at 1064-nm channel using the water-phase and cirrus clouds: **Y Wu**, L Cordero, C Gan, B Gross, F Moshary, S A Ahmed

0800h **A11A-0032 POSTER** Installation and calibration of the depolarization channel of the CANDAC Rayleigh-Mie-Raman Lidar in the Canadian High Arctic: **E M McCullough**, G J Nott, T J Duck, R J Sica, J R Drummond

0800h **A11A-0033** WITHDRAWN

A11B Moscone South: Poster Hall Monday 0800h **Ice and Mixed-Phase Precipitation Characterization in Passive and Active Microwave Remote Sensing, in Situ observations, and Modeling Perspectives I Posters**

Presiding: **T Matsui**, NASA GSFC; **W Tao**, NASA GSFC; **B T Johnson**, University of Maryland Baltimore County; **G Skofronick-Jackson**, NASA Goddard Space Flight Center; **L Liao**, UMBC; **S Tanelli**, Jet Propulsion Laboratory

0800h **A11B-0034 POSTER** Synthetic GPM Simulator Development using GV measurements: **T Matsui**, X Li, T Iguchi, W Tao

0800h **A11B-0035 POSTER** Numerical experiment of lake-effect snowstorm in C3VP campaign using the WRF model coupled with spectral bin microphysics: **T Iguchi**, T Matsui, X Li, J J Shi, W Tao

0800h **A11B-0036 POSTER** Numerical Simulations of a Snow Storm Using the WRF Model: Sensitivity tests of microphysics schemes and initial conditions: **J J Shi**, W Tao, T Matsui, A Y Hou, S E Lang, C D Peters-Lidard

0800h **A11B-0037 POSTER** Comparing Aircraft Observations of Snowfall to Forecasts Using Single or Two Moment Bulk Water Microphysics Schemes: **A Molthan**

0800h **A11B-0038 POSTER** Long-term evaluation of COSMO forecast models over Germany using Meteosat Second Generation (MSG) data: **S Stapelberg**, S Crewell, T Böhme, J Fischer, T Akkermans, A Seifert, N van Lipzig, T Reinhardt, C Selbach

0800h **A11B-0039 POSTER** NASA's integrated Instrument Simulator Suite for Atmospheric Remote Sensing from spaceborne platform (ISSARS) and its role for the GPM mission: **S Tanelli**, N Niamsuwan, M P Johnson, A Battaglia, P Li, J C Jacob, W Tao, T Matsui, C A Hostetler, K Kuo, S L Durden, D J Diner, T Y Nakajima, T S L'Ecuyer, G L Stephens, A Heymsfield, D Donovan, J T Johnson, N Majurec

0800h **A11B-0040** POSTER Retrieval of the Physical Parameters for Frozen Precipitation: **N Niamsuwan**

0800h **A11B-0041** POSTER Precipitation Remote Sensing Using Combined Passive and Active Microwave Observations: **B T Johnson**

0800h **A11B-0042** POSTER Modeling Snow Aggregates and their Single Scattering Properties: Implications to Snowfall Remote Sensing: **H Nowell**, G Liu

0800h **A11B-0043** POSTER Observation of snowfall by ground-based active and passive remote sensing: S Kneifel, U Löhnert, **S Crewell**, S Redl

0800h **A11B-0044** POSTER Simulations of Radar Bright Band at Multiple Frequencies and Its Comparisons with Airborne Radar Measurements: **L Liao**, R Meneghini

0800h **A11B-0045** POSTER Analysis of observational cases measured by MRR and PARSIVEL disdrometer for understanding the physical characteristics of precipitation: **J cha**, K Chang, J Jeoung, J Bae, Y Choi, Y Kim, Title of Team: hydrometeo. Resource Res. team

0800h **A11B-0046** POSTER Snowflake Visualization: **L F Bliven**, P A Kucera, P Rodriguez

0800h **A11B-0047** POSTER Validation of Cloud Seeding using the Airborne Radar: **K Chang**, J Jung, J cha, C Lee, Y Choi, H Lee

A11C Moscone South: Poster Hall Monday 0800h
Innovative Applications of Satellite and Ground Observations in Evaluating Large-Scale Models: Beyond the Resemblance Test I Posters (*joint with GC*)

Presiding: **X Huang**, University of Michigan; **S A Klein**, Lawrence Livermore National Laboratory; **Z Luo**, City College of New York, CUNY

0800h **A11C-0048** POSTER Evaluation of Modeled Clouds using the Satellite Observations: **Y Zhang**, S A Klein, J S Boyle, J E Kay, G G Mace

0800h **A11C-0049** POSTER Impact of horizontal resolution on climate model forecasts of tropical precipitation and diabatic heating for the TWP-ICE period: **S A Klein**, J S Boyle

0800h **A11C-0050** POSTER Influence of SST on humidity and temperature in the outflow of tropical deep convection: Observational basis for evaluating model simulations: **Z Luo**, D Kley, R H Johnson, G Liu

0800h **A11C-0051** POSTER Simulated atmospheric bridge across tropical ocean basins and its sensitivity to seasonal evolution in current and future climate regimes: **H Chuang**, X Huang

0800h **A11C-0052** POSTER Longwave band-by-band cloud radiative forcing over the tropical oceans from 2003 to 2007: observations vs. simulations: **X Huang**, H Chuang, G L Potter, N G Loeb, L Oreopoulos, D Lee, M Suarez

0800h **A11C-0053** POSTER Using Self Organizing Maps to evaluate the NASA GISS AR5 SCM at the ARM SGP Site: X Dong, **A D Kennedy**, B Xi

0800h **A11C-0054** POSTER Classification of clouds and deep convection from GEOS-5 using satellite observations: **W M Putman**, M Suarez

0800h **A11C-0055** POSTER Convection-climate Feedbacks in ECHAM5 General Circulation Model: A Lagrangian Trajectory Perspective of Detrainment Cirrus Cloud Life Cycle: **S Gehlot**, J Quaas

0800h **A11C-0056** POSTER Investigating Climate Trends in 14 Years of AERI Observations at the ARM SGP Site: **P J Gero**, D Turner

0800h **A11C-0057** POSTER Evaluation of GEOS-5 analyses using six-year (2004-2010) observations of upper tropospheric water vapor and cloud ice from Aura MLS: **J H Jiang**, H Su, S Pawson

0800h **A11C-0058** POSTER Object Based Evaluation of GCM-Simulated Clouds and Radiation For the 1998 El Nino- La Nina Transition: **C Hsu**, A R Jongeward, D J Posselt, J Potter

0800h **A11C-0059** POSTER Can cloud-climate-feedbacks be constrained by comparison of low-cloud parametrizations in the ECHAM5 GCM using CALIPSO and CloudSat Satellite data?: **C C Nam**, J Quaas, E Roeckner, R Neggers, C Siegenthaler - Le Drian, F Isotta, B B Stevens

0800h **A11C-0060** WITHDRAWN

0800h **A11C-0061** POSTER Description of Cloud Occurrence from CloudSat-CALIPSO Cloud Mask Data and Comparison of the Measured Cloud Fraction with GCM Simulations: **Q Zhang**, G G Mace

0800h **A11C-0062** POSTER Nudged and forecast simulations in a multiscale modeling framework - maximizing the use of high value intermittent observations: **G J Kooperman**, M S Pritchard, R C Somerville

0800h **A11C-0063** POSTER EVALUATION OF NCEP GLOBAL FORECAST SYSTEM (GFS) CLOUD PROPERTIES USING SATELLITE RETRIEVALS: **H Yoo**, Z Li

0800h **A11C-0064** POSTER Studying sampling effects in MODIS and MISR aerosol data via GOCART model data: **L Petrov**, G G Leptoukh, M Chin, Q Tan, T L Diehl

0800h **A11C-0065** POSTER The MISR Cloud Motion Vector Product: 10 years of height resolved, cloud-track winds: **K Mueller**, **M J Garay**, V Jovanovic, C Moroney, D L Wu, D J Diner

A11D Moscone South: Poster Hall Monday 0800h
Multiscale Organization of Tropical Convection: Year of Tropical Convection (YOTC) I Posters

Presiding: **D E Waliser**, Jet Propulsion Laboratory/Caltech; **M W Moncrieff**, NCAR

0800h **A11D-0066** POSTER Determining the Factors for the Simulation of the Madden-Julian Oscillation: Use of NCEP CFS RAS Model: **K Seo**, J Choi, W Wang

0800h **A11D-0067** POSTER Evaluation of the Diurnal Evolution of the Size of Tropical Convective Systems in Large Domain, High Resolution Simulations using Observations of Outgoing Longwave Radiation: **K Pearson**, R Hogan, R Allan, C E Holloway, G Lister

0800h **A11D-0068** POSTER Boreal Summer ISO hindcast experiment: preliminary results from SNU: **S Heo**, I Kang, D Kim, Y Ham

0800h **A11D-0069** POSTER Electrically-Active Convection and Tropical Cyclogenesis in the Atlantic and East Pacific: **K Leppert**, W A Petersen

0800h **A11D-0070** POSTER Changes in the tropical hydrologic cycle in a warming environment: influence on organized deep convection: **D J Posselt**, S C van den Heever, G L Stephens

0800h **A11D-0071** POSTER Scale interaction of the Diurnal Cycle of Rainfall: Influence of Large-scale Circulations: **S P Rauniyar**, K J Walsh

0800h **A11D-0072** POSTER Moist thermodynamics of Madden Julian Oscillation in a high resolution regional model: **S M Hagos**, L Leung

0800h **A11D-0073** POSTER Vertical Structure of Diabatic Heating of Convectively-Coupled Kelvin Waves from TRMM Satellite Products: B L Slawski, **K Li**, X Jiang, D E Waliser, Y L Yung

0800h **A11D-0074** POSTER Inter-comparison of deep convection over the Tibetan Plateau-Asian Monsoon Region and subtropical North America in boreal summer using CloudSat/CALIPSO data: **Y Luo**, R Zhang, W Qian, Z Luo

0800h **A11D-0075** *POSTER* Tropical overshooting convection from CloudSat and ISCCP: **H Takahashi**, Z Luo

0800h **A11D-0076** *POSTER* Investigating the atmospheric energy spectra using ECMWF analysis: Regional dependence: **P Mukherjee**, M Zhang

0800h **A11D-0077** *POSTER* Spatial-Temporal Evolution of Kelvin Waves and the Vertical Structure of Associated Heating-Rates: **Y L Yung**, B L Slawski, K Li, X Jiang, D E Waliser

0800h **A11D-0078** *POSTER* Interannual Variations of Clouds Observed by A-Train Satellites: **R Bhawar**, J H Jiang, H Su

0800h **A11D-0079** *POSTER* Systematic Relation between Intraseasonal Variability and Mean State Bias in AGCM Simulations: **D Kim**, A H Sobel, E D Maloney, D M Frierson, I Kang

0800h **A11D-0080** *POSTER* Variability in Rainfall Drop-Size Distributions observed at the Darwin ARM site: **M P Jensen**, S Giangrande, M J Bartholomew

0800h **A11D-0081** WITHDRAWN

0800h **A11D-0082** *POSTER* Variations in Convectively Coupled Wave Activity and their Relationship with the Background Environment: **S Leroux**, G N Kiladis

0800h **A11D-0083** *POSTER* An improved 20-km AGCM for global warming experiments: **T Ose**, R Mizuta, H Yoshimura, H Murakami, H Endo, M Matsueda, A Kitoh

0800h **A11D-0084** *POSTER* Modes of Intraseasonal Variability within the Inter-Americas Sea and the Modulation of Easterly Waves During 2008 and 2009: **Y L Serra**

0800h **A11D-0085** *POSTER* Relating large scale dynamic patterns and cloud properties at Darwin, Australia: **S M Evans**, R Marchand, T P Ackerman

0800h **A11D-0086** *POSTER* NASA Giovanni Tool for Visualization and Analysis Support for the YOTC Program: **D Ostrenga**, G G Leptoukh, D E Waliser, Z Liu, A K Savtchenko

0800h **A11D-0087** *POSTER* High-frequency Waves in the Asian Monsoon: Results From an Observational and Modeling Study: **C A DeMott**, C Stan, D A Randall, J L Kinter, M Khairoutdinov

0800h **A11D-0088** *POSTER* Observational study of the 1997/1998 El Nino-Induced Changes in Rainfall Vertical Structure in the East Pacific: **R Li**, Q Min, Y Fu

0800h **A11D-0089** *POSTER* An Observational Analysis of the Relation Between MJO and ENSO: **V Krishnamurthy**, B P Kirtman

A11E Moscone South: Poster Hall Monday 0800h
Multisensor and Model Aerosol Data Intercomparison and Integration I Posters (*joint with IN*)

Presiding: **G G Leptoukh**, NASA; **S A Christopher**, UAHuntsville

0800h **A11E-0090** *POSTER* MISR Aerosol Air Mass Type Mapping over Mega-City: Validation and Applications: **F Patadia**, R A Kahn

0800h **A11E-0091** *POSTER* Identifying Aerosol Type from Space: Absorption Angstrom Exponent as a Foundation for Multidimensional Supervised Clustering and Mahalanobis Classification: **P B Russell**, P Hamill, J M Livingston, Y Shinozuka, A W Strawa, J Redemann, A H Omar, A D Clarke, R W Bergstrom, B Holben, R A Ferrare, S P Burton

0800h **A11E-0092** *POSTER* Retrieval of land surface properties for aerosol and radiation estimation from MODIS data: **R Liu**, Y Liu

0800h **A11E-0093** *POSTER* Uncertainty analysis in global aerosol size distribution and composition using ensemble based data assimilation: **J I Rubin**, W Collins, A F Arellano

0800h **A11E-0094** *POSTER* Aerosol Size Distribution Modification by Interaction with Fog or Clouds Observed by AERONET: **T F Eck**, B Holben, J S Reid, D M Giles, M Rivas Avila, R Singh, S N Tripathi, C Bruegge, A Sinyuk, O Dubovik, A Smirnov

0800h **A11E-0095** *POSTER* Integrating CALIPSO aerosol profiles and AIRS CO observations into OMI aerosol algorithm: **Z Chen**, O Torres, H T Jethva, C Ahn

0800h **A11E-0096** *POSTER* Wind speed dependence in the MODIS aerosol retrieval over ocean: **S Mattoo**, R G Kleidman, L A Remer, R C Levy, A Smirnov

0800h **A11E-0097** *POSTER* MISR Global Aerosol Product Assessment by Comparison with AERONET: **B J Gaitley**, R A Kahn

0800h **A11E-0098** *POSTER* Performance Improvements To the MISR Global Aerosol Product Algorithm: **J V Martonchik**, M Bull, D J Diner, B J Gaitley, M J Garay, E G Hansen, R A Kahn, O V Kalashnikova, D L Nelson, M Yeates

0800h **A11E-0099** *POSTER* Transport of North African Dust from the Bodélé Depression to the Amazon Basin: a case study: I Koren, **Y Ben Ami**, Y Rudich, P Artaxo, S T Martin, M O Andreae

0800h **A11E-0100** *POSTER* Aerosol Retrievals Without Lookup Tables: Potential Application to MISR: **R Hodoss**, S Sanghavi, D J Diner, A B Davis, S Lee, J V Martonchik, P A von Allmen, M J Garay, P Zhai

0800h **A11E-0101** *POSTER* Long-wave radiative forcing due to mineral dust aerosol: **L N Gunn**, W Collins

0800h **A11E-0102** *POSTER* Using Spaceborne Aerosol Observations to Constrain Biomass Burning Emissions in the GOCART Model: **M M Petrenko**, R A Kahn, M Chin

0800h **A11E-0103** *POSTER* Time evolution of size distribution for smoke aerosols using photon correlation spectroscopy: **R P Singh**

0800h **A11E-0104** *POSTER* Cross-Characterization of Aerosol Properties from Multiple Spaceborne Sensors Facilitated by Regional Ground-Based Observations: **M Petrenko**, C M Ichoku, G G Leptoukh

0800h **A11E-0105** WITHDRAWN

0800h **A11E-0106** *POSTER* Susceptibility of Aerosol Retrievals to Cirrus Contamination during the BASE-ASIA Campaign and at Global View: **J Huang**, C Hsu, S Tsay, M Jeong, B Holben, T Berkoff, E J Welton

0800h **A11E-0107** *POSTER* Comparison of Observed Full Sky Polarization to Radiative Transfer Model Using AERONET Retrieval Inputs: **N Pust**, J A Shaw

0800h **A11E-0108** *POSTER* Introducing... The MODIS Collection 6 Aerosol Products: **R C Levy**, L A Remer, S Mattoo, R G Kleidman

0800h **A11E-0109** *POSTER* Aerosol optical and microphysical properties from POLDER-PARASOL multi-angle photo-polarimetric measurements: **O Hasekamp**, P Litvinov, A Butz

0800h **A11E-0110** *POSTER* CALIOP/CALIPSO: Improvement in the retrieval algorithm and a few applications: **M S Kacenelenbogen**, M Vaughan, J Redemann, R M Hoff, R Rogers, R A Ferrare, P B Russell, C A Hostetler, J W Hair, B Holben

0800h **A11E-0111** *POSTER* Spatio-temporal variability of aerosol in the tropics and its relationship with the hydrological cycle: **M D Zuluaga**, C Hoyos, P J Webster

0800h **A11E-0112** *POSTER* Application of a global aerosol forecast model for multi-spectral ocean color atmospheric corrections: **C S Kearney**, R W Gould, D L Westphal, P M Martinovich

A11F Moscone South: Poster Hall Monday 0800h
Sources, Evolution, and Sinks of Organics in the Troposphere I
Posters

Presiding: **C L Heald**, Colorado State University; **H Coe**, The University of Manchester

0800h **A11F-0113** *POSTER* Explicit Modeling of Organic Chemistry and SOA Partitioning in Mexico City: **J Lee-Taylor**, S Madronich, B Aumont, M Camredon, E C Apel, A Hodzic, G S Tyndall, R Valorso

0800h **A11F-0114** *POSTER* Explicit modeling of VOC oxidation: development and assessment of the GECKO-A modeling tool: **B Aumont**, R Valorso, L Larche, M Camredon, C Mouchel-Vallon, T Raventos-Duran, A A Presto, N M Donahue, J Lee-Taylor, S Madronich

0800h **A11F-0115** *POSTER* Mechanism for the Oxidation of Hydroxyacetone under Atmospheric Conditions: **JJ Orlando**, G S Tyndall

0800h **A11F-0116** *POSTER* Development of a new Structure-Activity Relationship (SAR) for gas-phase reactions of NO₃ radicals with organic compounds: **J Kerdocui**, B Picquet-Varrault, J Doussin

0800h **A11F-0117** *POSTER* The Heterogeneous Reactions of NO₃ with Multicomponent Mixtures and Their Atmospheric Implications: A K Bertram, **S Xiao**, R Iannone

0800h **A11F-0118** *POSTER* Photochemical transformation of nitrate in the presence of para-halogenated phenols in frozen solutions: **O Abida**, H D Osthoff, T C Sutherland

0800h **A11F-0119** *POSTER* Isotope Effect of Deuterated Methoxy Radicals (CH₂DO) Reacting With O₂: **G S Tyndall**, H Hu, T S Dibble, JJ Orlando

0800h **A11F-0120** *POSTER* Rate Constants for the Gas-phase Reactions of Ozone with cis-Ocimene, β-Myrcene, and trans-β-Farnesene as a Function of Temperature: **D Kim**, R A Hites, P S Stevens

0800h **A11F-0121** *POSTER* Kinetics and Products of Heterogeneous Oxidation of Oleic acid, Linoleic acid and Linolenic acid in Aerosol Particles by Hydroxyl radicals: **T Nah**, S R Leone, K R Wilson

0800h **A11F-0122** *POSTER* Examination of Early-Stage Chemistry of Secondary Organic Aerosol Formation using a Flow Cell: **A J Pettibone**, W S McGivern

0800h **A11F-0123** *POSTER* Chamber investigations of multigenerational chemistry: **J F Hunter**, K E Daumit, D R Worsnop, J H Kroll

0800h **A11F-0124** *POSTER* Experimental Studies of the Kinetics of the Reaction of OH Radicals with Ethanol at Low Pressure: **J A Liljgren**, P S Stevens

0800h **A11F-0125** *POSTER* Photoenhanced NO₂ loss on simulated urban grime: **R Ammar**, M E Monge, B D'anna, C George

0800h **A11F-0126** *POSTER* Are Aromatic Hydrocarbons Generated from the Atmospheric Oxidation of Biogenic Hydrocarbons?: **A Gratien**, S N Johnson, M J Ezell, L M Wingen, V M PERRAUD, M Dawson, R Bennett, B J Finlayson-Pitts

0800h **A11F-0127** *POSTER* Carbonyl group containing products from nopinone oxidation: **A Kahnt**, Y Iinuma, A Heinold, O Böge, H Herrmann

0800h **A11F-0128** *POSTER* Thermal and Photochemical Oxidation of Organic Compounds on Model Mineral Dust Particles Exposed to Nitrogen Dioxide: **J Raff**, B J Finlayson-Pitts, J Szanyi

0800h **A11F-0129** *POSTER* In situ gas-particle partitioning measurements of SVOCs: implications for SOA formation mechanisms: **Y Zhao**, N M Kreisberg, D R Worton, G A Isaacman, R Weber, S V Hering, A Goldstein

0800h **A11F-0130** *POSTER* Experimental determination of kinetic constraints in gas/aerosol partitioning of ambient organic aerosol: **A Khlystov**, R Saleh, A Shihadeh

0800h **A11F-0131** *POSTER* Hygroscopicity frequency distributions of secondary organic aerosols: **S R Suda**, M D Petters, A Matsunaga, R C Sullivan, P J Ziemann, S M Kreidenweis

0800h **A11F-0132** *POSTER* On the Evaporation Kinetics and Phase of Laboratory and Ambient Secondary Organic Aerosol: **A Zelenyuk**, T Vaden, D G Imre, J Beránek, M Shrivastava

0800h **A11F-0133** *POSTER* Anthropogenic monoterpene pollution episodes in a forest environment in association with aerosol particles: **L Liao**, R Taipale, M Dal Maso, M Ehn, H Junninen, T Nieminen, V Kerminen, M T Kulmala

0800h **A11F-0134** *POSTER* Spatial and Temporal Volatile Organic Compound Measurements in New England: Key Insight on Sources and Distributions: **B C Sive**, M L White, R S Russo, Y Zhou, J L Ambrose, K Haase, H Mao, R W Talbot

0800h **A11F-0135** *POSTER* Volatile Organic Compounds (VOCs) variability at Western Europe mountain site (puy de Dôme, French): **C Gaimoz**, A Colomb, V Jacob, J Jaffrezo, K Sellegrì, J Pichon, D Picard, M Ribeiro, L Bouvier, M Legrand

0800h **A11F-0136** *POSTER* Source Signatures of Organic Compounds in the Particle Phase in Bakersfield, CA: **S Liu**, D A Day, L M Russell

0800h **A11F-0137** *POSTER* In-Situ ambient aerosol measurement over Los Angeles during CalNex2010 using a newly developed combined Thermal desorption Aerosol GC (TAG) and Aerodyne Aerosol Mass Spectrometer (AMS) instrument: TAG-AMS: **T Hohaus**, A Lambe, B J Williams, L R Williams, J Kimmel, D Sueper, N M Kreisberg, S V Hering, G A Isaacman, D R Worton, A Goldstein, D R Worsnop, J Jayne

0800h **A11F-0138** *POSTER* Contribution of Glyoxal to Secondary Organic Aerosol Formation in Los Angeles: **RA Washenfelder**, C J Young, S S Brown, J B Gilman, W C Kuster, J A De Gouw

0800h **A11F-0139** *POSTER* Using Aerosol Mass Spectrometry to Investigate Types and Sources of Organic Aerosol in Rocky Mountain National Park: **M I Schurman**, T Lee, Y Sun, B A Schichtel, S M Kreidenweis, J L Collett

0800h **A11F-0140** *POSTER* Highly Polar Organic Compounds in Summer Cloud Water from Whiteface Mountain, NY: **J A Sagona**, J E Dukett, M Mazurek

0800h **A11F-0141** *POSTER* Hygroscopicity parameter of biogenic aerosols subject to OH-initiated heterogeneous oxidation at Whistler, British Columbia: **J P Wong**, J G Slowik, J Abbatt, W R Leitch, A Macdonald, D J Cziczo

0800h **A11F-0142** *POSTER* Evolution of aerosol downwind of a major highway: **J Liggio**, R M Staebler, J Brook, S Li, A L Vlasenko, S J Sjostedt, M Gordon, P Makar, C Mihele, G J Evans, C Jeong, J J Wentzell, G Lu, P Lee

0800h **A11F-0143** *POSTER* Measurement of the temperature dependent partitioning of semi-volatile organics onto aerosol near roadways: **JJ Wentzell**, J Liggio, S Li, J Brook, R M Staebler, G J Evans, C Jeong, A Sheppard, G Lu, M Gordon, C Mihele

0800h **A11F-0144** *POSTER* Ergosterol, arabitol and manitol as tracers for biological aerosols: Y Rudich, **N Burshtein**, N Lang-Yona

0800h **A11F-0145** *POSTER* Inferring absorbing organic carbon content from AERONET data: **A T Arola**, G L Schuster, G Myhre, S Kazadzis, S Dey, S N Tripathi

0800h **A11F-0146** *POSTER* On the factors governing the abundance of oxalic acid in tropospheric aerosol particles: **D van Pinxteren**, C Neusuess, E Brüggemann, T Gnauk, K Müller, H Herrmann

0800h **A11F-0147** POSTER Analysis of Tropospheric Peroxy Radical Observations and Current Understanding of Tropospheric Photochemistry: **C A Cantrell**, R S Hornbrook, L Mauldin, E C Apel, F M Flocke, A Fried, S R Hall, A J Weinheimer, J H Crawford, J R Olson

0800h **A11F-0148** POSTER A heterogeneous open ocean source for glyoxal and iodine oxide: **R Volkamer**, S Coburn, B K Dix, M Lechner, R Sinreich, T Duhl, A B Guenther

0800h **A11F-0149** POSTER Analysis of the water-soluble organic content of submicron aerosols formed from the in-situ replication of marine bubble bursting processes: **H DeWitt**, P Quinn, T S Bates, D J Coffman, K Schulz

0800h **A11F-0150** POSTER Seasonal variation of black carbon aerosol at Happono, a remote mountain site: **X Liu**, Y Kondo, H Matsui, N Oshima, L Sahu, N Takegawa, K Nakagomi, M Kajino

0800h **A11F-0151** POSTER The average carbon oxidation state of organic aerosol: Synthesis of laboratory and ambient measurements: **K E Daumit**, J H Kroll

0800h **A11F-0152** POSTER Development and Calibration of an Instrument for Measuring Total Gas-Phase Organic (TGO) Composition: **A J Carrasquillo**, E S Cross, K E Daumit, J F Hunter, B J Williams, S C Herndon, J Jayne, D R Worsnop, J H Kroll

0800h **A11F-0153** POSTER Supercritical Fluid Extraction of Biogenic SOA in Northern Michigan: **R M Flores**, P V Doskey, J A Perlinger

0800h **A11F-0154** POSTER A GC-LIF System for Specific Detection of Multifunctional RONO₂: **L Lee**, R C Cohen

A11G Moscone South: Poster Hall Monday 0800h
Tropospheric Multiphase Chemistry: Aerosol Formation and Modification by Aqueous Phase Processes I Posters

Presiding: **A G Carlton**, U.S. EPA; **B Ervens**, NOAA

0800h **A11G-0155** POSTER Study on isoprene OH oxidation with a focus on liquid phase chemistry: **S R Zorn**, Q Chen, M I Guzman, M Kuwata, S Lee, Y Liu, M L Smith, S T Martin

0800h **A11G-0156** POSTER Multiphase Processing of Isoprene Oxidation Products – Kinetic and Product Studies: **D Hoffmann**, L Schoene, J Schindelka, **H Herrmann**

0800h **A11G-0157** POSTER Laboratory kinetic and mechanistic studies on the OH-initiated oxidation of acetone in the aqueous phase: **T Schaefer**, J Schindelka, **H Herrmann**

0800h **A11G-0158** POSTER Aqueous-phase oxidation of isoprene, methyl vinyl ketone and methacrolein: Contribution to transformation of oxidants and formation of SOA: **Z Chen**, X zhang, H Wang, Y Zhao, D Huang, X Shen

0800h **A11G-0159** POSTER Aerosol yields and losses of aldehydes and amines from evaporating cloud droplets: **D O De Haan**, L N Hawkins, A D Rynaski, S Wood

0800h **A11G-0160** POSTER Aqueous glyoxal photooxidation in the presence of inorganic nitrogen: A potential source of organic nitrogen in aerosols and wet deposition: **J R Kirkland**, Y Tan, K E Altieri, S Seitzinger, B J Turpin

0800h **A11G-0161** POSTER (Methyl)glyoxal in Different Electrolytes: Product Distributions, Optical Properties and Influence on Henry's Law Constant: **F N Keutsch**, M M Galloway, G Yu, A Bayer, K Korshavn

0800h **A11G-0162** POSTER Secondary organic aerosol formation through cloud processing of aromatic VOCs: **P Herckes**, J W Hutchings, B Ervens

0800h **A11G-0163** POSTER Secondary Organic Aerosol (SOA) production from the Aqueous Reactions of Phenols and Triplet Aromatic Carbonyls: **J Smith**, Y Sun, Y Lu, Q Zhang, C Anastasio

0800h **A11G-0164** POSTER Depression of ammonia uptake to acidic aerosols by competing reactive uptake of ambient organics: **S Li**, **J Liggio**, A L Vlasenko, C Stroud, P Makar

0800h **A11G-0165** POSTER Hygroscopicity of dicarbonyl-amine secondary organic aerosol products investigated with HTDMA: **L N Hawkins**, D O De Haan

0800h **A11G-0166** WITHDRAWN

0800h **A11G-0167** POSTER A case study for SOA formation by glyoxal processing in aqueous aerosol in Mexico City: **E Waxman**, B Ervens, R Volkamer

0800h **A11G-0168** POSTER Effects on Aerosol Formation of a Revised CMAQ Cloud Chemistry Module: **S F Mueller**, J W Mallard, Q Mao

0800h **A11G-0169** POSTER Multiphase chemical mechanism in GMI: simulation for nitrate and ammonium: **H Bian**, S Steenrod, M Chin, J M Rodriguez

0800h **A11G-0170** POSTER Constraints on reactive chlorine cycling mechanisms in remote marine air: **M J Lawler**, E S Saltzman, R Sander

0800h **A11G-0171** POSTER Photochemistry of iron(III)-carboxylate complexes in aqueous atmospheric particles – Laboratory experiments and modeling studies: **C Weller**, A Tilgner, **H Herrmann**

0800h **A11G-0172** POSTER Kinetic models of aerosol surface and bulk chemistry: **M Shiraiwa**, C Pfrang, U Pöschl

0800h **A11G-0173** POSTER Towards an Understanding of Aerosol Redistribution by Shallow Cumulus Clouds with a Focus on Organics: **A Wonaschuetz**, A Sorooshian, S M murphy, B Ervens, P Y Chuang, G Feingold, H H Jonsson, R C Flagan, J Seinfeld

0800h **A11G-0174** POSTER Elemental composition of Asian aerosols observed at a mountain site over central Japan: **Y Zaizen**, H Naoe, H Takahashi, Y Igarashi

A11H Moscone West: 3006 Monday 0800h
Atmospheric Sciences General Contributions: Clouds and Aerosol-Cloud Interactions I

Presiding: **S Menon**, Lawrence Berkeley national Laboratory; **J D Small**, Jet Propulsion Laboratory

0800h **A11H-01** Response of polluted marine stratocumulus to more pollution: **J A Coakley**, B Sechrist, W R Tahnk

0815h **A11H-02** Impacts of nucleation on cloud microphysical properties and aerosol indirect forcing: **Y Lee**, J R Pierce, A Nenes, P J Adams

0830h **A11H-03** Regional differences in aerosol effects on cloud properties and precipitation using historical long-term satellite records: **J D Small**, J H Jiang, H Su

0845h **A11H-04** Trends in cloud and rain water chemistry from 1984-2009 on Mount Washington, NH (1,534 m): **G Murray**, K Kimball, L Hill, K C Weathers

0900h **A11H-05** Aerosol-droplet relations in Arctic clouds: insight from the Indirect and Semi-Direct Aerosol Campaign (ISDAC): **M E Earle**, P Liu, J W Strapp, A Zelenyuk, M Ovchinnikov, A Macdonald, N C Shantz, W R Leitch, S J Ghan

0915h **A11H-06** Investigating ice in mid latitude marine stratocumulus using CALIOP, MODIS, and CloudSat observations: **R Holz**, S A Ackerman

0930h **A11H-07** Microphysical properties of ice clouds from polarization calculations: **B H Cole**, P Yang, J Riedi, B A Baum

0945h **A11H-08** Observational and modeling studies of aerosol indirect effects: **B Yi**, P Yang, K P Bowman

A11I Moscone West: 3008 Monday 0800h
Atmospheric Sciences General Contributions: Observations and Experimental Techniques I

Presiding: **S Madronich**, NCAR; **B Schmid**, Pacific Northwest National Lab

0800h **A11I-01** An overview of the StraPolEté project : dynamics, aerosols and bromine content of the polar region in summertime: **N Huret**, V Catoire, G Berthet, J Renard, R Thiéblemont, V Salazar, G Krysztofaki, S Payan, C Camy-Peyret, Y Té, J Bureau, C Brogniez, F Lefevre, F Jegou, S Godin-Beekmann, K Pérot, M Dorf, S Kreycky, B Werner, K Pfeilsticker, Y Orsolini

0815h **A11I-02** Progress in Passive Sensors for Precision Greenhouse Gas Monitoring: **E Georgieva**, W S Heaps, W Huang

0830h **A11I-03** 4STAR Spectrometer for Sky-scanning Sun-tracking Atmospheric Research: Development and Results from First Test-flights: **B Schmid**, C Flynn, S Dunagan, R Johnson, P B Russell, J Zavaleta, J Redemann, C Kluzek, B Holben

0845h **A11I-04** Analysis of the PBL Height relationships using a backscatter LiDAR profiles and multi-spectral sunphotometry: **D Daou**, N T O'Neill, Y Blanchard, A Saha, M Karumudi, K B Strawbridge, M Travis

0900h **A11I-05** Recent work in Canada for the proposed Chemical and Aerosol Sounding Satellite (CASS) mission: **K A Walker**, S M Melo, L M Moreau, G P Perron, J Bourdeau, J Michels

0915h **A11I-06** Observing Supercells with Unmanned Aircraft: Results from the UAS Component of VORTEX-2: **A L Houston**, B Argrow, E Frew

0930h **A11I-07** Aircraft Integrated, Low-Altitude Measurements of Carbon Dioxide, Methane, and Water Vapor: **E S Berman**, M M Fladeland, J S Liem, R Kolyer, M Gupta

0945h **A11I-08** Development of a new on-line aerosol composition analyzer: a particle trap laser desorption mass spectrometer (PT-LDMS): **N Takegawa**, T Miyakawa, T Nakamura, Y Sameshima, M Takei, Y Kondo, N Hirayama

A11J Moscone West: 3002 Monday 0800h
Atmospheric Sciences General Contributions: Radiation and Climate I

Presiding: **N G Andronova**, University of Michigan; **M Chin**, NASA Goddard SFC

0800h **A11J-01** Radiative forcing of earth's surface temperature over the past 2009 years: **A D Friend**

0813h **A11J-02** Mechanism of Radiative Forcing of Greenhouse Gas and its Implication to the Global Warming: **R Shia**

0826h **A11J-03** Multi-decadal variations of atmospheric aerosols and their effects on surface radiation trends: **M Chin**, T L Diehl, M Wild, Y Qian, H Yu, D G Streets, H Bian, Q Tan, W Wang

0839h **A11J-04** Atmospheric and Surface Contributions to Planetary Albedo and their Relationship to the Total Meridional Energy Transport: **A Donohoe**, D S Battisti

0852h **A11J-05** Different views on the Arctic surface albedo: **E Bierwirth**, S Schmidt, P Pilewskie, A Ehrlich, M Wendisch, H Stark, A Bucholtz, C Schaaf, A Lyapustin, C K Gatebe, M Roman

0905h **A11J-06** The Poynting-Stokes Tensor And Radiative Transfer In Turbid Media: The Microphysical Paradigm: **M I Mishchenko**

0918h **A11J-07** Retrieval of Spectral Aerosol Optical Properties and Their Relationship to Aerosol Chemistry During ARCTAS: **C A Corr**, S R Hall, K Ullmann, R Shetter, B E Anderson, A J Beyersdorf, K L Thornhill, M Cubison, J L Jimenez, J E Dibb

0931h **A11J-08** Characteristics of aerosol types from AERONET sunphotometer measurements: **J Kim**, J Lee, C H Song, S Kim, Y Chun, B Sohn, B Holben

0944h **A11J-09** Change in Solar Radiation and Their Influence on Temperature in China: **H Zhang**, Q Yin

A11K Moscone West: 3004 Monday 0800h
Impacts of Mineral Dust Aerosol on Global and Regional Climate I

Presiding: **Y Gu**, University of California, Los Angeles; **H Liao**, Institute of Atmospheric Physics

0800h **A11K-01** WITHDRAWN

0800h **A13E-0255** Springtime Trans-Pacific Transport of African and Asian Dust to the Western U.S. Mountain Ranges: **Q Li**, L Zhang, T D Fairlie

0815h **A11K-02** Observed 20th Century Desert Dust Variability: Impact on Climate and Biogeochemistry (*Invited*): **N M Mahowald**, S Kloster, S Engelstaedter, J K Moore, S Mukhopadhyay, J R McConnell, S Albani, S C Doney, A Bhattacharya, M A Curran, M G Flanner, F M Hoffman, D M Lawrence, K T Lindsay, P A Mayewski, J C Neff, D Rothenberg, E R Thomas, P E Thornton

0830h **A11K-03** The Global Distributions of Desert Dust Age in the Atmosphere and at Deposition: **C S Zender**, Q Han

0842h **A11K-04** Role of dust-induced sea surface temperature responses in simulations of the climatic effect of mineral dust: **H Liao**, X Yue, H Wang, S Li, J Tang

0854h **A11K-05** Response of the water cycle of West Africa and Atlantic to radiative forcing by Saharan dust (*Invited*): **W K Lau**, K Kim

0909h **A11K-06** Dust aerosol optical properties over northwestern China from recent ground-based field experiment and analysis of satellite observations (*Invited*): **Q Fu**, J Huang, J Ge, J Su, T P Ackerman, S G Warren

0924h **A11K-07** On the effect of insoluble dust particles on global CCN and droplet number: **V Karydis**, P Kumar, D Barahona, R Sotiropoulou, I N Sokolik, A Nenes

0936h **A11K-08** Investigation of the Dust Indirect Effect on Clouds and Regional Climate Based on A-Train Satellite Data and the UCLA AGCM: **Y Gu**, K Liou, J H Jiang, H Su

0948h **A11K-09** Determination of the Optical Properties of Dust and Pollution Aerosols, Their Radiative Forcing Climate Effects across China: **Z Li**

Atmospheric and Space Electricity

AE11A Moscone South: Poster Hall Monday 0800h
Energetic Radiation From Thunderstorms I Posters (*joint with SA, A*)

Presiding: **B E Carlson**, University of Bergen; **M Cohen**, Stanford University; **S A Cummer**, Duke University; **K Eack**, New Mexico Tech

0800h **AE11A-0322 POSTER** Lightning Discharges Producing Beams of Relativistic Runaway Electrons Into Space: **M Cohen**, R Said, B E Carlson, N G Lehtinen, U S Inan, M S Briggs, G J Fishman, V Connaughton, S A Cummer

0800h **AE11A-0323 POSTER** Temporal Properties of Fermi TGFs: **S Foley**, M S Briggs, V Connaughton, G J Fishman, D Tierney

0800h **AE11A-0324** *POSTER* Properties of TGFs Observed with the New TGF capabilities of Fermi-GBM: **G J Fishman**, Title of Team: - for the Fermi-GBM TGF Team

0800h **AE11A-0325** *POSTER* 2010 Observations of X-ray Bursts Associated with Lightning at Langmuir Labs: **J Lundberg**, R M Millan, K Eack, H E Edens

0800h **AE11A-0326** *POSTER* Continuous X-ray Emission from "Chaotic" Dart Leaders in Triggered Lightning: **J D Hill**, M A Uman, D M Jordan, J R Dwyer, H K Rassoul

0800h **AE11A-0327** *POSTER* Stepped leaders observed in ground operations of ADELE: **D M Smith**, N Kelley, A Lowell, F Martinez-McKinney, J R Dwyer, M E Splitt, S M Lazarus, E S Cramer, S Levine, S A Cummer, G Lu, X Shao, C Ho, E M Eastvedt, J Trueblood, H E Edens, S J Hunyady, W P Winn, H K Rassoul

0800h **AE11A-0328** *POSTER* Constraints on the first terrestrial gamma-ray flash seen from an aircraft: **A Lowell**, N Kelley, D M Smith, J R Dwyer, X Shao, C Ho

0800h **AE11A-0329** *POSTER* Design and Construction of an X-ray Lightning Camera: **M Schaal**, J R Dwyer, H K Rassoul, M A Uman, D M Jordan, J D Hill

0800h **AE11A-0330** *POSTER* Gamma-ray Localization of Terrestrial Gamma-ray Flashes by AGILE: **M Marisaldi**, M Tavani, A Argan, A Trois, A Giuliani, C Labanti, F Fuschino, A Bulgarelli, F Longo, G Barbiellini

0800h **AE11A-0331** *POSTER* What can geolocated sferics tell us about Terrestrial Gamma-ray Flashes?: **V Connaughton**, M S Briggs, R H Holzworth, M L Hutchins, G J Fishman, D M Smith

0800h **AE11A-0332** *POSTER* Rare TGFs and common glows: a systematic survey of data from the first flights of ADELE: **N Kelley**, A Lowell, D M Smith, J R Dwyer, S A Cummer, G Lu, R Blakeslee

Biogeosciences

B11A Moscone South: Poster Hall Monday 0800h
Biophysical Pulses in Variable Environments I Posters (*joint with H*)

Presiding: **C A Williams**, Clark University; **G D Jenerette**, University of California Riverside; **R L Scott**, USDA ARS

0800h **B11A-0333** *POSTER* Biologically-Effective Rainfall Pulses in Mediterranean and Monsoonal Regions: **R L Scott**, A S Kowalski, V Resco, P Serrano-Ortiz, F Domingo

0800h **B11A-0334** *POSTER* Could Rain-induced Ecosystem Respiration Pulses be Enhanced by Legacies of Antecedent Photodegradation in Semi-arid Environments?: **S Ma**, D D Baldocchi, M Detto, C J Curiel-Yuste

0800h **B11A-0335** *POSTER* Temporally-limited herbaceous plants significantly contribute to semi-arid woodland ecohydrological fluxes: **A P Tyler**, R L Scott, T E Huxman

0800h **B11A-0336** *POSTER* The role of synoptic, seasonal, and inter-annual climate on the carbon isotope ratio of ecosystem respiration in a semi-arid woodland: **J Shim**, H H Powers, C Meyer, W Pockman, N McDowell

0800h **B11A-0337** *POSTER* Does summertime photodegradation prime plant litter for microbial respiration upon the fall rain pulse in a California oak savanna?: **J Hatala**, R Vargas, S Ma, H Kobayashi, D D Baldocchi

0800h **B11A-0338** *POSTER* Coupling Soil-Canopy Processes to Nitrogen Dynamics: Impacts of Deep Rooting Mechanisms: **D Drewry**, P Kumar

0800h **B11A-0339** *POSTER* Legacies of an ice storm on the long-term carbon exchange of a temperate forest: **A L Dunn**, K Morgan

0800h **B11A-0340** *POSTER* Effects of climate variability on vegetation dynamics in the Sudano-Sahelian region of Africa: **K Rishmawi**, S D Prince

0800h **B11A-0341** *POSTER* UVB Exposure Does Not Accelerate Rates of Litter Decomposition in a Semiarid Riparian Ecosystem: **S M Uselman**, K A Snyder, R R Blank, T J Jones

B11B Moscone South: Poster Hall Monday 0800h
Data Assimilation and Multiscale Methods for Improving Biogeochemical Models Across Multiple Scales I Posters (*joint with A*)

Presiding: **D D Baldocchi**, University of California, Berkeley; **M Goeckede**, Oregon State University; **Y Luo**, University of Oklahoma

0800h **B11B-0342** *POSTER* Preliminary experiments of closed-path eddy covariance systems in Interior Alaska: **T Nakai**, H Iwata, Y Harazono

0800h **B11B-0343** *POSTER* Investigating the Flux Patterns within the Forest Subcanopy over a Hilly Terrain: **J Juang**, M Hung, S Ding, H Chu, Y Hsia

0800h **B11B-0344** *POSTER* Development of a Data Assimilation System to Study Ecosystem Exchange of Carbon at the National Scale Using Data from the National Ecological Observatory Network: **M M Keller**, D Moore, W J Sacks

0800h **B11B-0345** *POSTER* Development of Real-Time Soil Carbon Ecoinformatics Infrastructure Using Observational Network Data: **J Owens**, D A Risk, N R Nickerson

0800h **B11B-0346** *POSTER* *FluxPro*: Real time monitoring and simulation system for eddy covariance flux measurement: **W Kim**, H Seo, M Mano, K Ono, A Miyata, M Yokozawa

0800h **B11B-0347** *POSTER* Optimizing Parameters of a Terrestrial Ecosystem Model against Eddy Covariance Measurements from Ten FLUXNET Sites using Smoothed Ensemble Kalman Filter: **M Chen**, S Liu, W Yuan

0800h **B11B-0348** *POSTER* Forest model inversions for quantifying biosphere-atmosphere interactions - In these matters, the only certainty is that nothing is certain: **T F Keenan**, M S Carbone, E A Davidson, D Y Hollinger, J W Munger, M Reichstein, K E Savage, A D Richardson

0800h **B11B-0349** *POSTER* Parameter constraints to reveal temperature sensitivity of soil C decomposition by incubation data: **C Schädel**, S Fei, Y Luo

0800h **B11B-0350** *POSTER* Joint inversion of 3-PG using eddy-covariance and inventory plot measurements in temperate-maritime conifer forests: Uncertainty in transient carbon-balance responses to climate change: **RA Hember**, W A Kurz, N C Coops, T A Black

0800h **B11B-0351** *POSTER* Contributions of biogenic volatile organic compounds to net ecosystem carbon flux: **N C Bouvier-Brown**, G W Schade, A Lee, M McKay, A H Goldstein

0800h **B11B-0352** *POSTER* INVESTIGATION ON THE ACASA MODEL PERFORMANCE OVER MEDITERRANEAN MAQUIS ECOSYSTEM: **S Marras**, R D Pyles, C Sirca, K Paw U, R L Snyder, P Duce, D Spano

0800h **B11B-0353** *POSTER* Impacts of Scale and Heterogeneity in Dynamic Global Vegetation Models: **T L Quaife**

0800h **B11B-0354** *POSTER* Using model-data fusion approach to improve carbon cycle modeling at site and regional scales: **C Peng**, J Guiot, H Wu, J Sun

0800h **B11B-0355** POSTER Complementarities between Biomass and FluxNet data to optimize ORCHIDEE ecosystem model at European forest and grassland sites: **T Thum**, P Peylin, A Granier, A Ibrom, L Linden, D Loustau, C Bacour, P Ciais

0800h **B11B-0356** POSTER Quantification of net ecosystem exchange sampling within two mature boreal aspen stands using airborne LiDAR and a flux footprint model: Scaling to MODIS: **L E Chasmer**, N Kljun, C Hopkinson, R M Petrone, T Milne, K Giroux, T A Black, K J Devito, Title of Team: Canadian Carbon Program & HEAD project

0800h **B11B-0357** POSTER Assessing the influence of drought on long-term growth and fructification in *Quercus ilex* through process-based modeling: **N K Martin**, N Delpierre, E Dufrene, S Rambal

0800h **B11B-0358** POSTER Testing the sensitivity of terrestrial carbon models using remotely sensed biomass estimates: **H Hashimoto**, S S Saatchi, V Meyer, C Milesi, W Wang, S Ganguly, G Zhang, R R Nemani

0800h **B11B-0359** POSTER A multi-time scale, non-linear approach to understanding soil respiration: **N R Nickerson**, C Phillips, D A Risk

0800h **B11B-0360** POSTER Relative Information Contributions of Model vs. Data to Constraints of Short- and Long-Term Forecasts of Forest Carbon Dynamics: **E Weng**, Y Luo

0800h **B11B-0361** POSTER Assimilation of PBL depth and its impact on carbon budgets: **E L McGrath-Spangler**, A Denning, D Zupanski

0800h **B11B-0362** POSTER Maximum Entropy Distributions of Scale-Invariant Processes: **V Nieves**, E Wood, J Wang, R L Bras

B11C Moscone South: Poster Hall Monday 0800h
Impacts of Land Use and Management on Soil Organic Carbon Dynamics I Posters (*joint with PA*)

Presiding: **X Wang**, University of Maryland

0800h **B11C-0363** POSTER Carbon budget of tropical forests in Southeast Asia and the effects of deforestation: approach from a process model and field measurements: **M ADACHI**, A Ito, A Ishida, W R Kadir, P Ladpala, Y Yamagata

0800h **B11C-0364** POSTER Effects of Vegetation Type on Soil Carbon Dynamics Along the Kaidu River in the Yanqi Basin of Northwestern China: **J Wang**, X Wang, W Wang

0800h **B11C-0365** POSTER Corn-based feedstock for biofuels: Implications for agricultural sustainability: **Z Tan**

0800h **B11C-0366** POSTER Long-term fertilization effects on soil organic carbon fractions in a red soil of southern China: **X Tong**, M Xu, X Wang, W Zhang, R Cong

0800h **B11C-0367** POSTER Mitigating greenhouse gas emissions with agricultural land management changes: What practices hold the best potential?: **A J Eagle**, L Olander, C W Rice, K Haugen-Kozyra, L R Henry, J S Baker, R B Jackson

0800h **B11C-0368** POSTER Reducing CH₄ emission from rice paddy fields by altering water management: **S Sudo**, M Itoh

0800h **B11C-0369** POSTER REUSE OF WINERY WASTEWATER BY APPLICATION TO VINEYARD SOILS: **K P Mosse**, A F Partti, S Parikh, K L Steenwerth, M C Buelow, T R Cavagnaro

0800h **B11C-0370** POSTER DIRECT- AND CROSS-POLARIZATION ¹³C NMR EVIDENCE OF ALTERATIONS IN MOLECULAR COMPOSITION OF HUMIC SUBSTANCES FOLLOWING AFFORESTATION WITH EUCALYPT IN DISTINCT BRAZILIAN BIOMES: **I R Silva**, E M Soares, K Schmidt-Rohr, R Novais, N Barros, S Fernandes

0800h **B11C-0371** POSTER A Preliminary Assessment of Peat Degradation in West Kalimantan: **G Z Anshari**

0800h **B11C-0372** POSTER Adoption of Miscanthus as a bioenergy crop on US croplands: impacts on soil carbon and water: **U Mishra**, M S Torn

B11D Moscone South: Poster Hall Monday 0800h
Interacting Biogeochemical Cycles: Linking Carbon, Water, and Nutrient Fluxes From Organisms to Globe I Posters (*joint with H*)

Presiding: **D Drewry**, University of Illinois; **A D Richardson**, Harvard University; **M Reichstein**, Max-Planck-Inst. for Biogeo.; **D Papale**, University of Tuscia; **R Vargas**, University of California-Berkeley

0800h **B11D-0373** POSTER Vegetation Phenology as a Constraint on Global Surface-Atmosphere Exchange: **K S Hemes**, I T Baker, N Parazoo, R Stockli, A Denning

0800h **B11D-0374** POSTER Sea Level Rise Enhanced Halocarbon Production in Low-lying Coastal Ecosystem in the Southeastern US: **A T Chow**, W Conner, T Williams, B Song

0800h **B11D-0375** POSTER The role of patterning in peatland water table fluctuations and carbon exchange: **P Wilson**, N Shatilla, N T Roulet

0800h **B11D-0376** POSTER Biogeochemistry of plant-soil system in a limestone area: A case study of Mt. Kinsho-zan, Gifu prefecture, central Japan: **S Ueno**, K Sugitani, M Ono

0800h **B11D-0377** POSTER Applying Three Methods to the Simple Biosphere Model (SiB) for Improving the Representation of Spatially Variable Precipitation and Soil Moisture: **ID Medina**, A Denning

0800h **B11D-0378** POSTER Pore water chemistry in a disturbed and an undisturbed peat forests in Brunei Darussalam: Nutrient and carbon contents: **L Gandois**, A Cobb, K Abu Salim, I Chieng Hei, L Lim Biaw Leng, R Corlett, C Harvey

0800h **B11D-0379** POSTER A Semi-parametric Multivariate Gap-filling Model for Eddy Covariance Latent Heat Flux: **M Li**, **Y Chen**

0800h **B11D-0380** POSTER Spatial variability in soil CO₂ production and CO₂ efflux from a topographically complex mature black spruce forest, interior Alaska: **K Kelsey**, K P Wickland, R G Striegl, J C Neff

0800h **B11D-0381** POSTER Organic N Uptake by Different Plant Functional Types in a Boreal Peatland: **A C Alfonso**, T R Moore

0800h **B11D-0382** POSTER Early results from a terrestrial-marine BGC coupling study in Southeast Alaska: **D R Fatland**, A Vermilyea, R G Spencer, E W Hood, A Stubbins

0800h **B11D-0383** POSTER On the Temporal Correlation Between Photosynthesis and Soil Respiration: Reconciling Lags and Observations: **R Vargas**, D D Baldocchi, M Bahn, P J Hanson, K Hosman, L Kulmala, J Pumpanen, B Yang

0800h **B11D-0384** POSTER Spring and Fall Hydro-Meteorological Conditions Explain the Interannual Variability in Carbon Exchange in a Boreal Peatland: **M Bonneville**, I B Strachan

0800h **B11D-0385** POSTER Growing Season CO₂-Net Ecosystem Exchange and CH₄ Fluxes Response to Increase Precipitation in a Boreal Peatland, Eastmain Region, Quebec, Canada: **L Pelletier**, M Garneau

0800h **B11D-0386** POSTER A comparison of coupled biogeophysical and biogeochemical dynamics across a precipitation gradient in Oregon using data assimilation: **J C Pettijohn**, B E Law, M D Williams, R Stoekli, P E Thornton, C K Thomas, T W Hudiburg, J Martin

- 0800h **B11D-0387** POSTER Invasion of a semi-arid shrubland by annual grasses increases autotrophic and heterotrophic soil respiration rates due to altered soil moisture and temperature patterns: **M Mauritz**, I Hale, D Lipson
- 0800h **B11D-0388** POSTER Response of high elevation rocky mountain (Wyoming, USA) forest carbon dioxide and water vapor fluxes to a bark beetle epidemic: **J M Frank**, W J Massman
- 0800h **B11D-0389** POSTER Uncertainty in Estimates of the Apparent Temperature Sensitivity of Peatland Dissolved Organic Carbon Fluxes under Changing Hydrologic Conditions: **J M Clark**, C E Ballard, A M Ireson, W Buytaert, H S Wheeler, R Rose
- 0800h **B11D-0390** POSTER Influence of temporal variation in the vertical distribution of soil moisture on the surface radiation budget: Implications for semiarid land-atmosphere interactions: **Z M Sanchez**, S A Kurc
- 0800h **B11D-0391** POSTER Global Biogeochemical Cycle of Si: Its Coupling to the Perturbed C-N-P cycles in Industrial Time: A Lerman, **D D Li**, F T Mackenzie
- 0800h **B11D-0392** POSTER CO₂ Losses from Terrestrial Organic Matter through Photodegradation: **S Rutledge**, D I Campbell, D D Baldocchi, L A Schipper
- 0800h **B11D-0393** POSTER Persistent wind-induced enhancement of diffusive CO₂ fluxes in a mountain forest snowpack: **D R Bowling**, W J Massman
- 0800h **B11D-0394** POSTER The Biogeochemical Cycling of Nitrogen in Annual and Perennial Agroecosystems: **A Fortuna**, C Cogger
- 0800h **B11D-0395** POSTER Effects of nutrient supply on intrinsic water-use efficiency of temperate semi-natural grassland under rising atmospheric CO₂: **I H Koehler**, A Macdonald, P Poulton, K Auerswald, H Schnyder
- 0800h **B11D-0396** POSTER Estimating the carbon loss under the influence of typhoons at a subtropical mountain forest: **S Ding**, J Juang, S Chang, Y Hsia, J Asanuma
- 0800h **B11D-0397** POSTER The nitrogen fate beyond the current nutrient mitigation measures: sustainability of an integrated agriculture: **V Thieu**, G F Billen, J Garnier, C Lancelot, N Gypens
- 0800h **B11D-0398** POSTER Abiotic and biotic effects on the biogenic production and emissions of carbon and nitrous oxides in variably saturated soils: **S Rubol**, S Manzoni, A Bellin, A M Porporato
- 0800h **B11D-0399** POSTER Quantification of uncertainty in eddy-covariance flux estimates of CO₂ and energy due to raw data processing: C Trotta, **G Fratini**, D Papale
- 0800h **B11D-0400** POSTER Underestimation of water vapour fluxes by eddy covariance closed-path systems due to relative humidity effects: **G Fratini**, N Arriga, C Trotta, D Papale
- 0800h **B11D-0401** POSTER LANDSCAPE VARIATION IN N AND P UPTAKE IN STREAMS IN THE KOLYMA RIVER BASIN: **E C Seybold**, J D Schade, T W Drake, E B Bulygina, S Chandra, R M Holmes, W V Sobczak, N Zimov
- 0800h **B11D-0402** POSTER Forests tend to cool the land surface in the temperate zone: An analysis of the mechanisms controlling radiometric surface temperature change in managed temperate ecosystems: **P C Stoy**, G G Katul, J Juang, M B Siqueira, K A Novick, R Essery, S Dore, T E Kolb, M C Montes-Helu, R L Scott
- 0800h **B11D-0403** POSTER Nitrate isotopes illuminate the black box of paddy soil biogeochemistry: water and carbon management control nitrogen sources and sinks: **N S Wells**, T J Clough, S E Johnson-Beebout, R J Buresh
- 0800h **B11D-0404** POSTER A Watershed Context for Interpreting the Landscape-Scale Spatial Heterogeneity of Biosphere-Atmosphere Carbon Exchange in Complex Terrain: **R E Emanuel**, D Riveros-Iregui, B L McGlynn, H E Epstein, D L Welsch
- 0800h **B11D-0405** POSTER Experimental flume study on *Potamogeton natans* and *Ranunculus fluitans* macrophytes: impact of hydrodynamics on ¹⁵N-ammonium uptake rates: **V Woule Ebongue**, N Brion, N Hove, C Barrón, F Dehairs, K Bal, T Bouma, J Schoelynck, E de Deckere, P Meire
- 0800h **B11D-0406** POSTER VARIABILITY OF TOTAL BELOW GROUND CARBON ALLOCATION AMONGST COMMON AGRICULTURAL LAND MANAGEMENT PRACTICES: A CASE STUDY: **K M Wacha**, T Papanicolaou, C G Wilson
- 0800h **B11D-0407** POSTER MODIS-based global terrestrial estimates of gross primary productivity and evapotranspiration: **Y Ryu**, D D Baldocchi, H Kobayashi, J Li, C van Ingen, D Agarwal, K Jackson, M Humphrey
- 0800h **B11D-0408** POSTER How sensitive is the global peatland carbon pool to climate change?: **J Talbot**, S E Frolking
- 0800h **B11D-0409** POSTER Modeling Environmental Controls on Net Ecosystem CO₂ Exchange of a Tropical Bog: **M Mezbahuddin**, R F Grant, T Hirano
- 0800h **B11D-0410** POSTER Whole ecosystem approaches for assessing the coupling of N and P cycles in small streams: **J D Schade**, S A Thomas, E C Seybold, T Drake, K Lewis, K MacNeill, N Zimov
- 0800h **B11D-0411** POSTER Changes in soil moisture affect carbon and water fluxes from trees and soils differently in a young semi-arid ponderosa pine stand: **N K Ruehr**, J Martin, J C Pettijohn, B E Law
- 0800h **B11D-0412** POSTER Radiative forcing from forest disturbances: **T L O'Halloran**, B E Law, Z Wang, J Barr, C Schaaf, M Brown, M Goulden, M Goeckede, J D Fuentes, T A Black, V Engel
- 0800h **B11D-0413** POSTER Temporal and spatial variability of greenhouse gas fluxes from soil in an undisturbed forest in the Brazilian Amazon: **R K Varner**, M M Keller, R Cosme de Oliveira, P M Crill, M W Palace, M O Hunter, H P Silva, J Dias, E Neto

B11E Moscone South: Poster Hall Monday 0800h
Nanoparticles in Environmental Media I Posters (*joint with H*)

Presiding: **M F Benedetti**, Institut de Physique du Globe de Paris;
C E Pallud, UC Berkeley

- 0800h **B11E-0414** POSTER Impact of the organic coating on nanoparticles stability and reactivity: **A Gelabert**, Y Sivry, L Ould Boualy, F Roselyne, F Juillot, N Menguy, M F Benedetti
- 0800h **B11E-0415** POSTER Mineralogical change and geochemical behavior of heavy metals in iron oxide minerals formed by weathering of black shale: **Y Jang**, M Kim, Y Kim, E Jung
- 0800h **B11E-0416** POSTER Sulfidation of silver nanoparticles: **C Levard**, F M Michel, G E Brown
- 0800h **B11E-0417** POSTER Prebiotic Metabolisms: Photo catalysis of the rTCA cycle by sphalerite colloids: **D M Mangiante**, B Bowen, T Northen, J F Banfield
- 0800h **B11E-0418** POSTER Oxidative degradation of phenol in water using copper oxide nanoparticles: O Krichevski, **I Dror**, B Berkowitz
- 0800h **B11E-0419** POSTER Nanoparticle-coated quartz sand as a catalyst for degradation of water pollutants: **T Ben Moshe**, O Krichevski, I Dror, B Berkowitz

B11F Moscone South: Poster Hall Monday 0800h
Nanoscale Insights Into Aqueous and High-Temperature Geochemistry I Posters (*joint with EP, MR, V*)

Presiding: **A Fernandez-Martinez**, Lawrence Berkeley National Laboratory; **I C Bourg**, Lawrence Berkeley National Lab; **K Kwon**, Lawrence Berkeley National Laboratory; **J Pena**, Lawrence Berkeley National Lab

0800h **B11F-0420** POSTER Iron Polymerization and Arsenic Removal During *In-Situ* Iron Electrocoagulation in Synthetic Bangladeshi Groundwater: **C M van Genuchten**, J Pena, S Addy, A Gadgil

0800h **B11F-0421** POSTER Complexity of Arsenate Adsorption at Iron and Aluminum Oxide-Water Interfaces: **J G Catalano**, P Fenter, C Park, Z Zhang

0800h **B11F-0422** POSTER Solute-controlled dissolution thresholding at near-equilibrium calcite-water interfaces: **M Xu**, K G Knauss, S R Higgins

0800h **B11F-0423** POSTER Adsorption in the Electric Double Layer at Clay-Water Interfaces: **I C Bourg**, G Sposito

0800h **B11F-0424** POSTER Transformation of meta-stable aluminosilicate phases to kaolinite: Molecular structure and reaction pathways from solid-state NMR: **H E Mason**, R S Maxwell, S A Carroll

0800h **B11F-0425** POSTER Ge isotope fractionation during adsorption processes onto the surface of Fe oxy(hydro)oxides: **M TANG**, X Li, Y Liu

0800h **B11F-0426** POSTER Size distributions and geometries of alkali halide nanoclusters probed using ESI FT-ICR mass spectrometry and quantum chemistry: **K Lemke**, S Sadjadi, T Seward

0800h **B11F-0427** POSTER Spectroscopic and DFT evidence for itinerant magnetism in mackinawite (tetragonal FeS): **K Kwon**, K Refson, S Bone, R Qiao, W Yang, Z Liu, G Sposito

0800h **B11F-0428** POSTER Atomistic Simulations of Ion Diffusion in Clay Barriers: Diffusive Path Energy Barriers: **A G Newton**, T Kozaki

0800h **B11F-0429** POSTER Identifying the crystallinity, phase, and arsenic uptake of the nanomineral schwertmannite using analytical high resolution transmission electron microscopy: **RA French**, B Kim, M Murayama, M F Hochella

0800h **B11F-0430** POSTER Chemical and phase distributions in a multilayered organic matter-Ag nanoparticle thin film system: **F M Michel**, C Levard, Y Wang, Y Choi, P Eng, G E Brown

0800h **B11F-0431** WITHDRAWN

0800h **B11F-0432** POSTER Structure of Zn Surfaces Complexes on Biogenic Hexagonal Birnessite: **J Pena**, G Sposito, J Bargar

0800h **B11F-0433** POSTER Surface Enhanced Raman Spectroscopy on Carbonate Fluids at High Pressures: A New Technique to Study Fluid Species Under Geologically Relevant Conditions: **A Chopelas**, J R Black, A Kavner, C E Manning

B11G Moscone South: Poster Hall Monday 0800h
Dynamics of Trace Gas Exchange in Northern Ecosystems During Spring Thaw and Fall Freeze Posters (*joint with A*)

Presiding: **T R Christensen**, Lund University; **P M Crill**, Stockholms universitet; **T Friborg**, Univ. of Copenhagen

0800h **B11G-0434** POSTER CO₂ efflux along the trans-Alaska pipeline in snow-thawing season: **Y Kim**

0800h **B11G-0435** POSTER Determining the impact of *Carex rostrata* on methane cycling in a temperate fen: **G L Noyce**, R K Varner, J L Bubier

0800h **B11G-0436** POSTER Seasonal Patterns of Carbon and Water Fluxes in Three Representative Ecosystems in the Northern Foothills of the Brooks Range, Alaska: **E S Euskirchen**, M S Bret-Harte, G J Scott, G R Shaver

0800h **B11G-0437** POSTER Scales of temporal variability in episodic CH₄ emissions: from hours to seasons: **J P Goodrich**, R K Varner, S E Frolking, B N Duncan, P M Crill

0800h **B11G-0438** POSTER Shoulder season fluxes from high-Arctic Greenland (*Invited*): **M Mastepanov**, T R Christensen, C Sigsgaard, M P Tamstorf, L Strom, T Tagesson, M Lund

0800h **B11G-0439** POSTER Do Atmospheric Measurements of Trace Gases Inform us on the Dynamics of Carbon Exchange During Spring and Fall at High Northern Latitudes? (*Invited*): **E J Dlugokencky**, T Conway, S Houweling, W Peters, J W White

0800h **B11G-0440** POSTER Statistical characterization of trapped bubbles in subarctic lake ice: Potential implications for methane emissions: **M Wik**, P M Crill, D Bastviken, ÅSA Danielsson, E Norbäck

0800h **B11G-0441** POSTER Carbon Dioxide and Methane Flux During Spring Thaw in the Yukon River System (*Invited*): **R G Striegl**, M Dornblaser, P F Schuster, R Spencer

0800h **B11G-0442** POSTER Spatial and Temporal Variability of Freeze back of Polygonal Tundra and Implications for Green House gas Emissions: **M Langer**, S Westermann, K Piel, S Muster, A Abnizova, J Boike

0800h **B11G-0443** POSTER Episodic CO₂ emission during shoulder seasons in the arctic: **T Friborg**, B Elberling, B Hansen, M Lund, M Mastepanov

0800h **B11G-0444** POSTER Carbon balances of freshwater ecosystems in summer and fall 2008 on Samoylov Island, Lena Delta, Siberia, Russia: **A Abnizova**, J Siemens, M Langer, J Boike

0800h **B11G-0445** POSTER Soil moisture control on fall season methane efflux near Barrow, Alaska: **C S Sturtevant**, W C Oechel

B11H Moscone West: 2006 Monday 0800h
Application of Isotope and Genetic Platforms to Develop Spatial and Temporal Perspectives in Ecosystem Ecology I (*joint with GC, OS, PP*)

Presiding: **P H Ostrom**, Michigan State University; **A J Welch**, Smithsonian Conservation Biology Institute; **C A Stricker**, US Geological Survey; **A Wiley**, Michigan State University

0800h **B11H-01** Stable isotopes as markers in trophic and foodweb studies: where do we go from here? (*Invited*): **S Bearhop**

0815h **B11H-02** Uncovering patterns of spring migration in the monarch butterfly using stable isotopes and demographic models: **R Norris**, N Miller, L Wassenaar, K Hobson

0830h **B11H-03** Stable Isotope Analyses of Ancient Penguin Tissues Support the Krill Surplus Hypothesis in Antarctica: **S D Emslie**, M J Polito, W P Patterson

0845h **B11H-04** Uses of molecular markers for understanding modern and historical ecosystems (*Invited*): **V L Friesen**

0900h **B11H-05** Investigating variation in the nutritional ecology and genetics of White-tailed Ptarmigan: implications for climate change: **S J Oyler-mccance**, C A Stricker, C E Braun, G T Wann, C L Aldridge

0915h **B11H-06** Isotopic and genetic insights into the persistence of the northern fur seal (*Callorhinus ursinus*) (*Invited*): **P L Koch**, E A Hadly, M L Pinsky, S D Newsome

0930h **B11H-07** Genetic divergence among extant and extirpated colonies of an endangered pelagic seabird, the Hawaiian petrel: **A J Welch**, R C Fleischer, H F James

B11I Moscone West: 2002 Monday 0800h
Dissolved Organic Matter Dynamics in Terrestrial and Aquatic Ecosystems I (*joint with H*)**Presiding:** **S P Inamdar**, University of Delaware; **M Miller**, USGS0800h **B11I-01** Optical properties of natural dissolved organic matter (DOM) in aquatic ecosystems: Applications in ecosystem studies from headwater streams to the deep ocean. (*Invited*): **R Jaffe**0820h **B11I-02** Seasonality of DOC Mobilization after Clear-Cutting in Boreal First-Order Streams – Supply Limitation or Changing Flow Pathways?: **J Schelker**, K Eklof, K H Bishop, H Laudon0835h **B11I-03** The Effects of Ferric and Ferrous Iron on the Optical Properties of Dissolved Organic Matter: **B Poulin**, G Aiken0850h **B11I-04** A 125 year long record of DOC flux from a major temperate catchment: land-use vs. climate control?: G Clay, **F Worrall**, N K Howden, T P Burt0905h **B11I-05** EVALUATION OF THE RELATIONSHIP BETWEEN DISSOLVED ORGANIC MATERIAL, CHLOROPHYLL-A AND ALGAL SPECIES IN LAKES AND DRINKING WATER RESERVOIRS THROUGHOUT THE STATE OF COLORADO: **A L Khan**, D M McKnight0920h **B11I-06** Analytical Determinations of the Phenolic Content of Dissolved Organic Matter: **T Pagano**, J E Kenny0935h **B11I-07** Dynamics of photochemical and microbial processing of newly exposed terrestrial DOM in arctic surface waters (*Invited*): **R M Cory**, G W Kling0955h **Concluding Discussion** *Open discussion and questions***B11J Moscone West: 2008 Monday 0800h**
Urban Areas and Global Change I (*joint with A, GC, H, PA*)**Presiding:** **G Churkina**, Leibniz Centre for Agricultural Landscape Research; **K A Hibbard**, NCAR0800h **B11J-01** Contrasts between urban and rural climate under climate change scenarios (*Invited*): **K W Oleson**, G B Bonan, J J Feddema0820h **B11J-02** Climate change and heat waves in Paris and London metropolitan areas: **B Dousset**0840h **B11J-03** FUTURE HEAT WAVES IN PARIS METROPOLITAN AREA: **A Beuland**, A Lemonsu, S Somot, V Masson0900h **B11J-04** An observational analysis of Urban effects on heavy rainfall Climatology: **D Niyogi**0920h **B11J-05** The Impact of Detailed Urban-Scale Processing on the Aerosol Direct Effect and its Impacts on the Climate: **J B Cohen**, C Wang, R G Prinn0940h **B11J-06** OBSERVATIONS OF URBAN HEAT ISLAND MITIGATION IN CALIFORNIA COASTAL CITIES DUE TO A SEA BREEZE INDUCED COASTAL-COOLING “REVERSE-REACTION” TO GLOBAL WARMING: **R D Bornstein**, B Lebassi, J Gonzalez**Cryosphere****C11A Moscone South: Poster Hall Monday 0800h**
Monitoring Changes in Polar Ice Sheets and Sea Ice Using Airborne and Satellite Remote Sensing I Posters (*joint with G*)**Presiding:** **M Studinger**, Goddard Earth Science and Technology Center/UMBC; **S Martin**, University of Washington; **N T Kurtz**, University of Maryland Baltimore County; **J S Deems**, National Snow and Ice Data Center0800h **C11A-0517** POSTER L-BAND SAR INTERFEROMETRY FOR MAPPING ARCTIC LANDFAST ICE: **F J Meyer**, A Mahoney, H Eicken, C L Denny0800h **C11A-0518** POSTER Discrimination of First Year Sea Ice Features Using Polarimetric SAR Data: **M Hossain**, J P Gill, J Yackel, Title of Team: Yes, all of the team members are agreed to submit.0800h **C11A-0519** WITHDRAWN0800h **C11A-0520** POSTER RECENT ELEVATION AND VOLUME CHANGES OF RUSSIAN ARCTIC ICE CAPS AS MEASURED BY ENVISAT RADAR ALTIMETER 2: **E J Rinne**, A Shepherd, D Wingham, A Muir0800h **C11A-0521** POSTER Constructing high-resolution, consistent and seamless ice thicknesses using a new data assimilation technique based on mass conservation: **M Morlighem**, E J Rignot, H L Seroussi, E Y Larour, H Ben Dhia, D Aubry0800h **C11A-0522** POSTER The Rapid Ice Sheet Change Observatory (RISCO): **P Morin**, I M Howat, Y Ahn, C Porter, E M McFadden0800h **C11A-0523** POSTER Characterizing Ice Sheet Surface Topography and Structure Using High-Altitude Waveform Airborne Laser Altimetry: **M A Hofton**, B Blair, S B Luthcke, D Rabine, C McIntosh, M Beckley0800h **C11A-0524** POSTER High-Resolution Maps of Outlet Glacier Surface Elevation Change from Combined Laser Altimeter and Digital Elevation Model Data: **J F Levinsen**, I M Howat, C C Tscherning0800h **C11A-0525** POSTER Ice Velocity Map of Antarctica measured with ALOS PALSAR: **J Mougnot**, B Scheuchl, E J Rignot0800h **C11A-0526** WITHDRAWN0800h **C11A-0527** POSTER Investigation of Antarctic ice streams south of 78 degrees south using interferometric RADARSAT-2 data: **B Scheuchl**, J Mougnot, E J Rignot0800h **C11A-0528** POSTER Mapping Pine Island Glacier’s Sub-ice Cavity with Airborne Gravimetry: **M Studinger**, C Allen, W Blake, L Shi, S Elieff, W B Krabill, J G Sonntag, S Martin, P Dutrieux, A Jenkins, R E Bell0800h **C11A-0529** POSTER Insights into the Thwaites Glacier grounding zone from Operation IceBridge aerogravity: **K J Tinto**, R E Bell, J R Cochran, S Elieff, N Frearson0800h **C11A-0530** POSTER SURFACE VELOCITY MAPPING OF LAMBERT GLACIER-AMERY ICE SHELF SYSTEM USING FEATURE-TRACKING: **Z Chi**, A G Klein0800h **C11A-0531** POSTER Evolving ice fronts and surface speeds in the Amundsen Sea Embayment between 1972-2010: **J A MacGregor**, G A Catania, M Markowski, A Andrews0800h **C11A-0532** POSTER Changes of the Greenland ice sheet observed by ICESat: **K Nielsen**, L Sandberg, S B Simonsen0800h **C11A-0533** POSTER From Outlet Glacier Changes to Ice Sheet Mass Balance – Evolution of Greenland Ice Sheet from Laser Altimetry Data: **B M Csatho**, A Schenk, S Nagarajan, G S Babonis

0800h **C11A-0534** *POSTER* Estimating snow accumulation in the percolation zone of the Greenland Ice Sheet using satellite radar scatterometry: **J Miller**, R R Forster, R Schroeder, K C McDonald, J E Box, E W Burgess
 0800h **C11A-0535** *POSTER* Airborne-Radar Images of the Bed of the Greenland Ice Sheet: **K C Jezek**, X Wu, P S Gogineni, C D Clark
 0800h **C11A-0536** *POSTER* Extending remote sensing estimates of Greenland ice sheet melting: **M Heavner**, R Loveland

C11B Moscone West: 3011 Monday 0800h
Glacial Hydrology: Causes and Effects I (*joint with EP, H*)

Presiding: **T T Creyts**, Columbia University; **G E Flowers**, Simon Fraser University; **L A Stearns**, University of Kansas

0800h **C11B-01** Evidence for Substantial Englacial Retention of Surface Meltwater: **U K Rick**, W Abdalati, M M Berlin, I Overeem, S B Luthcke, M R van den Broeke
 0815h **C11B-02** The influence of cryo-hydrologic warming on the ice temperature in the ablation zone – insights from a computational model: H Rajaram, **T P Phillips**, K Steffen
 0830h **C11B-03** Morphodynamics of supraglacial streams (*Invited*): **L Karlstrom**, M Manga, P Gajjar
 0845h **C11B-04** Seasonal evolution of water source contributions to the subglacial outflow from a land-terminating Greenland ice sheet outlet glacier: Insight from a new isotope mixing model (*Invited*): **M P Bhatia**, S B Das, E B Kujawinski, P B Henderson, A Burke, M A Charette
 0900h **C11B-05** Rapid Meltwater Transport to Ice Sheet Beds with Impacts on Subglacial Hydraulics and Overall Motion (*Invited*): **J R Rice**, V C Tsai
 0915h **C11B-06** Recharge-discharge relations for glacial conduit systems: a simple theoretical approach: **M D Covington**, A Banwell, J Gullely, M O Saar, C M Wicks, I C Willis, N Arnold
 0930h **C11B-07** An Experimental Study of Ice-Bed Separation during Sliding over a Hard Bed (*Invited*): **N R Iverson**, B B Petersen
 0945h **C11B-08** Calving Glacier Dynamics Controlled by Small Fluctuations in Subglacial Water Pressure Revealed by Hot Water Drilling in Glaciar Perito Moreno, Patagonia: **S Sugiyama**, P Skvarca, N Naito, H Enomoto, S Tsutaki, K Tone, S Marinsek, M Aniya

C11C Moscone West: 3010 Monday 0800h
Polar Snow and Firn and Innovative Data Acquisition Methods for Snow Science I

Presiding: **R L Hawley**, Dartmouth College; **Z Courville**, CRREL; **H Huwald**, Ecole Polytechnique Federal de Lausanne; **J F Burkhart**, Norwegian Institute for Air Research

0800h **C11C-01** Estimating SWE distribution with a combination of ground-based radar measurements, modeling and remote sensing (*Invited*): **H Marshall**, D G Marks, A H Winstal, R Shrestha, A T Hudak
 0815h **C11C-02** Terrain and drift influences on snow surface aerodynamics (*Invited*): **A Clifton**, K C Leonard, C Manes, M Lehning
 0830h **C11C-03** Compact Probe for In-Situ Optical Snow Grain Size Stratigraphy (*Invited*): **D F Berisford**, N P Molotch, T H Painter, M T Durand
 0845h **C11C-04** Measuring Spatial and Temporal Gradients in Snowpacks using Fiber-optic Distributed Temperature Sensing (*Invited*): **S W Tyler**, J Dozier, C E Hatch, M Woerndl
 0900h **C11C-05** In situ measurements of Antarctic snow compaction compared with predictions of models. (*Invited*): **R Arthern**, D G Vaughan, A M Rankin, R Mulvaney, E R Thomas

0915h **C11C-06** Snow Densification in Greenland (*Invited*): **E Morris**, D Wingham
 0930h **C11C-07** Evolution of Density and Microstructure in Polar Firn (*Invited*): **S Kipfstuhl**, M Hörhold, J Freitag
 0945h **C11C-08** Measurement of the isotope diffusion rate in firn, in the lab and in the field (*Invited*): **H A Meijer**, G van der Wel, V Gkinis, V A Pohjola, R Van de Wal, P (Smeets

Education and Human Resources

ED11A Moscone South: Poster Hall Monday 0800h
Public Participation in Geoscience Research: Engaging Citizen Scientists I Posters

Presiding: **S Henderson**, UCAR; **M Stute**, Lamont-Doherty Earth Obs; **C E Walker**, National Optical Astronomy Observatory; **B J Mailloux**, Barnard College; **S M Pompea**, Natl Optical Astronomy Obs; **A L Schloss**, University of New Hampshire; **P L Gay**, Southern Illinois University Edwardsville; **B J Mendez**, University of California, Berkeley; **B H Day**, NASA Ames Research Center
 0800h **ED11A-0571** *POSTER* Lessons Learned from the First Two Years of Nature's Notebook, the USA National Phenology Network's Plant and Animal Observation Program: **T M Crimmins**, A Rosemartin, E G Denny, J F Weltzin, L Marsh
 0800h **ED11A-0572** *POSTER* BudBurst Buddies: A New Tool for Engaging the Youngest Citizen Scientists: **L S Gardiner**, S Henderson, D Ward
 0800h **ED11A-0573** *POSTER* Project BudBurst: People, Plants, and Climate Change: **S Henderson**, D Ward, K Havens, L S Gardiner, P Alaback
 0800h **ED11A-0574** *POSTER* Digital Earth Watch And Picture Post Network: Measuring The Environment Through Digital Images: **A L Schloss**, J Beaudry, F Carrera, J Pickle
 0800h **ED11A-0575** *POSTER* The Networked Naturalist - Mobile devices for Citizen Science: **D Estrin**, E A Graham
 0800h **ED11A-0576** *POSTER* Cellphones as a Distributed Platform for Black Carbon Data Collection: **N Ramanathan**, M Ramana, M L Lukac, P Siva, T Ahmed, A Kar, I Rehman, V Ramanathan
 0800h **ED11A-0577** *POSTER* Designing Citizen Science Projects in the Era of Mega-Information and Connected Activism: **S M Pompea**
 0800h **ED11A-0578** *POSTER* Earthwatch and the HSBC Climate Partnership: Linking climate change and forests management one citizen scientist at a time: **D B Stover**, A Jones, K Kusek, D Bebbler, R Phillips, J Campbell
 0800h **ED11A-0579** *POSTER* GLOBE at Night: Raising Public Awareness and Involvement through Citizen Science: **C E Walker**, S M Pompea, R T Sparks
 0800h **ED11A-0580** *POSTER* The Great World Wide Star Count: **D Ward**, K Meymaris, S Henderson, R M Johnson
 0800h **ED11A-0581** *POSTER* Behaviors and Motivations observed in the Zooniverse: **P L Gay**, S Brown, A D Huang, C Lehan, Title of Team: Moon Zoo Team
 0800h **ED11A-0582** *POSTER* How MESSENGER Meshes Simulations and Games with Citizen Science: **B Hirshon**, C R Chapman, J Edmonds, J Goldstein, K G Hallau, S C Solomon, H Vanhala, H M Weir, Title of Team: MESSENGER Education and Public Outreach (EPO) Team

0800h **ED11A-0583** *POSTER* Jupiter Observation Campaign: Citizen Science at the Outer Planets: J Houston Jones, **A Wessen**, Title of Team: Jane H. Jones, Solar System E/PO, Jet Propulsion Laboratory, Robert Pappalardo, Project Scientist Jet Propulsion Laboratory, Jason Perry, University of Arizona - Lunar and Planetary Laboratory, Steven Vance, Jet Propulsion Laboratory, Kerri Beisser, Johns Hopkins University Applied Physics Laboratory, Preston Dyches, Solar System E/PO, Jet Propulsion Laboratory

0800h **ED11A-0584** WITHDRAWN

0800h **ED11A-0585** *POSTER* Fostering K-12 Inquiry-based Lesson Development on Regional Water Resource Issues in Los Angeles Urban Schools through the NSF UCLA SEE-LA GK-12 program: **T S Hogue**, M P Burke, V Thulsirag, J Daniel, M Moldwin, P Nonacs

0800h **ED11A-0586** *POSTER* Community-Based Wetland Restoration Workshop in the Lower Ninth Ward, New Orleans: **H F Wang**, L Craig, J A Ross, L Zepeda, Q Carpenter

0800h **ED11A-0587** *POSTER* Learning about water resources issues in Bangladesh using interactive sand tanks: **M Stute**

0800h **ED11A-0588** *POSTER* Water Conservation: A Tool to Build Understanding, Service and Awareness about Natural Resources Linda Ruiz McCall, Katherine K. Ellins, and Bridget Cameron: L R McCall, **K K Ellins**, B Cameron

0800h **ED11A-0589** *POSTER* Using a Cast Iron Hand-Pump to Teach Students About Water Resources and Resource Allocation: **B J Mailloux**, K A Radloff

0800h **ED11A-0590** WITHDRAWN

0800h **ED11A-0591** WITHDRAWN

0800h **ED11A-0592** *POSTER* PUBLIC PARTICIPATION IN EARTH SCIENCE FROM THE ISS: **K J Willis**, S Runco, W L Stefanov

0800h **ED11A-0593** *POSTER* Communicating atmospheric science and research to diverse audiences using a field campaign: **K C Clarke**

0800h **ED11A-0594** *POSTER* Tools and Techniques to Teach Earth Sciences to Young People: **R Constantino**, G Dicelis, E C Molina

0800h **ED11A-0595** *POSTER* Engaging Citizen Scientists through Partnership with Interpreters: **M Heavner**, L Ferguson Craig, M Hekkers, C L Connor, E W Hood

ED11B Moscone South: I02 Monday 0800h
History of the Geosciences

Presiding: **G A Good**; **K Harper**, Florida State University

0800h **ED11B-01** WITHDRAWN

0815h **ED11B-02** The Unseen Founders Of Quaternary Science – The Men Of Glasgow, Scotland (*Invited*): **J Rose**

0830h **ED11B-03** Space Geoengineering: James A. Van Allen's Role in Detecting and Disrupting the Magnetosphere, 1958-1962 (*Invited*): **J R Fleming**

0845h **ED11B-04** The Co-evolution of Climate Models and the Intergovernmental Panel on Climate Change: **R C Somerville**

ED11C Moscone South: I02 Monday 0900h
The Development of Geoscientists: From Novice to Professional I

Presiding: **L M Gonzales**, American Geological Institute; **D W Mogk**, Montana State University; **S Rahman**, YES Network; **K A Kastens**, Lamont-Doherty Earth Observatory

0900h **ED11C-01** Field Studies—Essential Cognitive Foundations for Geoscience Expertise: **C Goodwin**, D W Mogk

0915h **ED11C-02** Measuring novices' field mapping abilities using an in-class exercise based on expert task analysis: **J L Caulkins**

0930h **ED11C-03** Eye-tracking novice and expert geologist groups in the field and laboratory: **R D Cottrell**, K M Evans, R A Jacobs, B B May, J B Pelz, M R Rosen, J A Tarduno, J Voronov

0945h **ED11C-04** Geoscience Data Puzzles: Developing Students' Ability to Make Meaning from Data: **K A Kastens**, M Turrin

Geodesy

G11A Moscone South: Poster Hall Monday 0800h
Estimating the Accuracy of Geodetic Measurements I Posters

Presiding: **J A Henton**, Natural Resources Canada; **E Calais**, Purdue University

0800h **G11A-0614** *POSTER* Evidence for a slow subsidence of the Tahiti Island from GPS, DORIS, GRACE, and combined satellite altimetry and tide gauge sea level records: A Fadil, J Barriot, L Sichoix, P Ortega, P Willis, **J Serafini**

0800h **G11A-0615** *POSTER* Improvement in the observation system for the GPS/A seafloor positioning: **H Fujimoto**, M Kido, Y Osada

0800h **G11A-0616** *POSTER* Accuracy evaluation of Kinematic GPS analysis based on the difference of the IGS products: **T Watanabe**, K Tadokoro, T Okuda, R Ikuta, M Kuno

0800h **G11A-0617** *POSTER* PSEUDORAGE MULTIPATH ESTIMATION AND ANALYSIS AT THE GPS RGNA NETWORK: **G E Vazquez**, M A Barron

0800h **G11A-0618** *POSTER* Uncertainty estimation of the velocity model for stations of the TrigNet GPS network: **M Hackl**, R Malservisi, U Hugentobler

0800h **G11A-0619** *POSTER* Errors Analysis in GPS Precise Point Positioning: Impact of Ambiguity Fixing: **F Perosanz**, F Fund, F Mercier, S Loyer, H Capdeville

0800h **G11A-0620** *POSTER* Accuracy Assessment of High-Rate Kinematic GPS Based on Six-Degree-of-Freedom Shake Table Tests: **G Wang**, F Blume, C M Meertens, P Ibanez, M Schulze

0800h **G11A-0621** *POSTER* A GPS solution for Africa: contribution to AFREF: **E E Saria**, E Calais, D S Stamps, R M Fernandes, H O Farah

0800h **G11A-0622** *POSTER* Detection of loading signals over West Africa : comparison of displacements obtained by GPS, GRACE and loading models: S Nahmani, **O Bock**, M Bouin, A Santamaría-Gómez, G Wöppelmann, J Boy, X Collilieux

0800h **G11A-0623** *POSTER* COMBINATION OF INSAR AND GPS TO MEASURE GROUND MOTIONS AND ATMOSPHERIC SIGNALS: **S Zerbini**, C Prati, M Errico, S Ferri, F Novali, S Scirpoli, L Tiberi

0800h **G11A-0624** *POSTER* High-precise DEM Generation Using Envisat/ERS-2 Cross-interferometry: **W Lee**, H Jung, Z Lu, L Zhang

0800h **G11A-0625** *POSTER* Investigating MAI's Precision: Single Interferogram and Time Series Filtering: **N Bechor Ben Dov**, T Herring

0800h **G11A-0626** *POSTER* In-situ Calibration of Borehole Strainmeter Using Green's Functions for Surface Point Load at a Depth of Deployment: **N Matsumoto**, O Kamigaichi, Y Kitagawa, S Itaba, N Koizumi

0800h **G11A-0627** *POSTER* Ocean Calibration Approach to Analysis of GRACE-Type Data: **P L Bender**, D N Wiese, S B Luthcke

0800h **G11A-0628** *POSTER* Imaging of density distribution in the underground by the 3D tensor gravity inversion method: **J Kasahara**, Y Hasada, H Kondo, K Tsuruga

0800h **G11A-0629** POSTER GRAV-D: The Challenge of High-Altitude Aerogravimetry: **V A Childers**, T M Diehl, S A Preaux, D R Roman

0800h **G11A-0630** POSTER Quantifying the Effects of Survey Orientation on Airborne Gravity Data: **S A Preaux**, C Weil

0800h **G11A-0631** POSTER Precision, Repeatability and Accuracy of A10 Absolute Gravimeter: **Y Fukuda**, J Nishijima, M Taniguchi

0800h **G11A-0632** POSTER Assessing the Accuracy of Geodetic Measurements for the VLBI2010 Observing Network: **D MacMillan**, A E Niell, J M Gipson

0800h **G11A-0633** POSTER Streaky noise in seismic normal mode band observed at Syowa Station, Antarctica: **H Hayakawa**, K Shibuya, K Doi, Y Aoyama

G11B Moscone South: Poster Hall Monday 0800h
The Next Generation Global Geodetic Observing Networks I Posters (joint with PA)

Presiding: **R S Gross**, Jet Propulsion Laboratory; **F G Lemoine**, NASA Goddard Space Flight Center; **E C Pavlis**, Univ. of Maryland, Baltimore C; **W T Petrachenko**

0800h **G11B-0634** POSTER VLBI2010's Role in an Integrated Geodetic Site: **C Ma**, Title of Team: Goddard VLBI Group

0800h **G11B-0635** POSTER Progress on the VLBI2010 Proof-of-Concept Geodetic VLBI System: **A E Niell**, Title of Team: VLBI2010 Broadband Development Team

0800h **G11B-0636** POSTER VLBI2010 Simulations with VieVS: J Sun, A Pany, T Nilsson, J Boehm, **H Schuh**

0800h **G11B-0637** POSTER Towards fully automated processing of VLBI sessions - results from ultra-rapid UT1 experiments: **T Hobiger**, M Sekido, Y Koyama, T Kondo, H Takiguchi, S Kurihara, K Kokado, K Nozawa, R Haas, T Otsubo, T Gotoh, T Kubo-oka

0800h **G11B-0638** POSTER Radio Frequency Compatibility of VLBI, SLR, and DORIS at GGOS Stations: **C Beaudoin**, B E Corey, W T Petrachenko

0800h **G11B-0639** POSTER The Effect of an Uncalibrated Radome on ITRF: **R Ruddick**, M J Moore, G Johnston

0800h **G11B-0640** POSTER The Effects of L2C Signal Tracking on High-Precision Carrier Phase GPS Positioning: **H Berglund**, F Blume, L H Estey, A A Borsa

0800h **G11B-0641** POSTER Precise Positioning of Ships for Maritime Disasters Prevention Using GPS: **J Ha**, M Heo, S Chun, S Park, D Cho

0800h **G11B-0642** POSTER Updates to the IGS Data Center Infrastructure: **C E Noll**, M Schmidt, B P Michael, Y Lu

0800h **G11B-0643** POSTER USGS Geodesy Projects Funded by the American Recovery and Reinvestment Act (ARRA) of 2009: **N E King**, K W Hudnut, W S Leith, M Lisowski, J R Murray-Moraleda, C S Prentice, E A Roeloffs

0800h **G11B-0644** POSTER GREMLIT: an airborne gradiometer to explore the Earth's gravitational field in coastal area: **B Foulon**, B Christophe

0800h **G11B-0645** POSTER Continuous Earth Rotation Monitoring with the large Ring Laser G: **K U Schreiber**, T Klügel, J P Wells, J Holdaway, A Gebauer

0800h **G11B-0646** POSTER APREF Project: Results and Analysis: **M J Moore**, J Dawson, G Hu

0800h **G11B-0647** POSTER Optimization Problems in Space Geodesy: **D Coulot**, F Deleflie, X Collilieux, I PANET, E Bernard, A Pollet

G11C Moscone West: 2003 Monday 0800h
Source Imaging and Rapid Assessment of Earthquakes Using Interferometric Synthetic Aperture Radar and Other Geodetic Data I (joint with S, IN, T, NS, NH)

Presiding: **S Jonsson**, KAUST; **S E Owen**, Jet Propulsion Laboratory; **S Yun**, JPL

0800h **G11C-01** Guiding the Search for Surface Rupture and Paleoseismic Sites using Low-Level Aerial Surveys, Geodetic Imaging, Remote Sensing and Field Mapping (Invited): **K W Hudnut**, J M Fletcher, O Teran, J J Gonzalez-Garcia, A Hinojosa, T K Rockwell, S O Akciz, S Leprince, E J Fielding, R W Briggs, A J Crone, R D Gold, C S Prentice, J Stock, J Avouac, M Simons, J E Galetzka, D K Lynch, E Cowgill, M E Oskin, A Morelan, M Aslaksen, J Sellars, J Woolard

0815h **G11C-02** Geodetic fault model of the 2010 Haiti earthquake and GEO's Geohazard Supersites. (Invited): **F Amelung**, S Jonsson, E Calais, F Greene, S Hong, S Wdowinski, T H Dixon

0830h **G11C-03** Rapid Assessment of Earthquakes with Radar and Optical Geodetic Imaging and Finite Fault Models (Invited): **E J Fielding**, A Sladen, M Simons, P A Rosen, S Yun, Z Li, J Avouac, S Leprince

0845h **G11C-04** Rapid Assessment and Mitigation of Cascadia Earthquakes Using the Combined PANGA and PBO Real-time GPS Networks: **I Rabak**, T I Melbourne, M Santillan, C W Scrivner, K Kinkaid, R Stahl

0900h **G11C-05** Damage Assessment Map from Interferometric Coherence: **S Yun**, E J Fielding, M Simons, P A Rosen, S E Owen, F Webb

0915h **G11C-06** Efficient Geolocation of InSAR Images from Motion Compensation Processors: **C Wortham**, H A Zebker

0930h **G11C-07** Rapid Modeling of and Response to Large Earthquakes Using Real-Time GPS Networks (Invited): **B W Crowell**, Y Bock, M B Squibb

0945h **G11C-08** Geodetic Imaging for Rapid Assessment of Earthquakes: Airborne Laser Scanning (ALS): **W E Carter**, R L Shrestha, C L Glennie, M Sartori, J Fernandez-Diaz, Title of Team: National Center for Airborne Laser Mapping Operational Center

Global Environmental Change

GC11A Moscone West: 3005 Monday 0800h
The Future of Polar Science: The Path Beyond the International Polar Year I (joint with C, PP, A, B, OS)

Presiding: **J W White**, University of Colorado; **J Brigham-Grette**, University of Massachusetts; **J H Swift**, UCSD Scripps Institution of Oceanography; **L M Brown**, National Academy of Sciences

0800h **GC11A-01** Building on IPY Data, Collaborations and Infrastructure to Understand the Changing Poles (Invited): **R E Bell**, I Krupnik, D Hik, K D Alverson, M R Drinkwater

0812h **GC11A-02** NASA and polar science in the coming decade: **T P Wagner**, J A Kaye

0824h **GC11A-03** The Need for System Scale Studies in Polar Regions: **L D Hinzman**, D Newman

0836h **GC11A-04** Accessibility Dynamics in a Warming Arctic: **S Stephenson**, L C Smith, J A Agnew

0848h **GC11A-05** Future Atmospheric Research Priorities of the International Arctic Research Committee (IASC): **J E Overland**, V Rachold, S Bowden

0900h **GC11A-06** Antarctic paleoclimatic and paleoglacial history: building on programs, operations and results from IPY (*Invited*): **R D Powell**, Title of Team: ACE Steering Committee, SCAR; ANDRILL Science Committee

0912h **GC11A-07** Sea ice as a nexus of Arctic environmental and socio-economic change through the IPY and beyond (*Invited*): **H Eicken**

0924h **GC11A-08** The Antarctic POLENET Project: Status, Initial Results, Future Challenges: T J Wilson, **D A Wiens**, J Winberry, R Smalley, C A Raymond, A Nyblade, A D Huerta, I W Dalziel, M G Bevis, R C Aster, S Anandakrishnan

0936h **GC11A-09** Some Recent Advances and Future Directions in Permafrost Research: **V E Romanovsky**, G Grosse, S S Marchenko

0948h **GC11A-10** The Future of Polar Science: The Path Beyond the IPY (*Invited*): **K A Erb**

Geomagnetism and Paleomagnetism

GP11A Moscone South: Poster Hall Monday 0800h **Geomagnetism and Paleomagnetism General Contributions I Posters**

Presiding: **G Acton**, UC Davis

0800h **GP11A-0733** *POSTER* Magnetic Properties of Rocks of the Kapuskasing Uplift (Ontario, Canada) and Origin of Long-Wavelength Magnetic Anomalies: **D J Dunlop**, O Ozdemir, V Costanzo-Alvarez

0800h **GP11A-0734** *POSTER* Magnetic Anomalies and Rock Magnetic Properties Related to Deep Crustal Rocks of the Athabasca Granulite Terrane, Northern Canada: **L L Brown**, M L Williams

0800h **GP11A-0735** *POSTER* Magnetic Monitoring of Serpentinization Reactions, Experimentation vs Oceanic Rocks: **J H Carlut**, B Malvoisin, F Brunet, M Cannat, H Horen

0800h **GP11A-0736** *POSTER* Paleomagnetic and rock magnetic studies of basement basalts recovered during IODP Expeditions 320/321: **Y Yamamoto**, Title of Team: IODP Expedition 320/321 Scientific Party

0800h **GP11A-0737** *POSTER* Full Vector Studies of the Last 10 Thousand Years Derived From The East Maui Volcano Hawaii: **E Herrero-Bervera**, M J Dekkers, H Bohnel, J T Hagstrum, D E Champion

0800h **GP11A-0738** *POSTER* Simple tests for non-ideal behaviour during paleointensity experiments: **G A Paterson**

0800h **GP11A-0739** *POSTER* An Integrated Thellier Experiment on Lava Samples to Test Protocols and the Distribution of Paleointensities: **H Wang**, D V Kent

0800h **GP11A-0740** *POSTER* Archaeomagnetic analyses of Iron Age burnt hut floors from southern African: **C A Scribner**, L P Neukirch, J A Tarduno, M K Watkeys, T Huffman

0800h **GP11A-0741** *POSTER* Anomalous paleointensity variation in the Late Cretaceous: **B Chang**, S Doh, Y Yu, W Kim

0800h **GP11A-0742** *POSTER* Comparison of Palaeointensity Methods using Historical Lavas from Fogo, Cape Verde: **M C Brown**, J M Feinberg, J A Bowles

0800h **GP11A-0743** *POSTER* Absolute Geomagnetic Paleointensity as Recorded by ~1.08 Ga Lake Shore Traps (Keweenaw Peninsula, Upper Michigan): New results: **E Kulakov**, A V Smirnov, J F Diehl, M S Laird

0800h **GP11A-0744** *POSTER* Paleomagnetic and paleointensity investigations of a 3.6 billion-year-old granite from India: **J Voronov**, J A Tarduno, M Mukul, R D Cottrell

0800h **GP11A-0745** *POSTER* New Paleomagnetic and Geochemical Reference Sections in Miocene Grande Ronde Basalt Flows on the Columbia Plateau are Fundamental to Stratigraphic, Structural, and Tectonic Studies in the Portland Metro Area and Coast Ranges of Oregon and Washington: **J T Hagstrum**, M Sawlan, R E Wells, R C Evarts, A R Neim

0800h **GP11A-0746** *POSTER* Tectonic Tales: Changes in Central Walker Lane Strain Accommodation near Bridgeport, California; as told by the Stanislaus Group: **C W Carlson**, C J Pluhar, J M Glen

0800h **GP11A-0747** *POSTER* A critical review of recent paleomagnetic studies in the Lhasa block, Tibetan plateau: implications for the initial collision age between India and Asia and the amount of crustal shortening: **X Tan**, S A Gilder, K P Kodama

0800h **GP11A-0748** *POSTER* Circular polarization for electric fields associated with seismic waves generated by blasting: **M Matsushima**, Y Honkura, M Kuriki, Y Ogawa

0800h **GP11A-0749** *POSTER* NGDC Geomagnetic Observatory Holdings: **J J Mabie**

0800h **GP11A-0750** *POSTER* Recent Advances in the MagIC Online Database: Rock- and Paleomagnetic Data Archiving, Analysis, and Visualization: **R Minnett**, A A Koppers, L Tauxe, C Constable

0800h **GP11A-0751** *POSTER* MAGE Project: 4D Visualization of geomagnetic field: Y Yamagishi, **T Hatakeyama**

0800h **GP11A-0752** *POSTER* Calculation of ferromagnetic resonance spectra for chains of magnetic particles: **A J Newell**

0800h **GP11A-0753** *POSTER* Neof ormation of magnetic minerals in claystones during early burial (<3 km): **M Kars**, C Aubourg, J Pozzi, J Girard

0800h **GP11A-0754** *POSTER* Understanding magnetic remanence acquisition through synthetic sediment deposition experiments: J Jezek, **D Bilardello**, S A Gilder

0800h **GP11A-0755** *POSTER* Full-Vector, Low-Temperature Magnetic Measurements of Geologic Materials: **J Feinberg**, P Sølheid, J A Bowles, M J Jackson, B M Moskowitz

0800h **GP11A-0756** *POSTER* Development of a SERF Atomic Magnetometer for Paleomagnetic Applications: **L P Neukirch**, T Kornack, J A Tarduno

0800h **GP11A-0757** *POSTER* Recent results from the Princeton MRI experiment: **E J Spence**, H Ji

Hydrology

H11A Moscone South: Poster Hall Monday 0800h **Crafty Hydrological Experiments Under Financial Constraints Posters**

Presiding: **R Hut**, Delft University of Technology; **J S Selker**, Oregon State University; **T Blume**, GFZ German Research Centre for Geosciences; **W Luxemburg**, Delft University of Technology

0800h **H11A-0787** *POSTER* A novel technique to measure subsurface flow velocity: **S Bachmair**, M Weiler

0800h **H11A-0788** *POSTER* Acoustic throughfall measurements in a semiarid cloud forest, Dhofar, Oman: First results: **J Friesen**, A Bawain, S de Jong, A Hildebrandt

0800h **H11A-0789** *POSTER* A glass always half full: Reconsideration of the Wales apparatus to apply constant head boundary conditions: **T A Ferre**, J S Selker

0800h **H11A-0790** *POSTER* Distributed landsurface skin temperature sensing in Swiss Alps: **N Van De Giesen**, F Baerenbold, D F Nadeau, E Pardyjak, M B Parlange

0800h **H11A-0791** POSTER The rising bubble technique for discharge measurements: **W Luxemburg**, K Hilgersom, M van Eekelen

0800h **H11A-0792** POSTER The use of handheld GPS to determine tidal slack in estuaries: M Lievens, H Savenije, **W Luxemburg**

0800h **H11A-0793** POSTER The Trans African Hydro Meteorological Observatory: **R Hut**, N Van De Giesen, J S Selker, M Andreini

0800h **H11A-0794** POSTER Field Method for Measuring the Shrinkage/Swelling Dynamics of Cracks Using a Low-Cost “Crack-o-meter”: **RD Stewart**, M R Abou Najm, D E Rupp, J S Selker

0800h **H11A-0795** POSTER Clod-o-meter: A New Method for the Calculation of Shrinkage/Swelling Curves for Soil Clods by Integrating an Open Source Software Solution and Digital Imagery Analysis: M R Abou Najm, **RD Stewart**, D E Rupp, J S Selker

0800h **H11A-0796** POSTER Quantifying snow variability using an inexpensive network of ultrasonic depth sensors: **E Boe**, J P McNamara, H Marshall

0800h **H11A-0797** POSTER Prototype of a low cost multiparameter probe: **K Koski**, R Schwingle, M Pullin

0800h **H11A-0798** POSTER Optimizing Augmentation of a Hydrologic Gauging Network in a Double Dip Recession: **G Aggett**

H11B Moscone South: Poster Hall Monday 0800h
Error Characterization of Precipitation Estimation and Development of Merged Multisensor Products I Posters (*joint with A, GC, NH*)

Presiding: **A Behrangi**, NASA Jet Propulsion Laboratory, California Institute of Technology; **Y Tian**, UMBC; **T Kubota**, Japan Aerospace Exploration Agency

0800h **H11B-0799** POSTER Performance of high-resolution satellite precipitation products over China: **Y Shen**, A Xiong, Y Wang, P Xie, Title of Team: precipitation merge team

0800h **H11B-0800** POSTER Snowpack Reconstructions Incorporating Climate for Mountain Ranges Implementing Weather Modification: **S Anderson**, C Moser, G A Tootle, H Grissino-Mayer, G Kerr

0800h **H11B-0801** POSTER Leveraging hydrologic predictability for optimal merging of high resolution satellite precipitation products: **A S Gebregiorgis**, F Hossain

0800h **H11B-0802** POSTER Bias Adjustment of high spatial/temporal resolution Satellite Precipitation Estimation relying on Gauge-Based precipitation over China: **J Yu**, Y Pan, Y Shen

0800h **H11B-0803** POSTER Quantifying Systematic Errors and Total Uncertainties in Satellite-based Precipitation Measurements: **Y Tian**, C D Peters-Lidard

0800h **H11B-0804** POSTER Assessment of Kriging Methods for Spatial Transfer of Satellite Rainfall Error Metrics from Gauged to Ungauged Satellite Gridboxes: **L Tang**, F Hossain

0800h **H11B-0805** POSTER Analyses of Chinese Hourly Precipitation Using Gauge Observations and Satellite Estimates Products: **Y Pan**, J Yu, Y Shen

0800h **H11B-0806** POSTER Global Satellite Mapping of Precipitation (GSMaP) with high resolution from microwave and infrared radiometer using Kalman filter: T Ushio, **T Kubota**, S Shige, Z Kawasaki

0800h **H11B-0807** POSTER Near-real-time global rainfall map using multi-satellite data by JAXA and its validation: **T Kubota**, M Kachi, R Oki, T Ushio, S Shige, K Aonashi, K Okamoto

0800h **H11B-0808** POSTER Variability of the raindrop size distribution at small spatial scales: **A Berne**, J Jaffrain

0800h **H11B-0809** POSTER Rainfall Observed Over Bangladesh 2000-2008: A Comparison of Spatial Interpolation Methods: **M Pervez**, G M Henebry

0800h **H11B-0810** POSTER Polarimetric, X-band Radar Network: Inter-Calibration Experiment: **P Domaszczynski**, W F Krajewski, A Kruger, D Ceynar, R Goska

0800h **H11B-0811** POSTER The concurrent multiplicative-additive approach for gauge-radar/satellite multisensor precipitation estimates: **J Garcia-Pintado**, G G Barberá, M Erena Arrabal, V M Castillo

0800h **H11B-0812** POSTER Variability of raindrop size distributions and radar reflectivity-rain rate relations in extreme Mediterranean precipitation: **R Uijlenhoet**, P Hazenberg, N Yu, B Boudevillain, G Delrieu

H11C Moscone South: Poster Hall Monday 0800h
From Pores to Catchments: Coupling Hydrologic Concepts and Models Across Multiple Scales I Posters

Presiding: **S W Lyon**, Stockholm University; **R H Mohtar**, Purdue University; **J C Ascough**, USDA-ARS-NPA; **A L James**

0800h **H11C-0813** POSTER Tracking Varying Mean Transit Time in a Semi-Arid Catchment: **I Heidbuechel**, P A Troch, S W Lyon

0800h **H11C-0814** POSTER Landscape Characterization and Hydrologic Response Across Spatial Scales in a Sub-Arctic Environment: **E M Karlsson**, S W Lyon

0800h **H11C-0815** POSTER A Model for Estimating Evapotranspiration on a Watershed Scale: **S E Tuttle**, G Salvucci

0800h **H11C-0816** POSTER EFFECTIVE HYDRAULIC CONDUCTIVITY OF PARTIALLY INUNDATED SURFACES: LOAMY AGRICULTURAL SOILS: **C Langhans**, G Govers, J Diels

0800h **H11C-0817** POSTER Comparative application and analysis from a one dimensional and a multi-dimensional routing scheme and its impact on process oriented hydrological modeling with the Jena Adaptable Modelling System (JAMS) and the integrated hydrological, nutrient transport and erosion modeling system J2000-S-E: **H Kipka**, B Pfennig, M Fink, S Kralisch, P Krause, W Flügel

0800h **H11C-0818** POSTER Scale effects on information content and complexity of streamflows: **F Pan**, Y A Pachepsky, A Guber, R L Hill

0800h **H11C-0819** POSTER Application of Strontium isotope to hydrological study of groundwater dynamics in a weathered granite catchment: **M Katsuyama**, S Nishimoto, Y Saitoh, T Nakano, M Tani

0800h **H11C-0820** WITHDRAWN

0800h **H11C-0821** POSTER Spatiotemporal variability in specific discharge within a boreal landscape: **S W Lyon**, M Nathanson, A Spans, T J Grabs, H Laudon, K H Bishop, J Seibert

0800h **H11C-0822** POSTER Dissecting the variable source area concept – Flow paths and water mixing processes: **H E Dahlke**, Z M Easton, S W Lyon, L D Brown, M T Walter, T Steenhuis

0800h **H11C-0823** POSTER Challenges to Defining Sediment Concentration-Discharge Relationships in the Ethiopian Highlands: **C D Guzman**, S A Tilahun, A D Zegeye, T Steenhuis

0800h **H11C-0824** POSTER Coupling Soil Water Movement and Discrete Element Method for Evaluating the Effects of Shrinkage Cracking on Soil Hydraulic Properties: **R Jabakhanji**

0800h **H11C-0825** POSTER Multiscale numerical modeling of levee breach processes: **C E Kees**, M W Farthing, I Akkerman, Y Bazilevs

H11D Moscone South: Poster Hall Monday 0800h
Hydroepidemiology: Understanding Connections Between Hydrology and Human Health I Posters (joint with B, PA)

Presiding: **A Bomblies**, University of Vermont; **D M Rizzo**, University of Vermont; **A S Jutla**, Tufts University; **E Podest**, JPL; **K C McDonald**, Jet Propulsion Lab

0800h **H11D-0826 POSTER** The Role of Rainfall Patterns in Seasonal Malaria Transmission: **A Bomblies**

0800h **H11D-0827 POSTER** Early warnings of the potential for malaria transmission in Rural Africa using the Hydrology, Entomology and Malaria Transmission Simulator (HYDREMATS): **T K Yamana**, E A Eltahir

0800h **H11D-0828 POSTER** Could arsenic mitigation lead to increased diarrheal disease in Bangladesh?: A van Geen, K Ahmed, Y Akita, M Alam, P Culligan, J Feighery, A S Ferguson, M Emch, V Escamilla, P Knappett, A Layton, **B J Mailloux**, L D McKay, J L Mey, M L Serre, P K Streatfield, J Wu, M Yunus

0800h **H11D-0829 POSTER** Hydroclimatology of Dual Peak Cholera Incidence in Bengal Region: Inferences from a Spatial Explicit Model: **E Bertuzzo**, L Mari, L Righetto, R Casagrandi, M Gatto, I Rodriguez-Iturbe, A Rinaldo

0800h **H11D-0830 POSTER** Hydrology and Human Health: Predicting Cholera Outbreaks using Remote Sensing Data: **A S Jutla**, A S Akanda, S Islam

0800h **H11D-0831 POSTER** Human Mobility Patterns and Cholera Epidemics: a Spatially Explicit Modeling Approach: **L Mari**, E Bertuzzo, L Righetto, R Casagrandi, M Gatto, I Rodriguez-Iturbe, A Rinaldo

0800h **H11D-0832 POSTER** The Role Of The Aquatic Reservoir In Long-Term Cholera Dynamics: **L Righetto**, E Bertuzzo, L Mari, R Casagrandi, M Gatto, I Rodriguez-Iturbe, A Rinaldo

0800h **H11D-0833 POSTER** Factors Influencing Fecal Contamination in Pond of Bangladesh: **P S Knappett**, V Escamilla, A Layton, L D McKay, M Emch, B J Mailloux, D E Williams, M R Huq, M Alam, L Farhana, A S Ferguson, G S Sayler, K Ahmed, M L Serre, Y Akita, M Yunus, A van Geen

0800h **H11D-0834 POSTER** Directing Environmental Science towards Disease Surveillance Objectives: Waterborne Pathogens in the Developed World: **J W Bridge**, D Oliver, A Heathwaite, S Banwart, Title of Team: Going Underground: Human Pathogens in the Soil-Water Environment Working Group

0800h **H11D-0835 POSTER** Development of Hydro-Epidemiology Studies to Establish Relationships Between Source-Water Contamination and Preterm Birth: **I Y Padilla**, J Meeker, A Alshawabkeh, J Cordero, R Giese, R Loch-Caruso

0800h **H11D-0836 POSTER** The Relationship between Humidity and Influenza: **H O Sharif**, F S Melton, R R Nemani

0800h **H11D-0837 POSTER** Linking spatially distributed biogeochemical data with a two-host life-cycle pathogen: A model of whirling disease dynamics in salmonid fishes in the Intermountain West: **N Fytilis**, R Lamb, L Stevens, L A Morrissey, B Kerans, D M Rizzo

0800h **H11D-0838 POSTER** Water Usage and Availability in Bongo's Communities: Research Leading to the Development of an Indigenous Fluoride Filter: **J M Friscia**, B Epstein, T Cumberbatch, A Okuneff

0800h **H11D-0839 POSTER** Health Risk Assessment for Uranium in Groundwater – An Integrated Case Study Based on Hydrogeological Characterization and Dose Calculation: **M R Franklin**, L H Veiga, D A Py Jr., H M Fernandes

H11E Moscone South: Poster Hall Monday 0800h
Hydrogeophysical Data Fusion and Integrated Site Investigation Methods I Posters (joint with NS)

Presiding: **A Binley**, Lancaster University; **T A Ferre**, Univ of Arizona

0800h **H11E-0840 POSTER** Coupled Modeling of Hydrogeochemical and Electrical Resistivity Data for Exploring the Impact of Recharge on Subsurface Contamination: **M B Kowalsky**, E Gasperikova, S Finsterle, D B Watson, G S Baker, S S Hubbard

0800h **H11E-0841 POSTER** Airborne electromagnetic surveys in support of groundwater models in western Nebraska: **J D Abraham**, A Viezzoli, J C Cannia, B D Smith, W Brown, S M Peterson

0800h **H11E-0842 POSTER** Characterization of the effect of dyke swarms on groundwater flow in a sedimentary coastal aquifer by combined geophysical and hydrogeological modelling: C Burns, **J Comte**, L Gaffney, U Ofterding, M Young

0800h **H11E-0843 POSTER** Lithostratigraphy of Nigeria An-Overview: **K A Shitta**

0800h **H11E-0844 POSTER** Measurement and Modeling of Lateral Subsurface Transient Soil Moisture Dynamics Using Multi-Point Direct-Current Resistivity in Homogeneous Sand: **T E Franz**, J T Nolan, K K Caylor, J M Nordbotten, L D Slater

0800h **H11E-0845 POSTER** Saturated-unsaturated flow to a partially penetrating well with storage in a compressible aquifer: **P K Mishra**, S P Neuman

0800h **H11E-0846 POSTER** Hydraulic characterization of the shallow subsurface in the Butte–Silver Bow area in southwestern Montana, using pneumatic slug tests: **B Malama**

0800h **H11E-0847 POSTER** A Hierarchical Bayesian Model for Estimating Remediation-induced Biogeochemical Transformations Using Spectral Induced Polarization Data: Development and Application to the Contaminated DOE Rifle (CO) Site: **J Chen**, S S Hubbard, K H Williams, C Tuglus, A Flores-Orozco, A Kemna

0800h **H11E-0848 POSTER** Trade-off in Selecting Structural Parameters for Bayesian Geostatistical Inverse Problems: **R Gong**, J Luo

0800h **H11E-0849 POSTER** Structural joint inversion of time-lapse crosshole GPR traveltime and ERT data: J A Doetsch, **N Linde**, A Binley

0800h **H11E-0850 POSTER** Joint inversion of seismic refraction and resistivity data using layered models – applications to hydrogeology: **N G Juhojuntti**, J Kamm

0800h **H11E-0851 POSTER** The combination of satellite and in-situ gravimetric and hydrogeophysical measurements constrains water storage capacity in South West Niger: **J Pfeffer**, M Boucher, J Hinderer, G Favreau, J Boy, C de Linage, B Luck, M Oi, N Le Moigne

0800h **H11E-0852 POSTER** Gravity Monitoring and Modeling of Groundwater Changes at Dutch Flats, Nebraska: **P Gettings**, D S Chapman

0800h **H11E-0853 POSTER** Does Electrical Resistivity Imaging mesh with solute transport data obtained from tracer studies in hyporheic zones?: **M Fitzgerald**, A S Ward, T J Voltz, M N Gooseff, K Singha

0800h **H11E-0854 POSTER** Sequential Bayesian Geostatistical Inversion and Evaluation of Combined Data Worth for Aquifer Characterization at the Hanford 300 Area: **H Murakami**, X Chen, M S Hahn, M W Over, M L Rockhold, V Vermeul, G E Hammond, J M Zachara, Y Rubin

0800h **H11E-0855 POSTER** On the relevance of the initial conditions in field tracer tests monitored by time lapse ERT: the Settolo (Italy) case study: **P Salandin**, M Camporese, G Cassiani, R Deiana, M Perri

0800h **H11E-0856** POSTER A STUDY OF FAULT ZONE HYDROLOGY: **K Karasaki**, C T Onishi, J Goto, T Moriya, H Tsuchi, K Ueta, K Kiho, K Miyakawa

0800h **H11E-0857** POSTER Local Sensitivity Analysis for Inverse Problems Solved by Singular Value Decomposition: **M C Hill**, B T Nolan

0800h **H11E-0858** POSTER On the value of incorporating spatial statistics in large-scale geophysical inversions: the SABRe case: **A Kokkinaki**, B E Sleep, J E Chambers, O A Cirpka, W Nowak

0800h **H11E-0859** POSTER Full-resolution 3D GPR and Direct-Push K Data Reveal Distinct Hydrostratigraphic Zones at the MADE Site: **M DOGAN**, R L Van Dam, D W Hyndman, J J Butler, G Bohling

0800h **H11E-0860** POSTER Effect of snowfall on water temperature of small tributary of Ane River in northern catchment area of Lake Biwa during winter of 2009: **M Iwaki**, S Sakai, Y Furukawa, N Hasegawa, T Okubo

0800h **H11E-0861** POSTER Laboratory experiments for estimating chemical osmotic parameters of mudstones: **S Miyoshi**, T Tokunaga, K Mogi, K Ito, M Takeda

0800h **H11E-0862** POSTER Transcurrent Fault Systems in the Mojave Desert, Conduits or Barriers to Groundwater Flow?: **D R Dailey**, M Sultan, A Milewski, W Sauck, R Laton, J H Foster

0800h **H11E-0863** POSTER Comparative Geostatistical Analysis of Flowmeter and Direct-Push Hydraulic Conductivity Profiles at the MADE Site: **G Bohling**, G Liu, S J Knobbe, E C Reboulet, D W Hyndman, P Dietrich, J J Butler

0800h **H11E-0864** POSTER Hydrologic Process-oriented Optimization of Electrical Resistivity Tomography: **A Hinnell**, M Bechtold, T A Ferre, J Van Der Kruck

0800h **H11E-0865** POSTER Using modified self-organizing maps to explore hydrochemical and biological datasets: **A R Pearce**, P J Mouser, L Stevens, M Watzin, G Druschel, N Hayden, D M Rizzo

H11F Moscone South: Poster Hall Monday 0800h
Managing Water Resources Risks and Innovating Adaptation Strategies in a World of Change I Posters (joint with GC, PA)

Presiding: **N K Howden**, University of Bristol; **C M Brown**, University of Massachusetts - Amherst; **J J McDonnell**, Oregon State University; **F I Chung**, State of California

0800h **H11F-0866** WITHDRAWN

0800h **H11F-0867** POSTER Raising the Dead without a Red Sea-Dead Sea Canal? A hydro-economic-institutional analysis: **D E Rosenberg**

0800h **H11F-0868** POSTER What is the Nondominated Formulation? A Demonstration of de Novo Water Supply Portfolio Planning Under Deep Uncertainty: **J R Kasprzyk**, P M Reed, G W Characklis, B R Kirsch

0800h **H11F-0869** POSTER Assessing Climate Risks on the Investment Plans in the Niger River Basin, West Africa: **Y B Ghile**, C M Brown

0800h **H11F-0870** POSTER Analyzing Uncertainty and Risk in the Management of Water Resources in the State Of Texas: **A Singh**, R Hauffpauir, S Mishra, M Lavenue

0800h **H11F-0871** POSTER The role of climate and human changes on inter-annual variation in stream nitrate fluxes and concentrations: **M Philippe**, C Gascuel, A Pierre, D Patrick, R Laurent, M Jérôme

0800h **H11F-0872** POSTER Prediction intervals for estimated water-quality concentrations and fluxes with serially-correlated residuals: **S A Archfield**, R M Hirsch, R M Vogel

0800h **H11F-0873** WITHDRAWN

0800h **H11F-0874** POSTER Assessing groundwater transport of non-point source pollutants to surface waters and wells: Nitrates in the Maurice Watershed, New Jersey: **D B Abrams**, H M Haitjema

0800h **H11F-0875** POSTER Common Pool Water Markets and their Role in Facilitating Land Use Change in Drying Climates: **R L Teasley**, M Milke, J F Raffensperger, M Zargar

0800h **H11F-0876** POSTER Correcting for low-frequency variability bias in GCM rainfall simulations: F Johnson, R Mehrotra, **A Sharma**

0800h **H11F-0877** POSTER Long-Term Changes in Streamwater Total Phosphorus in the Mississippi-Atchafalaya River Basin Using Weighted Regressions on Time, Discharge, and Season: **B T Aulenbach**

0800h **H11F-0878** POSTER Does Irrigation Buffer Agriculture from Climatic Variability? - Evidence from India: **R Fishman**

0800h **H11F-0879** POSTER Real-Time Wastewater System Operational Strategy Adaptation for Rainfall Variability: **A L Zimmer**, B S Minsker, A Schmidt, A Ostfeld, L A Treinish

0800h **H11F-0880** POSTER Multi-Objective Optimization and Multi-Model Analysis of Watershed Management Under Uncertainty: **C A Shoemaker**, T Akhtar, J Woodbury

0800h **H11F-0881** POSTER Nitrate trends in United Kingdom watersheds since 1868: can we reverse the trend?: **T P Burt**, N K Howden, F Worrall

0800h **H11F-0882** POSTER Risk Assessment in Relation to the Effect of Climate Change on Water Shortage in the Taichung Area: **J Hsiao**, L Chang, C Ho, M Niu

0800h **H11F-0883** POSTER The Risk Analysis of Reservoir Water Supply under High Turbidity- Case Study of the Shihmen Reservoir: **Y Chang**, L Chang, S Ko, C Ho, Y Chen

0800h **H11F-0884** POSTER Groundwater Sustainability Through Optimal Crop Choice in the Indian Punjab: **R Desai**, T U Siegfried, C B Krishnamurthy, S Sobolowski

0800h **H11F-0885** POSTER Application of current and future satellite missions to hydrologic prediction in transboundary rivers: **S Biancamaria**, E Clark, D P Lettenmaier

0800h **H11F-0886** POSTER The study of climate change impact on the risk of water shortage at Shihmen Reservoir during the dry season: **Y Chen**, C Ho, L Chang

0800h **H11F-0887** POSTER Non-stationarity in long hydrological time series: a new theoretical technique for detecting multiple changes in mean and variance: **N K Howden**, T P Burt, F Worrall, M Z Bieroza

H11G Moscone South: Poster Hall Monday 0800h
Measurements and Modeling of Storage Dynamics Across Scales I Posters

Presiding: **J P McNamara**, Boise State University; **D Tetzlaff**, University of Aberdeen; **S K Carey**, Carleton University

0800h **H11G-0888** POSTER The apparent groundwater age rejuvenation caused by the human activity in Jakarta area, Indonesia: **M Kagabu**, J Shimada, T Nakamura, R Delinom, M Taniguchi

0800h **H11G-0889** POSTER Estimating Water Storage in Prairie Wetlands from a LiDAR DEM: **C J Westbrook**, A G Minke, J W Pomeroy, X Guo

0800h **H11G-0890** POSTER Storage excess: A new conceptual framework for subsurface water collection, storage and discharge at the watershed scale: **T Sayama**, J J McDonnell, A S Dhakal, K Sullivan

0800h **H11G-0891** POSTER Variability in Headwater Stream Behavior Across the United States: **C Kelleher**, T Wagener

0800h **H11G-0892** POSTER Vadoze zone hydrology in low relief terrain: the importance of lateral subsurface stormflow: C R Jackson, **L Hopp**, J J McDonnell

0800h **H11G-0893** POSTER The Impact of Accurate Parameterization of Snow Storage in Operational Hydrology Models: **A C Burnop**, V R Sridhar, J P McNamara, A N Flores

0800h **H11G-0894** POSTER Soil Moisture/ Tree Water Status Dynamics in Mid-Latitude Montane Forest, Southern Sierra Critical Zone Observatory, CA: **P C Hartsough**, A Malazian, M W Meadows, K Roudneva, J Storch, R C Bales, J W Hopmans

0800h **H11G-0895** POSTER Spatially distributed hydrologic response in a small catchment in the Swiss Alps: **S Fernandez**, S Simoni, A Rinaldo, M H Daniels, M B Parlange

0800h **H11G-0896** POSTER Calibrating SWAT with River flows, Groundwater table, and GRACE: **L Qiao**

0800h **H11G-0897** POSTER A Screening Tool for Using Gravity in Hydrologic Investigations: **A Hartz**, T Ferré

0800h **H11G-0898** POSTER Spatial variation in water table responses across a hillslope: **D R Haught**, I H Tromp-van Meerveld

0800h **H11G-0899** POSTER Modeling soil-moisture storage distribution using a dynamic topographic wetness index: **C Lanni**, R Rigon, J J McDonnell

0800h **H11G-0900** POSTER A new heat-pulse probe method for the determination of ice and liquid water content in frozen soils: **S K Carey**, Y Zhang, M Treberg

0800h **H11G-0901** POSTER Global Terrestrial Water Storage Response and Controls using GRACE: **J T Reager**, J S Famiglietti

0800h **H11G-0902** POSTER Impact of High-altitude Meadows on Runoff Dynamics Across Environmental and Elevational Gradients in the Sierra Nevada, California: **J Helmschrot**, J D Lundquist, P Krause

0800h **H11G-0903** POSTER Role of Storage in Arctic Basins: **W R Bolton**, D L Kane, L D Hinzman

0800h **H11G-0904** POSTER What happens when catchments get excited? Exploring the link between hydrologic states and responses across spatial scales: **S Wrede**, S W Lyon, N Martinez-Carreras, L Pfister, S Uhlenbrook

0800h **H11G-0905** POSTER Memory effects of depression storage in Northern Prairie hydrology: **K Shook**, J W Pomeroy

H11H Moscone South: Poster Hall Monday 0800h
Patterns in Soil-Vegetation-Atmosphere (SVA) Systems: Monitoring, Modeling, and Data Assimilation I Posters (*joint with A, B, GC*)

Presiding: **S Crewell**, University of Cologne; **H Vereecken**, Forschungszentrum Julich; **S J Kollet**, University of Bonn; **A B Moradi**, Helmholtz Centre for Environmental Research - UFZ

0800h **H11H-0906** POSTER 10-year evapotranspiration estimates in a Bornean tropical rainforest: **T Kume**, N Tanaka, H Komatsu, N Yoshifuji, T M Saitoh, M Suzuki, T Kumagai

0800h **H11H-0907** POSTER The Magnitude of Hydraulic Redistribution by Plants: A Laboratory Investigation of Biological and Physical Mechanisms: **R B Neumann**, M Zwieniecki, Z G Cardon, N M Holbrook

0800h **H11H-0908** POSTER A method to map canopy surface resistance and refine evapotranspiration calculations from heterogeneous land surface thermal remote sensing data: **K B Moffett**, S Gorelick

0800h **H11H-0909** POSTER Simulations of water and heat exchanges for a subtropical mixed evergreen forest with BATS2 and SHAW: Y CHEN, **B Wu**, M Li

0800h **H11H-0910** POSTER A Model-Based Study of Ecohydrological Controls in the Mojave Desert: **G C Ng**, D Bedford, D M Miller

0800h **H11H-0911** POSTER Modeling water balance distribution in a natural semiarid region of central Mexico using a SVAT model: **C A Mastachi-Loza**, I Braud, E Gonzalez-Sosa, Title of Team: Centro de Investigaciones del agua de Querétaro

0800h **H11H-0912** POSTER Rainfall interception by Mesquite and Huisache in the semi-arid region of Central México: **E Gonzalez-Sosa**, C A Mastachi-Loza, R Becerril-Piña, I Braud, M A Gutierrez-Lopez

0800h **H11H-0913** POSTER Temporal dynamics and spatial heterogeneity of soil moisture in a northern temperate deciduous forest: L He, **V Y Ivanov**, C S Vogel, G Bohrer, M Moghaddam

0800h **H11H-0914** POSTER Diurnal Cycles of Trace Gas Transfer through Wetland Vegetation: **M C Reid**, D T Ho, P R Jaffe

0800h **H11H-0915** POSTER Influences of subsurface heterogeneity and vegetation cover on soil moisture, surface temperature, and evapotranspiration at hillslope scales: **A L Atchley**, R M Maxwell

0800h **H11H-0916** POSTER Field Study of Rainfall Redistribution in Japanese Cypress Plantations: **H Kato**, Y Onda, K Nanko, T Gomi

0800h **H11H-0917** POSTER Using Accumulated Rainfall to Improve Modeled Transitions between Senescent and Transpiring Vegetation in Semi-Arid Regions: **K I Mohr**, S Herrmann

0800h **H11H-0918** POSTER Reconstructing the Root System Development of Barley in an Undisturbed Soil using Minirhizotron Data: **S Garre**, L Pagès, M Javaux, J Vanderborght, H Vereecken

0800h **H11H-0919** POSTER Visualizing Moisture Storage in Basin Lysimeters Using Electrical Resistivity Tomography: **W Schnabel**, J Munk, W Lee

0800h **H11H-0920** POSTER Inaccuracies in soil heat flux measurement and modeling: a matter of vertical and temporal resolution?: **P Gentine**, D Entekhabi

0800h **H11H-0921** POSTER Observation of the impacts of both geology and vegetation environment on evapotranspiration regime : a case study under sudanian climate: **J COHARD**, M Desclotres, A Guyot, S Galle, L Séguis, S Anquetin

0800h **H11H-0922** POSTER The Effect of Increasing Vegetation Representation in A Land-Atmosphere Box Model: **C X Liang**, R W Vervoort

0800h **H11H-0923** POSTER How well can calibrated Thornthwaite Mather models predict the variability in soil moisture observed in green infrastructure facilities?: **Z Yu**, K A DiGiovanni, F A Montalto

0800h **H11H-0924** POSTER Fractured Epikarst Bedrock as Water Source for Woody Plants in Savanna: **S Schwinning**, K R Goodsheller, B F Schwartz

0800h **H11H-0925** POSTER Precipitation Response to Land Subsurface Hydrologic Processes in AGCM Simulations: **M Lo**, J S Famiglietti

H11I Moscone South: Poster Hall Monday 0800h
Water Security and Sustainability I Posters

Presiding: **J A Tindall**, US DOI - USGS; **E H Moran**, USGS; **A A Campbell**

0800h **H11I-0926** POSTER Water Availability in the Tigris-Euphrates River Basin and the Middle East from GRACE: **K Voss**, J S Famiglietti, M Lo, C de Linage, S C Swenson, M Rodell

0800h **H11I-0927** POSTER Multi-National Collaborative Modeling of Water Dependent Resources in the Tigris-Euphrates River Basin: H Passell, **J D Roach**, M D Reno, G T Klise, V C Tidwell

0800h **H11I-0928** POSTER Three-Dimensional Modeling of Groundwater Ages and Implications for Sustainable Groundwater Management in the Ordos Basin, Northwest China: **C Yu**, G Cao, Y Yao, F Hu, C Zheng

0800h **H11I-0929** POSTER Artificial Recharge Coupled with Flood Mitigation in Jeju, Korea: **Y Kim**, Y Kim, M Koo, K Lee, D Moon, J M Barry, W Park

0800h **H11I-0930** POSTER Assessment of Groundwater Supply Impacts for a Mine Site in Western Turkey: **E Agartan**, H Yazicigil

0800h **H11I-0931** POSTER Evaluation of Four Water Management Policies for Ogallala Aquifer Sustainability in the Texas High Plains: **J E Hernandez**, P H Gowda, T A Howell, T H Marek, W Ha, L K Almas

0800h **H11I-0932** POSTER A Hydrologic Model to Quantify Large Scale Biofuel Production Impact on Upper Mississippi River Basin Water Quality: **Y K Demissie**, E Yan, M Wu

0800h **H11I-0933** POSTER Applications of Ferrate(VI) to Wastewater Reclamation and Water Treatment: **H Kim**, H Choi, K Lee, J Nam, I Kim

0800h **H11I-0934** POSTER A Basin-based Analysis of Global Lake Stress from Scarcity of Sustainable Water Resource: **J Wang**, Y Sheng

0800h **H11I-0935** POSTER A GRACE-based Index of Global Freshwater Availability and Stress: **A S Richey**, J S Famiglietti

H1 IJ Moscone West: 3018 Monday 0800h
CO₂ Sequestration Inside Pores: From Molecules to Microbes I (joint with B, V)

Presiding: **S J Altman**, Sandia National Laboratories; **B Cardenas**, University of Texas at Austin; **D R Cole**, Oak Ridge National Laboratory

0800h **H11J-01** CO₂ INTERACTION WITH GEOMATERIALS (Invited): **V Romanov**, B H Howard, R J Lynn, R P Warzinski, T Hur, E M Myshakin, C L Lopano, V K Voora, W A Al-Saidi, K D Jordan, R T Cygan, G D Guthrie

0815h **H11J-02** Molecular Simulations of Carbon Dioxide and Water: Cation Solvation and Wettability: **L J Criscenti**, J Bracco, R T Cygan

0830h **H11J-03** Integrating Experiments, Characterization, and Modeling to Understand Carbonate Precipitation at the Pore Scale (Invited): **C Steefel**, C N Noiriell, L Yang, D Trebotich, S Molins, J B Ajo Franklin

0845h **H11J-04** Effects of CO₂ (aq), pH, and Salinity on Biotite Dissolution Kinetics under Hydrothermal Conditions: **Y Hu**, Y Jun

0900h **H11J-05** Microbially enhanced carbon capture and storage – from pores to cores (Invited): **A C Mitchell**, A B Cunningham, L Spangler, R Gerlach

0915h **H11J-06** Mineralogy and Microbial Survival During Carbon Sequestration: **E U Santillan**, K Gilbert, P Bennett

0930h **H11J-07** Small-scale dissolution, precipitation, deformation and fracturing during CO₂ sequestration (Invited): **P Meakin**, H Austrheim, H Huang, A Malthe-Sorensen

0945h **H11J-08** Toward development of parameters for permeability field variations due to fluid-rock reactions during geologic CO₂ sequestration: **M O Saar**, W E Seyfried

H11K Moscone West: 3014 Monday 0800h
Hydrogeophysics: Advances in Measurement, Monitoring, and Modeling of Hydrological Processes I (joint with NS)

Presiding: **A Pidlisecky**, University of Calgary; **B Dafflon**, Center for Geophysical Investigation of the Shallow Subsurface

0800h **H11K-01** Crosshole GPR reflection imaging of saline tracer movement in fractured granite (Invited): C Dorn, **N Linde**, T Le Borgne, O Bour, L Baron

0815h **H11K-02** Monitoring Spatio-temporal Dielectric Permittivity Variation in the Shallow Subsurface through Bayesian Inversion of GPR Data: **N Terry**, Z Hou, S S Hubbard

0830h **H11K-03** Ground penetrating radar response to water table drawdown and vadose zone dewatering: **M J Thoma**, J H Bradford, W Barrash

0845h **H11K-04** Rapid estimation of topsoil hydraulic properties from coupled inversion of TDR data during falling head infiltration: **C Mboh**, J A Huisman, H Vereecken

0900h **H11K-05** Soil water monitoring using heated distributed temperature sensing: **A M Striegl**, S P Loheide

0915h **H11K-06** Estimation of Unconfined Aquifer Hydrologic Properties Using Gravity and Drawdown Data: **D L Harry**, J Woodworth, W E Sanford

0930h **H11K-07** Differential Image Analysis to Extract Subsurface Flow Dynamics From High Resolution Surface Deformation Measurements: **C J Seto**, S Ravela

0945h **H11K-08** InSAR data produce specific storage estimates for an agricultural area in the San Luis Valley, Colorado: **J Reeves**, R J Knight, H A Zebker, W Schreuder, P S Agram, T Lauknes

H11L Moscone West: 3016 Monday 0800h
Precipitation Measurement, Validation, and Applications: From Watershed to Global Scales I (joint with A)

Presiding: **A Y Hou**, NASA Goddard SFC; **W K Berg**, Colorado State University; **B E Vieux**

0800h **H11L-01** Status and Future of Global Flood and Landslide Nowcasts and Forecasts Using Satellite Precipitation Observations (Invited): **R F Adler**, H Wu, D B Kirschbaum, F Policelli, Y Hong, Y Tian, H Pierce

0815h **H11L-02** Rainfall contributions from precipitation features with different sizes, convective intensities and durations over the tropics and subtropics (Invited): **E J Zipser**, C Liu

0830h **H11L-03** A second look at the CloudSat/TRMM intersect data: **Z Haddad**, K Kuo, E A Smith, D Kiang, F J Turk

0845h **H11L-04** Properties of Clouds and Precipitation Inferred from TRMM PR and TMI: **S J Munchak**, C D Kummerow

0900h **H11L-05** Spectral retrieval of latent heating profiles from TRMM PR data: **S Shige**, Y N Takayabu, M Kachi, W Tao

0915h **H11L-06** An Algorithm for Estimating Precipitation Using Combined Radar-Radiometer Observations from GPM: **M Greco**, L Tian, W S Olson, S Tanelli

0930h **H11L-07** Intersatellite Calibration of Microwave Radiometers for GPM: **T T Wilheit**

0945h **H11L-08** A stochastic simulator of intermittent 2d fields of raindrop size distributions: M Schleiss, **A Berne**

H11M Moscone West: 3020 Monday 0800h
Rocks, Fractures, Fluids, and Life: Insights From Underground Research Laboratories I (joint with B, ED, MR, NH, NS, T)

Presiding: L C Murdoch, Clemson University; D Elsworth, Pennsylvania State University; T C Onstott, Princeton Univ.; W M Roggenthen, SD School of Mines-Tech

- 0800h **H11M-01** Integrated Geophysical Monitoring Systems for Deep Mines (Invited): **B Milkereit**, D Duff, P K Kaiser, D R Schmitt
- 0815h **H11M-02** Investigating Earthquake Rupture Processes in a Deep South African Gold Mine (Invited): **A McGarr**, J B Fletcher, M S Boettcher, V Heesakkers, M J Johnston, Z Reches
- 0830h **H11M-03** Faults and fractures in Gallery 04 of the Mont Terri rock laboratory: characterization, simulation and application: V Mourzenko, J Thovert, **P M Adler**, C Nussbaum, P Pinettes
- 0845h **H11M-04** HPPP Hydromechanical tests and developments at the LSBB Underground Research Laboratory (France): **Y Guglielmi**, F Cappa, J Rutqvist
- 0900h **H11M-05** Upward flow of supercritical CO₂ with transition to gaseous conditions: Simulations for design of large-scale CO₂ flow experiments at LUCI: **C M Oldenburg**, C A Peters, P F Dobson, C Doughty
- 0915h **H11M-06** Microbial borehole observatories deployed within the oceanic crust: Design considerations and initial results from long-term colonization experiments (Invited): **B N Orcutt**, W Bach, K Becker, A T Fisher, S Hulme, B M Toner, C G Wheat, K J Edwards, Title of Team: IODP Expedition 327 Shipboard Party
- 0930h **H11M-07** Stimulation Controls and Mitigation of Induced Seismicity for EGS Project: Examples from the Newberry EGS Demonstration Project (Invited): **S Petty**, T T Cladouhos, W Osborn, J Iovenitti
- 0945h **H11M-08** Development of an ultra-high-resolution FBG strain sensor and laboratory experiments to evaluate its performance for application to the rock masses: **T Tokunaga**, Z He, Q Liu, K Mogi, H Matsui, Y Nakayama, A Hirata, Y Mizuta

Earth and Space Science Informatics

IN11A Moscone South: Poster Hall Monday 0800h
Enabling and Encouraging Transparency in Science Data I Posters (joint with GC, PA, ED, NH)

- Presiding:** B E Wilson, Oak Ridge National Laboratory; K A Lehnert, Columbia University; L M Raymond, Woods Hole Oceanographic Institution; W J Weber, Unidata Program Center
- 0800h **IN11A-1061** POSTER The ICSU World Data System: From Concept to Reality: D M Clark, P Cilliers, M Diepenbroek, F Genova, R Harris, L Horta, **J H Minster**, M Mokrane, R E Neilan, L Rickards, T Watanabe, B Yan, M Zgurovsky, Title of Team: ICSU World Data System Scientific Committee
- 0800h **IN11A-1062** WITHDRAWN
- 0800h **IN11A-1063** POSTER Enhancing The Recognition, Reusability, And Transparency Of Scientific Data Using Digital Object Identifiers: **B E Wilson**, R B Cook, T W Beaty, W Lenhardt, J Grubb, L A Hook, C Sanderson
- 0800h **IN11A-1064** POSTER The TPAC Digital Library: A Web Application for Publishing Large Catalogs of Earth Science Data: **P Blain**, T Pugh
- 0800h **IN11A-1065** POSTER Data Stewardship and Long-Term Archive of ICESat Data at the National Snow and Ice Data Center (NSIDC): **D K Fowler**, J F Moses, R E Duerr, D Webster, D Korn

- 0800h **IN11A-1066** POSTER ASTER Global DEM contribution to GEOSS demonstrates open data sharing: T Sohre, **K A Duda**, D J Meyer, J Behnke, Title of Team: NASA ESDIS LP DAAC
- 0800h **IN11A-1067** POSTER Shared Semantics for Oceanographic Research: Development of Standard "Cruise-Level" Metadata: **R A Arko**, A Milan, C L Chandler, S P Miller, V Ferrini, S Mesick, J Mize, C Paver, B Sullivan, A Sweeney
- 0800h **IN11A-1068** POSTER Data Publication: Addressing the Issues of Provenance, Attribution, Citation, and Accessibility: **L M Raymond**, C L Chandler, R K Lowry, E R Urban, G Moncoiffe, P Pissierssens, C Norton
- 0800h **IN11A-1069** POSTER A Semantic Provenance-aware Expert Advisory System in a Web-based Science Data Analysis Tool: **S Zednik**, C Lynnes, P A Fox, G G Leptoukh, J Pan
- 0800h **IN11A-1070** POSTER Metadata Means Communication: The Challenges of Producing Useful Metadata: P N Edwards, **A L Batcheller**
- 0800h **IN11A-1071** POSTER Rebuilding and Organizing 1960's era Nimbus Datasets to 2010 Data Stewardship Expectations: **J F Moses**, S J Kempler, A Al-Jazrawi, E Zamkoff, I V Gerasimov, J E Johnson, B M Trivedi
- 0800h **IN11A-1072** POSTER Revealing passive microwave data production at NSIDC: **D Scott**, B W Billingsley, J Smith, W Meier
- 0800h **IN11A-1073** POSTER Whose murk is this?: **P J Samson**
- 0800h **IN11A-1074** POSTER Visualization and data sharing of COSMIC radio occultation dataset: **Y Ho**, W J Weber, J Chastang, D Murray, J McWhirter, Title of Team: integrated data viewer
- 0800h **IN11A-1075** POSTER Mobile Application for the Delivery of Satellite Imagery and Cloud Products: **L Nguyen**, T L Chee, P Minnis, R Palikonda, D Spangenberg, J K Ayers

IN11B Moscone South: Poster Hall Monday 0800h
Interoperability Barriers for Earth Science Data Systems I Posters (joint with AE, B, C, EP, GC, H, NH, V)

- Presiding:** S W Berrick, NASA; Y Enloe; H Hua, NASA/JPL; A Wilson, LASP
- 0800h **IN11B-1076** POSTER Vocabulary for Virtual Observatories and Data Systems: **J A Hourcle**, T A King
- 0800h **IN11B-1077** POSTER Building Format-Agnostic Metadata Repositories: **M Cechini**, D Pilone
- 0800h **IN11B-1078** POSTER An Observational and Computational Variable Tagging System for Climate Change Informatics: **L C Pouchard**, W Lenhardt, M L Branstetter, A Runciman, D Wang, S Kao, A W King, Title of Team: Climate Change Informatics Team
- 0800h **IN11B-1079** POSTER Improving the Interoperability of NASA HDF and HDF-EOS data: **M Yang**
- 0800h **IN11B-1080** POSTER Common Patterns with End-to-end Interoperability for Data Access: **J Gallagher**, N Potter, M B Jones
- 0800h **IN11B-1081** POSTER Results of the Collaborative Energy and Water Cycle Information Services (CEWIS) Workshop on Heterogeneous Dataset Analysis Preparation: **S J Kempler**, W L Teng, J G Acker, D R Belvedere, Z Liu, G G Leptoukh
- 0800h **IN11B-1082** POSTER Achieving Interoperability in GEOSS - How Close Are We?: **D K Arctur**, S S Khalsa, S F Browdy
- 0800h **IN11B-1083** POSTER Best Practices for Preparing Interoperable Geospatial Data: **Y Wei**, S Santhana Vannan, R B Cook, B E Wilson, T W Beaty
- 0800h **IN11B-1084** POSTER Web-based Altimeter Service: **P S Callahan**, B D Wilson, Z Xing, R G Raskin

0800h **IN11B-1085** *POSTER* The Geodetic Seamless Archive Centers Service Layer: A System Architecture for Federating Geodesy Data Repositories: **J McWhirter**, F M Boler, Y Bock, P Jamason, M B Squibb, C E Noll, G Blewitt, C W Kreemer

0800h **IN11B-1086** *POSTER* Spatial web service evaluator for supporting spatial web portal: **J Li**, C Yang, H Wu, Z Li, M Sun

0800h **IN11B-1087** *POSTER* IT SECURITY AND EO SYSTEMS: **M Burnett**

0800h **IN11B-1088** *POSTER* Improving Scientific Metadata Interoperability And Data Discoverability using OAI-PMH: **R Devarakonda**, G Palanisamy, J M Green, B E Wilson

Natural Hazards

NH11A Moscone South: Poster Hall Monday 0800h
Extreme Natural Events: Modeling, Prediction, and Mitigation I Posters (*joint with NG*)

Presiding: **A Ismail-Zadeh**, Karlsruhe Institute of Technology; **I Zaliapin**, University of Nevada

0800h **NH11A-1102** *POSTER* Study of Impact of Groundwater Cascading on Bio-Geochemical Parameters of Lake Michigan: **Y A Kontar**, A Stumpf

0800h **NH11A-1103** *POSTER* Scenario-based extreme seismic hazard and risk assessment for the Baku city (Azerbaijan): **A Ismail-Zadeh**, G Babayev, J Le Mouel

0800h **NH11A-1104** *POSTER* Understanding Earthquake Hazard & Disaster in Himalaya - A Perspective on Earthquake Forecast in Himalayan Region of South Central Tibet: **D Shanker**, Paudyal, H Singh

0800h **NH11A-1105** *POSTER* Investigating the Seismic Response of a Large Rock Slope Instability (Randa, VS): **J R Moore**, J Burjánek, V S Gischig, S Loew, D Faeh

0800h **NH11A-1106** *POSTER* Application of New Liquefaction Hazard Mapping Techniques to the Sacramento-San Joaquin Delta: **C R Real**, K L Knudsen, M O Woods

0800h **NH11A-1107** *POSTER* NATURAL HAZARDS AT THE OTHER EXTREME: AN APPARENTLY SEASONAL HAZARD AT TAIHAPE LANDSLIDE, NEW ZEALAND: **M J McSaveney**, C Massey

0800h **NH11A-1108** *POSTER* The costal landslide from analogue experiments: perspectives and limitation: **C Del Ventisette**, T Nolesini, S Moretti, R Fanti

0800h **NH11A-1109** *POSTER* SUDDEN MORPHOMETRIC CHANGES INDUCED BY DIFFUSE MASS WASTING PROCESSES: **S Moretti**, N Casagli, F Catani, A Battistini, F Raspini

0800h **NH11A-1110** *POSTER* Solidification of Suspended Sediments with Two Characteristic Grain Sizes: **G Zarski**, R I Borja

0800h **NH11A-1111** *POSTER* A potential submarine landslide tsunami in South China Sea: Z Huang, Y Zhang, **A D Switzer**

0800h **NH11A-1112** *POSTER* Nonlinear analytical solution for landslide generated tsunamis: **B Aydin**, U Kanoglu, C Synolakis

0800h **NH11A-1113** *POSTER* GIS-based multi-criteria analysis for the evaluation of subsidence in coal mine: **J Suh**, Y Choi, H Park, H Kwon, S Yoon, W Go

0800h **NH11A-1114** *POSTER* Interagency Operating Plan for Pacific Northwest Volcanic Ash Events: J M Osienksy, **S Birch**

0800h **NH11A-1115** *POSTER* Statistical Approach to Detection of Strombolian Activity in Satellite Data: **A K Worden**, J Dehn, M Ripepe, A J Harris

0800h **NH11A-1116** *POSTER* Time series analysis to identify thermal precursors and develop forecasting algorithms: case studies from Bezymianny, Shiveluch, Kliuchevskoi and Karymsky: **S M van Manen**, J Dehn, S Blake

0800h **NH11A-1117** *POSTER* Data-Based Comparison of Frequency Analysis Approaches: Methodological Framework and Application to Rainfall / Runoff Data in France: M Lang, **B Renard**, K Kochanek, E Sauquet, F Garavaglia, E Paquet, J Soubeyroux, S Jourdain, J Veysseire, F Borchhi, L Neppel, K Najib, P Arnaud, Y Aubert, A Auffray

0800h **NH11A-1118** *POSTER* Predictability and predictive ability of severe rainfall events over Italy: L Molini, **A Parodi**, N Reborra, G Craig, F Siccardi

0800h **NH11A-1119** WITHDRAWN

0800h **NH11A-1120** *POSTER* A comparative analysis of MODIS based spectral indices for drought monitoring over fire prone vegetation types: **G Caccamo**, L A Chisholm, R Bradstock, M L Puotinen

0800h **NH11A-1121** *POSTER* Localized Modeling of Storm Surge Effects on Civil Infrastructure using ADCIRC: **J S Simon**, J Baugh

0800h **NH11A-1122** *POSTER* Los Alamos Radiation Hydrocode Models of Asteroid Mitigation by a Subsurface Explosion: **R Weaver**, C S Plesko, W Dearholt

NH11B Moscone South: Poster Hall Monday 0800h
Hazards Associated With Snow- and Ice-Capped Volcanoes I Posters (*joint with A, C, EP, V, G*)

Presiding: **B R Edwards**, Dickinson College; **J F Larsen**, Geophysical Institute; **H Delgado Granado**, Instituto de Geofisica, UNAM

0800h **NH11B-1123** *POSTER* Surface change detection in glacier regions using ALOS PALSAR data: **N Tomiyama**, M Ono

0800h **NH11B-1124** *POSTER* Glacier Destruction and Lahar Generation during the 2009 Eruption of Redoubt Volcano, Alaska: **C F Waythomas**

0800h **NH11B-1125** *POSTER* Stratigraphic reconstruction of the 13 ka BP debris avalanche deposit at Colima volcano (Mexico): effect of climatic conditions on the flow mobility: **M Roverato**, L Capra

0800h **NH11B-1126** *POSTER* ASSESSING HAZARDS RELATED TO VOLCANO-ICE INTERACTIONS AT POPOCATÉPETL VOLCANO (MEXICO): DETERMINATION OF PHYSICAL PARAMETERS OF 1999-2000 LAHARIC FLOWS: **H Delgado Granados**, B Oropeza Villalobos, A Gonzalez Huesca

0800h **NH11B-1127** *POSTER* Evidence for synchronous hydromagmatic and primary degassing activity during the 1991 eruption of Hudson Volcano, Chile: **D J Kratzmann**, S Carey, R Scasso, J Naranjo

0800h **NH11B-1128** *POSTER* Complex Intrusive Processes at Glaciovolcanic Basaltic Massifs: Fragmental, Coherent and Coherent-Margined Fragmental Dikes at Dyngjufjöll, Central Iceland: **A H Graettinger**, I P Skilling, D McGarvie, A Hoskuldsson, K O Strand

0800h **NH11B-1129** *POSTER* Construction of an Ice-Confined Basaltic Fissure Complex: Sveifluháls, SW Iceland: **E C Mercurio**, I P Skilling

0800h **NH11B-1130** *POSTER* Snow-ice-tephra-lava interactions during the 2010 Fimmvorduhals eruption: **J Haklar**, B R Edwards, M T Gudmundsson

0800h **NH11B-1131** POSTER Lava-ice interaction during the advance of a trachyandesitic lava flow down the Gígjökull outlet glacier in the April-May 2010 Eyjafjallajökull eruption, Iceland: **B Oddsson**, M T Gudmundsson, T Hognadóttir, E Magnússon, F Hoskuldsson

0800h **NH11B-1132** POSTER Hazards associated with alkaline glaciovolcanism at Hoodoo Mountain and Mt. Edziza, western Canada: comparisons to the 2010 Eyjafjallajökull eruption: **B R Edwards**

0800h **NH11B-1133** POSTER Interactions between mafic eruptions and glacial ice or snow: implications of the 2010 Eyjafjallajökull, Iceland, eruption for hazard assessments in the central Oregon Cascades: **D McKay**, K V Cashman

0800h **NH11B-1134** POSTER Evolution of Channels Draining Mount St. Helens: Linking Non-Linear and Rapid, Threshold Responses: **A Simon**

0800h **NH11B-1135** POSTER Geomorphologic field observations as a tool to improve lahar hazard assessment on the Southwestern flank of Cotopaxi volcano, Ecuador: **S Ettlinger**

0800h **NH11B-1136** POSTER Simulating Explosive Volcanic Eruptions: **G R Gisler**

0800h **NH11B-1137** POSTER Subaerial lava pillars: Evidence for non-explosive magma-water interactions in Iceland: **K Christle**, T K Gregg

0800h **NH11B-1138** POSTER Ice cauldron formation during the initial phase of the Eyjafjallajökull eruption observed with an airborne SAR: **E Magnússon**, M T Gudmundsson, T Hognadóttir, F Hoskuldsson, B Oddsson

0800h **C33C-0530** POSTER Ground penetrating radar survey of the ice-filled active crater of Mount Baker, Washington: **M Park**, D H Clark, J Caplan-Auerbach

NH11C Moscone West: 3001 Monday 0800h
Land-Ocean-Atmospheric Processes: Implication to Natural Hazards and the Global Carbon Cycle I (joint with A, IN, ED, GC, H, NH, NS, OS, S, DI, T, V)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign; **F R Rack**, University of Nebraska-Lincoln; **R P Singh**, RTDC

0800h **NH11C-01** The Potential for Triggered Seismicity Associated With Geologic Sequestration of CO₂ in Saline Aquifers (Invited): **M D Zoback**

0815h **NH11C-02** Real-time Seismicity Evaluation as a Tool for the Earthquake and Tsunami Short-Term Hazard Assessment (Invited): **G A Papadopoulos**

0830h **NH11C-03** Drilling into Faults Quickly After Earthquakes (Invited): **E E Brodsky**, J J Mori, P M Fulton

0845h **NH11C-04** Constraining the climate sensitivity of the global carbon cycle with paleoclimatic data (Invited): **D Frank**, J Esper, C Raible, U Büntgen, V Trouet, B Stocker, F Joos

0900h **NH11C-05** Is Hurricane Activity in One Ocean Basin Tied to Another? (Invited): **C Wang**, S Lee

0915h **NH11C-06** Ocean-Atmosphere Coupling associated with Typhoons/ Hurricane and their impacts on marine ecosystem (Invited): **D L Tang**

0930h **NH11C-07** Use of UAVs in extreme environments: UAV observations of the Antarctic atmosphere and surface during winter (Invited): **J J Cassano**

0945h **NH11C-08** Temporal and spatial variability, and extreme events of the Great Lakes ice cover: Impacts of ENSO and AO (Invited): **J Wang**, X Bai, A Clites, G Leshkevich, M C Colton, B M Lofgren

NH11D Moscone West: 3022 Monday 0800h
The Uncertainty of Future Sea Level Rise: Bridging Science and End Users I (joint with OS, C, PA, GC)

Presiding: **G L Geernaert**; **W T Pfeffer**, University of Colorado; **D Behar**, San Francisco Public Utilities Commission; **H Plag**

0800h **NH11D-01** U11: Socio Economic Impacts of Sea Level Change: What Does Society Need from Science (Invited): **M A Davidson**

0815h **NH11D-02** The Modern Sea Level Observing System (Invited): **D P Chambers**

0830h **NH11D-03** Observations of present-day sea level change: What do they tell us? (Invited): **R Nerem**

0845h **NH11D-04** Prospects for useful sea-level predictions from Earth-system models (Invited): **W H Lipscomb**

0900h **NH11D-05** Coastal Hazards Maps: Actionable Information for Communities Facing Sea-Level Rise (Invited): **J C Gibeaut**, E Barraza

0915h **NH11D-06** AN ADAPTATION STRATEGY TO ADDRESS SEA LEVEL RISE ALONG COASTAL DEVELOPMENTS: **D R Trivedi**

0930h **NH11D-07** Adaptation to Sea Level Rise in Coastal Units of the National Park Service (Invited): **R L Beavers**

0945h **NH11D-08** How Shall We Tell Our People? The Art and Science of Communicating Sea-Level Rise to Coastal Audiences (Invited): **S C Moser**

Near Surface Geophysics

NS11A Moscone South: Poster Hall Monday 0800h
Inversion I: Back to Basics Posters (joint with S, NG, GP, MR)

Presiding: **T Lecocq**, Royal Observatory of Belgium; **R B Herman**, Radford University

0800h **NS11A-1153** WITHDRAWN

0800h **NS11A-1154** POSTER Time-lapse 3D inversion of spectral induced polarization measurements: **M Karaoulis**, A Revil, D D Werkema, B J Minsley

0800h **NS11A-1155** POSTER GEOPHYSICAL INVERSION THROUGH HIERARCHICAL SCHEME: **A Furman**, J A Huisman

0800h **NS11A-1156** POSTER Time-lapse resistivity monitoring - two new approaches for imaging the evolution of a conductive contaminant: **K H Hayley**, L R Bentley, A Pidlisceky

0800h **NS11A-1157** POSTER Diffusion Rate Tomography for Time Domain Electromagnetic Induction Methods: **E M Kazlauskas**, C J Weiss

0800h **NS11A-1158** POSTER The 'L' Array, a method to model 3D Electrical Resistivity Tomography (ERT) data: **R E Chavez Segura**, G Chavez-Hernandez, C Delgado, A Tejero-Andrade

0800h **NS11A-1159** POSTER Uniform Asymptotic Expansion for the Helmholtz Green's Function— Application to Inversion Preprocessing: **M J Yedlin**, J Virieux, D G Van Vorst

0800h **NS11A-1160** POSTER Monte Carlo simulations for deriving the precision in GPR velocity estimates: R A Clark, **A Booth**, T Murray

0800h **NS11A-1161** POSTER Innovative surface NMR signal processing to significantly improve data quality: **F M Neyer**, M Hertrich, S A Greenhalgh

0800h **NS11A-1162** POSTER Deconvolution of gravity gradient tensor data using an infinite dike model: **M Beiki**, L B Pedersen

Ocean Sciences

OS11A Moscone South: Poster Hall Monday 0800h Ocean Sciences General Contributions: Geological Oceanography Posters

Presiding: **V Kostylev**, Natural Resources Canada; **R L Evans**, Woods Hole Oceanographic Institution

0800h **OS11A-1171** WITHDRAWN

0800h **OS11A-1172** *POSTER* Acoustic and Physical Properties of Mud Deposit in the Southern Continental Shelf of Korea: **S Bae**, D C Kim, G Lee, G Kim, Y Seo, G Çifci

0800h **OS11A-1173** *POSTER* Morphological features and forming mechanism of Central Canyon in the Qiongdongnan basin, northern South China Sea: **M Su**, X Xie, T Jiang, C Zhang, J Li, C Zhang, Y He

0800h **OS11A-1174** *POSTER* Predictability of seabed texture: spatial scaling of grain size and bathymetry on glaciated and non-glaciated shelves: **V Kostylev**

0800h **OS11A-1175** *POSTER* Sedimentary modeling and analysis of petroleum system of the upper Tertiary sequences in southern Ulleung sedimentary Basin, East Sea (Sea of Japan): **D Cheong**, D Kim, Y Kim

0800h **OS11A-1176** *POSTER* Reconstruction of Sedimentary Sequence in Kumano Forearc Basin of southwest Japan by IODP Core-Log Integration: **N Sakurai**, J Ashi, S Saito

0800h **OS11A-1177** *POSTER* A Study of Storm-induced variations in the littoral sediment transport patterns of Central Monterey Bay: **J J Brower**

0800h **OS11A-1178** *POSTER* Studies on formation mechanism and source depth of mud volcanoes by using of drilling cores in the Kumano forearc basin, SW Japan: **S Muraoka**, J Ashi, T Kanamatsu, A Sakaguchi, F Inagaki

0800h **OS11A-1179** *POSTER* Distribution and structure of active strike-slip faults in the Enshu forearc basin of the eastern Nankai subduction zone: **T Ojima**, J Ashi, Y Nakamura

0800h **OS11A-1180** *POSTER* Dense Ocean Floor Network for Earthquakes and Tsunamis; DONET/ DONET2, Part2 -Development and data application for the mega thrust earthquakes around the Nankai trough-: **Y Kaneda**, K Kawaguchi, E Araki, H Matsumoto, T Nakamura, M Nakano, S Kamiya, K Ariyoshi, T Baba, M Ohori, T Hori, N Takahashi, S Kaneko, Title of Team: DONET Research and Development Group

0800h **OS11A-1181** *POSTER* FERRIC IRON PRECIPITATION IN THE NAGAHAMA BAY, SATSUMA IWO-JIMA ISLAND, KAGOSHIMA: **T Nagata**, S Kiyokawa, M Ikehara, K Oguri, S Goto, T Ito, K E Yamaguchi, T Ueshiba

0800h **OS11A-1182** *POSTER* Establishment of Spatial Decision Support System model to predict the potential sites of polymetallic nodule deposits in the Clarion-Clipperton Fracture Zone of Northeastern Pacific: **D Li**, H ZHOU, Q YANG, N Zhou

OS11B Moscone South: Poster Hall Monday 0800h Ocean Sciences General Contributions: Physical Oceanography I Posters

Presiding: **J Hazewinkel**, Scripps Inst of Oceanography

0800h **OS11B-1183** *POSTER* PSI of the oceanic internal tide: **J Hazewinkel**, Y Tsang, K B Winters

0800h **OS11B-1184** WITHDRAWN

0800h **OS11B-1185** *POSTER* Circulations Caused by Interaction of Underwater Currents and Surface Waves: **A Basovich**

0800h **OS11B-1186** *POSTER* Study the impacts of Coriolis-Stokes forcing on upper ocean circulation in a fully coupled wave-current model: **Z Deng**, G Han, X Zhang

0800h **OS11B-1187** *POSTER* Analytic solution of the linear shallow water equations over a quadratic depth profile: **G Ramirez**, L Zavala

0800h **OS11B-1188** *POSTER* Statistical mechanics explanation for the structure of ocean eddies and currents: **A Venaille**, F Bouchet

0800h **OS11B-1189** *POSTER* Tangential oscillations of a circular disk in a stratified fluid: **S Joubaud**, T Dauxois

0800h **OS11B-1190** *POSTER* The influence of the large scale circulation on an eastern boundary current: **J Wang**, P M Rizzoli, M A Spall

0800h **OS11B-1191** *POSTER* Sensitivity of the Met Office operational ocean forecasting system to atmospheric forcing: **C Guivarc'h**, J Siddorn, P Hyder, D Storkey

0800h **OS11B-1192** *POSTER* Numerical study of effect of progressive surface wave on turbulence underneath: **X Guo**, L Shen

0800h **OS11B-1193** *POSTER* Global variability of the wavenumber spectrum of oceanic mesoscale turbulence: **Y Xu**, L Fu

0800h **OS11B-1194** *POSTER* Tsunami Warning Procedure Based on Pre-computed Tsunami Forecast Models: P Y Huang, **W Knight**, K Sterling, J Galbraith, P Whitmore

0800h **OS11B-1195** *POSTER* Adjustment of the wind drag coefficient for storm surge forecasting using 4DVAR: **S Peng**, Y Li

0800h **OS11B-1196** *POSTER* Parameters Optimization for Operational Storm Surge/Tide Forecast Model using a Genetic Algorithm: **W LEE**, S You, S Ryoo, Title of Team: Global Environment System Research Laboratory

0800h **OS11B-1197** *POSTER* Bias for summer decay of interannual SST anomaly in the northern tropical Atlantic and its link with the Guinea Dome in coupled GCMs: **T Doi**, G A Vecchi

0800h **OS11B-1198** *POSTER* The Response of Surface Currents to Wind Investigated by HF Ocean Surface Radar: **Y Mao**, M Heron

0800h **OS11B-1199** *POSTER* Modeling the internal tide in combination with wind-driven circulation on the Oregon shelf: **J Osborne**, A L Kurapov, G D Egbert, M Kosro

0800h **OS11B-1200** *POSTER* Variability of the Mixed Layer Heat Budget in the Eastern Equatorial Atlantic during 2005-2007 as inferred from Argo Floats: **M Wade**, G Caniaux, Y duPenhoat

0800h **OS11B-1201** *POSTER* Numerical study of sources of baroclinic tides in Gaoping Submarine Canyon, southwestern Taiwan: **M Chiou**, S Jan

0800h **OS11B-1202** *POSTER* Estimation of Vertical Velocities in the Equatorial Atlantic Cold Tongue: **H Giordani**, G Caniaux

0800h **OS11B-1203** *POSTER* Effects of ocean mixed layer with 3-D ocean data on WRF model for Typhoon simulation: **J Kwun**, S You, S Ryoo, C Cho

0800h **OS11B-1204** *POSTER* Mixing Levels in the Weakly Turbulent Deep Ocean: **C Eddy**, A M Thurnherr

0800h **OS11B-1205** *POSTER* Numerically Predicted Distribution of Internal Tide Energy in the Global Ocean: **Y Niwa**, T Hibiya

0800h **OS11B-1206** *POSTER* Retroflexion from slanted and kinked coastlines: models for Agulhas leakage variability: **V Zharkov**, D Nof, W Weijer

0800h **OS11B-1207** *POSTER* Annual and Interannual thermocline variability of the tropical Southern Indian Ocean: remote versus local forcing: **L Trenary**, W Han

0800h **OS11B-1208** WITHDRAWN

0800h **OS11B-1209** *POSTER* The Role of Environmental Forcing in Controlling Water Retention Gyres in Subsystems of Narragansett Bay: **C Balt**, C R Kincaid, D S Ullman

0800h **OS11B-1210** POSTER Decadal to pentadecadal variability of intermediate water temperature in the Sea of Okhotsk: An ice-ocean coupled model simulation: **T Nakanowatari**, K Uchimoto, T Nakamura, H Mitsudera, K I Ohshima

0800h **OS11B-1211** POSTER Upwelling off East Guangdong: observation, simulation and data assimilation: **Y Shu**, D Wang, J Zhu, S Peng, Q Xie, X Ren

0800h **OS11B-1212** POSTER Interaction between internal tides and near-inertial oscillations induced by Typhoon Neoguri: **H Mao**, G Chen, X Shang, S Lian

OS11C Moscone West: 3009 Monday 0800h
Marine Renewable Energy I (*joint with PA*)

Presiding: **S C James**, Sandia National Laboratories; **S C James**, Sandia National Laboratories; **V Neary**, Oak Ridge National Laboratory; **V Neary**, Oak Ridge National Laboratory

0800h **OS11C-01** Comprehensive Characterization a Tidal Energy Site (*Invited*): **B L Polagye**, J M Thomson, C S Bassett, J Epler, Title of Team: Northwest National Marine Renewable Energy Center

0815h **OS11C-02** Investigating the Environmental Effects of Ocean Energy Generation (*Invited*): **A E Copping**, R Anderson, I Schultz, D Woodruff, T Carlson, J Ward, F Van Cleve, Title of Team: EERE MHK Environmental Effects

0830h **OS11C-03** Assessing Resource Assessment for MRE (*Invited*): **H P Hanson**, A Bozec, A S Duerr, L T Rauchenstein

0845h **OS11C-04** WITHDRAWN

0900h **OS11C-05** WITHDRAWN

0915h **OS11C-06** Numerical Modeling of Hydrokinetic Turbines and their Environmental Effects: **T Javaherchi**, J Seydel, A Aliseda

0930h **OS11C-07** On the turbulent flow around water turbines placed in an open channel: an experimental study: **F Sotiropoulos**, L P Chamorro, R Arndt

0945h **OS11C-08** WITHDRAWN

OS11D Moscone West: 3007 Monday 0800h
Ocean Exploration I (*joint with B, V*)

Presiding: **N Alvarado**, NOAA/OAR; **RA Beach**, NOAA

0800h **OS11D-01** INDEX - A New United States and Republic of Indonesia Partnership For Exploration of Indonesia's Seas: 2010 Initial Results Overview: **S R Hammond**, S Wirasantosa, E T Baker, R E Brainard, D Butterfield, R Djameluddin, P Fryer, J Holden, J McDonough, J Potter, C W Russell, T M Shank, V Tunnicliffe

0815h **OS11D-02** INDEX SATAL Expedition 2010, a discovery of deep sea potentials: **S Wirasantosa**, S R Hammond, W Pandoe, J F Holden, R Djameluddin, H Permana, N Nganro, H Abidin, T M Shank, B Priadi, P Fryer, S Makarim, B Sulistiyo, E Triarso, R Troa, I Iswinardi, J Potter, Y Anantasena, T Triyono, Y Surachman

0830h **OS11D-03** Variation of temperature and salinity in the northern Sulawesi entry passage of the Indonesian Throughflow: **W W Pandoe**, A Rusdiansyah, C Sujana, I Wahyono, I Hermawan, A Widodo, L Cendeikia Dewi, D Yuliadi, S Makarim

0845h **OS11D-04** Hydrothermal Vents and Organic Falls in the Heart of the Coral Triangle: Chemosynthetic Communities Discovered via Telepresence in the Sangihe-Talaud Region, Northern Sulawesi, Indonesia: **T M Shank**, S Herrera, E Bors, C Munro, E Sibert, N Nganro, S Makarim, S Wirasantosa, V Tunnicliffe, E T Baker, D A Butterfield, J F Holden, S R Hammond

0900h **OS11D-05** New Frontiers in Ocean Exploration: The 2010 E/V NAUTILUS Field Season: **K L Bell**, R D Ballard, D F Coleman, C Roman, M Brennan, T Turanli, S Carey, P Nomikou, G Vougioukalakis, L A Mayer, S Nicolaidis, K Konnaris, T M Shank, J A Austin, Z Ben-Avraham, B Phillips

0915h **OS11D-06** Hydrothermal Exploration at the Chile Triple Junction - ABE's last adventure?: **C R German**, T M Shank, M D Lilley, J E Lupton, D K Blackman, K M Brown, T Baumberger, G Früh-Green, R Greene, M A Saito, S Sylva, K Nakamura, J Stanway, D R Yoerger, L A Levin, A R Thurber, J Sellanes, M Mella, J Muñoz, J L Diaz-Naveas, Title of Team: INSPIRE Science Team

0930h **OS11D-07** Outside the paradigm: satellite discoveries of large summer chlorophyll blooms: **C Wilson**

0945h **OS11D-08** THE ACOUSTIC DOPPLER CURRENT PROFILER (ADCP) AS A TOOL FOR OCEAN EXPLORATION: **H T Rossby**, C N Flagg, P B Ortner

Planetary Sciences

P11A Moscone South: Poster Hall Monday 0800h
Evolution of Planetary Atmospheres I Posters (*joint with A*)

Presiding: **F Tian**, University of Colorado; **Y L Yung**, Caltech; **S D Domagal-Goldman**, University of Washington; **C Goldblatt**, University of Washington

0800h **P11A-1315** POSTER Simulation on the ratio of sodium to potassium in the exosphere of Mercury: **K Kaneko**, M Kagitani, S Okano

0800h **P11A-1316** POSTER HEMO - The Hermean Exosphere Model of Oxygen: A Comprehensive Model for Interpreting Data from the MESSENGER and BepiColombo Missions to Mercury: **E B Grotheer**

0800h **P11A-1317** POSTER A FRACTAL AGGREGATE MODEL OF EARLY EARTH ORGANIC HAZES: UV SHIELDING WITH MINIMAL ANTIGREENHOUSE COOLING: **E T Wolf**, O B Toon

0800h **P11A-1318** POSTER Sulfur Particles on the Early Earth: C A Hasenkopf, **H DeWitt**, M G Trainer, D Farmer, J L Jimenez, C P McKay, O B Toon, M A Tolbert

0800h **P11A-1319** POSTER Methane release and the carbon cycle on Mars: **E Chassefiere**, F Leblanc

0800h **P11A-1320** POSTER Mars' atmospheric evolution: 40Ar as a tracer: **F Leblanc**, E Chassefiere

0800h **P11A-1321** POSTER New Chemistry in the Atmosphere of Mars: **C S Boxe**, J Francisco, S P Sander, Y L Yung, R Shia, H Nair, A Saiz-Lopez

0800h **P11A-1322** POSTER High Resolution Spectrum Analysis of Jupiter's Lyman-alpha Bulge: **B A Corbin**, J T Clarke

0800h **P11A-1323** POSTER Spectral Analyses of the Interactions of Giant Vortices on Jupiter: **P A Yanamandra-Fisher**, A A Simon-Miller, G S Orton

0800h **P11A-1324** POSTER HST Imaging Observations of Jupiter's Hydrogen Corona: **J T Clarke**, A W Case, B A Corbin

0800h **P11A-1325** POSTER Saturn's Equatorial Oscillation: Evidence of Descending Thermal Structure from Cassini Radio Occultations: **F M Flasar**, P J Schinder, E A Marouf, R G French, C McGhee, A J Kliore, N J Rappaport

0800h **P11A-1326** WITHDRAWN

0800h **P11A-1327** WITHDRAWN

0800h **P11A-1328** POSTER From Earth to Titan: The Effects of a Strong Seasonal Cycle on Superrotation: **J Mitchell**, G Vallis

0800h **P11A-1329** POSTER Titan's Carbon Conundrum: **C A Nixon**, D E Jennings, N A Teanby, S Vinatier, B Béard, A Coustenis, P G Irwin, F M Flasar, Title of Team: The Cassini CIRS Team

0800h **P11A-1330** POSTER Determination of kinetic temperature at the top of the Titan atmosphere: **D E Shemansky**, J A Kammer, X Zhang, Y L Yung

0800h **P11A-1331** POSTER EUV-VUV photochemistry in the upper atmospheres of Titan and the early Earth: **H Imanaka**, M A Smith

0800h **P11A-1332** POSTER Noble gas isotopic composition as a key reference parameter in a planetary atmospheric evolution model: **M Ozima**

0800h **P11A-1333** POSTER Measurements of Isotope Effects in N₂ Photoionization: **J B Randazzo**, P L Croteau, O Kostko, M Ahmed, M Liang, Y L Yung, K A Boering

0800h **P11A-1334** POSTER Relaxation of Energetic O and He Escape in the Atmospheres of Terrestrial Planets: **P Zhang**, V Kharchenko, A Dalgarno

0800h **P11A-1335** POSTER A Benchmark for Cloud Tracking Wind Measurements: **K M Sayanagi**, J Mitchell, A P Ingersoll, S P Ewald, P S Marcus, I De Pater, M H Wong, D S Choi, M Susman, K Ogohara, T Imamura, T Kouyama, M Takagi, N Satoh, A D Del Genio, J Barbara, A Sanchez-Lavega, R Hueso, E García-Melendo, A A Simon-Miller

0800h **P11A-1336** POSTER Planetary Atmosphere Stability in the Habitable Zones of M-stars: **F Tian**

PIIB Moscone South: Poster Hall Monday 0800h
Explosive Volcanism in the Solar System I Posters (*joint with EP, V*)

Presiding: **B D Brand**, University of Washington; **N P Lang**

0800h **P11B-1337** POSTER Pyroclastic Eruptions in a Mars Climate Model: The Effects of Grain Size, Plume Height, Density, Geographical Location, and Season on Ash Distribution: **L A Kerber**, J W Head, J Madeleine, L Wilson, F Forget

0800h **P11B-1338** POSTER Searching for "Home Plates" Near Gusev Crater, Mars: Spirit's Regional Context in an Area of Explosive Volcanism: **M S Rice**, A E Batista, J F Bell, W A Watters

0800h **P11B-1339** POSTER The dynamics of pyroclastic density currents on Mars: **B D Brand**, A B Clarke

0800h **P11B-1340** POSTER Rheological controls on roof failure in large caldera-forming eruptions: **P M Gregg**, S L de Silva, E B Grosfils

0800h **P11B-1341** POSTER Explosive Volcanism in Io's Lava Lakes - The Key To Constraining Eruption Temperature?: **A G Davies**, L P Keszthelyi, A S McEwen

0800h **P11B-1342** POSTER Pyroclastic deposit differentiation from LiDAR roughness texture at Mount St. Helens: **P L Whelley**, E S Calder, L S Glaze

0800h **P11B-1343** POSTER Volcanic history of Amphitrites and Peneus Paterae, Mars: A tale of two volcanoes: **N P Lang**, C Kneuer, A Grincius

0800h **P11B-1344** POSTER Morphology and Composition of Localized Lunar Dark Mantle Deposits With LROC Data: **O Gustafson**, J F Bell, L R Gaddis, B R Hawke, M S Robinson, Title of Team: LROC Science Team

0800h **P11B-1345** POSTER Flexural Stresses and Reservoir Stability: Implications for Magma Propagation in the Lithosphere and the Formation of Giant Radial Dike Swarms on Venus: **G A Galgana**, E B Grosfils, P J McGovern

0800h **P11B-1346** POSTER Detailed geologic mapping of the Columbia Hills, Mars: West Spur to Cumberland Ridge: **S B Cole**, W A Watters, M S Rice, S W Squyres

0800h **P11B-1347** POSTER Dark-toned dunes in the western Medusae Fossae Formation: Characteristics, distribution, and source: **D M Burr**, J R Zimelman, A J Brown, F B Qualls, T I Michaels, M Chojnacki

0800h **P11B-1348** POSTER A Spreading-Sagging Continuum for the Structure of Large Volcanoes on Earth and Other Planets: **P K Byrne**, E P Holohan, M Kervyn, B Van Wyk de Vries, J B Murray, V R Troll

PIIC Moscone South: Poster Hall Monday 0800h
On the Nature, Origin, and Evolution of Water on Small Bodies I Posters (*joint with SH*)

Presiding: **C Hibbitts**, JHU-APL; **R M Mastrapa**, SETI Institute/NASA Ames

0800h **P11C-1349** POSTER Strategies for Mars Remote Laser-Induced Breakdown Spectroscopy Analysis of Sulfur in Geological Samples: **J Tucker**, M D Dyar, S Humphries, S M Clegg, R C Wiens, M D Lane

0800h **P11C-1350** POSTER Far-ultraviolet Observations of the Comet C/2001 Q4 (NEAT): **Y Lim**, K W Min, W Han, J Edelstein

0800h **P11C-1351** POSTER Depletion of Ammonia Gas onto Jovian Ices: **T Kasper**, M H Wong, J Marschall, I De Pater, P N Romani, K Kalogerakis

0800h **P11C-1352** POSTER Between ice and gas: CO₂ on the icy satellites of Jupiter and Saturn: **C Hibbitts**

0800h **P11C-1353** POSTER LDEX-PLUS: Lunar Dust Experiment with Chemical Analysis Capability to search for Water: **M Horanyi**, Z Sternovsky, E Gruen, S Kempf, R Srama, F Postberg

0800h **P11C-1354** POSTER The History of Ice at the Phoenix Mars Landing Site and Beyond: **N Schorghofer**

0800h **P11C-1355** POSTER Correlation of Illumination and Topography Factors with Epithermal Neutron measurements at the Lunar Poles using the Lunar Reconnaissance Orbiter (LRO), Lunar Exploration Neutron Detector (LEND): **T P McClanahan**, I Mitrofanov, W V Boynton, L G Evans, G Droege, J Garvin, K Harshman, M L Litvak, A Malahov, G Nandikotkur, R Sagdeev, A Sanin, G Milikh, R D Starr, J Trombka

0800h **P11C-1356** POSTER Atomic carbon chemistry in photolyzed Triton-like ices: **R P Hodyss**, H R Howard, P V Johnson, J Goguen, I Kanik

0800h **P11C-1357** POSTER Effects of Orbital Evolution on Lunar Ice Stability: **M A Siegler**, B G Bills, D A Paige

0800h **P11C-1358** POSTER The Average Water Concentration within Cabeus Crater: Inferences from LRO/Diviner, LCROSS and Lunar Prospector: **R C Elphic**, L A Teodoro, V R Eke, D A Paige, M A Siegler, A Colaprete

0800h **P11C-1359** POSTER D/H enrichment at astrophysically-relevant temperatures: **R M Escrivano**, O Galvez, B Mate, M A Moreno, V J Herrero

PIID Moscone West: 2004 Monday 0800h
Planetary Environments and Life: What Do We Know? How Can We Learn From Analogs? I (*joint with B, EP*)

Presiding: **M L Coleman**, JPL; **M A Voytek**, USGS; **R J Leveille**, Canadian Space Agency

0800h **P11D-01** Analogs from LEO: Mapping Earth Observations to Planetary Science & Astrobiology. (*Invited*): **K P Hand**, T H Painter

0815h **PP11D-02** Life detection at an Arctic analog to Europa: **D F Gleeson**, R T Pappalardo, M S Anderson, S E Grasby, K Wright, A S Templeton

0830h **PP11D-03** The ENDURANCE (Environmentally Non-Disturbing Under-ice Robotic ANtartic Explorer) project. (*Invited*): **P T Doran**, B Stone, J C Priscu

0845h **PP11D-04** Searching for Environments That Could Support Life: Lessons Learned From Six Deep Sea Cruises with the Sentry and Nereus Autonomous Underwater Vehicles: **D R Yoerger**, J C Kinsey, M Jakuba, R Camilli, C R German, T M Shank, A Bowen, K Nakamura, Title of Team: SEEPS 2009 Science Team, OASES 2009 Science Team, GRUVEE 2010 Science Team, ENLIGHTEN 2010 Science Team, HMMV 2010 Science Team

0900h **PP11D-05** Life detection at a Mars analogue site of present-day serpentinization in the Tablelands Ophiolite of Newfoundland (*Invited*): **P L Morrill**, N Szponar, W J Brazelton, Q Woodruff, M O Schrenk, D M Bower, A Steele

0915h **PP11D-06** Looking for little green bugs and methane in the Canadian high Arctic. (*Invited*): **L Whyte**, T Niederberger, N Perreault, N Mykytczuk, B Sherwood Lollar, T C Onstott, D T Andersen, W H Pollard, C Greer

0930h **PP11D-07** Methane as a biomarker in the search for extraterrestrial life: Lessons learned from Mars analog hypersaline environments: **B Bebout**, A Tazaz, C A Kelley, J A Poole, A Davila, J Chanton

0945h **PP11D-08** Cuatro Ciénegas Basin an analog of precambrian Earth and possible early mars scenario. (*Invited*): **V Souza**, L E Eguiarte, J Sierfert

Paleoceanography and Paleoclimatology

PP11A Moscone South: Poster Hall Monday 0800h
Advances at the Frontiers of Paleoproxy Validation I Posters
(joint with OS, B)

Presiding: **D P Gillikin**, Union College; **R J Reeder**, Stony Brook University; **A D Wanamaker**; **D H Goodwin**, Denison University; **H J Spero**, University of California Davis

0800h **PP11A-1404 POSTER** A comparison between shell-based $\delta^{13}\text{C}$ values from an extratropical setting (Gulf of Maine, USA) and atmospheric $\delta^{13}\text{C}$ values for intervals of the last millennium: insights on regional hydrography and carbon dynamics: **A D Wanamaker**, K J Kreutz, D Introne, E C Beirne

0800h **PP11A-1405 POSTER** Stable carbon isotopes in bivalve shells as a salinity proxy: **D P Gillikin**, C Poulain, R Mas, V Woule Ebongue, R Robert, Y Paulet, A Lorrain

0800h **PP11A-1406 POSTER** Stable Carbon Isotope Constraints on the Timing and Magnitude of Phytoplankton Blooms in San Francisco Bay: **D Goodwin**, P D Roopnarine

0800h **PP11A-1407 POSTER** Donax do and don't tell: The relationship of isotopic and elemental variations to environmental conditions in the shell chemistry of a common intertidal bivalve: M B Hatch, **S A Schellenberg**

0800h **PP11A-1408 POSTER** Neodymium isotopes in biogenic carbonates: reliable archives of ϵNd : **P Montagna**, S L Goldstein, M Taviani, N Frank, M T McCulloch

0800h **PP11A-1409 POSTER** Barbados Corals as Recorders of Amazon River Salinity Anomalies: **L Greer**, K Telfeyan, M M Arienzo, A D Rosenberg, A J Waite, P K Swart

0800h **PP11A-1410 POSTER** Climate, productivity, and intermediate water nutrients: new records from bamboo coral Ba/Ca: **M LaVigne**, T M Hill, H J Spero, T P Guilderson

0800h **PP11A-1411 POSTER** Sr/Ca Sensitivity to Aragonite Saturation in Cultured Coral Measured by NanoSIMS (*Invited*): **A C Gagnon**, J F Adkins, J Erez

0800h **PP11A-1412 POSTER** Magnesium isotope variability in aragonitic corals: a new paleothermometer?: **C P Saenger**, Z Wang, J Lough, A L Cohen

0800h **PP11A-1413 POSTER** Miocene Coral Skeleton Rare Earth Element Patterns Reflect River Discharge: **R Mertz-Kraus**, T C Brachert, K P Jochum

0800h **PP11A-1414 POSTER** A comparison of geochemical data across skeletal growth features in Stylasterid corals: **R Cobb**, C F Andrus, A Perez-Huerta

0800h **PP11A-1415 POSTER** Coral Skeleton Density Banding: Biotic Response to Changes in Sea Surface Temperature: **C A Hill**, M Sivaguru, G A Fried, B W Fouke

0800h **PP11A-1416 POSTER** Solution composition-dependence of the Ca isotope composition of inorganic calcite: **M S Gonzales**, J M Watkins, D J Depaolo

0800h **PP11A-1417 POSTER** Mg isotope fractionation between aragonite and seawater: **Z Wang**, C Liu, G A Gaetani, A L Cohen, A Andrews

0800h **PP11A-1418 POSTER** Surface Kinetic Model for the Fractionation of Trace Elements and Isotopes in Calcite Precipitated from Aqueous Solution: **D J Depaolo**, F J Ryerson, J M Watkins, I C Bourg, W Yang, L C Nielsen, J L Druhan

0800h **PP11A-1419 POSTER** Kinetic Strontium Isotope Fractionation of Planktic Foraminifera and Inorganic Calcite: **F Boehm**, A Eisenhauer, C Horn, B Kisakurek, A Krabbenhoef, J Tang, A Niedermayr, M Dietzel

0800h **PP11A-1420 POSTER** Intrashell isotopic and trace element variation at the micron-scale in cultured planktic foraminifers: **L Vetter**, H J Spero, C I Mora, S M Eggins, R Kozdon, J W Valley, B Hoenisch

0800h **PP11A-1421 POSTER** Decoupling temperature signal from biological noise in Mg/Ca variability of *G. sacculifer* as a first step towards developing a proxy for ocean seasonality: **A Sadekov**, K Darling, U Fallet, D Kroon, G Brummer

0800h **PP11A-1422 POSTER** Seasonal variability in multi-elemental ratios and $\delta^{18}\text{O}$ in planktonic foraminifera from the Cariaco Basin, Venezuela: **K E Wejnert**, R Thunell, M Bizimis, Y Astor

0800h **PP11A-1423 POSTER** Derivation of Environmental Signals from Chemically Altered Speleothems: Initial Study: **J H Phillips**, P Aharon

0800h **PP11A-1424 POSTER** Combined in-situ Trace Element, Pb, Sr Isotope Analysis and U-Th Dating of Speleothems and Ostracods: **K P Jochum**, D Scholz, R Mertz-Kraus, G Gleixner, F Guenther, A Schwalb, D Kuzmin, B Stoll, U Weis, A V Izmer, M O Andreae

0800h **PP11A-1425 POSTER** Extending the calibration of marine barite Pb isotope records: **A M Erhardt**, A Paytan

0800h **PP11A-1426 POSTER** Anoxic deep-sea microbial dolomite as a paleoceanographic archive - new insights from old "bugs": **N R Miller**, M I Leybourne

0800h **PP11A-1427 POSTER** Revisiting mid-Paleozoic ocean chemistry with the combined measurement of $^{87}\text{Sr}/^{86}\text{Sr}$ and $^{88}\text{Sr}/^{86}\text{Sr}$ on Silurian brachiopods: **H Vollstaedt**, A Eisenhauer, A Krabbenhoef, V Liebetrau, F Boehm, J Farkas, A Tomasovych, J Veizer

0800h **PP11A-1428 POSTER** Cr isotopic composition of modern carbonates and seawater: **P Bonnand**, I J Parkinson, R H James, M Fehr, D P Connelly

0800h **PP11A-1429** *POSTER* Tracking changes in silicon isotopic composition during diatom descent and dissolution in the Cariaco Basin: **W P Buckley**, H D Scher, R Thunell, M A Brzezinski, T D Peterson

PP11B Moscone South: Poster Hall Monday 0800h
Cretaceous Arctic Environments: Proxies for Understanding Climate Change From the “Other”; Greenhouse Interval I Posters

Presiding: **A R Fiorillo**, Museum of Nature and Science; **P J Mccarthy**, University of Alaska; **G R Upchurch**, Texas State University; **G A Ludvigson**, University of Kansas

0800h **PP11B-1430** *POSTER* A Laughing Gas Greenhouse for the Proterozoic?: **A L Roberson**, J Roadt, I Halevy, J F Kasting

0800h **PP11B-1431** *POSTER* Climate-carbon cycle simulations of the Permian-Triassic boundary: Implications for the extinction event: **A Montenegro**, P Spence, K J Meissner, M Eby, M Melchin, S T Johnston

0800h **PP11B-1432** *POSTER* Sensitivity of Late Permian climate to topographic changes and implications for mass extinctions: **A Osen**, C Scotese, A M Winguth, C Winguth

0800h **PP11B-1433** *POSTER* Geochemical Constraints on Paleoclimatic Conditions in South Texas during OAE-2: **T J Kearns**, H D Rowe

0800h **PP11B-1434** *POSTER* INFLUENCE OF CHANGING HYDROLOGY ON PEDOGENIC CALCITE PRECIPITATION IN VERTISOLS, DANCE BAYOU, BRAZORIA COUNTY, TX: IMPLICATIONS FOR ESTIMATING PALEOATMOSPHERIC PCO₂: **J S Mintz**, S G Driese, G A Ludvigson, D O Breecker

0800h **PP11B-1435** *POSTER* Evidence of secular frequencies in the Earth's orbital motion during the Mid-Cretaceous (100-125 Ma) seen in modulations of certain Milankovitch cycles: **D Florkowski**, **L A Hinnov**, C Huang

0800h **PP11B-1436** *POSTER* The influence of methane seeps on the paleoceanography of the Western Interior Seaway of North America: evidence from stable isotopes in well-preserved shells of a seep fauna from the Upper Cretaceous (Campanian) Pierre Shale: **J K Cochran**, N H Landman, P J Harries, N L Larson, M P Garb, S M Klofak, J Brezina

0800h **PP11B-1437** *POSTER* The climate change for Jehol Biota and its revolution in early Cretaceous in Western Liaoning, China: **M Wang**, J Weijers, C Wang, Title of Team: 973 Project and IGCP555

0800h **PP11B-1438** *POSTER* Latitudinal Variation in $\delta^{13}\text{C}$ derived from Terrestrial Plants during the Cretaceous: **C Strganac**, L L Jacobs, K Ferguson, R D MacPhee, A R Fiorillo, J Hooker, Y Nishida, C Flemming

0800h **PP11B-1439** *POSTER* The Rise of Flowering Plants and Land Surface Physics: The Cretaceous and Eocene Were Different: **G R Upchurch**, T Feild

0800h **PP11B-1440** *POSTER* Paleocology and Paleoenvironmental Interpretations of the Late Cretaceous Lower Cantwell Formation, Denali National Park, Alaska: **C S Tomsich**, S Salazar Jaramillo, R T Jacobus, P J Mccarthy, S J Fowell, A R Fiorillo

0800h **PP11B-1441** *POSTER* Turonian Ultra-thermal Conditions as Recorded in the High Canadian Arctic: Faunal Controls and Tectomagmatic Boundary Conditions: **R Bono**, J A Tarduno, R D Cottrell, P Higgins, D B Brinkman

0800h **PP11B-1442** *POSTER* Possible Cretaceous Arctic terrestrial ecosystem dynamics based on a rich dinosaur record from Alaska: **A R Fiorillo**, P J Mccarthy, P P Flaig

0800h **PP11B-1443** *POSTER* The Role of Vegetation In High-Latitude Warming During the Latest Cretaceous: **L J Shellito**, G R Upchurch, C A Shields, J T Kiehl

0800h **PP11B-1444** *POSTER* Paleoenvironmental interpretation of an ancient Arctic coastal plain: Integrated paleopedology and palynology from the Late Cretaceous (Maastrichtian) Prince Creek Formation, North Slope, Alaska, USA: **P J Mccarthy**, P P Flaig, A R Fiorillo

0800h **PP11B-1445** *POSTER* What Was the Oxygen Isotopic Composition of Cretaceous Arctic Precipitation?: **G A Ludvigson**, L A Gonzalez, J C Lollar, P J Mccarthy

PP11C Moscone South: Poster Hall Monday 0800h
Paleoceanographic Insights Into Ocean Acidification I Posters
(joint with OS, B, V)

Presiding: **T M Hill**, UC Davis; **A D Russell**, University of California, Davis; **S C Flores**, University of California, Davis

0800h **PP11C-1446** *POSTER* Development of the B/Ca and U/Ca surface water carbonate system proxies in the Pacific ocean: **N B Quintana Krupinski**, A D Russell, A Paytan, D K Pak

0800h **PP11C-1447** *POSTER* A core-top calibration of the benthic foraminiferal B/Ca proxy for deep water carbonate saturation for *Nuttallides umbonifera*: Facilitating paleoceanographic reconstructions: **R E Brown**, L D Anderson, E Thomas, J C Zachos

0800h **PP11C-1448** *POSTER* Re-calculating the pH record from boron isotopic composition of biogenic carbonates: **G Paris**, J Gaillardet, P Louvat

0800h **PP11C-1449** *POSTER* The difference between surface ocean carbonate chemistry and calcite dissolution in deep sea sediments as observed in tests of *Globobulimina menardii*: **M Russo**, F Mekik

0800h **PP11C-1450** *POSTER* Influence of pH and Temperature on Elemental and Isotopic Composition of Cultured Scleractinian Corals: **I Taubner**, F Boehm, J Fietzke, A Eisenhauer, C Garbeschoenberg, J Erez

0800h **PP11C-1451** *POSTER* Cenozoic Seawater Sr/Ca ratios: Implications for coral reef development through ocean de-acidification: **S M Sosdian**, **E L Grossman**, C H Lear, K Tao, Y Rosenthal

0800h **PP11C-1452** *POSTER* Planktonic Foraminiferal Shell Weight Variability From The Cariaco Basin: Insights Into Carbon Dioxide Concentrations During The Last Glacial Period: **M C McConnell**, R Thunell, L C Peterson, Y Astor

0800h **PP11C-1453** *POSTER* Planktonic foraminiferal shell weight as a proxy for changing carbonate ion concentration in the Cariaco Basin, Venezuela: **B J Marshall**, M C McConnell, R Thunell

0800h **PP11C-1454** *POSTER* Benthic foraminifera record and geochemical studies to reconstruct the recent (~400 ya) paleoenvironment of Tomales Bay, California: **S C Flores**, T M Hill, A D Russell, G Brooks

PP11D Moscone South: Poster Hall Monday 0800h
Paleohistory of the Greenland Ice Sheet I Posters
(joint with C, G)

Presiding: **A E Carlson**, University of Wisconsin-Madison; **J S Stoner**, Oregon State University

0800h **PP11D-1455** *POSTER* Magnetic Fingerprinting of Greenland Sediments: **R G Hatfield**, J S Stoner, A E Carlson, S E Strano

0800h **PP11D-1456** *POSTER* Long-term erosion and interglacial period exposure in Western Greenland from meteoric ¹⁰Be in ice-bound sediment: **J A Galy**, L Corbett, P R Bierman, T Neumann, D H Rood, R C Finkel

0800h **PP11D-1457 POSTER** Extension of Greenland Ice Sheet outlets to the shelf edge bordering Baffin Bay during the last glacial cycle: **C O’Cofaigh**, J A Dowdeswell, A E Jennings, A A Kilfeather, K Hogan, J T Andrews
0800h **PP11D-1458 POSTER** Deglacial ice sheet retreat along the southwest Greenland coast: preliminary ¹⁰Be exposure chronology: **K Winsor**, A E Carlson, M Caffee
0800h **PP11D-1459 POSTER** Preliminary Holocene History of the Southwest Greenland Ice Sheet: **A E Carlson**, K Winsor, A N LeGrande, F S Anslow, J F Harvey, D J Ullman, D S Murray
0800h **PP11D-1460 POSTER** Natural Variability in the Surface Mass Balance of the Greenland Ice Sheet: **H Andres**, W R Peltier

PP11E Moscone South: Poster Hall Monday 0800h
Sea Level, Near-Surface Currents, and the Stratigraphic Record: Recent Results I Posters (*joint with G, OS*)

Presiding: **G Mountain**, Rutgers University; **C Fulthorpe**, Institute for Geophysics; **J Proust**, CNRS & Rennes University; **K Hoyanagi**, Shinshu University

0800h **PP11E-1461 POSTER** Offshore pore fluid salinity estimation from downhole logging and petrophysical measurements: **J LOFI**, J Inwood, C Basile, C J Bjerrum, H Otsuka, H Valppu, T Hayashi, M J Mottl, S Stadler, J Proust, G Mountain, E ScienceParty
0800h **PP11E-1462 POSTER** Statistical classification of log response as an indicator of facies variation during changes in sea level: IODP Exp 313: J Inwood, **J LOFI**, C J Bjerrum, C Basile, H Otsuka, H Valppu, G Mountain, J Proust, Title of Team: Scientific Team of IODP Expedition 313
0800h **PP11E-1463 POSTER** Regional Seismic Architecture Tied to Cores: Results from IODP Exp313: **G Mountain**, J Proust, D Monteverde, E ScienceParty
0800h **PP11E-1464 POSTER** Reconstructions of Lower To Middle Miocene Sea Level on the New Jersey Margin Based on Independent Palynological and Benthic Foraminiferal Data from IODP EXP 313: **F M McCarthy**, R Zanatta, M E Katz, U Kotthoff, E ScienceParty
0800h **PP11E-1465 POSTER** Biostratigraphic and Paleocologic Potential of Calcareous Nannofossils in Nearshore Environments: IODP Expedition 313 New Jersey Shallow Shelf: **D K Kulhanek**, B Huang, F M McCarthy, K G Miller, J A Barron, E ScienceParty
0800h **PP11E-1466 POSTER** Refinement of Late Early to Middle Miocene Diatom Biostratigraphy for the Eastern Coast of the United States - Application to IODP 313 Coring on the New Jersey Shallow Shelf: **J A Barron**, K G Miller, P Sugarman, E ScienceParty, Title of Team: Scientific Team of IODP Leg 313
0800h **PP11E-1467 POSTER** A first approximation of sand distribution and provenance on the Canterbury Shelf, New Zealand - implications for across shelf vs. along shelf transport based on sediment cores recovered during IODP Expedition 317: **C Bender**, K M Marsaglia, G Browne, D Carson, J M Jaeger, D Kemp, H Lever, C M McHugh, N Murakoshi, M Richaud, S Tanabe, G Uramoto, C Fulthorpe, K Hoyanagi, P Blum, E Shipboard Scientific Party
0800h **PP11E-1468 POSTER** Correlation of Lithology to Sequence Stratigraphy: Canterbury Basin, New Zealand: **K Ryan-Mishkin**, C M McHugh, C Fulthorpe, D Morgan, E Shipboard Scientific Party
0800h **PP11E-1469 POSTER** Mio-Pliocene Benthic Foraminiferal Biofacies Changes in the Canterbury Basin: **B A Christensen**, J Dutton, D Brown, Title of Team: IODP Expedition 317 Shipboard Scientists

0800h **PP11E-1470 POSTER** Depositional sequences of offshore Canterbury, New Zealand, and preliminary results of stable isotope analyses of the samples from IODP Expedition 317: **K Hoyanagi**, S Koto, S Kawagata, C Fulthorpe, P Blum, E Shipboard Scientific Party

0800h **PP11E-1471 POSTER** Identifying Glacio-Eustatic Forcing of Unconformities In The Canterbury Basin (IODP Exp 317) Based on Oxygen Isotope Analysis Of The Fine Fraction: **C Huck**, C M John, A Shevenell, E Shipboard Scientific Party

0800h **PP11E-1472 POSTER** Fossil ostracodes of continental shelf cores at IODP Site U1354 (Expedition 317): **S Kusunoki**, T Ohi, S Kawagata, K Ishida, E Shipboard Scientific Party

0800h **PP11E-1473 POSTER** Wireline log and seismic stratigraphic correlation along a shelf-slope transect in the Canterbury Basin, New Zealand: **A L Slagle**, G Guerin, E Shipboard Scientific Party

0800h **PP11E-1474 POSTER** Preliminary Results of Heat Flow Experiments during IODP Expedition 317 (Canterbury Basin, New Zealand): **Y Kim**, S Lee, E Shipboard Scientific Party, Title of Team: Expedition 317 Shipboard Scientific Party

0800h **PP11E-1475 POSTER** Submerged Shelf Edge Features on Australia’s Great Barrier Reef and Their Response to Quaternary Sea-Level Changes: **E A Abbey**, J M Webster, R J Beaman

0800h **PP11E-1476 POSTER** ARE PHYSICAL PROPERTIES ABLE TO DIFFERENTIATE GLACIAL AND INTERGLACIAL CORAL IDENTITY?: **T Lado-Insua**, K Moran, L Anderson, J M Webster, S Morgan, A Fehr, J Lofi, V Lukies, D Loggia, Title of Team: IODP Expedition 325 Scientists

0800h **PP11E-1477 POSTER** Flume studies of mud deposition: Implications for shallow marine mud deposition and the stratigraphic record (*Invited*): **J Schieber**

0800h **PP11E-1478 POSTER** Miocene Shelf-Edge Deltas and their Influence on Deepwater Slope Morphology, Northwest Shelf of Australia: C Sanchez, **C Fulthorpe**, J A Austin, R J Steel

0800h **PP11E-1479 POSTER** Sea-level and provenance controlled clay mineral assemblage since the last 19 ka in the southern South China Sea: records of Core MD05-2894 off the Sunda Shelf: **H Wang**, Z Liu, C Colin, E Sathiamurthy, W S Hantoro, Y Zhao

0800h **PP11E-1480 POSTER** Influence of sea level and monsoon variability on sedimentation in the Western Tropical Pacific, Gulf of Papua: **M McFadden**, L C Peterson, S J Bentley, G R Dickens, A W Droxler, B Opdkye

0800h **PP11E-1481 POSTER** Sub-Milankovitch millennial and decadal cyclicity in Middle Eocene deep-marine laminated sediments, Ainsa Basin, Spanish Pyrenees: **J I Scotchman**, K T Pickering, S A Robinson

0800h **PP11E-1482 POSTER** Playing Hide and Seek with Hidden Glaciations: Confirming the Existence of Eocene Antarctic Ice Sheets: **B W Smith**, H D Scher, G Munn, S M Bohaty

PP11F Moscone West: 2007 Monday 0800h
Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Eolian Sediment Archives I (*joint with A, B, EP, GP, GC, OS*)

Presiding: **B Machalett**, Humboldt-University of Berlin; **E A Oches**, Bentley University; **H M Roberts**, Aberystwyth University; **Z Lai**, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences

0800h **PP11F-01** Aeolian dust in polar ice cores: Have we found an acceptable explanation of our measured profiles? (*Invited*): **J Steffensen**

0815h **PP11F-02** Contribution to the Holocene North Atlantic wind activity reconstruction from Lake Igaliku, South Greenland: **C Massa**, V Bichet, J Giraudeau, C Petit, B Vanni re, F Monna,  MILIE Gauthier, H Richard

0830h **PP11F-03** The Role of Central and High Asia in Northern Hemisphere Short-term Climate Variability – a Paleoclimate Perspective: **B Machalett**, E A Oches, Z Lai, W Endlicher

0845h **PP11F-04** Response of Colorado River runoff to dust radiative forcing in snow (*Invited*): **T H Painter**, J S Deems, J Belnap, A F Hamlet, C Landry, B Udall

0900h **PP11F-05** The importance of the atmospheric cleansing for the long-range transport of the dust: the evidence from deep Antarctic ice cores records: **J Petit**, B Delmonte

0915h **PP11F-06** Tracing changes in Southern hemispheric dust sources to Antarctica: **G Winckler**, A Borunda, M R Kaplan, H Fischer, R F Anderson

0930h **PP11F-07** Insight to forcing of late Quaternary climate change from aeolian dust archives in eastern Australia: **H A McGowan**, S Marx, J Soderholm, J Denholm, L Petherick

0945h **PP11F-08** PHYSICAL MODEL OF TRANSPORTATION PROCESSES OF LOESS DUST: **X Qin**, Y Mu, Z Yin

PP11G Moscone West: 2005 Monday 0800h
The Early Pliocene Warm Period as an Analog for Future Warmth I (*joint with GC*)

Presiding: **P S Dekens**, San Francisco State University;
K T Lawrence, Lafayette College

0800h **PP11G-01** Bering Sea conditions in the early Pliocene warm period (*Invited*): **A C Ravelo**, K Takahashi, I W Aiello, C A Alvarez Zarikian, D Andreasen, T M Aung, Y Hioki, Y Kanematsu, S Kender, J Lariviere, T Nagashima, Z N Stroynowski, Title of Team: Scientific Team of IODP Expedition 323

0815h **PP11G-02** Plio-Pleistocene Bering Sea – North Pacific Ocean Circulation Dynamics Inferred from Sediment Source Changes at the Meiji Drift, Northwest Pacific Ocean: **S VanLaningham**, B Haley, S Hillier, A H Alizai

0830h **PP11G-03** The relative role of temperature gradients in the Pliocene climate (*Invited*): **C M Brierley**, A V Fedorov

0845h **PP11G-04** Cooling Subsurface Temperatures in the Eastern Equatorial Pacific during the Pliocene and Linkages to Global Cooling: **H L Ford**, A C Ravelo, S A Hovan

0900h **PP11G-05** The Oceanic, Atmospheric and Vegetation Response to Pliocene Closing of the Indonesian Passages: **U Krebs-Kanzow**, W Park, B Schneider

0915h **PP11G-06** Southern Hemisphere Precession forcing of Southern Ocean Sea Surface Temperatures in a Warm Climate (*Invited*): **A Martinez Garcia**, A Rosell Mele, E McClymont, R Gersonde, G H Haug

0930h **PP11G-07** Modeling the Early Pliocene Climate with Simple Data Assimilation: **A V Fedorov**, C M Brierley

0945h **PP11G-08** Searching for Eustasy in Pliocene Sea-Level Records (*Invited*): **M E Raymo**, P J Hearty, M O'Leary, J Mitrovica, R DeConto, J D Inglis, M M Robinson

SPA-Aeronomy

SA11A Moscone South: Poster Hall Monday 0800h
Frontiers in Aeronomy I Posters

Presiding: **L J Paxton**, JHU/APL; **J H Clemmons**, The Aerospace Corporation; **J P Thayer**, University of Colorado

0800h **SA11A-1556 POSTER** Nonlinear interaction of atmospheric gravity waves (*Invited*): **K Huang**, S Zhang, F Yi

0800h **SA11A-1557 POSTER** Challenges in Understanding the Upper Atmosphere: **L J Paxton**

0800h **SA11A-1558 POSTER** The Ptolemaic Approach to Ionospheric Electrodynamics: **V M Vasyliunas**

0800h **SA11A-1559 POSTER** Convection Driven Frictional Heating: A New Approach to Determine Thermospheric Heating Rate: **J Tu**, P Song

0800h **SA11A-1560 POSTER** Advances in remote sensing of the Martian upper atmosphere: **G Gronoff**, C Simon, C J Mertens, J Liliensten

0800h **SA11A-1561 POSTER** AERONOMY FROM THE INTERNATIONAL SPACE STATION: **A B Christensen**, S A Budzien, R L Bishop, A W Stephan

0800h **SA11A-1562 POSTER** Observations and Modeling of the Nighttime Electron Density Enhancement in the Mid-latitude Ionosphere: **C Chen**, A Saito, C Lin, J D Huba, J G Liu

0800h **SA11A-1563 POSTER** The Winds-Ions-Neutral Composition Suite (WINCS): **A C Nicholas**, F Herrero, T T Finne, H H Jones

0800h **SA11A-1564 POSTER** Enhanced UV Data Products - Observing the Ionosphere in Greater Fidelity: **B C Wolven**, L J Paxton, J Comberiate, S W Hsieh, S R Nylund, R K Schaefer, C Selby, D Smith, M Weiss, Y Zhang

0800h **SA11A-1565 POSTER** A Comparison of Electron Density Profiles Derived from the Low Resolution Airglow and Aurora Spectrograph (LORAAS) Ultraviolet Measurements: Resolution of the 911   Conundrum: **K Dymond**, S A Budzien, C Coker, A C Nicholas, A W Stephan, R L Bishop, A B Christensen, J H Hecht, P R Straus

0800h **SA11A-1566 POSTER** The ISS as a Launch Platform for Phenomena of Interest: **C Swenson**, C S Fish, J J Sojka, E M Stromberg, B Lloyd, T Neilson

0800h **SA11A-1567 POSTER** Using Satellite Aerodynamics to Sense Thermospheric Winds: **D L Cooke**, D Jackson

0800h **SA11A-1568 POSTER** The Solar Cycle Transition and High Speed Streams as evidenced in SABER Infrared Radiative Cooling Observations in the Thermosphere: **L A Hunt**, M G Mlynczak, B T Marshall, C J Mertens, J Russell

0800h **SA11A-1569 POSTER** Statistical Study of Storm-time Ionospheric Disturbances at Mid- and Low-latitudes: **C Lin**, Y Wu, R Hsu, J Y Liu

0800h **SA11A-1570 POSTER** Nighttime Ionospheric Imaging and Tomographic Reconstruction Observatory: **P B Dandenault**, S A Budzien, D H Chua, C Coker, K Dymond, A C Nicholas, A W Stephan

0800h **SA11A-1571 POSTER** Forecasting the Ionosphere and Scintillation Globally: Reaching the Next Level: **C Coker**, K Dymond, S A Budzien, C R Englert, J Huba, A C Nicholas, D H Chua, A W Stephan, P B Dandenault, S E McDonald, K S Wood

0800h **SA11A-1572 POSTER** New SuperDARN Radar Capabilities for Observing Ionospheric Plasma Convection and ITM Coupling in the Mid-Latitude Ionosphere: **J M Ruohoniemi**, J B Baker, R A Greenwald, L B Clausen, S G Shepherd, W A Bristow, E R Talaat, R J Barnes

0800h **SA11A-1573** *POSTER* Doppler Modulated Gas Correlation: A Leap in Temperature Sounding from Low Earth Orbit: **L L Gordley**, D C Fritts, C S Fish

0800h **SA11A-1574** *POSTER* A New Focus Lens for Improved Energy Resolution in the Wind and Temperature Spectrometer: **D Fenn**, F Herrero, E A Syrstad

0800h **SA11A-1575** *POSTER* Combined in-situ and top-side remote observations of evolution of plasma bubbles: **A Barjatya**, R Eastes, K Dymond

0800h **SA11A-1576** *POSTER* The Movable Antarctic Incoherent Scatter Radar (MAISR) - update and plans: A P Van Eyken, J D Kelly, **A Stromme**, C J Heinselmann, M Malone, Title of Team: MAISR Proposal Team

0800h **SA11A-1577** *POSTER* The Sondrestrom Upper Atmosphere Facility: **M A McCready**, A Stromme, E Gudmundsson, J M Livingston, E A Kendall

0800h **SA11A-1578** *POSTER* EISCAT_3D: A European Imaging Radar for Atmospheric and Geospace Research: **E S Turunen**, Title of Team: EISCAT_3D Project Team

0800h **SA11A-1579** *POSTER* The Sondrestrom Research Facility All-sky Imagers: **E A Kendall**, M Grill, E Gudmundsson, A Stromme

SA11B Moscone South: Poster Hall Monday 0800h
SPA-Aeronomy General Contributions Posters

Presiding: **L P Goncharenko**, MIT; **A J Ridley**, University of Michigan

0800h **SA11B-1580** *POSTER* International Reference Ionosphere 2010: **D Bilitza**, B W Reinisch, L A McKinnell

0800h **SA11B-1581** *POSTER* Comparison of Winds and Temperatures Derived from FPIs at Mid- and Low-Latitudes to HWM- and MSIS-derived Parameters: **J J Makela**, J W Meriwether, R A Buriti, D Fisher, D P Drob, J T Emmert

0800h **SA11B-1582** *POSTER* Using incoherent scatter radar to investigate possible causes of the neutral wind long-term trends over Arcibo: **P T Santos**, C G Brum, C A Tepley, N Aponte, S A Gonzalez

0800h **SA11B-1583** *POSTER* Preliminary results on the mean winds and low-frequency wave motions in the mesosphere and lower thermosphere over the Andes Lidar Observatory (30°S, 71°W) and their comparisons with Maui, Hawaii (21°N, 156°W): **X Lu**, A Z Liu, Z Li, G R Swenson, S J Franke

0800h **SA11B-1584** *POSTER* Seasonal and Diurnal Variations of Gravity Waves in the Mesosphere over the Andes Lidar Observatory and Maui: **Z Li**, A Z Liu, X Lu, S J Franke, G R Swenson

0800h **SA11B-1585** *POSTER* Monthly-mean Tidal Perturbations of Na Density and Vertical Wind based on Full-Diurnal-Cycle Na Lidar Observations: **T Yuan**, T Kawahara, C She, D A Krueger

0800h **SA11B-1586** *POSTER* First Measurements of Simulated Upper Atmospheric Winds Using a Monolithic Doppler Asymmetric Spatial Heterodyne (DASH) Interferometer: **DD Babcock**, J Harlander, C R Englert, F L Roesler, T R Pedersen, R Feldman

0800h **SA11B-1587** *POSTER* A Cloud Detection Algorithm Based Upon FPI Measurements: **Y Huang**, J J Makela, J W Meriwether, R A Buriti

0800h **SA11B-1588** *POSTER* High-latitude Velocity Variability from SuperDARN Data: **E D Cousins**, S G Shepherd

0800h **SA11B-1589** *POSTER* Optimization of a 50 MHz Frequency Modulated Continuous Wave Radar system for the study of auroral E-region coherent backscatter: **G W Perry**, G C Hussey

0800h **SA11B-1590** *POSTER* Polarization Analysis of ELF-Emissions Observed at Lulin ELF Station: **S Ho**, K Wang, A B Chen, H Su, S Huang

0800h **SA11B-1591** *POSTER* The Effects of BGK, Brownian, and Hard-Sphere Ion-Neutral Collision Models on the Incoherent Scatter Spectrum in the E-region: **J T Fentzke**, M P Sulzer, S A Gonzalez

0800h **SA11B-1592** *POSTER* Atmospheric Density Corrections Estimated from Fitted Drag Coefficients: **C A McLaughlin**, T F Lechtenberg, S R Mance, P Mehta

0800h **SA11B-1593** *POSTER* Thermospheric Density Minimum at the South Pole in June: **J O Wise**, E K Sutton, S H Delay, F A Marcos

SPA-Solar and Heliospheric Physics

SH11A Moscone South: Poster Hall Monday 0800h
First Results From the Solar Dynamics Observatory I Posters

Presiding: **J T Hoeksema**, Stanford University

0800h **SH11A-1594** *POSTER* Soft X-ray Energy Detection from Broadband Images by the Solar Aspect Monitor (SAM) on Solar Dynamic Observatory (SDO): **C Y Lin**, S M Bailey, T N Woods, F Eparvier, C Jeppesen, D Woodraska, R A Hock

0800h **SH11A-1595** *POSTER* First Results from the EUV SpectroPhotometer (ESP) on the SDO Extreme Ultraviolet Variability Experiment (EVE): **L V Didkovsky**, D Judge, S R Wieman, T N Woods, A Jones, F Eparvier, D Woodraska, P C Chamberlin

0800h **SH11A-1596** *POSTER* Comparison of simulated and observed loop-top emission in flares using the AIA telescopes on SDO: **A Engell**, K K Reeves, L Ji, E E DeLuca, R Smith, L Golub

0800h **SH11A-1597** *POSTER* Forward modeling of emission in AIA passbands from advanced radiative MHD simulations: **B De Pontieu**, J Martinez-Sykora, V H Hansteen

0800h **SH11A-1598** *POSTER* Differential Emission Tomography of AIA Images: **RA Frazin**, A M Vasquez, E Landi

0800h **SH11A-1599** *POSTER* First Results on Coronal Loop Analysis with AIA/SDO: **M J Aschwanden**

0800h **SH11A-1600** *POSTER* AIA observations of a flare/CME system in conjunction with X-ray and radio data: **H M Bain**, S Krucker

0800h **SH11A-1601** *POSTER* Global and Local Helioseismology from HMI and AIA: R Howe, R Komm, **I Gonzalez Hernandez**, K Jain, F Hill, D A Haber, R Bogart

0800h **SH11A-1602** *POSTER* Estimating the Energy Flux of Acoustic-Gravity Waves in the Solar Atmosphere from SDO/HMI Data: **B Fleck**, T Straus, S Jefferies, P Scherrer

0800h **SH11A-1603** *POSTER* Helioseismic Studies of a Sunspot using HMI Data: **S C Tripathy**, K Jain, I Gonzalez Hernandez, R Komm, F Hill, S McManus, R Bogart, M C Rabello-Soares, S Basu, C Baldner, D A Haber

0800h **SH11A-1604** *POSTER* Investigation of Formation and Subsurface Dynamics of Active Regions by Local Helioseismology from SDO: **A G Kosovichev**, T L Duvall, J Zhao

0800h **SH11A-1605** *POSTER* The Evolution of Photospheric Flows in Active Regions: **K Muglach**, P W Schuck, J T Hoeksema, X Sun, Y Liu

0800h **SH11A-1606** *POSTER* Wavelike Properties of Supergranulation: **S Lee**, J G Beck, J Schou, Title of Team: Stanford Solar Observatories Group

0800h **SH11A-1607** *POSTER* First Result of Field Extrapolation Based on HMI Vector Magnetic Data: **X Sun**, J T Hoeksema, T Wiegmann, K Hayashi, Y Liu

0800h **SH11A-1608** *POSTER* Calculating Non-Potentiality in Solar Active Regions Using SDO/HMI Vector Magnetic Field Data: **M Bobra**, J T Hoeksema

0800h **SH11A-1609** *POSTER* Computing Electric Currents in Solar Active Regions with HMI Vector Magnetograms: **L Lo**, J T Hoeksema, P W Schuck, X Sun

0800h **SH11A-1610** *POSTER* The Void Probability Distribution Observed in High-Resolution Hinode/SOT and SDO Magnetograms: **F Berrilli**, D Del Moro, F Giannattasio, S Scardigli, B Viticchie

0800h **SH11A-1611** *POSTER* Studying Emerging Flux Regions With The SDO Data: **Y Liu**, H Team, Title of Team: HMI TEAM

0800h **SH11A-1612** WITHDRAWN

0800h **SH11A-1613** *POSTER* Observations and Magnetic Field Modeling of the Flare/CME Event on 2010 April 8: **Y Su**, V Surges, A A Van Ballegooijen

0800h **SH11A-1614** *POSTER* Interpreting SDO/AIA observations of EUV waves, a comprehensive analysis with direct comparison to global MHD simulations: **C Downs**, I I Roussev, A Vourlidas, B van der Holst, N Lugaz

0800h **SH11A-1615** *POSTER* Automated detection of oscillatory signals in the solar atmosphere: first results from SDO-AIA data: **J Ireland**, C Young, B De Pontieu, S W Mcintosh

0800h **SH11A-1616** *POSTER* Modeling the Time Variation of Coronal Holes Observed by SDO/AIA, Stereo A and B Using HMI Synchronic Frames: **X Zhao**, J T Hoeksema, Y Liu

0800h **SH11A-1617** *POSTER* The Scale Sizes for Coronal Hole Jets: **J W Cirtain**

0800h **SH11A-1618** *POSTER* MHD simulation of the evolution of the solar corona around August 1st 2010 using the HMI solar magnetic field data: **K Hayashi**, Title of Team: HMI team

SH11B Moscone South: Poster Hall Monday 0800h
Solar and Heliospheric Physics General Contributions I Posters

Presiding: **I G Richardson**, NASA Goddard Space Flight Cent

0800h **SH11B-1619** *POSTER* The FIELDS experiment for Solar Probe Plus: **S Bale**, Title of Team: The SPP/FIELDS Team

0800h **SH11B-1620** *POSTER* The Solar Wind Electrons Alphas and Protons (SWEAP) Investigation for Solar Probe Plus: **J C Kasper**, Title of Team: On Behalf of the SWEAP Investigation Team

0800h **SH11B-1621** *POSTER* The Integrated Science Investigation of the Sun (ISIS): Energetic Particle Measurements for the Solar Probe Plus Mission: J Scherrer, **D J McComas**, E R Christian, A C Cummings, M I Desai, J Giacalone, M E Hill, S M Krimigis, S A Livi, R L McNutt, R A Mewaldt, D G Mitchell, W H Matthaeus, E C Roelof, T T von Rosenvinge, N A Schwadron, E C Stone, M M Velli, M E Wiedenbeck

0800h **SH11B-1622** *POSTER* The Wide Field Imager for Solar PRobe (WISPR): **S P Plunkett**, R A Howard, A Vourlidas, C M Korendyke, D G Socker, J S Morrill, N R Sheeley, M Linton, P C Liewer, E M De Jong, Z Mikic

0800h **SH11B-1623** *POSTER* The Electron Proton Telescope for Solar Orbiter: **D Sie**, E Boehm, S Boettcher, S Burmeister, W Droege, B Heber, G J Mann, C Martin, R Müller-Mellin, R Paspigiris, B Schuster, L Seimetz, R F Wimmer-Schweingruber

0800h **SH11B-1624** *POSTER* Characterization of Inorganic Scintillators for the HET/EPD Instrument on board Solar Orbiter: **C Martin**, S Kulkarni, D Sommerfeld, M Kruse, B Schuster, S Boettcher, R F Wimmer-Schweingruber, D Sie, E Boehm, L Seimetz, C Helmke, S Kolbe, B Heber, S Burmeister

0800h **SH11B-1625** *POSTER* Electron- and Ion-optical Simulations for The SupraThermal Electron, Ion, and Neutral (STEIN) Sensor for Solar Orbiter: **C Terasa**, R F Wimmer-Schweingruber, R P Lin, C Martin, S Boden, B Heber, D Lee, H Jin, J SEON, K Kim, H Lohf, S Kolbe

0800h **SH11B-1626** *POSTER* First calibration results and antenna placement studies of the RPW ANT instrument on Solar Orbiter: **M Sampl**, T H Oswald, H O Rucker, D Plettmeier, M Maksimovic, W Macher

0800h **SH11B-1627** *POSTER* Imaging the Solar Wind with SoloHI: **RA Howard**, A Vourlidas, S P Plunkett, C M Korendyke, D R McMullin, P C Liewer, M M Velli, Title of Team: SoloHI

0800h **SH11B-1628** *POSTER* Solar Wind Measurements on Solar Orbiter: Discovering the Links Between the Solar Wind and the Atmosphere of our Sun: **S A Livi**, A B Galvin, T Zurbuchen, M Collier, S T Lepri, L M Kistler

0800h **SH11B-1629** *POSTER* Comparison of silicon nanoscale gratings to carbon foils for use in space plasma mass spectrometers: **J A Gilbert**, T Zurbuchen, A F Kaplan, L J Guo

0800h **SH11B-1630** *POSTER* Accelerator Tests of the Prototype Energetic Heavy Ion Sensor (EHIS) for GOES-R: **J J Connell**, C Lopate, R B McKibben

0800h **SH11B-1631** *POSTER* The Marshall Grazing Incidence X-ray Spectrometer (MaGIXS): L Golub, **J W Cirtain**, K Kobayashi, A R Winebarger, K E Korreck, P Testa

0800h **SH11B-1632** *POSTER* The Chromospheric Lyman Alpha Spectropolarimeter (CLASP): **K Kobayashi**, S Tsuneta, J Trujillo Bueno, J W Cirtain, T Bando, R Kano, H Hara, D Fujimura, K Ueda, R Ishikawa, H Watanabe, K Ichimoto, T Sakao, B De Pontieu, M Carlsson, R Casini

0800h **SH11B-1633** *POSTER* A SupraThermal Ion Spectrometer for future Heliospheric (STISH) missions: **F Allegrini**, M I Desai, G C Ho, S A Livi, D J McComas, K S Nelson

0800h **SH11B-1634** *POSTER* Degradation-Free Spectrometers for Solar Extreme Ultraviolet Irradiance Measurements: a Progress Report: **D L Judge**, L V Didkovsky, S R Wieman

0800h **SH11B-1635** *POSTER* MEXART observations at 140 MHz: Calibration to perform the Interplanetary Scintillation (IPS) technique: **P Villanueva**, J C Mejia Ambriz, A Gonzalez-Esparza, E Aguilar-Rodriguez, A Carrillo Vargas, E Andrade Mascote

0800h **SH11B-1636** *POSTER* Automatic Recognition of Complex Magnetic Regions on the Sun using GONG Magnetogram Images and Their Usefulness in Predicting Flares: G Steward, **V Lobzin**, P J Wilkinson

0800h **SH11B-1637** *POSTER* Evolution of magnetic field in flaring active regions: **O Burtseva**, G J Petrie

0800h **SH11B-1638** *POSTER* The flare productivity of active regions: **N Kuroda**, S Christe

0800h **SH11B-1639** *POSTER* Suppression of energetic electron transport by double layers in flares: **T Li**, J F Drake, M M Swisdak

0800h **SH11B-1640** *POSTER* Wave-particle interactions in solar flares: **P Pongkitivanichakul**, B D Chandran

0800h **SH11B-1641** *POSTER* Hard X-ray and microwave sources located around the apex of a solar flare loop: **S Masuda**, M Shimojo, K Watanabe, T Minoshima, K Yaji

0800h **SH11B-1642** *POSTER* A laboratory study of arched magnetic flux rope eruptions*: **S Tripathi**, W N Gekelman

0800h **SH11B-1643** *POSTER* Characteristics of flare-related photospheric magnetic fields in asymmetric hard X-ray footpoints: **Y Yang**, C Z Cheng

- 0800h **SH11B-1644** *POSTER* Temporal Evolution of the Sea-Serpent Penumbra Filaments: **A Sainz Dalda**, L Bellost Rubio
- 0800h **SH11B-1645** *POSTER* An Invitation to the Improved Yohkoh Legacy data Archive: **A Takeda**, L W Acton, D McKenzie, K Yoshimura, S L Freeland
- 0800h **SH11B-1646** *POSTER* Signatures of transition region explosive events in hydrogen Ly-beta profiles: **L Xia**, M Zhang, H Tian, Y CHEN
- 0800h **SH11B-1647** *POSTER* Tiny Pores observed by HINODE/SOT: **K Cho**, S Bong, J Chae, Y Kim, Y Park
- 0800h **SH11B-1648** *POSTER* Estimate of Coronal Magnetic Field Strength Using Plasmoid Acceleration Measurement: **G Choe**, K Lee, M Jang
- 0800h **SH11B-1649** *POSTER* Lagrangian Statistics of 3D MHD Convection: **J Pratt**, W Mueller
- 0800h **SH11B-1650** *POSTER* Turbulence in the solar chromosphere and its role in small scale energy deposition: F Lepreti, **V Carbone**, A Vecchio, K Reardon, V Capparelli, C Rossi
- 0800h **SH11B-1651** *POSTER* Streamer Waves and Associated Coronal Seismological Study: **Y CHEN**, S Feng, H Song, B Li, L Xia, X Li
- 0800h **SH11B-1652** *POSTER* Klein-Gordon Equations for Transverse Oscillations in Coronal Loops: J McKenzie, **Q Hu**, G M Webb
- 0800h **SH11B-1653** *POSTER* The Case for Ultra-High Spatial Resolution ($\sim 0.2''$ or better) EUV Solar Spectroscopy: Spatial Scales in the Transition Region and Corona Derived from SOHO/SUMER and Hinode/EIS Spectra: **G A Doschek**
- 0800h **SH11B-1654** *POSTER* Spatial and Temporal Evolution of Electron Velocity Distribution Function in The Solar Corona: First Results: **V Airapetian**, A F Vinas
- 0800h **SH11B-1655** *POSTER* First results for the Solar Ultraviolet Magnetograph Investigation (SUMI): R L Moore, **J W Cirtain**, E West, K Kobayashi, B Robinson, A R Winebarger, T D Tarbell, B De Pontieu, S W McIntosh
- 0800h **SH11B-1656** *POSTER* The dynamics of the solar magnetic field: polarity reversals, butterfly diagram and quasi-biennial oscillations: **A Vecchio**, M Laurenza, D Meduri, V Carbone, M Storini
- 0800h **SH11B-1657** *POSTER* DAILY OBSERVATION AT PVS0: **C L Bentley**, W B Cade, A Razaq, E Reddic
- 0800h **SH11B-1658** *POSTER* Solar Observations with the Allen Telescope Array: **P Saint-Hilaire**, G Bower, G J Hurford, G Keating
- 0800h **SH11B-1659** *POSTER* Spectroscopic Imaging of the Radio Sun with the Murchison Widefield Array Prototype: **D Oberoi**, L D Matthews, R Kennedy, Title of Team: Members of the MWA Collaboration
- 0800h **SH11B-1660** *POSTER* Statistical Analysis of Langmuir Waves Associated with Type III Radio Bursts: **S Vidojevic**, A Zaslavsky, M Maksimovic, M Drazic, S Hoang, O Atanckovic
- 0800h **SH11B-1661** *POSTER* ARBIS 3: A Software Package for Automated Radio Burst Identification: **V Lobzin**, I H Cairns, P A Robinson, G Steward, G Patterson
- 0800h **SH11B-1662** *POSTER* Thermal Correction to the Rate of Second Harmonic Plasma Emission: B Layden, J Percival, **I H Cairns**, P A Robinson
- 0800h **SH11B-1663** *POSTER* Role of linear mode conversion on solar and heliospheric radio emissions at oblique density inhomogeneities: **E Kim**, I H Cairns, P A Robinson
- 0800h **SH11B-1664** *POSTER* STEREO SWEA Observations of Solar Wind Halo Electron Anomalous Heat Fluxes and their Organization by Solar Wind Structure: J G Luhmann, **M A Ellenburg**, C O Lee, P C Schroeder, A Opitz, E Penou, B Lavraud, J A Sauvaud, L Jian, C T Russell, K D Simunac, A B Galvin
- 0800h **SH11B-1665** *POSTER* Evolution of the electron heat flux in the expanding solar wind: Helios observations: **S Stverak**, P M Travnicek, P Hellinger, E Marsch
- 0800h **SH11B-1666** *POSTER* Study of solar wind dynamics using five spacecraft simultaneous measurements: Helios, Voyagers and IMP 8: **E Romero Hernandez**, A Gonzalez-Esparza
- 0800h **SH11B-1667** *POSTER* Heliophysics: **M Austin**, M Guhathakurta, A Bhattacharjee, D W Longcope, J J Sojka
- 0800h **SH11B-1668** *POSTER* Non-polar Coronal Holes and Solar Wind: **N Karachik**, A A Pevtsov
- 0800h **SH11B-1669** *POSTER* Helium Abundance and Minor Ion Charge State Variations in the Solar Wind over the Solar Cycle: **K K Kiefer**, J C Kasper, B A Maruca, M L Stevens
- 0800h **SH11B-1670** *POSTER* The Recent Weakening Solar Wind as Observed by ACE and Wind: **J T Steinberg**, R M Skoug, P Ryland, J C Kasper, B A Maruca, S T Lepri
- 0800h **SH11B-1671** *POSTER* Local galactic cosmic ray increases within the sheaths of interplanetary coronal mass ejections: **A Jordan**, H E Spence, J Blake, D N Shaul, J Giacalone
- 0800h **SH11B-1672** *POSTER* On the Formation of Intermediate-Mode Mach-Cone-Like Solitary Waves in the Ion-Electron Two-Fluid Plasma: **L Lyu**, Y Huang
- 0800h **SH11B-1673** *POSTER* NANO-DUST ANALYZER: E Gruen, M Horanyi, E Moebius, **Z Sternovsky**, S Auer, R Srama, A Juhasz
- 0800h **SH11B-1674** *POSTER* Evidence that Some Reported Low-Frequency Solar Oscillations are Aliases: **A Moghtaderi**, D J Thomson
- 0800h **SH11B-1675** *POSTER* Plasma Waves Related to Solar Wind - Moon Interaction Observed by WFC onboard KAGUYA: **Y Kasahara**, S Kitaguchi, K Kanatani, Y Goto, K Hashimoto, Y Omura, A Kumamoto, T Ono, M N Nishino, Y Saito, H Tsunakawa
- 0800h **SH53A-05** *POSTER* Solar-wind turbulence at kinetic wavelengths: hybrid-Vlasov simulations: **F Valentini**, F Califano, P Veltri
- 0800h **P31C-1556** *POSTER* Modeling the Solar Dust Environment at 9.5 Solar Radii: Revealing Radiance Trends with MESSENGER Star Tracker Data: **S B Strong**, T Strikwerda, D Lario, N Raouafi, R Decker

SPA-Magnetospheric Physics

SM11A Moscone South: Poster Hall Monday 0800h
Dynamical Processes of the Cusp/Polar Cap Ionosphere I
Posters (joint with SA)

Presiding: **J I Moen**, University of Oslo; **K Hosokawa**, The Univ. of Electro-Communications; **L P Dyrud**, Johns Hopkins University APL

0800h **SM11A-1676** *POSTER* Simultaneous Traveling Convection Vortex (TCV) Events and Pc 1-2 Wave Bursts at Cusp/Cleft Latitudes observed in Arctic Canada and Svalbard: **J L Posch**, A J Witte, M J Engebretson, D Murr, M Lessard, T Raita, H J Singer

0800h **SM11A-1677** *POSTER* Determining the Propagation Direction and Velocity of Pc 1-2 Waves using Search Coil Magnetometers on Svalbard: **D Nguyen**, M Engebretson, J L Posch, M Lessard, D M Wright

0800h **SM11A-1678** POSTER Observing ULF Pulsations at High Latitudes Using GPS TEC: **D Murr**, R Nikoukar, G S Bust, L Dyrud, V Pilipenko, M Engebretson

0800h **SM11A-1679** POSTER Discovery of pulsed polar flares in the Jovian aurorae: **B Bonfond**, M F Vogt, D C Grodent, J M Gerard, A Radioti

0800h **SM11A-1680** POSTER Dayside auroral emissions controlled by interplanetary magnetic field: a survey for dayside auroral excitation at 557.7 and 630.0 nm in Ny-Ålesund, Svalbard: **Z Hu**, H Yang, D Han, H Hu, D Huang, B Zhang, R Liu

0800h **SM11A-1681** POSTER Localized Dayside Proton-induced Auroral Emissions in the Cusp and Polar Cap: **C R Bryant**, K A McWilliams, H U Frey

0800h **SM11A-1682** POSTER Electrodynamics of high-latitude auroral arcs: V Safargaleev, **A Kozlovsky**

0800h **SM11A-1683** POSTER Dependence of spectral width of polar cap HF echoes upon electric field: A V Koustov, S Shalimov, **A Kozlovsky**

0800h **SM11A-1684** POSTER Decay of polar cap patches: **K Hosokawa**, J Moen, K Shiokawa, Y Otsuka

0800h **SM11A-1685** POSTER A multi radar study of global polar cap patch dynamics and morphology: **M G Johnsen**, J M Holmes, J L Semeter, A Stromme, U Lovhaug, D A Lorentzen

0800h **SM11A-1686** POSTER Long-term Scintillations in the Dayside Cusp and Polar Cap Locations and its Impact on Trans-ionospheric Satellite Communication Links at VHF: **E MacKenzie**, S Basu, S Basu, T R Pedersen

0800h **SM11A-1687** POSTER Simulation of GPS Scintillation and TEC Using Rocket Borne Ionospheric Density Measurements: **L Dyrud**, D Murr, J I Moen, L Alfonsi

0800h **SM11A-1688** POSTER The first in-situ observations of echoing HF radar backscatter targets: **J I Moen**, K Oksavik, T Abe, M Lester, Y Saito, J K Bekkeng, K S Jacobsen, T A Bekkeng

0800h **SM11A-1689** POSTER SCIFER2 electron temperature measurements associated with a Poleward Moving Auroral Form: F Sigernes, **E J Lund**, D A Lorentzen, A N Jaynes, P M Kintner, K A Lynch, Title of Team: SCIFER2

0800h **SM11A-1690** POSTER The Saturation Regime of the Polar Cap Potential Under Southward IMF - A Statistical View: **F D Wilder**, C R Clauer, J B Baker

0800h **SM11A-1691** POSTER The Relationship between Polar Cap Index and Solar Wind Parameters, Geomagnetic Indices: **Y gao**, M G Kivelson, R J Walker, H U Frey, J M Weygand, O A Troshichev

0800h **SM11A-1692** POSTER AMPERE Science Data Reduction and Processing: **H Korth**, L Dyrud, B Anderson, C L Waters, R J Barnes

0800h **SM11A-1693** POSTER Dependence of cusp ion structures on a satellite orbit: **H Connor**, J Raeder, K J Trattner

0800h **SM11A-1694** POSTER Particle acceleration in the diamagnetic cusp: **J Pilchowski**, A Otto, E T Adamson, K Nykyri

0800h **SM11A-1695** POSTER Cluster Observations of the earth's mid-altitude magnetospheric cusp: **Q Shi**, Q Zong, Z Pu, S Fu, Y Wei, Y Wang

0800h **SM11A-1696** POSTER Properties of energetic electrons in the high-altitude cusp and magnetosheath: **B Walsh**, T A Fritz

0800h **SM11A-1697** POSTER The Relation Between Ionospheric Poynting Flux Enhancement and Cusp Reconnection: W Li, D J Knipp, J Lei, **J Raeder**

0800h **SM11A-1698** POSTER Conjugacy between the two hemispheres at high latitudes in the null-separator model of the magnetosphere: **K Kabin**

0800h **SM11A-1699** POSTER Statistical Analysis of the Geometric Properties of the Dynamic Polar Cusp Using a Global MHD Simulation: **W A Dunlap-Shohl**, O Brambles, W Lotko, B Zhang

0800h **SM11A-1700** POSTER Access of Solar Electrons to the Polar Cap and Comparison with GEO Observations: **T Mulligan**, J F Fennell, J Blake

SM11B Moscone South: Poster Hall Monday 0800h Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles I Posters (*joint with AE, SA, SH*)

Presiding: **Y Shprits**, UCLA; **C Kletzing**, University of Iowa

0800h **SM11B-1701** POSTER Two-dimensional finite element full-wave model for wave propagation and dissipation in Earth's magnetosphere: E Valeo, **J Johnson**, E Kim, C Phillips

0800h **SM11B-1702** POSTER The Latitudinal Extent of Chorus as Observed by the Polar Plasma Wave Instrument: **N L Bunch**, M Spasojevic, Y Shprits

0800h **SM11B-1703** POSTER Characteristics of electron distributions observed during large amplitude whistler wave events in the magnetosphere: **L B Wilson**, C A Cattell, P J Kellogg, K Goetz, J Wygant, A W Breneman, K Kersten

0800h **SM11B-1704** POSTER IS THE SOURCE OF CHORUS EMISSIONS LOCATED AT THE LOCAL GEOMAGNETIC FIELD MINIMUM?: O Agapitov, **V Krasnoselskikh**, T Dudok de Wit, G Rolland

0800h **SM11B-1705** POSTER Dayside chorus waves at high L-shells: Conjugate observations of PENGUIn/AGO and THEMIS: K Min, **K Keika**, L J Lanzerotti, A J Gerrard, J Lee, Y Miyoshi, V Angelopoulos, M Spasojevic

0800h **SM11B-1706** POSTER Control Over the Ground-Accessibility of ELF/VLF Chorus by a Discriminating Plasmasphere: **D I Golden**, M Spasojevic, U S Inan

0800h **SM11B-1707** POSTER Laboratory Observations of Whistler Wave Resonances*: **W E Amatucci**, D D Blackwell, E M Tejero, C D Cothran, L Rudakov, G Ganguli, D N Walker

0800h **SM11B-1708** POSTER Self-consistent Particle Simulation of Whistler-mode Triggered Emissions: **M Hikishima**, Y Omura, D Summers

0800h **SM11B-1709** POSTER Direct measurement of nonlinear wave-particle interaction in the magnetosphere: A simulation study of whistler-mode chorus emissions: **M Kitahara**, Y Katoh, T Ono, H Kojima, Y Omura

0800h **SM11B-1710** POSTER Energetic electron precipitation caused by wave particle interactions: **J Lee**, G K Parks, E Lee, J Hwang, K Cho, Y Park, K W Min, B Tsurutani, M McCarthy, K Kim

0800h **SM11B-1711** POSTER Calculation of Quasilinear Diffusion Coefficients Using Test Particle Simulations: **X Tao**, J Bortnik, J M Albert, K Liu

0800h **SM11B-1712** POSTER High energy electron diffusion by resonant interactions with whistler waves in the inner radiation belt: **J Ripoll**, D Mourenas

0800h **SM11B-1713** POSTER EMIC Wave Occurrence and Plasmaspheric Density During Geomagnetic Storms: **A J Halford**, B J Fraser, S Morley

0800h **SM11B-1714** POSTER A case study of EMIC wave-associated He⁺ energization in the inner magnetosphere: **J Zhang**, L M Kistler, C Mouikis, M Lessard, C Weaver, B Klecker, J Sauvaud, M W Dunlop

0800h **SM11B-1715** POSTER Effects of Storm-time EMIC Wave on Radiation Belt Electrons: **Q Zheng**, A Glocer, M H Fok

- 0800h **SM11B-1716** *POSTER* Empirical modeling of quasilinear evolution of electromagnetic ion cyclotron instability for finite beta plasmas: **J Seough**, P H Yoon, K Kim, D Lee
- 0800h **SM11B-1717** *POSTER* Ion-cyclotron Instability in Current-carrying Maxwellian and Lorentzian (κ) Plasma with Anisotropic Temperatures: A Comparative Numerical Study: **B Basu**, N J Grossbard
- 0800h **SM11B-1718** *POSTER* Properties of Equatorial Noise and its Connection with Disturbances in the Solar Wind Using Data from the Cluster Mission: **Z Hrbackova**, O Santolik, J S Pickett, D A Gurnett, N Cornilleau-Wehrin
- 0800h **SM11B-1719** *POSTER* Radiation belt diffusion via non-resonant interactions with spatially confined magnetosonic waves: **J P McCollough**, J M Albert, J Bortnik
- 0800h **SM11B-1720** *POSTER* Excitation of Magnetosonic Waves in the Terrestrial Magnetosphere: Particle-in-cell Simulations: **K Liu**, S P Gary, D Winske
- 0800h **SM11B-1721** *POSTER* Ion Bernstein Instability in the Magnetosphere: Linear Dispersion Theory: **S P Gary**, K Liu, D Winske, R E Denton
- 0800h **SM11B-1722** *POSTER* Calculating Wave Power from the Source Particle Distributions for EMIC Waves: **L W Blum**, E MacDonald, M Spasojevic, V K Jordanova, X Li
- 0800h **SM11B-1723** *POSTER* Evolution of Energetic Electron Distribution due to Interaction with Chorus Emissions: **M Yoshikawa**, Y Omura, D Summers, M Hikishima
- 0800h **SM11B-1724** *POSTER* Induced Nonlinear Scattering of Magnetospherically Reflecting Whistlers: **C E Crabtree**, L Rudakov, G Ganguli, M Mithaiwala, V Galinsky, V Shevchenko
- 0800h **SM11B-1725** *POSTER* Non-linear Evolution of Velocity Ring Distributions: Generation of Whistler Waves: **M Mithaiwala**, L Rudakov, G Ganguli
- 0800h **SM11B-1726** *POSTER* Observation of Electron Phase Bunching in Auroral Langmuir Waves: **C Kletzing**, S R Kaeppler, S R Bounds, J W Labelle, M P Dombrowski
- 0800h **SM11B-1727** *POSTER* One-dimensional PIC (Particle In Cell) simulation of electrostatic solitary waves and double layers in a nonthermal electron distributed plasma: **C Choi**, K Rha, T Rhee, C Ryu, K W Min
- 0800h **SM11B-1728** *POSTER* Nonlinear Saturation of Cyclotron Maser Instability Associated With Energetic Ring-beam Electrons: **K Lee**, Y Omura, L Lee
- 0800h **SM11B-1729** *POSTER* A Comparative study of kinetic and inertial Alfvén wave instabilities in a Lorentzian dusty magnetoplasma: **N Rubab**, N Erkaev, D Langmayr, H Biernat
- 0800h **SM11B-1730** *POSTER* Electrostatic Solitary Waves (ESWs) observed by Kaguya near the Moon: **K Hashimoto**, M Hashitani, Y Omura, Y Kasahara, H Kojima, T Ono, H Tsunakawa
- 0800h **SM11B-1731** *POSTER* Vlasov simulation of electrostatic solitary structures in four-component plasmas: **T Umeda**, M Ashour-Abdalla, J S Pickett, M L Goldstein
- 0800h **SM11B-1732** *POSTER* Nonlinear Mirror Mode Structures in the magnetosheath: Two- and Three-dimensional Hybrid Simulations: **M Shoji**, Y Omura, L Lee
- 0800h **SM11B-1733** *POSTER* Simultaneous Observations of Multi-mode Echoes on IMAGE: Propagation, Reflection, and Scattering of Whistler-, Slow Z-, Fast Z-, LO-, and RX-mode Waves at Low Altitude (<5,000 km): **V S Sonwalkar**, K Mayank, A Reddy, S Hazra, R Proddaturi, D L Carpenter, B W Reinisch
- 0800h **SM11B-1734** *POSTER* Terrestrial Myriametric Radio Burst Observed by IMAGE and Geotail Satellites: **S F Fung**, L N Garcia, S A Boardsen, K Hashimoto, H Matsumoto
- 0800h **SM11B-1735** *POSTER* Understanding of the Dynamic Evolution of the Relativistic Electron Slot Region due to Radial and Pitch Angle Diffusion: **K Kim**, Y Shprits, D Subbotin, B Ni
- 0800h **SM11B-1736** *POSTER* The Modulation of VLF Wave Growth and Propagation by Global ULF Oscillations: **C Watt**, A W Degeling, R Rankin, E Spanswick, E F Donovan
- 0800h **SM11B-1737** *POSTER* Direct Modulation of Electron Precipitation by Global ULF Oscillations: **A W Degeling**, C Watt, R Rankin, E Spanswick, E F Donovan
- 0800h **SM11B-1738** *POSTER* Estimation of the radial diffusion coefficient using REE-associated ground Pc 5 pulsations: **A Fujimoto**, K Yumoto
- 0800h **SM11B-1739** *POSTER* THEMIS measurements of the spatial structure and temporal evolution of a dayside poloidal ULF wave event: **W Liu**, T E Sarris, X Li, R E Ergun, V Angelopoulos, K Glassmeier
- 0800h **SM11B-1740** *POSTER* THEMIS Pi2 observations near the dawn and dusk sectors in the inner magnetosphere: **H Kwon**, K Kim, D Lee, E Lee, K Takahashi, V Angelopoulos, K Glassmeier, Y Park, J W Bonnell, P R Sutcliffe
- 0800h **SM11B-1741** *POSTER* Space Technology 5 Multipoint Observations of Pc 2 Waves: **J A Cumnock**, G Le, J A Slavin, S M Imber
- 0800h **SM11B-1742** *POSTER* IDENTIFICATION OF FIELD LINE RESONANCES IN THE MAGNETOSPHERE USING THE SUPER DUAL AURORAL RADAR NETWORK (SUPERDARN): NEW "CROSS-POWER AND CROSS-PHASE" TECHNIQUE: **L Mazzino**, F R Fenrich
- 0800h **SM11B-1743** *POSTER* Gyrokinetic Particle Simulation Of Drift Compressional Modes In The Magnetosphere: **P Porazik**, Z Lin
- 0800h **SM11B-1744** *POSTER* Substorm Events Detected at High Latitude Groundbased Stations: **J Lee**, K Keika, A Lew, K Min
- 0800h **SM11B-1745** *POSTER* Multi-point measurements of the spatial extent and azimuthal mode number of ULF waves: **T E Sarris**, X Li, W Liu
- 0800h **SM11B-1746** *POSTER* Scattering of magnetic mirror trapped electrons by an Alfvén wave: **Y Wang**, W N Gekelman, P Pribyl, K Papadopoulos, A V Karavaev, X Shao, A S Sharma
- 0800h **SM11B-1747** *POSTER* Alfvén Wave Generation by a Rotating Magnetic Field Source: Theory, Modeling and Experimental Results: **X Shao**, A V Karavaev, N Gumerov, A S Sharma, K Papadopoulos, W N Gekelman, Y Wang, S T Vincena, P Pribyl
- 0800h **SM11B-1748** *POSTER* Pitch Angle Scattering of Electrons by Alfvén Waves Generated with Rotating Magnetic Field Source: **A V Karavaev**, X Shao, N Gumerov, A S Sharma, K Papadopoulos, W N Gekelman, P Pribyl, Y Wang, B Van Compernelle
- 0800h **SM11B-1749** *POSTER* Basic wave modes in multi-fluid MHD: **V G Merkin**, J Lyon
- 0800h **SM11B-1750** *POSTER* Effect of magnetosheath and solar wind flows on MHD wave mode conversion in the magnetosphere: **K Kim**, D Yu, D Lee
- 0800h **SM11B-1751** *POSTER* Generation of a few mHz compressional modes in the magnetosphere: **D Lee**, K Kim, K Kim
- 0800h **SM11B-1752** *POSTER* The South American Meridional B-field Array (SAMBA) and Pc4-5 Wave Studies: **N L Sterner**, E Zesta, A Boudouridis, M Moldwin, E Yizengaw, P J Chi
- 0800h **SM11B-1753** *POSTER* The Nature of Magnetospheric Electron Velocity Distribution Functions from Wave Observations: R F Benson, **A F Vinas**, V A Osherovich, J Fainberg, C M Purser

0800h **SM11B-1754** POSTER A statistical study of narrow-band ELF events observed at the South Pole: **MA Young**, M Lessard, C Weaver, A T Weatherwax

0800h **SM11B-1755** POSTER Field Line Resonance at Mercury: K Lee, **E Kim**, J Johnson

SM11C Moscone South: Poster Hall Monday 0800h
Moon-Magnetosphere Interactions at Jupiter and Saturn I
Posters (joint with P)

Presiding: **K C Hansen**, University of Michigan; **F Plaschke**, TU Braunschweig

0800h **SM11C-1756** POSTER Intense plasma wave emissions associated with Saturn's moon Rhea: **O Santolik**, D A Gurnett, G H Jones, P Schippers, F J Crary, J S Leisner, G B Hospodarsky, W S Kurth, C T Russell, M K Dougherty

0800h **SM11C-1757** POSTER Surface charging of Saturn's moon Rhea: G H Jones, **E Roussos**, A J Coates, F J Crary

0800h **SM11C-1758** POSTER The plasma environment of the magnetodisk of Saturn near Titan encounters as derived from ion densities measured by the Cassini/CAPS instrument: **K Szego**, Z Nemeth, G Erdos, L Foldy, M F Thomsen, D Delapp

0800h **SM11C-1759** POSTER The Anatomy of Two Nightside Magnetodisk Crossings near Titan: Z Nemeth, **K Szego**, L Foldy, M F Thomsen, D Delapp, A J Coates, A Wellbrock, Z Bebesi

0800h **SM11C-1760** POSTER Ion Composition of Titan's Ionosphere Observed during T9 Magnetotail Crossing: **RE Johnson**, E C Sittler, R E Hartle, J F Cooper, M Shappirio, D G Simpson

0800h **SM11C-1761** POSTER Investigating the plasma environment at Titan's orbit: **H T Smith**, A M Rymer, R E Johnson, D G Mitchell, A Wellbrock, A J Coates, D T Young

0800h **SM11C-1762** POSTER Titan's "Memory" of Saturn's Field as a Factor in its Plasma Interaction Features: **D Ulusen**, J G Luhmann, Y Ma, K Mandt, J H Waite, M K Dougherty, C T Russell, H Wei, S A Ledvina

0800h **SM11C-1763** POSTER Dynamics of pickup ion velocity distribution in Titan's plasma environment: 3D hybrid simulation and comparison with CAPS's observations: **D G Simpson**, A S Lipatov, E C Sittler, R E Hartle, J F Cooper

0800h **SM11C-1764** POSTER Hybrid Model Simulations Of Titan's Plasma Interactions: **S A Ledvina**, S H Brecht, T E Cravens

0800h **SM11C-1765** POSTER Distribution of high energy electron drop-outs in the upper atmosphere of Titan: Z Bebesi, **N Krupp**, K Szego, Z Nemeth, G Erdos, M Fraenz, S M Krimigis, D G Mitchell, D T Young, M K Dougherty

0800h **SM11C-1766** POSTER The Cassini Enceladus encounters in the view of energetic particle measurements: **N Krupp**, E Roussos, P Kollmann, Z Bebesi, A Mueller, G H Jones, S M Krimigis, D G Mitchell, A M Rymer, T P Armstrong, D C Hamilton, M K Dougherty, S A Livi, S Kempf, R Srama

0800h **SM11C-1767** POSTER Electron Flux Modeling in the Enceladus Plume: **N O Ozak**, T E Cravens, M E Campbell, M Richard, I P Robertson, A J Coates, S A Ledvina

0800h **SM11C-1768** POSTER The Source of Saturn's Extended Neutral Cloud: **B L Fleshman**, P A Delamere, F Bagenal

0800h **SM11C-1769** POSTER PLANETARY MAGNETOSPHERE PROBED BY CHARGED DUST PARTICLES: **Z Sternovsky**, M Horanyi, E Gruen, R Srama, S Auer, S Kempf, H Krueger

0800h **SM11C-1770** POSTER Observation and Simulation of Ion Flow Stagnation in the Enceladus Plume: **R L Tokar**, N Omid, T Averkamp, Z Wang, D A Gurnett, M F Thomsen, F J Crary

0800h **SM11C-1771** POSTER Studying the dynamic influence of the ionospheric and plume components of Enceladus' exosphere through simulations and observations: K Fisher, **CS Paty**, R L Tokar, M E Lindle, F J Crary, D T Young

0800h **SM11C-1772** POSTER Hemisphere coupling currents at Enceladus: Analytical modeling of Cassini magnetometer observations: **S Simon**, J Saur, H Kriegel, F M Neubauer, U M Motschmann, M K Dougherty

0800h **SM11C-1773** POSTER Characteristics of Jovian ionospheric Alfvén resonator observed by using wave modulations of L-burst emissions: **T Koshida**, T Shibata, S Taguchi, H Misawa

0800h **SM11C-1774** POSTER Moon-Planet and Exoplanet-Star Couplings: Common Electrodynamical Interaction Mechanisms Throughout the Universe: **J Saur**, T Grambusch, S Jacobsen

0800h **SM11C-1775** POSTER Modeling of the longitudinal modulation of the Io interaction: **S Hess**, B Bonfond, P A Delamere, V J Dols, D C Grodent, P M Zarka

0800h **SM11C-1776** POSTER Io's Plasma Interaction with the Jovian Magnetosphere: **R Winglee**, E M Harnett, J Waldock

0800h **SM11C-1777** POSTER Simulation of Io's Auroral Emission: Constraints on the Atmosphere in Eclipse: **L Roth**, J Saur, D F Strobel, K D Retherford, J R Spencer

0800h **SM11C-1778** POSTER Io's Extended Neutral Sulfur and Oxygen Clouds Supplied by Electron Impact Dissociation of an SO₂ Atmosphere: **V J Dols**, M H Burger, P A Delamere, F Bagenal

0800h **SM11C-1779** POSTER Kinetic processes at Io: **O Sebek**, P M Travnicek, R J Walker, P Hellinger

0800h **SM11C-1780** POSTER Jovian's plasma torus interaction with Europa. Plasma wake structure: 3D hybrid kinetic simulation and comparison with E4 flyby Galileo's observations: **A S Lipatov**, J F Cooper, W R Paterson, E C Sittler, R E Hartle

0800h **SM11C-1781** POSTER Plasma IMS Composition Measurements for Europa and Ganymede: **E C Sittler**, J F Cooper, R E Hartle, W R Paterson, A S Lipatov, N P Paschalidis, M A Coplan, T A Cassidy

0800h **SM11C-1782** POSTER Anticipating Juno: **A Shinn**, F Bagenal

Study of Earth's Deep Interior

DI11A Moscone South: Poster Hall Monday 0800h
New Views on the Lithosphere-Asthenosphere Boundary I
Posters (joint with MR, S, T, V)

Presiding: **M M Hirschmann**, University of Minnesota; **H Kawakatsu**, Earthquake Research Institute; **C A Rychert**, University of Bristol; **J B Gaherty**, Columbia University

0800h **DI11A-1820** POSTER Upper Mantle Convective Instability: linking the relatively abrupt flattening of seafloor with age and the seismic G-discontinuity through mantle melting?: **M E Burau**, E Parmentier, G Hirth

0800h **DI11A-1821** POSTER Asthenospheric Mantle Flow by Viscous Fingering Instabilities: **DS Weeraratne**, E Parmentier

0800h **DI11A-1822** POSTER An Experimental Investigation of Stress Driven Melt Segregation and Reactive Melt Infiltration: **DS King**, B K Holtzman, D L Kohlstedt

0800h **DI11A-1823** POSTER Global mapping of Lithosphere/Asthenosphere Boundary from surface wave tomography: **G Burgos**, J Montagner, E Beucler, J Trampert, M H Ritzwoller, Y Capdeville, N M Shapiro

0800h **DI11A-1824** *POSTER* TOMOGLOB-DR2010 : GLOBAL 3D UPPER MANTLE SHEAR WAVE VELOCITY, ANISOTROPY AND ATTENUATION: **Y R Ricard**, E Debayle

0800h **DI11A-1825** *POSTER* Shear-wave Splitting beneath Normal Oceanic Mantle: **H Kawakatsu**, A Takeo, P Kumar, M Shinohara, T Kanazawa, E Araki, K Suyehiro

0800h **DI11A-1826** *POSTER* Upper Mantle Structure of South America from Surface Wave Tomography: **J A Barron**, K F Priestley, D P McKenzie, E Debayle

0800h **DI11A-1827** *POSTER* Lithospheric structure beneath the Caribbean- South American plate boundary from S receiver functions: **J Masy**, A Levander, F Niu

0800h **DI11A-1828** *POSTER* Phase-velocity measurement of surface waves beneath the Philippine Sea from the ambient seismic noise interferometry: **A Takeo**, K Nishida, H Kawakatsu, T Isse, H Shiobara, T Kanazawa, H Sugioka

0800h **DI11A-1829** *POSTER* Local Study of Flexural Rigidity in Old Oceanic Lithosphere: **C Ramirez**, D S Weeraratne, D W Forsyth

0800h **DI11A-1830** *POSTER* Seismic Evidence for Melt at the Base of the Lithosphere Beneath Hotspots: **N C Schmerr**

0800h **DI11A-1831** *POSTER* Evidence for a gradual decrease of geoid to topography ratio along the Hawaiian island chain: **M Diamant**, C Cadio, I PANET

0800h **DI11A-1832** *POSTER* Lithosphere/Asthenosphere Structure beneath the Mendocino Triple Junction from the Analysis of Surface Wave, Ambient Noise, and Receiver Functions: **K Liu**, Y Zhai, A Levander, R W Porritt, R M Allen, B Schmandt, E Humphreys, L O'Driscoll

0800h **DI11A-1833** *POSTER* Lithospheric Deformation in the Rwenzori Region of the East African Rift From Receiver Functions and SKS Splitting: **I Woelbern**, B Homuth, G Rumpker

0800h **DI11A-1834** *POSTER* Lithosphere-Asthenosphere Boundary Beneath Regions of Recent Volcanism in the Basin and Range Province and Mojave Desert: **D W Forsyth**, C J Rau, T Plank, E Gazel, C Bendersky

0800h **DI11A-1835** *POSTER* Evidence for the thickening of the lithosphere beneath accretionary continental crust from the subsidence of intercontinental basins: **P J Holt**, J Van Hunen, M B Allen, H Bjørnseth

0800h **DI11A-1836** *POSTER* Isopycnicity, Thermal State and Secular Evolution of Cratonic Mantle Keels: **D W Eaton**, I D Bastow, J M Kendall, C Perry

0800h **DI11A-1837** *POSTER* Quantitative petrological constraints on the depth of the Lithosphere-Asthenosphere boundary and the implications for changes in cratonic lithosphere thickness through time: **K A Mather**, G Pearson, B A Kjarsgaard

0800h **DI11A-1838** *POSTER* A comparison of geophysical proxies for the LAB in southern Africa: **S Fishwick**, A G Jones, R L Evans

0800h **DI11A-1839** *POSTER* Reconciling Electromagnetic and Seismic Constraints on Lithospheric Thickness and Composition of the Kaapvaal Craton, South Africa: M R Muller, **J Fulla**, A G Jones

0800h **DI11A-1840** *POSTER* Are oceanic PP-P and SS-S differential travel times compatible with ocean cooling models?: **C M Eakin**, S D Goes, J E Ritsema

DI11B Moscone West: 3024 Monday 0800h
Earth's Lower Mantle: New Insights From Geophysics, Mineral Physics, Geodynamics, and Geochemistry I (*joint with MR, S, GP*)

Presiding: **A K McNamara**, Arizona State University; **M Murakami**, Tohoku University; **S D King**, Virginia Tech; **C J Weiss**, Virginia Tech

0800h **DI11B-01** Strong Thermal Anomalies in the Lowermost Mantle Explain a Large Fraction of Deep Earth Seismic Structure (*Invited*): **B S Schuberth**, H Bunge

0815h **DI11B-02** Thermal conductivity measurements for silicate perovskite and ferropericlase: Implications for the lowermost mantle and D": **G M Manthilake**, N de Koker, D J Frost

0830h **DI11B-03** Does the Spin Transition in Mantle Silicate Perovskite Change the Seismic Properties of the Lower Mantle? (*Invited*): **S Shim**, B Grocholski, K Catalli, W Sturhahn, V Prakapenka

0845h **DI11B-04** The Spin Transition in Iron and Generation of Lower Mantle Heterogeneity (*Invited*): **J W Hernlund**, R Nomura, K Hirose

0900h **DI11B-05** Phase assemblage, stability and density of pyroxenite at Lower-Mantle conditions: **K K Lee**, Z Du, S Pitcher, O D Tschauner

0915h **DI11B-06** A GEODYNAMIC AND MINERAL PHYSICS MODEL OF A SOLID-STATE ULTRALOW-VELOCITY ZONE: **D J Bower**, M Gurnis, J K Wicks, J M Jackson

0930h **DI11B-07** Geodynamic coupling between mantle seismic structure and core-mantle boundary topography: G Soldati, **L Boschi**, A M Forte

0945h **DI11B-08** Short term evolution of the basal magma ocean: **M Ulvrova**, S Labrosse, N Coltice, P J Tackley

Mineral and Rock Physics

MR11A Moscone South: Poster Hall Monday 0800h
Mind the Grain Boundaries! New Advances in Investigating Grain Boundaries and Their Impact on Mantle Processes I
Posters (*joint with DI*)

Presiding: **T Hiraga**, ERI, Univ. Tokyo; **S Demouchy**, Geosciences Montpellier -CNRS-; **D L Kohlstedt**, University of Minnesota

0800h **MR11A-1864** *POSTER* A granular model for anelasticity due to grain boundary sliding: **Y Takei**, C McCarthy

0800h **MR11A-1865** *POSTER* Rheological systematics of Forsterite + Enstatite aggregates and its application to Oman ultramylonite: **M Tasaka**, T Hiraga, K Michibayashi

0800h **MR11A-1866** *POSTER* Microstructure of a low temperature shear zone in mantle peridotite from Southern Spain: **K Johannesen**, J P Platt

0800h **MR11A-1867** *POSTER* A new model of grain size evolution in the lithosphere: Geodynamic implications: **A Rozel**, Y R Ricard, D Bercovici

0800h **MR11A-1868** *POSTER* Experimental deformation of natural dunite: Effects of suppressed diffusion creep on microstructural evolution: **P A Skemer**, M Sundberg, G Hirth, R F Cooper

0800h **MR11A-1869** *POSTER* Microstructure, shear modulus and attenuation in igneous rocks approaching melting at seismic frequencies: **S Chien**, S A Redfern

0800h **MR11A-1870** *POSTER* Mind the subgrain boundaries: Low-T fluid-induced dislocation pipe diffusion in olivine: **O Pluemper**, Q Ramasse, H Austrheim

0800h **MR11A-1871** *POSTER* 3D Model of Melt Distribution in Partially Molten Dunite: **G Garapic**, U Faul, E Brisson

0800h **MR11A-1872** POSTER Intragranular dynamic recrystallization of quartz in naturally deformed quartz-feldspathic mylonite: microkinking-induced bulging recrystallization: **H Xia**, J Liu, G A Davis

0800h **MR11A-1873** POSTER ROLE OF SUBSTRATE ON QUARTZ CEMENTATION IN QUARTZ AGGREGATES: **J R Farver**, D Winslow, C Onasch

MR11B Moscone South: Poster Hall Monday 0800h
Mudstone Multiphysics I Posters (joint with H, V, T)

Presiding: **T A Dewers**, Sandia National Laboratories; **J E Heath**, Sandia National Laboratories

0800h **MR11B-1874** POSTER Adsorption, Permeability, and Effective Stress in the Barnett Shale, Texas, USA: **J P Vermilyen**, M D Zoback

0800h **MR11B-1875** POSTER Preferred Orientation and Anisotropy of Clay minerals and Pores in Posidonia Shales: **W Kanitpanyacharoen**, K Chen, H Wenk

0800h **MR11B-1876** POSTER Sustaining Fracture Area and Conductivity of Gas shale Reservoirs for Enhancing Long-term Production and Recovery: **R Suarez-Rivera**, S Marino, A Ghassemi

0800h **MR11B-1877** POSTER Gas adsorption in mudstones between reservoir layers of natural gas dissolved in water: **K Onishi**, K Kaku, Y Sato, H Kosukegawa, S Yamaguchi

0800h **MR11B-1878** POSTER Use of Wireline Logs to Estimate Strength of Cap Rock Lithologies: **E S Petrie**, J P Evans

0800h **MR11B-1879** POSTER Pore-Lining Composition and Capillary Breakthrough Pressure of Mudstone Caprocks: Sealing Efficiency of Geologic CO₂ Storage Sites: **J E Heath**, **T A Dewers**, **B J McPherson**, P G Kotula

0800h **MR11B-1880** POSTER Experimentally derived model to predict permeability behavior of mudstones: **J Schneider**, P B Flemings, R Day-Stirrat, J T Germaine

0800h **MR11B-1881** POSTER Recent Advances in the Freely Available Discrete Fracture Reservoir Simulator, NFFLOW: **S King**, **N Sams**, **K Gyovai**, G S Bromhal, D Crandall

0800h **MR11B-1882** POSTER Micropillar Compression Technique Applied to Micron-Scale Mudstone Elasto-Plastic Deformation: **T A Dewers**, **B Boyce**, T Buchheit, J E Heath, T Chidsey, J Michael

MR11C Moscone South: Poster Hall Monday 0800h
Planetary Ices: From Deep Interiors to Astrobiology I Posters (joint with P)

Presiding: **I Daniel**, Universite de Lyon; **B Militzer**, Univ of CA-Berkeley

0800h **MR11C-1883** POSTER Room-Temperature Equation of State for CO₂-I: **H P Scott**, T W Kinney, M R Frank, J Lin

0800h **MR11C-1884** POSTER Laser-Driven Shock Studies of Precompressed CO₂ in the Diamond Anvil Cell: **D K Spaulding**, J R Rygg, J Eggert, S Uhlich, G Collins

0800h **MR11C-1885** POSTER Rheology of two-phase aggregates of H₂O and CO₂ ices: **T Kubo**, W B Durham

0800h **MR11C-1886** POSTER High pressure, high temperature studies of methane-water mixtures: **T J Hittinger**, A F Goncharov, D A Dalton, R S McWilliams, M Mahmood

0800h **MR11C-1887** POSTER Observations of gas hydrate dissociation below the ice point with microfocus X-ray computed tomography: **H Ohno**, H Narita, J Nagao

0800h **MR11C-1888** POSTER Thermoelastic properties of ice VII and its high-pressure polymorphs: **Y Asahara**, K Hirose, Y Ohishi, N Hirao, M Murakami

0800h **MR11C-1889** POSTER Experimental deformation and grain growth of pure water ice aggregates: **S Diebold**, **J H De Bresser**, W B Durham, L A Stern

0800h **MR11C-1890** POSTER Complexity in low-temperature phase diagrams of planetary ices: phase transition in bischofite, MgCl₂·6H₂O: **E Bobocioiu**, R Caracas

0800h **MR11C-1891** POSTER High Pressure Strength Study on NaCl: **Z MI**, S R Shieh, Title of Team: high pressure mineral physics group

0800h **MR11C-1892** POSTER Design, Construction and Calibration of a Near-Infrared Four-Color Pyrometry System for Laser-Driven High Pressure Experiments: **S J Ali**, R Jeanloz, G Collins, D K Spaulding

Seismology

S11A Moscone South: Poster Hall Monday 0800h
Recent Advances in Infrasound Science I Posters (joint with A, EP, OS, V)

Presiding: **S Arrowsmith**, Los Alamos National Laboratory; **M A Hedlin**, U.C. San Diego; **A Hutko**, IRIS DMC; **J M Lees**, University of North Carolina; **S R McNutt**, UAFGI; **K T Walker**, IGPP/SIO/UCSD

0800h **S11A-1920** POSTER Observing Infrasound and Atmospheric Pressure with the NSF EarthScope USArray Transportable Array: **F L Vernon**, M A Hedlin, R W Busby, R Woodward

0800h **S11A-1921** POSTER Tracking Severe Thunderstorm Outflows and Local Pressure Changes Using NSF EarthScope USArray TA Pressure Sensors: **J E Tytell**, F L Vernon, J A Eakins

0800h **S11A-1922** POSTER A Network of Infrasonic Arrays in Utah: **V Burlacu**, S Arrowsmith, K L Pankow, M J Hale, C Hayward, B W Stump

0800h **S11A-1923** POSTER A large scale infrasound array deployment in the American West: **C L Talmadge**, R Waxler, D Kleinert, S Nava, J Assink, H Buchanan, B Carpenter, J Heffington

0800h **S11A-1924** POSTER A study of infrasonic signal evolution with range: **J D Assink**, R Waxler, C L Talmadge, P Blom, D P Drob

0800h **S11A-1925** POSTER Travel Time and Signal Characteristics of Infrasonic Arrivals at Regional Distances: **P T Negraru**, E T Herrin, P Golden

0800h **S11A-1926** POSTER Locating Events using Infrasound Data: **S Arrowsmith**, D Anderson, R W Whitaker

0800h **S11A-1927** POSTER Recent enhancements of the PMCC infrasound signal detector: **N Brachet**, P Mialle, R S Matoza, **A LE PICHON**, Y Cansi, L Ceranna

0800h **S11A-1928** POSTER On excitation problems of an elastodynamic system with an open boundary condition: **N Kobayashi**

0800h **S11A-1929** POSTER Miniaturization and Autonomous Deployment of the Optical Fiber Infrasound Sensor: **S DeWolf**, K T Walker, M A Zumberge

0800h **S11A-1930** POSTER Imaging the atmosphere using volcanic infrasound recorded on a dense local sensor network: **O E Marcillo**, J B Johnson, R Johnson

0800h **S11A-1931** POSTER Azimuthal Traveltime and Amplitude Anomalies of Tropospheric and Thermospheric Acoustic Waves From the Explosive Eruption of the Sakurajima Volcano in Japan: **S Watada**, N Arai, T Murayama, M Iwakuni, M Nogami, T Oi, Y Imanishi, Y Kitagawa

0800h **S11A-1932** POSTER Infrasound data inversion for atmospheric remote sensing: Application to volcanic eruption signals from Vanuatu: **J Lalande**, A LE PICHON, E Blanc, P Blanc-Benon, R S Matoza, O Sèbe, J Vergoz, J Guilbert

0800h **S11A-1933** POSTER Infrasound Studies of Alaskan Volcanoes: **S R McNutt**, K Arnoult, C Szuberla, J V Olson, C R Wilson

0800h **S11A-1934** POSTER Vent geometry detected from infrasound observation on Villaricca volcano, Chile: A Goto, **J B Johnson**, R W Sanderson, J Anderson, N R Varley

0800h **S11A-1935** POSTER Volcanic Vent Geometry and Infrasonic Radiation via FDTD Modeling: **K Kim**, J M Lees

S11B Moscone South: Poster Hall Monday 0800h
Role of Scattering in Seismic Interferometry and Time Reversal I Posters

Presiding: **C S Larmat**, Los Alamos National Laboratory; **H Sato**, Tohoku Univ

0800h **S11B-1936** POSTER Seismic interferometry for source-localized passive data in Nankai Trough area -Selection of receivers based on stationary sources-: **S Minato**, T Matsuoka, T Tsuji, K Obana

0800h **S11B-1937** POSTER Reconstruction of Green's function from random noise sources in a multiple scattering medium: **L Margerin**, H Sato

0800h **S11B-1938** POSTER Retrieval of Green's Function Having a Coda Tail from the Cross-Correlation Function in a Scattering Medium on the Basis of the First Order Born Approximation: **H Sato**

0800h **S11B-1939** POSTER Deep Structure and Earthquake Generating Properties in the Yamasaki Fault Zone Estimated from Dense Seismic Observation: **K Nishigami**, T Shibusaki, H Katao, S Yamaguchi, Y Mamada

0800h **S11B-1940** POSTER Retrieval of the Cross Correlation Function in a Random Inhomogeneous Medium for Uncorrelated Sources Using the Mean Wavefield: **K Sawazaki**, H Fujiwara

0800h **S11B-1941** POSTER Retrieval of acoustic Green's function for random media and the farfield approximation: **Y Zheng**, M C Fehler

0800h **S11B-1942** POSTER The Microtremor H/V Spectral Ratio and Lateral Heterogeneity: **T Hirokawa**, S Matsushima, H Kawase, F J Sanchez-Sesma, J J Pérez Gavilán, M Suarez, V Salinas

0800h **S11B-1943** POSTER Two-dimensional sensitivity kernels for cross-correlation functions of background surface waves: **K Nishida**

0800h **S11B-1944** POSTER A Theory for H/V Spectral Ratio: Application for a Layered Medium: **F J Sanchez-Sesma**, H Kawase, S Matsushima, M Rodriguez, U Iturraran-Viveros, F Luzon, L Margerin, M Campillo

0800h **S11B-1945** POSTER Source Distribution Corrected Ambient Noise Attenuation Measurements: **N Harmon**

0800h **S11B-1946** POSTER Time-space symmetry and convergence rate of coda correlations: role of multiple scattering: E F Larose, A Derode, **M Campillo**, P Roux

0800h **S11B-1947** POSTER Characteristics of the autocorrelation function decay rate of ambient noise: **T Mouri**, M Furumoto, Y Morita

0800h **S11B-1948** POSTER Time Reverse Imaging of Long-Period on Mt Etna: **G S O'Brien**, I Lokmer, L De Barros, C J Bean, G Saccorotti, J Metaxian, D Patane'

0800h **S11B-1949** POSTER Time reversal source imaging and GRiD MT monitoring with W-phase in Japan: **H Tsuruoka**, L Rivera, H Kawakatsu, H Kanamori

0800h **S11B-1950** POSTER Averaging Horizontal-to-Vertical (H/V) Spectral Ratios of Earthquake Motions for Velocity Inversions Based on Diffuse Field Theory for Plane Waves: **S Matsushima**, F J Sanchez-Sesma, H Kawase

0800h **S11B-1951** POSTER Exploiting head-wave artifacts in seismic interferometry: **T D Mikesell**, K Van Wijk, J Nichols, A Calvert

0800h **S11B-1952** POSTER Mode Conversion and Energy Partitioning at Active Volcanoes: **M Yamamoto**, T Nishimura, T Tsutsui, M Iguchi

0800h **S11B-1953** POSTER Time-Reversal Study of the Hemet (CA) Tremor Source: **C S Larmat**, P A Johnson, R A Guyer

0800h **S11B-1954** POSTER Dependence of 'Signal to Noise' ratio of Green's functions constructed from ambient seismic noise on stacking time using 17 years of data and 10 stations of German Regional Seismic Network (GRSN): **D Garus**, U Wegler

0800h **S11B-1955** POSTER Including wave interference in radiative transfer theory for P-SV waves: **M M Haney**, K Van Wijk, R Snieder

0800h **S11B-1956** POSTER Surface-Wave Isolation with the Interferometrically Obtained Green Tensor: **K Van Wijk**, T E Blum, A Lamb, T D Mikesell

S11C Moscone West: 2009 Monday 0800h
Toward Elucidating the Physics of Fault Tremor and Slow Slip I
(joint with G, H, MR, T)

Presiding: **H Houston**, University of Washington; **T I Melbourne**, Central Washington University

0800h **S11C-01** GPS and LBT inferences of the August 2010 and August 2009 ETS Events: **T I Melbourne**, R M Flake, M Santillan, C W Scrivner

0815h **S11C-02** Evolution of Cascadian ETS: Initiation, Propagation, and Rapid Tremor Reversals: **H Houston**, B Delbridge

0830h **S11C-03** Tremor as observed by the Array of Arrays in Cascadia: **A Ghosh**, J E Vidale, K C Creager

0845h **S11C-04** A 10-day tremor episode reverse-engineered with the EarthScope Array of Arrays: **J E Vidale**, A Ghosh, J Sweet, K C Creager

0900h **S11C-05** Striations and tremor duration controlling diverse tremor behavior: from western Shikoku to world tremor zones *(Invited)*: **S Ide**

0915h **S11C-06** Coherent Tremor in the Cascadia Subduction Zone: **J G Armbruster**, W Kim

0930h **S11C-07** Time dependent slip distributions of three slow slip events in Guerrero (Mexico): 2002, 2006 and 2010: **M Radiguet**, M M Vergnolle, F Cotton, M Campillo, N Cotte, V Kostoglodov, B Valette, A Walpersdorf, J Santiago, I Manighetti, E Boucher

0945h **S11C-08** The source process of the 2009-2010 long-term slow slip event in the Bungo channel region based on Hi-net tilt and GEONET GPS data: **H Hirose**, T Kimura, K Obara

Tectonophysics

T11A Moscone South: Poster Hall Monday 0800h **Advances in Understanding the Central Andean Crust and Mantle Through Seismology and Geochemistry I Posters** (joint with S, V)

Presiding: S M Kay, Cornell University; R W Clayton, Caltech

0800h **T11A-2040 POSTER** Did growth of high Andes slow down Nazca plate subduction?: **J Quinteros**, S V Sobolev

0800h **T11A-2041 POSTER** Surface topographic response to lithospheric instabilities and “driplets” beneath the central Andean: **A Beiki-Ardakani**, R N Pysklywec, L M Schoenbohm

0800h **T11A-2042 POSTER** Numerical modeling of flat-slab subduction in South America: the influence of thick overriding lithosphere: **V Manea**, M Perez-Gussinye, M Manea

0800h **T11A-2043 POSTER** Local Seismicity And Seismo-Tectonic Structure Of The Aysén Region, Southern Chile: **H Agurto**, A Rietbrock, K Bataille, S E Barrientos, M R Miller

0800h **T11A-2044 POSTER** Local seismicity observed by a temporal network in the Villarrica-Valdivia region, South-Central Chile: **Y Dzierma**, M M Thorwart, C Siegmund, W Rabbel, D Comte, K Bataille, M Iglesia, C Prezzi

0800h **T11A-2045 POSTER** The Southern Central Andes (33°-36°S): Relationships Between Shortening, Topography, Structural Elevation, Denudation and Lithospheric Structure: **L Giambiagi**, J Mescua, F Bechis

0800h **T11A-2046 POSTER** Shear-wave splitting and mantle anisotropy in the southern South American subduction zone: **J G MacDougall**, K M Fischer, M L Anderson

0800h **T11A-2047 POSTER** Dynamics of Flat Slab Subduction: Focal Mechanisms, Ridge Buoyancy, and Slab Tear in Central Argentina: **K Olsen**, M L Anderson, L Linkimer, H J Gilbert, S L Beck, G Zandt, P M Alvarado

0800h **T11A-2048 POSTER** Lateral Crustal Velocity Variations across the Andean Foreland in San Juan, Argentina from the JHD Analysis and 3D P and S Velocity inversion: **B B Asmerom**, J Chiu, J Pujol, R Smalley

0800h **T11A-2049 POSTER** Shear Wave Velocity Structure of the Pampean Flat Slab Region from Ambient Noise Tomography: **R C Porter**, S L Beck, G Zandt, L M Warren, P M Alvarado, H J Gilbert

0800h **T11A-2050 POSTER** The SOUTHERN PUNA Seismic Experiment: Shape of the Subducting Nazca Plate, Areas of Concentrated Mantle and Crustal Earthquakes, and Crustal Focal Mechanisms: **P Mulcahy**, C Chen, S M Kay, L D Brown, P M Alvarado, E A Sandvol, B Heit, X Yuan

0800h **T11A-2051 POSTER** SEISMIC ANISOTROPY BENEATH THE SOUTHERN PUNA PLATEAU: **F J Calixto Mory**, D D Robinson, E A Sandvol, S M Kay, D Comte, P M Alvarado, B Heit, X Yuan

0800h **T11A-2052 POSTER** Missing shortening in the thick-skinned retroarc thrust belt of the central Andes, northwestern Argentina, ~25°S: **D M Pearson**, P A Kapp, P G DeCelles, P W Reiners

0800h **T11A-2053 POSTER** Sedimentary and provenance record of the Cianzo basin, Eastern Cordillera, NW Argentina: Implications for transition from postrift subsidence to Cenozoic Andean shortening: **B C Siks**, B K Horton

0800h **T11A-2054 POSTER** High resolution image of the Lithosphere-Asthenosphere Boundary of the subducting Nazca plate beneath northern Chile: **F Sodoudi**, X Yuan, G Asch, R Kind

0800h **T11A-2055 POSTER** Tomographic Imaging of the Peru Subduction Zone beneath the Altiplano and Implications for Andean Tectonics: **P M Davis**, E J Foote, I Stubailo, K E Phillips, R W Clayton, S Skinner, L Audin, H Tavera, L A Dominguez Ramirez, M L Lukac

0800h **T11A-2056 POSTER** Are scale detrital zircon age spectra from modern sands representative of their catchment sources? : An empirical test from the Eastern Cordillera of Colombia: **J Knowles**, A Bande, J C Ramirez, A Mora, B K Horton, J Nie, J Saylor

0800h **T11A-2057 POSTER** Provenance of Cretaceous-Oligocene Sedimentary Strata of the Floresta Basin, Eastern Cordillera, Colombia and Tectonic Implications: **J Saylor**, J Corredor, A Mora, B K Horton, J Nie

0800h **T11A-2058 POSTER** Tectonomorphic evolution of the Eastern Cordillera fold-thrust belt, Colombia: New insights based on apatite and zircon (U-Th)/He thermochronometers: **B Ghorbal**, D F Stockli, A Mora, B K Horton, V Blanco, N Sanchez

0800h **T11A-2059 POSTER** Controlled-Source Seismic Investigation of the Generation and Collapse of a Batholith Complex, Coast Mountains, Western Canada: **K Wang**, J A Hole, A L Stephenson, G Spence, K C Miller, S H Harder, G M Kaip, R M Clowes

T11B Moscone South: Poster Hall Monday 0800h **Earthquake Geology and Active Tectonics in South and East Asia I Posters** (joint with S)

Presiding: Y Awata; K Chang, National Taipei University of Technology; E Yeh, National Taiwan Normal University

0800h **T11B-2060 POSTER** Spatiotemporal variability in surface rupturing behavior of thrust fault: Insights from paleoseismology for the 2008 Iwate-Miyagi Nairiku, Japan, earthquake: **T Maruyama**, S Toda, M Omata, Y Kohriya, Y Mori

0800h **T11B-2061 POSTER** Imaging of the seismogenic source fault in the fold-and-thrust belt, Niigata basin, central Japan: **N Kato**, H Sato, S Abe, N Kawai, H Saito, T Iwasaki, K Shiraishi, T Ishiyama, M Inaba

0800h **T11B-2062 POSTER** Crustal structure off the northwestern Sado Island in the eastern margin of the Japan Sea deduced from seismic refraction and reflection surveys: **T Sato**, T No, S Kodaira, N Takahashi, Y Kaneda, N Kato, E Kurashimo, T Ishiyama, S Koshiya, T Yoshida, T Toyoshima, M Ishikawa, S Toda, H Saito, S Abe, H Sato

0800h **T11B-2063 POSTER** Hidden Rift Structure Beneath a Thick Sedimentary Basin in the Niigata Region, Japan: **T Takeda**, B Enescu, Y Asano, K Obara, S Sekiguchi

0800h **T11B-2064 POSTER** 3-D simulation of temporal change in tectonic deformation pattern and evolution of the plate boundary around the Kanto Region of Japan due to the collision of the Izu-Bonin Arc: **A Hashima**, T Sato, T Ito, T Miyauchi, H Furuya, N Tsumura, K Kameo, S Yamamoto

0800h **T11B-2065 POSTER** Kozu-Matsuda fault system in northern Izu collision zone, western part of Kanagawa Prefecture, central Japan: **K Odawara**, T Aketagawa, A Yoshida

0800h **T11B-2066 POSTER** Re-examination of the damage distribution and the source of the 1828 Sanjo Earthquake in central Japan: **A Nishiyama**, K Satake, T Yata, A Urabe

0800h **T11B-2067 POSTER** Hydrogen Gas Emissions from Active Faults and Identification of Flow Pathway in a Fault Zone: **T Ishimaru**, M Niwa, H Kurosawa, K Shimada

0800h **T11B-2068 POSTER** Basement Imaging Using Sp Converted Phases in Chia-Nan, Taiwan: **J Wei**, Y Wu, M Chuang, C Chang

- 0800h **T11B-2069** POSTER Seismogenic structure of the major collision boundary in the southeastern Taiwan: **K Kim**, K Chen, J Chiu, S Kang, B Suk
- 0800h **T11B-2070** POSTER Outer rise earthquakes in front of the Northern Manila Trench: **H Hsueh**, E Chang
- 0800h **T11B-2071** POSTER TI: Geohazards in Related to Neotectonic Patterns of Taiwan Based on Recent Multi-Source Data: **C Lu**, Y Chan, L Kuo, K Chang, J Lee, C Chen
- 0800h **T11B-2072** POSTER Cyclic strain rate variation and earthquake occurrence in northern Hualien, Taiwan: **K Chen**, Y Chan, J Hu, L Kuo
- 0800h **T11B-2073** POSTER Fault linkages and activities in a transition zone of compression to transpression in Hsinchu area, northwestern Taiwan based on 3-D structural geometry: **H Huang**, J Hu, S Huang, C Huang
- 0800h **T11B-2074** POSTER Transient Upper Crustal Tear Illuminated by the Chi Chi Earthquake: Results from Strain Inversions in the Luliao Region, Taiwan: **E A Lamont**, J Lewis, T B Byrne, J M Crespi, R Rau
- 0800h **T11B-2075** POSTER Sediment Yields Revealed and Fluid Modelling by Twice LiDAR Surveys in Active Tectonics Area: **Y Hsieh**, Y Chan, J Hu, C Lin
- 0800h **T11B-2076** POSTER Deriving Parameters of Topographic Diffusion and Incision Models by Simulating Space-Time Equivalent Valley Evolution with LiDAR DTM: **C Yeh**, Y Chan, M Lin
- 0800h **T11B-2077** POSTER 3D crustal stress inversion for Taiwan region: **RY Chuang**, K M Johnson, Y Wu, Y Yang
- 0800h **T11B-2078** POSTER Detection of deformation front by SAR interferometry in Tainan area, southwestern Taiwan: **Y Wu**, M Huang, C Chang, H Tung, J Hu
- 0800h **T11B-2079** POSTER Joint Inversion of Seismic and Geodetic Data for the Source of the 4th March 2010 M_w 6.3 Jia-Shian, SW Taiwan, Earthquake: **M Huang**, D S Dreger, R Burgmann, J Suppe, M Hashimoto
- 0800h **T11B-2080** POSTER Paleoseismology study of Luyeh fault, the west branch of southern-most Longitudinal Valley fault: **C Chi**, W Chen
- 0800h **T11B-2081** POSTER Thermal Structure and Exhumation History of Fold and Thrust Belt in Miaoli Area, Central Taiwan: **S Tu**, Y Lee
- 0800h **T11B-2082** POSTER Pseudotachylite in the Tananao Metamorphic Complex, Taiwan: Occurrence and Dynamic Phase Changes of Fossil Earthquakes: **H Chu**, S Hwang, P Shen, T Yui
- 0800h **T11B-2083** POSTER Structural correlation in metamorphic complex- a case study on Wanrung area, Eastern Taiwan: **G Ho**, W Lo
- 0800h **T11B-2084** POSTER Analysis of the Fractures pattern at the Chingshui geothermal field, Taiwan: **C Lu**, W Lo, S Song
- 0800h **T11B-2085** POSTER Deep structure and seismogenesis of the North-South Seismic Zone in Southwest China: **Z Wang**, D Zhao, J Wang
- 0800h **T11B-2086** POSTER Strain Behavior in Eastern Tibet Blocks: **Z Zhang**, R McCaffrey, P Zhang
- 0800h **T11B-2087** POSTER New geomorphic evidence probably provided by recent activities of the Gyaring Co Fault, Central Tibet: **L Chung**, Y Chen, K Yu, Z Cao, G Yin
- 0800h **T11B-2088** POSTER Strain partitioning in Sumatra: the Sumatra fault revealed by local seismicity: O Weller, D Lange, **F J Tilmann**, D H Natawidjaja, A Rietbrock, R Collings
- 0800h **T11B-2089** POSTER Seismic Structure Across the 2004 Great Sumatra Earthquake Rupture Zone From a Joint Analysis of Long Offset Reflection and Wide Angle Refraction Seismic Data: **N D Hananto**, S C Singh, A Chauhan, H D Carton
- 0800h **T11B-2090** POSTER Geological evidences of the fifth model for the tsunami generation in ocean floor off northwest Sumatra during the 2004 Sumatra-Andaman earthquake: **K Hirata**, H Permana, T Fujiwara, U Udrek, E Z Gaffar, M Kawano, Y S Djajadihardia, K Arai
- 0800h **T11B-2091** POSTER Discontinuous character of the Wadati-Benioff zone in the Banda Arc region: a consequence of a cyclic character of the process of subduction: **R Matejkova**, A Spicak, J Vanek
- 0800h **T11B-2092** POSTER Recent coastal uplift along the southwestern coast of Myanmar from geomorphic investigations: **J H Shyu**, Y Wang, T Aung, K Lin, K E Sieh, S Tun

T11C Moscone South: Poster Hall Monday 0800h
Lithospheric Structure of East Asia I Posters (*joint with S*)

Presiding: **Y Sun**, MIT; **P Chen**, University of Wyoming

- 0800h **T11C-2093** POSTER LATERAL VARIATION OF THE CONRAD DISCONTINUITY IN THE KOREAN PENINSULA: **D Chi**, T Hong, X He
- 0800h **T11C-2094** POSTER Multi-scale Finite-frequency Traveltime Tomography of the Lithospheric Structure Beneath North Vietnam: **Y Pan**, S Hung, B Huang, W Huang
- 0800h **T11C-2095** POSTER Characteristics of the Cenozoic crustal deformations in SE Korea and its vicinity due to major tectonic events: **M Son**, J Kim, C SONG, Y Sohn, I Kim
- 0800h **T11C-2096** POSTER Non-linear Finite-Frequency Waveform Inversion for 1-D Structures: **K Wan**, S Ni, L Zhao
- 0800h **T11C-2097** POSTER Full 40 km crustal reflection seismic datasets in several Indonesian basins: **M G Dinkelman**, J W Granath, J M Christ, P A Emmet, D E Bird
- 0800h **T11C-2098** POSTER Integrated Analysis on Gravity and Magnetic Fields of the Hailar Basin, NE China: Implications for Basement Structure and Deep Tectonics: **B Sun**, L Wang, P Dong, Title of Team: Scientific Team of Applied Geophysics
- 0800h **T11C-2099** POSTER On comparison between 2-D magnetotelluric FEM modeling using triangular and rectangular elements along sea-land array: **T Minami**, H Toh, N Oshiman
- 0800h **T11C-2100** POSTER A seismological constraint on the age of a subducting slab: the Huatung basin offshore Taiwan: **Y Chang**, B Kuo
- 0800h **T11C-2101** POSTER Observation, Analysis and Application of First-arrival Times from Active-source Experiments in Taiwan: **Y Lin**, L Zhao, S Hung
- 0800h **T11C-2102** POSTER Lithospheric structure beneath Mt. Fuji inferred from grid search inversion of teleseismic receiver functions and surface wave dispersion: **S Miyabayashi**, T Igarashi, Y Aoki, M Takeo
- 0800h **T11C-2103** POSTER Multi-Step Modeling of Receiver Functions Combined With Constraints From Seismic Tomography: Crustal Structure Beneath Southeastern China: **Y Chen**, H Tkalcic, R Liu, H Zhibin, L Sun, W Chan
- 0800h **T11C-2104** POSTER Crustal architecture of the Sikkim-Darjeeling Himalaya: **S Mitra**, S S Rai, V Joshi
- 0800h **T11C-2105** POSTER Structures related to a Miocene mafic tephra-filled volcanic neck (Yangpo diatreme) in the Janggi Basin, SE Korea: **S Jung**, M Kim, C Kwon, M Son, Y Sohn

0800h **T11C-2106** POSTER Classification, cross-cutting relationships, and zircon ages (SHRIMP U-Pb) of dyke swarms in the Proterozoic Sancheong anorthosites, south Korea: **M Kim**, M Son, J Kim, S Ahn, I Kim

0800h **T11C-2107** WITHDRAWN

0800h **T11C-2108** POSTER 3-D modeling tectonic structures beneath north-eastern Taiwan using gravity data: **Y Lo**, H Yen

0800h **T11C-2109** POSTER The Moho relief and the tectonic implications in North Vietnam using gravity and magnetic data: **H Hsieh**, H Yen, D Toan

0800h **T11C-2110** POSTER Tectonic Evolution of the Baiyinduxi Group: Insights from Detrital Zircon Geochronology, Bainaimiao, Inner Mongolia, China: **C Gu**, Z Zhou

0800h **T11C-2111** POSTER Analyses of fracture pattern and slope stability of road-cut sections in the northwestern Daegu, SE Korea: **K Ko**, J Choi, Y Kim, Title of Team: Geologic Structure and Geohazard Research Group

0800h **T11C-2112** POSTER The crustal and mantle velocity structure in central Asia from 3D travelttime tomography: **Y Sun**, R V Martin, M N Toksoz, S Pei

0800h **T11C-2113** POSTER THE CRUSTAL EVOLUTIONARY HISTORY OF THE CATHAYSIA BLOCK FROM THE PALEOPROTEROZOIC TO MESOZOIC: **L Longming**, M Sun, Y Wang, G Xing

T11D Moscone South: Poster Hall Monday 0800h
Subduction Zone Segmentation Over Multiple Earthquake Cycles I Posters (joint with G, NH, S)

Presiding: **C Goldfinger**, Oregon State University; **AJ Meltzner**, Nanyang Technological University; **I Shennan**, Durham University

0800h **T11D-2114** POSTER A New View on the Space-Time Pattern of Great or Large Earthquakes along the Northern Japan to Southern Kurile Trenches: **T Harada**, K Satake, K Ishibashi

0800h **T11D-2115** POSTER Three Kanto Earthquakes Inferred from the Tsunami Deposits and the Relative Sea Level Change in the Miura Peninsula, Central Japan: **H Kim**, K Shimazaki, T Chiba, T Ishibe, M Okamura, H Matsuoka, Y Tsuji, K Satake

0800h **T11D-2116** POSTER Water velocity inferred from tsunami boulders around Hashigui-iwa, Pacific side of central Japan: **H Maemoku**, A Nagai, M Shishikura, T Echigo, Y Namegaya

0800h **T11D-2117** POSTER Hyper-cycle of the Nankai Earthquake inferred from tsunami deposits accumulated in lakes along the Nankai Trough, past 2000 to 5000 years: **M Okamura**, H Matsuoka

0800h **T11D-2118** POSTER Delayed Segment Rupture during Great Earthquake along the Nankai Trough - Estimation from Historical Documents and Tsunami Trace Heights of the 1707 Hoi Earthquake -: **K Imai**, A Nishiyama, T Maeda, T Ishibe, K Satake, T Furumura

0800h **T11D-2119** POSTER Geometry of the Philippine Sea plate subducting beneath the southwestern Nankai seismogenic zone: **A Nakanishi**, S Kodaira, G Fujie, K Obana, T Takahashi, Y Yamamoto, T Sato, K Kashiwase, H Fujimori, Y Kaneda

0800h **T11D-2120** POSTER Difference of the seismic structure between the Hyuga-nada and the Nankai seismogenic segments: **Y Yamamoto**, K Obana, T Takahashi, A Nakanishi, S Kodaira, Y Kaneda

0800h **T11D-2121** POSTER Seismogenic Fault Geometry of 2010 Mw 7.1 Solomon Islands Earthquake: **Y Kuo**, C Ku, F W Taylor, B Huang, Y Chen, W Chao, H Huang, Y Kuo, Y Wu, J Suppe

0800h **T11D-2122** POSTER The Role of Deep Subducted Seamounts in Earthquake Segmentation along Subduction Zones: **S C Singh**, N D Hananto, M Mukti, A Chauhan, D P Robinson, S Das, H D Carton, Y Djajadihardja

0800h **T11D-2123** POSTER Subducting fracture zones control earthquake distribution and upper plate properties: examples from Sumatra and Kamchatka: **C Gaedicke**, R Freitag, U Barckhausen, D Franke, S Ladage, M Schnabel, N Tsukanov

0800h **T11D-2124** POSTER Moderate Ruptures at a Megathrust Segment Boundary: The M_w 7.2–7.3 Simeulue Earthquakes of 2002, 2008, and 2010: **AJ Meltzner**, K A Grijalva, A Sladen, K E Sieh, R Bürgmann, P Banerjee, J F Genrich, D H Natawidjaja, B W Suwargadi, J E Galetzka

0800h **T11D-2125** POSTER The Tsunami Geology of the Bay of Bengal Shores and the Predecessors of the 2004 Indian Ocean Event: **C Rajendran**, K Rajendran, S Seshachalam, V Andrade

0800h **T11D-2126** POSTER Stress Transfer Processes during Great Plate Boundary Thrusting Events: A Study from the Andaman and Nicobar Segments: **V Andrade**, K Rajendran

0800h **T11D-2127** POSTER The Structure of the Mentawai segment of the Sumatra subduction zone revealed by local earthquake travel time tomography: **R Collings**, A Rietbrock, D Lange, F Tilmann, D H Natawidjaja, B W Suwargadi

0800h **T11D-2128** POSTER Intraplate Splay Faults and Near-field Tsunami Generation during Giant Megathrust Earthquakes in Chile, Alaska, and Sumatra: **G Plafker**, J C Savage, W H Lee

0800h **T11D-2129** POSTER Testing the validity of using turbidites as an earthquake proxy on the Sumatran margin: E Sumner, M Siti, **L C McNeill**, P J Talling, R Wynn, T Henstock, Y Djajadihardja, H Permana

0800h **T11D-2130** POSTER Cascadia Segmentation: Sediment supply, structural influences, and a pinchout of the locked interface: **C Goldfinger**

0800h **T11D-2131** POSTER Late Holocene Paleoseismicity, Tsunamis, and Relative Sea-Level Changes in Yaquina Bay, Central Coastal Oregon: **NA Graehl**, H M Kelsey, R C Witter

0800h **T11D-2132** POSTER Geologic Evidence of Earthquakes and Tsunamis in the Mexican Subduction zone - Guerrero: **M Ramirez-Herrera**, M Lagos, I Hutchinson, A Ruiz-Fernández, M Machain, M Caballero, V Rangel, H Nava, N Corona, F Bautista, V Kostoglodov, A Goguitchaichrili, J Morales, P Quintana

0800h **T11D-2133** POSTER Late Holocene spatial patterns of coseismic land level changes and earthquake rupture areas, south-central Alaska: **I Shennan**, N Barlow, E Watcham

0800h **T11D-2134** POSTER The 2007 Tocopilla earthquake and its aftershock sequence - A subduction zone earthquake at the edge of the northern Chile seismic gap: **S Eggert**, M Sobiesiak, M Shirzaei

0800h **T11D-2135** POSTER Long-term persistence of subduction earthquake segment boundaries - evidence from Mejillones Peninsula, N-Chile: **P Victor**, M Sobiesiak, S Nielsen, J Glodny, O Oncken

0800h **T11D-2136** POSTER 800,000-Year Record of Plate Boundary Earthquakes in the Atacama Desert, Northern Chile: **AM Baker**, L A Owen, J Rech, R W Allmendinger

0800h **T11D-2137** POSTER Chilean Segment Boundary Persistence over the Late Holocene: **E Garrett**, I Shennan, S Woodroffe, E Watcham

0800h **T11D-2138** POSTER Morphotectonic segmentation along the Nicoya Peninsula seismic gap, Costa Rica: **J Marshall**, S Morrish, A Butcher, B Ritzinger, K Wellington, E LaFromboise, M Protti, T Gardner, J Spotila

0800h **T11D-2139** POSTER Segmentation of the Subduction Zone, Lithospheric Coupling and the Generation of Mega Earthquakes along the Hellenic Arc and Trench: **E Daskalaki**, G A Papadopoulos

T11E Moscone West: 2018 Monday 0800h
Recent Submarine Volcano-Tectonic Events Along Western Pacific Island Arcs, Back Arcs, and Subduction Zones I (joint with V, G)

Presiding: **R P Dziak**, Oregon State University; **K H Rubin**, Univ Hawaii; **E T Baker**, NOAA/PMEL

0800h **Dziak/Baker** Introduction

0805h **T11E-01** Tectonics of the northern Lau Basin from recent geophysical surveys. (Invited): **F Martinez**

0820h **T11E-02** Hydroacoustic Monitoring of Seismic and Volcanic Activity within the Lau Basin (Invited): **D R Bohnenstiehl**, R P Dziak, H Matsumoto, T A Lau, M Fowler, C Scheip, K E Cook, K W Warren, J A Conder, D A Wiens

0835h **T11E-03** The 2008 Puipui eruption and morphology of the Northeast Lau Spreading Center between Maka and Tafu (Invited): **D A Clague**, D W Caress, K H Rubin, J B Paduan

0850h **T11E-04** Helium Isotope and C/3He Signatures in Lau Basin Volcanoes: Arc, Back-arc, and Samoan Hotspot Affinities: **J E Lupton**, J A Resing, M D Lilley, D A Butterfield, N S Keller, R J Arculus, E T Baker, K H Rubin, R W Embley

0905h **T11E-05** Tsunamigenic Predecessors to the 2009 Samoa Earthquake (Invited): **E Okal**, J C Borrero, C Chague-Goff

0920h **T11E-06** Submarine landslide triggered by eruption recorded by in-situ hydrophone at NW Rota-1 submarine volcano, Mariana Arc (Invited): **B Chadwick**, R P Dziak, R W Embley, V Tunnicliffe, J Sherrin, K V Cashman, N Deardorff

0935h **T11E-07** The May 2010 submarine eruption from South Sarigan seamount, Northern Mariana Islands: **R G McGimsey**, C A Neal, C K Searcy, J T Camacho, W B Aydtlett, R W Embley, F Trusdell, J F Paskievitch, D J Schneider

T11F Moscone West: 2016 Monday 0800h
SinoProbe: Deep Exploration in China I (joint with DI, S)

Presiding: **S Dong**, Chinese Academy of Geological Sciences; **L D Brown**, Cornell University

0800h **Outline of the SinoProbe - Dong Shuwen**

0815h **T11F-01** SinoProbe-02: Integrated experiment of deep-exploring techniques to reveal the interior structure beneath the Chinese continent (Invited): **R Gao**, Z Lu, H Wang, W Li, L Zeng

0830h **T11F-02** Probing The Structure North China To Better Understand Its Evolution, Natural Resources, And Seismic Hazards (Invited): **G R Keller**, R Gao, G Qu, Q Li, M Liu

0845h **T11F-03** SinoProbe-02: Deep Seismic Reflection Profile (480km) experiment in North China: Acquisition and the Preliminary Processing result: **H Hou**, R Gao, Q Li, W Li, Z Kuang, J Liu, J Zhang, Y Guan, G Keller, M Liu, C M Cox, S Holloway, J C Chang, G M Kaip, S Zhang

0855h **T11F-04** SinoProbe deep seismic reflection profiling across the Sichuan basin: **H Wang**, R Gao, Z Wen, Q Li, S Feng, Z Lu, G Deng

0905h **T11F-05** Tibetan Plateau Crust and Mantle Structure Down to 700 km Depth as Derived From Seismological Data (Invited): **J Mechie**, R Kind, J Saul

0920h **T11F-06** Crustal structure of volcanic terrane in the extensional tectonics, Eastern China, as revealed by seismic reflection profiling (Invited): **Q Lu**, S Dong, M Wu, D Shi, J Yan, Y Chang

0935h **T11F-07** Crustal and upper mantle structure beneath the mid-lower Yangtze metallogenic belt revealed by passive-source seismic array: **D Shi**, Q Lu, J Yan, W Xu, G Zhang, G Jiang, S Dong
0945h **T11F-08** The Upper Mantle Anisotropy around the Ordos Block in China from Shear Wave Splitting: **L Wang**, N Mi, Z Huang, M Xu, H Li, D Yu

T11G Moscone West: 2011 Monday 0800h
The Wilson Cycle Revisited: From Microplates and Mobile Terranes to Supercontinent Dispersals I (joint with G, GP, S, V)

Presiding: **A Sinha**, Virginia Tech; **B B Hanan**, San Diego State University; **R E Ernst**, Carleton University

0800h **T11G-01** Geometric Signatures of Continental Movements During Supercontinent Assembly and Dispersal (Invited): **R Van Der Voo**, T H Torsvik

0820h **T11G-02** Petrology, Geochemistry, and Geodynamics of the Yellowstone-Snake River Plain Hotspot: Implications for Supercontinent Dispersal (Invited): **J W Shervais**, B B Hanan

0840h **T11G-03** Thermal response of the mantle following supercontinent formation: **P J Heron**, J P Lowman

0900h **T11G-04** A role for crustal silica in mountain-building and rifting: **A R Lowry**, M Perez-Gussinye

0920h **T11G-05** Linking the Wilson Cycle to deep Earth processes (Invited): **T H Torsvik**, K C Burke

0940h **T11G-06** Earth's Deep Water Cycle as a possible explanation of the Wilson Cycle (Invited): **S van der Lee**, S D Jacobsen, X Lou, Y Chang, K Regenauer-Lieb, D A Yuen

Volcanology, Geochemistry, and Petrology

V11A Moscone South: Poster Hall Monday 0800h
Building the Volcanic Oceanic Crust I Posters (joint with OS, T)

Presiding: **K L Achenbach**, Durham University; **R C Searle**, Durham University

0800h **V11A-2229** POSTER Evidence of recent, off-axis volcanism on Gakkel Ridge, Arctic Ocean: M Edwards, **J R Cochran**, H J Dick

0800h **V11A-2230** POSTER Portrait of an Axial Volcanic Ridge: sidescan sonar and bathymetry at three resolutions: **K L Achenbach**, R C Searle, T Le Bas

0800h **V11A-2231** POSTER Seismic Structure of Volcanic Edifice and Lava Lake at the Lucky Strike Volcano, Mid-Atlantic Ridge: **A F Arnulf**, S C Singh, A J Harding, G Kent, W C Crawford

0800h **V11A-2232** POSTER Detailed Axial Morphology of the Chile Rise as it Approaches the Chile Triple Junction: **D K Blackman**, A S Henig, E Barroso, I Grevemeyer, A R Thurber, C R German, T INSPIRE Cruise Participants

0800h **V11A-2233** POSTER Formation of volcanic edifices in response to changes in magma budget at intermediate spreading rate ridges: **J Howell**, S M White, D R Bohnenstiehl, M Bizimis

0800h **V11A-2234** POSTER U-series dating of pillow rim glass from recent volcanism at an Axial Volcanic Ridge: **L E Thomas**, P W Van Calsteren, Title of Team: JC024 shipboard party

0800h **V11A-2235** POSTER Comparison of high precision U-Pb zircon geochronology from the East Pacific Rise and Mid-Atlantic Ridge: **M E Rioux**, C Lissenberg, S A Bowring, C J MacLeod

0800h **V11A-2236** POSTER Lava Flow Ages and Geologic Mapping on Mid-ocean Ridges: **D A Clague**, J B Paduan, B M Dreyer, D W Caress

0800h **V11A-2237** POSTER New Insights into Diking Processes from High Resolution Bathymetry of Pillow Ridges on the Juan de Fuca and Gorda Ridges: **I A Yeo**, D A Clague, J B Paduan, D W Caress

0800h **V11A-2238** POSTER Pressures of Partial Crystallization of Magmas from the Juan de Fuca Ridge: Implications for Crustal Accretion: **J L Scott**, M Barton

0800h **V11A-2239** POSTER Uranium-series disequilibria of inflated sections of the Juan de Fuca Ridge: Implications for mantle melting: **B M Dreyer**, J B Gill, F C Ramos, D A Clague, S R Scott

0800h **V11A-2240** POSTER PETROGENESIS OF NEAR-RIDGE SEAMOUNTS: AN INVESTIGATION OF MANTLE SOURCE HETEROGENEITY AND MELTING PROCESSES: **N L Baxter**, M R Perfit, C Lundstrom, D A Clague

0800h **V11A-2241** POSTER Comparison of Magma Residence, Magma Ascent and Magma-Hydrothermal Interaction at EPR 9°N and Endeavour Segment: **P J Michael**, J B Gill, F C Ramos

0800h **V11A-2242** POSTER Geochemistry of post-spreading lavas from fossil Mathematician and Galapagos spreading axes, revisited: **L Tian**, P R Castillo, D R Hilton

0800h **V11A-2243** POSTER Crustal Assimilation and the Petrogenesis of Mid-Ocean Ridge Dacites: **V Wanless**, M R Perfit, W I Ridley, E M Klein, C B Grimes, J W Valley

0800h **V11A-2244** POSTER Transformation of mantle to lower crust: melt-rock reaction processes in peridotites from Atlantis Massif, 30°N, Mid-Atlantic ridge: A Von der Handt, **E Hellebrand**

0800h **V11A-2245** POSTER The Lowest $\delta^{7}\text{Li}$ Yet Recorded in MORB Glasses: The Connection with Oceanic Core Complex Formation, Refractory Rutile-bearing Eclogitic Mantle Sources and Melt Supply: **J F Casey**, Y Gao, R Benavidez, C Dragoi

0800h **V11A-2246** POSTER Plagioclase Ultra-Phyric Basalts (PUBs): Implications for the nature of the plumbing system at ultraslow-spreading ridges: **A B Weinsteiniger**, A Kent, F J Tepley, R L Nielsen

0800h **V11A-2247** POSTER Textural and Compositional Variability of Phenocrysts from Plagioclase Ultraphyric Basalts: Evidence for a genetic magmatic suite at the SEIR: **A W Burleigh**, A Lange, R L Nielsen, F J Tepley, A Kent, A B Weinsteiniger

0800h **V11A-2248** POSTER Geochemistry of mid ocean ridge basalts (MORB) from the northern Central Indian Ridge between 7°46 and 13°20 S: Implication of mantle heterogeneity influenced by Reunion hotspot plume?: **J Lee**, I Lee, S Lee, J Kim

0800h **V11A-2249** POSTER Influence of the Samoan Plume in the Northwestern Lau Back-arc Basin: **M L Lytle**, K A Kelley, E H Hauri, J B Gill, D Papia, R J Arculus

0800h **V11A-2250** POSTER Renewed melting at the abandoned Skagi rift, northern Iceland: control by plume pulsing?: **R L Walters**, S M Jones, J MacLennan

0800h **V11A-2251** POSTER Time-Scales Associated With Tectono-Magmatic Reconfiguration During A Paleo-Rift Jump In Northwest Iceland: **M S Riishuus**, R A Duncan, L Kristjansson

0800h **V11A-2252** POSTER In Search of the Layer 2/3 Boundary: A New Look at the Seismic Transition and Its Lithologic Significance: **R L Carlson**

0800h **V11A-2253** POSTER Exploring the strength of newly formed oceanic lithosphere and its correlation with spreading rate and ridge depth anomalies: **L M Kalnins**, A B Watts

0800h **V11A-2254** POSTER The Oceanic Lithosphere as Reactive Filter: Implications for MORB and Abyssal Peridotite Compositions: **P I Luffi**, C Lee, P M Antoshechkina

0800h **V11A-2255** POSTER The Igneous Architecture of IODP Hole U1309D: Constructing Oceanic Crust from Multiple Sills: **C A Christofferson**, B E John, M J Cheadle, S M Swapp, C B Grimes

0800h **V11A-2256** POSTER Variolites – results of liquid immiscibility or mingling?: Evidence from variolitic lava, axial part of the Mid-Atlantic Ridge, 60N: **E V Sharkov**

0800h **V11A-2257** POSTER INFLUENCE OF PLASTIC DEFORMATION IN ZIRCON ON ITS CHEMICAL COMPOSITION: EVIDENCE FOR GABBROS IN THE SPREADING ZONE OF THE MID-ATLANTIC RIDGE, MARKOV DEEP, 60N: T F Zinger, N S Bortnikov, **E V Sharkov**

0800h **V11A-2258** POSTER “A bundle of columns” model for trace element fractionation during melting and melt migration in a vertically upwelling, chemically and lithologically heterogeneous mantle: **L Yao**, N J Dygert, M E Peterson, C Sun, D T Wetzell, Y Liang

0800h **V11A-2259** POSTER Ni distribution in MORB-source-mantle pyroxenites: Traces of melt-rock reaction on a cm-scale: **D Sergeev**, A Dijkstra, T Pettko

V11B Moscone South: Poster Hall Monday 0800h
Generation and Evolution of Alkaline to Subalkaline Magmas I Posters (joint with DI, MR)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **S Pilet**, University of Lausanne; **R Gertisser**, Keele University

0800h **V11B-2260** POSTER Melt chemistry of post-15 kyr Campi Flegrei eruptions: a tool for tracing these chronostratigraphic markers and a window into the magmatic system feeding the frequently active volcano: **R Isaia**, V Smith, N Pearce

0800h **V11B-2261** POSTER The Meaning of High K_2O Volcanism In the U.S. Cordillera: **K D Putirka**, C Busby

0800h **V11B-2262** POSTER Geochemical and Isotopic Evidence for Melting and Erosion of Wyoming Craton Mantle Lithosphere Prior to 48 Ma: **G I Duke**, R W Carlson, C D Frost

0800h **V11B-2263** POSTER A neglected magma: constraining the volatile content and pre-eruptive conditions of the Peridot Mesa basanite: **A L Gullikson**, G M Moore, K Roggensack

0800h **V11B-2264** POSTER Increasing Interaction of Alkaline Magmas with Lower Crustal Gabbroic Cumulates over the Evolution of Mt. Taylor Volcanic Field, New Mexico: **M E Schmidt**, L S Crumpler, C Schrader

0800h **V11B-2265** POSTER The mantle and basalt-crust interaction below the Mount Taylor Volcanic Field, New Mexico: **C M Schrader**, L S Crumpler, M E Schmidt

0800h **V11B-2266** POSTER Geochemical and Petrologic Constraints on the Source of Eocene Volcanism at Mole Hill, Rockingham County, VA: **E A Johnson**, J S Beard

0800h **V11B-2267** POSTER Petrology and Tectonic Setting of A-type John Day Rhyolites, Central Oregon: **K A Patridge**, J A Wolff, J McClaughry

0800h **V11B-2268** POSTER Space-Time-Isotopic Trends of Snake River Plain Basalts: **M M Jean**, B B Hanan, J W Shervais

0800h **V11B-2269** POSTER Preliminary in-situ major and trace element and isotopic investigation of carbonatites and associated alkaline silica-undersaturated rocks from the Oka complex, Québec (Canada): **A Simonetti**, W Chen

0800h **V11B-2270** POSTER Geochemical Insights Into Multi-Component Mantle Beneath the Anatolian Plate: **M Pickard**, T Furman, B KURKCUOGLU, B B Hanan, E Aldanmaz

0800h **V11B-2271** POSTER Isotopic constraints of mantle derived carbonatitic melts from Calatrava, Spain: **E R Humphreys**, K Bailey, C J Hawkesworth, F Wall, R Avanzinelli

0800h **V11B-2272** POSTER Origin of the Alkaline Post-Erosional Volcanism on the Island of Mauritius: **C Chen**, W M White

0800h **V11B-2273** POSTER Nd-Sr-Hf-Pb Isotopic Evidence for a Mantle Plume Origin for the Mafic Rocks from the Palaeotethyan Karakaya Complex, Turkey: **K Sayit**, B B Hanan, M Göncüoğlu, T Furman

0800h **V11B-2274** POSTER Tectonic Controls on the Volumes and Petrologic Evolution of Pantellerite-Trachyte-Phonolite Volcanoes in a Continental Rift Setting, Marie Byrd Land, Antarctica: **W E LeMasurier**

0800h **V11B-2275** POSTER GEOCHEMICAL AND GEOCHRONOLOGICAL STUDIES OF CARBONIFEROUS MAGMATISM IN THE WEST JUNGGAR: RIDGE SUBDUCTION IN THE LATE PALEOZOIC?: **H Geng**, M Sun

0800h **V11B-2276** POSTER Metasomatic origin for the genesis of the latest Miocene–Quaternary intraplate basalts in northwestern Syria: **G S Ma**, J Malpas, C Xenophontos, K Suzuki

0800h **V11B-2277** POSTER Origin of Aphyric Phonolitic Magmas: Natural Evidences and Experimental Constraints: **M Masotta**, C Freda, M Gaeta

0800h **V11B-2278** POSTER Experimental investigation of properties of low degree partial melts of garnet peridotite and their role in OIB genesis: **F A Davis**, M M Hirschmann, M Humayun, R S Cooper

0800h **V11B-2279** POSTER Testing the Requirement for Considerable Pyroxenite in the Source of OIB: **B E Mandler**, T Elliott

0800h **V11B-2280** POSTER Constraints on metasomatic vein formation and implications for the petrogenesis of alkaline magmas: **S Pilet**, P Ulmer, M B Baker, E M Stolper, O Muntener

V11C Moscone South: Poster Hall Monday 0800h
Geologic Maps and Quantitative Applications Posters (*joint with T, ED, IN*)

Presiding: **J M Donnelly-Nolan**, USGS; **R E Wells**, U.S. Geological Survey; **M A Clynnne**, U.S Geological Survey; **R W Graymer**, US Geological Survey

0800h **V11C-2281** POSTER Surficial Geologic Mapping Using Digital Techniques Reveals Late-Phase Basin Evolution and Role of Paleoclimate, Death Valley Junction 30' × 60' Quadrangle, California and Nevada: **J Slate**, M Berry, C M Menges

0800h **V11C-2282** POSTER Intimate Views of Cretaceous Plutons, the Colorado River Extensional Corridor, and Colorado River Stratigraphy in and near Topock Gorge, Southwest USA: **K A Howard**, B E John, J E Nielson, J M Miller, S S Priest

0800h **V11C-2283** POSTER Evolution of the Three Sisters Volcanic Cluster, Oregon, over the past 100 ka—Animation of a Detailed Geologic Map (*Invited*): **A T Calvert**, J E Robinson, E W Hildreth, J Fierstein

0800h **V11C-2284** POSTER Geology Of Mt. Jefferson, Oregon: A Showcase Of High Cascade Stratocone Magmatic Components: **R M Conrey**

0800h **V11C-2285** POSTER Digital Map of Tephra Deposits of the Mono-Inyo Craters, CA: **G Rogova**, M I Bursik, K E Sieh, A J Meltzner, R L Dennen, R Collins, N Dahn, M LaGamba, C Shufelt, J Weinerth

0800h **V11C-2286** POSTER Digital Bedrock Compilation: A Geodatabase Covering Forest Service Lands in California: **D Elder**, J A De La Fuente, M Reichert

0800h **V11C-2287** POSTER Detailed geological mapping in vegetated terrain using airborne multispectral imagery and LiDAR data: An example from the Troodos ophiolite, Cyprus: **S R Grebby**, W D Cunningham, J Naden, K Tansey

0800h **V11C-2288** POSTER New insights into eruptive activity and lava flow hazard at Nyamulagira volcano, D.R.C., from a new GIS-based lava flow map: B Smets, M Kervyn, F Kervyn, N D'Oreye, **C Wauthier**

0800h **V11C-2289** POSTER Geologic Maps as the Foundation of Mineral-Hazards Maps in California: **C T Higgins**, R K Churchill, C I Downey, J P Clinkenbeard, M C Fonseca

0800h **V11C-2290** POSTER Digital Geologic Map Database of Medicine Lake Volcano, Northern California: **D W Ramsey**, J M Donnelly-Nolan, T J Felger

0800h **V11C-2291** POSTER Late Cenozoic geology and lacustrine history of Searles Valley, Inyo and San Bernardino Counties, California: **M Nathenson**, G I Smith, J E Robinson, P H Stauffer, J L Zigler

0800h **V11C-2292** POSTER Spatio-temporal evolution of the Tuxtla Volcanic Field: **S E Kobs Nawotniak**, J Espindola, L Godinez

0800h **V11C-2293** POSTER Preliminary Geologic Map of Newberry Volcano, Oregon: **J M Donnelly-Nolan**, D W Ramsey, R A Jensen, D E Champion, A T Calvert

0800h **V11C-2294** POSTER Osa Creek gabbro-granite ring complex, Sierra Nevada, CA, by degassing-driven subsidence of mafic-magmatic sheets: **T W Sisson**, J G Moore

0800h **V11C-2295** POSTER Retreat of the Puget lobe of the Cordilleran Ice Sheet (*Invited*): **R A Haugerud**

0800h **V11C-2296** POSTER 2006-2008 Eruptions and Volcano Hazards Of Soputan Volcano, North Sulawesi, Indonesia: **K Hendratno**, J S Pallister, W A McCausland, M Kristianto, F R Bina, S A Carn, N Haerani, J Griswold, R Keeler

0800h **V11C-2297** POSTER Petrologic and petrographic variation of youthful eruptive products in the Tuxtla Volcanic Field, Veracruz, Mexico: **C B Parrish**, S E Kobs Nawotniak, K C Fredrick, J Espindola

0800h **V11C-2298** POSTER Derivative Products Based on the Geologic Map of Lassen Volcanic National Park and Vicinity, Northern California: **L J Muffler**, M A Clynnne

0800h **V11C-2299** POSTER Geologic Map of Lassen Volcanic National Park and Vicinity, Northern California: **M A Clynnne**, L J Muffler

0800h **V11C-2300** POSTER Modeling Lahar Hazard Zones for Eruption-Generated Lahars from Lassen Peak, California: **J E Robinson**, M A Clynnne

0800h **V11C-2301** POSTER The “Large” in Large Igneous Provinces: Using Digital Geological Maps to Determine the Area, Magma Flux, and Potential Environmental Impact of the Wrangellia Flood Basalts: **J S Scoates**, A R Greene, D A Weis

0800h **V11C-2302** POSTER Interpretation of 1.5-m resolution AUV bathymetry using ROV observations and samples at Davidson and Rodriguez Seamounts: **J B Paduan**, D A Clague, D W Caress, H Thomas, D Conlin, D Thompson

0800h **V11C-2303** POSTER Structural Controls on Quaternary Andean Arc Volcanism, a Geologic Map-based and 3D Model Approach—Tatara-San Pedro Volcanic Complex, 36° S, Chile: **R A Thompson**, M A Dungan, M Pantea

0800h **V11C-2304** POSTER Geological mapping of the vertical southeast face of El Capitan, Yosemite Valley, California (*Invited*): **G M Stock**, A F Glazner, K Ratajeski, B Law

0800h **V11C-2305** POSTER MAPPING THE DEEPLY ERODED ROOTS OF A MAJOR STRIKE-SLIP FAULT SYSTEM: A SUMMARY OF RECENT BEDROCK MAPPING ALONG THE NORUMBEGA FAULT SYSTEM IN MAINE: **D P West**, S G Pollock, T W Grover

0800h **V11C-2306** POSTER Neogene Fault-normal Compression Revealed by a 3D Geologic Map Centered on the San Andreas Fault Zone in the Parkfield Region, California: **R W Graymer**, M A Roberts, D K McPhee

0800h **V11C-2307** POSTER Assessing earthquake hazards with fault trench and LiDAR maps in the Puget Lowland, Washington, USA (*Invited*): **A R Nelson**, L Bradley, S F Personius, S Y Johnson

0800h **V11C-2308** POSTER Using geologic mapping to quantify lava flow risk on Mauna Loa: **F Trusdell**

0800h **V11C-2309** POSTER Aerial Surveys Using Consumer Electronics: Fast, Cheap and Best of All: Useful!: **D K Lynch**, K W Hudnut, D S Dearborn

0800h **V11C-2310** POSTER Paleomagnetic Determination of Deformation at the Sutter Buttes Volcano, California: **B Hausback**, D E Champion, A M Hansen

0800h **V11C-2311** POSTER EAST-CHINA GEOCHEMISTRY DATABASE (ECGD): A NEW NETWORKING DATABASE FOR NORTH CHINA CRATON: **X Wang**, W Ma

0800h **V11C-2312** POSTER Earth's Volcanoes and their Eruptions; the 3rd edition of the Smithsonian Institution's Volcanoes of the World: **L Siebert**, T Simkin, P Kimberly

VII D Moscone South: Poster Hall Monday 0800h
What Can Pyroclasts Tell Us? I Posters (*joint with NH*)

Presiding: **U Kueppers**, University of Munich; **R J Brown**, Open University; **C Cimarelli**, LMU Muenchen

0800h **V11D-2313** POSTER Ballistic Blocks Surrounding Kilauea's Caldera: **D Swanson**, S Zolkos, B Haravitch

0800h **V11D-2314** POSTER Inversion of the tephra sedimentation process from the 1996 Ruapehu deposit: **M Klawonn**, C J Wolfe, L N Frazer, B F Houghton

0800h **V11D-2315** POSTER Giant Subaqueous Pyroclastic-Flow Deposits Revealed: Sedimentological Revision of the Holocene Outcrops of Izu-Oshima Island, Japan: **R Hemmi**, S Yoshida, Y Nemoto, N Kotake

0800h **V11D-2316** POSTER A kinetic model for bubbles growth and coalescence in viscous magmas: **S Mancini**, A Burgisser, F James, L Forestier Coste

0800h **V11D-2317** POSTER Reconstructing Pre-Fragmentation Bubble Size Distributions from Volcanic Ash using Stereo SEM Analysis: **D L Sahagian**, A A Proussevitch, G K Mulukutla, K Genareau

0800h **V11D-2318** POSTER Mass-conservative numerical scheme of bubble growth in incompressible viscous magmas: **L Forestier Coste**, A Burgisser, F James, S Mancini

0800h **V11D-2319** POSTER A modification of the method of Carey and Sparks (1986) to estimate eruption column height from maximum clast dispersal: **J Espindola**

0800h **V11D-2320** POSTER Post-200-ka Pyroclastic Eruptions of the Yellowstone Plateau: **L A Morgan**, W C Shanks

0800h **V11D-2321** POSTER Vent Processes and Deposits of a Hiatus in a Violent Eruption: Quilotoa Volcano, Ecuador: **J A Best**, J Bustillos, M H Ort, K V Cashman, P A Mothes, A Di Muro, M Rosi

0800h **V11D-2322** POSTER Sibinal Pumice eruption, an example of transition from sub-Plinian to Plinian eruptive style at Tacaná Volcanic Complex, México-Guatemala: **J Arce**, E Rangel, J L Macias, J E Gardner

0800h **V11D-2323** POSTER The complete fragmentation history of a strombolian eruption revealed using new bomb mapping method: **L Colò**, L Gurioli, A J Harris, B F Houghton, M Ripepe

0800h **V11D-2324** POSTER Fractal Analysis of Volcanic Deposits for Insights to Explosive Hawaiian Eruptions: **A H Maria**, O P Mills, H N Keimig

0800h **V11D-2325** POSTER Preliminary tephra-fall records from three lakes in the Anchorage, Alaska area: advances towards a regional tephrochronostratigraphic framework: **K L Wallace**, D S Kaufman, C J Schiff, K Kathan, A Werner, J Hancock, L A Hagel

0800h **V11D-2326** POSTER PELE'S HAIR: case studies from Kilauea: **C B Cannata**

0800h **V11D-2327** POSTER Neither Effusive nor Explosive: Origins of Pumice Fragments in Submarine Silicic Volcanism, Kermadec Arc, SW Pacific: **M D Rotella**, C J Wilson, R J Wysoczanski, S J Barker, I C Wright

0800h **V11D-2328** POSTER PYROCLASTS KEY TO AGE AND USE OF METER-SIZE GRANITE BASINS, SIERRA NEVADA, CA (*Invited*): **J G Moore**, M A Gorden, T W Sisson

0800h **V11D-2329** POSTER Anisotropy of Magnetic Susceptibility (AMS) of the Neogene Volcanic Succession at the Sierra Juarez - Las Pintas Volcanic Province, Northeastern Baja California, Mexico: Preliminary Results: R Mendoza-Borunda, **E Cañón-Tapia**, F Suárez-Vidal, L Gradilla-Martínez

0800h **V11D-2330** POSTER Deep-sea ash layers reveal evidence of large Pleistocene and Holocene volcanic eruptions from Sumatra, Indonesia: **M J Salisbury**, A Kent, J R Patton, C Goldfinger, Y Surachman, U Udrek

0800h **V11D-2331** POSTER Stratigraphic implications of early to late Pleistocene tephra layers in the three drill cores from the Ulleung Basin, East Sea, Korea: **J Chun**, J Bahk, B Ryu

0800h **V11D-2332** POSTER Functional Stereology for 3D Particle Size Distributions from 2D Observations: a Practical Approach: **A A Proussevitch**, D L Sahagian, M Jutzeler

0800h **V11D-2333** POSTER Irregularity in Hawaiian Spatter Rampart Construction: May 24th, 1969 Mauna Ulu Eruption of Kilauea: **C E Parcheta**, B F Houghton, D Swanson

0800h **V11D-2334** POSTER Thermobarometry, argon dating and oxygen isotope geochemistry of the Pleistocene Pt. Tebenkof ignimbrite, Makushin Volcano, AK: **K E Nicolaysen**, A C Curry, A Goldberg, R A Wobus, J Lackey, R W Hazlett, I N Bindeman

0800h **V11D-2335** POSTER Eruption dynamics of the 7.7 ka Driftwood pumice-fall suggest mafic injection is a common eruption mechanism for Makushin Volcano, Alaska: A Lerner, P Crowley, **R W Hazlett**, K E Nicolaysen

0800h **V11D-2335A** WITHDRAWN

0800h **V11D-2336** WITHDRAWN

VII E Moscone West: 2020 Monday 0800h
Dynamics of Pyroclastic Density Currents I

Presiding: **B J Andrews**, UC Berkeley; **J Dufek**, Georgia Institute of Technology

0800h **V11E-01** Inversion of pyroclastic fall thickness data for the ultraplinian phase of the 1.8 ka Taupo eruption: input of field data into future models of ignimbrite erosion and emplacement. (*Invited*): **R Carey**, B F Houghton

0820h **V11E-02** 3D numerical simulation of pyroclastic density current propagation in a complex topographic environment (*Invited*): **T Esposti Ongaro**, A Neri, M Todesco

0840h **V11E-03** Propagation and deposition mechanisms of dense pyroclastic density currents: insights from analogue laboratory experiments. (*Invited*): **O Roche**, S Montserrat, Y Niño, A Tamburrino

0900h **V11E-04** Localised coarse lithic breccias from channelised pyroclastic density currents, Soufrière Hills Volcano, Montserrat: **A J Stinton**, P Cole

0920h **V11E-05** Transport, deposition, and liftoff in laboratory density currents composed of hot particles in air: **B J Andrews**, M Manga

0940h **V11E-06** Pyroclastic density currents associated with laterally directed pumiceous explosions at Soufriere Hills, Montserrat: P D Cole, **A J Stinton**, H M Odbert, R C Stewart

V11F Moscone West: 2022 Monday 0800h
The Subduction Filter: Effects on the Mantle, Arcs, and Continents I (*joint with DI*)

Presiding: **C Chauvel**, University of Grenoble; **T Plank**, Columbia University; **P Hall**

0800h **V11F-01** Mineral-melt partitioning of V and Sc at arcs: implications for mantle wedge oxygen fugacity: **C M Jackson**, E Cottrell, K A Kelley

0815h **V11F-02** Subduction Cycling of C-O-H Volatiles Constrained by Near-Solidus Phase Relations of Water-undersaturated, Carbonated Pelite at 3 GPa: **K Tsuno**, R Dasgupta

0830h **V11F-03** Redox Conditions of Subduction Zone Magmas and Mantle (*Invited*): **K A Kelley**, E Cottrell

0845h **V11F-04** Mantle flow, melting, and the evolution of the sub-arc mantle in the Lau Basin - Tonga Arc system: **P Hall**, L B Cooper, T Plank

0900h **V11F-05** Wet melting along the Tonga Volcanic Arc: **L B Cooper**, T Plank, R J Arculus, E H Hauri, P Hall

0915h **V11F-06** Melt inclusions in sub-arc mantle xenoliths from the andesitic Avacha volcano (Kamchatka): **A Bénard**, D A Ionov, P Plechov

0930h **V11F-07** Melt production and mantle refertilisation above a subduction zone: Direct constraints from Antarctic Peninsula spinel-peridotite xenoliths: **L C Gibson**, S A Gibson, P T Leat

0945h **V11F-08** Fluid-Mobile Element Enrichment in the Mantle Wedge of Subduction Zones: A View From the Coast Range Ophiolite, California: **J W Shervais**, M M Jean

Union

U12A Moscone South: 104 Monday 1020h
Enabling and Encouraging Transparency in Science Data, and for Information Integration

Presiding: **W J Weber**, Unidata Program Center; **K A Lehnert**, Columbia University; **D K Arctur**, Open Geospatial Consortium, Inc.; **S Nativi**, CNR & Univ. Florence

1020h **U12A-01** Persistent data archives, data publication, authorship and scientific recognition (*Invited*): **J H Minster**

1035h **U12A-02** Enabling and Encouraging Transparency in Earth Science Data for Decision Making: **S B Abbott**

1105h **U12A-03** Enabling New and More Transparent Science via DataONE—a Virtual Data Observation Network for Earth (*Invited*): **W Michener**

1120h **U12A-04** Sharing Data in the Global Ocean Observing System (*Invited*): **E J Lindstrom**, A McCurdy, J Young, A S Fischer

1135h **U12A-05** From Google Maps to Google Models (*Invited*): **R V Moore**

1150h **U12A-06** An Information Integration Perspective on the Data Conservancy (*Invited*): **S Choudhury**

Atmospheric Sciences

A12A Moscone West: 3002 Monday 1020h
Climate Change, Air Quality, and Their Interrelations at the North American West Coast I

Presiding: **E Mccauley**, California Air Resources Board; **D D Parrish**, NOAA/ESRL Chemical Sciences Division

1020h **Introduction** *Eileen McCauley, David Parrish*

1025h **A12A-01** Airborne measurements of volatile organic compounds in the Los Angeles Basin and the Central Valley, California: **C Warneke**, J A De Gouw, J S Holloway, J Peischl, T B Ryerson, E L Atlas, D R Blake

1040h **A12A-02** An Overview of the 2010 Carbonaceous Aerosol and Radiative Effects Study (CARES) Field Campaign: **R A Zaveri**, W J Shaw, D J Cziczo

1055h **A12A-03** Overview of the chemistry and physics of the Los Angeles aerosol from CIRPAS Twin Otter deployment during CalNex 2010: **S P Hersey**, J S Craven, A Sorooshian, A R Metcalf, T L Latham, J J Lin, H T Duong, A Nenes, H H Jonsson, R C Flagan, J H Seinfeld, Title of Team: CalNex Twin Otter

1110h **A12A-04** The CalNex Los Angeles Experiment: Overview and Early Results: **J Stutz**, J A De Gouw, J L Jimenez, J Surratt, J Seinfeld, T CalNex-LA Team, Title of Team: The CalNex-LA Team

1125h **A12A-05** Overview Of Cal-Mex 2010: US-Mexico Collaborative Project On Air Quality And Climate Change In The California-Mexico Border Region: **L T Molina**, Title of Team: Cal-Mex Science Team

1140h **A12A-06** In-Situ observations of speciated organics in gas and particle phases: CalNex2010 Bakersfield and Los Angeles (*Invited*): **A H Goldstein**, D R Gentner, G A Isaacman, D R Worton, Y Zhao, R Weber, N M Kreisberg, S V Hering, B J Williams, T Hohaus, J Jayne, A Lambe, L R Williams, J L Jimenez, Title of Team: CalNex Bakersfield Science Team, CalNex Pasadena Science Team

1200h **A12A-07** Aircraft and shipboard measurements of aerosol mixing state in southern and northern California during the Calnex 2010 and CARES field campaigns (*Invited*): **K A Prather**, J F Cahill, C J Gaston, K Suski, R A Zaveri, J Seinfeld

A12B Moscone West: 3008 Monday 1020h
Innovative Applications of Satellite and Ground Observations in Evaluating Large-Scale Models: Beyond the Resemblance Test II (*joint with GC*)

Presiding: **X Huang**, University of Michigan; **S A Klein**, Lawrence Livermore National Laboratory; **Z Luo**, City College of New York, CUNY

1020h **A12B-01** Evaluating Climate Models with CLARREO (*Invited*): **M G Mlynckzak**, D F Young, B A Wielicki, Y Huang, S S Leroy, D Feldman, W Collins

1035h **A12B-02** Use of CloudSat observations of light rain for improving the character of model precipitation (*Invited*): **G L Stephens**, R Forbes

1050h **A12B-03** Temperature and water vapor variance scaling from the Atmospheric Infrared Sounder, climate models, and aircraft data (*Invited*): **B H Kahn**, J Teixeira, E Fetzer, A Gettelman, S M Hristova-Velva, X Huang, A Kochanski, S K Krueger, R Wood, M Zhao

1105h **A12B-04** Understanding the surface and BL coupling of water, CO₂ and cloud feedbacks. (*Invited*): **A K Betts**

1120h **A12B-05** Advanced uncertainty evaluation of climate models and their future climate projections: **H Järvinen**, P Räisänen, M Laine, J Tamminen, P Ollinaho, A Ilin, E Oja, A Solonen, H Haario

1132h **A12B-06** Quantifying the Relationship between Dynamical Cores and Physical Parameterizations by Geostatistical Methods: **M S Yorgun**, R B Rood

1144h **A12B-07** The sensitivity of ISCCP optical depths to sub-pixel scale cloud field variability: Implications for climate model-ISCCP comparisons: **G G Mace**, S Houser, S Cooper, Q Min, S A Klein

1156h **A12B-08** Evaluation of Low Clouds in the NCAR CAM3 and GFDL AM2 Using MISR and ISCCP Joint Histograms: **B R Hillman**, R Marchand, T P Ackerman

1208h **A12B-09** Conditional averaging of the Cloud Radiative Effect as a higher order test of GCM radiation budgets: **L Oreopoulos**

A12C Moscone West: 3004 Monday 1020h
Sources, Evolution, and Sinks of Organics in the Troposphere II

Presiding: **C L Heald**, Colorado State University; **H Coe**, The University of Manchester

1020h **A12C-01** AGING OF DIESEL, WOOD BURNING, ALPHA-PINENE WITH UV-VIS LIGHT, ONLY VISIBLE LIGHT AND IN THE DARK (*Invited*): **A S Prevot**, R Chirico, M Heringa, P F DeCarlo, L Pfaffenberger, T Tritscher, J Dommen, E Weingartner, M Elsässer, J Schnelle-Kreis, R Zimmermann, U Baltensperger

1035h **A12C-02** Photochemical aging of organic aerosol: Laboratory studies of the heterogeneous oxidation of oxidized organic species: **J H Kroll**, S H Kessler, T Nah, J D Smith, D L Che, A J Carrasquillo, J Jayne, D R Worsnop, K R Wilson

1050h **A12C-03** Evolution of organic aerosol mass spectra upon heating: implications for OA phase and partitioning behavior: **C D Cappa**, K R Wilson, J D Smith, K Kolesar

1105h **A12C-04** Determining the Mixing State of Organic Aerosol Components using High-Resolution Aerosol Mass Spectrometry: **L Hildebrandt**, K Henry, J H Kroll, D R Worsnop, S N Pandis, N M Donahue

1120h **A12C-05** New constraints on the global secondary organic aerosol budget (*Invited*): **D V Spracklen**, J L Jimenez, K Carslaw, D R Worsnop, M J Evans, G Mann, Q Zhang, M Canagaratna, J D Allan, H Coe, G McFiggans, A Rap, P Forster

1135h **A12C-06** The Influence of Semi-Volatile and Reactive Primary Emissions on the Abundance and Properties of Global Organic Aerosol: S Jathar, S Farina, **P J Adams**, A L Robinson, Title of Team: Center for Atmospheric Particle Studies

1150h **A12C-07** Modeling the Multiday Evolution and Aging of Secondary Organic Aerosol During MILAGRO 2006: **K Dzepina**, C D Cappa, R Volkamer, S Madronich, P F DeCarlo, R A Zaveri, J L Jimenez

1205h **A12C-08** Secondary Organic Aerosol Produced from Non-Measured Hydrocarbons Downwind from the Oil Spill in the Gulf of Mexico: **J A De Gouw**, A M Middlebrook, C Warneke, R Ahmadov, E L Atlas, R Bahreini, D R Blake, C A Brock, J Brioude, D W Fahey, F C Fehsenfeld, R Gao, J S Holloway, R Lueb, S A McKeen, J F Meagher, D M Murphy, D D Parrish, A E Perring, I B Pollack, A R Ravishankara, A L Robinson, T B Ryerson, J P Schwarz, J R Spackman, A Srinivasan, L Watts

A12D Moscone West: 3006 Monday 1020h
Three-Dimensional Cloud, Trace Gas, and Aerosol Retrievals I

Presiding: **J Porter**, Brookhaven National Laboratory; **P Kollias**, McGill University; **A B Davis**, Jet Propulsion Laboratory

1020h **A12D-01** Four dimensional lidar imaging of the atmosphere (*Invited*): **E Eloranta**

1035h **A12D-02** A 3D lidar for atmospheric and pollution measurements: **J B Nee**, C Chiang, H Liaw

1050h **A12D-03** Vertical Distributions of Cloud-Top Height Observed by MISR on the Terra Satellite, Including Thin Cirrus (*Invited*): **R Davies**, A Prasad

1105h **A12D-04** Measuring Boundary-Layer Pollution from Space: MOPITT Multispectral Retrievals of CO During 2010 Russian Fires: **M N Deeter**, H M Worden, L K Emmons, D P Edwards, J C Gille, J R Drummond

1120h **A12D-05** 3-D Aerosol Plume Tomography from MISR Observations: **M J Garay**, D J Diner, J V Martonchik, A B Davis

1135h **A12D-06** Scanning Microwave Radiometry for Investigating Water Vapor and Cloud Distributions (*Invited*): **S Crewell**, S Kneifel, U Löhnert, J Schween

1150h **A12D-07** New Cloud Science from the New ARM Cloud Radar Systems (*Invited*): **W J Wiscombe**

1205h **A12D-08** 3D Scanning Cloud Radar Observations at Azores during the ARM AMF field campaign: Reconstruction and study of 3D cloud structures and properties: **K Bowley**, I Jo, A Tatarevic, P Kollias

Atmospheric and Space Electricity

AE12A Moscone South: 103 Monday 1020h
Franklin Lecture (Webcast) (joint with SA, A)

Presiding: **S A Cummer**, Duke University

1020h **AE12A-01** Twenty-five Years of New Discoveries in Atmospheric and Space Electricity (*Invited*): **D D Sentman**

Biogeosciences

B12A Moscone West: 2002 Monday 1020h
Dissolved Organic Matter Dynamics in Terrestrial and Aquatic Ecosystems II (joint with H)

Presiding: **D Scott**, Virginia Tech; **S Kaushal**, University of Maryland, College Park

1020h **B12A-01** Riverine export of dissolved organic matter from an old, infertile landscape (*Invited*): **J B Fellman**, P F Grierson, P Raymond, R Spencer, N E Petit

1040h **B12A-02** Spatial and Temporal Patterns of Nitrogen Transport in a Subtropical Urban Coastal Watershed: **G Toor**, K Banger, P Inglett, C Stanley

1055h **B12A-03** Comparison of dissolved inorganic and organic carbon export in the rivers of tropical volcanic island; example from Guadeloupe, French West Indies: **E Lloret**, C Dessert, J Gaillardet, P Alberic, O Crispi, C Chaduteau, M F Benedetti

1110h **B12A-04** Sources and Composition of Dissolved Organic Matter in Headwater Streams Draining Watersheds with Different Land Uses in the York River Estuary: **Y Lu**, E A Canuel, J E Bauer, Y Yamashita, R Chambers, R Jaffe

1125h **B12A-05** DOM as a potential tracer for in-stream processes in small mountain catchments (JRB-SCM Critical Zone Observatory): **J N Perdrial**, J C McIntosh, P D Brooks, J Chorover

1140h **B12A-06** Spatial and Temporal Variations of Dissolved Organic Matter in Florida Coastal Everglades: **M Chen**, N Maie, R Jaffe

1155h **B12A-07** Fate of terrestrial DOC within stream biofilm communities: a stable isotope approach (*Invited*): **T N Wiegner**, L Kaplan, S E Ziegler, R H Findlay

1215h **Concluding Discussion** *Open discussion and questions*

B12B Moscone West: 2006 Monday 1020h
Stable Isotope Fluxes in Carbon and Water Cycles of Terrestrial Ecosystems I (joint with A, H, V)

Presiding: **M J Zeeman**, Oregon State University; **A Knohl**, Chair of Bioclimatology; **K P Tu**, UC Berkeley

1020h **B12B-01** Seasonal variations of the amount of carbon allocated to respiration after *in situ* $^{13}\text{CO}_2$ pulse labelling of trees (*Invited*): **D EPRON**, M Dannoura, J Ngao, C Plain, D Berveller, C Chipeaux, D Gerant, A Bosc, P Maillard, D Loustau, C Damesin, Title of Team: CATS Project (ANR-07-BLAN-0109)

1035h **B12B-02** Photosynthetic carbon isotope discrimination and its relationship to the carbon isotope signals of stem, soil and ecosystem respiration (*Invited*): **L Wingate**, J Ogée, R Burlett, A Bosc, M Devaux, J Grace, D Loustau, A Gessler

1050h **B12B-03** Temporal dynamics of $^{13}\text{CO}_2$ and $\text{C}^{18}\text{O}^{16}\text{O}$ near the ground and above a temperate deciduous forest: **E A Santos**, C Wagner-Riddle, X Lee, J S Warland, S E Brown, R M Staebler, P A Bartlett, K Kim

1105h **B12B-04** The isotopic composition of oxygen in atmospheric CO_2 and El Niño: a new constraint on global productivity: **L R Welp**, R F Keeling, H A Meijer, A Bollenbacher, S Piper, K Yoshimura, R J Francey, C E Allison, M U Wahlen

1120h **B12B-05** Eddy Covariance and Autochamber Measurements of Methane Isotopologues Using a Novel $^{13}\text{CH}_4$ and $^{12}\text{CH}_4$ Quantum Cascade Laser Spectrometer: **G W Santoni**, B H Lee, J P Goodrich, R K Varner, P M Crill, J B McManus, D D Nelson, M S Zahniser, S C Wofsy

1135h **B12B-06** Deuterium excess reveals diurnal sources of water vapor in forest air (*Invited*): **C Lai**

1150h **B23H-0496** Plant d-excess: a new concept and tool for exploring plant-soil-atmospheric water cycling: **K Simonin**, R L Apodaca, P Link, J Oshun, D M Rempe, T E Dawson, W E Dietrich, I Fung

1205h **B12B-08** Determine Canopy Turbulent Transport and Evapotranspiration Partition With the Help of a new Soil Water Isotope Model: **M Cuntz**, V Haverd, D W Griffith, C Keitel, C Tadros, J Twining

B12C Moscone West: 2008 Monday 1020h
Urban Areas and Global Change II (joint with A, GC, H, PA)

Presiding: **G Churkina**, Leibniz Centre for Agricultural Landscape Research; **K A Hibbard**, NCAR

1020h **B12C-01** Carbon emissions from cities and urban regions at multiple levels (*Invited*): **S Dhakal**

1040h **B12C-02** How much urban population matters? Exploring the drivers of carbon emissions in 84 cities: **P Romero Lankao**

1100h **B12C-03** Interannual variability of net ecosystem CO_2 exchange in a suburban landscape: **J McFadden**, R Hiller

1120h **B12C-04** Terrestrial carbon dynamics across gradients of urbanization: **L Hutryra**, S Raciti, P Rao, B Yoon, A L Dunn, N Phillips

1140h **B12C-05** Greenhouse Gas Emissions From Urban Wastewater Treatment Plants: N C Sturchio, F Bellucci, **M A Gonzalez-Meler**, L Heraty, J A Kozak

1200h **B12C-06** Interactive effects of cations on multi-decade trends in sulfate and acid deposition in North America and Europe: a new look at an old problem: **K Lajtha**, J A Jones

Cryosphere

C12A Moscone West: 3010 Monday 1020h
Characterization and Validation of Cold Season Land Surface and Hydrologic Properties Using Remote Sensing, Modeling, and Assimilation (joint with H)

Presiding: **D G Marks**, USDA ARS NWRC; **K C McDonald**, Jet Propulsion Lab; **S A Margulis**, UCLA; **A H Winstral**, USDA-ARS NWRC; **E Podest**, JPL; **M S Seyfried**, USDA-ARS

1020h **C12A-01** Enhancement of absorption of visible light in forest canopies caused by snowy backgrounds: **B Pinty**, J Widlowski, I Andreadakis, M M Verstraete, O Arino, M Clerici, T Kaminski, M Taberner

1040h **C12A-02** Intercomparison of MODIS snow cover retrievals and their utility in hydrologic applications (*Invited*): **T H Painter**, K E Rittger, M Clark, J Dozier, N P Molotch

1100h **C12A-03** Heterogeneity of Snow Water Equivalent Derived from MODIS Imagery and the Isnobal Snowmelt Model (*Invited*): **A Kahl**, D G Marks, A H Winstral, K N Musselman, J Dozier

1120h **C12A-04** Validation of a Bayesian reconstruction approach to estimate snow water equivalent via assimilation of MODIS fractional SCA data: **M Giroto**, S A Margulis, M T Durand, N P Molotch

1140h **C12A-05** A Bayesian approach to estimating snow depth from passive microwave measurements using a multi-layer model and minimal prior information (*Invited*): **M T Durand**, D Liu

1200h **C12A-06** Physically based modelling of alpine snow hydrology in the Canadian Rockies (*Invited*): **J W Pomeroy**, C DeBeer, M K MacDonald, X Fang, C Hopkinson

C12B Moscone West: 3011 Monday 1020h
Interactions of Ice Sheets and Glaciers With the Ocean I (joint with OS)

Presiding: **H A Fricker**, Scripps Institution of Oceanography; **L Padman**, Earth & Space Research; **K M Brunt**, Scripps Institution of Oceanography

1020h **C12B-01** Interactions of the Greenland Petermann Glacier with the ocean: An initial perspective (*Invited*): **K K Falkner**, H L Johnson, H Melling, A Muenchow, R M Samelson, Title of Team: Friends of Petermann

1035h **C12B-02** Investigating role of ice-ocean interaction on glacier dynamic: Results from numerical modeling applied to Petermann Glacier: **F M Nick**, C J Van der Veen, A Vieli, F Pattyn, A Hubbard, J E Box

1050h **C12B-03** Greenland's Biggest Losers: **J E Box**, A Hubbard, I M Howat, B M Csatho, D T Decker, R Bates, S M Tulaczyk

1105h **C12B-04** Constraining calving front processes on W Greenland outlet glaciers using inertial-corrected laser scanning & swath-bathymetry: **R Bates**, A Hubbard, M Neale, J Woodward, J E Box, F Nick

1120h **C12B-05** The response of the calving front of Helheim Glacier to significant warming of fjord waters, 2009-2010 (*Invited*): **T Murray**, A J Luckman, K Scharrer, F Cottier, S L Bevan, S Dye, A Goldsack, A L Hughes, T D James, N Selmes, H Valdimarsson

1135h **C12B-06** Observations of subtidal circulation variability in Sermilik Fjord, Greenland, and its impact on ice-ocean interactions: **D A Sutherland**, L A Stearns, G S Hamilton, F Straneo

1150h **C12B-07** Submarine melting at the grounding line of Greenland's tidewater glaciers: Observations and Implications. (*Invited*): **E J Rignot**, Y Xu, M N Koppes, D Menemenlis, M Schodlok, G Spreen

1205h **C12B-08** Modeling of submarine melting of Greenland tidewater glaciers using an ocean general circulation model: **Y Xu**, E J Rignot, D Menemenlis, M Koppes

Education and Human Resources

ED12A Moscone South: 102 Monday 1020h
The Development of Geoscientists: From Novice to Professional II

Presiding: **L M Gonzales**, American Geological Institute; **D W Mogk**, Montana State University; **S Rahman**, YES Network; **K A Kastens**, Lamont-Doherty Earth Observatory

1020h **ED12A-01** Turning a Student into a Researcher: Challenges and Strategies of Teaching Research Methods to Environmental Studies and Earth Science Juniors: **J E Dmochowski**

1035h **ED12A-02** Summer Synthesis Institutes: A Novel Approach for Transformative Research and Student Career Development: **J Wilson**, C M Hermans

1050h **ED12A-03** Preparing Students from a 21st Century Demographic for the Geoscience Workforce: **D I Doser**, A A Velasco

1105h **ED12A-04** Launching an Academic Career: On the Cutting Edge Resources for Geoscience Graduate Students, Post-doctoral Fellows, and Early Career Faculty: **R M Richardson**, C J Ormand, H Macdonald, R W Dunbar, R M Allen-King, C A Manduca

1120h **ED12A-05** Key Decision Points in the Careers of Geoscientists: The Role of the YES Network in Facilitating Successful Career Transitions for Early Career Geoscientists (*Invited*): **J H Venus**, L M Gonzales, Title of Team: YES Network

1135h **ED12A-06** The Association of Polar Early Career Scientists (APECS): A Model for the Professional Development of Scientists (*Invited*): **J L Baeseman**, Title of Team: APECS Leadership Team

1150h **ED12A-07** WITHDRAWN

1205h **ED12A-08** Earth Stewardship Science: International Research Networks based in Africa (*Invited*): **S M Gaines**

Geodesy

G12A Moscone West: 2003 Monday 1020h
Source Imaging and Rapid Assessment of Earthquakes Using Interferometric Synthetic Aperture Radar and Other Geodetic Data II (*joint with S, IN, T, NS, NH*)

Presiding: **S Jonsson**, KAUST; **S E Owen**, Jet Propulsion Laboratory; **S Yun**, JPL

1020h **G12A-01** Joint coseismic and postseismic kinematic slip inversions in a Bayesian framework (*Invited*): **K M Johnson**, J Fukuda, J Sun

1035h **G12A-02** Bayesian Kinematic Finite Fault Source Models (*Invited*): **S E Minson**, M Simons, J L Beck

1050h **G12A-03** InSAR time series analysis of the 2006 slow slip event on the Guerrero Subduction Zone, Mexico: **D P Bekaert**, A J Hooper, E Pathier, S Yun

1105h **G12A-04** The 2010 M_w 6.9 Yushu (Qinghai, China) earthquake: constraints from InSAR, bodywave modeling and satellite imagery: **B E Parsons**, Z Li, J R Elliott, I Barisin, W Feng, J A Jackson, X Song, R J Walters, P Zhang

1120h **G12A-05** Geodetic measurements and models of rifting in Northern Iceland for 1993-1998 (*Invited*): **T Ali**, K Feigl, C H Thurber, T Masterlark, B Carr, F Sigmundsson

1135h **G12A-06** Inference of Co-Seismic Slip Distribution Via a Joint Inversion of GPS and Aftershock Data Sets: The 2004 Parkfield Example: **A Ziv**

1150h **G12A-07** Mastering Slip Distributions by Minimizing Model Parameterization Errors: A Case Study with the 2010 Sierra El Mayor, Mexico Earthquake: R B Lohman, **W D Barnhart**

1205h **G12A-08** Global Compilation of InSAR Earthquake Source Models: Comparisons with Seismic Catalogues and the Effects of 3D Earth Structure: J M Weston, **A M Ferreira**, G J Funning

Global Environmental Change

GC12A Moscone West: 3001 Monday 1020h
Coastal and Near-Term Climates in a Changing World I (*joint with A, OS, B, H, PA*)

Presiding: **M A Snyder**, University of California, Santa Cruz; **T A O'Brien**, University of California, Santa Cruz; **W Collins**, Lawrence Berkeley National Lab; **B Thrasher**, Climate Central

1020h **GC12A-01** Near-term, high-resolution, ensemble projections of regional climate (*Invited*): **N S Diffenbaugh**, M Ashfaq

1035h **GC12A-02** A projection of the impact of climate change on California's major watersheds during the mid-21st century period: **F Chung**, J Kim, X Gao, S Sorooshian, D E Waliser, M Z Ejeta, J Wang

1050h **GC12A-03** Sea Level Rise: Vulnerability of California's Coastal Communities and Adaptation Strategies for Reducing Future Impacts Gary Griggs Director Institute of Marine Sciences University of California Santa Cruz Nicole L. Russell Ph.D. Student Department of Earth and Planetary Sciences University of California Santa Cruz: **G B Griggs**, N Russell

1105h **GC12A-04** The Changing Coastal Ocean: Low-Oxygen Water off the Pacific Northwest (*Invited*): **J A Barth**, S D Pierce, F Chan

1120h **GC12A-05** Variability and trends in the summer climate of the U.S. Pacific coast (*Invited*): **J A Johnstone**

1135h **GC12A-06** WITHDRAWN

1150h **GC12A-07** Ecological impacts of ocean acidification in coastal marine environments (*Invited*): **C Harley**, R Crim, R Gooding, S Nienhuis, E Tang

1205h **GC12A-08** Variance: An Under-Appreciated Parameter in Marine Climate Change Ecology (*Invited*): **W J Sydeman**, I D Schroeder, S Thompson, B A Black, J L Largier, M Garcia-Reyes, S J Bograd, J Santora

GC12B Moscone West: 3005 Monday 1020h
Decadal-Scale Arctic Climate Variability: Observations and Modeling I (*joint with A, C*)

Presiding: **G B Lesins**; **P Chylek**, LANL; **J Wang**, NOAA Great Lakes Environmental Research Laboratory

1020h **GC12B-01** Variations and Trends in Global and Arctic Surface Temperature and Forecasts of Global Temperature a Year Ahead, 2000-2010. (*Invited*): **C K Folland**, J Kennedy, A Colman, J Knight, P Stott, D Smith, D E Parker

1035h **GC12B-02** Decadal and Multidecadal variability of the Arctic-North Atlantic Climate System: Evidence from Observations and Models (*Invited*): **T Delworth**, A J Rosati, R Zhang, H Lee, F J Zeng, W Anderson

1050h **GC12B-03** Hot Arctic-Cold Continents: Hemispheric Impacts of Arctic Change (*Invited*): **J E Overland**, K R Wood, M Wang

1105h **GC12B-04** Long-term variability of Arctic climate: Trends and multidecadal fluctuations (*Invited*): **I Polyakov**, R V Bekryaev, V A Alexeev

1120h **GC12B-05** Intrinsic Versus Forced Variation in Coupled Climate Model Simulations of the Arctic Temperature during the 20th Century: **M Wang**, J E Overland, V Kattsov, J E Walsh, X Zhang
 1132h **GC12B-06** Latitudinal distribution of the recent Arctic warming: **P Chylek**, G B Lesins, M Wang
 1144h **GC12B-07** Trajectories of arctic sea ice under anthropogenic warming scenarios: **J Zhang**, M Steele, A J Schweiger
 1156h **GC12B-08** Distribution of the Northern Water Mass Formation completing the Atlantic Meridional Overturning Circulation: **H R. Langehaug**, P B Rhines, T Eldevik, C M Bitz
 1208h **GC12B-09** Decadal variability of Arctic climate: cyclonic and anticyclonic circulation regimes: **A Y Proshutinsky**, M A Johnson

Hydrology

H12A Moscone West: 3018 Monday 1020h **Geologic CO₂ Sequestration: Capillary and Solubility Trapping of Supercritical CO₂ I**

Presiding: **R L Detwiler**, University of California, Irvine;
D Wildenschild, Oregon State University

1020h **H12A-01** Residual Trapping and Capillary Pinning of a CO₂ Gravity Current: Theory and Experiments: **R Juanes**, C W MacMinn, J A Neufeld, H E Huppert

1035h **H12A-02** The impact of local-scale processes on solubility and capillary trapping of injected CO₂: **S E Gasda**, J M Nordbotten, M A Celia

1050h **H12A-03** Observations, Measurements, and Simulations of Convectively Enhanced Carbon Dioxide Dissolution (*Invited*): **T J Kneafsey**, K Pruess

1110h **H12A-04** Post-Injection Motion of CO₂: Interplay of Saturation Gradients and Formation Heterogeneity: **E Saadatpoor**, S L Bryant

1125h **H12A-05** The Role of Fault Zones in Capillary and Dissolution Trapping of CO₂ in the Southern San Joaquin Basin, California: **Q Zhou**, J T Birkholzer

1140h **H12A-06** Spreading and dissolution of CO₂ in horizontal aquifers: theory and experiments: **C W MacMinn**, J A Neufeld, M A Hesse, H E Huppert

1155h **H12A-07** Geologic sequestration of supercritical carbon dioxide: An experimental study of capillary trapping and relative permeability (*Invited*): **M Piri**, M Akbarabadi

H12B Moscone West: 3014 Monday 1020h **Hydrogeophysics: Advances in Measurement, Monitoring, and Modeling of Hydrological Processes II** (*joint with NS*)

Presiding: **A Pidlisecky**, University of Calgary; **B Dafflon**, Center for Geophysical Investigation of the Shallow Subsurface

1020h **H12B-01** Limiting aspects of using geophysical time-lapse measurements for contaminant site monitoring: **H K French**, E Bloem

1035h **H12B-02** Automated permanent resistivity monitoring of charge and discharge processes of subsurface aquifer at the Membach station, Belgium: J Deceuster, O Kaufmann, **M J Van Camp**, T Lecocq

1050h **H12B-03** SP Monitoring of Intermittent Flow Through Covered-Karst Sinkholes: **P B Bumpus**, S E Kruse

1105h **H12B-04** Geoelectrical investigation of the freshwater-saltwater interface in coastal Benin, West Africa: **D McInnis**, S E Silliman

1120h **H12B-05** Gravimetric response of water table fluctuations in the Sahelian Diffa site (East Niger): local effects including poro-elasticity: B Hector, **P Genthon**, M Le Coz, J Hinderer, K Chalikakis, M Desclotres

1135h **H12B-06** Experiments and numerical modeling of monitoring the water irrigation by time-lapse electrical resistivity tomography: **Y Zhang**, X Shi, L Li, T Liu, J Yang

1150h **H12B-07** Inversion of Guided Waves in GPR Data for 2D Permittivity and Conductivity Profiles in the Alaskan Arctic: **K T Decker**, M M Haney, J H Bradford

1205h **H12B-08** EM Sounding Characterization of Soil Environment toward Estimation of Potential Pollutant Load from Non-point Sources: **Y Mori**, J Ide, H Somura, T Morisawa

H12C Moscone West: 3016 Monday 1020h **Precipitation Measurement, Validation, and Applications: From Watershed to Global Scales II** (*joint with A*)

Presiding: **A Y Hou**, NASA Goddard SFC; **S A Braun**, NASA/GSFC; **Y Hong**, University of Oklahoma; **R S Teegavarapu**, Florida Atlantic University

1020h **H12C-01** An experimental flood monitoring/forecast system for large floods using satellite precipitation (*Invited*): **E F Wood**, M Pan, J Sheffield

1035h **H12C-02** Continuous Forecasting and Evaluation of Derived Z-R Relationships in a Sparse Rain Gauge Network Using NEXRAD: S Rendon, **B E Vieux**, C S Pathak

1050h **H12C-03** Distributed Disdrometer and Rain Gauge Measurement Infrastructure Developed for GPM Ground Validation: **W A Petersen**, V Bringi, L D Carey, P N Gatlin, D Phillips, M Schwaller, A Tokay, M Wingo, D B Wolff

1105h **H12C-04** THE NASA DUAL-FREQUENCY DUAL-POLARIZED DOPPLER RADAR (D3R) SYSTEM FOR GPM GROUND VALIDATION: **C V Chandra**, M Schwaller, M Vega, K V Misra, J Carswell, C Nguyen, W A Petersen

1120h **H12C-05** Creating synergy between ground and space-based precipitation measurements: **J J Gourley**, Y Hong, W A Petersen, K Howard, Z Flamig, Y Wen

1135h **H12C-06** The NOAA-Hydrometeorology Testbed (HMT): A Vehicle for Collaborative Efforts on Hydrometeorological Research and Ground Validation in the GPM Era: **T Schneider**, R Cifelli, Title of Team: NOAA HMT

1150h **H12C-07** Preparation for GPM: Development of a New Near Real-time High Resolution Multi-sensor Precipitation Estimation Product Based on Analyzing the Existing Precipitation Estimation Techniques: **A Behrangi**, S Sorooshian, K Hsu, T J Bellerby, G J Huffman, B Lambriksen

1205h **H12C-08** Precipitation distribution along the Himalayan front, comparison of remotely sensed products: **C Andermann**, S Bonnet, R Gloaguen

H12D Moscone West: 3020 Monday 1020h **Science Informing Decisions in the Colorado River Basin I** (*joint with GC, PP, PA*)

Presiding: **J R Prairie**, Univ Colorado; **C A Woodhouse**, University of Arizona; **A W Wood**, NOAA/NWS; **D W Pierce**, Scripps Institution of Oceanography

1020h **H12D-01** Characterizing uncertainties in water availability in the Colorado River system using response surfaces: **K Morino**, R H Bark

1035h **H12D-02** Colorado River Water Availability Assessment Under Climate Variability: **A J Yarberry**, B Rajagopalan, J R Prairie

- 1050h **H12D-03** Collaborative Research for Water Resource Management under Climate Change Conditions: **K Brundiers**, G M Garfin, P Gober, G Basile, R H Bark
- 1105h **H12D-04** Future Dry Spells in the Southwest US Aggravated by Climate Warming (*Invited*): **D R Cayan**, T Das, D W Pierce, T P Barnett, M Tyree, A Gershunov
- 1120h **H12D-05** Colorado River Operations and Planning in a Changing Climate (*Invited*): **T J Fulp**
- 1135h **H12D-06** Lessons from Australian Water Reform for the Colorado River Basin (*Invited*): **B Udall**
- 1150h **H12D-07** Collaborative processes, research, and applications to improve drought-sensitive decision making in the Upper Colorado River Basin: **J P Verdin**, R S Pulwarty, N J Doesken, M Gillespie, K Werner, O Wilhelm, M E Lewis, L S Darby, C A Mcnutt, M Schmidt, K T Redmond
- 1205h **H12D-08** Informing climate-related decisions in complex river basins: A comparative assessment: **R S Pulwarty**, R H Bark, R Maia, B Udall

Natural Hazards

NH12A Moscone West: 3022 Monday 1020h
Geophysical Hazards and Social/Ecological Vulnerabilities I
(joint with PA, OS, GC)

Presiding: **B G McAdoo**, Vassar College

- 1020h **NH12A-01** Managing uncertainties of hazard risks – adaptation strategies to sustain human security: P Liotta, **C D Klose**
- 1035h **NH12A-02** Revision of the IOC/ITST Post-Tsunami Field Guide (*Invited*): **L A Dengler**, Title of Team: IOC/ITST Core Working Group on the Post-Tsunami Field Guide
- 1050h **NH12A-03** The German Indonesian Tsunami Early Warning System (GITEWS) – Past, Present and Future: **A Rudloff**, J Lauterjung, Title of Team: & GITEWS Project Team (AWI, BGR, DLR, GFZ, GKSS, GTZ, IFM-Geomar, KDM, UNU-EHS)
- 1105h **NH12A-04** Spatial Analysis of Earthquake Fatalities in the Middle East, 1970-2008: First Results: **M Khaleghy Rad**, S G Evans, A Brenning
- 1120h **NH12A-05** Environmental and climate security: improving scenario methodologies for science and risk assessment: **C M Briggs**, H Carlsen
- 1135h **NH12A-06** Three factors to enlarge tsunami disaster in Indonesia after the 2004 Indian Ocean tsunami: **M Sugimoto**, K Satake
- 1150h **NH12A-07** COMPARISON OF THE 2010 AND 2007 SOLOMON ISLAND TSUNAMIS: **N Kalligeris**, H Fritz, A V Newman, L Feng, Z M Lifton, Y Wei, V V Titov, B U Uslu
- 1205h **NH12A-08** Hindcast of the 2009 South Pacific tsunami – validation of GIS methodologies for local vulnerability and risk assessment in American Samoa: C B Harbitz, K Sverdrup-Thygeson, G Kaiser, R Swarny, L Gruenburg, S Glimsdal, F Løvholt, **B G McAdoo**, R Frauenfelder

Ocean Sciences

OS12A Moscone West: 3009 Monday 1020h
Decision Support Systems for Coastal and Marine Resource Management I (*joint with B, H, NH, PA*)

Presiding: **F E Muller-Karger**, University of South Florida; **C Eakin**, National Oceanic and Atmospheric Administration; **L S Guild**, NASA Ames Research Center; **M A Roffer**, Roffer's Ocean Fishing Forecasting Service, Inc.

- 1020h **OS12A-01** Utilizing Ecosystem Information to Improve Decision Support Systems for Marine Fisheries (*Invited*): **F Chavez**, F Chai, Y Chao, B Wells, Title of Team: SAFARI team
- 1035h **OS12A-02** Gulf of Mexico Ecological Forecasting - Atlantic Bluefin Tuna Population Assessment and Management using Synthetic Aperture Radar (SAR) Data: **K Laygo**, I Jones, J Huerta, B Holt
- 1050h **OS12A-03** Integrated Modeling for the Assessment of Ecological Impacts of Sea Level Rise: **S C Hagen**, G Lewis, R Bartel, B Batten, W Huang, J Morris, D N Slinn, J Sparks, L Walters, D Wang, J Weishampel, G Yeh
- 1105h **OS12A-04** Coral Reef Remote Sensing: Helping Managers Protect Reefs in a Changing Climate: **C Eakin**, G Liu, J Li, F E Muller-Karger, S F Heron, D K Gledhill, T Christensen, J Rauenzahn, J Morgan, B A Parker, W J Skirving, C Nim, T Burgess, A E Strong
- 1120h **OS12A-05** A Decision Support System for Ecosystem-Based Management of Tropical Coral Reef Environments: **F E Muller-Karger**, C Eakin, L S Guild, R R Nemani, C Hu, S E Lynds, J Li, M Vega-Rodriguez, Title of Team: Coral Reef Watch Decision Support System Team
- 1135h **OS12A-06** Open Ocean Assessments for Management in the GEF Transboundary Waters Assessment Project (TWAP): **A S Fischer**, K D Alverson
- 1150h **OS13A-1216** MarineMap: Web-Based Technology for Coastal and Marine Spatial Planning: **W McClintock**, Z Ferdana, M Merrifield, C Steinback, Title of Team: The MarineMap Consortium
- 1205h **OS12A-08** An Integrated Gulf Coast Monitoring System Using Field, Remote Sensing and Model Results (*Invited*): **E J D'Sa**, D S Ko, G Stone, N D Walker

OS12B Moscone West: 3007 Monday 1020h
Unique Applications of Multibeam Sonars: New Developments and New Applications I (*joint with EP, NS*)

Presiding: **M Mutschler**, RESON; **J Best**, University of Illinois

- 1020h **OS12B-01** More than the Bottom: Multibeam Sonars and Water-column Imaging (*Invited*): **L A Mayer**, T Weber, J V Gardner, M Malik, M Doucet, J Beaudoin
- 1040h **OS12B-02** Near-bottom Multibeam Survey Capabilities in the US National Deep Submergence Facility (*Invited*): **D R Yoerger**, S J McCue, Title of Team: Jason and Sentry Operations Groups
- 1100h **OS12B-04** Preliminary results of field mapping of methane plumes offshore of Coal Oil Point, California with a RESON 7125 multibeam sonar in water-column mode: **D P Finlayson**, G Hatcher, T D Lorenson, J Greinert, E Maillard, M Weirathmueller, I Leifer
- 1115h **OS12B-05** Acoustic reflectivity of oil spill in the Gulf of Mexico measured with the SeaBat 7125 High-Frequency Multibeam Echosounder, May 2010: **P K Eriksen**, G Wendelboe
- 1130h **OS12B-06** Underwater Acoustic Transponders Tracking While Mapping With A Multibeam Echo-Sounder: **C P de Moustier**, A Franzheim, W Testa, J M Burns, R Foy

1145h **OS12B-07** Mapping the True 3D Morphology of Deep-Sea Canyons: V A Huvenne, D Masson, P A Tyler, **V Huehnerbach**

Planetary Sciences

PI2A Moscone West: 2004 Monday 1020h
Planetary Environments and Life: What Do We Know? How Can We Learn from Analogs? II (*joint with B, EP*)

Presiding: **J L Eigenbrode**, NASA Goddard Space Flight Cent; **M A Meyer**, NASA HQ; **V Hipkin**, Canadian Space Agency

1020h **PI2A-01** Declining Lake Habitats in the Andes: Implications for Early Mars, Life, and Exploration (*Invited*): **N A Cabrol**, E A Grin, Title of Team: and the High Lakes Project Team

1035h **PI2A-02** Saline Playas on Qinghai-Tibet Plateau as Mars Analog for the Formation-Preservation of Hydrous Salts and Biosignatures: **A Wang**, M Zheng, F Kong, P Sobron, D P Mayer

1050h **PI2A-03** Constraining carbon sources and cycling of endolithic microbial communities in the Atacama Desert: **L A Ziolkowski**, G F Slater, A Davila, J Wierzchos

1105h **PI2A-04** Reanalysis of the Viking results suggests perchlorate and organics at mid-latitudes on Mars: **R Navarro-Gonzalez**, E Vargas, J de la Rosa, A C Raga, C McKay

1120h **PI2A-05** Microbial Perchlorate Reduction in the Unsaturated Zone of an Israeli Mars Analog Site: **M L Coleman**, H Gal, Z Ronen, N Weisbrod

1135h **PI2A-06** The Arctic Mars Analogue Svalbard Expedition 2010. (*Invited*): **A Steele**, L G Benning, M L Fogel, H Amundsen, N Schmitz, Title of Team: AMASE 2010 team

1150h **PI2A-07** Mineralized iron oxidizing bacteria from hydrothermal vents: targeting biosignatures on Mars: **R J Leveille**

1205h **PI2A-08** Basaltic caves at Craters of the Moon National Monument and Preserve as analogs for Mars: **N W Hinman**, C D Richardson, L McHenry, J R Scott

Paleoceanography and Paleoclimatology

PP12A Moscone West: 2007 Monday 1020h
Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Aeolian Sediment Archives II (*joint with A, B, EP, GP, GC, OS*)

Presiding: **B Machalet**, Humboldt-University of Berlin; **E A Oches**, Bentley University; **H M Roberts**, Aberystwyth University; **Z Lai**, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences

1020h **PP12A-01** Why Was the World Dustier During Times of Glaciation (*Invited*): **W S Broecker**

1035h **PP12A-02** Interpretation of palaeomonsoon dynamics on the Eastern Tibetan Plateau from a 10kyr peat record of dust deposition and regional atmospheric model simulations: **M Ferrat**, D J Weiss, S Dong, B Langmann, B Spiro, D Large

1050h **PP12A-03** WITHDRAWN

1105h **PP12A-04** Fossil molecules reveal decoupled warming and monsoon precipitation in East Asia over the last deglaciation: **F Peterse**, M A Prins, C J Beets, S R Troelstra, H Zheng, Z Gu, S Schouten, J S Sinninghe Damste

1120h **PP12A-05** Origin and production process of eolian dust emitted from the Tarim Basin and their evolution through the Plio-Pleistocene based on ESR signal intensity and crystallinity of quartz: **R Tada**, Y Isozaki, H Zheng, Y Sun, S Toyoda, H Hasegawa, T Yoshida

1135h **PP12A-06** Dolni Vestonice (Czech Republic) an intermediate loess series between Western and eastern European records:

D Rousseau, P Antoine, C Hatte, F Lagroix, M Fuchs, O Moine, C Gauthier, J Svoboda, L Lisa

1150h **PP12A-07** Mineral dust in the mid-Holocene: towards a global database: **S Albani**, N M Mahowald, G Winckler, D R Muhs, M Goman, B Delmonte, V Maggi, B L Otto-Bliesner

1205h **PP12A-08** Latest Pleistocene gusty intensified winds forced Sinai/Negev sand abrasion into finer grains: An example of active ergs as mega grinders: **Y Enzel**, R Amit, O Crouvi, N Porat

PP12B Moscone West: 2005 Monday 1020h
Pliocene Climate I

Presiding: **H J Dowsett**, USGS; **M M Robinson**, US Geological Survey; **M Williams**, University of Leicester

1020h **PP12B-01** Pliocene climate variability and tipping points: **D J Hill**, A M Haywood, A M Dolan, S Bonham, T van de Flierdt, C Cook, N Scropton, A Z Csank, M Williams, D J Lunt

1035h **PP12B-02** Mid-Pliocene to Early Quaternary Evolution of the Beringian Arctic from Deep Drilling at Lake El'gygytyn, Chukotka: initial results (*Invited*): **J Brigham-Grette**, M Melles, P Minyuk, A Andreev, J Snyder, V Wennrich, Title of Team: Lake El'gygytyn Scientific Party

1050h **PP12B-03** Sediment Accumulation on Eirik Drift (Northern North Atlantic) during the Early Pliocene: Implications for a Strong, Stable Deep-Water Current System: **J D Wright**, G Mountain

1105h **PP12B-04** Late Pliocene cooling, sea ice and the establishment of a Ross Sea polynya: Geochemical and diatom assemblage constraints from McMurdo Sound, Antarctica:

C Riesselman, R B Dunbar, C M Sjunneskog, D A Mucciarone, D Winter, M Olney, E Tuzzi, R M McKay, R P Scherer

1120h **PP12B-05** The Pliocene record around the Prydz Bay margin: review and questions (*Invited*): **P G Quilty**

1135h **PP12B-06** The high tide of the warm Pliocene: Implications of ~20 m Peak Eustatic Sea-Levels for Antarctic Deglaciation:

K G Miller, J V Browning, A A Kulpecz, M A Kominz, T Naish, Y Rosenthal, W R Peltier, S M Sosdian, J D Wright

1150h **PP12B-07** Why did Africa became dry in the mid-Pliocene? (*Invited*): **P B DeMenocal**, S J Feakins, C Cleroux, J A Arbuszewski

1205h **PP12B-08** Pliocene Paleoenvironments of the Awash Valley, Ethiopia: The Isotope Record of Tooth Enamel and its Relevance to the Pliocene Paleoclimate of Northeastern Africa: **Z K Bedaso**, J G Wynn, Z Alemseged

Study of Earth's Deep Interior

DI12A Moscone West: 3024 Monday 1020h
Observations and Interpretations of Lower Mantle, Large, Low Shear Velocity Provinces I (*joint with S, MR*)

Presiding: **C T Houser**, University of California Santa Cruz; **S Tanaka**, JAMSTEC; **M Murakami**, Tohoku University

1020h **DI12A-01** Geometries, structural features and velocity structures of the Pacific Anomaly and comparison with the African Anomaly (*Invited*): **Y He**, L Wen

1035h **DI12A-02** Phase transitions in pyrolytic mantle and MORB materials and their electrical conductivities at lowermost mantle conditions (*Invited*): **K Ohta**, K Hirose, K Shimizu, T Lay, Y Ohishi

1050h **DI12A-03** The dynamics and thermo-chemical structure of LLVSP: observations and models (*Invited*): **F Deschamps**, P J Tackley, J Trampert

1105h **DI12A-04** Density Structure of a High-Bulk Modulus Chemical Piles (*Invited*): **E Tan**

DI12B Moscone West: 3024 Monday 1120h
Spin Transition, Fe/Mg Partitioning, Viscosity, Seismic Structure: How Well Do We Know the Lower Mantle? I (*joint with MR, S, T*)

Presiding: **S Speziale**, Deutsches GeoForschungsZentrum; **J Badro**, Institut de Physique du Globe de Paris; **F Cammarano**, ETH Zürich; **T Tsuchiya**, Ehime University

1120h **DI12B-01** Multi-Scale Lower Mantle Structure and Dynamics (*Invited*): **E J Garnero**, A K McNamara, C Zhao, M S Thorne

1135h **DI12B-02** Slabs and plumes crossing a broad density/viscosity discontinuity in the mid lower mantle (*Invited*): **G Morra**, D A Yuen, F Cammarano

1150h **DI12B-03** Spin crossover in ferroperricite at high pressure: A seismically transparent transition? (*Invited*): **D Antonangeli**, J Siebert, C Aracne, D Farber, M Krisch, F J Ryerson, G Fiquet, J Badro

1205h **DI12B-04** Effects of Fe on the thermodynamic properties of MgSiO₃ perovskite and post-perovskite (*Invited*): **A Metsue**, T Tsuchiya

Seismology

S12A Moscone West: 2009 Monday 1020h
Toward Elucidating the Physics of Fault Tremor and Slow Slip II (*joint with G, H, MR, T*)

Presiding: **D R Shelly**, U.S. Geological Survey; **R Burgmann**, Univ California Berkeley

1020h **S12A-01** Probing deformation at depth using passive seismology: case of the Mexico 2006 slow slip event: **D N Rivet**, M Campillo, N M Shapiro, V M Cruz-Atienza, M Radiguet, N Cotte, V Kostoglodov

1035h **S12A-02** Variations of fluid pressure within the subducting oceanic crust: Fine-scale seismic structures correlating with slow earthquakes: **A Kato**, T Iidaka, R Ikuta, Y Yoshida, K Katsumata, T Iwasaki, S Sakai, C H Thurber, N Tsumura, K Yamaoka, T Watanabe, T Kunitomo, F Yamazaki, M Okubo, S Suzuki, N Hirata

1050h **S12A-03** Variations in tremor activity and implications for lower crustal deformation along the central San Andreas Fault (*Invited*): **D R Shelly**

1105h **S12A-04** Tidal triggering of LFEs near Parkfield, CA: **A Thomas**, R Burgmann, D R Shelly

1120h **S12A-05** Tremor evidence for dynamically triggered creep events on the deep San Andreas Fault: **Z Peng**, D R Shelly, D P Hill, C Aiken

1135h **S12A-06** Nonlinear Dynamical Triggering of Slow-Slip: **P A Johnson**, M W Knuth, B M Kaproth, B M Carpenter, R A Guyer, P Le Bas, E G Daub, C Marone

1150h **S12A-07** The Physics of Tremors and Slow Slip: Insights from Laboratory Experiments: **C Voisin**, D Zigone, F Renard, E F Larose, M Campillo

1205h **S12A-08** Fault Slip Embedded in Creep: Insight into Tectonic Tremors and Slow Slip Events from Acoustic and Optical Monitoring of Fractures: **J E Elkhoury**, O Lengline, J P Ampuero, J Schmittbuhl

Tectonophysics

T12A Moscone West: 2018 Monday 1020h
Investigation of the Earth's Interior Using Geophysical and Laboratory Measurements I (*joint with GP, MR, NS, S, V*)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **A Pommier**, MIT; **R L Evans**, Woods Hole Oceanographic Institution; **G R Foulger**, University of Durham

1020h **T12A-01** Melting atop the 410 km discontinuity (*Invited*): **M M Hirschmann**, J Revenaugh, T J Tenner

1035h **T12A-02** Hawaii, Boundary Layers and Ambient Mantle-The LLAMA Model (*Invited*): **D L Anderson**

1050h **T12A-03** The Cycle of Hydration and Fluid Release in the Costa Rican Subduction Zone imaged through electromagnetic soundings: Where has all the water gone? (*Invited*): **T W Worzewski**, M D Jegen, H Kopp, H Brasse, W Taylor

1105h **T12A-04** Sharp Arc-ward Grain Size Increase in the Forearc Mantle Wedge and Its Implications for Subduction Zone Dynamics: **I Wada**, M D Behn, J He

1120h **T12A-05** Rock property measurements guide interpretation of electromagnetic, magnetic and gravity models at Mts. Adams, Baker, Rainier and St. Helens (*Invited*): **C Finn**, P A Bedrosian, R Horton, S Polster

1135h **T12A-06** Origin of the low velocity zone: perspectives of electrical conductivity and melt morphology (*Invited*): **T Yoshino**

1150h **T12A-07** WATER AND ITS INFLUENCE ON THE LITHOSPHERE TO ASTHENOSPHERE BOUNDARY: **D H Green**, W O Hibberson, I J Kovacs, A Rosenthal

1205h **T12A-08** Influence of the global LVZ on the tectonic style of a terrestrial planet: **T Höink**, A Lenardic, M A Richards

T12B Moscone West: 2016 Monday 1020h
SinoProbe: Deep Exploration in China II (*joint with DI, S*)

Presiding: **T Li**, Chinese Academy of Geological Sciences; **S L Klemperer**, Stanford University

1020h **T12B-01** Broadband Seismic Array Observation along a ~2000-km-long Linear Profile in South China: **Y Ai**, L Zhao, L Chen, T Zheng, Y He, M Jiang

1035h **T12B-02** Experimentation and Progress of Three Dimensional Magnetotelluric Survey in North China and Tibetan Plateau: **G Ye**, W Wei, S Jin, M Deng, J Jing, H Dong, L Zhang, C Xie, F Zhang

1050h **T12B-03** Study on Zippingpu reservoir induced multi-scale porous flows related to 2008 Wenchuan Ms 8.0 earthquake by parallel CPU and GPU computation: **Y Shi**, B Zhu

1105h **T12B-04** A Parallel Simulation Framework of Regional Stress Migration: **H Zhang**, Y Shi, Z Wu, M Liu, D Zhang

1120h **T12B-05** Diamond and moissanite in ophiolitic mantle rocks and podiform chromitites: A deep carbon source?: **J Yang**, X Xu, M Wiedenbeck, R B Trumbull, P T Robinson

1135h **T12B-06** Systematic lithological and geochemical differences of the ophiolites between Paleo-Asian Ocean and Paleo-Tethys Domain: **Q Hou**, B Zhang, Z Zhao, J Xu, H Zhang, X Liu

1150h **T12B-07** Build-up and evolution of the Dabashan tectonic belt in central China: **Y Zhang**, J Li, W Shi, H Li, S Dong

1205h **T12B-08** Precambrian Tectonic Evolution of the Tarim Block, NW China: New Geochronological Insights from the Quruqtagh Domain: **L Shu**

T12C Moscone West: 201 I Monday 1020h
The Wilson Cycle Revisited: From Microplates and Mobile Terranes to Supercontinent Dispersals II (*joint with G, GP, S, V*)

Presiding: P A McCrory, US Geological Survey; R E Wells, U.S. Geological Survey

1020h **T12C-01** Tectonic Inheritance at Transform Faults in Successive Wilson Cycles (*Invited*): **W A Thomas**

1040h **T12C-02** Reconstructing the Mid-Miocene to Recent evolution of the Woodlark Rift: **S Baldwin**, N A Zirakparvar, J P Catalano, P G Fitzgerald, L E Webb, T Little

1055h **T12C-03** Collision to subduction transitions play a fundamental role in the kinematics of marginal terranes: contemporary examples from the western Pacific (*Invited*): **L M Wallace**, S M Ellis, P Mann

1115h **T12C-04** Crustal Structure of the Yakutat Microplate: New Constraints for Understanding the Evolution of Subduction and Collision in southern Alaska: **L L Worthington**, H J Van Avendonk, S P Gulick, G L Christeson, T L Pavlis

1130h **T12C-05** Origin of the Siletz Terrane and its Implications for the 3D Structure of the Cascadia Forearc: **P A McCrory**, D S Wilson

1145h **T12C-06** Magmatic and kinematic history of Siletzia, a Paleocene-Eocene accreted oceanic terrane in the Oregon Coast Range: **R E Wells**, D Bukry, J L Wooden, R M Friedman, P J Haeussler

1200h **T12C-07** Seismically Imaged Relict Slab from the 55 Ma Siletzia Accretion to Northwest USA: End of the Laramide and beginning of the Ignimbrite Flare-up (*Invited*): **E Humphreys**, B Schmandt

Volcanology, Geochemistry, and Petrology

V12A Moscone West: 2020 Monday 1020h
Building the Volcanic Oceanic Crust II (*joint with OS, T*)

Presiding: R C Searle, Durham University; K L Achenbach, Durham University

1020h **Introduction** Roger Searle and Bramley Murton

1024h **V12A-01** Building the Volcanic Oceanic Crust One Eruption at a Time (*Invited*): **J M Sinton**, K H Rubin, S M White, A Colman, J A Bowles, K Gronvold

1039h **V12A-02** Episode of magma injection 2007-2008 in Iceland's lower crust: constraints from GPS and InSAR: **B G Ofeigsson**, A Hooper, F Sigmundsson, B Lund, P Einarsson, H Geirsson, E C Sturkell

1053h **V12A-03** Length Scales of Volcanic Deposition: A Comparison of the Fast-spreading East Pacific Rise and Slow-spreading Mid-Atlantic Ridge (*Invited*): **S Soule**, J Escartin, D J Fornari, D S Nakata, A T Fundis

1108h **V12A-04** Modes of Accretion at Slower Spreading Ocean Ridges: **H J Dick**

1122h **V12A-05** Seismic images of the axial melt lens, Moho and deep penetrating faults at the sedimented Andaman Sea Spreading Centre (*Invited*): **S C Singh**, J McArdle, K Johansen, K Raju

1137h **V12A-06** Constructing mid-ocean ridge flat-topped volcanoes: First evidence from AUV mapping in the Woodlark Basin: **C W Devey**, S Petersen, M Hannington, I Klaucke, K S Lackschewitz, J Mahlke, M Rothenbeck, J Sticklus

1151h **V12A-07** U-series data of recent volcanism at an Axial Volcanic Ridge (*Invited*): **P W Van Calsteren**, L E Thomas, Title of Team: JC024 shipboard party

1206h **V12A-08** Complex relationships between surficial geology, rock geochemistry and subsurface melt bodies at the 9N Overlapping Spreading Center, East Pacific Rise: **E M Klein**, M R Perfit, V Wanless, S M White, J A Nunnery, C L Waters, K W Sims

V12B Moscone West: 2022 Monday 1020h
The Subduction Filter: Effects on the Mantle, Arcs, and Continents II (*joint with DI*)

Presiding: C Chauvel, University of Grenoble; T Plank, Columbia University; E J Chin, Rice University

1020h **V12B-01** Hf-Nd isotope and trace element constraints on subduction inputs at island arcs: limitations of Hf anomalies as sediment input indicators: **H K Handley**, S Turner, C Macpherson, J P Davidson, R Gertisser

1035h **V12B-02** Arc Basalt Simulator version 3: Spreadsheet mass balance for exploring on element behavior between subducted slab, mantle wedge, and magma: **J Kimura**, H Kawabata, B R Hacker, P E Van Keken, J B Gill, R J Stern

1050h **V12B-03** Monazite saturation in silicate melts at high pressure with implications for subduction zone volcanism (*Invited*): **S E Skora**, J Blundy

1105h **V12B-04** Experimental Insights into the Subduction Filter: **C B Till**, T L Grove

1120h **V12B-05** Yttrium Behavior in Aqueous Fluid At High Pressures and Temperatures: Implications for Cold Subduction Zones: **E A Tanis**, A C Simon, O D Tschauner, M R Frank, P Chow, Y Xiao, J M Hanchar

1135h **V12B-06** Trace element partitioning between minerals and aqueous fluid as a tool to unravel element release from the subducting slab: **V van Hinsberg**, G Franz, A Williams-Jones, B J Wood

1150h **V12B-07** Copper systematics during mantle melting and crustal differentiation in arcs: implications for S and Pb budgets of the continental crust: **C Lee**, E J Chin, R Dasgupta, P I Luffi, V Le Roux

1205h **V12B-08** Impact of melt segregation on chemical composition with application to deep crustal hot zones: **J Solano**, M Jackson, R S Sparks, J D Blundy

Monday P.M.

Union

U12B Marriott: Yerba Buena Ballroom Monday 1230h
Science and Policy Union Lecture

Presiding: C L Johnson, University of British Columbia, Vancouver

1230h **U12B-01** Scientists, Science Advice, and Science Policy in the Obama Administration (*Invited*): **J P Holdren**

U13A Moscone South: Poster Hall Monday 1340h
The 12 January 2010 M7.0 Haiti Earthquake II Posters

Presiding: A Lerner-Lam, Lamont-Doherty Earth Observatory; R Momplaisir, Universite d'Etat d'Haiti

1340h **U13A-0001 POSTER** Historical perspective on seismic hazard in Hispaniola and the NE Caribbean: **U S Ten Brink**, W Bakun, C H Flores

1340h **U13A-0002 POSTER** Significant earthquakes on the Enriquillo fault system, Hispaniola, 1500-2010: **W Bakun**, C H Flores, U S Ten Brink

1340h **U13A-0003** *POSTER* Complex faulting during the Haiti earthquake inferred from geodesy: **F Amelung**, S Jonsson, E Calais, F Greene, S Hong, T H Dixon, S Wdowinski

1340h **U13A-0004** *POSTER* Complex rupture source of the 12 January 2010 Léogâne, Haiti earthquake derived from geologic, geodetic, and seismologic observations: **R W Briggs**, G P Hayes, A Sladen, E J Fielding, C S Prentice, K W Hudnut, P Mann, F W Taylor, A J Crone, R D Gold, T Ito, M Simons, P Jean

1340h **U13A-0005** *POSTER* Vertical Deformation of Late Quaternary Features Across Port-au-Prince Bay, Haiti: **M Cormier**, C M McHugh, S P Gulick, N Braudy, M B Davis, J B Diebold, N Dieudonne, R Douilly, M J Hornbach, H E Johnson, K Mishkin, L Seeber, C C Sorlien, M S Steckler, S J Symithe, J Templeton

1340h **U13A-0006** *POSTER* Project REPONS: Offshore Faults, Tectonic Deformation and Turbidite Record in Response to the January 12 2010 Earthquake, Haiti: **C M McHugh**, S P Gulick, M Cormier, N Dieudonne, J B Diebold, R Douilly, M Hornbach, H E Johnson, K Mishkin, L Seeber, C C Sorlien, M S Steckler, S J Symithe

1340h **U13A-0007** *POSTER* The January 2010 Haiti mainshock-aftershock sequence: Positive feedback between faults in strain-partitioned transpression: **L Seeber**, F Waldhauser, T Diehl, V Hjørleifsdottir, M Nettles

1340h **U13A-0008** *POSTER* Structure of the Aftershock Zone of the Mw 7.0 Haiti Earthquake from the USGS-BME Portable Instrument Deployment: **J Altidor**, A Dieuseul, J G Armbruster, H Benz, C Dietel, W L Ellsworth, D Given, S E Hough, D Ketchum, J H Luetgert, J Z Maharrey, M E Meremonte, D E McNamara, B S Mildor, W D Mooney, R Sell

1340h **U13A-0009** *POSTER* 2010 HAITI EARTHQUAKE: AFTERSHOCK STUDY FROM TEMPORARY OFF SHORE AND LAND NETWORK: **A Deschamps**, M Bouin, P Charvis, V Clouard, F Klingelhoefer, Y Mazabraud, B Mercier de Lepinay, J Perrot, J Saurel

1340h **U13A-0010** *POSTER* Nearshore geophysical investigation of the underwater trace of the Enriquillo-Plantain Garden Fault following the 12 January 2010 Haiti earthquake: **H E Johnson**, M Hornbach, M Cormier, C M McHugh, S P Gulick, N Braudy, M Davis, N Dieudonne, J B Diebold, R Douilly, K Mishkin, L Seeber, C C Sorlien, M S Steckler, S J Symithe, J Templeton

1340h **U13A-0011** *POSTER* Localized Damage Associated with Topographic Amplification During the 12 January 2010 Haiti Earthquake: **S E Hough**, A Yong, J Altidor, A Dieuseul, D D Given, B S Mildor

1340h **U13A-0012** *POSTER* TERRAIN CLASSIFICATION OF ASTER gDEM FOR SEISMIC MICROZONATION OF PORT-AU-PRINCE, HAITI, USING PIXEL- AND OBJECT- BASED ANALYTIC METHODS: **A Yong**, S E Hough, B R Cox, E M Rathje, J Bachhuber, D Hulslander, L Christiansen, M Abrams

1340h **U13A-0013** *POSTER* Tsunamis triggered by the 12 January 2010 Earthquake in Haiti: **H M Fritz**, J V Hillaire, E Molière, F Mohammed, Y Wei

1340h **U13A-0014** *POSTER* Solution notches, earthquakes, and sea level, Haiti: **C R Schiffman**, B S Mildor, R G Bilham

1340h **U13A-0015** *POSTER* Earthquake behavior of the Enriquillo fault zone, Haiti revealed by interactive terrain visualization: **E Cowgill**, T S Bernardin, M E Oskin, C J Bowles, M B Yikilmaz, O Kreylos, A J Elliott, M S Bishop, R D Gold, A Morelan, G W Bawden, B Hamann, L H Kellogg

1340h **U13A-0016** *POSTER* The 12 Jan 2010, Haiti earthquake affected by aseismic fault creep: **M Shirzaei**, T R Walter

1340h **U13A-0017** *POSTER* Variation in dip of the Caribbean Plate along the Muertos Trough: **X Xu**, K M Keranen, E Asencio, J C Chang, G Keller

1340h **U13A-0018** *POSTER* Deformation partitioning at the junction between the Enriquillo fault and the Trans-Haitian belt: S Leroy, **M Pubellier**, N Ellouz, R Momplaisir, D Boisson, H Amilcar

1340h **U13A-0019** *POSTER* Gravity Modeling of the Cerro Goden fault zone, NW Puerto Rico: **G A Mattei**, K M Keranen, E Asencio

1340h **U13A-0020** *POSTER* Global Seismic Hazard Assessment Program Maps Are Misleading: **V G Kossobokov**, A K Nekrasova

1340h **U13A-0021** *POSTER* Width of late Quaternary deformation of the Enriquillo-Plantain Garden strike-slip fault zone in Haiti and the Jamaica Passage and implications for accumulated stress: **P Mann**, J L Bachhuber

U13B Moscone South: 104 Monday 1350h
Extreme Natural Events: Modeling, Prediction, and Mitigation II

Presiding: **A Ismail-Zadeh**, Karlsruhe Institute of Technology;
I Zaliapin, University of Nevada

1350h **Alik Ismail-Zadeh** *Introduction: Extreme Natural Hazards and Societal Implication - ENHANS*

1355h **U13B-01** Predicting and mitigating impacts of extreme space weather (*Invited*): **D N Baker**

1413h **U13B-02** Storm surges – a globally distributed risk, and the case of Hamburg (*Invited*): **H von Storch**

1431h **U13B-03** 2010: Why is it flooding everywhere this year? Coincidence or a predictable climate phenomenon, and how can we respond? (*Invited*): **U Lall**

1446h **U13B-04** From M8 to CyberShake: Using Large-Scale Numerical Simulations to Forecast Earthquake Ground Motions (*Invited*): **T H Jordan**, Y Cui, K B Olsen, R W Graves, P J Maechling, S M Day, S Callaghan, K Milner, Title of Team: SCEC/CME Collaboration

1504h **U13B-05** Extreme Volcanic Eruptions: return periods, impact and implications (*Invited*): **R S Sparks**

1522h **U13B-06** Connecting Capital and Catastrophe in a Modeled World - How re/insurance and public science interact to manage risk for societal benefit: **R Douglas**

Atmospheric Sciences

A13A Moscone South: Poster Hall Monday 1340h
Atmospheric Sciences General Contributions: Clouds and Aerosol-Cloud Interactions II Posters

Presiding: **S Menon**, Lawrence Berkeley national Laboratory;
JD Small, Jet Propulsion Laboratory

1340h **A13A-0175** *POSTER* Reconstruction of the solution of the coagulation equation in two components from its orthogonal projections: an application to the physics of clouds: **R Alvarez**, J Guerrero, L Alfonso

1340h **A13A-0176** *POSTER* The effect of partial cloudiness on quantifying angular biases in GOES cloud property retrievals: **R Boeke**, P Minnis, P W Heck, R Palikonda, R F Arduini

1340h **A13A-0177** *POSTER* Externally Mixed Aerosols to Internally Mixed Aerosols: A Numerical Study of Cloud Processing Using a Bin Aerosol-microphysics Scheme Coupled With WRF: **L Xue**

1340h **A13A-0178** *POSTER* Comparison of CERES-MODIS and CloudSat/CALIPSO cloud properties with DOE ARM AMF measurements at Shouxian, China: **Y Qiu**, X Dong, B Xi, P Minnis

1340h **A13A-0179** *POSTER* Size-resolved Chemical Composition of Cloud and Rain Water Collected during the Puerto Rico African Dust and Clouds Study (PRADACS) Campaign: **C J Valle Diaz**, O L Mayol-Bracero, F Zurcher, A Gioda, T Lee, J L Collett, Title of Team: PRADACS Team

1340h **A13A-0180** *POSTER* Can in situ measurements be used to estimate the age of shallow cumulus clouds?: **M Witte**, P Y Chuang

1340h **A13A-0181** *POSTER* Numerical study of sea fogs off the west coast of the Korean Peninsula using a Single Column Model coupled with WRF: **C Kim**, S S Yum

1340h **A13A-0182** *POSTER* Examination of Cloud Climatologies Generated from a CALIOP Data Fused Cloud Mask: **B Getzewich**, D M Winker

1340h **A13A-0183** *POSTER* Assimilation of clear sky water vapor information from AIRS data: **D Merkova**

1340h **A13A-0184** *POSTER* Effect of land surface interactions on cloud convection processes - A mesoscale modeling study using the ARM CLASIC-2007 field observations: **U Charusambot**, D Niyogi, M A Miller

1340h **A13A-0185** *POSTER* A Case Study of a Double-Moment Cloud Microphysics Parameterization in Cloud Resolving Model Simulations: **Z Liu**, T P Ackerman, H Morrison

1340h **A13A-0186** *POSTER* Introduction of A Day/Night, Object-Based Quantitative Fog/Low Cloud Detection and Thickness Algorithm for GOES-R: **C G Calvert**, M J Pavolonis

1340h **A13A-0187** *POSTER* Raindrop Size Distribution and Z-R Relation during the Black Rainstorm Warning in Hong Kong: **S Lau**, **L S Chiu**, Y Zhang, C Cheng

1340h **A13A-0188** *POSTER* Measurements and modeling of solar spectral absorption by liquid water clouds: **B C Kindel**, P Pilewskie, S Schmidt, O Coddington

1340h **A13A-0189** WITHDRAWN

A13B Moscone South: Poster Hall Monday 1340h Atmospheric Sciences General Contributions: Observations and Experimental Techniques II Posters

Presiding: **S Madronich**, NCAR; **B Schmid**, Pacific Northwest National Lab

1340h **A13B-0190** *POSTER* Version 3.3 Data Products from EOS MLS: **D Cuddy**, P Wagner, W G Read, V Perun, H Nguyen

1340h **A13B-0191** *POSTER* Eddy Covariance Method or Technique?: **Y G Getahun**, R J Qualls

1340h **A13B-0192** *POSTER* Analysis of the possible measurement errors for the PM10 concentration measurement at Gosan, Korea: **S Shin**, Y Kim, C Jung

1340h **A13B-0193** *POSTER* Satellite (Timed, Aura, Aqua) and In Situ (Meteorological Rockets, Balloons) Measurement Comparability: **F J Schmidlin**, R A Goldberg, A Feofilov, R Rose

1340h **A13B-0194** *POSTER* Chemical Composition of Tropospheric Air Mass Encountered During High Altitude Flight (>11.5km) over Antarctica at Latitude 86S During the 2009 Fall Operation Ice Bridge Field Campaign: **M M Yang**, D R Blake, S Meinardi, S A Vay, Y Choi, M Rana, T Slate, G W Sachse, G S Diskin

1340h **A13B-0195** *POSTER* Comparison of methods for determining boundary layer height during the 2010 CAPABLE summer intensive: **M R Pippin**, T Knepp, R Martin, L Cowen, J Geiger, R DeYoung, J Murray, J Fishman, D O Neil, C Scott, C Franklin, R Kollmeyer, N Prasad, A Sorkin, T Jennings, J Szykman, A Quesnel, L sauvage, M A Yesalusk, W Smith, D K Martins, R Stauffer, A M Thompson

1340h **A13B-0196** *POSTER* Comparison of ground-based and satellite-based NO2 column measurements: First steps to correlating in-situ and remote measurements: **T Knepp**, M R Pippin, L Cowen, R Martin, J Geiger, J Murray, J Fishman, D O Neil, C Scott, C Franklin, R Kollmeyer, A Sorkin, T Jennings, J Szykman, A Quesnel, L sauvage, M A Yesalusk, W Smith, D K Martins, A M Thompson, J R Herman, A Cede, N Abuhassan

1340h **A13B-0197** *POSTER* THE IMPACT OF ASSIMILATION WITH THE INCLUSION OF AMSU-A RADIANCES IN 4D-LETKF/AGCM SYSTEM: **M S Medeiros**, D L Herdies, J A Aravequia, S S Souza, Title of Team: Group on Data Assimilation Development

1340h **A13B-0198** *POSTER* The MODIS MOD07 collection 6 products: **E E Borbas**, S W Seemann, L Moy, W P Menzel

1340h **A13B-0199** *POSTER* Application of MODIS BRDF to AOD retrieval from Single Visible Channel of MTSAT-1R: **M KIM**, J Kim, M Wong, J Yoon, J Lee, D L Wu, P Chan, J E Nichol

1340h **A13B-0200** *POSTER* Evaluation of the retrospective seasonal prediction skills of the LC-LRGMME eleven-model ensemble: **K Kim**, M Kim, E Seo, J Chung, W Yun

1340h **A13B-0201** *POSTER* The AtChem On-line model and Electronic Laboratory Notebook (ELN): A free community modelling tool with provenance capture: **J C Young**, K Boronska, C J Martin, A R Rickard, M Vázquez Moreno, M J Pilling, M H Haji, P M Dew, L M Lau, P K Jimack

1340h **A13B-0202** *POSTER* Laboratory Studies of the Effects of Ambient Conditions, Soot Emissions, and Fuel Properties on Contrail Formation: **A J Beyersdorf**, B E Anderson, D Bulzan, R C Miake-Lye, K Tacina, K L Thornhill, E Winstead, H Wong, L D Ziemba

1340h **A13B-0203** WITHDRAWN

1340h **A13B-0204** *POSTER* The 2010 Eyjafjallajökull Eruptions: The NASA Applied Sciences Perspective for Aviation: **J J Murray**, J A Haynes, C R Trepte, N A Krotkov, A J Krueger

1340h **A13B-0205** *POSTER* The Development of Airborne Data for Assessing Models (ADAM) - A central repository of airborne field campaign data archives: **G Chen**, M M Kleb, A A Aknan, C C Brown, D C Mangosing, A Thornhill, P L Rinsland

1340h **A13B-0206** *POSTER* Digital Array Gas Correlation Radiometry (DAGR): A New Approach to Passively Sensing the Planetary Boundary Layer: **B Crowther**, J Peterson, L L Gordley, M E Hervig, J Burton, C S Fish, G S Diskin, G W Sachse

1340h **A13B-0207** *POSTER* Laboratory Evaluation of the Effect of HNO₃ Uptake on Frost Point Hygrometer Measurement of Water Vapor under UT/LS Conditions: **T Thornberry**, T Gierczak, R Gao, H Voemel, L Watts, J B Burkholder, D W Fahey

1340h **A13B-0208** *POSTER* Anvil and Convective Lightning: A TRMM Perspective: **M J Peterson**, C Liu

1340h **A13B-0209** *POSTER* An Evaluation of Land-Surface Heterogeneity Effects on Atmospheric Boundary Layer Processes at Various Scales: **M A Bolch**, R Avissar

1340h **A13B-0210** *POSTER* Alaska climate divisions based on objective methods: H Angeloff, **P A Bieniek**, U S Bhatt, R Thoman, J E Walsh, C Daly, M Shulski

1340h **A13B-0211** *POSTER* Using the LibCF/GRIDSPEC extensions to interpret data on mosaic grids with CDAT: **D Kindig**, A Pletzer, V Balaji, S C Hankin, E J Hartnett, C Doutriaux, J Painter, A Sobol, M Wrobel

1340h **A13B-0212** *POSTER* Hilbert-Huang Transform: A Spectral Analysis Tool Applied to Sunspot Number and Total Solar Irradiance Variations, as well as Near-Surface Atmospheric Variables: **B L Barnhart**, W E Eichinger, J H Prueger

1340h **A13B-0213** POSTER CESAR: Compact Echelle Spectrograph for Aeronomical Research: **R Melchiorri**, M Grill, E A Kendall, E Schiesser, T G Slanger, M Radovan, J Lacoursiere

1340h **A13B-0214** POSTER RETRIEVAL OF THE SINGLE SCATTERING ALBEDO IN THE EL PASO-JUAREZ AIRSHED USING THE TUV MODEL AND A UV-MFRSR RADIOMETER: **R Medina Calderon**, Title of Team: Environmental Physics at UTEP

1340h **A13B-0215** POSTER Terra and Aqua MODIS Instrument Status: **X Xiong**, B Wenny, J Sun, A Angal, W Barnes

1340h **A13B-0216** POSTER Validating the reported random errors of ACE-FTS measurements through analysis of tropical variability: K Strong, **M Toohey**, P F Bernath, C Boone, K A Walker, A Jonsson, T G Shepherd

1340h **A13B-0217** POSTER Thermal dissociation blue diode laser ring-down spectroscopy: A novel tool for quantification of nitrogen oxide reservoir species: **H D Osthoff**, D Paul, L H Mielke, A Furgeson

1340h **A13B-0218** POSTER The 8-component retrievals from ground-based MAX-DOAS observations: **H Irie**, H Takashima, Y Kanaya, F Boersma, L Gast, F Wittrock, M Van Roozendael

1340h **A13B-0219** POSTER Measurements of NO₂-profiles during the CINDI campaign: **F Wittrock**, K Clémer, S Berkhout, F Boersma, D Brunner, U Friess, T Hay, H Irie, E Peters, A Piters, R Shaiganfar, W Sluis, E Spinei, T Vlemmix, T Wagner, S Yilmaz, M Van Roozendael, A Richter, J P Burrows

1340h **A13B-0220** POSTER ACE-FTS Version 3.0 Initial Validation using Correlative Datasets: **C Waymark**, K A Walker, C Boone, E A Dupuy, P F Bernath, J Anderson, L Froidevaux

1340h **A13B-0221** POSTER The Retrieval of Vertical Air Motion from an Airborne W-Band using Mie Scattering: **E Jung**, B A Albrecht, P Kollias

1340h **A13B-0222** POSTER Simulations of Radio Occultation by Using Ray Tracing Method with nonspherical symmetric atmosphere: **W Yeh**, M Chen, T Chiu, Y Liou

A13C Moscone South: Poster Hall Monday 1340h Atmospheric Sciences General Contributions: Radiation and Climate II Posters

Presiding: **N G Andronova**, University of Michigan; **M Chin**, NASA Goddard SFC

1340h **A13C-0223** POSTER Why do anthropogenic global warming skeptics have poorer scientific credentials than their opponents?: **N L Rogers**

1340h **A13C-0224** POSTER The ARM Climate Research Facility – New Capabilities and the Expected Impacts on Climate Science and Modeling: **J Voyles**, J H Mather

1340h **A13C-0225** POSTER Climatology of Extreme Winds in the Chukchi/Beaufort Seas/Alaska Region Using the North American Regional Reanalysis: **S T Stegall**, J Zhang

1340h **A13C-0226** POSTER The Impact of Organic Coatings on Light Scattering by Sodium Chloride Particles: **M J Ezell**, Y Li, B J Finlayson-Pitts, Title of Team: AirUCI

1340h **A13C-0227** POSTER Development of Metrology Tools for Quantification of Greenhouse Gases from Distributed Sources: **K O Douglass**, D Plusquellic, G T Fraser, J T Hodges, R D van Zee, A Possolo, D V Samarov, J R Whetstone

1340h **A13C-0228** POSTER EXAMINING THE VALIDITY OF THE INDIAN SUMMER SINGULARITY ACROSS THE NORTHEAST UNITED STATES: **M L Godek**

1340h **A13C-0229** POSTER Spatial and temporal variability of the refractivity over Tahiti from a coarse network of GPS stations: **J Serafini**, A Fadil, L Sichoix, J Barriot

1340h **A13C-0230** POSTER Radiation simulations in the aerosol events: **S Mukai**, I Sano, M Nakata

1340h **A13C-0231** POSTER Estimation of biomass burning aerosols derived from combination of GOSAT/CAI and PARASOL/POLDER: **I Sano**, S Mukai, M Nakata, N Kikuchi, B Holben

1340h **A13C-0232** POSTER Preliminary results from measurement of methane at Gosan, Jeju Island, Korea for understanding emissions in East Asia: **E Lee**, J Kim, K Ahn, M Park, K Kim

1340h **A13C-0233** POSTER Fire Radiative Energy and Biomass Burned Estimation Under Sparse Satellite Sampling Conditions: Using Power Law Probability Distribution Properties of MODIS Fire Radiative Power Retrievals: **S Sathyachandran**, D P Roy, L Boschetti

1340h **A13C-0234** POSTER Large variations in Southern Hemisphere biomass burning during the last 650 years from atmospheric carbon monoxide and its isotopes in Antarctica: **Z Wang**, J Chappellaz, K Park, J E Mak

1340h **A13C-0235** POSTER Soot Particle Optical Properties: a Comparison between Numerical Calculations and Experimental Data Collected during the Boston College Experiment: **N Sharma**, C Mazzoleni, S China, M K Dubey, T B Onasch, E S Cross, P Davidovits, W Wrobel, A Ahern, J P Schwarz, J R Spackman, D A Lack, P Massoli, A Freedman, J S Olfert, S Freitag, A J Sedlacek, C D Cappa, R Subramanian

1340h **A13C-0236** POSTER Archean Earth Atmosphere Fractal Haze Aggregates: Light Scattering Calculations and the Faint Young Sun Paradox: **D A Boness**, B Terrell-Martinez

1340h **A13C-0237** POSTER Rice Production Changes over East Asia in a CO₂ Doubled Climate Induced by PNU CGCM: J Ahn, **J Hong**, K Shim, D Lee

A13D Moscone South: Poster Hall Monday 1340h Extreme Warm Season Precipitation in Mountainous Regions and Its Hydrologic Impacts: Modeling and Observations for Climate Studies Posters (joint with GC, H)

Presiding: **J J Barsugli**, University of Colorado at Boulder; **R Rasmussen**, National Center for Atmospheric Research; **K M Mahoney**; **J F England**, Bureau of Reclamation

1340h **A13D-0238** POSTER Interpreting Hydroclimatic Extremes in the North American Monsoon System (*Invited*): **D J Gochis**

1340h **A13D-0239** POSTER Understanding potential changes in warm-season extreme precipitation events across the Colorado Front Range: A WRF-based modeling study: **K M Mahoney**, M A Alexander, J Scott, J J Barsugli, J F England, D A Raff

1340h **A13D-0240** POSTER CoCoRaHS: Supplemental Volunteer Precipitation Observations for Mountainous Regions: **H W Reges**, N J Doesken, N Newman, Z Schwalbe, J Turner

1340h **A13D-0241** POSTER Summertime Rainfall Events in Eastern Oregon and Washington: **N A Bond**, A M Chiodi, N Larkin, J Barbour

1340h **A13D-0242** POSTER Extreme Storm Data and Analyses in the Southeastern U.S. - Implications for Critical Infrastructure: **J F England**, V Sankovich, J Caldwell, T J Nicholson, J D Randall, J Kanney

1340h **A13D-0243** POSTER Dynamical Downscaling of Tropical Storm Ivan in the Southern Appalachians: **X Sun**, A P Barros

1340h **A13D-0244** POSTER Tropical orographic rainfall regimes: **K A Reed**, S W Nesbitt

1340h **A13D-0245** POSTER High resolution regional climate modeling for flood hazard impact study in Germany: **S Wagner**, P Berg, D Duethmann, J Ihringer, H G Kunstmann, J Liebert, B Merz, G Schaedler, J Werhahn

1340h **A13D-0246** *POSTER* An Extreme-rain-producing Long-lived MCS during TiMREX: Possible Triggering and Maintenance Mechanisms: **W Xu**, E J Zipsper

1340h **A13D-0247** *POSTER* Historical changes and future projections of precipitation and its extremes in the 20th and 21st century simulation by a 60-km mesh global atmospheric model: **A Kitoh**, K Kamiguchi, O Arakawa, S Kusunoki

1340h **A13D-0248** *POSTER* Acid Monsoonal Rains in Nepal in August 2008: **C A Gazis**, B Best, J Johnson, B Pratt-Sitaula, D Hodges, A M Johansen, B Upreti

A13E Moscone South: Poster Hall Monday 1340h
Impacts of Mineral Dust Aerosol on Global and Regional Climate II Posters

Presiding: **H Liao**, Institute of Atmospheric Physics; **Y Gu**, University of California, Los Angeles

1340h **A13E-0249** *POSTER* Characterization of Saharan Dust in Marine Aerosol at the Cape Verdean Island São Vicente:

F W Khanneh, K Müller, T Gnauk, H Herrmann

1340h **A13E-0250** *POSTER* Evaluation of Long-term Aerosol Data Records from SeaWiFS over Land and Ocean: **C Bettenhausen**, C Hsu, M Jeong, J Huang

1340h **A13E-0251** *POSTER* Study of the Impact of Saharan dust on west African regional climate using a regional climate model. Advantages, limits and sensitive issues: **F Solmon**, M Mallet, N Elguindi, F Giorgi

1340h **A13E-0252** *POSTER* North African dust export: A global 3-D model analysis using MODIS, MISR, CALIPSO and AERONET observations: **D A Ridley**, C L Heald

1340h **A13E-0253** *POSTER* A Study of Asian Dust Physical and Chemical Properties using AMF-China and AERONET Data:

T Logan, B Xi, X Dong, Z Li

1340h **A13E-0254** *POSTER* Impact of varying spatial resolution on dust aerosol lifecycle simulated in the NASA GEOS-5 AGCM:

E P Nowottnick, P R Colarco, A da Silva, E J Welton

1340h **A13E-0256** *POSTER* Comparison of aerosol optical properties observed over two AERONET sites of Nepal during pre-to post monsoon season of 2009: **B D Devkota**, R P Aryal

1340h **A13E-0257** *POSTER* Radiative forcing of Sahara dust and its impacts on the hydrological cycle in the West African monsoon system: **C Zhao**, X Liu, L Leung, S M Hagos

1340h **A13E-0258** *POSTER* Seasonal variation of dust plumes and their impact on global AOD: **B Xi**, X Dong

1340h **A13E-0259** *POSTER* Simulation of the global distribution and direct radiative effect of mineral dust aerosol at the Last Glacial Maximum: **T Wang**, H Wang, H Liao

1340h **A13E-0260** *POSTER* Transport of dust particles from the Bodele region to the monsoon layer. Case study of the 9-14 June 2006: **S Crumeyrolle**, T Pierre, L Garcia-Carreras, L Gomes, C Flamant, D J Parker, A Matsuki, A Schwarzenboeck, P Formenti

1340h **A13E-0261** *POSTER* Constraining the size distribution of mineral dust aerosols using theory, a compilation of literature measurements, and mesoscale modeling: **J F Kok**, C Zhao, A Hodzic, T Eidhammer, J D Fast, N M Mahowald

1340h **A13E-0262** *POSTER* Modeling of Dust Impact on Heterogeneous Ice Nucleation, and Wet Scavenging with the Weather Research Model: **T Eidhammer**, G Thompson

1340h **A13E-0263** *POSTER* A new mineralogical database for atmospheric dust: **E Journet**, Y Balkanski, S P Harrison

1340h **A13E-0264** *POSTER* The impact of mineral dust particles on radiation and cloud formation during a Saharan dust event over Western Europe: **M Bangert**, A Nenes, B Vogel, H Vogel, D Barahona, P Kumar, U Blahak, A Seifert

1340h **A13E-0265** *POSTER* Time scale analysis of North African dust fluxes over the Mid Atlantic Ocean: **Y Ben Ami**, I Koren, O Altaratz, Y Lehahn

1340h **A13E-0266** *POSTER* Using thermal infrared (TIR) data to characterize dust sources, dust fall and the linkage to climate in the Middle East: **R Mohammad**, M Ramsey, S P Scheidt

1340h **A13E-0267** *POSTER* Summertime Trans-Pacific Transport of Asian Dust: **K Yumimoto**, K Eguchi, I Uno, T Takemura, Z Liu, A Shimizu, N Sugimoto, K B Strawbridge

1340h **A13E-0268** *POSTER* Effects of 2001 Spring Dust Storms on Regional Climate in China: **X Jiang**, Z Yang, H Liao

1340h **A13E-0269** *POSTER* Modeled Dust Distributions and their Impact on Surface Irradiance at Wavelengths Vital to Phytoplankton Growth: **A M Colarco**, W W Gregg, P R Colarco, A da Silva

1340h **A13E-0270** *POSTER* Saharan Dust Particle Size And Concentration Distribution In Central Ghana: **A K Sunnu**

1340h **A13E-0271** *POSTER* Bodélé dust plume height/wind climatology derived from 10 years of MISR stereo data: **S Kassabian**, **O V Kalashnikova**, M J Garay

1340h **A13E-0272** *POSTER* ANALYSIS OF AEROSOL OPTICAL AND PHYSICAL PROPERTIES AND THEIR IMPACT ON SURFACE RADIATIVE ENERGY BUDGET AND ATMOSPHERIC THERMODYNAMICS DURING AEROSE CAMPAIGNS: **A Flores**, E Joseph, N R Nalli, V Morris, Title of Team: The AEROSE Team

1340h **A13E-0273** *POSTER* Radiative Energetics of Mineral Dust Aerosol over Zhangye China during the AMY 2008 Field Campaign: **R A Hansell**, S Tsay, Q Ji, C Hsu, S Bell, C Li, C Wang

1340h **A13E-0274** *POSTER* Mineral dust altering cloud microphysics and precipitation, and exerting LW cooling effect: **Q Min**, R Li, B Lin, E Joseph, S Wang, Y Hu, V Morris, F Chang

1340h **A13E-0275** *POSTER* Satellite Observations of Aerosol-Snow-Radiation Interaction over the Himalayas: **R Gautam**, C Hsu, W K Lau

1340h **A13E-0276** *POSTER* Analysis of the direct and indirect effect of Russian fire over East Asia: **H Lee**, H Park, J H Kim

A13F Moscone South: Poster Hall Monday 1340h
Quantifying the Urban Fossil Fuel Plume: Convergence of Top-Down and Bottom-Up Approaches Posters (*joint with B, GC, PA*)

Presiding: **C Sweeney**, University of Colorado, CIRES; **K R Gurney**, Purdue University

1340h **A13F-0277** *POSTER* CO₂-MEGAPARIS: Quantification of CO₂ emissions from Paris megacity and their spread out to the neighbouring Centre region. (*Invited*): **I Xueref-Remy**

1340h **A13F-0278** *POSTER* Measurement of fossil fuel derived carbon dioxide and other anthropogenic trace gases above Sacramento, California in Spring 2009: **J C Turnbull**, A Karion, M L Fischer, I C Faloona, T P Guilderson, S J Lehman, B R Miller, J B Miller, S A Montzka, T Sherwood, S Saripalli, C Sweeney, P P Tans

1340h **A13F-0279** *POSTER* The INFLUX Project: Indianapolis as a Case Study for the Accurate and High Resolution Determination of CO₂ and CH₄ Emission fluxes from an Urban Center (*Invited*): **P B Shepson**, M Cambaliza, K J Davis, K R Gurney, T LAUVAUX, N L Miles, S Richardson, C Sweeney, J C Turnbull, Title of Team: The INFLUX Science Team

1340h **A13F-0280** POSTER An Observational Method for Verifying Trends in Urban CO₂ Emissions Using Continuous Measurements and High Resolution Meteorology (*Invited*): **S C Wofsy**, K McKain, J Eluszkiewicz, T Nehr Korn, D E Pataki, J Ehleringer

1340h **A13F-0281** POSTER GOSAT specific observation targeting urban CO₂ emissions: **R Imasu**, G Inoue, H Kondo, Y Niwa, H Matsueda, T Machida, Y Matsumi, M Kawasaki, T Nakayama, Y Hayashi, A Inagoya, N Saitoh, T Yokota

1340h **A13F-0282** POSTER Usefulness of Long-term Urban Greenhouse Gas monitoring: the London record: **E G Nisbet**, D Lowry, R E Fisher

1340h **A13F-0283** POSTER Urban carbon dioxide in Portland, Oregon: G A Bostrom, M Brooks, **A L Rice**

1340h **A13F-0284** POSTER New York City's Urban Dome: Past and Present CO₂ Concentration Patterns from an Urban to Rural Gradient: **D Hsueh**, K Griffin, W R McGillis

1340h **A13F-0285** POSTER CO surface emissions from solar absorption IR spectroscopy: **M Grutter**, W Stremme, A R Garcia

1340h **A13F-0286** WITHDRAWN

1340h **A13F-0287** POSTER Validating modelled carbon-dioxide emissions against long-term eddy-covariance measurements at the urban neighborhood-scale: **A Christen**, N C Coops, B Crawford, E Heyman, R Kellett, K Liss, T R Oke, I Olchovski, R Tooke, M van der Laan, J A Voogt

1340h **A13F-0288** POSTER Investigation of methane emission sources from Indianapolis using an aircraft-based platform: **M L Cambaliza**, P B Shepson, K J Davis, K R Gurney, T LAUVAUX, N L Miles, S Richardson, C Sweeney, J C Turnbull, A Karion, K Mays

A13G Moscone South: Poster Hall Monday 1340h **Spanning Five Decades of Advanced Very High Resolution Radiometer Satellite Measurements Posters**

Presiding: **M J Foster**, University of Wisconsin-Madison;
A K Heidinger, NOAA

1340h **A13G-0289** POSTER Advancements in understanding the influence of aeolian dust on climate from the AVHRR: **A T Evan**

1340h **A13G-0290** POSTER The AVHRR component of a long-term global active fire data record: I A Csiszar, **L Giglio**, W Schroeder, C O Justice

1340h **A13G-0291** POSTER Microphysical cloud parameters in the PATMOS-X data set derived from 30 years of AVHRR measurements: **A Walther**, A K Heidinger

1340h **A13G-0292** WITHDRAWN

1340h **A13G-0293** POSTER HISTORIC AVHRR PROCESSING IN THE EUMETSAT CLIMATE MONITORING SATELLITE APPLICATION FACILITY (CMSAF) (*Invited*): **K Karlsson**

1340h **A13G-0294** POSTER Extended AVHRR Polar Pathfinder (APP-x) Products for Studying the Cryosphere During the Satellite Era: **X Wang**, J R Key, Y Liu

1340h **A13G-0295** WITHDRAWN

1340h **A13G-0296** POSTER Developing NOAA's Climate Data Records From AVHRR and Other Data: **J L Privette**, J J Bates, E J Kearns

1340h **A13G-0297** POSTER Monitoring changes in biodiversity over Canada during the past three decades using a dynamic habitat index derived from a long-term AVHRR record: **F M Fontana**, N C Coops, K V Khlopenkov, A P Trishchenko, M A Wulder

1340h **A13G-0298** POSTER Understanding cloud processes in the climate system: The role of satellite observations (*Invited*): **R Bennartz**

1340h **A13G-0299** POSTER Regional Assessment of Marine Boundary Layer Cloud Properties Using PATMOS-x: **J Rausch**, R Bennartz, A K Heidinger

1340h **A13G-0300** POSTER A 30 year High-Spatial Resolution Cloud Climatology from NOAA's PATMOS-x Project: **A K Heidinger**, A Walther, M J Foster

1340h **A13G-0301** POSTER AN AGREEMENT ASSESSMENT OF GLOBAL VEGETATION INDEX PRODUCTS FROM TERRA MODIS AND SPOT-4 VEGETATION FOR CONTINUITY STUDIES: **J Tsend-Ayush**, T Miura, K Didan, A Barreto-munoz

1340h **A13G-0302** POSTER Identifying long-term changes in global cloud cover from the AVHRR: **A C Ostendorff**, A T Evan

1340h **A13G-0303** POSTER Absolute calibration of AVHRR visible sensors using SCIAMACHY hyperspectral data and MODIS radiances: **B Scarino**, D R Doelling, D Morstad, A Gopalan, P Minnis, R Bhatt, C Lukashin

1340h **A13G-0304** POSTER AVHRR calibration approach that uses ray-matching, invariant desert, and deep convective cloud techniques: **D Morstad**, D R Doelling, B Scarino, A Gopalan, R Bhatt, P Minnis

A13H Moscone South: Poster Hall Monday 1340h **Three-Dimensional Cloud, Trace Gas, and Aerosol Retrievals II Posters**

Presiding: **J Porter**, Brookhaven National Laboratory;
P Kollias, McGill University; **A B Davis**, Jet Propulsion Laboratory

1340h **A13H-0305** POSTER Airborne Measurements of Solar Radiation: The value of spectrally-resolved Observations for Cloud-aerosol Remote Sensing and Energy Budget: **S Schmidt**, P Pilewskie, B C Kindel

1340h **A13H-0306** POSTER 3D Cloud Tomography, Followed by Mean Optical and Microphysical Properties, with Multi-Angle/Multi-Pixel Data: **A B Davis**, P A von Allmen, A Marshak, G Bal

1340h **A13H-0307** WITHDRAWN

1340h **A13H-0308** POSTER Effects of clouds on surface radiation from ground-based observation and Monte-Carlo radiative transfer model: **N Jo**, J Kim, H Cho, J Mok

1340h **A13H-0309** POSTER Three-dimensional cloud retrievals from the 2009 DOE ARM cloud tomography field experiment: **D Huang**, A J Gasiewski, M P Cadeddu, W J Wiscombe

1340h **A13H-0310** POSTER Study of Trade Wind Clouds Using Ground Based Stereo Cameras: **J Porter**

1340h **A13H-0311** POSTER Cloud Base Height and Wind Speed Retrieval through Digital Camera Based Stereo Vision: **F M Janeiro**, F Wagner, P M Ramos

1340h **A13H-0312** POSTER Airborne DOAS in South Africa: escaping flatland: **S P Broccardo**, K Heue, S Piketh, U Platt

1340h **A13H-0313** POSTER Three-dimensional structure and seasonal cycle of aerosol over Africa, Atlantic, and Americas: A Adams, **C Zhang**, J M Prospero

1340h **A13H-0314** POSTER Retrieving ice cloud properties by using a fast infrared radiative transfer model: **C Wang**, P Yang, A K Heidinger, S E Platnick, B A Baum

1340h **A13H-0315** POSTER Retrieval of aerosol vertical profile using O₂ A- and B-band SCIAMACHY measurements: **S Sanghavi**, U Platt

1340h **A13H-0316** POSTER Advanced atmospheric measurements demonstrated by the 2.33 μm IIP Tropospheric Infrared Mapping Spectrometers (TIMS): **J B Kumer**, R L Rairden, A E Roche, R B Chatfield

1340h **A13H-0317** POSTER Improving aerosol retrieval over urban areas: **A J Picón**, Y Wu, B Gross, F Moshary, S A Ahmed

1340h **A13H-0318** POSTER Development of an MFRSR Network for Aerosol-cloud interaction studies: **L Bomidi**, B Gross, F Moshary
1340h **A13H-0319** POSTER MOPITT Cloud Detection Adapted to Multispectral CO Retrievals: **S Martinez-Alonso**, M N Deeter, J C Gille, D Mao, H M Worden
1340h **A13H-0320** POSTER McIDAS-V: Advanced Visualization for 3D Remote Sensing Data: **T Rink**, T H Achtor
1340h **A13H-0321** POSTER Atmospheric Sampling of Aerosols to Stratospheric Altitudes using High Altitude Balloons: **E A Jerde**, E Thomas

A13I Moscone West: 3002 Monday 1340h
Climate Change, Air Quality, and Their Interrelations at the North American West Coast II

Presiding: **R A Zaveri**, PNNL; **J L Jimenez**, University of Colorado-Boulder

1340h **A13I-01** Gas- and Particle-phase Chemical Composition Measurements Onboard the G1 Research Aircraft during the CARES Campaign: **J E Shilling**, L Alexander, J Jayne, E Fortner
1355h **A13I-02** Characterization of submicron aerosol chemistry, evolution, and volatility at Cool (California) during the CARES field campaign with a thermodynamic-high-resolution aerosol mass spectrometer: **A Setyan**, Q Zhang, M Merkel, Y Sun, C Song, T B Onasch, J Jayne, D R Worsnop, A Wiedensohler, J E Shilling, B A Flowers, M K Dubey, D Vovchuk
1410h **A13I-03** The Diurnal Cycle of Particle Sizes, Compositions, and Densities observed in Sacramento, CA during CARES Field Campaign: **J Beránek**, T Vaden, D G Imre, A Zelenyuk
1425h **A13I-04** Sources and characteristics of sub-micron aerosols in the San Joaquin Valley, CA: **R Bahreini**, A M Middlebrook, J Brioude, C A Brock, J A De Gouw, K Hall, J S Holloway, J Neuman, J B Nowak, I B Pollack, T B Ryerson, C Warneke, D D Parrish
1440h **A13I-05** Satellite Measurements to Enhance PM_{2.5} Air Quality Measurements: **B V Scarnato**, A W Strawa, R B Chatfield, M J Legg, P Hillyard
1455h **A13I-06** Aerosol Optical Properties at the Ground Sites during the 2010 CARES Field Campaign: **D B Atkinson**, J G Radney, J W Harworth
1510h **A13I-07** Survey of aerosol optical properties measured as a function of wavelength with multiple photoacoustic instruments in Sacramento during the CARES campaign: M K Dubey, **B A Flowers**, W P Arnott, C Mazzoleni, D A Lack, M S GYAWALI, K Gorkowski, J D Fast, R A Zaveri, J Hubbe, A C Aiken
1525h **A13I-08** First Measurements of Individual-Particle Single Scattering Albedo: Observations and Potential Impacts on Radiative Forcing: **S M Murphy**, T J Sanford, K D Froyd, D M Murphy

A13J Moscone West: 3008 Monday 1340h
High-Resolution Active Optical Remote Sensing of Atmospheric Processes II

Presiding: **D M Tratt**, The Aerospace Corporation; **S Ismail**, NASA Langley Research Center; **S Lolli**, Leosphere

1340h **A13J-01** Improving combined lidar-radar snowfall retrievals with Doppler spectra (*Invited*): **E Eloranta**
1355h **A13J-02** Initial Results of the Cloud, Aerosol Polarization and Backscatter Lidar at Summit, Greenland: **R R Neely**, M Hayman, J Thayer, R Hardesty, M O'Neill, M Shupe
1410h **A13J-03** Measurements of an Intrusion of Water Vapor into the High Arctic and its Effect on Wintertime Radiation: **G J Nott**, J G Doyle, G B Lesins, C P Thackray, C W Perro, T J Duck, J R Drummond

1425h **A13J-04** Investigation of multiple scattering processes resolved in clouds using a flash lidar: **C S Weimer**, Y Hu, E Saiki, T Delker, J Applegate, T Ramond
1440h **A13J-05** Seasonal variation of the mesospheric sodium layer at 23S: **D M Simonich**, B R Clemesha
1455h **A13J-06** Identification of Volcanic Ash over ALOMAR by LIDAR during the Eruption of Eyjafjallajökull in Island in April 2010: **M A Gausa**, S Blindheim, J E Kristjansson, X Chu
1510h **A13J-07** Assessment of Urban Planetary Boundary Layer Dynamics using Lidar, Microwave Radiometer and Ceilometer Observations over New York City Area: **C Gan**, Y Wu, B Gross, F Moshary
1525h **A13J-08** Research on Laser Frequency Stabilization of CO₂ Laser measurement system: **L Zhang**, N Dai

A13K Moscone West: 3006 Monday 1340h
Ice and Mixed-Phase Precipitation Characterization in Passive and Active Microwave Remote Sensing, in Situ Observations, and Modeling Perspectives II

Presiding: **B T Johnson**, University of Maryland Baltimore County; **T Matsui**, NASA GSFC; **S Tanelli**, Jet Propulsion Laboratory; **W A Petersen**, NASA Marshall Space Flight Center; **W S Olson**, University of Maryland Baltimore County; **W Tao**, NASA GSFC

1340h **A13K-01** Satellite Radiometer Remote Sensing of High Latitude Falling Snow: **G Skofronick-Jackson**, B T Johnson, J R Wang
1355h **A13K-02** The Light Precipitation Validation Experiment (LPVEx): Overview and Early Results (*Invited*): **T S L'Ecuyer**, W A Petersen, D N Moisseev
1410h **A13K-03** Scattering by Nonspherical Ice Particles at High Microwave Frequencies and Its Application to Snowfall Retrievals (*Invited*): **G Liu**
1425h **A13K-04** Role of non-convexity in characterizing single-scattering properties for ensembles of non-spherical precipitation particles: **K Kuo**, T Clune, C Pearson, W S Olson, G Skofronick-Jackson, J Gravner, D Griffeeath
1440h **A13K-05** Toward estimating snowfall from space: Microphysical constraints from intensive in situ surface observations: **N B Wood**, T S L'Ecuyer, A Heymsfield, G L Stephens
1455h **A13K-06** The sensitivity of combined passive microwave and dual-frequency radar signatures to frozen particle size distribution and ice model assumptions and implications for GPM-like snowfall retrievals: **M Kulie**, M Hiley, R Bennartz
1510h **A13K-07** Derivation of Covariance Matrices for the Optimal Estimation Retrieval of Cloud and Precipitation Ice Using Microphysical Measurements from TC4 and Sparticus: **M C Schwartz**, G G Mace, P Lawson
1525h **A13K-08** Developing Winter Precipitation Algorithm over land from Satellite Microwave and C3VP Field Campaign observations: **N Wang**, K Gopalan, R Ferraro

A13L Moscone West: 3004 Monday 1340h
Sources, Evolution, and Sinks of Organics in the Troposphere III

Presiding: **C L Heald**, Colorado State University; **H Coe**, The University of Manchester

1340h **A13L-01** Insights into the role of organics in the growth of freshly nucleated particles (*Invited*): **J N Smith**, J Zhao, P M Winkler, P H McMurry, K C Barsanti

- 1355h **A13L-02** A general framework for predicting CCN activity of organic molecules from functional group data: **M D Petters**, P J Ziemann, S M Kreidenweis, C M Carrico, A Faulhaber, A Matsunaga, L Minambres, A J Prenni, S R Suda, R C Sullivan
- 1410h **A13L-03** What Air Quality Models Tell Us About Sources and Sinks of Atmospheric Aldehydes: **D Luecken**, W T Hutzell, S Phillips
- 1425h **A13L-04** Importance of secondary sources in the atmospheric budgets of formic and acetic acids: **F Paulot**, D Wunch, J Crouse, D B Millet, P F DeCarlo, C Vigouroux, N M Deutscher, G Gonzalez Abad, G C Toon, J Notholt, T Warneke, J W Hannigan, C Warneke, J A De Gouw, E Dunlea, M M De Maziere, D W Griffith, P F Bernath, J L Jimenez, P O Wennberg
- 1440h **A13L-05** Contribution of isoprene-derived organosulfates to free tropospheric aerosol mass: **K D Froyd**, S M Murphy, D M Murphy, J A De Gouw, N C Eddingsaas, P O Wennberg
- 1455h **A13L-06** The analysis of chiral methyltetrols in atmospheric aerosols: A new look at Secondary Organic Aerosols from isoprene: **N J Gonzalez Cantu**, B Noziere, A Borg-Karlsson, Y Pei, J Petersson, R Krejci, P Artaxo, U Baltensperger, J Dommen, A S Prevot, T Anthonsen
- 1510h **A13L-07** The chemical composition of organic nitrogen in marine rainwater and aerosols: **K E Altieri**, M G Hastings, A Peters, D M Sigman
- 1525h **A13L-08** Relationship between chemical transformations and optical properties of aerosols: J Lu, **Y Rudich**, M Flores

Atmospheric and Space Electricity

AE13A Moscone West: 3007 Monday 1340h **Energetic Radiation From Thunderstorms II** (*joint with SA, A*)

Presiding: **B E Carlson**, University of Bergen; **M Cohen**, Stanford University; **S A Cummer**, Duke University; **K Eack**, New Mexico Tech

1340h **AE13A-01** X-ray Images of Rocket-Triggered Lightning (*Invited*): **J R Dwyer**, M Schaal, H K Rassoul, M A Uman, D M Jordan, J D Hill

1355h **AE13A-02** Energetic runaway electrons emitted from streamers: **S J Celestin**, V P Pasko

1410h **AE13A-03** GBM Observations of Terrestrial Gamma-Ray Flashes (*Invited*): **M S Briggs**, Title of Team: The GBM TGF Team

1425h **AE13A-04** Characterizing lightning processes associated with terrestrial gamma-ray flashes (*Invited*): **G Lu**, S A Cummer, R Blakeslee, J Li, F Han, D M Smith, X Shao, E W McCaul, D E Buechler, H Christian, J M Hall

AE13B Moscone West: 3007 Monday 1440h **Thunderstorm Effects in the Near-Earth Space Environment I** (*joint with SA, A*)

Presiding: **V P Pasko**, Penn State University; **T Neubert**, Technical University of Denmark

1440h **AE13B-01** Optical Signatures of Lightning-induced Electron Precipitation (*Invited*): **RA Marshall**, J Bortnik, N G Lehtinen

1455h **AE13B-02** VLF radiation from lightning: **N G Lehtinen**, T F Bell, U S Inan, J J Colman

1510h **AE13B-03** Modeling of Sprite Beads: Using Numerical Streamer Simulations to Infer the Pre-existing Electron Density in a Sprite Discharge: **A Luque**, F Gordillo-Vázquez

1525h **AE13B-04** A Modeling Study of Sprite Streamer Chemistry: **N Liu**, D D Sentman

Biogeosciences

B13A Moscone South: Poster Hall Monday 1340h **Assessing Carbon Storage and Greenhouse Gas Emissions in Coastal and Inland Aquatic Systems I Posters** (*joint with H, OS*)

Presiding: **B A Bergamaschi**, USGS; **K D Kroeger**, USGS; **G L Chmura**; **A F Rahman**, Indiana University

1340h **B13A-0446 POSTER** Climate Feedbacks of a Northern Macrotidal and Microtidal Salt Marsh: **G L Chmura**, L M Kellman, G R Guntenspergen

1340h **B13A-0447 POSTER** Constraining organic carbon sequestration in coastal wetlands in response to sea-level rise using samples along a salinity gradient in southeast Louisiana: **E K Williams**, B E Rosenheim, A S Kolker

1340h **B13A-0448 POSTER** Spatiotemporal Trends of the Bay of Bengal Shoreline Retreat along the Sundarban Coasts and the Relevant Carbon Implications: **A F Rahman**, D Dragoni, B Elmasri

1340h **B13A-0449 POSTER** Carbon and 3D structure estimates of Neotropical mangrove forests from Lidar, InSAR and field data: **T E Fatoyinbo**, M Simard, C Giri

1340h **B13A-0450 POSTER** Greenhouse Gas Fluxes in Southeastern US Coastal Plain Wetlands Under Contrasting Land Uses: **J L Morse**, M Ardón, E S Bernhardt

1340h **B13A-0451 POSTER** Regional-Scale Biogeochemical Modeling of Greenhouse Gas (GHG) Emissions from Wetland Ecosystems: **O Abdul-Aziz**, S Liu, C J Young, S Huang

1340h **B13A-0452 POSTER** Eddy Covariance Measured Methane and Carbon Dioxide Fluxes for a Restored Wetland, Sacramento – San Joaquin Delta, California, USA: **F Anderson**, M Detto, J G Verfaillie, J Hatala, D D Baldocchi, B A Bergamaschi, R Fujii

1340h **B13A-0453 POSTER** Estimation of water quality and plant primary production in Arctic wetlands using ground based spectrometry: **C Andresen**, V Loughheed, C Tweedie

1340h **B13A-0454 POSTER** Process-based ecosystem modeling to predict carbon dioxide fluxes in the newly flooded black spruce forest and peatland: **Y Kim**, N T Roulet, C Li, S E Frolking, I B Strachan, C Peng, Y Prairie, C R Teodoru, A Tremblay

1340h **B13A-0455 POSTER** The carbon cycle of Lake Superior and its influence on regional carbon budgeting: **G A McKinley**, V Bennington, N R Urban, C P McDonald, N Atilla, A R Desai, D Pilcher, V Vasys, Title of Team: CyCLEs (Cycling of Carbon in Lake Superior)

1340h **B13A-0456 POSTER** Modeling the Gas Transfer Coefficient and Gas Fluxes in Stratified Lakes: **S MacIntyre**, A Jonsson, M Jansson, J Aberg, D E Turney, B M Emery, R D Simons, S D Miller

1340h **B13A-0457 POSTER** Stable carbon isotope discrimination and microbiology of methane formation in tropical anoxic lake sediments: **R Conrad**, M Noll, P Claus, M Klose, A Enrich-Prast

1340h **B13A-0458 POSTER** CAN DECOMMISSIONED OIL PADS IN BOREAL ALBERTA BE RECLAIMED TO CARBON ACCUMULATING PEATLANDS?: **R Wieder**, D H Vitt, S Mowbray

1340h **B13A-0459 POSTER** Simulation of changes in arctic terrestrial carbon stocks under using ecosys mathematical model: **K Metivier**, R F Grant, E R Humphreys, P Lafleur, H Zhang

1340h **B13A-0460 POSTER** Cross-Product Comparison of Multiple Resolution Microwave Remote Sensing Data Sets Supporting Global Mapping of Inundated Wetlands: **E Podest**, R Schroeder, K C McDonald, N Pinto, K Willacy, J Whitcomb, M Mughaddam, L L Hess, R Zimmermann

B13B Moscone South: Poster Hall Monday 1340h
Biogeosciences General Contributions Posters

Presiding: **D Scott**, Virginia Tech; **M S Carbone**, University of California

1340h **B13B-0461** *POSTER* Bird Activity Analysis Using Avian Radar Information in Naval Air Station airport, WA: **J Wang**, E Herricks

1340h **B13B-0462** *POSTER* Practical Solutions for the Design of Accelerated In Situ Bioremediation: **M Zhang**, M Yoshikawa, M Takeuchi, T Komai

1340h **B13B-0463** *POSTER* Rebuilding Peatlands on Mineral Soils Utilizing Lessons Learned from Past Peatland Initiation: **D H Vitt**, S C Koropchak, B Xu, R Bloise, R Wieder, S Mowbray

1340h **B13B-0464** *POSTER* Two-stage high-rate biogas (H₂ and CH₄) production from food waste using anaerobic mixed microflora: **K Xu**, D Lee, T Kobayashi, Y Ebie, Y Li, Y Inamori

1340h **B13B-0465** *POSTER* An Examination of Intertidal Temperatures Through Remotely Sensed Satellite Observations: **V Lakshmi**

1340h **B13B-0466** *POSTER* Inventory of Vegetation Spectral Properties in the South Bay Salt Ponds: A Database for Enhancing Decision Support and Restoration Mapping: **A K Watson**, W Hsu, R Marzion, K Sukita, E Minkin, B Fulfroost, J W Skiles

1340h **B13B-0467** *POSTER* Characteristics of modern pollen rain and the relationship to vegetation in sagebrush-steppe environments of Montana, USA: **C Briles**, V Bryant

1340h **B13B-0468** *POSTER* Basin-Wide Amazon Forest Tree Mortality From a Large 2005 Storm: **R I Negron Juarez**, J Q Chambers, G Guimaraes, H Zeng, C Raupp, D M Marra, G Ribeiro, S S Saatchi, N Higuchi

1340h **B13B-0469** *POSTER* Optimization of Biofuel and Biochar Production from the Slow Pyrolysis of Biomass: **J Fang**, B Gao, Title of Team: NSF REU in Water Resources

1340h **B13B-0470** *POSTER* Methyl halide and chloroform emissions from a subsiding Sacramento-San Joaquin Delta island converted to rice fields: **M H Khan**, R C Rhew, M Whelan, K Zhou, S Deverel

1340h **B13B-0471** *POSTER* Production of halomethanes and isoprene in the culture of bacteria isolated from brackish water: **T Fujimori**, G Taniai, M Kurihara, H Tamegai, S Hashimoto

1340h **B13B-0472** *POSTER* Determining the Habitat Preference of Sand Lance (*Ammodytes hexapterus*) Using Multibeam Bathymetry in the San Juan Islands, Washington: **E Davidson**, H Greene, F J Harmsen

1340h **B13B-0473** *POSTER* Methane uptake by plants in boreal forests: **E Sundqvist**, A Lindroth, P M Crill, A Båth

1340h **B13B-0474** WITHDRAWN

1340h **B13B-0475** *POSTER* Aquatic Biogeochemical Prototype Activities at the National Ecological Observatory Network (NEON): **K J Goodman**, H Powell, T Cilke, A Price

1340h **B13B-0476** *POSTER* Wind Disturbance Produced Changes in Tree Species Assemblage in the Peruvian Amazon: **S W Rifai**, J Q Chambers, R I Negron Juarez, F Ramirez, R Tello, W Alegria Muñoz

1340h **B13B-0477** WITHDRAWN

1340h **B13B-0478** *POSTER* Direct Quantification of Microbial Community Respiration along a Contamination Gradient using a novel Hydrologic Smart Tracer: **D J Stanaway**, R Haggerty, K P Feris

1340h **B13B-0479** *POSTER* Nonlinear Relationship between Leaf Area Index and Fraction of Photosynthetically Active Radiation: **E Nikoo**, T Nasar, G Tremberger, T K Cheung, L P Johnson, S A Austin, P Marchese

1340h **B13B-0480** *POSTER* Global Landsat Surface Reflectance Products Derived Using GLS 2000 and 2005 Images: **R Narasimhan**, M Feng, J O Sexton, C Huang, S Channan, E F Vermote, J G Masek, J R Townshend

1340h **B13B-0481** WITHDRAWN

1340h **B13B-0482** *POSTER* Holocene climate and vegetation changes revealed by lipid biomarkers from a peat and sediment sequence on Nightingale Island, central South Atlantic: **Z Zhang**, K Kjung, S Bjorck, R S Bradley

1340h **B13B-0483** *POSTER* Structure, provenance and residence time of terrestrial organic carbon: insights from Programmed temperature Pyrolysis-Combustion of river sediments: **X Feng**, V Galy, B E Rosenheim, K M Roe, E K Williams

1340h **OS31B-1415** *POSTER* Mapping Upper Amazon Palm Swamps with Spaceborne L-band Synthetic Aperture Radar: **N Pinto**, K C McDonald, E Podest, R Schroeder, R Zimmermann, V Horna

1340h **OS31B-1420** *POSTER* Assessment of Decadal Change in North American Wetlands Based on JERS and PALSAR Space-Based L-band SAR Data: **J Whitcomb**, M Moghaddam, K C McDonald, E Podest, B D Chapman

B13C Moscone South: Poster Hall Monday 1340h
Cryospheric Biogeochemistry I Posters (*joint with C, H, V*)

Presiding: **E W Hood**, University of Alaska Southeast; **M Tranter**, University of Bristol; **D Nemergut**, University of Colorado - Boulder; **J C Priscu**, Montana State University; **D Scott**, Virginia Tech

1340h **B13C-0484** *POSTER* Detectability of biological activity in frozen Alaskan lakes using in-situ spectral probe: **D F Berisford**, L Armanios, K Hand

1340h **B13C-0485** WITHDRAWN

1340h **B13C-0486** *POSTER* Determining the Importance of Microbial Processes on Gas Composition in Debris-Rich Antarctic Basal Ice Using Isotope Geochemistry: **S N Montross**, M L Skidmore, B C Christner, S M Doyle, J Tison, D Samyn, T A Sowers

1340h **B13C-0487** *POSTER* Implications of subzero metabolism on long-term microbial survival in ice (*Invited*): **B C Christner**, P Amato, J R Battista, S M Doyle

1340h **B13C-0488** *POSTER* Exploring the mobility of cryoconite on High-Arctic glaciers: **T D Irvine-Fynn**, A J Hodson, J W Bridge, H Langford, A Anesio, N Ohlanders, S Newton

1340h **B13C-0489** *POSTER* Contributions of biological domains to nitrogen biogeochemical cycling in a High Arctic glacial ecosystem during summer melt: **A H Ansari**, A Hodson, T H Heaton, A Marca-Bell

1340h **B13C-0490** *POSTER* Biogeochemistry of meltwater in the High Arctic with an emphasis on N species: A nested catchment approach: **A Nowak-zwierz**

1340h **B13C-0491** *POSTER* Organic matter and nutrient cycling in linked glacier-stream ecosystems along the Gulf of Alaska: **D Scott**, **E W Hood**, M Q Nassry, A Vermilyea

1340h **B13C-0492** *POSTER* Continuous monitoring of dissolved organic matter fluxes in contrasting glacial and non-glacial watersheds in coastal Southeast Alaska: **A Vermilyea**, R Spencer, M Q Nassry, D R Fatland, D Scott, E W Hood

1340h **B13C-0493** *POSTER* In-stream net ecosystem metabolism differences across a glacial coverage gradient in southeast Alaska: **M Q Nassry**, E W Hood, D Scott, A Vermilyea

1340h **B13C-0494** *POSTER* Climate Change and Biogeochemical Cycling in Green Lakes Valley, Colorado Front Range, USA: **R T Barnes**, J Parman, M W Williams

1340h **B13C-0495** POSTER Alpine Microbial Community Responses to Climate Change and Atmospheric Nitrogen Deposition in Rocky Mountain National Park: **B B Osborne**, J Baron, M D Wallenstein, E Richer

1340h **B13C-0496** POSTER Rock glacier ice as a microbial habitat: **C E Florentine**, M L Skidmore, S N Montross

1340h **B13C-0497** POSTER Survey on Atmospheric Methane Oxidation in Young Glacier-Forefield Soils: **M H Schroth**, P Nauer, J A Zeyer

B13D Moscone South: Poster Hall Monday 1340h
Dissolved Organic Matter Dynamics in Terrestrial and Aquatic Ecosystems III Posters (joint with H)

Presiding: **M Miller**, USGS; **S Kaushal**, University of Maryland, College Park; **D Scott**, Virginia Tech

1340h **B13D-0498** POSTER Fluvial organic carbon losses from a Bornean blackwater river: **S Moore**, V Gauci, S Page, C Evans, S Limin

1340h **B13D-0499** POSTER Storm-event patterns and sources of dissolved organic matter (DOM) for stream runoff in a forested, mid-Atlantic watershed: **S P Inamdar**, S Singh, N Finger, M J Mitchell

1340h **B13D-0500** POSTER Low contribution of litter derived carbon to dissolved organic matter in soils: **A Scheibe**, L Krantz, G Gleixner

1340h **B13D-0501** POSTER Photodegradation of dissolved organic matter in two contrasting reaches of a regulated river: **A A Oliver**, R A Dahlgren, R G Spencer

1340h **B13D-0502** POSTER Dissolved Organic Matter and Biogeochemical Hotspots in a Northern Peatland Catchment: **S D Sebestyen**, R K Kolka, M Jacobson, M T Tsui, J B Cotner, J C Finlay, J Jeremiason, C P Mitchell, K A Watson, B Carlos

1340h **B13D-0503** POSTER Characterization of dissolved organic matter during reactive transport: A column experiment with spectroscopic detection: **A Vazquez**, S Hernández, C Rasmussen, J Chorover

1340h **B13D-0504** POSTER Effect of Landscape-Watershed Attributes on CDOM in Florida's Gulf Coast Rivers: **R N Conmy**, J C Lehrter, J Jackson, P G Coble, R H Hastings

1340h **B13D-0505** POSTER Evaluation of Watershed Characteristics on Dissolved Organic Matter (DOM) quality and quantity at the Hubbard Brook Experiment Forest, NH: **P Kang**, M J Mitchell

1340h **B13D-0506** POSTER Factors affecting the hydrogen isotopic composition of dissolved organic matter along a salinity gradient: **A A DeBond**, S E Ziegler, M L Fogel, P L Morrill, R Bowden

1340h **B13D-0507** POSTER OPTICAL ANALYSIS OF CHROMOPHORIC DISSOLVED ORGANIC MATTER AS A TRACER OF ORGANIC MATERIAL IN THE NEUSE RIVER ESTUARY, EASTERN NORTH CAROLINA: **J L Dickson Brown**, H W Paerl, C L Osburn

1340h **B13D-0508** POSTER Quality of dissolved organic matter (DOM) in watershed compartments for a forested mid-Atlantic watershed: **S Singh**, S P Inamdar, N Finger, M J Mitchell, D F Levia, D Scott, H Bais

1340h **B13D-0509** POSTER Acquisition of Fe from Natural Organic Matter by an Aerobic Pseudomonas Bacterium: Siderophores and Cellular Fe Status: **K Koehn**, C Dehner, J DuBois, P A Maurice

1340h **B13D-0510** POSTER Testing the application of Teflon/quartz soil solution samplers for DOM sampling in the Critical Zone: Field and laboratory approaches: **E M Dolan**, J N Perdrial, A Vazquez, S Hernández, J Chorover

1340h **B13D-0511** POSTER Predicting dissolved organic nitrogen export from a poorly drained loblolly pine plantation using the forestry version of DRAINMOD-NII: **S Tian**, M M Youssef, R W Skaggs, G M Chescheir, D M Amatya, Title of Team: Yes

1340h **B13D-0512** WITHDRAWN

1340h **B13D-0513** POSTER Natural dissolved organic matter dynamics in karstic aquifer: O'Leno Sink-Rise system, Florida, USA: **J Jin**, A R Zimmerman

1340h **B13D-0514** POSTER Determining the impact of temporal and spatial conditions on dissolved organic carbon decomposition in the Kolyma River Watershed: **M L Robbins**, A Crowley, W V Sobczak, R M Holmes

1340h **B13D-0515** POSTER A quantification of photoproduction of CO₂ throughout the water column by degradation of terrigenous organic compounds present in the dissolved form for aquatic ecosystems of the boreal region in Quebec: **J Plouhinec**, M M Lucotte, A Ouellet, Y Gelin

1340h **B13D-0516** POSTER Temporal Variability of Stemflow Dissolved Organic Carbon (DOC) Concentrations and Quality from Morphologically Contrasting Deciduous Canopies: **J T Van Stan**, D F Levia, S P Inamdar, M J Mitchell, S M Mage

B13E Moscone West: 2006 Monday 1340h
Advances in High-Frequency Optical Measurements of Trace Gases and Their Isotopes I (joint with A, H)

Presiding: **U Seibt**, UCLA; **C I Czimeczik**, University of California, Irvine

1340h **B13E-01** Performance of isotope ratio infrared spectroscopy (IRIS) for analyzing waters containing organic contaminants: Problems and solutions (*Invited*): **A G West**, G R Goldsmith, T E Dawson

1358h **B13E-02** Continuous measurement of methane and carbon dioxide concentrations in surface waters based on off-axis integrated cavity output spectroscopy (ICOS): W Gülzow, **G J Rehder**, J Schneider von Deimling, B Sadkowiak, B Schneider

1410h **B13E-03** Quantifying biological and atmospheric processes with in-situ measurements of carbon dioxide and water vapor isotopes (*Invited*): **X Lee**

1428h **B13E-04** Intercomparison of gas analyzers for methane flux measurements: **S Haapanala**, J Rinne, T Vesala

1440h **B13E-05** Development of a spectrometer for simultaneous measurement of $\delta^{13}\text{CH}_4$ and $\delta\text{D}_{\text{CH}_4}$ at ambient concentrations: **D S Sayres**, M F Witinski, C E Healy, J B Munster, J Anderson

1452h **B13E-06** Deploying CRDS instruments at a geological CO₂ storage site: an overlap experiment to compare atmospheric CO₂ measurements with a high precision NDIR instrument (*Invited*): **Z M Loh**, P Steele, D M Etheridge, M van der Schoot, P B Krummel, D Spencer

1510h **B13E-07** Conversion of a Continuous Flow Cavity Ring-Down Spectrometer to Measure ¹³C in CO₂ Using Static Analyses of Small Volume Grab Samples (*Invited*): **T Rahn**, K Jordanova, E Berryman, A D Van Pelt, J D Marshall

1528h **B13E-08** Open-path Atmospheric N₂O, CO, and NH₃ Measurements Using Quantum Cascade Laser Spectroscopy: **K Sun**, A Khan, D J Miller, K Rafferty, J Schreiber, C Puzio, M Portenti, J Silver, M A Zondlo

B13F Moscone West: 2004 Monday 1340h
Data Assimilation and Multiscale Methods for Improving Biogeochemical Models Across Multiple Scales II (*joint with A*)

Presiding: **P C Stoy**, Montana State University; **R Vargas**, University of California-Berkeley; **K Ogle**, University of Wyoming; **T L Quai**, University of Exeter

- 1340h **B13F-01** Understanding terrestrial carbon sensitivity to climate from data assimilation (*Invited*): **D Schimel**
- 1355h **B13F-02** Fluxnet and Satellite data to optimize carbon and water fluxes simulated by ORCHIDEE biosphere model: **D Santaren**, **P Peylin**, **S Kuppel**, **C Bacour**, **A Granier**, **P J Rayner**, **P Ciais**
- 1410h **B13F-03** How to 'Elk-test' biogeochemical models in a data rich world? (*Invited*): **M Reichstein**, **P Ciais**, **S I Seneviratne**, **N Carvalhais**, **D Dalmonech**, **M Jung**, **Y Luo**, **M D Mahecha**, **A M Moffat**, **E Tomelleri**, **S Zaehle**
- 1425h **B13F-04** Bayesian methods for spatial upscaling of process-based forest ecosystem models: **M Van Oijen**, **D Cameron**, **G Reinds**, **A Thomson**
- 1440h **B13F-05** Inversion of coupled carbon-nitrogen model parameters against multiple datasets using Markov chain Monte Carlo methodology: **Y Yang**, **X Zhou**, **E Weng**, **Y Luo**
- 1455h **B13F-06** Interactive state-parameter estimation of a crop carbon mass balance model through the assimilation of observed winter wheat carbon flux and stock data: **O Sus**, **M D Williams**, **T Gruenwald**
- 1510h **B13F-07** Information theory approaches to scaling of land-atmosphere interactions (*Invited*): **N A Brunzell**
- 1525h **B13F-08** The Maximum Entropy Theory of Ecology and (nearly) Universal Scaling Laws (*Invited*): **J Harte**

B13G Moscone West: 2002 Monday 1340h
Mercury Cycling in Heterogeneous Environments I (*joint with A, H, V*)

Presiding: **M S Bank**, Harvard University, School of Public Health; **J B Shanley**, U. S. Geological Survey

- 1340h **B13G-01** Methylmercury Cycling and Tidal Exchange in a Chesapeake Bay Salt Marsh (*Invited*): **C P Mitchell**, **T E Jordan**, **A Heyes**, **C C Gilmour**
- 1355h **B13G-02** Temporal Assessment of Methylmercury in an Endangered Pacific Seabird (*Invited*): **A E Vo**, **M S Bank**, **J P Shine**, **S V Edwards**
- 1410h **B13G-03** Impacts of Land Use and Hydrology on Methylmercury Concentrations in Water in Prairie Wetlands: **B Hall**, **L Bates**, **G Van Der Kamp**
- 1425h **B13G-04** Mercury-DOC dynamics in runoff during storm events in a Boreal Shield catchment: **B A Branfireun**, **C Oswald**
- 1440h **B13G-05** Forestry and Mercury: Understanding the connection in order to break it (*Invited*): **K H Bishop**, **K Eklof**
- 1455h **B13G-06** Methylmercury Production Across San Francisco Bay Regional Habitats: Balancing Benthic Microbial Activity and Inorganic Mercury Availability (*Invited*): **M C Marvin-DiPasquale**
- 1510h **B13G-07** Comparison of Methylmercury Ecology in Adjacent Coastal Plain Rivers in South Carolina: **P M Bradley**, **C A Journey**, **F H Chapelle**, **M A Lowery**, **P A Conrads**
- 1525h **B13G-08** The Influence of Canal Water Releases on the Distribution of Methylmercury in Everglades National Park: Implications for Ecosystem Restoration: **D P Krabbenhoft**, **G Aiken**, **W Orem**, **M T Tate**, **J Kline**, **J Castro**

B13H Moscone West: 2008 Monday 1340h
Nanoparticles in Environmental Media II (*joint with H*)

Presiding: **M F Benedetti**, Institut de Physique du Globe de Paris; **C E Pallud**, UC Berkeley

- 1340h **B13H-01** Bioavailability and Effects of Manufactured TiO₂ and Quantum Dot Nanomaterials to Environmental Microorganisms (*Invited*): **P A Holden**, **J L Nadeau**, **G Stucky**, **J Priester**, **A Horst**, **R Vukanti**, **Y Ge**, **J Schimel**
- 1400h **B13H-02** Influence of the natural organic matter on TiO₂ nanoparticles transfer in a natural sandy porous media: **N Solovitch-Vella**, **J Labille**, **J Rose**, **P Chaurand**, **D Borschneck**, **A Masion**, **J Bottero**, **M Wiesner**
- 1420h **B13H-03** Effect of Particle Size on Dissolution Rates of Nanometer-Scale Talc Crystals: **T Diedrich**, **J Schott**, **E Oelkers**
- 1440h **B13H-04** Wanted: manufactured nanoparticles in environmental media...history of a disappearance (*Invited*): **Y Sivry**, **A Gelibert**, **R Ferrari**, **F Juillot**, **N Menguy**, **M F Benedetti**
- 1500h **B13H-05** The transport of manufactured nanoparticles in the hyporheic zone: **A Hitchman**, **G Sambrook Smith**, **M Sterling**, **G Blois**, **J Best**, **R J Hardy**, **J Lead**
- 1520h **B13H-06** Dissolution and nanoparticle generation behavior of Be-associated materials in synthetic lung fluid (SLF) using ICP-MS and FFF-ICP-MS: **W P Johnson**, **W Huang**, **D Fernandez**, **A Rudd**, **D Deubner**, **P Sabey**, **R Larsen**, **J Storrs**

B13I Moscone South: 308 Monday 1340h
Nanoscale Insights into Aqueous and High Temperature Geochemistry II (*joint with EP, MR, V*)

Presiding: **A Fernandez-Martinez**, Lawrence Berkeley National Laboratory; **I C Bourg**, Lawrence Berkeley National Lab; **K Kwon**, Lawrence Berkeley National Laboratory; **J Pena**, Lawrence Berkeley National Lab

- 1340h **B13I-01** Molecular Simulations of the Diffusion of Uranyl Carbonate Species in Nanosized Mineral Fractures: **S Kerisit**, **C Liu**
- 1355h **B13I-02** A Defect Structure for 6-Line Ferrihydrite Nanoparticles (*Invited*): **B Gilbert**, **D Spagnoli**, **S Fakra**, **V Petkov**, **R L Penn**, **J F Banfield**, **G Waychunas**
- 1410h **B13I-03** Water organization in synthetic Na-smectite with tetrahedral layer charge. An experimental validation of numerical data (*Invited*): **E Ferrage**, **B A Sakharov**, **L J Michot**, **B Lanson**, **A Delville**, **G J Cuello**
- 1425h **B13I-04** First-principles calibration of the carbonate clumping paleothermometer in apatite (*Invited*): **E A Schauble**
- 1440h **B13I-05** Probing The Surface Properties Of Weathered Silicate Minerals To Better Understand Their Reactivity: **D Daval**, **O Sissmann**, **G D Saldi**, **R Hellmann**, **S Gin**, **J Corvisier**, **I Martinez**, **F J Guyot**, **K G Knauss**
- 1455h **B13I-06** Impact of nano-size weathering products on dissolution rates of primary minerals: **S Emmanuel**, **J J Ague**
- 1510h **B13I-07** Effects Of The Microbial Siderophore Desferrioxamine-B On Pb Sorption To And Desorption From Nanohematite (*Invited*): **P A Maurice**, **L E Barton**, **A N Quicksall**
- 1525h **B13I-08** Microbial Sulfur Geochemistry in Mine Systems (*Invited*): **L A Warren**, **K L Norlund**, **A Hitchcock**

Cryosphere

C13A Moscone South: Poster Hall Monday 1340h **Cryosphere General Contributions Posters**

Presiding: S O'Neel, USGS; H Marshall, Boise State University

1340h **C13A-0537** POSTER Active drumlin field revealed at the margin of Múlaþjókkull, Iceland: a surge-type glacier: **A Schomacker**, M D Johnson, I Benediktsson, O Ingólfsson, A J Geiger, A Ferguson

1340h **C13A-0538** POSTER Regime Shift Analysis of Lake Baikal Freeze-up and Break-up Dates, and Ice Cover Duration: **K Noguchi**, Y Gel, C R Duguay

1340h **C13A-0539** POSTER Testing the instability hypothesis for the formation of drumlins: **C R Stokes**, C D Clark, P Dunlop, A Fowler, H Gramberg, S Greenwood, R C Hindmarsh, A L Hughes, F S Ng, M Spagnolo

1340h **C13A-0540** POSTER Friction distribution at the base of a surging glacier inferred from an inverse method: **O Gagliardini**, M Jay-Allemand, F Gillet-Chaulet

1340h **C13A-0541** POSTER A Tool to predict ice growth in Arctic Lakes: **H A Toniolo**, M R Lilly, J Derry, J Murray, G Sehlke

1340h **C13A-0542** POSTER Arctic Lake Water Temperature Patterns as Impacted by Climatic and Geomorphic Controls: **K M Hinkel**, Y Sheng, J D Lenters, E A Lyons, R A Beck

1340h **C13A-0543** POSTER Antarctic Data at the National Snow and Ice Data Center: **K Leitzell**, J A Bohlander, R J Bauer, T A Scambos

1340h **C13A-0544** POSTER Could inland seas have remained free of sea-glacier derived ice during Snowball Earth events?: **A J Campbell**, E D Waddington, S G Warren

C13B Moscone South: Poster Hall Monday 1340h **Ice Cores, Climate, and Ice Sheets: New Frontiers I Posters** (joint with A, PP)

Presiding: J W White, University of Colorado; D Dahl-Jensen, University of Copenhagen

1340h **C13B-0545** POSTER New mineral dust record from the TALDICE ice core (East Antarctica): **V Maggi**, B Delmonte, S Albani, C Mazzola

1340h **C13B-0546** POSTER Exploring the relation between crystal fabric and climate history in an ice-core record: **J H Kennedy**, E C Pettit, C L Di Prinzio, L A Wilen

1340h **C13B-0547** POSTER Siple Dome Ice Cores: Implications for West Antarctic Climate and ENSO Events: **T Jones**, J W White

1340h **C13B-0548** POSTER Factors affecting the reproducibility of trace element analyses of ice core samples: **R H Rhodes**, J Baker, M Millet, N Bertler

1340h **C13B-0549** POSTER Thousand years of winter surface air temperature variations in Longyerbyen, Svalbard Archipelago and Vardø, northern Norway, reconstructed from Svalbard ice core oxygen isotope data: **D Divine**, E D Isaksson, T Martma, V A Pohjola, H A Meijer, R Van de Wal, J C Moore, F Godtliebse

1340h **C13B-0550** WITHDRAWN

1340h **C13B-0551** POSTER Microstructural variations in the Siple Dome, Antarctica ice core: Evidence of climate change?: **R W Obbard**, K E Sieg, D Meese, I Baker

1340h **C13B-0552** POSTER Properties of the Near Surface Firn at NEEM: **K M Keegan**, M R Albert, I Baker

1340h **C13B-0553** POSTER The role of mineral dust aerosols in polar amplification: **F Lambert**, J KUG, R Park, F Jin, J H Lee

1340h **C13B-0554** POSTER Arctic Circle Traverse 2010 (ACT-10): South East Greenland snow accumulation variability from firn coring and ice sounding radar: **R R Forster**, C Miede, J E Box, J McConnell, V B Spikes, E W Burgess

1340h **C13B-0555** POSTER Synthetic Ice Core Modeling on the Prince of Wales Icefield, Ellesmere Island, Canada: **T Moran**, S J Marshall

1340h **C13B-0556** POSTER High resolution and high precision on line isotopic analysis of Holocene and glacial ice performed in the field: **V Gkinis**, T J Popp, S J Johnsen, T Blunier, M Bigler, C Stowasser, S Schüpbach, D Leuenberger

1340h **C13B-0557** POSTER Continuous Measurements of CH₄ Concentration from Ice Cores Using a Field-deployable Near-infrared Cavity Ring-down Spectrometer: **C Stowasser**, T Blunier, J Chappellaz, R Dallmayr, S Schüpbach, V Gkinis, T J Popp, E Crosson

1340h **C13B-0558** POSTER An Automated Method for Annual Layer Counting in Ice Cores: **M Winstrup**, A Svensson

1340h **C13B-0559** POSTER Micro-inclusions and Micro-structure: Their Effect on the Climate Record and on Ice Rheology: **S Kipfstuhl**, I Weikusat, S H Faria, A Svensson

1340h **C13B-0560** POSTER On the Limits of Orbital Dating Using EPICA Dome C δO₂/N₂: **G B Dreyfus**, A Landais, E Capron, K Pol, M Loutre, D P Raynaud, V Lipenkov, V Masson-Delmotte, J Jouzel, M Leuenberger

1340h **C13B-0561** POSTER Unusual Calcium Carbonate, Glass-Like Shards, and Low Latitude Diatoms in the GISP2 Ice Core—What Are They Telling Us?: **D H Abbott**, D Breger, L H Burckle, P Biscaye, J Cole-Dai

1340h **C13B-0562** POSTER The WAIS Melt Monitor: An automated ice core melting system for meltwater sample handling and the collection of high resolution microparticle size distribution data: **D J Breton**, B G Koffman, K J Kreutz, G S Hamilton

1340h **C13B-0563** POSTER Solid and gaseous inclusions in the EDML deep ice core: origins and implications for the physical properties of polar ice: **S H Faria**, S Kipfstuhl, C S Garbe, V Bendel, C Weikusat, I Weikusat

1340h **C13B-0564** POSTER 3D Imaging Radar for Deep Ice Core Site Selection: **J D Paden**, W Blake, P S Gogineni, C Leuschen, C Allen, D Dahl-Jensen

1340h **C13B-0565** POSTER Getting to the 'Core' of Environmental Change: Analytical Advances for the Analysis and Characterization of Dissolved Organic Matter in Ice Cores Using High Resolution FTICR-MS: **V Boschi**, A M Grannas

1340h **C13B-0566** POSTER Pairing of Byrd ice-core data and recent radar sounding results: interpretation and uncertainty: **G Gutowski**, C S Jackson, D A Young, D D Blankenship

1340h **C13B-0567** POSTER First Measurements of Osmium Concentration and Isotopic Composition in a Summit, Greenland Ice Core: **E C Osterberg**, M Sharma, R L Hawley, Z Courville

1340h **C13B-0568** POSTER Greenland ice cores as a proxy for northern hemisphere acid deposition history: **D Pasteris**, J McConnell, R Edwards

1340h **C13B-0569** POSTER Ice-core Reconstructions of West Antarctic Sea-Ice Variability: A Neural Network Perspective: **D B Reusch**

1340h **C13B-0570** POSTER Carbonyl sulfide in polar ice cores from Antarctica: **K M Aydin**, K R Verhulst, E S Saltzman

C13C Moscone West: 3010 Monday 1340h
Innovative Modeling and Snowmelt Partitioning in Mountain Environments I

Presiding: **S Boon**, University of Lethbridge; **M L Reba**, USDA-ARS-NWRC; **C Duffy**, Penn State University; **D M Allen**, Simon Fraser University

1340h **C13C-01** Importance of snowmelt-derived fluxes on the groundwater flow in a high elevation meadow (*Invited*): **C Lowry**, S P Loheide, J S Deems, C E Moore, J D Lundquist

1355h **C13C-02** Storage and transmission of groundwater in alpine moraine and talus deposits (*Invited*): **M Hayashi**, J Hood, G Langston, D Muir, A F McClymont, L R Bentley

1410h **C13C-03** Comparing plot-scale sensor measurements to the watershed level: a comprehensive case study of snow depth and soil moisture in the southern Sierra Nevada, California: **M W Meadows**, B Kerkez, P C Hartsough, R G Lucas, R C Bales, J W Hopmans, S D Glaser

1425h **C13C-04** Effect of vegetation and topography-induced snow redistribution on the hydrology of a mountain catchment (*Invited*): **M Kumar**, M L Reba, D G Marks, A H Winstral

1440h **C13C-05** Responses of mountain forested watersheds to climate warming: interactions among snowmelt, soil/geology and vegetation water use (*Invited*): **C Tague**, J Choate, A L Dugger, E Garcia, D Groulx, K Son

1455h **C13C-06** Evaluating Hydrologic Responses to Climate Changes in an Inland Pacific Northwest Forested Headwater Catchment by Using Numerical Modeling (*Invited*): **E Du**, T E Link, J T Abatzoglou

1510h **C13C-07** Climate Change Impacts to Hydro Power Reservoir Systems in British Columbia, Canada: Modelling, Validation and Projection of Historic and Future Streamflow and Snowpack: **K E Bennett**, M Schnorbus, A T Werner, A J Berland

1525h **C13C-08** Snow Hydrology Model Combined with Remotely Sensed Snow Observations in the Upper Helmand Watershed, Afghanistan (*Invited*): **C M Vuyovich**, J M Jacobs, S F Daly, W Scharffenberg

C13D Moscone West: 3011 Monday 1340h
Interactions of Ice Sheets and Glaciers With the Ocean II (joint with OS)

Presiding: **K M Brunt**, Scripps Institution of Oceanography; **H A Fricker**, Scripps Institution of Oceanography; **L Padman**, Earth & Space Research

1340h **C13D-01** How variability in wind and ACC transport affects Circumpolar Deep Water transport across the west Antarctic Peninsula continental shelf and its influence on ice shelf basal melt: **J M Klinck**, M S Dinniman

1355h **C13D-02** Ocean Heat along the West Antarctic continental margin (*Invited*): **D G Martinson**

1410h **C13D-03** Topographical and Tidally Driven Circulation and Melting in the Pine Island Glacier Cavity: **R Robertson**

1425h **C13D-04** The effect of grounding line melting on decadal retreat of Pine Island and Thwaites Glaciers: A modeling study with UMISM: **J Fastook**

1440h **C13D-05** Quantitative Links between Amundsen Sea Heat and Pine Island Ice Shelf Melt: **R Bindschadler**, D G Vaughan, P Vornberger

1455h **C13D-06** The response of grounded ice to ocean temperature forcing in a coupled ice sheet-ice shelf-ocean cavity model: **D N Goldberg**, C M Little, O V Sergienko, A Gnanadesikan

1510h **C13D-07** A laboratory scale model of abrupt ice-shelf disintegration: **D R MacAyeal**, A Boghosian, D D Styron, J C Burton, J M Amundson, L M Cathles, D S Abbot

1525h **C13D-08** Integration of airborne altimetry and in situ radar measurements to estimate marine ice thickness beneath the Larsen C ice shelf, Antarctic Peninsula: **D McGrath**, K Steffen, J Rodriguez Lagos

Education and Human Resources

ED13A Moscone South: Poster Hall Monday 1340h
The Development of Geoscientists: From Novice to Professional III Posters

Presiding: **L M Gonzales**, American Geological Institute; **D W Mogk**, Montana State University; **S Rahman**, YES Network; **K A Kastens**, Lamont-Doherty Earth Observatory

1340h **ED13A-0596 POSTER** Making the GeoConnection: Web 2.0-based support for early-career geoscientists (*Invited*): **C M Martinez**, L M Gonzales, C M Keane

1340h **ED13A-0597 POSTER** The Role of Geoscience Departments in Preparing Future Geoscience Professionals: **C J Ormand**, H Macdonald, C A Manduca

1340h **ED13A-0598 POSTER** Increasing retention of early career female atmospheric scientists: **L M Edwards**, A G Hallar, L M Avallone, H Thiry

1340h **ED13A-0599 POSTER** Networking Skills as a Career Development Practice: Lessons from the Earth Science Women's Network (ESWN): M G Hastings, **R Kontak**, T Holloway, E Marin-Spiotta, A L Steiner, C Wiedinmyer, A S Adams, A M De Boer, A C Staudt, A M Fiore

1340h **ED13A-0600 POSTER** Evaluating Career Development Resources: Lessons from the Earth Science Women's Network (ESWN): **M Kogan**, S L Laursen

1340h **ED13A-0601 POSTER** NASA Planetary Science Summer School: Preparing the Next Generation of Planetary Mission Leaders: **C J Budney**, L L Lowes, A Sohus, T Wheeler, A Wessen, D Scalice

1340h **ED13A-0602 POSTER** SUNY Oneonta Earth Sciences Outreach Program (ESOP) - Generating New Drilling Prospects for Geoscience Programs: **T D Ellis**, J R Ebert

1340h **ED13A-0603 POSTER** Training the next generation of scientists: Modeling Infectious Disease and Water Quality of Montana Streams: **N Fytilis**, S Wyman, R Lamb, L Stevens, B Kerans, D M Rizzo

1340h **ED13A-0604 POSTER** Fostering and Measuring General Scientific Reasoning Expertise at the Second Year Level: **F M Jones**, M Jellinek, M G Bostock

1340h **ED13A-0605 POSTER** Rethinking how Undergraduate "Hard Rock" Petrology is Taught: **M R Reid**

1340h **ED13A-0606 POSTER** Interdisciplinary graduate student symposium organized by students for students: **C P Mann**, A Goulet-Hanssens, M de Boef, E Hudson, E Pandzic

1340h **ED13A-0607 POSTER** How the World Gains Understanding of a Planet: Analysis of Scientific Understanding in Earth Sciences and of the Communication of Earth-Scientific Explanation: S Voute, **M G Kleinhans**, H de Regt

1340h **ED13A-0608 POSTER** Mastering the Concepts of Geologic Time: Novice Students' Understanding of the Principles of Relative Age: **M Speta**, L Reid

1340h **ED13A-0609 POSTER** Supporting Students' Development of Expert-Like Map and Cross-Section Visualization Skills: **R Cockett**, L Reid

1340h **ED13A-0610** *POSTER* The Yellowstone REU Site Project: Building Confidence, Competence and Capacity: **D W Mogk**, D Henry

1340h **ED13A-0611** *POSTER* The University of Texas Institute for Geophysics Marine Geology and Geophysics Field Course: **M B Davis**, S P Gulick, M A Allison, J A Goff, D D Duncan, S Sastrup

1340h **ED13A-0612** *POSTER* The Research Experience for Undergraduates Program in Solar and Space Physics at the University of Colorado: **M A Snow**, E L Wood, E A Cobabe-Ammann, D N Baker, S Renfrow

1340h **ED13A-0613** *POSTER* 150 Student Questions on Solar Physics: **R E Lopez**, N A Gross, D J Knipp

ED13B Moscone South: I02 Monday 1340h
Public Participation in Geoscience Research: Engaging Citizen Scientists II

Presiding: **M Stute**, Lamont-Doherty Earth Obs; **C E Walker**, National Optical Astronomy Observatory; **B J Mailloux**, Barnard College; **S M Pompea**, Natl Optical Astronomy Obs

1340h **ED13B-01** Using Hydrologic Data from Africa in a Senior-Level Course in Groundwater Hydrology (*Invited*): **S E Silliman**

1355h **ED13B-02** Water Scarcity within the Context of Climate Change and Land Use Change and Linkages to Food Production in Semiarid Regions (*Invited*): **B R Scanlon**, L Longuevergne, G Favreau, C Zheng, G Cao, Y Shen

1410h **ED13B-03** Engaging Students in Water Resources Issues in Developing Countries (*Invited*): **J Thomas**, A Lutz

1425h **ED13B-04** EarthTrek - helping scientists to get citizens involved in real science. (*Invited*): **G Lewis**

1440h **ED13B-05** Discovery of Interstellar Dust Candidates in Stardust aerogel collectors through Stardust@home (*Invited*): **A Westphal**, A Butterworth, D Frank, B Hudson, R Lettieri, W Marchant, N Wordsworth, D Zevin, M 29,000 Dusters, Title of Team: ISPE team (names and affiliations at <http://ssl.berkeley.edu/~westphal/ISPE/>)

1455h **ED13B-06** eBird—Using citizen-science data to help solve real-world conservation challenges (*Invited*): **B L Sullivan**, M J Iliff, C L Wood, D Fink, S Kelling

1510h **ED13B-07** Snapshots from Space: Citizen Participation in Space Missions Through Image Processing: **E S Lakdawalla**, J F Bell

1525h **ED13B-08** Online Citizen Science with Clickworkers & MRO HiRISE E/PO: **V C Gulick**, G Dearnorff, B Kanefsky, Title of Team: HiRISE Science Team

Geodesy

G13A Moscone South: Poster Hall Monday 1340h
Source Imaging and Rapid Assessment of Earthquakes Using Interferometric Synthetic Aperture Radar and Other Geodetic Data III Posters (*joint with S, IN, T, NS*)

Presiding: **S Jonsson**, KAUST; **S E Owen**, Jet Propulsion Laboratory; **S Yun**, JPL

1340h **G13A-0648** *POSTER* Rapid Estimates of Postseismic Slip from GPS Data in Northern California: **I A Johanson**

1340h **G13A-0649** *POSTER* Low Latency Geodetic Monitoring of Natural Hazards in New Zealand: **S Edwards**, N Fournier, R J Beavan

1340h **G13A-0650** *POSTER* Rapid Detection of Coseismic Displacements with PALSAR ScanSAR-ScanSAR Interferometry: **M Hashimoto**, T Ozawa, M Tobita, M Miyawaki, M Shimada

1340h **G13A-0651** *POSTER* GMTSAR Software for Rapid Assessment of Earthquakes: **D T Sandwell**, R J Mellors, X Tong, M Wei, P Wessel

1340h **G13A-0652** WITHDRAWN

1340h **G13A-0653** *POSTER* System Development for Sea-bottom Crustal Deformation Measurement: Main Observational Results at the Suruga-Nankai Trough, Japan, and Future Problems: **K Tadokoro**, R Ikuta, T Watanabe, T Okuda, S Nagai, S Eto

1340h **G13A-0654** *POSTER* Non-planar Fault Model of the 2008 Yutian Normal Faulting Earthquake (M7.2), Xinjiang, China, and its implications: **M Furuya**, T Yasuda

1340h **G13A-0655** *POSTER* Detection of crustal deformation due to the 2010 Baja California, Mexico, Earthquake using ALOS / PALSAR data: **J Okamoto**, M Hashimoto

1340h **G13A-0656** *POSTER* Deformation in the central Gulf of California from the August 2009 M 6.9 event: **C Plattner**, F Amelung, R Malservisi, M Hackl, J J Gonzalez-Garcia

1340h **G13A-0657** *POSTER* Co-seismic slip distribution of the Mw7.0 Haiti Earthquake based on InSAR observations: **L Xue**, J Sun, Z Shen

1340h **G13A-0658** *POSTER* Relationship between two Solomon Islands Earthquakes in 2007 (M8.1), 2010 (M7.1), and Seismic Gap along the Subduction Zone, Revealed by ALOS/PALSAR: **Y Miyagi**, T Ozawa

1340h **G13A-0659** *POSTER* FEM models of coseismic deformation measured by DInSAR: Wenchuan (China) 2008 and L' Aquila (Italy) 2009 earthquakes: **C Kyriakopoulos**, E Trasatti, S Atzori, M Chini, C Bignami, S Stramondo, C Tolomei

1340h **G13A-0660** *POSTER* A joint inversion of focal mechanisms and GPS displacements for absolute crustal stress and coseismic fault slip using data from the 1999 Chi-Chi, Taiwan, earthquake: **Y Yang**, K M Johnson, R Y Chuang

1340h **G13A-0661** *POSTER* Coseismic and postseismic deformation from the 14 November 2007 Mw 7.8 Tocopilla earthquake, as investigated by INSAR, and seismic observations: M Motagh, **B Schurr**, A J Hooper, J Anderssohn, M Moreno, R Wang

1340h **G13A-0662** *POSTER* Slip distribution of the Aril 14, 2010 Mw 6.9 Yushu (Qinghai, China) earthquake constrained using InSAR observations: **J Sun**, Z Shen, M Wang, R Burgmann, X Xu

1340h **G13A-0663** *POSTER* Mechanical constraints on inversion of co-seismic geodetic data for fault slip and geometry: F Liang, **J Sun**, K M Johnson, Z Shen, R Burgmann

1340h **G13A-0664** *POSTER* Modeling time dependent poroelastic effects following the June 2000 Mw6.5 earthquakes in South Iceland using the finite element method: **S Kawamoto**, P Segall

1340h **G13A-0665** *POSTER* Relationship Between Afterslip of 2003 Tokachi Earthquakes and Coseismic-slip of 2004 Kushiro Earthquakes Using Viscoelastic Media: **T Sato**, H Takemura

1340h **G13A-0666** *POSTER* Application of PSI to Investigate the Berkeley Hills Landslides: **L Lei**, R Bürgmann

1340h **G13A-0667** *POSTER* InSAR time series analysis of crustal deformation in southern California from 1992-2010: **Z Liu**, P Lundgren

1340h **G13A-0668** *POSTER* What do formal inversions of space geodetic data tell us about fault slip rates? Examples from Southern California. (*Invited*): **E O Lindsey**, Y Fialko

1340h **G13A-0669** *POSTER* Improving Atmospheric Corrections to InSAR Path Delays Using Operational Weather Forecasts: **E Fishbein**, E J Fielding, A W Moore, P A von Allmen, Z Xing, Z Li, L Pan

1340h **G13A-0670** POSTER Precise Leveling Survey at the central part of the Longitudinal valley fault, Southeast Taiwan: **M Murase**, N Matta, K Ozawa, W Chen, C Lin

1340h **G13A-0671** POSTER Detection of Creep Displacement by DInSAR using TerraSAR-X data around Active Fault in the Metro Manila, the Philippine: **T Deguchi**

1340h **G13A-0672** POSTER Time-Dependent Inversion of Geodetic GPS and InSAR Measurements (1992-2010) of Yellowstone Deformation: **M H Aly**, R McCaffrey, R W King, S J Payne

1340h **G13A-0673** POSTER Present day velocity field in Central Nevada Seismic Belt observed by Interferometric synthetic aperture radar: **F Greene**, F Amelung, S Wdowski

1340h **G13A-0674** POSTER Polarization phase difference analysis of quad-pol RADARSAR-2 SAR data for mapping ground deformation along the Hayward fault in northern California: **S V Samsonov**, K F Tiampo

1340h **G13A-0675** POSTER Application of Interferometric Coherence Optimization for Radarsat-2 data over Hayward Fault, San Francisco: **S Alipour**, K Tiampo, S V Samsonov

G13B Moscone West: 2003 Monday 1340h
Estimating the Accuracy of Geodetic Measurements II

Presiding: **O de Viron**, Université Denis Diderot & IPGP; **M J Van Camp**, Royal Observatory of Belgium

1340h **G13B-01** Current Accuracy of Terrestrial Positions from Space Geodesy (*Invited*): **J Ray**

1355h **G13B-02** Assessing the Accuracy of Earth Orientation Measurements (*Invited*): **R S Gross**

1410h **G13B-03** Environmental effects and the validation of GPS time series (*Invited*): **P Tregoning**, C S Watson, S McClusky

1425h **G13B-04** Comparison of Deep Drill Braced Monument (DDBM) and Borehole Strainmeter (BSM) Wellhead GPS antenna mounts: a Plate Boundary Observatory (PBO) case study from Dinsmore, CA: **T B Williams**, K E Austin, A A Borsa, K Feaux, M E Jackson, W Johnson, D Mencin

1440h **G13B-05** ACCURACIES OF POSITIONING AND GEODATA USING HELICOPTERS FOR GEODETIC AND GEOPHYSICAL SURVEYS: O Bielenberg, **U Meyer**, M Vasterling

1455h **G13B-06** How accurately can current, planned and proposed InSAR missions measure slow, long-wavelength tectonic strain? (*Invited*): **T J Wright**, M Garthwaite, H Jung, A Shepherd

1510h **G13B-07** InSAR and GPS time series analysis: Crustal deformation in the Yucca Mountain, Nevada region: **Z Li**, W C Hammond, G Blewitt, C W Kreemer, H Plag

1525h **G13B-08** Comparing Estimates of Ionospheric Phase in InSAR Data Using Azimuth Offsets, Faraday Rotation, and Split-Spectrum Processing: **A C Chen**, J Chen, H A Zebker

Global Environmental Change

GC13A Moscone South: Poster Hall Monday 1340h
Coastal and Near-Term Climates in a Changing World II Posters (*joint with A, OS, B, H, PA*)

Presiding: **W Collins**, Lawrence Berkeley National Lab; **M A Snyder**, University of California, Santa Cruz; **S C Jackson**, UC Berkeley; **T A O'Brien**, University of California, Santa Cruz

1340h **GC13A-0676** POSTER Ten-year climatology of surface winds over the coastal China seas using QuikSCAT data and comparison with NCEP reanalysis: **H Shi**, X Cai, Y Song

1340h **GC13A-0677** POSTER An Analysis for Tropical Cyclone precipitation in Texas from 1950 to 2010: **L Zhu**

1340h **GC13A-0678** POSTER Chesapeake Bay Forecast System: Oxygen Prediction for the Sustainable Ecosystem Management: **B Mathukumalli**, W Long, X Zhang, R Wood, R G Murtugudde

1340h **GC13A-0679** POSTER How will coastal sea level respond to changes in natural and anthropogenic forcings by 2100?: **S Jevrejeva**, J Moore, A Grinsted

1340h **GC13A-0680** POSTER Modeled Global vs. Coastal Impacts on 1970 and 2005 Summer Daytime Temperature Trends in Coastal California: **B L Habtezion**, J Gonzalez, R D Bornstein

1340h **GC13A-0681** POSTER Probabilistic Forecast of North American Decadal Climate for 2011-2020: **M Hoerling**, A Kumar, J W Hurrell, L Terray, J Eischeid, P J Pegion, T Xu, T Zhang

1340h **GC13A-0682** POSTER Quantification of Atmospheric Moisture Flux on California Precipitation and Snow Water Equivalent Under Projected Climates: **Y Bao**, N Miller

1340h **GC13A-0683** POSTER A Weakly Coupled Ocean-Atmosphere Ensemble Data Assimilation System: N Collins, T J Hoar, **K Raeder**, J L Anderson, S G Yeager, G Danabasoglu, J J Tribbia, M Vertenstein

1340h **GC13A-0684** POSTER Nonlinear Dependence of Global Warming Prediction on Ocean State: **M Liang**, L Lin, K K Tung, Y L Yung, S Sun

1340h **GC13A-0685** POSTER NOAA-GFDL's New Earth System Models: Model Description and Preliminary Results: R J Stouffer, **J P Krasting**, J P Dunne, J G John, S Malyshev, L T Sentman, E Shevliakova, M Spelman

1340h **GC13A-0686** POSTER Predicting near-term climate change using a hierarchy of dynamical and statistical models: **R Saravanan**, P Chang, L Ji

1340h **GC13A-0687** WITHDRAWN

1340h **GC13A-0688** POSTER Modeled global scale threshold sensitivity to Greenland ice melt: **C S Jackson**, P Chang, L Ji

1340h **GC13A-0689** POSTER Orbital Forcing at Monthly-to-Multidecadal Timescales: **A Stine**, P Huybers

GC13B Moscone South: Poster Hall Monday 1340h
Global Environmental Change General Submissions I Posters (*joint with A, B, H, OS, PA, C*)

Presiding: **F Mekik**, Grand Valley State University; **D J Wuebbles**, Univ Illinois

1340h **GC13B-0690** POSTER Line by Line Analysis of Carbon Dioxide Absorption for Predicting Global Warming: **D C Smith**

1340h **GC13B-0691** POSTER The World's Largest Experiment Manipulating Solar Energy Input To Earth Resumed In 2003: **P L Ward**

1340h **GC13B-0692** POSTER The Varying Equatorial Pacific-Equatorial Atlantic Teleconnection: **Y Fang**, J C Chiang, P Chang

1340h **GC13B-0693** POSTER Biophysical feedbacks between the Pleistocene megafauna extinction and climate: The first human induced global warming?: **C Doughty**, C Field, A Wolf

1340h **GC13B-0694** POSTER Climate change in Iceland: A Snorrason, **H Bjornsson**

1340h **GC13B-0695** POSTER Late Pleistocene and Holocene Fire History of the Swiftcurrent Lake basin, eastern Glacier National Park, Montana: **J C Kutvirt**, K R MacGregor, C A Riihimaki, A Myrbo

1340h **GC13B-0696** WITHDRAWN

1340h **GC13B-0697** POSTER THE ROLE OF GLOBAL EMISSION INVENTORY OF CARBONACEOUS EMISSIONS: **H Fatima**, O P Sharma, H Updhyaya

- 1340h **GC13B-0698** *POSTER* Soil emissions of CH₄ and N₂O in natural and managed ecosystems under elevated CO₂: **K van Groenigen**, C W Osenberg, B A Hungate
- 1340h **GC13B-0699** *POSTER* "Microclimatic Impacts of Green Spaces: Sociological and Biophysical Scale Considerations for Municipal Site Developments": R Heinse, **A D Vanhoozer**, Title of Team: Microclimatic Impacts of Green Spaces
- 1340h **GC13B-0700** WITHDRAWN
- 1340h **GC13B-0701** *POSTER* The changing trophic status of shallow Minnesota lakes: evidence from stable isotopic and biological proxies: **K M Theissen**, K Zimmer, J B Cotner, S Sugita, W Hobbs, J M Ramstack
- 1340h **GC13B-0702** WITHDRAWN
- 1340h **GC13B-0703** *POSTER* Groundwater Recharge as affected by Climate Change in the Nakdong River Watershed: **L Mounj Jin**, Title of Team: Knowledge & Intelligence Team
- 1340h **GC13B-0704** *POSTER* The responses of Petunia to simulated pollutants in chamber conditions and its uses as bioindicator of pollution: **I I Oguntimehin**, H Kondo, H H Sakugawa

GC13C Moscone South: Poster Hall Monday 1340h
Regional Patterns of Global Warming: Models, Mechanisms, and Observations I Posters (*joint with A, OS, H*)

Presiding: **A C Clement**, RSMAS, University of Miami; **S Xie**, University of Hawaii

- 1340h **GC13C-0705** *POSTER* Impact of anthropogenic forcing on long-term precipitation trend in Africa in the 20th Century: **H Kawase**, T Takemura, T Nozawa
- 1340h **GC13C-0706** *POSTER* Regional patterns of SST warming trend in the North Pacific based on CMIP3 multi-model simulations: **K Oshima**, Y Tanimoto, S Xie
- 1340h **GC13C-0707** *POSTER* Global warming impacts on rainfall intensity and frequency—A regional view: **C Chen**, C Chou, C Chen
- 1340h **GC13C-0708** *POSTER* GCM Projections for the Pacific Decadal Oscillation under Greenhouse Forcing for the 21st Century: **S L Lapp**, J St. Jacques, E Barrow, D Sauchyn
- 1340h **GC13C-0709** *POSTER* The Interhemispheric SST Gradient in the 20th Century and in the Future, in Pacific and Atlantic: **C Chang**, J C Chiang, M F Wehner
- 1340h **GC13C-0710** *POSTER* Characterizing seasonal markers using high-resolution water temperature data from small mountain ponds: **J Daly**, B Engel, J Hansen
- 1340h **GC13C-0711** *POSTER* Understanding regional sea level change under CO₂-induced global warming in a Model for Interdisciplinary Research on Climate version 3.2(MIROC3.2): **T Suzuki**
- 1340h **GC13C-0712** *POSTER* Tropical Pacific present-day and future sea level changes in a linear, wind-driven model: **D Wang**, M A Cane
- 1340h **GC13C-0713** *POSTER* Changes of Alpine Climate in East Asia - a Study on Taiwan Yushan: **L Tsai**, K Liu
- 1340h **GC13C-0714** *POSTER* Regional climate change modeling and observations for Korea: **W Lee**, S Yoo, S Choi, H Kwak, S Park, M Kafatos, H M El-Askary, A K Prasad
- 1340h **GC13C-0715** *POSTER* A New Type of Captive Balloon for Vertical Meteorological Observation in Urban Area: **M Nakamura**, S Sakai, K Ono
- 1340h **GC13C-0716** *POSTER* The characteristic of the Younger Dryas Event in Bilut Lake, Inner Mongolia, China: **H Hsiao**, S Song, H Chen, Y Wang, T Lee

- 1340h **GC13C-0717** *POSTER* Response of Regional Monsoons to Global Warming: **A Seth**, S A Rauscher, M Rojas, A Giannini, S J Camargo
- 1340h **GC13C-0718** *POSTER* Observed and Projected Changes in Precipitation Regime over Utah: S Wang, **R R Gillies**
- 1340h **GC13C-0719** *POSTER* The Impacts of Reforestation on Wintertime Surface Albedo in the Northeastern United States, 1850-2005: **E A Burakowski**, C P Wake
- 1340h **GC13C-0720** *POSTER* A multivariate Bayesian space-time approach to modeling Southeast United States regional hydroclimate: comparisons with RCMs and potential for probabilistic near-term projections: **S Sobolowski**, T M Pavelsky
- 1340h **GC13C-0721** *POSTER* Trends in Extreme Temperatures and Dry Periods in the Northeastern United States: **M Baber**, C P Wake
- 1340h **GC13C-0722** *POSTER* 21st Century Projected Northern Rocky Mountain River Discharges Under Greenhouse Forcings: **J St. Jacques**, S L Lapp, Y Zhao, E Barrow, D Sauchyn
- 1340h **GC13C-0723** *POSTER* Regional Climate Response to Physiological Forcing of Carbon Dioxide in a Radiative-Convective Model: **T W Cronin**, R G Prinn

GC13D Moscone South: Poster Hall Monday 1340h
Toward a Global Greenhouse Gas Monitoring and Information System I Posters (*joint with A, B, OS, PA, IN*)

Presiding: **R M Duren**, JPL; **J H Butler**, NOAA Earth System Research Laboratory; **D Rotman**, Lawrence Livermore National Laboratory; **P Ciaia**, CEA-CNRS-UVSQ

- 1340h **GC13D-0724** *POSTER* Implementing a Terrestrial Carbon Flux Model in Preparation for the Soil Moisture Active Passive Mission: **J S Kimball**, Y Yi, L A Jones, R R Nemani, R H Reichle, K C McDonald
- 1340h **GC13D-0725** *POSTER* Numerical simulation of multiphase flows of CO₂ storage in saline aquifers in Daqingzijing oilfield, China: **D Yang**
- 1340h **GC13D-0726** *POSTER* Evaluating the North American In-Situ Carbon Dioxide Monitoring Network: **Y P Shiga**, A M Michalak, D Hammerling, A Chatterjee, S R Kawa, R J Engelen
- 1340h **GC13D-0727** *POSTER* A Proposed Framework for Synthesis Analysis of Greenhouse Gas Emissions: **A Lanz**, M Berliner, A J Braverman
- 1340h **GC13D-0728** *POSTER* How will greenhouse gas observations meet changing requirements, laws, and demands?: **J H Butler**, P P Tans, C Sweeney, A E Andrews, J B Miller, S A Montzka
- 1340h **GC13D-0729** *POSTER* Multi-Objective Design Of Optimal Greenhouse Gas Observation Networks: **D D Lucas**, D J Bergmann, P J Cameron-Smith, E Gard, T P Guilderson, D Rotman, J K Stolaroff
- 1340h **GC13D-0730** *POSTER* Multi-Scale Science Framework for Attributing and Tracking Greenhouse Gas Fluxes at LANL's Four Corners New Mexico Test Bed: **K R Costigan**, M K Dubey, P Chylek, S P Love, B G Henderson, B A Flowers, J M Reisner, T Rahn, C R Quick
- 1340h **GC13D-0731** *POSTER* Towards a Global Forest Carbon Monitoring and Information System for REDD: **S S Saatchi**, S Brown, N Harris, M A Lefsky, E Mitchard, L White, M R Silman, Y Malhi
- 1340h **GC13D-0732** *POSTER* Enhanced Temporal Repeat Coverage at Landsat-like Resolution – a Low-cost, Small-sat Mission Concept: **D L Williams**, C J Tucker, J G Masek, M E Brown, C Jarvis

GC13E Moscone South: 310 Monday 1340h
Solar Variability and Climate (joint with A, SA, SH)

Presiding: S A Lloyd, NASA Goddard Space Flight Ctr; E C Richard, University of Colorado

1340h **GC13E-01** Observations of Solar Cycle Variations in UV Spectral Irradiance Since 1978: R P Cebula, **M T DeLand**

1400h **GC13E-02** Application of Solar Spectral Irradiance Variability in a Earth Atmospheric Model: **J W Harder**, A Merkel, J Fontenla, D Marsh, T N Woods

1420h **GC13E-03** Solar cycle effects of spectrally varying solar irradiance in a coupled chemistry–climate model: **W H Swartz**, R S Stolarski, L Oman, E L Fleming, C H Jackman

1440h **GC13E-04** Modeling the Temperature Responses to Spectral Solar Variability on Decadal and Centennial Time Scales: **R F Cahalan**, G Wen, P Pilewskie, J W Harder

1500h **GC13E-05** International Pyroheliometer Comparison 2010 Results from SORCE/TIM: K Heuerman, **G Kopp**, D Harber

1520h **GC13E-06** Do Flares Contribute to Total Solar Irradiance Variability?: **M Kretzschmar**, T Dudok de Wit

Geomagnetism and Paleomagnetism

GP13A Moscone South: Poster Hall Monday 1340h
Magnetostratigraphy: Not Only a Dating Tool I Posters

Presiding: B A Housen

1340h **GP13A-0758** *POSTER* True Polar Wobbles: Cretaceous Magnetostratigraphy Provides Continuous Age-Calibration and Paleogeography: C Thissen, **R N Mitchell**, J L Kirschvink, D A Evans, A Montanari, R Coccioni, L A Hinnov, V C Tsai

1340h **GP13A-0759** *POSTER* A M-sequence geomagnetic polarity time scale that steadies spreading rates globally and incorporates cyclostratigraphy constraints: **J Hildebrandt**, A Malinverno, M Tominaga

1340h **GP13A-0760** *POSTER* High-resolution magnetostratigraphy from central Baffin Bay for the last climatic cycle: initial results: **Q Simon**, G St-Onge, C Hillaire-Marcel

1340h **GP13A-0761** *POSTER* Paleomagnetic and environmental magnetic properties of sediments from IODP Site U1333 (Equatorial Pacific): **E C Palmer**, C Richter, G Acton, J E Channell, H F Evans, C Ohneiser, Y Yamamoto, T Yamazaki

1340h **GP13A-0762** *POSTER* Preliminary Eocene-Oligocene magnetostratigraphy of ODP Hole 711A from the western Indian Ocean: **J F Savian**, L Jovane, S M Bohaty, P A Wilson, R I Trindade, A Roberts

1340h **GP13A-0763** *POSTER* Re-Assessment of the Eocene-Oligocene Age Model of ODP Hole 647A, with Implications for Correlation of Paleoclimatographic Events from Very High to Low Latitudes: **J V Firth**, J S Eldrett, I C Harding, H K Coxall, B Wade, J Backman

1340h **GP13A-0764** *POSTER* High Resolution Magnetostratigraphy of the Middle Pleistocene Turlock Lake Formation, California: **R B Trayler**, C J Pluhar

1340h **GP13A-0765** *POSTER* Geomagnetic Excursions recorded from a sediment core from the Great Barrier Reef, IODP Expedition 325, Australia: J K Lau, **E Herrero-Bervera**, L Jovane

1340h **GP13A-0766** *POSTER* Improving late Holocene radiocarbon-based chronologies by matching paleomagnetic secular variations to geomagnetic field models – Examples from Nam Co (Tibet) and Lake Kalimpa (Sulawesi): **T Haberzettl**, T Kasper, G St-Onge, H Behling, G Daut, S Doberschütz, W Kirleis, R Mäusbacher, N Nowaczyk

1340h **GP13A-0767** *POSTER* Age constraints for laminated cave sediments using detrital remanent magnetization: Mystery Cave, Minnesota: **S I Webb**, J M Feinberg, X Wang, E C Alexander

GP13B Moscone South: Poster Hall Monday 1340h
Rock Magnetic Data and Methods Applied to Paleomagnetic and Paleoenvironmental Studies Integrated With Other Proxies I Posters (joint with PP, GC)

Presiding: K P Kodama, Lehigh University

1340h **GP13B-0768** *POSTER* Quantification of hematite from the visible diffuse reflectance spectrum: effects of aluminum substitution and grain morphology: **Q Liu**, J Torrent, V Barrón, Z Duan, J Bloemendal

1340h **GP13B-0769** *POSTER* The discrimination of hematites synthesized by hydro-thermal and thermal dehydration method and its geological significances: **Z Jiang**, Q Liu, V Barrón, J Torrent

1340h **GP13B-0770** *POSTER* Micromagnetic Modeling of Framboidal Grains of Greigite: **W Williams**, L Chang, A R Muxworthy, A P Roberts

1340h **GP13B-0771** *POSTER* The effect of exchange and magnetostatic interactions across grain boundaries: L L Barron, **W Williams**, A R Muxworthy

1340h **GP13B-0772** *POSTER* Magnetic properties of lake sediments and the fidelity of Chemical and Detrital Remnant Magnetization: **H Ron**, N R Nowaczyk

1340h **GP13B-0773** *POSTER* Magnetic properties and origin of magnetic remanence in sediments from Lomonosov Ridge and Yermak Plateau, eastern Arctic Ocean: **C Xuan**, J E Channell, L V Polyak, D A Darby

1340h **GP13B-0774** *POSTER* Preliminary Rock Magnetic and Paleomagnetic Results from the SHALDRIL Maxwell Bay Site, South Shetland Islands, Antarctic Peninsula: **D P Shah**, S A Brachfeld

1340h **GP13B-0775** *POSTER* Environmental Magnetism Survey of a Late Holocene Sedimentary Record from Barilari Bay, Western Antarctic Peninsula: **C J Natter**, S A Brachfeld, E W Domack, C Lavoie, A Leventer, S E Ishman, K Yoo, S Jeong, J S Wellner, M Vernet

1340h **GP13B-0776** *POSTER* Magnetic identification of climatic signals in turbiditic sediments of the Galician Bank, NW Iberian Margin: **K J Mohamed-Falcon**, D Rey, B Rubio

1340h **GP13B-0777** *POSTER* Investigation of Unusual Relationships Between Magnetic Susceptibility, Iron, and Silicon Abundance in Sediment Core LMG04-04 KC16 from the Northeastern Antarctica Peninsula: Magnetic Inclusions in Silicate Minerals?: **J S Darley**, S A Brachfeld, R Darley

1340h **GP13B-0778** *POSTER* Initial Results of a Rock Magnetic Study from Core LZ-1029, Lake El'gygytyn, Northeast Siberia: **K J Murdock**, L L Brown

1340h **GP13B-0779** *POSTER* Holocene Environmental Magnetic Studies in northeastern Taiwan: **T Lee**, T Yang

1340h **GP13B-0780** *POSTER* Rock magnetic study and paleomagnetic reconstruction from the maar Lake Laguna Potrok Aike, southern Argentina: preliminary results from the PASADO-ICDP record: **A Lise-Pronovost**, G St-Onge, C G Gogorza, T Haberzettl, P Team, Title of Team: PASADO team

- 1340h **GP13B-0781** POSTER Preliminary Results: Magnetic Bulk Properties and Anisotropy of the Dolni Vestonice (Czech Republic) Loess-Paleosol Sequence: **F Lagroix**, P Antoine, C Hatte, D Rousseau, C Gauthier, O Moine, M Fuchs, J Svoboda, L Lisa
- 1340h **GP13B-0782** POSTER Magnetic Properties of a Fluvial Chronosequence From the Eastern Wind River Range, Wyoming: **E E Quinton**, D E Dahms, C E Geiss
- 1340h **GP13B-0783** POSTER The Effect of Prairie Fires on the Magnetic Properties of Modern Soils at Konza Prairie, Kansas: **G Lopez**, W C Johnson, C E Geiss
- 1340h **GP13B-0784** POSTER Magnetic Properties of Atmospheric PM10 and PM2.5 Collected at Urban and Background Site: **E Petrovsky**, A Kapicka, B Kotlik, R Zboril
- 1340h **GP13B-0785** POSTER Magnetic characterization of airborne particulates: **W Kim**, S Doh, Y Yu
- 1340h **GP13B-0786** POSTER A new system for measuring alternating current magnetic susceptibility of natural materials over a wide range of frequencies: A new rock magnetic property for environmental magnetism: **K Kodama**

Hydrology

H13A Moscone South: Poster Hall Monday 1340h **Advances in Hydrologic Data Assimilation and Uncertainty Analysis I Posters**

Presiding: **M T Durand**, The Ohio State University; **M He**, UCLA; **A N Flores**, Boise State University; **K J Franz**, Iowa State University; **H Lee**, NOAA/NWS/OHD; **S C Steele-Dunne**, TU Delft; **A Weerts**, Deltares

- 1340h **H13A-0936** POSTER Ensemble-based streamflow data assimilation for an operational distributed hydrologic model: **M He**, H Lee, Y Liu
- 1340h **H13A-0937** POSTER Streamflow assimilation into operational hydrologic models via the Maximum Likelihood Ensemble Filter (MLEF) approach: **H Lee**, D Seo, Y Liu, M He, S K Regonda
- 1340h **H13A-0938** POSTER The Role of Multimodel Combination and Data assimilation in Improving Streamflow Prediction: **W Li**, S Arumugam, R S Ranjithan
- 1340h **H13A-0939** POSTER Estimating bathymetry and river depth in the Ohio River using simultaneous state-parameter estimation with an Ensemble Kalman filter: **Y Yoon**, M T Durand, E Clark, K Andreadis, C J Merry
- 1340h **H13A-0940** POSTER Estimating discharge from inundation imagery: **J C Neal**, G Schumann, P D Bates, D C Mason
- 1340h **H13A-0941** POSTER Improvement of the flood simulation with MASCARET using data assimilation: application to the Adour catchment: **S M Ricci**, A Piacentini, O Thual, E Le Pape
- 1340h **H13A-0942** POSTER Calibration of a rainfall-runoff hydrological model and flood simulation using data assimilation: A Piacentini, **S M Ricci**, O Thual, M Coustau, A Marchandise
- 1340h **H13A-0943** POSTER Evaluating the Use of Microwave Radiance and Snow Water Equivalent Data in Streamflow Prediction: **C M DeChant**, H Moradkhani, M Leisenring
- 1340h **H13A-0944** POSTER Ensemble-based snow data assimilation for an operational snow model: **Y Liu**, M He, D Seo, D Laurine, H Lee
- 1340h **H13A-0945** POSTER Effect of Surface Soil Moisture Assimilation on SWAT Model Output: **E Han**, V Merwade, G C Heathman

- 1340h **H13A-0946** POSTER A proto-type land surface OSSE testbed for obtaining high-resolution soil moisture data: **R K Shrestha**, P Houser
- 1340h **H13A-0947** POSTER Soil Moisture Data Assimilation in Soil Water Flow Modeling: **Y A Pachepsky**, A Guber, D Jacques, F Pan, M Van Genuchten, R E Cady, T J Nicholson
- 1340h **H13A-0948** POSTER Improving crop biomass through asynchronous assimilation of LAI and soil moisture during multiple growing seasons of corn: **T E Bongiovanni**, K Nagarajan, J W Jones, A Monsivais Huertero, J Judge
- 1340h **H13A-0949** POSTER Application of the Tor Vergata Scattering Model to L Band Backscatter During the Corn Growth Cycle: **A T Joseph**, R van der Velde, B J Choudhury, P Ferrazzoli, P E O'Neill, E J Kim, R H Lang, T Gish
- 1340h **H13A-0950** POSTER Improvement of Satellite Data Assimilation with Updated Microwave Land Emissivity Model in CRTM and New Momentum and Thermal Roughness Lengths in GFS: **W Zheng**, M B Ek, J Derber, H Wei, C J Meng
- 1340h **H13A-0951** POSTER A Development of Three Dimensional Generalized Coupled Markov Chain Model for Ssubsurface Characterization: **E Park**
- 1340h **H13A-0952** POSTER Continuous and discontinuous data assimilation methods for estimating a heterogeneous conductivity field by assimilating transient solute transport data via ensemble Kalman filter: **X B Hu**, J Tong
- 1340h **H13A-0953** POSTER Understanding and capturing first-order stream flow processes in a data-driven model for a watershed in the Lampasas Cut Plains, Central Texas: **S Potter**, D Hoffman, B P Wilcox

H13B Moscone South: Poster Hall Monday 1340h **CO₂ Sequestration Inside Pores: From Molecules to Microbes II Posters** (joint with B, V)

- Presiding:** **S J Altman**, Sandia National Laboratories; **B Cardenas**, University of Texas at Austin; **D R Cole**, Oak Ridge National Laboratory
- 1340h **H13B-0954** POSTER Molecular Behavior CO₂ and CO₂-H₂O Mixtures at Interfaces: **D R Cole**, A Chialvo, G Rother, L Vlcek
- 1340h **H13B-0955** POSTER Dimension Reduction Method for Pore-Scale Reactive Transport Models: **A M Tartakovsky**, C Zhang, T D Scheibe, M Oostrom
- 1340h **H13B-0956** POSTER Investigation of snap-off of sCO₂ inside pores between packed ideal grains during imbibition: **W Deng**, B Cardenas, P Bennett
- 1340h **H13B-0957** POSTER The role of different grain shapes in modifying intra-pore flow and transport phenomena: **K Chaudhary**, B Cardenas, P Bennett, R A Ketcham
- 1340h **H13B-0958** POSTER LINKING THE ACOUSTIC PROPERTIES OF CARBONATE ROCKS TO INDUCED-CHEMICAL CHANGES IN THE PORE SYSTEM UPON INJECTION OF CO₂-RICH WATER: **S Vialle**, T Vanorio, G M Mavko
- 1340h **H13B-0959** POSTER Mixing-induced calcite precipitation and dissolution kinetics in micromodel experiments: C J Werth, **H Yoon**, K Dehoff, A J Valocchi, T A Dewers
- 1340h **H13B-0960** POSTER Random Rate Models for Age Dependence in Precipitation and Dissolution Rates: **D Reeves**, D Rothman
- 1340h **H13B-0961** POSTER Impact of carbonate precipitation on flow and reactive transport in porous media: **C N Noiriell**, L Yang, J B Ajo Franklin, C Steefel

1340h **H13B-0962** *POSTER* CHANGES IN SEAL CAPACITY OF FRACTURED CLAYSTONE CAPROCKS INDUCED BY DISSOLVED AND GASEOUS CO₂ SEEPAGE: EVIDENCES FROM EXPERIMENTS AND MOLECULAR MODELLING: M Andreani, P Gouze, L Luquot, G Pèpe, J Dweik, P Jouanna

1340h **H13B-0963** *POSTER* Bayesian belief network for CO₂ leak detection by near-surface flux rates for CO₂ and perfluorocarbon (PFC) tracer: Y Yang, M J Small, E Ogretim, D D Gray, G S Bromhal, B R Strazisar, A W Wells

1340h **H13B-0964** *POSTER* Simulation of CO₂ Leaks from an Injection Well and Implications on Subsurface Flow & Transport Conditions: J Wagoner, S M Ezzedine, E A Burton

1340h **H13B-0965** *POSTER* Comparison of caprock pore networks which potentially will be impacted by carbon sequestration projects: K M Mouzakis, A Sitchler, J E McCray, G Rother, T Dewers, J E Heath

1340h **H13B-0966** *POSTER* Variation in Biofilm Stability with Decreasing pH Affects Porous Medium Hydraulic Properties: M F Kirk, E F Santillan, L K McGrath, S J Altman

1340h **H13B-0967** *POSTER* Effects of elevated CO₂ on a methanogenic microbial enrichment from coal of the Powder River Basin, WY: A W Glossner, C T Mills, D Nummedal, K W Mandernack

1340h **H13B-0968** *POSTER* Extraction of Dissolved Gaseous Hydrocarbons from Brine at an Engineered CO₂ Injection, Cranfield, Mississippi: K Romanak, T Zhang, C Yang, K Gilbert, P Bennett, S Hovorka

H13C Moscone South: Poster Hall Monday 1340h
Geologic CO₂ Sequestration: Capillary and Solubility Trapping of Supercritical CO₂ II Posters

Presiding: R L Detwiler, University of California, Irvine;
D Wildenschild, Oregon State University

1340h **H13C-0969** *POSTER* Pore-Scale Modeling of Reactive-Multiphase-Buoyant Flow for Carbon Capture and Storage: S Anwar, J A Cunningham, M Trotz, M W Thomas, M Stewart

1340h **H13C-0970** *POSTER* RAPID MIGRATION OF CO₂ SUPERCRITICAL FLUIDS IN CALCITE CRISTALS: P Zuddas, O Lopez, S Salvi, Title of Team: Earth Sciences UMR5123

1340h **H13C-0971** *POSTER* Pore-Scale Research of Trapping Mechanisms and Caprock Sealing Efficiency Relevant to CO₂ Sequestration: Experimental Capability Development at EMSL/PNNL: T W Wietsma, C Zhang, M Oostrom, J W Grate

1340h **H13C-0972** *POSTER* Evaluation of Displacement and Pore Pressure change Due to the Injections of Fluid in Geological Formations: K Hsu, C Chang

1340h **H13C-0973** *POSTER* Geologic Controls Influencing CO₂ Loss from a Leaking Well: K A Klise, M J Martinez, S A McKenna, P L Hopkins

1340h **H13C-0974** *POSTER* Physical Property Changes During CO₂ Injection into Sandstone from Pukpyeong Formation, South Korea: Pore-scale Approach: J Han, Y Keehm

1340h **H13C-0975** *POSTER* Water and CO₂ chemistry influences on the mechanical integrity of rocks: T W Darling, P Le Bas, J W Carey, P A Johnson

1340h **H13C-0976** *POSTER* Dissolution rate of CO₂ during geologic sequestration: simple experiments and simulations of density-driven Rayleigh-Benard instabilities: M Szulczewski, C W MacMinn, R Juanes

1340h **H13C-0977** *POSTER* Intermediate-Scale Investigation of Capillary and Dissolution Trapping during CO₂ Injection and Post-Injection in Heterogeneous Geological Formations: A Cihan, T H Illangasekare, Q Zhou, J T Birkholzer, D Rodriguez

1340h **H13C-0978** *POSTER* Numerical Simulation of Impacts of Hydrological Properties of Geologic Storage Formations on Injection Efficiency of Carbon Dioxide: J Kihm, J Kim

1340h **H13C-0979** *POSTER* Estimation of Potential Carbon Dioxide Storage Capacities of Onshore Sedimentary Basins in Republic of Korea: S Park, J Kim, Y Lee

1340h **H13C-0980** *POSTER* Estimating CO₂ Plume Trapping in Geological Carbon Sequestration: Lessons learned from Calibration of TOUGH2 Models: A J Espinet, C A Shoemaker, C Doughty

1340h **H13C-0981** *POSTER* Design and Analysis of Field Experiments for the Investigation of In-Situ CO₂ Trapping: F F Fagerlund, A P Niemi, J Bensabat, M Rasmusson, K Rasmusson, L Tian, V Shtivelman, T Licha

1340h **H13C-0982** *POSTER* Analysis and Comparison of Carbon Capture & Sequestration Policies: E Burton, S M Ezzedine, J Reed, J H Beyer, J L Wagoner

1340h **H13C-0983** *POSTER* Site closure monitoring of two CO₂ plumes with VSP at the Frio Pilot: T M Daley, S Hovorka

1340h **H13C-0984** *POSTER* Sensitivity Analysis on the Long-term Behavior of CO₂ Injected into Deep Saline Aquifer III: Y Kano, T Ishido

1340h **H13C-0985** *POSTER* Geochemical Modeling of CO₂ Sequestration in Deep Saline Aquifers in Florida: M W Thomas, A Briley, M Trotz, M Stewart, J A Cunningham

1340h **H13C-0986** *POSTER* Exploring the effect of interfacial tension, viscosity, and flow rate on the effectiveness of capillary trapping of CO₂: D Wildenschild, A L Herring, J W Carey, I M Young

H13D Moscone South: Poster Hall Monday 1340h
High-Resolution Hydrogeophysical Characterization of Soils and Aquifers From Microscale to Field Scale I Posters (joint with NS)

Presiding: L Hopp, Oregon State University

1340h **H13D-0987** *POSTER* Contribution of geophysical methods at catchment-scale to validate and refine hydrogeological conceptual models of Irish complex hard rock aquifers: J Comte, R Cassidy, C Friel, J McGettigan, U Ofterdinger, J Vouillamoz, A Legtchenko, J Nitsche, K Pilatova, R M Flynn

1340h **H13D-0988** *POSTER* Assessing Hydraulic Connections Across Structural Blocks, Pahute Mesa, Nevada—Interpreting Hydraulic Properties: K J Halford, J M Fenelon, C Garcia, D S Sweetkind

1340h **H13D-0989** *POSTER* Assessing Hydraulic Connections Across Structural Blocks, Pahute Mesa, Nevada—Detecting Distant Drawdowns: C Garcia, J M Fenelon, K J Halford, D S Sweetkind

1340h **H13D-0990** *POSTER* A localized bedrock aquifer distribution explains discharge from a headwater catchment: K Kosugi, M Fujimoto, S Katsura, H Kato, H Sando, T Mizuyama

1340h **H13D-0991** *POSTER* The use of CPT and other Direct Push methods for (hydro-)stratigraphic aquifer characterization – a field study: T Vienken, C Leven, P Dietrich

1340h **H13D-0992** *POSTER* Computing the Electrokinetic Response with Simple Models via Eigenvalue Decomposition: K L Kuhlman, B Malama

1340h **H13D-0993** *POSTER* Efficient methods for large-scale Linear Inversion for geostatistical applications: A Saibaba, P K Kitanidis

1340h **H13D-0994** *POSTER* The Validation of Hydraulic Tomography for Field Pumping Tests: J Wen, **S Huang**, T J Yeh, J Lee

1340h **H13D-0995** *WITHDRAWN*

1340h **H13D-0996** *POSTER* Three-dimensional transient hydraulic tomography and comparison to other heterogeneity imaging methods: **S J Berg**, W A Illman

1340h **H13D-0997** *POSTER* Benefit of using geophysical information to estimate the distribution of hydrological properties for prediction of solute transport: Evaluation based on a field tracer test experiment and crosshole GPR data: **B Dafflon**, W Barrash, M A Cardiff

1340h **H13D-0998** *POSTER* Characterization and high resolution mapping of soil hydrogeophysical properties from ground penetrating radar and electromagnetic induction data in a vineyard in southern France: **F Andre**, R Van Durmen, S Saussez, C van Leeuwen, D Moghadas, B Delvaux, H Vereecken, L Sebastien

1340h **H13D-0999** *POSTER* Experimental Determination of GPR Groundwave Sampling Depth as a Function of Data Acquisition Parameters: **T L Crist**, A Benda, K R Grote

1340h **H13D-1000** *POSTER* Integrating Ground Penetrating Radar, Electrical Resistivity, Seismic Refraction, and Borehole Data to Image an Alluvial Aquifer in Three Dimensions: **B L Bailey**, S T Marshall, W P Anderson

1340h **H13D-1001** *POSTER* Estimation of soil hydraulic properties using hydrologic trajectories in transient GPR data: **S M Moysey**, A R Mangel

1340h **H13D-1002** *WITHDRAWN*

1340h **H13D-1003** *POSTER* Soil Property Mapping Over Large Areas Using Sparse Ad-hoc Samples: **A Zhu**, J Liu, C Qin, S Zhang, Y Chen, X Ma, Title of Team: The SoLIM Group

1340h **H13D-1004** *POSTER* Combination of comprehensive geophysical measurements and conventional soil sampling for high resolution soil mapping: U Werban, A Nuesch, **T Vienken**, P Dietrich, T Behrens

1340h **H13D-1005** *POSTER* Comparison of Geophysical Techniques for Soil Texture Estimation: **A R Mohr**, M Kristoff, T L Crist, A Benda, K R Grote

1340h **H13D-1006** *POSTER* Overcoming limitations of image analysis techniques for quantifying rhizosphere physical properties: M Berli, **N S Pillai**, A K Mandava, K K Potteti, G Recinos, E E Regentova

1340h **H13D-1007** *POSTER* Space and time resolved X-ray diffraction as a tool to image mesoporous transport of water in a weakly-hydrated swelling clay: **Y Meheust**, H Hemmen, L Ramstad Alme, J O Fossum

1340h **H13D-1008** *POSTER* Detection Of Flow Instabilities Caused By Entrapped Air: MRI Infiltration-Outflow Experiment and 3D Transient Simulation Using CT-Derived Heterogeneity: **M Cislerova**, V Jelinkova, M Dohnal, M Snehota

1340h **H13D-1009** *POSTER* Hysteresis of Soil Point Water Retention Functions Determined by Neutron Radiography: **E Perfect**, M Kang, H Bilheux, K J Willis, J Horita, J Warren, C Cheng

1340h **H13D-1010** *POSTER* Combining fluorescence imaging and neutron radiography to simultaneously record dynamics of oxygen and water content in the root zone: **N Rudolph**, S E Oswald, S Nagl, N Kardjilov

1340h **H13D-1011** *POSTER* Imaging on a Shoestring: Cost-Effective Technologies for Probing Vadose Zone Transport Processes: **C Corkhill**, J W Bridge, G Barns, R Fraser, M Romero-Gonzalez, R Wilson, S Banwart

1340h **H13D-1012** *POSTER* Computed Microtomography Quantification of Internal Pore Geometry of Soil Aggregates from Contrasting Land Management Types: **K Ananyeva**, W Wang, A J Smucker, A N Kravchenko, H C Chun, M L Rivers

1340h **H13D-1013** *POSTER* Evaluation of a High-Resolution Benchtop Micro-CT Scanner for Application in Porous Media Research: M Tuller, C M Vaz, P O Lasso, R Kulkarni, **T A Ferre**

H13E Moscone South: Poster Hall Monday 1340h Hydroclimatic Extremes: Monitoring, Diagnosis, and Prediction I Posters (*joint with A, NG*)

Presiding: **A AghaKouchak**, University of California Irvine; **U Lall**, Columbia Univ

1340h **H13E-1014** *POSTER* Using Hydrologic and Climatologic Data to Distinguish Regional Drought Characteristics in GRACE Terrestrial Water Storage Datasets: **A C Thomas**, J Famiglietti, M Rodell

1340h **H13E-1015** *POSTER* Forecasting Severe Floods for the Meghna River Basin: **V E Toma**, J JIAN, T M Hopson, P J Webster

1340h **H13E-1016** *POSTER* Trends in Precipitation Extremes over Southeast Asia: **N Endo**, J Matsumoto

1340h **H13E-1017** *POSTER* Future global population at risk of flooding: **S Kanae**, Y Hirabayashi

1340h **H13E-1018** *POSTER* Characterization of large-scale fluctuations and short-term variability of Seine river daily streamflow (France) over the period 1950-2008 by empirical mode decomposition and the Hilbert-Huang transform: **N Massei**, M Fournier

1340h **H13E-1019** *POSTER* Analysing the relations of hourly precipitation extremes and temperature over Japan based on ground observational records: **N Utsumi**, S Seto, S Kanae, T Oki

1340h **H13E-1020** *POSTER* Assessment of Long-term Trends in Extreme Precipitation: Implications of In-filled Historical Data and Temporal Window-Based Analysis: **R S Teegavarapu**, A Nayak, C S Pathak

1340h **H13E-1021** *POSTER* Evaluation of Spatial and Temporal Distribution of Precipitation Events and their Relation to Peak Flooding Events: N Gonzalez-Ramirez, **R S Teegavarapu**, L Chia Hung

1340h **H13E-1022** *POSTER* Simplified runoff model with radar rainfall data for an early flood warning system: **K Shiraki**, M Aoki

1340h **H13E-1023** *POSTER* Non-Stationary Annual Peak Flows in the Lower Peninsula of Michigan; Potential Evidence for Climate Change Observed in the Mid-20th Century: **T A Dahl**, J L Ryder, J P Selegean

1340h **H13E-1024** *WITHDRAWN*

1340h **H13E-1025** *POSTER* Is Oklahoma getting drier?: **B Lin**, T Fan, B Xi

1340h **H13E-1026** *POSTER* Analysis of the spatio-temporal variability of extreme hydro-meteorological events over Germany: **L E Samaniego-Eguiguren**, M Coskun, R Kumar, M Zink, S Attinger

1340h **H13E-1027** *POSTER* Understanding Changes in frequency of extreme rainfall over Central India: **C B Krishnamurthy**, U Lall

1340h **H13E-1028** *POSTER* Changing Flow Patterns In The Ganges And Brahmaputra Basins: Evidence Of Regional Climate Warming In The Eastern Himalayas?: **D K Prashar**, A S Akanda, D L Small, S Islam

1340h **H13E-1029** *POSTER* Climatological Variability in Southern Mexico: the case of the Oaxaca Pacific Coastal Basins: **N Perez**, T Kretzschmar, F Munoz-Arriola, T Cavazos

1340h **H13E-1030** *POSTER* Decreasing trend of groundwater in Turkey: **S Sarachi**, S Moghim, J S Famiglietti

1340h **H13E-1031** *POSTER* Projections of Future Changes in Extreme Precipitation Events in the Korean Peninsula based on Downscaling by RegCM3 of ECHO-G/S A2 Scenario data: **J Shin**, H Lee, C Cho

1340h **H13E-1032** *POSTER* Estimating river low flows statistics in ungauged sites: G Rossi, **E Caporali**

1340h **H13E-1033** *POSTER* Understanding the Climatology of Thermodynamic Signatures and their Role in Modification of Extreme Precipitation around Artificial Reservoirs: **A M Degu**, F Hossain

1340h **H13E-1034** *POSTER* Does Size of an Artificial Reservoir matter on the Impact it has on Extreme Precipitation Patterns?: **A T Woldemichael**, Title of Team: Sustainability, Satellite, Water and Environment (SASWE) Research Group

1340h **H13E-1035** *POSTER* Deoxygenation of Lake Ikeda, Japan: R Nagata, **N Hasegawa**

H13F Moscone South: Poster Hall Monday 1340h
Rocks, Fractures, Fluids, and Life: Insights From Underground Research Laboratories II Posters (*joint with B, ED, MR, NH, NS, T*)

Presiding: **L C Murdoch**, Clemson University; **D Elsworth**, Pennsylvania State University; **T C Onstott**, Princeton Univ.; **W M Roggenthen**, SD School of Mines-Tech

1340h **H13F-1036** *POSTER* Inter-disciplinary Interactions in Underground Laboratories: **J S Wang**, A Bettini

1340h **H13F-1037** *POSTER* Subsurface tiltmeter arrays at Homestake DUSEL: **R Dahlgren**, L D Stetler, F T Freund, J T Volk, V Shiltsev, R D Peters

1340h **H13F-1038** *POSTER* Characterising rock mass changes using multiple geophysical monitoring techniques: **B Valley**, B Milkereit, D Thibodeau

1340h **H13F-1039** *POSTER* Temperature diffusion and thermal strain from embedded fiber optic sensors installed at the Deep Underground Science and Engineering Laboratory (DUSEL) site Lead, South Dakota: **J Gage**, N Noni, M MacLaughlin, A L Turner, H F Wang, Title of Team: GEOXTM

1340h **H13F-1040** *POSTER* Random Cantor Dust As a Measure of Statistical Homogeneity of Fractured Rock Masses: **M Kim**, J Um

1340h **H13F-1041** *POSTER* Estimation of rock fracture area and comparison with flow rate data: **H Park**, M Osada, M TAKAHASHI

1340h **H13F-1042** *POSTER* Non-Destructive Evaluation of Rock Bolts Associated With Optical Strain Sensors at the Homestake Gold Mine: **M M Kogle**, D Fratta, H F Wang, Title of Team: GEOXTM

1340h **H13F-1043** WITHDRAWN

1340h **H13F-1044** *POSTER* Modeling and Analysis of Granite Matrix Pore Structure and Hydraulic Characteristics in 2D and 3D Networks: **L Gvozdik**, M Polak, J Zaruba, M Vanecek

1340h **H13F-1045** *POSTER* A Controllable Earthquake Rupture Experiment on the Homestake Fault: **L N Germanovich**, L C Murdoch, D Garagash, Z Reches, S J Martel, D Gwaba, D Elsworth, R P Lowell, T C Onstott

1340h **H13F-1046** *POSTER* Characterization and Modeling of a Coupled Thermal-Hydrological-Mechanical-Chemical-Biological Experimental Facility at DUSEL: **E L Sonnenthal**, D Elsworth, R P Lowell, K Maher, B J Mailloux, N Uzunlar, M E Conrad, T L Jones, N J Olsen

1340h **H13F-1047** *POSTER* Validation of Fiber-Optic Strain-Sensing Cable for Deep Underground Application: **N Noni**, L Filler, M MacLaughlin, H F Wang

1340h **H13F-1048** *POSTER* Hydrogen and carbon isotope geochemistry of freshwater aquifers at the Mizunami Underground Research Laboratory: Implications for ongoing biogeochemical processes in deep granitic rocks: **U Konno**, A Fukuda, M Kouduka, D D Komatsu, U Tsunogai, D Aosai, T Mizuno, Y Suzuki

1340h **H13F-1049** *POSTER* First Microbial Community Assessment of Borehole Fluids from the Deep Underground Science and Engineering Laboratory (DUSEL): **D P Moser**, C Anderson, S Bang, T L Jones, D Boutt, T Kieft, B Sherwood Lollar, L C Murdoch, S M Pfiffner, J Bruckner, J C Fisher, J Newburn, A Wheatley, T C Onstott

1340h **H13F-1050** *POSTER* Strontium isotopes as an indicator of water-rock reaction for the Coupled Thermal-Hydrological-Mechanical-Chemical-Biological (THMCB) Experimental Facility at DUSEL: K Maher, **N J Olsen**, C Harris, T L Jones, M E Conrad, E L Sonnenthal, D Elsworth, N Uzunlar, B J Mailloux, R P Lowell

1340h **H13F-1051** *POSTER* Defining Structure and Stress in Deep, High Temperature Geothermal Wells: M J Lawrence, **D D Mcnamara**, C Massiot, G Bignall

1340h **H13F-1052** *POSTER* Analysis of Ground Water Flow and Deformation in the Vicinity of DUSEL Homestake: **L C Murdoch**, J Ebenhack, L N Germanovich, H F Wang, D F Boutt, T C Onstott, T Kieft, D P Moser, D Elsworth

1340h **H13F-1053** *POSTER* Evaluation of Rock Mass Responses Using High Resolution Water-level Tiltmeter Arrays: **J S Roberts**, H F Wang, D Fratta, L D Stetler, J T Volk, Title of Team: GEOXTM

1340h **H13F-1054** *POSTER* Boundary Layer Flow and Heat Transfer near Vertical Heated Boreholes in Water-Saturated Rock: An Approach to the THMCB Experiment at DUSEL Homestake: **N Rumiantsev**, R P Lowell, L N Germanovich, E L Sonnenthal, N Uzunlar, D Elsworth, B J Mailloux, K Maher

1340h **H13F-1055** *POSTER* Characterizing Groundwater and Contaminant Flux in Fractured Rock Systems: **M A Newman**, J Cho, K Hatfield, H Klammler, M D Annable, B L Parker, J Cherry, R Kroeker, W H Pedler

1340h **H13F-1056** *POSTER* Evolution of Strength and Permeability in Heat-treated Rocks from DUSEL - Implications for a THMCB Experiment at the 4850 Level: **D Elsworth**, I Faoro, C Marone, R P Lowell, K Maher, B J Mailloux, E L Sonnenthal, N Uzunlar

1340h **H13F-1057** *POSTER* Characterization of Fractured Rock during Well Tests using Tilt-X, a Portable Tiltmeter and Extensometer for Multi-Component Deformation measurements: **D B Hisz**, J Ebenhack, L N Germanovich, L C Murdoch

1340h **H13F-1058** *POSTER* Hydrogeologic Conditions at the DUSEL Mid-level Campus and Implications for Large Cavern Design: **W T Weinig**, R S Popielak, L D Stetler

1340h **H13F-1059** *POSTER* Analysis of permeability coefficient in a rough fracture using a homogenization method: **B Chae**, Y Kim

1340h **H13F-1060** *POSTER* Frequency characteristics of the response of water pressure in closed well to volumetric strain in high frequency domain: **Y Kitagawa**, S Itaba, N Matsumoto, N Koizumi

H13G Moscone West: 3014 Monday 1340h
Hydrogeophysics: Advances in Measurement, Monitoring, and Modeling of Hydrological Processes III (*joint with NS*)

Presiding: **A Pidlisecky**, University of Calgary; **B Dafflon**, Center for Geophysical Investigation of the Shallow Subsurface

1340h **H13G-01** Hydrogeophysical Monitoring of Transport Processes: Are Chemically "Conservative" Tracers Electrically Conservative? (*Invited*): **K Singha**, L Li, F D Day-Lewis, A B Regberg

1355h **H13G-02** Near real-time imaging of molasses injections using time-lapse electrical geophysics at the Brandywine DRMO, Brandywine, Maryland: **R J Versteeg**, T Johnson, B Major, F D Day-Lewis, J W Lane

1410h **H13G-03** River flood events as natural tracer tests for investigating a coupled river-aquifer system: improved time-lapse 3D imaging of flow patterns by deconvolving ERT time-series: **I Coscia**, N Linde, S A Greenhalgh, T Vogt, J A Doetsch, A G Green

1425h **H13G-04** Time-lapse resistivity measurements combined with soil water sampling to characterize solute movement in the unsaturated zone at Oslo airport, Gardermoen: **E Bloem**, H K French, A Binley, D Schotanus, G Eggen

1440h **H13G-05** Electrical Resistivity Imaging for Studying Dynamics of Vadose Zone Processes: **V Mitchell**, A Pidlisecky, R J Knight

1455h **H13G-06** Streaming potential monitoring and modeling of drainage and imbibition: column and lysimeter experiments: **D Jougnot**, N Linde, F Ciocca, I Lunati

1510h **H13G-07** Time-Lapse Geoelectrical Imaging of a Controlled Ethanol Release in Ottawa Sand: **R Henderson**, D R Glaser, T C Johnson, D D Werkema, R J Versteeg, J W Lane

1525h **H13G-08** A Distribution-Based Parameterization for Difference Tomographic Imaging of Solute Plumes: **A Pidlisecky**, K Singha, F D Day-Lewis

H13H Moscone West: 3018 Monday 1340h
Managing Water Resources Risks and Innovating Adaptation Strategies in a World of Change II (*joint with GC, PA*)

Presiding: **T P Burt**, University of Durham; **P M Reed**, The Pennsylvania State University; **W Chu**, University of California, Irvine; **N K Howden**, University of Bristol

1340h **H13H-01** The Concept of 'Peak Water' for Managing Water Resources in a Rapidly Changing World (*Invited*): **P H Gleick**

1352h **H13H-02** Robust Decision Making Approach to Managing Water Resource Risks (*Invited*): **R Lempert**

1404h **H13H-03** Using Remote Sensing for Water Resource Management (*Invited*): **S L Granger**, P Lean, J Kim, N P Molotch, D E Waliser, R Brakenridge, T Stough, C Mattman, A Hart, T G Farr, K Case, S Kaki, L Lestak

1416h **H13H-04** Climate Change Impact on Meteorological, Hydrological, and Agricultural Drought: A case study of Central Illinois: **X Cai**, D Wang, M I Hejazi, A J Valocchi

1428h **H13H-05** Statistical and dynamical climate predictions to guide water resources in Ethiopia: **P J Block**, L M Goddard

1440h **H13H-06** Water quality trends spanning the periodic table, on timescales from hours to decades (*Invited*): **J W Kirchner**, C Neal

1452h **H13H-07** The use of very long term water quality records from the UK: gaining perspective on problems of nitrate and DOC (*Invited*): **F Worrall**, T P Burt, N K Howden, M Whelan

1504h **H13H-08** Effect of Cyclonal Precipitations on the Long-term dissolved and particulate fluxes of river in Taiwan (*Invited*): **A Galy**, N Hovius, R G Hilton, A West, D Calmels, M J Bickle, M Horng, H Chen

1516h **H13H-09** Weighted Regressions on Time, Discharge, and Season (WRTDS): A new tool for description and exploration of long-term changes in surface-water quality: **R M Hirsch**

1528h **H13H-10** Long term changes in U.S. river inorganic carbon chemistry (*Invited*): **P Raymond**, L Jiang

H13I Moscone West: 3016 Monday 1340h
Measurements and Modeling of Storage Dynamics Across Scales II

Presiding: **J P McNamara**, Boise State University; **D Tetzlaff**, University of Aberdeen; **S K Carey**, Carleton University

1340h **H13I-01** Estimating storage dynamics by combining top-down and bottom-up approaches: **F K Barthold**, P Kraft, K B Vache, H G Frede, L Breuer

1355h **H13I-02** The Great Geologic Sponge: What Do Storage Dynamics Reveal About Runoff Generation In Young Volcanic Landscapes? (*Invited*): **G E Grant**, A J Jefferson, C Tague, S Lewis

1410h **H13I-03** Water storage dynamics and runoff response of a Boreal Shield headwater catchment: C Oswald, **M C Richardson**, B A Branfireun

1425h **H13I-04** Soil water Storage, from Profile to Watershed (*Invited*): **M S Seyfried**

1440h **H13I-05** Abrupt changes in soil water content variability for various time scales and at different depths at the catchment scale: **U Rosenbaum**, M Herbst, J A Huisman, A Weuthen, T J Petersen, A W Western, H Vereecken, H R Boga

1455h **H13I-06** What is the total water storage in catchments and can tracers help?: **C Soulsby**, D Tetzlaff, M hrachowitz, C Birkel

1510h **H13I-07** The Idiosyncrasies of Storage and Implications for Catchment Runoff (*Invited*): **C Spence**

1525h **H13I-08** A parsimonious, process-based hydrological model for headwater catchments: **R C Sidle**, K Kim, Y Tsuboyama, I Hosoda

H13J Moscone West: 3020 Monday 1340h
Patterns in Soil-Vegetation-Atmosphere (SVA) Systems: Monitoring, Modeling, and Data Assimilation II (*joint with A, B, GC*)

Presiding: **S Crewell**, University of Cologne; **H Vereecken**, Forschungszentrum Julich; **S J Kollet**, University of Bonn; **A B Moradi**, Helmholtz Centre for Environmental Research - UFZ

1340h **H13J-01** The Impacts of Multiscale Land-Cover Heterogeneity on Climate and Weather (*Invited*): **R Avissar**, D Medvigy, R L Walko

1355h **H13J-02** Global water table depth from observations and a model synthesis (*Invited*): **Y Fan**, H Li, G Miguez-Macho

1410h **H13J-03** The role of vegetation fraction on the thermodynamics of the land surface: **N A Brunsell**, S J Schymanski, A Kleidon

1425h **H13J-04** Nested mesoscale-LES WRF simulations: validation and application to diurnal cycles over heterogeneous land surfaces: **E Bou-Zeid**, C Talbot, J A Smith

1440h **H13J-05** New insights in catchment processes via distributed soil moisture measurements and 3D hydrological modeling: **H R Boga**, G Sciuto, U Rosenbaum, M Herbst, J A Huisman, H Vereecken, B Diekkruenger

1455h **H13J-06** Measuring and modeling changes in land-atmosphere exchanges and hydrologic response in forests undergoing insect-driven mortality: **D J Gochis**, P D Brooks, A A Harpold, B E Ewers, E Pendall, H R Barnard, D Reed, P C Harley, J Hu, J Biederman

1510h **H13J-07** Parameters Estimation of Coupled Water and Energy Balance Model Based on Stationary Constraints of Surface States: **J Sun**, G Salvucci, D Entekhabi

1525h **H13J-08** Root Patterns in Heterogeneous Soils: **A Dara**, A B Moradi, A Carminati, S E Oswald

Earth and Space Science Informatics

IN13A Moscone South: Poster Hall Monday 1340h
Climate Information Integration Posters (*joint with A, B, GC, H, OS, PP, P, ED*)

Presiding: **D K Arctur**, Open Geospatial Consortium, Inc.;
B Domenico, UCAR; **S Nativi**, CNR & Univ. Florence; **S Fiore**,
CMCC, Euro-Mediterranean Center for Climate Change

1340h **IN13A-1089 POSTER** Data Infrastructures for the next IPCC report: A European Perspective (*Invited*): **M Stockhause**, M Lautenschlager, B Lawrence, S Kindermann, F Toussaint

1340h **IN13A-1090 POSTER** Data and Metadata Infrastructures at the World Data Centre for Climate: **F Toussaint**, M Lautenschlager

1340h **IN13A-1091** WITHDRAWN

1340h **IN13A-1092 POSTER** The Climate-G Portal: a scientific gateway for climate change: **S Fiore**, G Aloisio, J D Blower, A Cofino, S Denvil, P A Fox, M Petitdidier, H Schwichtenberg

1340h **IN13A-1093 POSTER** The NSF Ocean Observatories Initiative Cyberinfrastructure and the open availability of related climate data: **J A Orcutt**, F L Vernon, M Arrott, O Schofield, C L Peach, A D Chave, J Graybeal, M James, M Meisinger

1340h **IN13A-1094 POSTER** Integrating climate data management and access with the Unified Access Framework, a GEO-IDE project: **K O'Brien**, K S Casey, T Habermann, S C Hankin, L McCulloch, K R McDonald, R Mendelsohn, G K Rutledge, R P Signell

1340h **IN13A-1095 POSTER** Crossing the Digital Divide: Connecting GIS, Time Series and Space-Time Arrays (*Invited*): **D R Maidment**, F Salas, B Domenico, S Nativi

1340h **IN13A-1096 POSTER** Advancing Climate Change and Impacts Science Through Climate Informatics: **W Lenhardt**, L C Pouchard, A W King, M L Branstetter, S Kao, D Wang

1340h **IN13A-1097 POSTER** MAPS (My Atlas and Plot Service) for Integrated Earth Observation Data: **M Ichino**, K Fukuda, N Sugiura, R Funakoshi

1340h **IN13A-1098 POSTER** Modeling and Analysis Compute Environments, Utilizing Virtualization Technology in the Climate and Earth Systems Science domain: **A Michaelis**, R R Nemani, W Wang, P Votava, H Hashimoto

1340h **IN13A-1099 POSTER** Projected Applications of a "Climate in a Box" Computing System at the NASA Short-term Prediction Research and Transition (SPoRT) Center: **G Jedlovec**, A Molthan, B Zavodsky, J Case, F LaFontaine

1340h **IN13A-1100 POSTER** Test Driven Development: Lessons from a Simple Scientific Model: **T L Clune**, K Kuo

1340h **IN13A-1101 POSTER** Climate Modeling with a Million CPUs: **M Tobis**, C S Jackson

IN13B Moscone South: 302 Monday 1340h
Enabling and Encouraging Transparency in Science Data II
(*joint with GC, PA, ED, NH*)

Presiding: **L M Raymond**, Woods Hole Oceanographic Institution;
W J Weber, Unidata Program Center

1340h **IN13B-01** Approaching data publication as part of the scholarly communication enterprise: some obstacles, some solutions (*Invited*): **T J Vision**

1355h **IN13B-02** Realities in Science Data and Information - Let's go for translucency: **P A Fox**

1410h **IN13B-03** Identifying Data in the Earth Sciences (*Invited*):
R E Duerr

1425h **IN13B-04** Developing Incentives for Data Sharing in Ecology: **C S Duke**

1440h **IN13B-05** A Clarification of the National Science Foundation Data Policy: **C A Jacobs**

1455h **IN13B-06** Seamless Provenance Representation and Use in Collaborative Science Scenarios: P Missier, **B Ludaescher**, S Bowers, I Altintas, M K Anand, S Dey, A Sarkar, B Shrestha, C Goble

1510h **IN13B-07** Geo-Seas - building a unified marine geoscientific data infrastructure for Europe: **H M Glaves**, D Schaap, C Graham, Title of Team: Geo-Seas Consortium Partners

1525h **IN13B-08** Advancing Access, Attribution, and Integration of Earth & Ocean Science Data: Integrated Services of the Marine Geoscience Data System and the Geoinformatics for Geochemistry Program: **K A Lehnert**, S M Carbotte, V Ferrini, R A Arko, S Chan, W B Ryan

Natural Hazards

NH13A Moscone South: Poster Hall Monday 1340h
Correlation and Coupling From Underground, to the Surface, to the Ionosphere Posters (*joint with A, AE, EP, IN, GP, GC, H, MR, NG, NS, P, S, SM, SH, DI, T, V*)

Presiding: **J S Wang**, Lawrence Berkeley National Laboratory;
G Waysand, Laboratoire Souterrain Bas Bruit de Rustrel-Pays d'Apt (LSBB); **Y Guglielmi**, University of Marseille

1340h **NH13A-1139 POSTER** Solar-terrestrial effect controls seismic activity to a large extent (*Invited*): **G Duma**

1340h **NH13A-1140 POSTER** Top-down and Bottom-up Coupling between Ionosphere and Solid Earth (*Invited*): **F T Freund**, M Lazarus, G Duma

1340h **NH13A-1141 POSTER** Einstein-De Haas Coupling of Geomagnetic Storms to the Earth's Crust: R L Walkley, M Lazarus, J S Wang, R Dahlgren, **F T Freund**

1340h **NH13A-1142 POSTER** Comparison of the Microseismic Signature of Hurricanes Katrina (2005) and Ioke (2006): **S Sim**, G Laske

1340h **NH13A-1143 POSTER** Discontinuous Galerkin method in frequency-space domain for wave propagation in 2D heterogeneous porous media: B Dupuy, L De Barros, S Garambois, **J Virieux**

1340h **NH13A-1143A POSTER** Magnetic pulsation generated by seismic wave motion of crust and upper mantle: K Taira, **T Iyemori**, D Han

1340h **NH13A-1144 POSTER** Uranium groundwater anomalies and active normal faulting: **W Plastino**, G F Panza, P P Povinac, Title of Team: on behalf of ERMES Collaboration (National Institute of Nuclear Physics - Gran Sasso National Laboratory)

1340h **NH13A-1145 POSTER** Detection and modeling of ionospheric GPS-TEC patterns induced by Rayleigh waves: **L M ROLLAND**, P Lognonné, H Munekane, E Astafyeva

1340h **NH13A-1146 POSTER** Seismo-ionospheric transfer function: dependence on time, location and other special features: **E Astafyeva**, L M ROLLAND, P Lognonne

NH13B Moscone South: Poster Hall Monday 1340h
Land-Ocean-Atmospheric Processes: Implication to Natural Hazards and the Global Carbon Cycle II Posters (*joint with A, IN, ED, GC, H, NH, NS, OS, S, DI, T, V*)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign; **F R Rack**, University of Nebraska-Lincoln; **R P Singh**, RTDC

1340h **NH13B-1147 POSTER** The Hawaiian PLUME Project: A Seismic Imaging Dataset Provides Glimpses into Ocean and Atmosphere Processes: **G Laske**, C J Wolfe, J A Collins

1340h **NH13B-1148** WITHDRAWN

1340h **NH13B-1149 POSTER** Biological Extreme Events - Past, Present, and Future: **V P Gutschick**

1340h **NH13B-1150 POSTER** The potential influence of thaw slumps and sea-level rise on the Arctic carbon cycle (*Invited*): **J C Rowland**, B T Crosby, B J Travis

1340h **NH13B-1151 POSTER** Climate-induced tree mortality: earth system consequences for carbon, energy, and water exchanges: **H D Adams**, A Macalady, D D Breshears, C D Allen, C Luce, P D Royer, T E Huxman

1340h **NH13B-1152 POSTER** Recent SST trends and Flood Disasters in Brazil: **Y Yamashiki**, S K Behera, S Inoue, S Netrananda, R D Silva, K T Takara, T Yamagata

NH13C Moscone West: 3022 Monday 1340h
Hazards Associated With Snow- and Ice-Capped Volcanoes II (*joint with A, C, EP, V, G*)

Presiding: **B R Edwards**, Dickinson College; **J F Larsen**, Geophysical Institute; **H Delgado Granado**, Instituto de Geofisica, UNAM; **C F Waythomas**, Alaska Volcano Observatory; **H Tuffen**, Lancaster University

1340h **NH13C-01** Volcano-Ice Interaction during the April-May 2010 eruption of Eyjafjallajökull, Iceland (*Invited*):

M T Gudmundsson, E Magnusson, T Hognadóttir, B Oddsson, M J Roberts, O Sigurdsson, T Johannesson, F Hoskuldsson

1355h **NH13C-02** Abrupt climatic changes as triggering mechanisms of massive volcanic collapses: examples from Mexico (*Invited*): **L Capra**

1410h **NH13C-03** Erosion and entrainment of snow and ice by pyroclastic density currents: some outstanding questions (*Invited*): **JS Walder**

1425h **NH13C-04** Preparing for the next eruption in the Cascades: Unexpected outcomes from the 2004 - 2008 eruption of Mount St. Helens, Washington (*Invited*): **S P Schilling**

1440h **NH13C-05** Variations in Lahar Matrices at Cotopaxi Volcano and their Hazard Implications (*Invited*): **P A Mothes**

1455h **NH13C-06** Base surge-glacier interactions and unusual snow-dominated lahars at Mt. Ruapehu, 25 September 2007 New Zealand: **G Lube**, S J Cronin, J Procter, V Manville, A Moebis

1510h **NH13C-07** A New Two-phase Flow Model Applied to the 2007 Crater Lake Break-out Lahar, Mt. Ruapehu, New Zealand: **M F Sheridan**, G Cordoba, E Pitman, S J Cronin, J Procter

1525h **NH13C-08** TOWARDS DEVELOPING SYSTEMATICS FOR USING PERIODIC STUDIES OF THE HYDROTHERMAL MANIFESTATIONS AS EFFECTIVE TOOL FOR MONITORING LARGELY 'INACCESSIBLE' VOLCANOES: **M Alam**

Near Surface Geophysics

NS13A Moscone South: Poster Hall Monday 1340h
Inversion II: Uncertainty and Managing the Unknown Posters (*joint with GP, S, H, MR, NG*)

Presiding: **B Jafarpour**, Texas A&M University; **G Ng**, USGS Menlo Park

1340h **NS13A-1163 POSTER** Improved geophysical model assessment using Bayesian Markov Chain Monte Carlo sampling: **B J Minsley**

1340h **NS13A-1164 POSTER** Theoretical Study the Error Caused by Dipole Hypothesis of Large-loop TEM Response: **S Yan**, G Xue, N Zhou

1340h **NS13A-1165 POSTER** Iterative Spatial Resampling for Seismic Subsurface Characterization: **C Jeong**, T Mukerji, G Mariethoz

1340h **NS13A-1166 POSTER** Experimental Design for Groundwater Pumping Estimation Using a Genetic Algorithm (GA) and Proper Orthogonal Decomposition (POD): **A J Siade**, W Cheng, W W Yeh

1340h **NS13A-1167 POSTER** Constrained optimisation of the parameters for a simple isostatic Moho model: **R J Lane**

1340h **NS13A-1168 POSTER** Seismic constraints in magnetotelluric inversion: **E Mandolesi**, A G Jones

1340h **NS13A-1169 POSTER** Well Definedness, Scale Consistency, and Resolution Issues in Groundwater Model Parameter Identification: **T J Yeh**, D Mao, C Lee, K Hsu, J Wen, L Wan

1340h **NS13A-1170 POSTER** Probabilistic inversion of gravity data from the Reconcavo Basin, Northeastern Brazil: **A Bassrei**

Ocean Sciences

OS13A Moscone South: Poster Hall Monday 1340h
Decision Support Systems for Coastal and Marine Resource Management II Posters (*joint with B, H, NH, PA*)

Presiding: **F E Muller-Karger**, University of South Florida; **C Eakin**, National Oceanic and Atmospheric Administration; **L S Guild**, NASA Ames Research Center; **M A Roffer**, Roffer's Ocean Fishing Forecasting Service, Inc.

1340h **OS13A-1213 POSTER** Analysis of the Degree of Artificialization of the Cities of Itapema and Balneário Camboriú - Santa Catarina (Brazil): **L Piatto**, M Polette

1340h **OS13A-1214** WITHDRAWN

1340h **OS13A-1215 POSTER** Coastal Resilience: Using interactive decision support to address the needs of natural and human communities in Long Island Sound, USA: **B Gilmer**, A Whelchel, S Newkirk, M Beck, C Shepard, Z Ferdana

1340h **OS12A-07 POSTER** THE APPLICATION OF REMOTELY SENSED DATA AND MODELS TO BENEFIT CONSERVATION AND RESTORATION ALONG THE NORTHERN GULF OF MEXICO COAST: **D A Quattrochi**, M G Estes, Jr., M Z Al-Hamdan, R Thom, D Woodruff, C Judd, J T Ellis, R Swann, H Johnson III

1340h **OS13A-1217 POSTER** Modeling the effects of climate change and acidification on global coral reefs: **C A Logan**, S D Donner, C Eakin, J P Dunne

1340h **OS13A-1218 POSTER** NOAA Coral Reef Watch: Decision Support Tools for Coral Reef Managers: **J Rauenzahn**, C Eakin, W J Skirving, T Burgess, T Christensen, S F Heron, J Li, G Liu, J Morgan, C Nim, B A Parker, A E Strong

1340h **OS13A-1219** POSTER A High-Resolution SST Climatology Set for Next Generation NOAA Coral Reef Watch Decision Support System: **J Li**, C Eakin, F E Muller-Karger, L S Guild, R R Nemani, C Hu, S E Lynds, M S McCaffrey, K Teleki, T Christensen, G Liu, C Nim, T Burgess, S F Heron, W J Skirving, M Vega-Rodriguez

1340h **OS13A-1220** POSTER Multi-sensor Oceanographic Correlations for Pacific Hake Acoustic Survey Improvement: **M Brozen**, N Hillyer, B Holt, E M Armstrong

1340h **OS13A-1221** POSTER GCOOS Web Applications for Recreational Boaters and Fishermen: **S Kobara**, M K Howard, C Simoniello, A E Jochens, Title of Team: Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA)

1340h **OS13A-1222** POSTER Developing the capability to monitor and predict California coastal upwelling using an ocean circulation model: **X Wang**, S J Bograd, L Breaker, Y Chao, J Doyle, D G Foley, F B Schwing

OS13B Moscone South: Poster Hall Monday 1340h
Marine Renewable Energy II Posters (*joint with PA*)

Presiding: **S C James**, Sandia National Laboratories; **S C James**, Sandia National Laboratories; **V Neary**, Oak Ridge National Laboratory; **V Neary**, Oak Ridge National Laboratory

1340h **OS13B-1223** POSTER On the Maximum Extractable Power From a Tidal Channel: **P F Cummins**

1340h **OS13B-1224** POSTER Simulating Environmental Changes Due to Hydrokinetic Energy Installations: **S C James**, C A Jones, J D Roberts

1340h **OS13B-1225** POSTER Energy Extraction from a Hypothetical MHK Array in a Section of the Mississippi River: **J Barco**, S C James, J D Roberts, C A Jones, R A Jepsen

1340h **OS13B-1226** POSTER Assessment of Tidal Stream Energy Potential for the United States: **K A Haas**, Z Defne, L Jiang, H M Fritz

1340h **OS13B-1227** POSTER Implementation of a boundary element method to solve for the near field effects of an array of WECs: **J A Oskamp**, H T Ozkan-Haller

1340h **OS13B-1228** POSTER Development of a local ocean prediction model of the Fort Lauderdale region for energy extraction purpose: **A Bozec**, E Chassignet, H P Hanson

1340h **OS13B-1229** POSTER Development of a Testing Platform for Scaled-Laboratory Studies of Marine Hydrokinetic Devices: M L Beninati, **M A Volpe**, D R Riley, M H Krane

1340h **OS13B-1230** WITHDRAWN

1340h **OS13B-1231** WITHDRAWN

OS13C Moscone South: Poster Hall Monday 1340h
Ocean Exploration II Posters (*joint with B, V*)

Presiding: **N Alvarado**, NOAA/OAR; **R A Beach**, NOAA

1340h **OS13C-1232** POSTER Plume indications from hydrothermal activity on Kawio Barat Submarine Volcano, Sangihe Talaud Sea, North Sulawesi, Indonesia: **S Makarim**, E T Baker, S L Walker, S Wirasantosa, H Permana, B Sulistiyono, T M Shank, J F Holden, D Butterfield, M Ramdhan, R Adi, M I Marzuki

1340h **OS13C-1233** POSTER INDEX-SATAL 2010 EXPLORATION: Kawio Barat Submarine Volcano in the North Sulawesi, Indonesia, image from the deep: **H Permana**

1340h **OS13C-1234** POSTER Biodiversity of the Deep-Sea Benthic Fauna in the Sangihe-Talaud Region, Indonesia: Observations from the INDEX-SATAL 2010 Expedition: **S Herrera**, C Munro, N Nganro, V Tunnicliffe, S Wirasantosa, E Sibert, S R Hammond, E Bors, D Butterfield, J F Holden, E T Baker, J Sherrin, S Makarim, R Troa, T M Shank

1340h **OS13C-1235** POSTER NOAA Office of Ocean Exploration: EM302 Multibeam Survey of the Sangihe-Talaud Region, North Sulawesi, Indonesia: **M Lobecker**, M Malik, J E Johnson, M S Boettcher

1340h **OS13C-1236** POSTER Video Observations by Telepresence Reveal Two Types of Hydrothermal Venting on Kawio Barat Seamount: **D A Butterfield**, J F Holden, T M Shank, V Tunnicliffe, J Sherrin, S Herrera, E T Baker, D Lovalvo, S Makarim, M A Malik, S Wirasantosa, S R Hammond

1340h **OS13C-1237** POSTER Large research infrastructure for Earth-Ocean Science: Challenges of multidisciplinary integration across hardware, software, and people networks: **M Best**, C R Barnes, F Johnson, L Pautet, B Pirenne, Title of Team: and Founding Scientists of NEPTUNE Canada

1340h **OS13C-1238** POSTER A Major Upgrade for the U.S. Deep Submergence Vehicle Alvin: **S E Humphris**, C R German, A Bowen

1340h **OS13C-1239** POSTER Near-Real Time Monthly Global Temperature and Salinity Gridded Data from New Ocean Exploration by Argo Floats: **P C Chu**, L Sun, C Fan

1340h **OS13C-1240** POSTER Multibeam Synthesis of the Northwestern Hawaiian Islands Supports Diverse Research in the Papahānaumokuākea Marine National Monument: J R Smith, C D Kelley

1340h **OS13C-1241** POSTER Global Multi-Resolution Topography (GMRT) Synthesis - Version 2.0: **V Ferrini**, J Coplan, S M Carbotte, W B Ryan, S O'Hara, J J Morton

1340h **OS13C-1242** POSTER Development of levees on deep-sea channels: Insights from high-resolution AUV exploration of the Lucia Chica system, offshore central California: **K L Maier**, A Fildani, B Romans, C K Paull, T McHargue, S A Graham, D W Caress

1340h **OS13C-1243** POSTER Rolling Deck to Repository (R2R): Automated Magnetic and Gravity Quality Assessment and Data Reduction: **J J Morton**, S O'Hara, V Ferrini, R A Arko

1340h **OS13C-1244** POSTER Rolling Deck to Repository (R2R): Research Cruise Event Logging System Update: **A R Maffei**, C L Chandler, L Stolp

1340h **OS13C-1245** POSTER Rolling Deck to Repository (R2R): Next Steps in Ocean Exploration for Data Dissemination and Discovery: **S P Miller**, S M Carbotte, K Stocks, V Ferrini, R A Arko, C L Chandler, A R Maffei, S R Smith, M A Bourassa, P D Clark, A D Sweeney, S H O'hara, J J Morton

1340h **OS13C-1246** POSTER Rapid Characterization of Near-Surface Seafloor Sediment using a Free Fall Penetrometer: **G K Mulukutla**, J Melton

1340h **OS13C-1247** POSTER Data System Upgrades within the National Deep Submergence Facility: **S J McCue**

1340h **OS13C-1248** POSTER NSF-Sponsored Biological and Chemical Oceanography Data Management Office: **M D Allison**, C L Chandler, N Copley, C Galvarino, S R Gegg, D M Glover, R C Groman, P H Wiebe, T T Work, Title of Team: The Biological and Chemical Oceanography Data Management Office

1340h **OS13C-1249** POSTER Real-time science and outreach from the UNOLS fleet via HiSeasNet: **S Foley**, J A Orcutt, D Brice, D F Coleman, E M Grabowski

1340h **OS13C-1250** WITHDRAWN

1340h **OS13C-1251** *POSTER* Ocean temperature in the South China Sea from combined pre- and post-stack seismic data inversion: **T M Blacic**, W S Holbrook, S Mallick, A Padhi, P Mukhopadhyay
1340h **OS13C-1252** *POSTER* Slope Morphology in Deep Sea Floor of the western Sangihe Arc, North Sulawesi Waters: **T Triyono**, I Iswinardi, S Wirasantosa, H Permana, K Priatna, W Windupranata, D Yuliadi, A Widodo, N Ngranro

OS13D Moscone South: Poster Hall Monday 1340h
Ocean Sciences General Contributions: Physical Oceanography II Posters

Presiding: **C A Collins**, Naval Postgraduate School

1340h **OS13D-1253** WITHDRAWN
1340h **OS13D-1254** *POSTER* Observation of 2009 Typhoon Morakot induced excess freshwater pulse in Taiwan surrounding seas: **S Jan**, Y Yang, J Wang, G Gawarkiewicz, J Kuo
1340h **OS13D-1255** *POSTER* Temporal variability of the core depth of EUC in the Gulf of Guinea: **I Muhammed**, G Quartly, P Challenor
1340h **OS13D-1256** *POSTER* Seasonal Overturning Circulation in the Red Sea: **F Yao**, I Hoteit, A Koehl
1340h **OS13D-1257** *POSTER* Seasonally Recurring Errors of the Indian Ocean Temperature Forecasts with NCEP-CFS: **D Lee**, D G DeWitt
1340h **OS13D-1258** WITHDRAWN
1340h **OS13D-1259** *POSTER* Agesotrophic and quasi-geostrophic circulation in the Gulf of Tehuantepec, México. HF-Radio measurements: **X Flores-Vidal**, C P Chavanne, R Durazo, P J Flament
1340h **OS13D-1260** *POSTER* Variation of eddy kinetic energy from the altimetric data in the East/Japan Sea: **Y Son**, K Chang, B Choi
1340h **OS13D-1261** *POSTER* Adopting EMD Algorithm for Radar Image Analysis on Ocean Surface Wave and Current Measurements: **H Cheng**, H Chien
1340h **OS13D-1262** *POSTER* Statistical Parameters of the Geostrophic Ocean Flow Field, Estimated from the Jason-1 - TOPEX/Poseidon Tandem Mission: **M G Scharffenberg**, D Stammer
1340h **OS13D-1263** *POSTER* The California Undercurrent and Beyond: 5 Years of Seaglider Observations of Cross-Shore Structure in the Pacific Northwest Coastal Zone: **N Pelland**, C C Eriksen, C M Lee
1340h **OS13D-1264** *POSTER* Hawaiian Lee Countercurrent and Eddy Modulations by the Pacific Decadal Oscillations: **S Yoshida**, B Qiu, P W Hacker
1340h **OS13D-1265** *POSTER* The Deep Oxygen Minimum off the Central California Coast: **C A Collins**, L Ivanov, T Margolina, T A Rago
1340h **OS13D-1266** *POSTER* Effects of tidally driven mixing in the production of the overflows in the Nordic Seas, using the Max Planck Institute Ocean Model MPI-OM: **E Exarchou**, J Von Storch, J H Jungclaus
1340h **OS13D-1267** *POSTER* IMPACT OF ENSO ON WAVE CLIMATE IN THE SOUTH PACIFIC IN PRE-INDUSTRIAL AND FUTURE CLIMATES: **A Vega**, C Menkes, M Lengaigne, P Marchesiello, S Andrefouet, P Queffeuilou, F Ardhuin
1340h **OS13D-1268** WITHDRAWN
1340h **OS13D-1269** *POSTER* Impact of tide-induced residual currents on the salinity distribution around the Changjiang Estuary: **H WU**
1340h **OS13D-1270** *POSTER* Seasonal and interannual changes of the upper isothermal and isohaline layers off Baja California: **J Gomez-Valdes**, G Jeronimo, Title of Team: IMECOCAL

1340h **OS13D-1271** *POSTER* Characteristics of Coastal Trapped Waves along the Southern and Eastern Coasts of Australia: **K Maiwa**, Y Masumoto, T Yamagata
1340h **OS13D-1272** *POSTER* Intra-seasonal Mixed Layer Process Variability from the ECCO Ocean Data Assimilation Product: Preliminary Analysis Relevant to DYNAMO: **D J Halkides**, D E Waliser, T Lee, L E Lucas, R G Murtugudde
1340h **OS13D-1273** *POSTER* Effects of small-scale, high-frequency ocean variability on surface material transport in the coastal ocean: **J Schleicher**, J Osborne, A L Kurapov, R M Samelson
1340h **OS13D-1274** *POSTER* Seeking a computationally efficient approach to include gravitational self attraction in evolving ocean models: **O F Lopez**, R Hallberg
1340h **OS13D-1275** *POSTER* Results from a winter 2009-2010 nearshore mooring test in 25 m water depth off Newport, Oregon: **E P Dever**, B W Waldorf, C M Risien
1340h **OS13D-1276** *POSTER* The establishment of the atmosphere-wave-ocean circulation coupled models——The improvement of CGCMs's simulations by the wave-induced vertical mixing: **Z Song**, F Qiao
1340h **OS13D-1277** *POSTER* Transitions between Central-Pacific and Eastern-Pacific Types of ENSO: **J Yu**, S Kim
1340h **OS13D-1278** *POSTER* Mechanisms of Cyclone Induced Subsurface High Salinity Intrusion in the Northern Arabian Sea: **Z Wang**, S F Dimarco, L Belabbassi
1340h **OS13D-1279** WITHDRAWN
1340h **OS13D-1280** *POSTER* The upstream spreading of bottom trapped plumes: **R P Matano**, E D Palma
1340h **OS13D-1281** *POSTER* Mesoscale and submesoscale thermohaline structure in the California Current System from glider observations: **R E Todd**, D L Rudnick, R E Davis
1340h **OS13D-1282** *POSTER* The AMANDES model for the Amazon estuary and shelf: **Y Le Bars**
1340h **OS13D-1283** *POSTER* Internal gravity waves simulated by a 1/10 degree OGCM developed within the STORM project: **J von Storch**, Title of Team: The STORM-consortium
1340h **OS13D-1284** *POSTER* Resolving the diurnal cycle in satellite derived sea surface temperatures and its significance on surface heat fluxes: **R R Weihs**, M A Bourassa
1340h **OS13D-1285** *POSTER* MOORING-BASED OBSERVATIONS OF BOUNDARY CURRENT IN THE NANSEN BASIN OF THE ARCTIC OCEAN: VERTICAL STRUCTURE AND VARIABILITY: **A Pnyushkov**, I Polyakov
1340h **OS13D-1286** *POSTER* LATERAL AND TIDAL ASYMMETRIES IN STARTIFICATION AT THE ENTRANCE TO A COASTAL PLAIN ESTUARY: **N B Basdurak**, A Valle-Levinson
1340h **OS13D-1287** *POSTER* The alteration of Intermediate-Deep Water in Sagami Bay associated with the variations of the Kuroshio axis: **Q Wang**, Y Kitade, M Nemoto, J Yoshida
1340h **OS13D-1288** *POSTER* Deep and surface circulation in the Northwest Indian Ocean from Argo, surface drifter, and in situ profiling current observations: **S A Stryker**, S F Dimarco, M M Stoessel, Z Wang

OS13E Moscone South: Poster Hall Monday 1340h
Submarine Landslides: Characterization, Processes, and Their
Sedimentary Record I Posters (joint with EP, NH)

Presiding: R Urgeles, Passeig Marítim de la Barceloneta;
D C Mosher; J D Chaytor, U.S. Geological Survey; M Strasser,
MARUM, University of Bremen

1340h **OS13E-1289 POSTER** Arctic Submarine Slope Stability:
D Winkelmann, W Geissler

1340h **OS13E-1290 POSTER** Overview of Submarine Landslides
From the Charlevoix-Kamouraska/Lower St. Lawrence Estuary
Seismic Zone, Eastern Canada: G St-Onge, J Locat, P Lajeunesse,
C Geneviève, H Gagné, B Sinkunas, G Philibert, D J Piper, T Mulder,
C Hillaire-Marcel, J S Stoner

1340h **OS13E-1291 POSTER** Slope failure of continental frontal
ridges offshore Vancouver Island, British Columbia: N Scholz,
M Riedel, G Spence, B Dugan, H Daigle, R D Hyndman, T S James,
K Naegeli

1340h **OS13E-1292 POSTER** Recurrent Pleistocene Mega-Failures in
the Norway Basin, NE Atlantic Margin: B Hjelstuen, E Andreassen,
H Haflidason

1340h **OS13E-1293 POSTER** MASS WASTING PROCESSES AND
GIANT LANDSLIDES ALONG THE OWEN FRACTURE ZONE
(NORTHWEST INDIAN OCEAN): M Fournier, M Rodriguez,
N Chamot-Rooke, P Huchon

1340h **OS13E-1294 POSTER** Subaqueous Mass movements in Lake
Mjøsa, Norway: C F Forsberg, H Heyerdahl, A Solheim

1340h **OS13E-1295 POSTER** Submarine mass wasting on the
Ionian Calabrian margin: S Ceramicola, E Forlin, M Coste, A Cova,
D Praeg, F Fanucci, S Critelli

1340h **OS13E-1296 POSTER** Undulated sediment features on
Mediterranean prodeltas: distinguishing sediment transport
structures from sediment deformation: R Urgeles, A Cattaneo,
P Puig, C Liquete, B De Mol, N Sultan, F Trincardi

1340h **OS13E-1297 POSTER** Sediment Characteristics of
Submarine Landslides On the Upper East Australian Continental
Margin – Preliminary Findings: S L Clarke, R Boyd, T Hubble,
D Airey, J Keene, N Exon, J V Gardner, Title of Team: Shipboard Party
SS12/2008

1340h **OS13E-1298 POSTER** Large submarine landslide discovered
on the outer shelf and slope of the Great Barrier Reef: a local
mechanism capable of generating tsunamis along the northeast
Australian coastline: N George, J M Webster, R J Beaman, E A Abbey,
P J Davies

1340h **OS13E-1299 POSTER** The 1908 Messina Tsunami: the most
likely sources from marine data: D R Tappin, P Watts

1340h **OS13E-1300 POSTER** Numerical simulations of the North
Gorringe Avalanche, Eastern Atlantic Ocean, and of the consequent
tsunami impacting the Iberian coasts: F Zaniboni, C Lo Iacono,
S Tinti, E Gracia, G Pagnoni, J Dañoibeitia, N Lourenco, M P Abreu

1340h **OS13E-1301 POSTER** Numerical modelling of potential
submarine landslides and generated tsunami in Sumatra:
E Fernandez-Nieto, A Mangeny, S C Singh, A Chauhan, F Bouchut,
M Castro Díaz

1340h **OS13E-1302 POSTER** Initial waves from submarine
landslides: R Weiss, C E Synolakis, J A O'shay

1340h **OS13E-1303 POSTER** Distribution of submarine landslides
along the northern Ligurian Margin (NW Mediterranean) using
very high-resolution data: some insights into geohazard assessment:
V Hassoun, S Migeon, C Larroque, B F Mercier-de-Lepinay,
A Cattaneo

1340h **OS13E-1304 POSTER** Subsurface Seismic Record of
Sediment Failures in the Neogene of Deepwater West Africa: Causal
Mechanisms and Characteristics: A P Oluboyo, D Zhunussov,
M Huuse, R Gawthorpe

OS13F Moscone South: Poster Hall Monday 1340h
Unique Applications of Multibeam Sonars: New Developments
and New Applications II Posters (joint with EP, NS)

Presiding: M Mutschler, RESON; J Best, University of Illinois

1340h **OS13F-1305 POSTER** Predicting seabed properties
from acoustic backscatter on the UK continental shelf (Invited):
C McGonigle, J Collier

1340h **OS13F-1306 POSTER** Detection of deep water benthic
macroalgae using image-based classification techniques on
multibeam backscatter at Cashes Ledge, Gulf of Maine, USA (Invited):
C McGonigle, C Brown, J H Grabowski, T Weber, R Quinn

1340h **OS13F-1307 POSTER** Microbialite Morphologies and
Distributions-Geoacoustic Survey with an AUV of Pavilion Lake,
British Columbia, Canada: J R Gutsche, A C Trembanis

1340h **OS13F-1308 POSTER** Quantitative visualization of coherent
flow structures in alluvial channels using multibeam echo-sounding:
D R Parsons, S Simmons, J Best

1340h **OS13F-1309 POSTER** Determining Physical Fish Habitat
in Large Rivers with Multibeam Sonar: An Example with Pallid
Sturgeon in the Lower Missouri River: A J DeLonay, B J McElroy,
R B Jacobson, M R Thorsby

1340h **OS13F-1310 POSTER** AUV MULTIBEAM BATHYMETRY
AND SIDESCAN SURVEY OF THE SS MONTEBELLO WRECK
OFFSHORE CAMBRIA CA: D W Caress, H Thomas, D Conlin,
D Thompson, C K Paull

1340h **OS13F-1311 POSTER** Quantifying the distribution and
abundance of rippled scour depressions (RSDs) on the seafloor of
California's continental margin using autoclassification models:
A C Davis, C Mueller, T Hallenbeck, J Carrillo, J Gomez

1340h **OS13F-1312 POSTER** A new multibeam swath mapping
echosounder for USCGC Healy: D N Chayes, S D Roberts, P J Perron,
J Beaudoin, R A Arko, R S Perry

1340h **OS13F-1313 POSTER** Mid-water Software Tools and the
Application to Processing and Analysis of the Latest Generation
Multibeam Sonars: L Gee, M Doucet

1340h **OS13F-1314 POSTER** Tools for Automated Quality
Assurance of Multibeam Bathymetry Data for the Global Multi-
Resolution Topography (GMRT) Synthesis: S H O'hara, V Ferrini,
J Coplan, J J Morton

1340h **OS12B-03 POSTER** Subbottom mapping of shallow gas
using medium to low frequency multibeam sounders: J Schneider
von Deimling, W Weinrebe, H Fossing, G J Rehder

OS13G Moscone West: 3009 Monday 1340h
Integrated Studies at Oceanic Spreading Centers: Linking
Spreading Center Processes Across Disciplinary Boundaries I
(joint with B, T, V)

Presiding: L G Montesi, University of Maryland; T M Shank, Woods
Hole Oceanographic Institution

1340h **OS13G-01** Testing Models of Magmatic and Hydrothermal
Segmentation: A Three-Dimensional Seismic Tomography
Experiment at the Endeavour Ridge (Invited): W S Wilcock,
D R Toomey, E E Hoof, R T Weekly, A E Wells

1355h **OS13G-02** Evidence From Three-Dimensional Seismic Reflection Images for Crustal Magma Bodies off the East Pacific Rise: **J Canales**, H D Carton, M Xu, M R Nedimovic, S M Carbotte, J C Mutter

1410h **OS13G-03** Upper Crustal Seismic Velocity Structure of the Endeavour Segment, Juan de Fuca Ridge: **R T Weekly**, W S Wilcock, D R Toomey, E E Hooft, A E Wells

1425h **OS13G-04** Hydrogen isotope exchange between n-alkanes and water under hydrothermal conditions: implications for abiotic and thermogenic hydrocarbons in vent fluids: **E P Reeves**, J Seewald, S Sylva

1440h **OS13G-05** Hydrothermal Plume Particulate Organic Material as a Transport Vector for a Diversity of Trace Minerals: **J A Breier**, M A Marcus, S Fakra, C R German, B M Toner

1455h **OS13G-06** Siderophore production in high iron environments: **S A Bennett**, C L Hoffman, J W Moffett, K J Edwards

1510h **OS13G-07** Larval abundance and dispersal at deep-sea hydrothermal vents in the southern Mariana Trough: **S E Beaulieu**, H Watanabe, S W Mills, F Pradillon, S Kojima, L S Mullineaux

1525h **OS13G-08** Geological and geochemical controls on the distribution of Alviniconcha vent snail symbioses: Have we finally linked mantle to microbe? (*Invited*): **P R Girguis**, R Beinart, J Sanders, J Seewald

OS13H Moscone South: I03 Monday 1440h Sverdrup Lecture (Webcast)

Presiding: **P Schlosser**, Columbia University

1440h **OS13H-01** The Autonomous Revolution: Transforming Ocean Observation with Mobile Platforms (*Invited*): **C C Eriksen**

Planetary Sciences

P13A Moscone South: Poster Hall Monday 1340h Asteroids and Meteorites I Posters

Presiding: **C S Plesko**, Los Alamos National Laboratory; **J Harvey**, The Open University

1340h **P13A-1360** *POSTER* Energy Deposition onto an Asteroid or Comet Nucleus from a Nuclear Burst: **C S Plesko**, R Weaver, W F Huebner

1340h **P13A-1361** *POSTER* Lithium isotopes as an indicator of primary and secondary processes in unequilibrated meteorites: Chondrule cooling and aqueous alteration in CO chondrites: J L Sharrock, **J Harvey**, M Fehr, R H James, I J Parkinson

1340h **P13A-1362** *POSTER* Near Earth Asteroids Accessible to Human and Robotic Exploration: **N J Strange**, D Landau, C Yam, F Biscani, D Izzo

1340h **P13A-1363** *POSTER* Multiple NEO Rendezvous, Reconnaissance and In Situ Exploration: **K Klaus**, M S Elsperman, T Cook, D Smith

1340h **P13A-1364** *POSTER* Ground Observation of the Hayabusa Reentry: The Third Opportunity of Man-made Fireball from Interplanetary Orbit: **Y Ishihara**, M Yamamoto, Y Hiramatsu, M Furumoto, K Fujita

P13B Moscone South: Poster Hall Monday 1340h Planetary Environments and Life: What Do We Know? How Can We Learn From Analogs? III Posters (joint with B, EP)

Presiding: **M L Coleman**, JPL

1340h **P13B-1365** *POSTER* A European Mars Simulation Wind Tunnel Facility: **J P Merrison**, H P Gunnlaugsson, S Knak-Jensen, N Per

1340h **P13B-1366** *POSTER* OASES: Lessons learned from Oceanographic Exploration relevant to future Astrobiology expeditions: **A Bowen**, C R German, L L Whitcomb, D R Yoerger, M Jakuba, J C Kinsey, Title of Team: Oases science team

1340h **P13B-1367** *POSTER* Developing Improved Water Velocity and Flux Estimation from AUVs - Results From Recent ASTEP Field Programs: **J C Kinsey**, D R Yoerger, R Camilli, C R German

1340h **P13B-1368** *POSTER* Communications and Control for Enhanced Autonomy in Underwater Vehicles for Deep Oceanographic Research: **M Jakuba**, J C Kinsey, D R Yoerger, L L Whitcomb, R Camilli, C Murphy, A Bowen, C R German

1340h **P13B-1369** *POSTER* Great Kobuk Sand Dunes, Alaska: A Terrestrial Analog Site for Polar, Topographically Confined Martian Dune Fields: **C L Dinwiddie**, D M Hooper, T I Michaels, R N McGinnis, D Stillman, K Bjella, S Stothoff, G R Walter, M Necsoiu, R E Grimm

1340h **P13B-1370** *POSTER* Analyses Of A Large Climbing Dune In The Ka'u Desert Of Hawaii: Implications For Understanding Dark Dunes On Mars: **RA Craddock**, D Tirsch, G Nanson, S Tooth, M Langhans

1340h **P13B-1371** *POSTER* Mud Volcanoes - Analogs to Martian Cones and Domes (by the thousands !): **C Allen**, D Oehler

1340h **P13B-1372** *POSTER* Fluvial Channel Networks as Analogs for the Ridge-forming Unit, Sinus Meridiani, Mars: **M J Wilkinson**, J B DuBois

1340h **P13B-1373** WITHDRAWN

1340h **P13B-1374** *POSTER* The Sahara Desert as an Analogue to Sand Seas on Titan: **J Radebaugh**, R D Lorenz, C J Savage, T G Farr, S D Wall, N Lancaster, Title of Team: Cassini RADAR Team

1340h **P13B-1375** *POSTER* Erosion of Theater-Headed Tributaries by Overland Flow in the Atacama Desert, Northern Chile: Analogs to Martian Valley Networks: **R P Irwin**, A Baptista, R A Craddock, A D Howard, S Tooth

1340h **P13B-1376** *POSTER* Orbital and Ground-Truth Spectral Matching on the Upper Slopes of Kilimanjaro with Application to Martian Orbital Observations: **U N Horodyskyj**

1340h **P13B-1377** *POSTER* Hotspots on Venus and Earth: Topographic Comparisons: **P R Stoddard**, D M Jurdy

1340h **P13B-1378** *POSTER* SAN FRANCISCO VOLCANIC FIELD, ARIZONA, AS AN ANALOG FOR LUNAR AND MARTIAN SURFACE EXPLORATION: **K E Young**, K Hodges, D Eppler, F Horz, G E Lofgren, J M Hurtado, Title of Team: Desert RATS Science Team

1340h **P13B-1379** *POSTER* Minerals and Microorganisms in Evaporite Environments: **P A Morris**, R L Brigmon

1340h **P13B-1380** *POSTER* Ancient and Modern Salars of the Atacama Desert, Chile: A Terrestrial Analog for Evaporite Formation on Mars: **M C Jungers**, R Amundson, A M Heimsath, P R Christensen, C S Edwards

1340h **P13B-1381** *POSTER* Yungay Atacama, Chile, and University Valley, Antarctica, as Mars analogs, based on aridity as indicated by soil salt profiles and other characteristics: **S P Kounaves**, S Douglas

1340h **P13B-1382** *POSTER* Sulfide weathering in the Werenskioldbreen, Spitsbergen – A polar terrestrial analogue for gypsum deposition in the North Polar Region of Mars: **A Szyrkiewicz**, M Modelska, S Buczynski, D Borrok, L Pratt

1340h **P13B-1383** *POSTER* Geobiological Assessment of Evaporite Deposits in the Great Salt Lake Desert: Preliminary Results: **K Lynch**, K Zabrusky, R Lossing, T M Hoehler, J R Spear

1340h **P13B-1384** *POSTER* Microbiological sampling of the atmosphere using a latex sounding balloon: **W P Adkins**, N Bryan, B C Christner, T G Guzik, M F Stewart, J R Giammanco

1340h **P13B-1385** *POSTER* Possible oxidants at Mars surface and their impact on organic matter: **A Noblet**, P J Coll, C Szopa, F Stalport

1340h **P13B-1386** *POSTER* Autonomous in-situ qPCR in the Deep Sea: **W Ussler**, P Tavormina, C Preston, S Shah, P R Girguis, J M Birch, V Orphan, C Scholin

1340h **P13B-1387** *POSTER* The Zuni-Bandera Volcanic Field, NM: An Analog for Exploring Planetary Volcanic Terrains: **J E Bleacher**, W B Garry, J R Zimbleman, L S Crumpler, J C Aubele

1340h **P13B-1388** *POSTER* Lipid Biomarker Preservation in Silica-Depositing Hydrothermal Analogs: **L L Jahnke**, M N Parenteau, J D Farmer

1340h **P13B-1389** *POSTER* Unusually high stable carbon isotopic values of methane from low organic carbon Mars analog hypersaline environments: **C A Kelley**, J A Poole, A Tazaz, J Chanton, B Bebout

1340h **P13B-1390** *POSTER* OPHIOLITES AND GAS SEEPS AS TERRESTRIAL ANALOGS FOR METHANE ORIGIN AND DEGASSING ON MARS: **M Schoell**, G Etiope

1340h **P13B-1391** *POSTER* Adventures in Lava and Dust: Testing the Potential for Solar Wind and Galactic Cosmic Ray Preservation in Lunar Paleoregolith: **M E Rumpf**, S A Fagents, C W Hamilton, I Crawford

1340h **P13B-1392** *POSTER* Characterization of microbial metabolism and isotopic biosignatures in saline, alkaline, evaporitic systems of the Cariboo Plateau, B.C.: **L Leoni**, A L Brady, D S Lim, **G F Slater**

1340h **P13B-1393** *POSTER* Present-day serpentinization in the Tablelands, Gros Morne National Park, Newfoundland: a Mars Analogue Site: **N Szponar**, P L Morrill, W J Brazelton, M O Schrenk, D M Bower, A Steele

1340h **P13B-1394** WITHDRAWN

1340h **P13B-1395** *POSTER* Volcanic Rocks As Targets For Astrobiology Missions: **N Banerjee**

1340h **P13B-1396** *POSTER* On the probability of extant endolithic life on Mars: **H J Sun**

1340h **P13B-1397** *POSTER* Mapping Microbial Populations Relative to Sites of Ongoing Serpentinization: Results from the Tablelands Ophiolite Complex, Canada: **M O Schrenk**, W J Brazelton, Q Woodruff, N Szponar, P L Morrill

1340h **P13B-1398** *POSTER* Evaluating The Global Inventory of Planetary Analog Environments on Earth: An Ontological Approach: **P G Conrad**

1340h **P13B-1399** *POSTER* Precursor Exploration Missions in Kelly Lake, British Columbia- MARS LIFE project: **A C Trembanis**, J Gutsche, S H Nebel

1340h **P13B-1400** *POSTER* A Survey of Plant Coverage and Distribution within the Haughton Impact Structure: **L Artman**, P Johnson-green

1340h **P13B-1401** *POSTER* Diversity of soil characteristics at the Haughton Impact Structure: **P Johnson-green**, L Artman

P13C Moscone South: Poster Hall Monday 1340h
Rosetta Flybys of Asteroids 2867 Steins and 21 Lutetia I Posters

Presiding: **C J Alexander**, Jet Propulsion Laboratory; **P D Feldman**, Johns Hopkins University

1340h **P13C-1402** *POSTER* Thermal Modeling of Rosetta Flyby Asteroid 21 Lutetia: **P R Weissman**, E D Rosenberg

1340h **P13C-1403** *POSTER* The Irregular Shape of (21) Lutetia as Determined from Ground-based Observations: **A Conrad**, B Carry, W J Merline, J D Drummond, C R Chapman, P M Tamblyn, J C Christou, C Dumas, H A Weaver, Title of Team: Rosetta OSIRIS Instrument Team

P13D Moscone South: 306 Monday 1340h
Explosive Volcanism in the Solar System II (*joint with EP, V*)

Presiding: **B D Brand**, University of Washington; **N P Lang**

1340h **P13D-01** CO₂-related explosive alkaline magmatism in Gusev crater, Mars: Implications for oxygen fugacity and carbon inventory in the Noachian Martian mantle (*Invited*): **T Usui**, H Y McSween, B C Clark

1355h **P13D-02** Comparisons of volcanic eruptions from linear and central vents on Earth, Venus, and Mars (*Invited*): **L S Glaze**, S M Baloga

1410h **P13D-03** Has Martian History Been Dominated by Explosive Rather than Effusive Volcanism?: **J L Bandfield**, C S Edwards, D R Montgomery

1425h **P13D-04** Multiphase Explosions on Mars: Numerical Studies of Phreatomagmatic Blast Dynamics (*Invited*): **J Dufek**

P13E Moscone South: 306 Monday 1440h
On the Nature, Origin, and Evolution of Water on Small Bodies II (*joint with SH*)

Presiding: **C Hibbitts**, JHU-APL; **R M Mastrapa**, SETI Institute/NASA Ames

1440h **P13E-01** Analysis of the behavior of the 3- μ m absorptions in the M³ lunar reflectance observations and indications of OH sources and processes for airless bodies: **T B McCord**, J Combe

1455h **P13E-02** Probing adsorbed water on lunar regolith materials using thermal and non-thermal desorption (*Invited*): **T M Orlando**, J McLain, M Poston, G Greives, A Alexandrov, M D Dyar, C Hibbitts

1510h **P13E-03** Saturn's Icy satellites: The Role of Sub-Micron Ice Particles and Nano-sized Contaminants (*Invited*): **R N Clark**, D P Cruikshank, C M Dalle Ore, R Jaumann, R H Brown, K Stephan, B J Buratti, G Filacchione, K H Baines, P Nicholson

1525h **P13E-04** Haumea, an intriguing Water Ice Surface in the transNeptunian Belt: **N Pinilla-Alonso**

Paleoceanography and Paleoclimatology

PP13A Moscone South: Poster Hall Monday 1340h
Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Eolian Sediment Archives III Posters
(joint with A, B, EP, GP, GC, OS)

Presiding: **B Machalett**, Humboldt-University of Berlin; **E A Oches**, Bentley University; **H M Roberts**, Aberystwyth University; **Z Lai**, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences

1340h **PP13A-1483 POSTER** Deciphering the Geochronological Framework of Serbian Loess Using Amino Acid Stratigraphy: **E A Oches**, B Machalett, W D McCoy, S Markovic

1340h **PP13A-1484 POSTER** Age and origin of ice-rich Yedomas silts at Duvanny Yar, northeast Siberia: a record of Beringian environmental change since the last interglacial: **J Murton**, M E Edwards, D Murton, M Bateman, J Haile

1340h **PP13A-1485 WITHDRAWN**

1340h **PP13A-1486 POSTER** A NEW HIGH-RESOLUTION CHRONOLOGY OF MEGADROUGHT FOLLOWING THE MEDIEVAL CLIMATIC ANOMALY AND LITTLE ICE AGE IN THE CENTRAL GREAT PLAINS, USA: **A F Halfen**, W C Johnson, P R Hanson, J Q Spencer, T Woodburn, A R Young

1340h **PP13A-1487 POSTER** Palaeoenvironmental implications of an aeolian luminescence chronology from the Qinghai Lake area, northeastern Qinghai-Tibetan Plateau: **X Liu**, **Z Lai**, D Madsen, Y Sun

1340h **PP13A-1488 POSTER** Understanding the timing and environmental significance of loess fluctuations in the Western Mediterranean: examples from Southern Spain: **C E Gallant**, S J Armitage, I Candy

1340h **PP13A-1489 POSTER** Loess Deposits in the Tashkent Region, Uzbekistan – New Insights by the Application of Highly-resolved Particle Size Analyses: **N G Mavlyanova**, H L Rakhmatullaev, B Machalett, I J Smalley, K O'Hara-Dhand

1340h **PP13A-1490 POSTER** Intensive winds during glacial periods increased sand-dune activity and loess deposition: **O Crouvi**, Y Enzel, R Amit, A Gillespie

1340h **PP13A-1491 POSTER** High-Frequency, High-Magnitude Climate Shifts Recorded in Permian Loessite Deposits, Tropical Pangaea (Colorado, USA): **M J Soreghan**, G S Soreghan

1340h **PP13A-1492 POSTER** Magnetic characteristics of the Holocene loess deposits within the river basin Chirchik: **A G Stelmakh**

1340h **PP13A-1493 POSTER** Climate Effect of Dust Aerosol in Southern Chinese Loess Plateau: **Y Mu**, X Qin, Z Yin

1340h **PP13A-1494 POSTER** Paleomagnetic stratigraphy indicators of loess deposits in Uzbekistan: **H A Toychiev**, A G Stelmakh

1340h **PP13A-1495 POSTER** Paleosoils in the loess deposits of eastern Uzbekistan: **U K Abdunazarov**, A G Stelmakh

1340h **PP13A-1496 POSTER** Aeolian Dust Dynamics and Synoptic Atmospheric Circulation Patterns in the Black Sea Region Since Marine Isotope Stage 15: **C Markley**, B Machalett, E A Oches, S Markovic, W Endlicher

1340h **PP13A-1497 POSTER** Modeling dust emission variations in Eastern Europe related to North-Atlantic abrupt climate changes of the last glacial period: **A Sima**, M Kageyama, D Rousseau, G Ramstein, M Schulz, Y Balkanski, P Antoine, F Dulac, C Hatte, F Lagroix, N Gerasimenko

1340h **PP13A-1498 POSTER** Eolian grain-size signature of the Sikouzi lacustrine sediments (Chinese Loess Plateau): Implications for Neogene evolution of the East-Asian winter monsoon: **H Jiang**, Z Ding

1340h **PP13A-1499 POSTER** Cosmic Catastrophe in the Gulf of Carpentaria: **C Subt**, D H Abbott, D Breger, L C Weber, A R Chivas, A Garcia

1340h **PP13A-1500 POSTER** The Ca Isotopic Composition of Dust-Producing Regions: **M S Fantle**, H J Tollerud, A Eisenhauer, C E Holmden

1340h **PP13A-1501 POSTER** New data on the late Pleistocene history of lake fluctuations in the Sevier Desert, Utah: **C G Oviatt**, J Q Spencer, Y Fan, A Leggett

1340h **PP13A-1502 WITHDRAWN**

1340h **PP13A-1504 POSTER** A high-resolution peat record from NW Iran reveals several episodes of enhanced atmospheric dust during the last 14000 years: **O Sharifi**, A Pourmand

1340h **PP13A-1505 POSTER** Eolian delivery of highly reactive iron to the glacial ocean of the late Paleozoic: **S Sur**, G S Soreghan, J D Owens, T W Lyons, M J Soreghan

1340h **PP13A-1506 POSTER** Using Ancient Dust to Track Atmospheric Circulation and Orogenesis in Western Equatorial Pangaea: **G S Soreghan**, M J Soreghan, G E Gehrels, M A Hamilton, P K Link, C Fanning, J E Evans, G A Augsburger

1340h **PP13A-1507 POSTER** Aeolian Delivery of Organic Matter to a Middle Permian Deepwater Ramp: **S Artan**, B E Herbert, M M Tice

1340h **PP13A-1508 POSTER** Hydrogen isotope exchange experiments with Mt Mazama ash: **G S Nolan**, I N Bindeman, J L Palandri

1340h **PP13A-1509 POSTER** Engineering and geological characteristics of loess rocks of Chirchik-Akhangaran region: **M Shermatov**, H A Toychiev, U K Abdunazarov, A G Stelmakh

PP13B Moscone South: Poster Hall Monday 1340h
Paleoceanography and Paleoclimatology General Contributions Posters

Presiding: **F Mekik**, Grand Valley State University; **B Hoenisch**, Lamont-Doherty Earth Observatory

1340h **PP13B-1510 POSTER** An Update on the RV Knorr Long Coring System after Seven Cruises: **W B Curry**, J E Broda

1340h **PP13B-1511 POSTER** Impact of paleosalinity on mixed-layer features in the western North Pacific: **T Motoi**

1340h **PP13B-1512 POSTER** Tropical-Subpolar Linkages in the North Atlantic during the last Glacial Period: **M J Vautravers**, D A Hodell

1340h **PP13B-1513 POSTER** Hydrographic changes in the eastern subpolar North Atlantic during the last deglaciation: **H M Benway**, J F McManus, D Oppo, J L Cullen

1340h **PP13B-1514 POSTER** Elemental Records of the Penultimate Glacial-Interglacial Cycle in the Cariaco Basin, Venezuela: **K Gibson**, L C Peterson

1340h **PP13B-1515 WITHDRAWN**

1340h **PP13B-1516 POSTER** Variations of the paleo-productivity in benthic foraminifera records in MIS 3 from western South China Sea: **Y Niu**, J Du, **B Huang**, M Chen

1340h **PP13B-1517 POSTER** Late Quaternary East Asian monsoon evolution deduced from elemental XRF scanning data in the western South China Sea: **Z He**, Z Liu, J Li, X Xie

1340h **PP13B-1518 POSTER** Past Changes in Carbon Flux and Cycling in A Large Subtropical Estuary: Evidence from U-Series Radioisotope Studies: **S Luo**, Y Wu

1340h **PP13B-1519** *POSTER* Advancing the Hand-Held ED-XRF Instrument as a Quantitative Tool for Deciphering Paleocyanographic Conditions in Phanerozoic Mudrock Sequences: **N Hughes**, H D Rowe

1340h **PP13B-1520** WITHDRAWN

1340h **PP13B-1521** *POSTER* Depositional environments of late glacial to Holocene sediments on the deep water levees of Setúbal and Nazaré Canyons, offshore Portugal: preliminary results: **F C Pascoletti**, D Masson, C Innocenti

1340h **PP13B-1522** *POSTER* Fluvio-estuarine sedimentation and estuarine evolution during the Late-Holocene in the Taw Estuary, England: response to relative sea-level and climate change: **G M Havelock**, T G Brown

1340h **PP13B-1523** *POSTER* STRATIGRAPHY AND FACIES ANALYSIS OF A 122 M LONG LACUSTRINE SEQUENCE FROM CHALCO LAKE, CENTRAL MEXICO: **D A Herrera**, B Ortega, M Caballero, S Lozano, T Pi, E T Brown

1340h **PP13B-1524** *POSTER* 40Ar/39Ar dating and paleoenvironmental reconstruction of the Lower Pleistocene sequence of Kvemo-Orozmani (Republic of Georgia): New chronological constraints for Dmanisi: **S Nomade**, E Messenger, P Voinchet, A Mgeladze, H Guillou, R Ferring, D Lordkipanidze

1340h **PP13B-1525** *POSTER* Paleoelevation of the Puna Plateau, northwestern (NW) Argentina inferred from deuterium isotopic analyses of volcanic glass: **R Canavan**, M T Clementz, B Carrapa, J Quade, P G DeCelles, L M Schoenbohm, J Boyd

1340h **PP13B-1526** *POSTER* NEW RECONSTRUCTED ANTARCTIC PALAEOGEOGRAPHY FOR THE EOCENE-OLIGOCENE CLIMATE TRANSITION: P J Barrett, **D S Wilson**, S S Jamieson, C S Siddoway, K Gohl, R D Larter, G L Leitchkov, Title of Team: ANTscape group - see URL below

1340h **PP13B-1527** *POSTER* Mid-Late Mississippian Paleocyanography at the Southern Margin of Laurasia: **J Hoelke**, H D Rowe

1340h **PP13B-1528** *POSTER* The origin of Neoproterozoic Cap Carbonates: a view from Mg and Sr Isotopes: **C Liu**, T D Raub, D A Evans, Z Wang

1340h **PP13B-1529** *POSTER* Chromium Isotopes in Marine Carbonates - an Indicator for Climatic Change?: **R Frei**, C Gaucher

1340h **PP13B-1530** *POSTER* Atmosphere/Earth interaction and Earth rotation at geological timescale: **O de Viron**, F fluteau, G LE HIR, Y Donnadieu

1340h **PP13B-1531** *POSTER* New Data for Early Earth Atmospheric Modelling: **D Blackie**, G Stark, J R Lyons, J Pickering, P L Smith, A Thorne

1340h **PP13A-1503** *POSTER* Paleoclimatic interpretation of clay minerals in the South China Sea during late Quaternary: A review: **Z Liu**

PP13C Moscone South: Poster Hall Monday 1340h Pliocene Climate II Posters

Presiding: **H J Dowsett**, USGS; **M M Robinson**, US Geological Survey; **M Williams**, University of Leicester

1340h **PP13C-1532** *POSTER* ARE THERE ANY SATISFACTORY GEOLOGICAL ANALOGUES FOR A FUTURE GREENHOUSE WARMING: WITH SPECIAL REFERENCE TO THE PLIOCENE: A M Haywood, A J Ridgwell, D J Lunt, **D J Hill**, H J Dowsett, M Williams

1340h **PP13C-1533** *POSTER* Plio-QUMP: Quantifying Uncertainty in Model Predictions for the Pliocene: **J O Pope**, M Collins, A M Haywood, H J Dowsett, D J Hill, D J Lunt

1340h **PP13C-1534** *POSTER* The ePRISM experiment: An early Pliocene global paleoclimate reconstruction: **M M Robinson**, H J Dowsett

1340h **PP13C-1535** *POSTER* New high-resolution topographic model for the Pliocene Greenland-Scotland Ridge: H J Dowsett, **S M Jones**, M M Robinson, A M Haywood

1340h **PP13C-1536** *POSTER* Simulating the Antarctic and Greenland ice sheets in the mid-Pliocene warm period - An ice sheet model intercomparison project: A M Dolan, **S J Koenig**, D J Hill, R DeConto, A M Haywood

1340h **PP13C-1537** WITHDRAWN

1340h **PP13C-1538** *POSTER* MODULAR GROWTH IN BRYOZOANS AND THE INFERENCE OF PLIOCENE CLIMATE REGIMES: **B Okamura**, A O'Dea, T Knowles, N Clark, M Williams

1340h **PP13C-1539** *POSTER* Early Pliocene Weddell Sea climate and seasonality reconstructed from bivalves and bryozoans: **M Williams**, N Clark, B Okamura, J Zalasiewicz, A Johnson, M J Leng, J Smellie, A Haywood, A Nelson-Laloe, P Taylor

1340h **PP13C-1540** *POSTER* Pliocene weathering processes recorded at mid-latitude in Southern Brazil: **S B Riffel**, P M Vasconcelos, I O Carmo

1340h **PP13C-1541** *POSTER* Evidence of interannual shelf water variability along the Western Middle Atlantic during the Pliocene: **J Hudley**, D M Surge

1340h **PP13C-1542** *POSTER* MID-PLIOCENE SEA SURFACE TEMPERATURE OF THE NORTH ATLANTIC SUBTROPICAL GYRE: **B P Lutz**

1340h **PP13C-1543** *POSTER* The Kuroshio Extension during the Pliocene-Pleistocene climate transition: orbital-scale temperature reconstructions from ODP Site 1208: **N L Venti**, K Billups, T Herbert

1340h **PP13C-1544** *POSTER* Pliocene and late Miocene soil temperatures in the Chinese Loess Plateau based on clumped-isotope thermometry of paleosol carbonates: **M B Suarez**, B H Passey, A Kaakinen

1340h **PP13C-1545** *POSTER* Orbital Scale Sea Surface Temperature and Carbonate Preservation Changes in the Southwest Pacific Ocean during the Pliocene Warm Period: **R P Caballero Gill**, T Herbert

1340h **PP13C-1546** *POSTER* Investigating Pliocene warm-water upwelling ("permanent El Niño condition") in littoral communities of Peru and southern California: **A E Prentice**, E A Nesbitt

1340h **PP13C-1547** *POSTER* Indian Ocean Sea Surface Temperatures during the mid-Piacenzian: **D K Stoll**, M M Robinson, H J Dowsett

1340h **PP13C-1548** *POSTER* Millennial-scale cyclicity in the Pliocene: Evidence from the East African Rift Valley: **K E Wilson**, M J Leng, R K Edgar, A L Deino, J D Kingston, M A Maslin, A W Mackay

PP13D Moscone South: Poster Hall Monday 1340h The Early Pliocene Warm Period as an Analog for Future Warmth II Posters (joint with GC)

Presiding: **P S Dekens**, San Francisco State University; **K T Lawrence**, Lafayette College

1340h **PP13D-1549** *POSTER* Sea Surface Temperatures in the Indo-Pacific Warm Pool During the Early Pliocene Warm Period: **P S Dekens**, A C Ravelo, E M Griffith

1340h **PP13D-1550** *POSTER* Teleconnections in a Warmer Climate: Perspective from the Pliocene: **S P Shukla**, M A Chandler, D H Rind, L E Sohl

1340h **PP13D-1551** *POSTER* Variations in the Nd isotope composition of Late Miocene to Early Pliocene glacially derived sediments in Prydz Bay, East Antarctica: **M Mabson**, E L Pierce, C L Dale, T Williams, S R Hemming, T van de Flierdt, C Cook, S L Goldstein

1340h **PP13D-1552** *POSTER* Prelude to the Plio-Pleistocene Glaciations: Southwest Pacific Sea Surface Temperature During the Late Miocene and Pliocene: K T Lawrence, **L C Peterson**, A L Brannick, C M Schaupp

1340h **PP13D-1553** *POSTER* Alkenone-derived Mediterranean SST during the Serravallian to Messinian Stages of the late Miocene (6.3-12.9Ma) reveals cooling prior to northern hemisphere glaciation: **A Tzanova**, T Herbert, L C Peterson

1340h **PP13D-1554** *POSTER* Climate history in the south Atlantic subtropical gyre over the last 4 Ma: **D E Wojcieszek**, P S Dekens

1340h **PP13D-1555** *POSTER* Pliocene Seasonality along the US Atlantic Coastal Plain Inferred from Growth Increment Analysis of *Mercenaria carolinensis*: **I Z Winkelstern**, D M Surge

PP13E Moscone West: 2005 Monday 1340h
Paleoceanographic Insights Into Ocean Acidification II (*joint with OS, V*)

Presiding: **T M Hill**, UC Davis; **A D Russell**, University of California, Davis; **S C Flores**, University of California, Davis

1340h **PP13E-01** Past ocean acidification events, sensitivity, and latitudinal saturation gradients (*Invited*): **R E Zeebe**

1355h **PP13E-02** Combining calcite dissolution proxies with aragonite dissolution proxies to trace carbonate dissolution throughout the entire water column: An experiment with foraminifers and pteropods: **F Mekik**

1410h **PP13E-03** Neoproterozoic ice ages, boron isotopes, and ocean acidification: **S A Kasemann**, A R Prave, A E Fallick, C J Hawkesworth, K Hoffmann

1425h **PP13E-04** REVISED RECONSTRUCTION OF THE GLACIAL OCEAN DEEP SEA CARBONATE ION CONCENTRATION BASED ON FOSSIL FORAMINIFER ASSEMBLAGES: **D M Anderson**

1440h **PP13E-05** High-resolution grain size analysis and its significance for detecting ocean acidification at the onset of the Paleocene-Eocene Thermal Maximum (PETM; 55Ma) (*Invited*): **T J Bralower**, L Kump, L Eccles, G J Smith, T L Lindemann, G J Bowen, A Schneider Mor, E Thomas

1455h **PP13E-06** Ocean Acidification during the Paleocene-Eocene Thermal Maximum: Constraints from Multiple Proxies (*Invited*): **J C Zachos**, L D Anderson, R E Brown, B Hoenisch, D Kelly, D E Penman, E Thomas, R E Zeebe

1510h **PP13E-07** Reconstructing deep-sea acidification during the early Cenozoic (*Invited*): **B Hoenisch**, O Hyams, M S Raitzsch, E Thomas, J C Zachos, R E Zeebe

1525h **PP13E-08** Acidification and Deoxygenation during Hyperthermal Events: Evidence from Seafloor Biota: **E Thomas**, J C Zachos, U Roehl

PP13F Moscone West: 2007 Monday 1340h
Sea Level, Near-Surface Currents, and the Stratigraphic Record: Recent Results II (*joint with G, OS*)

Presiding: **G Mountain**, Rutgers University; **C Fulthorpe**, Institute for Geophysics; **J Proust**, CNRS & Rennes University; **K Hoyanagi**, Shinshu University

1340h **PP13F-01** Sea-level Controls on the Sediment Architecture of the US New Jersey Passive Margin During Oligocene and Miocene Times: IODP Expedition 313 Preliminary Results: **J Proust**, G Mountain, H Ando, J V Browning, S P Hesselbo, D M Hodgson, M Rabineau, P Sugarman, E ScienceParty

1355h **PP13F-02** Core-seismic integration of lower-middle Miocene sequences of the New Jersey shallow shelf (IODP Exp. 313): Sequence boundaries are impedance contrasts: M Bassetti, **K G Miller**, D Monteverde, G Mountain, J Proust, E ScienceParty

1410h **PP13F-03** Integrated Sr-isotope and bio-chronology of Oligocene-Miocene sequences, onshore and offshore New Jersey: **J V Browning**, K G Miller, P Sugarman, D K Kulhanek, B Huang, F M McCarthy, J A Barron, E ScienceParty

1425h **PP13F-04** Along-Strike Variation in the Signature of Contourite Deposition: Canterbury Basin, New Zealand: **C Fulthorpe**, H Lu, C M McHugh, E Shipboard Scientific Party

1440h **PP13F-05** Sedimentary facies and grain-size variation in cores from IODP Expedition 317 - preliminary results: **N Murakoshi**, A Kiyono, E Shipboard Scientific Party, Title of Team: Expedition 317 Shipboard Scientific Party

1455h **PP13F-06** Preliminary Tectonic Subsidence Results: Outer Shelf and Upper Slope Sites, Canterbury Basin from IODP Expedition 317: **M A Kominz**, Title of Team: Expedition 317 Shipboard Scientific Party

1510h **PP13F-07** First results from IODP Expedition 325 to the Great Barrier Reef: unlocking climate and sea level secrets since the Last Glacial Maximum: **J M Webster**, Y Yokoyama, C Cotterill, Title of Team: Expedition 325 Scientists

1525h **PP13F-08** New Estimates of the Timing and Magnitude of Early to Middle Miocene Eustasy based on Mixed Carbonate-Siliciclastic Sequences from the Marion Plateau (ODP Leg 194): **C M John**, G D Karner, E Browning, R M Leckie, Z Mateo, B E Carson, C Lowery

SPA-Aeronomy

SA13A Moscone South: 301 Monday 1340h
Frontiers in Aeronomy II

Presiding: **L J Paxton**, JHU/APL; **L J Paxton**, JHU/APL; **J H Clemmons**, The Aerospace Corporation; **J P Thayer**, University of Colorado

1340h **SA13A-01** A perspective of the science and mission challenges in aeronomy: **J F Spann**

1355h **SA13A-02** Global Modeling of Equatorial Plasma Bubbles: **J Huba**, G R Joyce, J Krall

1410h **SA13A-03** Physical Modeling of Atmospheric Neutral Density Climatology, Variability and Weather: **M Fedrizzi**, T J Fuller-Rowell, M Codrescu

1425h **SA13A-04** The Role of Precipitating Energetic Particles in Coupling Atmospheric Regions: **S M Bailey**, C E Randall, S C Solomon, S Yee, J U Kozyra, D N Baker

1440h **SA13A-05** Mapping the transport of air parcels in the thermosphere due to the background wind: **M G Conde**, A J Ridley, M F Larsen

1455h **SA13A-06** On the model-data convergence in optical aeronomy (*Invited*): **J L Semeter**

1510h **SA13A-07** The Armada mission: Determining the dynamic and spatial response of the thermosphere/ionosphere system to energy inputs on global and regional scales: **A J Ridley**, J M Forbes, J Cutler, A C Nicholas, J P Thayer, T J Fuller-Rowell, T Matsuo, W A Bristow, M G Conde, D P Drob, L J Paxton, S Chappie, M Osborn, M Dobbs, J Roth, Title of Team: Armada Mission Team

1525h **SA13A-08** A Satellite Mission Concept to Study Thermosphere-Ionosphere Coupling: **T R Pedersen**, E Zesta, C Y Huang, C S Lin, F A Marcos, P A Roddy, J O Ballenthin, E K Sutton, D L Cooke

SPA-Solar and Heliospheric Physics

SH13A Moscone South: 309 Monday 1340h **First Results From the Solar Dynamics Observatory II**

Presiding: **W D Pesnell**, NASA / GSFC; **P C Chamberlin**, NASA/GSFC; **N E Hurlburt**, Lockheed Martin ATC

1340h **SH13A-01** First Results from SDO Extreme Ultraviolet Variability Experiment (EVE) (*Invited*): **T N Woods**, Title of Team: SDO EVE Team

1400h **SH13A-02** Multi-thermal observations of flares and eruptions with the Atmospheric Imaging Assembly on the Solar Dynamics Observatory. (*Invited*): **C J Schrijver**, Title of Team: the AIA Science Team

1420h **SH13A-03** Early SDO/HMI Magnetic Field Observations (*Invited*): **J T Hoeksema**, Title of Team: HMI Magnetic Field Team

1440h **SH13A-04** The Solar Dynamics Observatory Education and Public Outreach Program: The First Years: **M Wawro**, E Drobnes, A Van Doren, D K Scherrer

1455h **SH13A-05** Modeling the Secondary Flare Irradiance Measured by Solar Dynamic Observatory (SDO) Extreme ultraviolet Variability Experiment (EVE): **RA Hock**, T N Woods, J A Klimchuk, F G Eparvier

1510h **SH13A-06** Physical Properties of Solar Flares: New Results from EVE/SDO: **H P Warren**, J T Mariska, G A Doschek, Title of Team: The EVE Team

1525h **SH13A-07** First SDO/AIA Observations of Global Coronal EUV "Waves": Multiple Components and "Ripples": **W Liu**, N V Nitta, C J Schrijver, A M Title, T D Tarbell

SPA-Magnetospheric Physics

SM13A Moscone South: Poster Hall Monday 1340h **Inner Magnetospheric Response to High-Speed Streams I Posters** (*joint with SA, SH*)

Presiding: **M W Liemohn**; **V Peromian**, UCLA

1340h **SM13A-1783** POSTER Development of a fully self-consistent numerical simulation model for ring current dynamics in the inner magnetosphere: **T Amano**, K Seki, Y Miyoshi, T Umeda, Y Matsumoto, Y Ebihara, S Saito

1340h **SM13A-1784** POSTER How different is the ring current during solar wind high-speed streams and Coronal Mass Ejections?: **P C Brandt**, M I Sitnov, K Keika, A Y Ukhorskiy, S W Hsieh, I S Dandouras, Title of Team: The TWINS Science Team

1340h **SM13A-1785** POSTER Detailed Sensitivity Analysis of Radiation Belt Models during High-Speed Solar Wind Streams: **D R Creveling**, J Koller

1340h **SM13A-1786** POSTER Ground-based estimates of outer radiation belt energetic electron precipitation fluxes into the atmosphere: C J Rodger, M Clilverd, **R J Gamble**, T Ulich, T Raita, A M Seppälä, J C Green, N R Thomson, J Sauvaud, M Parrot

1340h **SM13A-1787** POSTER Magnetopause shadowing effects for radiation belt models during high-speed solar wind streams: **J Koller**, S Morley

1340h **SM13A-1788** POSTER Comparing Magnetospheric Cross-Field Current Systems In ICME And CIR/HSS Driven Storms: **M W Liemohn**, R Ilie, D De Zeeuw, N Y Ganushkina

1340h **SM13A-1789** POSTER Response of outer belt electrons and VLF waves to high-speed streams: **Y Miyoshi**, R Kataoka, Y Kasahara

1340h **SM13A-1790** POSTER The Acceleration of Ions in the Near-Earth Magnetotail during CME- and CIR-driven Geomagnetic Storms: **V Peromian**, M El-Alaoui

1340h **SM13A-1791** POSTER Variations of Earth's radiation belt intensities on time scales of days throughout the 11-year solar cycle: **M R Presicci**, D N Baker, S G Kanekal

1340h **SM13A-1792** POSTER On the relationship between relativistic electron flux and solar wind velocity: Paulikas and Blake Revisited: **G D Reeves**, S Morley, R H Friedel, M G Henderson, T E Cayton, J Blake, D Thomsen

1340h **SM13A-1793** POSTER The Inner Edge of the Plasma Sheet: **T Sotirelis**, F Jiang, A R Lee, P T Newell

1340h **SM13A-1794** POSTER Two-satellite observations of Pi2 pulsations in the inner magnetosphere: **M Teramoto**, M Nose, K Takahashi, P R Sutcliffe, D Lee

1340h **SM13A-1795** POSTER Online 3-D Visualization of ENA Inversions with Simultaneous In-situ Measurements: M Kusterer, P C Brandt, R Demajistre, S W Hsieh, **J D Vandegriff**

1340h **SM13A-1796** POSTER Persistent Excitation Over Several Days of EMIC waves in Association With a High Speed Stream: **C Weaver**, M Lessard, C J Farrugia, M J Engebretson

1340h **SM13A-1797** POSTER Effect of Plasma Sheet Conditions and Induced Electric Fields on Geomagnetic Storm Development: **S G Zaharia**, V K Jordanova, D T Welling

SM13B Moscone South: Poster Hall Monday 1340h **Magnetospheric Response to Transient Solar Wind Features I Posters**

Presiding: **Q Zong**, UML CAR; **H Zhang**, NASA Goddard Space Flight Center

1340h **SM13B-1798** POSTER Night-side DP-2 type fluctuations observed by the FM-CW Radar and MAGDAS stations: **A Ikeda**, K Yumoto, T Uozumi, S Abe, M Shinohara, K Nozaki, A Yoshikawa, V Bychkov, B Shevtsov, Q Sugon, D McNamara

1340h **SM13B-1799** POSTER An event of interplanetary shock - magnetosphere interaction: Comparison between spacecraft observations and MHD modeling: **A A Samsonov**, D G Sibeck, S Chen, H J Singer, H K Biernat, N Zolotova

1340h **SM13B-1800** POSTER State transition of the magnetosphere-ionosphere compound system due to a northward turn of the interplanetary magnetic field revealed from a global MHD simulation and formation of the overshielding potential: **S Fujita**, T Kikuchi, T Tanaka

1340h **SM13B-1801** POSTER The Two Basic Modes of Magnetospheric Convection Compared: **G L Siscoe**, C J Farrugia, P E Sandholt

1340h **SM13B-1802** POSTER Geostationary magnetic field response to solar wind pressure variations: **B J Jackel**, B McKiernan

1340h **SM13B-1803** POSTER Geosynchronous magnetic field responses to interplanetary shocks: **J Park**, K Kim, S Sung, D Lee, K Park

1340h **SM13B-1804** POSTER Resonant interactions of ULF standing waves with ring current O⁺ ions during geomagnetic storms: **B Yang**, Q Zong, S Fu, X Li, A Korth, H Reme

1340h **SM13B-1805** POSTER A Perfect Substorm: ICME-driven Magnetic Activity Catches Galaxy 15 in the Wrong Place at the Wrong Time: **M G Connors**, C T Russell, V Angelopoulos, H J Singer, K Glassmeier

1340h **SM13B-1806** POSTER Modeling the Nose Events Observed by Cluster on April 11, 2002 with UBK Method: **Y Wang**, Q Zong

1340h **SM13B-1807** POSTER Evolution of low altitude and ring current ENA emissions from moderate magnetospheric storms: Continuous and simultaneous TWINS observations: **P W Valek**, P C Brandt, M H Fok, J Goldstein, D J McComas, J D Perez, E C Roelof, R M Skoug

1340h **SM13B-1808** POSTER TWINS ENA observations of ring current dynamics during an ICME-driven geomagnetic storm on 6 April 2010: **E W Grimes**, J D Perez, N Buzulukova, M H Fok, J Goldstein, D J McComas

1340h **SM13B-1809** POSTER Energetic Neutral Atom (ENA) Pitch Angle Distribution as a Function of Storm Phase – Precursor to Future Work in Mapping ENA/Ion Albedo with Storm Phase: **D A Mackler**, J Jahn, J Mukherjee, C J Pollock

1340h **SM13B-1810** POSTER Sources of the Oscillations Observed in the Magnetopause Layers: **J Simunek**, J Safrankova, Z Nemecek

1340h **SM13B-1811** POSTER The effects of a rapid IMF cone-angle change on Earth's magnetopause and boundary fluctuations: **K Hwang**, M L Goldstein, D G Sibeck

1340h **SM13B-1812** POSTER Magnetopause Position Under Different Conditions: **Z Nemecek**, K Jelinek, J Safrankova, S Dusik, G Granko

1340h **SM13B-1813** POSTER MAGNETOSPHERIC PERTURBATIONS RELATED TO IMF DISCONTINUITY PASSING THROUGH THE MAGNETOSHEATH: THEMIS AND GROUND-BASED OBSERVATIONS: **A V Dmitriev**, A V Suvorova

1340h **SM13B-1814** POSTER IMF Bz as Dominant Factor for the LLBL Formation: **O Tkachenko**, J Safrankova, Z Nemecek, S Dusik

1340h **SM13B-1815** POSTER Magnetic field structures on ion gyro-radius scale across the magnetopause: **Y Yao**, C C Chaston, K Glassmeier, V Angelopoulos

1340h **SM13B-1816** POSTER Revising theoretical predictions of the motion and direction of FTE's: **Y M Collado-Vega**, D G Sibeck

1340h **SM13B-1817** POSTER Relationship between energetic upstream ion and electron events observed by Wind spacecraft: **K Ogasawara**, M I Desai, G M Mason

1340h **SM13B-1818** POSTER Inductive Electric Fields in the Inner Magnetosphere during Geomagnetically Active Periods: **S Ohtani**, H Korth, K Keika, Y Zheng, P C Brandt, S B Mende

1340h **SM13B-1819** WITHDRAWN

SM13C Moscone South: 307 Monday 1340h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles II (*joint with AE, SA, SH*)

Presiding: **B J Fraser**; **E MacDonald**, Los Alamos National Laboratory

1340h **SM13C-01** Magnetospheric waves, particles, and spaceflight anomalies (*Invited*): **L J Lanzerotti**, J Lee, K Keika

1358h **SM13C-02** Loss Of Relativistic Electrons In The Inner Magnetosphere Via Wave Particle Interactions: **S G Kanekal**, J F Fennell, D N Baker, K K Davis

1412h **SM13C-03** Quantification of the Precipitation Loss of Radiation Belt Electrons Observed by SAMPEX (*Invited*): **W Tu**, X Li, R S Selesnick, M D Looper

1430h **SM13C-04** Comparison of the 3D VERB Code Simulations of the Dynamic Evolution of the Outer and Inner Radiation Belts With the Reanalysis Obtained from Observations on Multiple Spacecraft: **Y Shprits**, D Subbotin, B Ni, M Daae, D A Kondrashov, M Hartinger, K Kim, K Orlova, T Nagai, R H Friedel, Y Chen

1444h **SM13C-05** Simulation of Radiation Belt Wave-Particle Interactions Using MHD-SDE Methods: **A A Chan**, S R Elkington, J M Albert

1458h **SM13C-06** Diffusion-Advection Modeling of Quasilinear and Nonlinear Wave-Particle Interactions: **J M Albert**, J Bortnik, W Li, R M Thorne

1512h **SM13C-07** Non resonant scattering by equatorially confined magnetosonic waves: **J Bortnik**, R M Thorne

1526h **SM13C-08** Free Energy to Drive the Magnetosonic Instability at Geosynchronous Orbit: M F Thomsen, M H Denton, L Chen, **V K Jordanova**, R M Thorne

SM13D Moscone South: 305 Monday 1340h
Moon-Magnetosphere Interactions at Jupiter and Saturn II (*joint with P*)

Presiding: **S Simon**, Universitaet zu Koeln; **J Saur**, Univ. of Cologne

1340h **SM13D-01** Modulation of the jovian ring current and magnetodisc due to impulsive volcanic activity on Io: **C S Arridge**, N A Achilleos, P Guio

1355h **SM13D-02** Surface Irradiation of Jupiter's Moon Europa: **M Rubin**, V Tennishev, M R Combi, X Jia, K C Hansen, T I Gombosi

1410h **SM13D-03** What can we learn from the auroral footprints of the Jovian moons? (*Invited*): **B Bonfond**

1425h **SM13D-04** Discovery of the Enceladus Auroral Footprint. (*Invited*): **A M Rymer**, W R Pryor, Title of Team: CAPS, MIMI, UVIS and MAG science teams.

1440h **SM13D-05** Hybrid simulations of moon-magnetosphere interactions at Saturn (*Invited*): **H Kriegerl**

1455h **SM13D-06** Magnetic convection and diffusion within Titan's induced magnetosphere: the case of flybys T39 and T70 (*Invited*): **C Bertucci**, F M Neubauer, Y Ma, H Wei, M K Dougherty, J Wahlund, K Szego, F J Crary, D G Mitchell

1510h **SM13D-07** Fossil magnetic fields due to Titan's plasma interaction revisited: The role of the electric conductivities in the ionosphere and in Titan's interior: **F M Neubauer**, A Hoerdt, A Wennmacher, S Simon, C Bertucci, M K Dougherty

1525h **SM13D-08** Titan's Thermospheric Response to Various Plasma Environments: **J H Westlake**, J M Bell, B A Magee, K Mandt, J H Waite

Study of Earth's Deep Interior

DI13A Moscone South: Poster Hall Monday 1340h **Seismic Anisotropy in the Mantle: Progress, Prospects, and Pitfalls I Posters** (joint with MR, S)

Presiding: **S Merkel**, CNRS - Universite Lille 1; **T W Becker**, USC; **C Beghein**, UCLA

1340h **DI13A-1841** POSTER Seismic Anisotropy Beneath California: Constraints from Rayleigh Wave Tomography: **J Seavey**, D W Forsyth, C J Rau

1340h **DI13A-1842** POSTER Observations of Surface Wave Azimuthal Anisotropy in Southern California by Direct Application of the Beamforming Method: **C R Alvizuri**, T Tanimoto

1340h **DI13A-1843** POSTER Shear wave splitting beneath the Bighorn Mountains, Wyoming: Analyzing the need for models of complex anisotropy: **M A Solomon**, D Schutt

1340h **DI13A-1844** POSTER Seismological Detection of Azimuthal Anisotropy in the Transition Zone: **K Yuan**, C Beghein

1340h **DI13A-1845** POSTER Coupled-Mode Waveform Tomography: Imaging Upper Mantle Isotropic and Anisotropic Structure: **D M Rieger**, J J Park

1340h **DI13A-1846** POSTER Nonlinear inversion for arbitrarily-oriented anisotropic models: Synthetic testing: **P M Bremner**, M P Panning

1340h **DI13A-1847** POSTER Waveform modeling of short-scale shear-wave splitting variations across the Dead Sea basin: **A Kaviani**, G Rumpker

1340h **DI13A-1848** POSTER Shear Wave Splitting, Crustal Anisotropy, and Patterns of Mantle(?) Deformation: **M J Fouch**, D A Okaya, R Arrowsmith

1340h **DI13A-1849** POSTER East Antarctic Seismic Anisotropy from Shear-wave Splitting Analysis of AGAP Seismograms: **S Hernandez**, D A Wiens, A Nyblade

1340h **DI13A-1850** POSTER Complex deformation beneath Sulawesi from local and teleseismic shear-wave splitting observations: **J F Di Leo**, J Wookey, J O Hammond, J M Kendall

1340h **DI13A-1851** POSTER Modeling shear wave splitting observations from Iceland: **Y V Fu**, A Li, G Ito, S Hung

1340h **DI13A-1852** POSTER Upper and mid-mantle anisotropy beneath the Tonga slab: **M D Long**, **B J Foley**

1340h **DI13A-1853** POSTER Seismic anisotropy beneath the Japan subduction zone from teleseismic receiver functions: **E A Wirth**, M D Long

1340h **DI13A-1854** POSTER Low Poisson Ratios in Subduction Zones: **B R Hacker**, G A Abers

1340h **DI13A-1855** POSTER ANISOTROPY AND ATTENUATION IN A RETREATING SUBDUCTION ZONE: SOUTHERN ITALY: **P Baccheschi**, L Margheriti, M S Steckler, P De Gori, E Boschi

1340h **DI13A-1856** POSTER Is the stagnant slab of the Pacific plate seismically anisotropic?: **Y Tono**, Y Fukao, Y Gao, S Tsuboi

1340h **DI13A-1857** POSTER Seismic anisotropy around subduction zones caused by small-scale convection in the mantle wedge and the density anomaly in the slab mantle: **M Morishige**, S Honda

1340h **DI13A-1858** POSTER Fabric anisotropies and seismic properties within peridotites in mantle wedge regions along the northwestern pacific margin: **K Michibayashi**

1340h **DI13A-1859** POSTER The effect of aluminum and water on the development of orthopyroxene fabrics: **N Miyajima**, **G M Manthilake**, F Heidelbach, D J Frost

1340h **DI13A-1860** POSTER Forsterite to Wadsleyite Phase Transformation Under Stress: Evidence of Texture Variations Correlated to Water Content: **S Demouchy**, D Mainprice, A Tommasi, H Couvy, D J Frost, P Cordier

1340h **DI13A-1861** POSTER Plastic Deformation of Wadsleyite and Seismic Anisotropy in the Mantle Transition Zone: **T Kawazoe**, T Ohuchi, Y Nishihara, N Nishiyama, T Irifune

1340h **DI13A-1862** POSTER A new method for the experimental study of dislocations in high pressure minerals: **S Merkel**, C Nisr, G Ribarik, T Ungár, G Vaughan, P Cordier

1340h **DI13A-1863** POSTER Deformation of MgSiO₃ Post-Perovskite and D" Anisotropy: **L M Miyagi**, W Kanitpanyacharoen, P M Kaercher, K K Lee, H Wenk

Mineral and Rock Physics

MR13A Moscone South: Poster Hall Monday 1340h **Deep Mantle Properties I Posters** (joint with DI, S, T)

Presiding: **R M Wentzcovitch**, Univ Minnesota; **K Hirose**, Tokyo Tech; **D A Yuen**, University of Minnesota; **T Lay**, Univ. California Santa Cruz

1340h **MR13A-1893** POSTER Micro-XANES measurements of ferroperricite inclusions in diamonds from the lower mantle: **S Odake**, H Ishibashi, B Harte, H Kagi

1340h **MR13A-1894** POSTER Mg-ferrite precipitates in magnesiowüstite inclusions in diamond from superdeep origin: extraordinary nonstoichiometry of a deep mantle Mg-wüstite: **R Wirth**, L Dobrzhinetskaya, B Harte, H W Green

1340h **MR13A-1895** POSTER High-pressure Raman spectroscopic study of magnetite Fe₃O₄: **A Kyono**, M Ahart, T Yamanaka, B Mysen, H Mao, R J Hemley

1340h **MR13A-1896** POSTER Compositional effects on the vibrational properties of (Mg,Fe)O: **W Steinhardt**, J M Jackson, J K Wicks, W Sturhahn

1340h **MR13A-1897** POSTER Electrical conductivities of deep mantle materials: **K Ohta**, K Hirose, K Shimizu, Y Ohishi

1340h **MR13A-1898** POSTER Measuring thermal conductivity of materials under high temperature-pressure conditions in a laser heated diamond anvil cell: **R Hrubiak**, S Saxena, A Durygin

1340h **MR13A-1899** POSTER Thermal Conductivity Measurements of Periclase (MgO) at High Pressure and Temperature using Time Domain Thermoreflectance: **D A Dalton**, A F Goncharov, W Hsieh, D Cahill

1340h **MR13A-1900** POSTER Thermal Conductivity of Argon at High Pressures and High Temperatures: **M L Wong**, A F Goncharov, D A Dalton, J Ojwang, V Struzhkin, Z Konopkova, P Lazor

1340h **MR13A-1901** POSTER Cubic silicon carbide and boron nitride as possible primary pressure calibrants for high pressure and temperature scale: **K K Zhuravlev**, A F Goncharov, S N Tkachev, V Prakapenka

1340h **MR13A-1902** POSTER Influence of electronic structure on diffusion of Mn, Co, Ni, and Fe in periclase: **K L Crispin**, J A Van Orman

1340h **MR13A-1903** POSTER Pressure induced spin transition and its effects on diffusion of Fe²⁺ in ferroperricite: **S Saha**, **D Morgan**, A K Bengtson, J A Van Orman, K L Crispin

1340h **MR13A-1904** POSTER Grain-growth kinetics of ferroperricite up to 25 GPa: Implications for deformation mechanism in the Earth's lower mantle: **N Tsujino**, Y Nishihara

1340h **MR13A-1905** POSTER Elastic anomalies and acoustic dissipation associated with spin state transitions in LnCoO_3 ($\text{Ln}=\text{La}$, Nd , Gd) and Co_3O_4 : analogue behaviour for spin state transitions in minerals: **Z Zhang**, M A Carpenter, J Koppensteiner, W Schranz
 1340h **MR13A-1906** POSTER Toward Quantitative, High-Shear Strain Deformation Experiments at Lower Mantle Conditions: L Slivka, **L M Miyagi**, G Amulele, K Otsuka, Z Du, S Karato
 1340h **MR13A-1907** POSTER Anelasticity and Transient Creep in NaMgF_3 Perovskite at High Pressure: **D J Weidner**, L Li, M T Vaughan, L Wang

1340h **MR13A-1908** POSTER DDIA-30: a Versatile Megabar Mutli-anvil Device for in-situ High Pressure Studies with White and Monochromatic Synchrotron Radiation: **Y Wang**, Z Jing, N Hilairret, T Yu, N Nishiyama, Y Tange, T Sakamaki, M L Rivers, S R Sutton
 1340h **MR13A-1909** POSTER Development of a double-stage DDIA apparatus and its application to in-situ melting experiments at high pressures: **Z Jing**, Y Wang, Y Tange, N Hilairret, T Yu, T Sakamaki
 1340h **MR13A-1910** POSTER Very low sound velocities in iron-rich $(\text{Mg,Fe})\text{O}$: Implications for the core-mantle boundary region: J K Wicks, **J M Jackson**, W Sturhahn

1340h **MR13A-1911** POSTER Sound Velocities and Density of $(\text{Mg}_{0.65}\text{Fe}_{0.35})\text{O}$ ferropericlasite up to 1.4 Mbar: **B Chen**, J M Jackson, W Sturhahn, D Zhang, J Zhao, C A Murphy, J K Wicks

1340h **MR13A-1912** POSTER Electronic Spin and Valence States of Iron in Lower-Mantle Perovskite and Post-Perovskite: J Liu, J Lin, **Z Mao**

1340h **MR13A-1913** POSTER Thermal Equation of State of $(\text{Mg,Fe})\text{SiO}_3$ Perovskite in a Ne Pressure Medium: **A S Wolf**, J M Jackson, P K Dera, V Prakapenka

1340h **MR13A-1914** POSTER Seismic detection of post-perovskite at the core-mantle boundary: **L J Cobden**, I Mosca, J Trampert, J E Ritsema, L P Stixrude

1340h **MR13A-1915** POSTER Equations of state for perovskite and ferropericlasite based on the consistent pressure scales and the lower mantle density model: **T Komabayashi**

1340h **MR13A-1916** POSTER High-temperature compression of iron-bearing silicate perovskite and the density model of the lower mantle: **A Sasaki**, T Komabayashi, K Hirose, Y Ohishi

1340h **MR13A-1917** POSTER High-pressure stability relations of the NAL and Ca-ferrite-type phases on the join $\text{NaAlSi}_3\text{O}_8\text{-MgAl}_2\text{O}_4$: **S Imada**, K Hirose, Y Ohishi

1340h **MR13A-1918** POSTER Compression of MgSiO_3 and $(\text{Mg,Fe})\text{SiO}_3$ perovskites based on the pressure generation technique using sintered diamond anvils in a Kawai-type apparatus: **D Yamazaki**, E Ito, T Yoshino, A Shimojuku, A Yoneda, S Shan, X Guo, Y Higo, K Funakoshi

1340h **MR13A-1919** POSTER Elastic Constants of Single Crystal Stishovite Determined by High Frequency Resonant Ultrasound Spectroscopy (HRUS): **A Yoneda**, T Cooray, A Shatskiy, H Sohag

MR13B Moscone West: 3024 Monday 1340h
Stability, Elasticity, and Rheology of Hydrous Phases: Geodynamical Implications I (joint with S, DI, T, V)

Presiding: **B Reynard**, CNRS; **M Mookherjee**, Bayerisches Geoinstitut; **I Katayama**, Hiroshima Univ

1340h **MR13B-01** Metamorphic Petrology Meets Rock Mechanics: Solution-Transfer Creep and Reaction Weakening of Serpentine Sheared Against Crustal Rocks (*Invited*): **D E Moore**, D A Lockner

1355h **MR13B-02** Drastic change in the rheology of serpentine-bearing faults induced by dehydration: **M Takahashi**, S Uehara, K Mizoguchi, K Masuda

1410h **MR13B-03** Mechanical strength of serpentinites: lizardite is weaker than antigorite: **E Amiguet**, B Reynard, B Van De Moortele, N Hilairret, Y Wang

1425h **MR13B-04** Rheological contrast between serpentines and olivine and weakening of a subducting plate interface: **K Hirauchi**, I Katayama

1440h **MR13B-05** Rheology of hydrous phases in subduction zone settings (*Invited*): **G Hirth**

1455h **MR13B-06** HIGH-PRESSURE ELASTICITY OF ANTIGORITE AND SEISMOLOGICAL IMAGING OF MANTLE HYDRATION: **B Reynard**, L Bezacier, J D Bass

1510h **MR13B-07** Kinetics and mechanism of dehydration of antigorite, talc and 10\AA phase: consequences for subduction zone seismicity: **I Daniel**, M Chollet, K T Koga, G Morard, B Van De Moortele

1525h **MR13B-08** Deformation mechanisms in Phase D to 45 GPa and implications for the seismic anisotropy in deep subducted slabs: **A D Rosa**, C Sanchez-Valle, C Nisr, C Bollinger, S Evans, S Merkel

Seismology

S13A Moscone South: Poster Hall Monday 1340h
Crust and Mantle Seismic Structure I Posters

Presiding: **M E Celnick**, Boston University

1340h **S13A-1957** POSTER The role of geological structure in crustal seismic anisotropy: identification and quantification of "structural anisotropy": **D A Okaya**, S E Johnson, S Vel

1340h **S13A-1958** POSTER Island-wide crustal seismic anisotropy observed beneath BATS and TAIGER broadband stations in Taiwan: **P Hsing**, W Liang, E T Chang

1340h **S13A-1959** POSTER Lateral variation of shallow S-wave velocity structure in south Taiwan revealed from Rayleigh wave analysis for TAIGER explosion: **Y Lai**, B Huang, H Yen, D A Okaya, C Wang, F T Wu

1340h **S13A-1960** POSTER STUDY OF GROUND MOTION POLARIZATION IN FAULT ZONES: A RELATION WITH BRITTLE DEFORMATION FIELDS?: **M Pischiutta**, A Rovelli, J B Fletcher, F Salvini, Y Ben-Zion

1340h **S13A-1961** POSTER Crustal Velocity Structure of the Southern Nechako Basin, British Columbia, from Wide-angle Seismic Traveltime Inversion: **A L Stephenson**, G Spence, K Wang, J A Hole, K C Miller, R M Clowes, S H Harder, G M Kaip, Title of Team: BATHOLITHSONLAND 2009

1340h **S13A-1962** POSTER Crustal velocity structure along the Ganghwa-Yeongdeok seismic refraction survey line in South Korea: **M Choi**, C Baag, J M Lee, K Kim, H Jung

1340h **S13A-1963** POSTER The shallow P-velocity structure of the southern Dead Sea basin derived from near-vertical incidence reflection seismic data in project DESIRE: T Ryberg, **M Paschke**, M Stiller, M H Weber, Title of Team: DESIRE Group

1340h **S13A-1964** POSTER Subduction-to-Strike-Slip-Transition in the Southeastern Caribbean Imaged Using Deeply-Penetrating Seismic Reflection Lines and Tomography: **T Alvarez**, C A Vargas, P Mann, J Latchman

1340h **S13A-1965** POSTER A new model of crustal structure of Siberia: **Y Cherepanova**, I M Artemieva, H Thybo

1340h **S13A-1966** POSTER Shallow seismic structure of Mexico and vicinity from ambient noise tomography: **B Gaité**, A Villasenor, M Herraiz, A Iglesias, J F Pacheco

1340h **S13A-1967** WITHDRAWN

1340h **S13A-1968** *POSTER* Moho-reflected shear wave from seismic noise correlations in southern Korea: **J Shin**, H Cho

1340h **S13A-1969** *POSTER* Investigating Body Wave Energy in Ambient Seismic Noise: **M L Pyle**, K Koper

1340h **S13A-1970** *POSTER* Imaging Turkey's Crust with Receiver Functions and Ambient Noise: Y Cubuk, **E A Vanacore**, E Saygin, T Taymaz

1340h **S13A-1971** *POSTER* Tomographic images and focal mechanisms beneath the Tatun volcano group, northern Taiwan: **H Pu**, C Lin, T Chang, K Konstantinou, K Wen

1340h **S13A-1972** *POSTER* Teleseismic waveform analysis of deep-focus earthquake for the preliminary estimation of crustal structure of the northern part of Korea: **H Cho**, J Shin

1340h **S13A-1973** *POSTER* The Observability of Multiply Reflected P Wave: **M Foundotos**, G Nolet

1340h **S13A-1974** *POSTER* Defining the Moho boundary using earthquake PmP reflections in order to investigate arc-continent collisional deformation within Taiwan: **T Thomas**, D A Okaya, C Wang

1340h **S13A-1975** *POSTER* Receiver Function From Deep Borehole Seismograms: **H Takenaka**, T Murakoshi

1340h **S13A-1976** *POSTER* Crustal Structure and Composition of the Congo Craton by P-wave Receiver Function Analysis: I K Mulamba, R J Durrheim, **A A Nyblade**, J Julia, Title of Team: The AfricaArray Team

1340h **S13A-1977** *POSTER* Shear wave velocity structure of the Bushveld Complex, South Africa: E M Kgaswane, **A Nyblade**, P Dirks, R J Durrheim

1340h **S13A-1978** *POSTER* The seismic properties of cratonic mantle xenoliths: **M E Celnick**, C A Dalton, U Faul

1340h **S13A-1979** *POSTER* Receiver function structure beneath a broad-band seismic station in south Sumatra: **K A Macpherson**, D Hidayat, S Goh

1340h **S13A-1980** *POSTER* Crustal thickness and Vp/Vs ratio estimation under a broad band station on Kenai Peninsula using Receiver Functions: **O M Romero**, D I Doser

1340h **S13A-1981** *POSTER* Crustal Velocity Structure under Singapore Inferred from Receiver Functions Study: **M Y Walling**, K A Macpherson, D Hidayat, K Megawati

1340h **S13A-1982** *POSTER* Crust and mantle structure of Ascension Island from receiver function analysis: **S Nippres**, A Lodge

1340h **S13A-1983** *POSTER* Structural Attributes of the Cascadia Subduction Zone from Receiver Function Waveform Inversion: **R Hansen**, M G Bostock

1340h **S13A-1984** *POSTER* Receiver Function Imaging of Dipping Structures – Technique and Applications: **H Liu**, F Niu

1340h **S13A-1985** *POSTER* New Insights on Lithospheric Structure beneath Isparta Angle and the Surroundings from Rayleigh Wave Phase Velocity Inversions: **U M Teoman**, M Kahraman, N Turkelli, E Sandvol, S Sahin

1340h **S13A-1986** *POSTER* A Joint Rayleigh and Love Wave Analysis for the Hawaiian PLUME Project: **K A Anarde**, G Laske

S13B Moscone South: Poster Hall Monday 1340h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves I Posters (*joint with G, NH, NS, T, V*)

Presiding: **F Brenguier**, Institut de Physique du Globe de Paris;
E F Larose, LGIT - CNRS; **U Wegler**, BGR

1340h **S13B-1987** *POSTER* Discriminating Between Spatial and Temporal Variations in Anisotropy at Mount Ruapehu Volcano, New Zealand: **J H Johnson**, M K Savage, J Townend, B S Keats

1340h **S13B-1988** *POSTER* Evidence for Temporally Varying Shallow Magmatic Structure at Erebus Volcano from Correlations of Repeating Strombolian Eruption Coda: **R C Aster**, J A Chaput, P R Kyle, H A Knox

1340h **S13B-1989** *POSTER* Characterizing and comparing seismicity at Cascade Range (USA) volcanoes: **S C Moran**, W A Thelen

1340h **S13B-1990** *POSTER* Repeating earthquakes and prospecting for temporal change in rock properties associated with geodetic deformation at Kilauea Volcano, Hawaii: **E D Montgomery-Brown**, C H Thurber, E M Syracuse, C J Wolfe, P Okubo, M P Poland, A Miklius

1340h **S13B-1991** *POSTER* Ambient noise recovery of surface wave Green's functions: Application at Hawaiian volcanoes: **S Ballmer**, C J Wolfe, P Okubo, M M Haney, C H Thurber

1340h **S13B-1992** *POSTER* Seismic noise analysis at Kusatsu-Shirane volcano, Japan: **T Yamawaki**

1340h **S13B-1993** *POSTER* Understanding the dynamics of a geyser from temporal monitoring of seismic source: **E C Cros**, P Roux, J Vandemeulebrouck, S Kedar

1340h **S13B-1994** *POSTER* Monitoring the West Bohemian Earthquake Swarm in 2008/2009 by a Small Aperture Seismic Array: **S Hiemer**, D Roessler, F Scherbaum

1340h **S13B-1995** *POSTER* CRUSTAL FRACTURING FIELD AND PRESENCE OF FLUID AS REVEALED BY SEISMIC ANISOTROPY: **M Pastori**, D Piccinini, P De Gori, L Margheriti, M R Barchi, D Di Bucci

1340h **S13B-1996** *POSTER* Passive monitoring of anisotropy change for the Parkfield 2004 earthquake: **S Durand**, J Montagner, P Roux, F Brenguier, S Saumet, P Cupillard, G Burgos

1340h **S13B-1997** *POSTER* Evaluating the temporal stability of coda Q in southern California using similar event clusters: **L E Sumiejski**, P M Shearer

1340h **S13B-1998** *POSTER* Using repeating earthquakes to determine temporal medium changes: theory and an example: **H Long**

1340h **S13B-1999** *POSTER* CHANGES IN SEISMICITY AND STRESS IN RESPONSE TO FLUID INJECTION, PARADOX VALLEY, COLORADO: **R P Denlinger**, E A Roeloffs, D R O'Connell

1340h **S13B-2000** *POSTER* Evolving characteristics of seismicity induced by long-term fluid injection at Paradox Valley, Colorado: L V Block, **C Wood**

1340h **S13B-2001** WITHDRAWN

1340h **S13B-2002** *POSTER* Temporal Changes in Seismic Velocity at the Longman-Shan Fault Ruptured in the 2008 M8 Wenchuan Earthquake and Their Implications: J Su, **Y Li**, T Chen

1340h **S13B-2003** *POSTER* Temporal changes of seismic velocity near the epicenter of the Wenchuan earthquake from ambient noise correlation: **Z Liu**, J Huang

1340h **S13B-2004** *POSTER* Distribution of similar earthquakes in aftershocks of inland earthquakes: **M Hayashi**, Y Hiramatsu, G The aftershock observations of the 2007 Noto Hanto

1340h **S13B-2005** *POSTER* Seismic Noise Auto-Correlation Function Changes Correlate with the Crustal Deformation for off-Izu Seismic Swarms: **T UENO**, T Saito, K Shiomi, B Enescu, H Hirose

1340h **S13B-2006** POSTER Monitoring of the Micro-seismic Activity along the Salt Lake Fault Zone: Central Anatolia: **D KALAFAT**, Title of Team: Kivaç KEKOVALI, Zafer ÖĞÜTCÜ, Yavuz GÜNEŞ, Mehmet YILMAZER, Mehmet KARA, Ethem GÖRGÜN, Mustafa ÇOMOĞLU, Selda A.POYRAZ, Pinar DENİZ, M.Feyza ÖCAL, Didem SOMUT, Kadriye KILIÇ, Aysegül KÜSMEZER, Murat SUVARIKLI, Muzaffer GÜL, Özkan ÇOK

1340h **S13B-2007** POSTER Dynamic triggering of low magnitude earthquakes in the Middle American Subduction Zone: **C R Escudero**, A A Velasco

1340h **S13B-2008** POSTER Seismic Noise Correlation and Group Velocity study of Cameroon, West Africa: **D Zandomeneghi**, M Guidarelli, A Aoudia, I J Hamling

1340h **S13B-2009** POSTER Temporal variations of Seismic Velocities after the 2006 Mw6.1 Taitung Earthquake in Taiwan: **T Yu**, S Hung

1340h **S13B-2010** POSTER Locating a small change in a multiple scattering environment: T Planès, V Rossetto, **L Margerin**, E F Larose

1340h **S13B-2011** POSTER Temporal changes in Q value of a fracturing rock sample under triaxial conditions: **N Yoshimitsu**, H Kawakata, N Takahashi

1340h **S13B-2012** POSTER Numerical analysis of wave-induced fluid flow effects related to mesoscopic heterogeneities for realistic models of porous media: **J G Rubino**, K Holliger

1340h **S13B-2013** POSTER Temporal Variations of Seismic Coda: Attenuation-Coefficient View: **I B Morozov**

1340h **S13B-2014** POSTER A Scale Model for CO₂ Sequestration: **A E Malcolm**, J Wilson, C Herhold, N Consul, B Joseph, E Davidson, C Harvey

1340h **S13B-2015** POSTER Short-core acoustic resonant bar test and x-ray CT imaging on sandstone samples during super-critical CO₂ flooding and dissolution: **S Nakagawa**, T J Kneafsey, T M Daley, B M Freifeld

1340h **S13B-2016** POSTER OBSERVING AND MODELING SEISMIC NOISE VARIATIONS: **E Stutzmann**, M Schimmel, F Ardhuin, A Mangeney

1340h **S13B-2017** POSTER Modeling microseism generation off Southern California with a numerical wave model: Coastal wave reflection and open ocean interactions: **N Graham**, R W Clayton, S Kedar, F Webb, C E Jones

S13C Moscone South: Poster Hall Monday 1340h
Seismic Networks and Instrumentation Posters

Presiding: **J F Clinton**, Swiss Seismological Service; **L S Gee**, USGS

1340h **S13C-2018** POSTER Caltech/USGS Southern California Seismic Network: Recent Developments: **R Bhadha**, S Chen, J Crummey, E Hauksson, K Solanki, V I Thomas, M Watkins, R Yip, E Yu, D Given, R Peats, S Schwarz

1340h **S13C-2019** POSTER Modernization of the Caltech/USGS Southern California Seismic Network - Progress Report: **V I Thomas**, N N/a, J Crummey, A Devora, E Hauksson, D Johnson, M Watkins, R Yip, E Yu, G Cone, W Curtis, I Flores, D D Given, C Koesterer, S Lydeen, D Sutton

1340h **S13C-2020** POSTER Products and Services Available from the Southern California Earthquake Data Center (SCEDC) and the Southern California Seismic Network (SCSN): E Yu, A Bhaskaran, **S Chen**, F R Chowdhury, S Meisenhelter, K Hutton, D Given, E Hauksson, R W Clayton

1340h **S13C-2021** POSTER The SCEDC Seismic Station Information System software: Database for Populating, Archiving, and Distributing Seismic Station Metadata: **F R Chowdhury**, E Yu, E Hauksson, D Given, V I Thomas, R W Clayton

1340h **S13C-2022** POSTER EMERALD: A Flexible Framework for Managing Seismic Data: **J D West**, M J Fouch, R Arrowsmith

1340h **S13C-2023** POSTER New data products available at the IRIS DMC: **C M Trabant**, M Bahavar, A Hutko, R Karstens

1340h **S13C-2024** POSTER Status report on the USGS component of the Global Seismographic Network: **L S Gee**, H F Bolton, J Derr, D Ford, G Gyure, C R Hutt, A Ringler, T Storm, D Wilson

1340h **S13C-2025** POSTER The GSN Data Quality Initiative: **J P Davis**, K R Anderson, L S Gee

1340h **S13C-2026** POSTER Estimating Pole/Zero Errors in GSN-IU Network Calibration Metadata: **A T Ringler**, C R Hutt, H F Bolton, T Storm, L S Gee

1340h **S13C-2027** POSTER GEOSCOPE Observatory Recent Developments: **N Leroy**, C Pardo, S Bonaime, E Stutzmann, A Maggi

1340h **S13C-2028** POSTER Concordia CCD - A Geoscope station in continental Antarctica: **A Maggi**, J Lévêque, J Thoré, M Bes de Berc, A Bernard, S Danesi, A Morelli, A Delladio, D Sorrentino, E Stutzmann, Title of Team: The GEOSCOPE team

1340h **S13C-2029** POSTER Characterization Of Station Quality From The CHILE RAMP Deployment - Direct Burial Sensor Installation And Its Data: **E Y Arias**, B C Beaudoin, N Barstow, G Slad

1340h **S13C-2030** POSTER AcquiControl: Seismic Data Logger Control via iPhone: **S Golden**, B Horkley

1340h **S13C-2031** POSTER The PBO borehole seismometer network: W Johnson, **O Fox**, D Mencin, W Gallaher, M H Gottlieb, K M Hodgkinson, C Pyatt, E Van Boskirk, M E Jackson

1340h **S13C-2032** POSTER Update on the Center for Engineering Strong Motion Data: **H R Haddadi**, A F Shakal, C D Stephens, D H Oppenheimer, M Huang, W S Leith, J G Parrish, W U Savage

1340h **S13C-2033** POSTER A high and low noise model for strong motion accelerometers: **J F Clinton**, C Cauzzi, M Olivieri

1340h **S13C-2034** POSTER Digitization Procedures of Analogue Seismograms from the Adam Dziejowski Observatory (HRV) at Harvard, MA: **M Torpey**, M Ishii

1340h **S13C-2035** POSTER Real-time seismic observation using new compact ocean bottom cabled system in Japan Sea: **M Shinohara**, T Kanazawa, T Yamada, S Sakai, H Shiobara, K Mochizuki, Y Machida, T Shinbo, K Nakahigashi, H Utada, K Yamazaki

1340h **S13C-2036** POSTER A trawl-resistant ocean bottom seismometer: **A H Barclay**, D Gassier, S C Webb, T Koczyński, V Oletu, J B Gaherty, M Tolstoy

1340h **S13C-2037** POSTER Shielding sensors to reduce the noise floor on Ocean Bottom Seismometers (OBS): **S C Webb**, A Barclay

1340h **S13C-2038** POSTER BBOBS-NX : broadband ocean bottom seismometer of the next generation: **H Shiobara**, T Kanazawa, M Shinohara, T Isse, H Sugioka, A Ito

1340h **S13C-2039** POSTER New data logger for improving operation efficiency in ocean-bottom seismic observation: **S Suzuki**, Y Ito, R Hino, K Saito, S Hasegawa, K Nissato, M Sakanushi

S13D Moscone West: 2009 Monday 1340h
Toward Elucidating the Physics of Fault Tremor and Slow Slip III (joint with G, H, MR, T)

Presiding: **M R Brudzinski**, Miami University; **A M Rubin**, Princeton University

1340h **S13D-01** Slow-Slip Scaling Laws Inferred from Cascadia Tremor Swarms: **K C Creager**, A Wech, J E Vidale

1355h **S13D-02** Integrating observations from the lower stability transition of the seismogenic zone (*Invited*): **M R Brudzinski**

1410h **S13D-03** Migration Patterns and Scaling Laws of Slow Slip and Tremor Resulting From the Collective Behavior of Fault Asperities Mediated by Transient Creep (*Invited*): **J P Ampuero**

1425h **S13D-04** Designer friction laws for bimodal slow slip propagation speeds: **A M Rubin**

1440h **S13D-05** Numerical Simulation of Slow Slip and Dynamic Rupture in the Cascadia Subduction Zone: **P Segall**, A M Bradley

1455h **S13D-06** Slow Slip Earthquakes Controlled by Solitary Porosity Waves: **S A Miller**, Y Y Podladchikov

1510h **S13D-07** Episodic Tremor and Slip on a Frictional Interface with Critical Zero Weakening in Elastic Solid: **Y Ben-Zion**

1525h **S13D-08** Modeling Activity of Very-Low-Frequency Earthquakes in Shallow Subduction Zone Considering Splay Faults and High Pore Pressure Zones: **B Shibazaki**, Y Ito, K Ujiie

Tectonophysics

T13A Moscone South: Poster Hall Monday 1340h
From Sediment Inputs to Seismogenesis at Subduction Zones I Posters (joint with S, V, G, NH)

Presiding: **M Strasser**, MARUM, University of Bremen; **M Underwood**, University of Missouri

1340h **T13A-2140 POSTER** Results of NanTroSEIZE Expeditions Stages 1 & 2: Deep-sea Coring Operations on-board the Deep-sea Drilling Vessel Chikyu and Development of Coring Equipment for Stage 3: **Y Shinmoto**, K Wada, E Miyazaki, Y Sanada, I Sawada, M Yamao

1340h **T13A-2141 POSTER** Regional distribution and sedimentation history of the incoming sediments in the Nankai Trough: **M Higashi**

1340h **T13A-2142 POSTER** Abrupt change in the rate of hemipelagic sedimentation at the Late Miocene (~11 Ma) in the Shikoku Basin: implications for the tectonic history of the southwestern Japan: **H Naruse**, K T Pickering, R P Scudder, S Kutterolf, S Labanieh, H Wu, H Oda, X Zhao, S Chiyonobu, P Govil, T Nakajima, M Underwood, S Saito, Y Kubo, K Kameo, I Shipboard Scientific Party

1340h **T13A-2143 POSTER** Luminescence dating of gravity deposits on Site C0006 and C0007 of IODP Exp.316 and its implications for large earthquake recurrences in Nankai Trough, Japan: **T Jiang**, S Li, C Li, X Xie, B Li, J Ren

1340h **T13A-2144 POSTER** Paleomagnetism and rockmagnetism of basement basaltic rocks from Kashinosaki Knoll, Shikoku Basin: IODP NanTroSEIZE drilling Site C0012: **H Oda**, X Zhao, T Yamamoto, Y Yamamoto, Y Yamamoto, W Lin, O Ishizuka, M Underwood, S Saito, Y Kubo, I Shipboard Scientific Party

1340h **T13A-2145 POSTER** New Magnetostratigraphic Results From Sedimentary Rocks of IODP's Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) Expedition 322: **X Zhao**, H Oda, H Wu, Y Yamamoto, Y Yamamoto, M Underwood, S Saito, Y Kubo, Title of Team: IODP Expedition 322 Shipboard Scientific Party

1340h **T13A-2146 POSTER** Reconstruction of Volcanic History from Volcanic and Volcaniclastic Rocks in Subducting Shikoku Basin: Results from IODP Expedition 322: **S Saito**, H Naruse, H Oda, T Nakajima, H Sato, O Ishizuka, A Yamaguchi, J Kameda, H Shinjoe, K Tani, S Kutterolf, S Labanieh, Y Kubo, M Underwood, Title of Team: IODP Expedition 322 Scientists

1340h **T13A-2147 POSTER** Regional distribution of volcaniclastic layer and its implication for segmentation of the Nankai seismogenic zone: **T Sasaki**, J Lim, M Higashi, J Park

1340h **T13A-2148 POSTER** A Geochemical and Lithologic Interpretation of Volcanic Ash and Sedimentary Inputs to the Nankai Trough, IODP Expedition 322: **R P Scudder**, R W Murray, S Kutterolf, S Labanieh, H Naruse, K T Pickering, H Wu, M B Underwood, S Saito, Y Kubo, Title of Team: IODP Exp. 322 Shipboard Scientific Party

1340h **T13A-2149 POSTER** OCCURRENCE AND HYDRATION STATE OF SMECTITE MINERALS IN HOLE C0009 OF THE NanTroSEIZE PROJECT (EXPEDITION 319): **A M Schleicher**, B A van der Pluijm, Title of Team: Expedition 319 Scientists

1340h **T13A-2150 POSTER** Coseismic dehydration from illite-rich faults and its implications on the slip-weakening, frictional heating, and earthquake energetics: **T Hirono**, W Tanikawa

1340h **T13A-2151 POSTER** Preliminary results of three-dimensional stress orientation in the accretionary prism in Nankai Subduction Zone, Japan by anelastic strain recovery measurements of core samples retrieved from IODP NanTroSEIZE Site C0009: **W Lin**, T B Byrne, Y Yamamoto, Y Yamamoto

1340h **T13A-2152 POSTER** Deformation partitioning in the Nankai accretionary prism sediments: **M Stipp**, M Rolfes, Y Kitamura, J H Behrmann

1340h **T13A-2153 POSTER** What controls the polarity change of decollement reflection along the Nankai Trough?: **J Lim**, T Sasaki, M Higashi, J Park

1340h **T13A-2154 POSTER** Getting Positive About Negative Polarity: Fault Zone Architecture Inferred From Forward Modeling of Megasplay Fault Zone Seismic Reflections, Nankai Trough Accretionary Prism: **C M Streiff**, H Tobin, J D Kington

1340h **T13A-2155 POSTER** Relative permeability estimates from differences in LWD resistivity measurements in NanTroSEIZE boreholes, Offshore Japan: **K M Martin**, S P Gulick, P B Flemings

1340h **T13A-2156 POSTER** The Impact of Accretionary Prism Heterogeneity on Seafloor Displacement during Large Subduction Zone Earthquakes: **E Screaton**, S Ge, R Regueiro

1340h **T13A-2157 POSTER** Excess pore pressure and fluid flow within the NanTroSEIZE transect offshore the Kii Peninsula, Japan: **K T Rowe**, E Screaton

1340h **T13A-2158 POSTER** Pore pressure evolution at the plate interface along the Cascadia subduction zone from the trench to the ETS transition zone: **R M Skarbak**, A W Rempel, D A Schmidt

1340h **T13A-2159 POSTER** Fault interaction in the Kumano forearc basin, Nankai Trough, Japan: **A H Barnes**, G F Moore, B Boston, J Barnes

1340h **T13A-2160 POSTER** Normal fault orientations in the Kumano forearc basin, Nankai Trough, from coherency data and automatic fault extraction: **G F Moore**, B Boston, J Barnes, A H Barnes, Y N Kido

1340h **T13A-2161** POSTER Extension axes in the Kumano forearc basin from inversion of fault populations mapped in a 3D seismic volume, Nankai Trough, SE Japan: **A Sacks**, D M Saffer, D M Fisher

1340h **T13A-2162** POSTER Particle size distribution in micro-shear bands from NanTroSEIZE drilling of the Nankai accretionary prism, Japan: **C M Browne**, N W Hayman, K Milliken, R Reed, Title of Team: Expedition 319 Scientific Party

1340h **T13A-2163** POSTER P and S wave velocity measurements on sediments from the hanging-wall of megasplay fault, NanTroSEIZE Stage 1: **Y Hashimoto**, H J Tobin, M W Knuth

1340h **T13A-2164** POSTER Preliminary results of high resolution subbottom survey and surface sediment sampling by ROV "NSS" in the Nankai subduction zone off Kumano: **J Ashi**, Title of Team: KH-10-3 Science Party

1340h **T13A-2165** POSTER Quantification of Free Gas in the Kumano Forearc Basin detected from Borehole Physical Properties: IODP NanTroSEIZE drilling Site C0009: **M Doan**, M Conin, P Henry, T Wiersberg, . Scientific Team of IODP Drilling Leg 319

1340h **T13A-2166** POSTER S-anisotropy and stress direction-REsults from logging at site C0009 of IODP expedition 319, NanTroSEIZE-: **H Ito**

1340h **T13A-2167** POSTER Numerical modeling for branching faults in a subduction system: **S Tamura**, S Ide

1340h **T13A-2168** POSTER Numerical simulation of formation process of fault zone structures considering various mechanical fault properties: **R Ando**

1340h **T13A-2169** POSTER Estimation of slip parameters of a slip zone in the shallow portion of an accretionary prism: **Y Hamada**, T Hirono, T Ishikawa

1340h **T13A-2170** POSTER Strengthening of fault at seismic slip rate caused by gouge formation: **O Kuwano**, T Hatano

1340h **T13A-2171** POSTER Geochemical signals for determining slip mechanism occurred in an ancient megasplay fault within the Shimanto accretionary complex: **G Honda**, T Ishikawa, T Hirono, H Mukoyoshi

1340h **T13A-2172** POSTER Deformation and Fluid Flow in an Ancient Erosive Subduction Channel: Insight from the Northern Apennines of Italy: **F Remitti**, P Vannucchi, G Bettelli, C Boschi, L Dallai

1340h **T13A-2173** POSTER Hydration of the incoming plate in the Kuril subduction zone: **G Fujie**, S Kodaira, M Yamashita, T Sato, T Takahashi, N Takahashi, N Noguchi

1340h **T13A-2174** POSTER An oceanic plateau subduction offshore Eastern Java: **A Shulgin**, H Kopp, C Mueller, L Planert, E Lueschen, E R Flueh, Y Djajadihardja

1340h **T13A-2175** POSTER THERMAL AND HYDRAULIC CONTROLS ON SERPENTINIZATION AT THE OUTER RISE OF SUBDUCTION ZONES: **G S Atalan**, E Sreaton

1340h **T13A-2176** POSTER Crustal structure along the active Costa Rican volcanic arc: **D Lizarralde**, W S Holbrook, H J Van Avendonk, M Mora Fernandez, G E Alvarado, S H Harder

1340h **T13A-2177** POSTER Seismic imaging of the Middle American Trench offshore Costa Rica: Impact of bending-related faulting on upper mantle serpentinization: **E D Everson**, W S Holbrook, D Lizarralde, H J Van Avendonk, P Denyer

1340h **T13A-2178** POSTER Crustal structure across the Central American Volcanic Arc in Costa Rica from TICO-CAVA seismic refraction data: **J L Hayes**, W S Holbrook, D Lizarralde, H Avendonck, A D Bullock, M Mora Fernandez, S H Harder, G E Alvarado

1340h **T13A-2179** POSTER Collapse of the northern Jalisco continental slope: Subduction erosion, forearc slivering, or subduction beneath the Tres Marias escarpment?: **W L Bandy**, C A Mortera-Gutierrez, G Ortiz-Zamora, J Ortega-Ramirez, R E Galindo Dominguez, F Ponce-Núñez, D Pérez-Calderón, I Rufino-Contreras, S Valle-Hernández, E Pérez-González

1340h **T13A-2180** POSTER Seismic structure of the Nicaragua convergent margin in the area of the 1992 tsunamigenic slow earthquake from wide-angle (WAS) and multichannel seismic (MCS) data: M Prada Dacasa, **A Meléndez**, V Sallares, C R Ranero, K D McIntosh, I Grevemeyer

1340h **T13A-2181** POSTER New seismological and geochemical constraints on the anomalous structure beneath the Klyuchevskoy Group in Kamchatka, Russia: **A Nikulin**, V L Levin, A E Shuler, M J Carr, M E West

1340h **T13A-2182** POSTER Is the Caribbean plate subducting underneath Hispaniola? Preliminary results from Caribe Norte wide-angle seismic experiment: **M Llanes Estrada**, U S Ten Brink, A Carbo-Gorosabel, J Granja Bruña, C H Flores, J M Davila, A Pazos, J Quijano

1340h **T13A-2183** POSTER Growth of sediment diapirs in subduction zones: **N C Miller**, M D Behn

1340h **T13A-2184** POSTER Peridotite-water interaction generating migration pathways of H₂-rich fluids in subduction context: Common processes in the ophiolites of Oman, New-Caledonia, Philippines and Turkey: **E P Deville**, A Prinzhofer, D Pillot, C Vacquand, O Sissmann

1340h **T13A-2185** POSTER Bathymetry of the Sunda margin, Indonesia: morphological features of the upper plate slopes relate to the location and extent of the seismogenic zone: A Krabbenhoef, **W Weinrebe**, H Kopp, E R Flueh, S Ladage, C A Papenberg, L Planert

T13B Moscone South: Poster Hall Monday 1340h
Recent Submarine Volcano-Tectonic Events Along Western Pacific Island Arcs, Back Arcs, and Subduction Zones II Posters
(joint with V, G)

Presiding: **R P Dziak**, Oregon State University; **K H Rubin**, Univ Hawaii; **E T Baker**, NOAA/PMEL

1340h **T13B-2186** POSTER Volcanic Explosions, Seismicity, and Debris from the West and North Mata Volcano Complex, NE Lau Basin: **R P Dziak**, D R Bohnenstiehl, E T Baker, H Matsumoto, J Haxel, S Walker, M Fowler

1340h **T13B-2187** POSTER Hydrothermal Activity and its Chemical Characteristics in the NE Lau Basin: **J A Resing**, M D Lilley, E T Baker, J E Lupton, R W Embley, N Buck, S L Walker, E J Olson, R P Dziak, T Baumberger

1340h **T13B-2188** POSTER Multiple Active Volcanoes in the Northeast Lau Basin: **E T Baker**, J A Resing, J E Lupton, S L Walker, R W Embley, K H Rubin, N Buck, C E de Ronde, R J Arculus

1340h **T13B-2189** POSTER First Use of an Autonomous Glider for Exploring Submarine Volcanism in the SW Pacific: **H Matsumoto**, R W Embley, J H Haxel, R P Dziak, D R Bohnenstiehl, S Stalin, C Meinig

1340h **T13B-2190** POSTER Acoustic Transmission Loss and Prolonged Coda Durations of Seismic Airgunning at Intermediate Ranges in the Lau Back-Arc Basin: **C Scheip**, D R Bohnenstiehl, H Matsumoto, R P Dziak, T A Lau, M Fowler, J A Conder, D A Wiens

1340h **T13B-2191** POSTER Recent nanoplate creation in the central Lau basin: **J A Conder**

1340h **T13B-2192** POSTER Monitoring Of Volcanic Processes Through Analysis Of Hydroacoustic Signals Originating From Monowai Seamount: **K E Cook**, D R Bohnenstiehl, R P Dziak, H Matsumoto, M J Fowler, J A Conder, D A Wiens

1340h **T13B-2193** POSTER Transport of Fine Ash Through the Water Column at Erupting Volcanoes – Monowai Cone, Kermadec-Tonga Arc: **S L Walker**, E T Baker, M I Leybourne, C E de Ronde, R Greene, K Faure, W Chadwick, R P Dziak, J E Lupton, G Lebon

1340h **T13B-2194** POSTER Fluid Flow Patterns in a Submarine Volcano: Simulating the Hydrothermal Evolution of Brothers Volcano: **G Gruen**, C E de Ronde, T Driesner, C A Heinrich

1340h **T13B-2195** POSTER A comparison of transpressional boundaries: what New Zealand can tell us about tectonics in New Guinea: **M W Herman**, K P Furlong, H Benz, G P Hayes

1340h **T13B-2196** POSTER Studies of Arc Volcanism in the Southern Mariana Arc from Pagan to Tracey: Preliminary results from ROV Hyper-Dolphin Dives: **H Shukuno**, Y Tamura, R J Stern, O Ishizuka, S H Bloomer, J R Hein, M I Leybourne, E Jordan, I Wada, A R Nichols, Y Hirahara, R Senda, A Nunokawa

1340h **T13B-2197** POSTER Two Primary Basalt Magmatypes from Northwest Rota-1 Volcano, Mariana Arc: **Y Tamura**, O Ishizuka, R J Stern, H Shukuno, H Kawabata, R W Embley, Y Tatsumi, A Nunokawa, S H Bloomer

1340h **T13B-2198** POSTER Differences between boninite and tholeiite primary magmas in Izu-Bonin-Mariana arc: constraints from an Os isotope perspective: **R Senda**, K Shimizu, K Suzuki

1340h **T13B-2199** POSTER Tectonics and sedimentary history of the West Luzon Basin, Philippines: D Franke, **C Gaedicke**, J Arfai, M Schnabel, S Ladage, R Lutz, J Montano, E Ramos

1340h **T13B-2200** POSTER Euler Pole Determination of the Philippine Sea Plate Relative to the Caroline Plate from Bathymetric Information Collected at Ayu Trough: **H Choi**, S Lee

1340h **T13B-2201** POSTER Analysis on the origin of toroidal plate motion and its application to the Philippine Sea plate: **T Matsuyama**, H Iwamori

T13C Moscone South: Poster Hall Monday 1340h
The Wilson Cycle Revisited: From Microplates and Mobile Terranes to Supercontinent Dispersals III Posters (*joint with G, GP, S, V*)

Presiding: **S Baldwin**, Syracuse University; **L E Webb**, University of Vermont

1340h **T13C-2202** POSTER The Alpine Tethys Rift System in Western Europe: From Variscan Inheritance to Alpine Inversion: **G Manatschal**

1340h **T13C-2203** POSTER Structural style of inversion of rifts and passive margins: Feedback between mountain building and surface processes. Application to the Pyrenean Cantabrian Mts: **R S Huismans**

1340h **T13C-2204** POSTER Temporal and geochemical constraints on active volcanism in southeastern Papua New Guinea: **J P Catalano**, S Baldwin, P G Fitzgerald, L E Webb, K Hollocher

1340h **T13C-2205** POSTER Structure and composition of the Southern Mariana Forearc: new observations and samples from Shinkai 6500 dive studies in 2010: **Y Ohara**, M K Reagan, O Ishizuka, R J Stern

1340h **T13C-2206** POSTER Disappearance of Sea Floor of the Paleoasian Ocean: Geological Evidence from the Dong Ujimqin, Inner Mongolia, China: **Z Zhou**, T Zhang, B Wang, Y Yu

1340h **T13C-2207** POSTER Early Paleozoic Subduction of the Paleo-asian Ocean: Evidence from Geochronology and Geochemistry Studies of Bainaimiao Metavolcanic Rocks, Inner Mongolia, China: C Liu, **T ZHANG**, W Liu

1340h **T13C-2208** POSTER North-vergent thrust faults in accreted oceanic sediments and arc volcanics, Central Asian Orogenic Belt, Inner Mongolia: **E Van Guilder**, C Raja, H Sun, D Su, J Baek, S R Paterson, V Memeti, W Cao, T Zhang, Z Zhiguang

1340h **T13C-2209** POSTER Continuum-based 4D Plate Reconstructions: Linking Non-rigid Lithospheric Kinematics to Rigid Plate Motion: **E A Kneller**, C A Johnson, T A Queffelec, L Nachtegale

1340h **T13C-2210** POSTER A kinematic model for the formation of the Siletz terrane by capture of coherent fragments of the Farallon and Resurrection plates (*Invited*): **D S Wilson**, P A McCrory

1340h **T13C-2211** POSTER Insights into the Tectonic Development of the Klamath Mountains Province from Thermal Data and Modeling: **R E Piotrascshke**, K P Furlong, S M Cashman, P J Kamp, M Danišik, E Kirby

1340h **T13C-2212** WITHDRAWN

1340h **T13C-2213** POSTER The Mobile Margin of (Far) North America: GPS Constraints on Active Deformation in Alaska and the Role of the Yakutat Block: **J Elliott**, J T Freymueller, C F Larsen, R J Motyka

1340h **T13C-2214** POSTER 'Extra-regional' strike-slip fault systems in Chile and Alaska: the North Pacific Rim orogenic Stream vs. Beck's Buttress: **T F Redfield**, D W Scholl, P G Fitzgerald

1340h **T13C-2215** POSTER Continuation, south of Oaxaca City (southern Mexico) of the Oaxaca-Juarez terrane boundary and of the Oaxaca Fault. Based in MT, gravity and magnetic studies: **J O Campos-Enriquez**, F Corbo, J Arzate-Flores, S Belmonte-Jimenez, C Arango-Galván

1340h **T13C-2216** POSTER Analysis of the morphology and deformation of the collision zone between the Muertos thrust belt and the aseismic Beata Ridge in the NE Caribbean plate: **J Granja Bruña**, A Carbo-Gorosabel, M Llanes Estrada, A Munoz Martin, M Druet, M Gómez, U S Ten Brink, M Vitolla

1340h **T13C-2217** POSTER Spatial and temporal variation of fault slip and distributed off-fault deformation, Santa Cruz Mountains, central California: **E M Horsman**, R W Graymer

1340h **T13C-2218** POSTER Quaternary uplift and subsidence of Catalina Ridge and San Pedro Basin, Inner California Continental Borderland, offshore southern California; results of high-resolution seismic profiling: **R Francis**, M R Legg

1340h **T13C-2219** POSTER Cenozoic deep-water sedimentary basin formation at the Australia-Pacific plate boundary, southern New Caledonia Trough and Taranaki Basin, New Zealand: **J R Baur**, R Sutherland, T A Stern

1340h **T13C-2220** POSTER Piecing Together the Eastern Australian Margin in Gondwana: Origin of Metamorphic Rocks in the Woodlark Rift, SE Papua New Guinea: **N A Zirakparvar**, S Baldwin, P G Fitzgerald, J D Vervoort

1340h **T13C-2221** POSTER Position of New Zealand, Australia and Antarctica during the Paleogene and Late Cretaceous: **A I Chambord**, R Sutherland, E G Smith

1340h **T13C-2222** POSTER The Early Opening of the Indian Ocean: An African Perspective: **C Gaina**, C Labails, C Reeves

1340h **T13C-2223** POSTER Revisiting the magnetic anomalies along the West Australian margin identifies a new continental fragment that accreted to Sumatra during the Early Eocene: **A Gibbons**, J M Whittaker, P Müller

- 1340h **T13C-2224** POSTER 1.0 GA OPHIOLITE ON NORTH MARGIN OF THE YANGTZE CRATON CLARIFIES SOUTH CHINA'S AMALGAMATION WITH RODINIA: **T M Kusky**, S Peng, L Wang, X Jiang, J Wang
- 1340h **T13C-2225** POSTER Polyphase rifting within Rodinia as seen through multiple episodes of mafic volcanism within the Canadian Cordillera: **G M Cox**, G P Halverson, C F Roots, F A Macdonald, D Plavsa
- 1340h **T13C-2226** POSTER A Geodynamic Template for Super-Continent Dispersal Based on CAMP Geochemical and Isotopic Signatures From the Culpepper Basin of Virginia: **B B Hanan**, A Sinha, J W Shervais
- 1340h **T13C-2227** POSTER Correlating basaltic composition with stages of geodynamic settings associated with breakup of supercontinent Rodinia: **A Sinha**, B B Hanan
- 1340h **T13C-2228** POSTER A numerical model of mantle convection with deformable, mobile continental lithosphere within three-dimensional spherical geometry: **M Yoshida**

T13D Moscone West: 2020 Monday 1340h
Advances in Understanding the Central Andean Crust and Mantle Through Seismology and Geochemistry II (*joint with S, V*)

Presiding: **R W Clayton**, Caltech; **S M Kay**, Cornell University

- 1340h **T13D-01** Seismic-tomographic modeling of spatial variations in subduction geometry along the Andes (*Invited*): **S van der Lee**, S M Lloyd, R M Russo
- 1355h **T13D-02** Upper Mantle Flow Beneath the Subducted Nazca Plate: Slab Contortions and Flattening (*Invited*): **R M Russo**
- 1410h **T13D-03** Lithospheric deformation overlying a shallowly subducting slab: insights from the Eastern Sierras Pampeanas seismic array (*Invited*): P M Alvarado, **H J Gilbert**, T J Richardson, M L Anderson, R Martino
- 1425h **T13D-04** An Unusual Wadati-Benioff Zone Beneath West-Central Argentina: **L Linkimer**, S L Beck, G Zandt, P M Alvarado, M L Anderson, H J Gilbert
- 1440h **T13D-05** CRUSTAL INVESTIGATIONS IN THE SOUTHERN PUNA PLATEAU BY RECEIVER FUNCTIONS FROM THE PUNA DELAMINATION (PUDEL PROJECT) SEISMIC ARRAY IN THE CENTRAL ANDES: **B Heit**, X Yuan, P Kumar, R Kind, S M Kay, E A Sandvol, R Alonso, B Coira, D Comte, L D Brown
- 1455h **T13D-06** Structure of the Subduction System in Southern Peru from Seismic Array Data: **KE Phillips**, R W Clayton, S Skinner, P M Davis, R Guy, I Stubailo, E J Foote, V Aguilar, H Tavera, L Audin
- 1510h **T13D-07** The Role of Crustal Recycling in Accretionary Orogens: the U-Pb Age and Hf Isotope Evidence of Detrital Zircons from the the proto-Andes: C Reimann, **H Bahlburg**
- 1525h **T13D-08** Chemistry of Post 12 Ma Los Frailes Volcanic Complex Ignimbrites in Bolivia and the Role of Magmatism in the Uplift of the Central Andean Altiplano Plateau: **S M Kay**, C B Keller, B Coira, N Jiménez, P J Caffè

T13E Moscone West: 2011 Monday 1340h
Contemporary Stress Field: Where We Come From and Where We Are Going I (*joint with S, V, G*)

Presiding: **S Pierdominici**, INGV; **A Zang**, GFZ German Research Centre for Geosciences

- 1340h **T13E-01** Complete stress tensor determination by microearthquake analysis: **R Slunga**
- 1355h **T13E-02** The recent tectonic stress districts and strong earthquakes in China: **F Xie**, H Zhang

- 1410h **T13E-03** Intraplate Crustal Stress Orientation and Magnitude (*Invited*): **M D Zoback**, M Zoback
- 1425h **T13E-04** Earthquake Focal Mechanisms Imply Homogeneous Stress at Seismogenic Depths: **J L Hardebeck**
- 1440h **T13E-05** A hybrid method for estimating the state of stress in ICDP-sponsored deep vertical boreholes (*Invited*): **B C Haimson**
- 1455h **T13E-06** Determination of Stress State in Deep Subsea Formation by Combination of Hydrofracturing Test and Core Analysis – A Case Study in the Integrated Ocean Drilling Program (IODP) Expedition 319: **T Ito**, A Funato, H Ito, M Kinoshita
- 1510h **T13E-07** Sources and Significance of In Situ Stress Heterogeneity: **T W Doe**
- 1525h **T13E-08** Non-Andersonian Faulting Above Evaporites in the Nile Delta (*Invited*): **M R Tingay**, P Bentham, A De Feyter, A Kellner

T13F Moscone West: 2018 Monday 1340h
The Cenozoic West Antarctic Rift System (WARS): Observations, Interpretations, Models, and Implications I (*joint with C, V, S*)

Presiding: **R Granot**, Institut de Physique du Globe de Paris; **F J Davey**, GNS Science; **S A Henrys**, GNS Science; **B P Luyendyk**, Univ California

- 1340h **T13F-01** A Review of Marine Geophysical Constraints on the Motion Between East and West Antarctica in the Cenozoic (*Invited*): **S C Cande**, J M Stock
- 1355h **T13F-02** Polar heat flow inferred from satellite magnetic data (*Invited*): **M E Purucker**, C Fox Maule
- 1410h **T13F-03** Feedback between magmatic, tectonic and glacial processes in the West Antarctic Rift System (*Invited*): **S Rocchi**
- 1425h **T13F-04** Recent to contemporary stress of the West Antarctic Rift from drill core and volcanic alignment studies (*Invited*): **T S Paulsen**, T J Wilson, R D Jarrard, D R Schmitt, S Pierdominici, P Montone, C Millan, A Läufer, T Wonik, D Handwerker
- 1440h **T13F-05** PEERING BENEATH THE TRANSANTARCTIC MOUNTAINS RIFT FLANK WITH NEW GRAVITY DATA: **L Anderson**, F Ferraccioli, T A Jordan, A B Watts, E Armadillo, E Bozzo
- 1455h **T13F-06** Turning up the Heat on the Antarctic Ice Sheet (From Below): Challenges and Near-Term Opportunities for Measuring Antarctic Geothermal Fluxes (*Invited*): **S M Tulaczyk**, S Hossainzadeh
- 1510h **T13F-07** Revised East-West Antarctic plate motions since the Middle Eocene: **R Granot**, S C Cande, J Stock, D Damaske
- 1525h **T13F-08** The case for nearly continuous extension of the West Antarctic Rift System, 105-25 Ma (*Invited*): **D S Wilson**, B P Luyendyk

T13G Moscone West: 2016 Monday 1340h
The Formation and Deformation of the Mediterranean Basins, Continental Margins, and Arcs I (*joint with GP, MR, NH, S, V, G*)

Presiding: **X A Garcia**, Unitat de Tecnologia Marina, CSIC; **C R Ranero**, ICREA at CSIC

- 1340h **T13G-01** Shaping the Mediterranean mobile belt by small scale convection (*Invited*): **C Faccenna**, T W Becker
- 1355h **T13G-02** 3D Deformation and Evolution of Mediterranean Basins: Insights From Crustal and Mantle Anisotropy: **S Lebedev**, B Endrun, T M Meier, J Adam, C Tirel
- 1410h **T13G-03** Continental collision and slab break-off: 3-D modelling results and implications for the Mediterranean: **J Van Hunen**, C Faccenna

1425h **T13G-04** Aegean tectonics, a record of slab-overriding plate interactions (*Invited*): **L Jolivet**, C Faccenna, B Huet, E Lecomte, L Labrousse, Y Denèle, L Le Pourhiet, O Lacombe, E B Burov, B Meyer, J Suc, S Popescu, P Monié, M Philippon, F Gueydan, J Brun, A Paul, G Salaün, R Armijo

1440h **T13G-05** Deformation and Exhumation of the sub-Continental Mantle: Insight from the Ronda Peridotite (Spain): J Précigout, **F Gueydan**, C J Garrido, G Booth-Rea

1455h **T13G-06** WITHDRAWN

1510h **T13G-07** Tectonics at the Transition from Subduction to Collision at the Calabrian Arc: **M S Steckler**, P Baccheschi, M Cardinali, T Dewez, C Faccenna, R C Finkel, A Gervasi, I Guerra, F Guzzetti, S Huot, W Kim, M Lamothe, L L Lavier, A Malinverno, L Margheriti, M R Nedimovic, N P Agostinetti, M A Reitz, L Seeber, C P Stark, J M Schaefer, S N Thomson

1525h **T13G-08** Slab-rollback induced upper mantle upwelling near lateral slab edges: A new mechanism for generating intra-plate magmatism in the central Mediterranean: **W P Schellart**

Volcanology, Geochemistry, and Petrology

V13A Moscone South: Poster Hall Monday 1340h
Dynamics of Pyroclastic Density Currents II Posters

Presiding: **B J Andrews**, UC Berkeley; **J Dufek**, Georgia Institute of Technology

1340h **V13A-2337** POSTER Vegetation damage as a proxy for physical characteristics of PDCs: **N Pollock**, K S Harpp, D Geist, J Dufek, P A Mothes

1340h **V13A-2338** POSTER The Soldier Meadow Tuff: Eruptive and depositional processes and relationship to the High Rock Caldera, NW Nevada: **J Smith**, B Hausback, C D Henry, D Noble

1340h **V13A-2339** POSTER A closer look at the pyroclastic density current deposits of the May 18, 1980 eruption of Mt St Helens: **C A Mackaman-Lofland**, B D Brand, J Dufek

1340h **V13A-2340** POSTER Topographic effects on run-out distance and liftoff of pyroclastic density currents: **W S Gange**, B J Andrews, M Manga

1340h **V13A-2341** POSTER The effect of topography on pyroclastic flow mobility: **S E Ogburn**, E S Calder

1340h **V13A-2342** POSTER Titan2D simulations of dome-collapse pyroclastic flows for crisis assessments on Montserrat: **C Widiwijayanti**, B Voight, D Hidayat, A Patra, E Pitman

1340h **V13A-2343** POSTER Substrate Erosion and Force Chain Dynamics in Dense Granular Flows: **J Estep**, J Dufek

1340h **V13A-2344** POSTER Volcaniclastic dunes from the 2006 deposits of Tungurahua volcano, Ecuador: **G DOUILLET**, J B Hanson, F Goldstein, U Kueppers, ÈVE Tsang-Hin-Sun, J Bustillos, C Robin, D B Dingwell

1340h **V13A-2345** POSTER The thermal evolution of pyroclastic density currents: Exploring the thermal histories of juvenile clasts of Tungurahua and Cotopaxi, Ecuador: **M C Benage**, J Dufek, W Degruyter

1340h **V13A-2346** POSTER Ash Deposition Mechanisms and Plume Scrubbing in the 2008 Okmok Eruption, Umnak Island, Alaska: **J A Unema**, M H Ort, J F Larsen, C A Neal, J R Schaefer, P Webley

1340h **V13A-2347** POSTER Particle morphologies and formation mechanisms of fine volcanic ash aerosol collected from the 2006 eruption of Augustine Volcano, Alaska: **P G Rinkleff**, C F Cahill

1340h **V13A-2348** POSTER Bursting and Jetting Drives Ballistic-Dominated Eruptions at Stromboli (Italy): **L Vanderkluysen**, A J Harris, L Colò, M Ripepe, J Dehn

V13B Moscone South: Poster Hall Monday 1340h
Innovative Geothermal Exploration Methods I Posters (joint with T)

Presiding: **D F Stockli**, The University of Kansas; **B Martini**, Ormat Technologies

1340h **V13B-2349** POSTER Spectral reflectance analysis of hydrothermal alteration in drill chips from two geothermal fields, Nevada: **A K Lamb**, W M Calvin

1340h **V13B-2350** POSTER Geothermal Exploration in Pilgrim, Alaska: First Results From Remote Sensing Studies: **A Prakash**, M Nolan, K Schaefer, C Haselwimmer, G Holdmann

1340h **V13B-2351** POSTER Use of high-resolution satellite images for characterization of geothermal reservoirs in the Tarapaca Region, Chile: **A A Arellano-Baeza**, C Montenegro A.

1340h **V13B-2352** POSTER An Integrated Chemical Geothermometry System for Geothermal Exploration: **N F Spycher**, E L Sonnenthal, B M Kennedy

1340h **V13B-2353** POSTER Real-time Remote Data Online For Norris Geyser Basin in Yellowstone National Park: **J E Perry**, J B Lowenstern, L Clor, P F Cervelli, S T Allen, H Heasler, T Moloney

1340h **V13B-2354** POSTER Pervasive, high temperature hydrothermal alteration in the RN-17B drill core, Reykjanes Geothermal System-Iceland Deep Drilling Project: **RA Zierenberg**, P Schiffman, N E Marks, M H Reed, W A Elders, G O Fridleifsson

1340h **V13B-2355** POSTER A Reduction in the Rate of Subsidence Observed at The Geysers Geothermal Field, Northern California, Between 1994 and 2010: **MA Floyd**, G J Funning, B Lipovsky, P Gettings

1340h **V13B-2356** POSTER Geothermal prospecting by geochemical methods in the Quaternary volcanic province of Dhamar (central Yemen): **AA Minissale**, O Vaselli, M Mattash, G Montegrossi, F Tassi, A Ad-Dukhain, U Kalberkamp, A Al-Sabri, T Al-Kohlani

1340h **V13B-2357** POSTER An Experiment to Test Geophysical Methods For Monitoring Fluid Re-Injection at the Wairakei Geothermal Field, New Zealand: **G R Jiracek**, E Bowles-martinez, D W Feucht, J Ryan, T G Caldwell, S C Bannister, T Bertrand, S Bennie, S Bourguignon

1340h **V13B-2358** POSTER Utilizing ground penetrating radar to image vents and fractures in geothermal environments: **A J Dougherty**, B Lynne

1340h **V13B-2359** POSTER Geothermal Exploration in the Great Basin: **W M Calvin**

1340h **V13B-2360** POSTER Multiple data sets converge on a geologic structural model for Glass Buttes, Oregon geothermal prospect: **P Walsh**, B Martini, C Lide, D Boschmann, J H Dilles, A Meigs

1340h **V13B-2361** POSTER The effect of topography driven groundwater flow on deep subsurface temperatures in the Roer Valley Graben (southern Netherlands): **E Luijendijk**, M A Person, R Van Balen, M ter Voorde

1340h **V13B-2362** POSTER The Lithospheric Temperature Structure of the South Australian Heat Flow Anomaly: **G Baines**, G Backé

V13C Moscone South: Poster Hall Monday 1340h
Supervolcanoes: Modeling of Eruption Scenarios and Their Regional and Global Impacts I Posters

Presiding: **M R Rampino**, New York University; **F Dobran**, Hofstra University

1340h **V13C-2363 POSTER** Insights into the Toba Super-Eruption using SEM Analysis of Ash Deposits: **E Gatti**, H Achyuthan, A J Durant, P Gibbard, S Mokhtar, C Oppenheimer, R Raj, A Shridar

1340h **V13C-2364 POSTER** Magmatic evolution of the Ilopango Caldera, El Salvador, Central America: D Zezin, **C P Mann**, W Hernández, J Stix

1340h **V13C-2365** WITHDRAWN

1340h **V13C-2366 POSTER** Inner structure of La Pacana Caldera (Central Andes, Chile) using gravimetry data: **F Delgado**, A Pavez Alvarado

1340h **V13C-2367 POSTER** Storage and eruption of large volumes of rhyolite lava: Example from Solfatarra Plateau, Yellowstone Caldera: **K Befus**, J E Gardner, R Zinke

1340h **V13C-2368 POSTER** Supervolcanoes in the Mid-Pacific Mountains?: **P Wilde**

1340h **V13C-2369 POSTER** Active source seismic experiment investigating the formation of the Ontong Java Plateau: **S Miura**, N Noguchi, M F Coffin, S A Kawagle, R T Verave, S Kodaira, Y Fukao

1340h **V13C-2370 POSTER** Did the TBJ Ilopango eruption cause the AD 536 event?: **R Dull**, J R Southon, S Kutterolf, A Freundt, D Wahl, P Sheets

1340h **V13C-2371 POSTER** Was the Tunguska 1908 event a late byproduct of a Permo-Triassic Verneshot?: **P Vannucchi**, J P Morgan, C L Andronicos, D Della Lunga

1340h **V13C-2372 POSTER** On the Hemispheric Asymmetry of Sulphate Aerosol Loading and Deposition After Major Tropical Volcanic Eruptions: **M Toohey**, U Niemeier, S Kutterolf, C Timmreck, K Krueger

1340h **V13C-2373 POSTER** A new eruptive model for the 1.61 Ma eruption of the Otowi Member of the Bandelier Tuff, Valles Caldera, New Mexico: **G W Cook**, J A Wolff, S Self

1340h **V13C-2374 POSTER** How Many Explosive Eruptions are Missing from the Geologic Record? Analysis of the Quaternary Record of Large Magnitude Explosive Eruptions in Japan: **K Kiyosugi**, C Connor, R S Sparks, H S Crossweller, L Siebert, S Takarada

1340h **V13C-2375 POSTER** Microphysical Controls on Ascent of Water-Rich Ash Clouds from Supereruptions: **A R Van Eaton**, M Herzog, C J Wilson, J McGregor

1340h **V13C-2376 POSTER** Can the structure of an explosive caldera affect eruptive behaviour?: **C P Willcox**, M Branney, G Carrasco-Nuñez, D Barford

1340h **V13C-2377 POSTER** Modelling caldera collapse into a crystal mush, with application to the Bandelier Tuff, Valles caldera, New Mexico: **S R Krahn**, J A Wolff, M Jellinek, F C Ramos

1340h **V13C-2378 POSTER** Constraints on eruption processes and source conditions of explosive caldera-forming events using volcanogenic tsunamis: insights from the Krakatau and Kikai eruptions: **F Maeno**, F Imamura

1340h **V13C-2379 POSTER** Examination of Near-Field Entrainment of High-speed Jets: **F Saffaraval**, S Solovitz, L G Mastin

V13D Moscone South: Poster Hall Monday 1340h
Ultrahigh-Pressure Metamorphism: 25 Years After the Discovery of Coesite and Microdiamond I Posters (*joint with MR, DI, T*)

Presiding: **Q Wang**, Nanjing University; **C G Mattinson**, Central Washington University

1340h **V13D-2380 POSTER** U-Pb zircon geochronology of coesite-bearing eclogites from the southern Dulan area of the North Qaidam UHP terrane, northwestern China: Spatially and temporally extensive UHP metamorphism during continental subduction: **J Zhang**

1340h **V13D-2381 POSTER** Geochemical characteristics of crustal anatexis of UHPM gneisses during their exhumation, Sulu UHPM terrane, China: **H Xu**, K Ye, J Zhang, Y Song

1340h **V13D-2382 POSTER** High-Pressure Crystal Chemistry of Norbergite: **A N Lindoo**, S A Gramsch, A Kyono

1340h **V13D-2383 POSTER** Linking Cenozoic (U)HP exhumation to orogen-scale deformation in the western Alps: **J P Butler**, C Beaumont, R Jamieson

1340h **V13D-2384 POSTER** Petrofabrics and Water Contents of Peridotites from the Western Gneiss Region (Norway): Implications for Fabric Transition of Olivine in Continental Subduction Zones: **Q Wang**, Q Xia, S O'Reilly, W L Griffin, E Beyer

1340h **V13D-2385 POSTER** Petrofabrics and Seismic Properties of Minerals and Rocks from the Dabie-Sulu UHP Terrane: **F Shi**, J Zhang, H Xu, Y Wang

1340h **V13D-2386 POSTER** Petrological and geochemical records of short-lived, high temperature metamorphism during exhumation of the Sulu UHP metamorphic terrane: **K Zong**, Y Liu, X Zhang, Y Ye, C Gao

1340h **V13D-2387 POSTER** Strength and petrofabric of SiO₂ across the phase boundary of quartz-coesite: **J Zhang**, Y Wang, Q Liu

1340h **V13D-2388 POSTER** Chemistry and metamorphic evolution of Kulet eclogite from the Kokchetav Massif, Kazakhstan: **R Y Zhang**, J G Liou, V S Shatsky, Y Ogasawara, C Lo

1340h **V13D-2389 POSTER** Ultra-deep subduction of continental material: Results from coupled thermodynamic-thermomechanical numerical modelling: **S Zlotnik**, J C Afonso

1340h **V13D-2390 POSTER** Granulite-facies metamorphism and partial melting associated with UHP rocks, North Qaidam terrane, NW China: **C G Mattinson**, B D Christensen, J L Wooden, J Zhang, D K Bird

1340h **V13D-2391 POSTER** Subduction and Exhumation of the Western Gneiss Region, Norway: Application of Zircon U-Pb Geochronology: **A A Ginsburg**, B R Hacker, A R Kylander-Clark, J M Cottle

1340h **V13D-2392 POSTER** Flat versus steep subduction: contrasting modes for the formation and exhumation of high- to ultrahigh-pressure rocks in continental collision zones: **Z Li**, Z Xu, T Gerya, N M Ribe

1340h **V13D-2393 POSTER** Calculation of stability of sodic phases in high-pressure metapelites and observation of Sambagawa metamorphic rocks: **Y Kouketsu**, M Enami

V13E Moscone South: Poster Hall Monday 1340h
Volcanism and Environmental Change I Posters (*joint with GC*)

Presiding: **S M Straub**, Lamont Doherty Earth Observatory at Columbia University; **M G Tejada**, University of the Philippines

1340h **V13E-2394 POSTER** Volcanic signals into the ocean under global warming: **T T Sakamoto**, H Shioyama

1340h **V13E-2395** POSTER Magma dynamics and wall-rock composition control the environmental impact of magmatic events: **N Arndt**, C Ganino, A Pêcher, C Chauvel, M Zhou, F Tornos

1340h **V13E-2396** WITHDRAWN

1340h **V13E-2397** POSTER Tracing volatile loss during the eruption of individual flood basalt flows in the Columbia River Flood Basalt Province: **K W Burton**, C Vye, A Gannoun, S Self

1340h **V13E-2398** POSTER No bolide impact trace for OJP volcanism that triggered Early Cretaceous anoxia event: PGE evidence from coeval organic-rich sediments, central Pacific Ocean: **M G Tejada**, T Nozaki, A Ishikawa, R Senda, K Suzuki, J Kimura

1340h **V13E-2399** POSTER Is there a causal relationship between the timing of emplacement of large igneous provinces and their destructive consequences? Constraints from the Lesotho eruptive sequence (Karoo traps): **M Moulin**, F Fluteau, V E Courtillot, J Marsh, G DELPECH, X Quidelleur, M Gérard

1340h **V13E-2400** POSTER Volatile Release from The Siberian Traps and the End-Permian Environment: **B A Black**, L T Elkins-Tanton, M C Rowe, I Ukstins Peate

1340h **V13E-2401** POSTER Dynamic deformation of Seguam Volcano, Alaska, 1992-2007, from multi-interferogram InSAR processing: **C Lee**, Z Lu, J Won, H Jung, D Dzurisin

1340h **V13E-2402** POSTER Stable isotope, cation chemistry and petrographic evidence of multiple water sources influencing the alteration of Antarctic hyaloclastites: **J V Antibus**, K S Panter, T I Wilch, N W Dunbar, W C McIntosh

1340h **V13E-2403** POSTER Design of a single batch leaching test to assess the environmental impact of volcanic ash: **J Fernandez-Turiel**, F Ruggieri, J Saavedra, D Gimeno, L Martinez, G Galindo, M Garcia-Valles, E Polanco, F Perez-Torrado, A Rodriguez-Gonzalez, D Rodriguez-Fernandez

1340h **V13E-2404** POSTER GEOLOGICAL IMPLICATIONS ON THE DIFFERENT PRODUCTS OF SUBMARINE VOLCANISM IN SANGIHE WATERS : VIEW FROM THE ROV (Remotely Operated Vehicles): **B Priyadi**, N Basuki, H Abidin, H Permana, L Handayani, S Wirasantosa, N Nganro, R Djamaluddin, L Ch. Kusuma, N Ratna Setyawidati, S Makarim, T Solihudin

V13F Moscone West: 3001 Monday 1340h
Generation and Evolution of Alkaline to Subalkaline Magmas II (joint with DI, MR)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **S Pilet**, University of Lausanne; **R Gertisser**, Keele University

1340h **V13F-01** Mantle pyroxenites as source of the compositional variability in alkali basalts? (Invited): **S Lambart**, D Laporte, P Schiano, A Provost

1355h **V13F-02** Reaction between MORB-Pyroxenite-derived Partial Melts and Subsolvus Peridotite at 3 GPa and Generation of Alkalic Ocean Island Basalts: **A Mallik**, R Dasgupta

1410h **V13F-03** Temperature and pressure dependence of Ni partitioning between olivine and high-MgO silicate melts: **A K Matzen**, M B Baker, J Beckett, E M Stolper

1425h **V13F-04** Melting of metasomatized subcontinental mantle: New experiments and a new predictive models for plagioclase, spinel and garnet lherzolite melting: **T L Grove**, C B Till, J A Barr, M J Krawczynski

1440h **V13F-05** Small-scale convection induces temporal and spatial variability in Hawaiian plume volcanism (Invited): **M D Ballmer**, G Ito, J Van Hunen, P J Tackley

1455h **V13F-06** Apatite as a record of extreme differentiation in the uppermost part of the Bushveld Complex (Invited): **J A VanTongeren**, E A Mathez

1510h **V13F-07** The alkaline magma squeezed upward by the plate flexure prior to subduction off the Chile and Japan Trenches: **N Hirano**, S Machida, N Abe

1525h **V13F-08** Jurassic (~ 160 Ma) Lamprophyric Xenoliths from Southern Louisiana Salt Domes: A Unique Perspective on Gulf of Mexico Crust (Invited): **RJ Stern**, E Y Anthony, M Ren, J Kimura, B Lock, I O Norton

V13G Moscone West: 2022 Monday 1340h
The Subduction Filter: Effects on the Mantle, Arcs, and Continents III (joint with DI)

Presiding: **C Chauvel**, University of Grenoble; **T Plank**, Columbia University; **J P Davidson**, University of Durham

1340h **V13G-01** The Thermal Evolution of the Lower Arc Crust During Basalt Emplacement: Importance of Melt Advection out of the Lower Crust in Maintaining a Relatively Cool Steady State Geotherm: **RA Lange**, E Hetland

1355h **V13G-02** Re-Os-PGE constraints on continental lithosphere assembly: a case study in eastern Russia: **WR Nelson**, D A Ionov, S B Shirey, V S Prikhod'ko

1410h **V13G-03** Making and breaking an Island arc: a new perspective from the Oligocene Kyushu-Palau arc: **O Ishizuka**, R N Taylor, M Yuasa, Y Ohara

1425h **V13G-04** The composition of the modern juvenile arc crust and the nature of crustal delaminates in arcs (Invited): **O E Jagoutz**, M W Schmidt

1440h **V13G-05** Distinguishing mantle and crustal contributions in a continental arc volcano: Tatara-San Pedro, Chilean Andes: **JJweda**, S L Goldstein, M Dungan, C H Langmuir, J P Davidson

1455h **V13G-06** Differentiation and source processes at Mt Pelée and The Quill; active volcanoes in the Lesser Antilles Arc: **J P Davidson**, M Wilson

1510h **V13G-07** Slab Contributions to Cascades Magmas: Constraints from Central Oregon and Northern California: **D M Ruscitto**, P J Wallace

1525h **V13G-08** Protracted Storage and Lower Crust Differentiation at Baru Volcano, Panama: **P J Hidalgo**, T O Rooney

V13H Moscone West: 3005 Monday 1340h
What Can Pyroclasts Tell Us? II (joint with NH)

Presiding: **U Kueppers**, University of Munich; **RJ Brown**, Open University; **C Cimarelli**, LMU Muenchen

1340h **V13H-01** Pyroclasts and fragmentation: 'misdirection' from size distributions for wall-rock particles (Invited): **B F Houghton**, R J Carey, D Swanson

1355h **V13H-02** Vesiculation of Pyroclasts in High-Fountaining Hawaiian Eruptions: Kilauea Iki 1959: **W K Stovall**, B F Houghton, J E Hammer, S A Fagents, D Swanson

1410h **V13H-03** Kimberlite pyroclasts - what and why?: **LA Porritt**, J K Russell, R A Cas

1425h **V13H-04** Origin and consequences of polymodal grain size distributions of the tephra fall deposit from the August 2006 paroxysmal phase of Tungurahua volcano, Ecuador: **J Eycheenne**, J Le Pennec, L Troncoso, M Gouhier, J Nedelec

1440h **V13H-05** Centimeter-High Antidunes within Pyroclastic Deposits: Are They Products of Surge or Density Current?: **S Yoshida**, R Hemmi, Y Nemoto

1455h **V13H-06** Continuous Monitoring of Ash fall from Showa Crater by Time Series Sampling at Sakurajima Volcano, SW Japan: **T Shimano**, A Yokoo, M Iguchi, D Miki
 1510h **V13H-07** Voluminous juvenile lithic fragments in the pumice-fall deposit of the 1108 eruption of Asama volcano: Evidence of repeated compaction and fragmentation in the shallow conduit: **M Nakamura**, T Kichise, M Yasui, Y Nagahashi, T Yoshida
 1525h **V13H-08** The Disruption of Tephra Fall Deposits by Basaltic Lava Flows: **RJ Brown**, T Thordarson, S Self, S Blake

Union

U14A Moscone South: 104 Monday 1600h **Overview of the Deep Horizon Oil Spill**

Presiding: **JJ Bates**, NOAA; **D L Rice**, NSF; **O B Brown**, CICS-NC

1600h **U14A-01** USGS Scientists in the Deepwater Horizon Oil Spill: Making a Difference (*Invited*): **M K McNutt**

1624h **U14A-02** NASA Earth Science Activities Related to the Deepwater Horizon Oil Spill (*Invited*): **M H Freilich**

1648h **U14A-03** NOAA Response to the Deepwater Horizon Oil Spill - Protecting Oceans, Coasts and Fisheries (*Invited*): **J Lubchenco**

1712h **U14A-04** National Science Foundation Contribution to the Deepwater Horizon Oil Spill Response (*Invited*): **T L Killeen**

1736h **U14A-05** Undersea plumes of oil and dissolved gas and sedimented oil along the seafloor alter the ocean system following the BP oil well blowout. (*Invited*): **S B Joye**, A R Diercks, A Teske, D L Valentine

Atmospheric Sciences

A14A Moscone West: 3002 Monday 1600h **Climate Change, Air Quality, and Their Interrelations at the North American West Coast III**

Presiding: **P Quinn**, NOAA; **J Wang**, Brookhaven Natl Lab

1600h **A14A-01** Characterization of Particulate Ship Emissions during CalNex 2010 (*Invited*): **C D Cappa**, D Mellon, D A Lack, E J Williams, B M Lerner, T B Onasch, P Massoli, D J Coffman, P Quinn, T S Bates, I Nuaaman, S Li, K Hayden, C J Gaston, K A Prather

1615h **A14A-02** The impact of port emissions and marine biogenics on the single-particle chemistry of marine aerosol measured on board the R/V Atlantis during the CalNEX 2010 field campaign: **C J Gaston**, P Quinn, T S Bates, K A Prather

1630h **A14A-03** Processing Of Black Carbon In The Mixed Sacramento Urban-Biogenic Environment: **A J Sedlacek**, L I Kleinman, J E Shilling, S Springston, R Subramanian, R A Zaveri

1645h **A14A-04** Aircraft observations of refractory black carbon during CalNex 2010: **A E Perrig**, J R Spackman, J P Schwarz, L Watts, R Gao, C A Brock, R Commane, B C Daube, G J Frost, J S Holloway, E A Kort, J Peischl, I B Pollack, T B Ryerson, G W Santoni, H Stark, M Trainer, S C Wofsy, B Xiang, D W Fahey

1700h **A14A-05** Ambient Measurements of Black Carbon Using the New SP-AMS in Conjunction with Other Instruments: **H Coe**, J D Allan, J W Taylor, M J Flynn, P D Williams, G R McMeeking, G Kok, D Baumgardner, T B Onasch, E Fortner, J Jayne, D R Worsnop

1715h **A14A-06** On the Nature of Water-Soluble Organic Aerosols in the Southern California Region: A Synthesis of Data From Ground-based and Aircraft Field Studies: **A Sorooshian**, S P Hersey, H T Duong, A Wonaschutz, J S Craven, A R Metcalf, H H Jonsson, R C Flagan, J Seinfeld

1730h **A14A-07** Cloud activation properties of organic aerosols observed at an urban site during CalNex-LA: **F Mei**, P L Hayes, A M Ortega, J Jimenez, J Wang

1745h **A14A-08** Airborne Measurements of Ammonia and Implications for Ammonium Nitrate Formation in the Central Valley and the South Coast Air Basin of California: **J B Nowak**, J Neuman, R Bahreini, A M Middlebrook, C A Brock, G J Frost, J S Holloway, S A McKeen, J Peischl, I B Pollack, J M Roberts, T B Ryerson, M Trainer, D D Parrish

A14B Moscone West: 3006 Monday 1600h **Multiscale Organization of Tropical Convection: Year of Tropical Convection (YOTC) II**

Presiding: **D E Waliser**, Jet Propulsion Laboratory/Caltech; **M W Moncrieff**, NCAR

1600h **A14B-01** The heat balance of the equatorial trough zone, revisited: Part II (*Invited*): **G L Stephens**, M A Rogers, Z Luo

1614h **A14B-02** Large-scale tropical transients in aquaplanet simulations with zonally symmetric sea surface temperature distributions (*Invited*): **Z Kuang**

1628h **A14B-03** A Multi-Scale Interaction Model for Madden-Julian Oscillation: **B Wang**, F Liu

1642h **A14B-04** Leading modes of submonthly tropical convective activity: **G N Kiladis**

1655h **A14B-05** Multi-scale energy conversion during composite Madden-Julian Oscillation: **L Zhou**, A H Sobel, R G Murtugudde

1708h **A14B-06** PV generation for the MJO, convectively coupled Rossby and Kelvin waves: **C Zhang**, J Ling

1721h **A14B-07** ARM Data sets for the Year of Tropical Convection (YOTC): **S A McFarlane**, C N Long, J H Mather, R Jundt, M P Jensen, K Johnson, R A McCord

1734h **A14B-08** Investigation of the physical mechanisms responsible for the recent MJO forecast improvements in the ECMWF model during the YoTC period: **L Hiron**, P Inness, F Vitart

1747h **A14B-09** Evaluating the Community Atmospheric Model (CAM) against satellite data during YOTC: **C Hannay**, D Williamson, R B Neale, J Olson, D Shea

A14C Moscone West: 3008 Monday 1600h **Multisensor and Model Aerosol Data Intercomparison and Integration II (joint with IN)**

Presiding: **G G Leptoukh**, NASA; **RA Kahn**, NASA/Goddard Space Flight Ctr

1600h **A14C-01** Retrieval of aerosol optical thickness using diverse algorithms and methods (*Invited*): **A A Kokhanovsky**, Title of Team: Scientific Team for Aerosol Properties Retrievals Using Satellite Data (J. L. Deuzé, D. J. Diner, O. Dubovik, F. Ducos, C. Emde, M. J. Garay, R. G. Grainger, A. Heckel, M. Herman, I. L. Katsev, J. Keller, R. Levy, P. R. J. North, A. S. Prikhach, V. V. Rozanov, A. M. Sayer, Y. Ota, D. Tanré, G. E. Thomas, and E. P. Zege)

1615h **A14C-02** Derivation of tropospheric aerosol properties from A-Train observations: **D Tanre**, Title of Team: The PARASOL Scientific Team

1630h **A14C-03** Global retrieval of long-term aerosol datasets from ERS-2, ENVISAT and Sentinel-3: **P R North**, S L Bevan, W Grey, A Heckel, C Brockmann, J Fischer, L Gomez-Chova, R Preusker, P Regner

1645h **A14C-04** A comparison between MODIS Dark Target, Deep Blue and MAIAC Aerosol Algorithms over Land: **A Lyapustin**, Y Wang, R C Levy, L A Remer, C Hsu, J S Reid

1700h **A14C-05** Evaluating satellite measurements of aerosol types using airborne HSRL measurements: **R A Ferrare**, S Burton, C A Hostetler, J W Hair, R Rogers, M D Obland, D Harper, A Cook, A J Swanson, A H Omar, R A Kahn, M Chin

1715h **A14C-06** Retrievals of Effective Aerosol Layer Height and Single Scattering Albedo for Biomass-Burning Smoke and Mineral Dust Aerosols from A-Train Observations: **M Jeong**, C Hsu

1730h **A14C-07** East Asian dust climatology as seen by MISR, MODIS, and OMI: multi-year mean spatial patterns, seasonal cycle, and inter-annual variability: **O V Kalashnikova**, I N Sokolik, M J Garay, O Torres, D L Wu

1745h **A14C-08** Critical analysis of ten years of AOD trends over global oceans from MODIS, MISR, and NAAPS (*Invited*): **J Zhang**, J S Reid, E Hyer, J Campbell, D L Westphal

A14D Moscone West: 3004 Monday 1600h
Tropospheric Multiphase Chemistry: Aerosol Formation and Modification by Aqueous Phase Processes II

Presiding: **B Ervens**, NOAA; **H Herrmann**, IfT Leipzig

1600h **A14D-01** Ultrahigh-Resolution Fourier Transform Ion Cyclotron Resonance Mass Spectrometry Identification of Water-Soluble Atmospheric Organic Matter in Polluted Fog Waters (*Invited*): **L R Mazzoleni**, B M Ehrmann, X Shen, A G Marshall, J L Collett

1615h **A14D-02** A biogenic source of oxalic acid in marine aerosol: **M Facchini**, M Rinaldi, D Ceburnis, C O'Dowd, J Sciare, J P Burrows

1630h **A14D-03** Secondary organic aerosol formation from aqueous chemistry of glyoxal, methylglyoxal, and glycolaldehyde in atmospheric waters: Chemical insights and kinetic model studies: **Y B Lim**, Y Tan, K E Altieri, M J Perri, A G Carlton, S Seitzinger, B J Turpin

1645h **A14D-04** Light-induced multiphase chemistry of gas phase ozone on aqueous pyruvic and oxalic acids: Aerosol chamber study: **S Gligorovski**, I Grgic, S Net, O Böge, Y Iinuma, A Kahnt, S Scheinhardt, H Herrmann, H Wortham

1700h **A14D-05** Prompt formation of organic acids in pulse ozonation of terpenes on aqueous surfaces: M R Hoffmann, **A J Colussi**, S Enami

1715h **A14D-06** Atmospheric Consequences of the Hydration in Gas Phase of Aldehydes and Ketones: **V Vaida**, J L Axson, M K Maron

1730h **A14D-07** Optical Properties of Model SOA Formed by Cloud Processing: **K J Zarzana**, D O De Haan, M A Freedman, C A Hasenkopf, M A Tolbert

1745h **A14D-08** The Relative Importance of Aqueous-Phase and Gas-Phase Phenol Oxidation as Sources of SOA (*Invited*): **C Anastasio**, J Smith

Atmospheric and Space Electricity

AE14A Moscone West: 3007 Monday 1600h
Thunderstorm Effects in the Near-Earth Space Environment II (*joint with SA, A*)

Presiding: **D D Sentman**, Univ Alaska Fairbanks; **C Hanuise**, LPC2E/CNRS

1600h **AE14A-01** Physical characteristics of TLEs inferred from ISUAL observations (*Invited*): **C Kuo**, A B Chen, H Su, R Hsu, H U Frey, S B Mende, Y Takahashi, L Lee

1615h **AE14A-02** Correlated High Speed Video, Medium Range Electric-Field, and Magnetic-field observations of Sprites: **R G Sonnenfeld**, T Kanmae, H C Stenbaek-Nielsen, M G McHarg, J Li, G Lu, S A Cummer, W W Hager, R K Haaland

1630h **AE14A-03** High-speed observations of sprite halo and streamer onset: **H C Stenbaek-Nielsen**, M G McHarg, R K Haaland, T Kanmae

1645h **AE14A-04** High Speed Telescopic Imaging of Sprites: **M G McHarg**, H C Stenbaek-Nielsen, T Kanmae, R K Haaland

1700h **AE14A-05** Gigantic Jets produced by an isolated tropical thunderstorm near Réunion Island: **S Soula**, O van der Velde, J Montanya, P Huet, C Barthe

1715h **AE14A-06** Electric jets following the occurrence of sprites: **L Lee**, J Chou, S Huang, S Chang, Y Wu, Y Lee, C Kuo, A B Chen, H Su, R Hsu, H U Frey, S B Mende, Y Takahashi, L Lee

1730h **AE14A-07** Photographic and LMA observations of a blue starter over a New Mexico thunderstorm: **H E Edens**, P R Krehbiel, W Rison, S J Hunyady

1745h **AE14A-08** Ongoing Explorations of Exceptional Lightning Discharges in Several Meteorological Regimes: **W A Lyons**, T A Warner, S A Cummer, T J Lang, R E Orville

Biogeosciences

B14A Moscone West: 2006 Monday 1600h
Impacts of Land Use and Management on Soil Organic Carbon Dynamics II (*joint with PA*)

Presiding: **X Wang**, University of Maryland

1600h **B14A-01** Soil Organic C Trends in US Agroecosystems (*Invited*): **S M Ogle**, S Spencer, K Paustian, W J Parton

1620h **B14A-02** Soil organic carbon dynamics and its response to organic amendments under long-term fertilization in intensive rice systems in subtropical China: W Zhang, X Wang, **M Xu**

1640h **B14A-03** Soil carbon and nitrogen variations in wheat-corn double cropping systems under long-term fertilization in China (*Invited*): **R Cong**, M Xu, X Wang, W Zhang

1700h **B14A-04** Effects of management of ecosystem carbon pools and fluxes in grassland ecosystems: **R Ryals**, W L Silver

1715h **B14A-05** Analysis of carbon and nitrogen turnover in riparian soils undergoing restoration: D A Barry, J Battle-Aguilar, **A Brovelli**, J Luster, J Shrestha, P Niklaus

1730h **B14A-06** Estimating Changes in Soil Organic Carbon Under Selected Agriculture Residue and Fertilizer Management Practices with the Community Land Model: **B A Drewniak**, J Prell, V R Kotamarthi, J Song

1745h **B14A-07** Effects of Changing Cultivation System on Soil Carbon Dynamics in Cotton Field of Northwestern China: **Z Li**, X Wang, C Tian

B14B Moscone South: I03 Monday 1600h
Sagan Lecture (Webcast) (*joint with P*)

Presiding: **J W Harden**, U.S. Geological Survey

1600h **B14B-01** Isotope geochemistry and the study of habitability and life on other planets (*Invited*): **J Eiler**

Cryosphere

C14A Moscone West: 301 I Monday 1600h
Advances in Glacier Geophysics and Quantitative Glaciological Field Methods I (*joint with EP, G, GC, H, NH, NS, NG, OS*)

Presiding: **D C Finnegan**, Cold Regions Research & Eng. Lab; **B Kulesa**, Swansea University; **T Murray**, Swansea University; **L A Stearns**, University of Kansas; **S Anandakrishnan**, Pennsylvania State University; **G S Hamilton**, University of Maine

1600h **C14A-01** Simultaneous observations of ice motion, calving and seismicity on the Yaktse Glacier, Alaska. (*Invited*): **C F Larsen**, T C Bartholomew, S O'Neel, M E West

1615h **C14A-02** Exploring tidewater glacier retreat using past and current observations at Columbia Glacier, Alaska. (*Invited*): **S O'Neel**, W T Pfeffer, I M Howat, H Conway, Title of Team: Columbia Glacier Consortium

1630h **C14A-03** Experiences with the use of ground based interferometric radar near the calving front of Kronebreen, Svalbard. (*Invited*): **C Rolstad Denby**, A Chapuis, R Norland

1645h **C14A-04** 3-D modelling of glacier calving processes (*Invited*): **F J Navarro**

1700h **C14A-05** Inversion of IceBridge gravity data for continental shelf bathymetry beneath the Larsen ice shelf (*Invited*): **J R Cochran**, R E Bell, N Frearson, S Elieff

1715h **C14A-06** Generation and movement of subglacial water beneath Dome A, Antarctica (*Invited*): **T T Creyts**, H F Corr, R E Bell, F Ferraccioli, M Wolovick, T A Jordan, K C Rose, M Studinger

1730h **C14A-07** Understanding the influence of supraglacial lakes in Greenland using surface-based geophysics and a physical model. (*Invited*): **G A Catania**, T Neumann, L C Andrews

C14B Moscone West: 301 O Monday 1600h
Seasonal Snow Covers in a Changing Climate: Implications for Hydrological, Biogeochemical, and Ecological Processes I (*joint with B, GC, H*)

Presiding: **A W Nolin**, Oregon State University; **T E Link**, University of Idaho; **G Greenwood**, University of Bern

1600h **C14B-01** It's Not Just About The Snow: Interactions Between Snowpack And Groundwater Dynamics Mediate Streamflow Response To Climate Warming In Mountainous Terrains (*Invited*): **G E Grant**, C Tague, S Lewis

1615h **C14B-02** Ecohydrological response to snowmelt dynamics from plot to regional scales: **N P Molotch**, K N Musselman, E Trujillo, P D Brooks, J R McConnell, M W Williams

1630h **C14B-03** Response of seasonal snow cover to forest disturbance (*Invited*): **S Boon**

1645h **C14B-04** Connections Between Forest Disturbance and Snowpack in a Pacific Northwest Watershed: **E A Sproles**, A W Nolin

1700h **C14B-05** Past and future contributions of glacier melt to Columbia River streamflow: R D Moore, **G Jost**, V Radic, F S Anslow, A Jarosch, G K Clarke, B Menounos, R D Wheate, T Murdock, A T Werner

1715h **C14B-06** Influence of dust deposition on snowpack melt rate and ecohydrological processes in a subalpine forest: **G E Maurer**, D R Bowling

1730h **C14B-07** Northern Hemisphere cryosphere radiative forcing and albedo feedback during 1979–2008: **M G Flanner**, K M Shell, M J Barlage, D K Perovich, M A Tschudi

1745h **C14B-08** The role of the seasonal snowpack in discharge trends in northern Eurasia: **T J Troy**, J Sheffield, E F Wood

Education and Human Resources

ED14A Moscone South: I02 Monday 1600h
Public Participation in Geoscience Research: Engaging Citizen Scientists III

Presiding: **S Henderson**, UCAR; **A L Schloss**, University of New Hampshire

1600h **ED14A-01** Leveraging mobile phones for environmental and agricultural data collection: A look at What's Invasive! and Project BudBurst Mobile (*Invited*): **E A Graham**, D Estrin

1615h **ED14A-02** Air Twitter: Mashing Crowdsourced Air Quality Event Identification with Scientific Earth Observations (*Invited*): **E M Robinson**

1630h **ED14A-03** Dreamers, Poets, Citizens, and Scientists: Motivations for Engaging in GalaxyZoo Citizen Science: **S J Slater**, T Mankowski, T F Slater, Title of Team: Center for Astronomy & Physics Education Research CAPER Team

1645h **ED14A-04** CoCoRaHS (The Community Collaborative Rain, Hail and Snow Network): Enthusiastic Backyard Citizen Scientists Monitoring Precipitation across the United States (*Invited*): **H W Reges**, N J Doesken, N Newman, J Turner, Z Schwalbe, Title of Team: CoCoRaHS Headquarters Team

1700h **ED14A-05** Lessons from a 5 yr citizen-science monitoring program, Mountain Watch, to engage hikers in air quality/visibility and plant phenology monitoring in the mountains: **G Murray**, D Weihrauch, K Kimball, C McDonough

1715h **ED14A-06** 'Citizen Creepmeters': involving high school students in monitoring of fault movements using inexpensive equipment: **G J Funning**, J R Blueford, K York, G McAlpine

1730h **ED14A-07** Using the 2010 Eyjafjallajökull eruption as an example of citizen involvement in scientific research: **E W Klemetti**

1745h **ED14A-08** NEON Citizen Science: Planning and Prototyping (*Invited*): **W Gram**

Geodesy

G14A Moscone West: 2008 Monday 1600h
Measuring and Modeling of Active Tectonic Processes in Alaska at the Beginning of the EarthScope Era I (*joint with C, NH, S, T*)

Presiding: **J M Sauber**, NASA GSFC; **J T Freymueller**, University of Alaska Fairbanks; **D H Christensen**, Geophysical Institute

1600h **G14A-01** Impact of the Yakutat collision on the seismotectonics of Yukon and Alaska – New results and future projects (*Invited*): **S Mazzotti**

1615h **G14A-02** Flat-slab subduction, whole crustal faulting, and geohazards in Alaska: Targets for Earthscope: **S P Gulick**, T L Pavlis, R L Bruhn, G L Christeson, J T Freymueller, R A Hansen, P O Koons, G L Pavlis, S Roeske, R Reece, H J Van Avendonk, L L Worthington

1630h **G14A-03** The role of the Denali fault, slab geometry, and rheology in the deformation of the overriding plate in Alaska: **M Jadamec**, M I Billen, S Roeske

1645h **G14A-04** Observations of Glacier Dynamics in the St. Elias Mountains (*Invited*): **E W Burgess**, R R Forster, D K Hall
 1700h **G14A-05** Use of Potential Fields Data to Identify Petrological Controls on Seismicity within South-Central and Southeastern Alaska: **D I Doser**, A M Veilleux, H Rodriguez, A De La Pena, N Mankhemthong
 1715h **G14A-06** Seismic imaging along a 600 km transect of the Alaska Subduction zone (*Invited*): **J A Calkins**, G A Abers, J T Freymueller, S Rondenay, D H Christensen
 1730h **G14A-07** Integrating Surface and Seismic Observations as Constraints on Mantle Deformation and Rheology in the Alaska-Aleutian Subduction Zone (*Invited*): **M I Billen**, M Jadamec
 1745h **G14A-08** Review of Crustal (Non-Volcanic) Seismicity in the Aleutian Arc: **N A Ruppert**, N Kozyreva, R A Hansen

G14B Moscone West: 2003 Monday 1600h
The Next Generation Global Geodetic Observing Networks II
(joint with PA)

Presiding: **R S Gross**, Jet Propulsion Laboratory; **F G Lemoine**, NASA Goddard Space Flight Center; **E C Pavlis**, Univ. of Maryland, Baltimore C; **W T Petrachenko**

1600h **G14B-01** ITRF and its dependence on integrated global geodetic networks (*Invited*): **Z Altamimi**, X Collilieux
 1615h **G14B-02** Impact of reference frame uncertainties on global sea level change estimates (*Invited*): **G T Mitchum**
 1630h **G14B-03** Precise Geodetic Infrastructure: National Requirements for a Shared Resource: **J H Minster**, Z Altamimi, G Blewitt, W E Carter, A A Cazenave, H Dragert, T Herring, K M Larson, J C Ries, D T Sandwell, J M Wahr, J L Davis, D A Feary, L A Shanley, Title of Team: NRC Committee on the National Requirements for Precision Geodetic Infrastructure
 1645h **G14B-04** Modern Ground Space Geodetic Network for Space Geodesy Applications: **M R Pearlman**, E C Pavlis, Z Altamimi, C E Noll
 1700h **G14B-05** Current Trends in Satellite Laser Ranging: **G M Appleby**, G Kirchner, J McGarry, T Murphy, C E Noll, E C Pavlis, M R Pearlman, F Pierron
 1715h **G14B-06** VLBI2010: Next Generation VLBI System for Geodesy and Astrometry: **W T Petrachenko**, H Schuh, A E Niell, D Behrend, B E Corey
 1730h **G14B-07** On the definition and realization of an ITRF-compatible global vertical reference system (*Invited*): **M G Sideris**
 1745h **G14B-08** A review of the GGP network and scientific challenges (*Invited*): J Hinderer, **J Boy**, D J Crossley, S Rosat

Hydrology

H14A Moscone West: 3020 Monday 1600h
Error Characterization of Precipitation Estimation and Development of Merged Multisensor Products II
(joint with A, GC, NH)

Presiding: **A Behrangi**, NASA Jet Propulsion Laboratory, California Institute of Technology; **Y Tian**, UMBC; **T Kubota**, Japan Aerospace Exploration Agency

1600h **H14A-01** Error Sources of Rainfall Retrievals from Active and Passive Microwave Sensors (*Invited*): **S Shige**, A Taniguchi, S Kida, T Kubota
 1615h **H14A-02** Validation of Satellite-derived Precipitation Estimates at Hourly and Daily Time Scales (*Invited*): **J Janowiak**

1630h **H14A-03** A Brief Review of History, Principles, and Progress of Merging Radar-Rainfall and Rain Gauge Data (*Invited*): **W F Krajewski**
 1645h **H14A-04** Assessment of Quantitative Precipitation Forecasts from Operational NWP Models (*Invited*): **M R Sapiano**
 1700h **H14A-05** Inter-Product Verification of Incremental Complexities in the NWS Multi-sensor Precipitation Estimator Algorithm: L Qin, **E H Habib**, D Seo
 1715h **H14A-06** Quantifying Error in the CMORPH Satellite Precipitation Estimates: **B Xu**, S Yoo, P Xie
 1730h **H14A-07** Error Decomposition in Satellite-Derived Precipitation Estimates: **A AghaKouchak**, K Hsu, A Behrangi, S Sorooshian
 1745h **H14A-08** A Study of Warm-cloud rain Detection using A-Train Satellite Data: **R Chen**, Z Li, R J Kuligowski, R Ferraro

H14B Moscone West: 2002 Monday 1600h
From Pores to Catchments: Coupling Hydrologic Concepts and Models Across Multiple Scales II

Presiding: **S W Lyon**, Stockholm University; **R H Mohtar**, Purdue University; **J C Ascough**, USDA-ARS-NPA; **A L James**

1600h **H14B-01** From the local to the regional scale. What is the effect of missing vertical heterogeneity moving from fully 3-D to 2-D depth averaged dispersion models?: **G Darvini**, P Salandin
 1615h **H14B-02** Scaling soil hydraulic properties: Concepts and a research example (*Invited*): **T R Green**
 1630h **H14B-03** A Topography-Based Scaling Algorithm for Soil Hydraulic Parameters at Hill-slope Scales: **B P Mohanty**, R B Jana
 1645h **H14B-04** Investigating Plot and Watershed Scale Hydrologic and Biogeochemical Responses: **Z M Easton**, M T Walter, T S Steenhuis
 1700h **H14B-05** Linking catchment structure to hydrologic function: Implications of catchment topography for patterns of landscape hydrologic connectivity and stream flow dynamics: **K G Jencso**, B L McGlynn, L A Marshall
 1715h **H14B-06** Upscaling Physics-based Models to Estimate Catchment Scale Effects of Localised Tree Planting: **C E Ballard**, N Bulygina, N McIntyre, H S Wheeler
 1730h **H14B-07** A scaling hierarchy for hydrologic response to snowmelt in mountain basins (*Invited*): **S K Kampf**, E E Richer, C C Moore
 1745h **H14B-08** Large-scale Runoff Generation and Routing: Efficient and Scale-independent Parameterisation using High-resolution Topography and Hydrography: **L Gong**, S Halldin, C Xu

H14C Moscone West: 2004 Monday 1600h
Hydroepidemiology: Understanding Connections Between Hydrology and Human Health II
(joint with B, PA)

Presiding: **A Bombli**, University of Vermont; **D M Rizzo**, University of Vermont; **A S Jutla**, Tufts University; **E Podest**, JPL; **K C McDonald**, Jet Propulsion Lab

1600h **H14C-01** Linkage of Global Water Resources, Climate, and Human Health: A Conundrum for Which Cholera Offers a Paradigm (*Invited*): **R Colwell**
 1615h **H14C-02** On Spatially Explicit Models of Cholera Epidemics: Hydrologic controls, environmental drivers, human-mediated transmissions (*Invited*): **A Rinaldo**, E Bertuzzo, L Mari, L Righetto, M Gatto, R Casagrandi, I Rodriguez-Iturbe
 1630h **H14C-03** The Arsenic crisis in Bangladesh (*Invited*): **C Harvey**, K Ashfaq, R B Neumann, B Badruzzaman, A Ali

1645h **H14C-04** From Fall to Spring, or Spring to Fall? Seasonal Cholera Transmission Cycles and Implications for Climate Change: A S Akanda, A S Jutla, A Huq, R Colwell, **S Islam**, Title of Team: WE REASoN (Water and Environmental Research, Education, and Actionable Solutions Network)

1700h **H14C-05** Connections of water and malaria in Africa: **E A Eltahir**

1715h **H14C-06** Remote Sensing Assessment of Soil Moisture, Soil Mineralogy and other Environmental Factors Influencing Mosquito-borne Infection Risks in the Lower Rio Grande Valley, U.S. – Mexico Border (*Invited*): **B E Hubbard**, H W Folger, W R Page

1730h **H14C-07** Remote Sensing Proxies for Vector-borne Disease Risk Assessment (*Invited*): **A Anyamba**

1745h **H14C-08** Mapping Neglected Swimming Pools from Satellite Data for Urban Vector Control: C M Barker, **F S Melton**, W K Reisen

H14D Moscone West: 3016 Monday 1600h
Megascale Hydrogeology: The Promise and Challenge of Examining Groundwater Systems at Regional and Continental Scales I (*joint with G*)

Presiding: **T Gleeson**, UBC; **J Lemieux**, Université Laval; **Y Fan**, Rutgers University

1600h **H14D-01** Emerging Trends in Freshwater Availability from GRACE (*Invited*): **J S Famiglietti**, M Rodell, S C Swenson, D P Chambers, K Voss, M Lo, C de Linage, K J Anderson, J T Reager, R Rivera, H Liu, I Velicogna, J Wahr, R Nerem

1618h **H14D-02** Large Scale Variability of Ground Water Storage: the Mississippi River Basin (*Invited*): **M Rodell**, T Townsend, J S Famiglietti, B Li, J Nigro

1636h **H14D-03** Thermal Springs of North America: Heat Flow or Hydrogeology?: **G A Ferguson**, S E Grasby

1648h **H14D-04** A Physically-Based Approach to Assess the Impact of Climate Change on Canadian Water Resources (*Invited*): **E A Sudicky**, J Chen, W R Peltier, Y Park

1706h **H14D-05** Ice-Sheet Aquifer Interactions within the midcontinent, USA: Implications for CO₂ Sequestration (*Invited*): **M A Person**, A Banerjee, J C McIntosh, M E Schlegel, C W Gable, D Cohen, J Rupp

1724h **H14D-06** Regional scale groundwater flow systems and age distribution in basins with depth-decaying hydraulic conductivity: **X Jiang**, L Wan, X Wang, S Ge, G Cao, F Hu

1736h **H14D-07** Mega-scale Groundwater Flow in the Submarine Plover Aquifer, Continental Shelf of Northern Australia: **G Garven**, B James, J Gale

1748h **H14D-08** Developing a new model for the Great Artesian Basin of Australia: hydrologic mixing, multi-scale flow systems, fault-partitioned sub-basins, and mantle influences on groundwater quality, superimposed on regional flow systems: **A Love**, K E Karlstrom, L J Crossey, P Shand, P Rousseau-Gueutin, S Priestley, R J Poreda

H14E Moscone West: 3014 Monday 1600h
Uncertainty Analysis Approaches in Hydrologic Modeling I

Presiding: **R S Teegavarapu**, Florida Atlantic University; **C S Pathak**, South Florida Water Management; **S U Senarath**, SFWMD

1600h **H14E-01** Quantile hydrologic model selection and uncertainty assessment: **S PANDE**, M A Keyzer, H Savenije, A K Gosain

1615h **H14E-02** Bayesian Analysis Of Stormwater Quality Treatment: Application To A Surface Sand Filter And A Subsurface Gravel Wetland: **P Avellaneda**, T P Ballesterio, R Roseen, J Houle, E Linder

1630h **H14E-03** Cumulative density function of runoff rate along heterogeneous hill slopes: **P Wang**, D M Tartakovsky

1645h **H14E-04** Sensitivity Analysis of Satellite Rainfall Forcing and Land-surface Model Parameter Uncertainty on Soil Moisture Prediction: **V Maggioni**, E N Anagnostou, R H Reichle

1700h **H14E-05** Monte Carlo simulation to characterize stormwater runoff uncertainty in a changing climate: **G S Karlovits**, J C Adam

1715h **H14E-06** A Bayesian Toolkit for Modeling Perennial and Ephemeral Catchments: **T J Smith**, A Sharma, L A Marshall, R Mehrotra, S Sisson

1730h **H14E-07** Efficient Bayesian Inference for Hydrological Modeling Applications: The Sequential Monte Carlo Sampler: **E J Jeremiah**, S Sisson, L A Marshall, R Mehrotra, A Sharma

1745h **H14E-08** Temporal variability in the stage-discharge relation: **J Guerrero**, I Westerberg, S Halldin, C Xu, L Lundin

H14F Moscone West: 3018 Monday 1600h
Water Security and Sustainability II

Presiding: **J A Tindall**, US DOI - USGS; **A A Campbell**; **E H Moran**, USGS

1600h **H14F-01** Water Security – National and Global Issues: **J A Tindall**, A A Campbell, E H Moran

1615h **H14F-02** Water System Resiliency: Lessons from Boston's 2010 Water Emergency: **N Phillips**, Title of Team: Boston Urban Metabolism ULTRA-ex Team

1630h **H14F-03** Quantifying the Dimensions of Water Crisis in India: Spatial Water Deficits and Storage Requirements: **S Perveen**, N Devineni, U Lall

1645h **H14F-04** Sensitivity of Storage Systems in India: Role of Human Behavior Responsive to Low Frequency Climate Variations: **N Devineni**, S Perveen, U Lall

1700h **H14F-05** WITHDRAWN

1715h **H14F-06** A Holistic Assessment of the Sustainability of Groundwater Resources in the North China Plain: **G Cao**, C Zheng, J Liu, W Li

1730h **H14F-07** A worldwide view of groundwater depletion: L P Van Beek, **Y Wada**, C Van Kempen, J W Reckman, S Vasak, M F Bierkens

1745h **H14F-08** Incorporating Risk and Indicators into a Water Security Framework: **D M Allen**, K Bakker, M W Simpson, E Norman, G Dunn

Earth and Space Science Informatics

IN14A Moscone South: 302 Monday 1600h
Interoperability Barriers for Earth Science Data Systems II
(*joint with AE, B, C, EP, GC, H, NH, V*)

Presiding: **S W Berrick**, NASA; **Y Enloe**; **H Hua**, NASA/JPL; **A Wilson**, LASP

1600h **IN14A-01** NASA's Standards Process For Earth Science Data Systems (*Invited*): **R Ullman**, Y Enloe

1615h **IN14A-02** Interoperability Barriers in NASA Earth Science Data Systems from the Perspective of a Science User (*Invited*): **K Kuo**

1630h **IN14A-03** Reducing barriers to interoperability through collaborative development of standards for Earth science information systems: **G S Percivall**, D K Arctur

1645h **IN14A-04** Consistent Inventories – the Largest Obstacle to Interoperable Data Systems (*Invited*): **P C Cornillon**, J Gallagher, D Holloway

1700h **IN14A-05** Advances in the NetCDF Data Model, Format, and Software: **R K Rew**, E J Hartnett, D Heimbigner, J L Caron

1715h **IN14A-06** LASP Time Series Server (LaTiS): Overcoming Data Access Barriers via a Common Data Model in the Middle Tier (*Invited*): **D M Lindholm**, A Wilson

1730h **IN14A-07** Interoperable Data Systems for Satellite, Airborne, and Terrestrial LiDAR Data: **C M Meertens**, C Baru, B Blair, C J Crosby, T M Haran, D J Harding, M A Hofton, S S Khalsa, J McWhirter

1745h **IN14A-08** Global interoperability in the oceanographic sea surface temperature community: **E M Armstrong**, K S Casey, J Vazquez, T Habermann, A Bingham, C K Thompson, C J Donlon

IN14B Moscone South: 310 Monday 1600h
Software Engineering for Climate Modeling (*joint with A, G, GC, OS*)

Presiding: **T Clune**, NASA GSFC; **T J Lee**, NASA

1600h **IN14B-01** Do Over or Make Do? Climate Models as a Software Development Challenge (*Invited*): **S M Easterbrook**

1620h **IN14B-02** Emergence of a Common Modeling Architecture for Earth System Science (*Invited*): **C DeLuca**

1640h **IN14B-03** Making Sense of Complexity with FRE, a Scientific Workflow System for Climate Modeling (*Invited*): **A R Langenhorst**, V Balaji, A Yakovlev

1700h **IN14B-04** Software Engineering Practices in the Development of NASA Unified Weather Research and Forecasting (NU-WRF) Model: **R Burns**, S Zhou, R Syed

1715h **IN14B-05** Constraints and Opportunities in GCM Model Development: G A Schmidt, **T Clune**

1730h **IN14B-06** NOAA-GFDL's Workflow for CMIP5/IPCC AR5 Experiments: **J P Krasting**, V Balaji, A R Langenhorst, S Nikonov, A Radhakrishnan, R J Stouffer

1745h **IN14B-07** Programming Makes Software; Support Makes Users: **A L Batcheller**

Natural Hazards

NH14A Moscone West: 3022 Monday 1600h
Extreme Natural Events: Modeling, Prediction, and Mitigation III (*joint with NG*)

Presiding: **A Ismail-Zadeh**, Karlsruhe Institute of Technology; **I Zaliapin**, University of Nevada

1600h **NH14A-01** Hurricane Risk Assessment: Wind Damage and Storm Surge (*Invited*): **N Lin**, E H Vanmarcke, K Emanuel

1620h **NH14A-02** Does It Make Sense to Modify Tropical Cyclones? A Decision-Analytic Assessment: **K Klima**, M G Morgan, I Grossmann

1635h **NH14A-03** Extreme precipitation events: Comparative evaluation of high resolution regional climate models in European Alpine region: **N K Awan**, A Gobiet, M Suklitsch

1650h **NH14A-04** Precursory Activation and Quiescence Prior to Major Earthquakes: **J B Rundle**, J R Holliday, D L Turcotte, K F Tiampo, W Klein, W Graves

1705h **NH14A-05** Landslide hazard, vulnerability and risk assessment: methods, limits and challenges (*Invited*): **F Guzzetti**

1725h **NH14A-06** Tsunami Modeling, Forecast and Warning (*Invited*): **K Satake**

1745h **NH14A-07** Examining Insurance Loss Return Periods with Extreme Event Intensity Thresholds across the US: 1980-2010: **A B Smith**

Ocean Sciences

OS14A Moscone West: 3009 Monday 1600h
Integrated Studies at Oceanic Spreading Centers: Linking Spreading Center Processes Across Disciplinary Boundaries II (*joint with B, T, V*)

Presiding: **G W Luther**, Univ Delaware; **N W Hayman**, University of Texas

1600h **OS14A-01** Modeling the growth and constraints of thermophiles and biogeochemical processes in deep-sea hydrothermal environments (*Invited*): **J F Holden**, H C ver Eecke, T J Lin, D A Butterfield, E J Olson, J Jamieson, J K Knutson, M D Dyar

1615h **OS14A-02** Metal Sulfide and Pyrite Nanoparticles form in Hydrothermal Vent Waters (*Invited*): **G W Luther**, M Yucel, A Gartman

1630h **OS14A-03** Vapor-Liquid Partitioning of Iron and Manganese in Hydrothermal Fluids: An Experimental Investigation with Application to the Integrated Study of Basalt-hosted Hydrothermal Systems: **N J Pester**, W E Seyfried

1645h **OS14A-04** Evidence for deep sea hydrothermal fluid-mineral equilibrium from multiple S isotopes: **J M McDermott**, S Ono, M K Tivey, J Seewald

1700h **OS14A-05** Characterization of the in situ magnetic and lithologic architecture of Hess Deep using near-bottom vector magnetic data: C J MacLeod, **M Tominaga**, M Tivey, A Morris, D J Shillington

1715h **OS14A-06** Ocean crustal fault rocks and the chemo-mechanical record of hydrothermal fluid flow: **N W Hayman**, J A Karson

1730h **OS14A-07** Cumulative moment release along-axis at the EPR ISS from May 2005 to April 2006: **M Tolstoy**, F Waldhauser, D R Bohnenstiehl, L Doermann, A R Stolzmann

1745h **OS14A-08** MICROBATHYMETRY REVEALS LANDSLIDE ACTIVITY SHAPING THE WALLS OF THE MID-ATLANTIC RIDGE AXIAL VALLEY: **M Cannat**, H Ondréas, A Mangeny, Y Fouquet

Planetary Sciences

P14A Moscone South: 306 Monday 1600h
Evolution of Planetary Atmospheres II (*joint with A*)

Presiding: **F Tian**, University of Colorado; **Y L Yung**, Caltech; **S D Domagal-Goldman**, University of Washington; **C Goldblatt**, University of Washington

1600h **P14A-01** The atmospheric evolution of Venus the habitable planet. (*Invited*): **K J Zahnle**, Y Abe, A Abe-Ouchi, N H Sleep

1615h **P14A-02** Constraints on the Archean Surface Environment from Mass-Independent Sulfur Isotopes (*Invited*): **I Halevy**, D T Johnston, D P Schrag

1630h **P14A-03** Variations in the magnitude of non mass dependent sulfur fractionation in the Archean atmosphere: **M Claire**, J F Kasting

1645h **P14A-04** Evolution Of The Martian Atmosphere And Climate (*Invited*): **B M Jakosky**

1700h **P14A-05** Titan atmosphere and evolution (*Invited*):

C P McKay

1715h **P14A-06** Atmospheric replacement and late formation of N₂ on undifferentiated Titan during the Late Heavy Bombardment:

Y Sekine, H Genda, S Sugita, T Kadono, T Matsui

1730h **P14A-07** WITHDRAWN

1745h **P14A-08** Characterization of extrasolar planetary atmospheres by thermal infrared photometry: **R Pierrehumbert**, J P Lloyd

P14B Moscone South: 308 Monday 1600h
Rosetta Flybys of Asteroids 2867 Steins and 21 Lutetia II

Presiding: **C J Alexander**, Jet Propulsion Laboratory; **P D Feldman**, Johns Hopkins University

1600h **P14B-01** The Rosetta Encounters with (2867) Steins and (21) Lutetia – An Overview (*Invited*): **R Schulz**, M Küppers, K Wirth

1612h **P14B-02** Imaging Asteroid (21) Lutetia with OSIRIS onboard Rosetta (*Invited*): **H Keller**, C Barbieri, D Koschny, P L Lamy, H Rickman, R Rodrigo, H Sierks, Title of Team: OSIRIS Team

1624h **P14B-03** Possible Detection of Water in the Exosphere of (21) Lutetia: **P Wurz**, K Altwegg, H R Balsiger, A Jäckel, B Schläppi, M Hässig, L Hofer, U A Mall, B Fiethe, T I Gombosi, S A Fuselier, H Reme, J Berthelier, J M De Keyser

1636h **P14B-04** Lutetia: First results of VIRTIS -M data analysis: **A Coradini**, F Capaccioni, S Erard, G Arnold, E Ammannito, M Capria, M De sanctis, G Filacchione, F Tosi, Title of Team: VIRTIS team

1648h **P14B-05** Ultraviolet Exploration of 21 Lutetia by the Alice UV Spectrometer Aboard Rosetta: **J Parker**, S A Stern, A J Steffl, P D Feldman, H A Weaver, M F A'Hearn, M Versteeg, E Birath, A Graps, L M Feaga, J Scherrer, D Slater, N Cunningham, J Bertaux

P14C Moscone South: 308 Monday 1700h
Asteroids and Meteorites II

Presiding: **P J McCausland**, Univ Western Ontario; **K K Min**, University of Florida

1700h **P14C-01** Thermal weathering of airless rocky bodies: **J L Molaro**, S Byrne

1715h **P14C-02** Alkaline Element Fractionations in LL-chondritic Breccias: **K Misawa**, T Yokoyama, O Okano

1730h **P14C-03** Quantitative shock stage assessment in olivine and pyroxene bearing meteorites via in situ micro-XRD: **P J McCausland**, R L Flemming, M R Izawa

1745h **P14C-04** Single-Grain (U-Th)/He Ages of Phosphates from St. Severin Chondrite: **K K Min**, P W Reiners, D L Shuster

Paleoceanography and Paleoclimatology

PP14A Moscone West: 2005 Monday 1600h
Cretaceous Arctic Environments: Proxies for Understanding Climate Change From the “Other” Greenhouse Interval II

Presiding: **A R Fiorillo**, Museum of Nature and Science; **P J McCarthy**, University of Alaska; **G R Upchurch**, Texas State University; **G A Ludvigson**, University of Kansas

1600h **PP14A-01** Where were Arctic Alaska and Beringia during the Cretaceous?: **L A Lawver**, L M Gahagan, I O Norton

1615h **PP14A-02** Clumped isotope thermometry of modern and early Cretaceous molluscan carbonate from high-latitude seas (*Invited*): **G A Henkes**, G D Price, W G Ambrose, M L Carroll, B H Passey

1630h **PP14A-03** Cretaceous high latitude climate—Are we closing the model-data gap? (*Invited*): **C J Poulsen**, J Zhou

1645h **PP14A-04** The Global Hydrologic Cycle Contribution to Polar Warmth During the mid-Cretaceous Revealed by Oxygen Isotopic Compositions of Pedogenic Carbonates (*Invited*): **M B Suarez**, L A Gonzalez, G A Ludvigson

1700h **PP14A-05** An intermodel comparison of the response of the mid-Cretaceous Arctic climate to CO₂ forcing: **J Zhou**, C Poulsen

1715h **PP14A-06** Paleoclimatological implications of Mid-Cretaceous paleosol sphaerosiderites from 70 degrees paleonorth, central Spitsbergen: **T White**

1730h **PP14A-07** Simulating the Warm Arctic Environment for the Latest Cretaceous Using the Community Climate System Model (CCSM3) (*Invited*): **C A Shields**, G R Upchurch, J T Kiehl, J Scherer, C Scotese

1745h **PP14A-08** Constraining Late Cretaceous Terrestrial High-Latitude Water Using Oxygen Isotopic Compositions of Pedogenic Siderite and Dinosaur Tooth Enamel: A Multi-proxy Approach: **C A Suarez**, G A Ludvigson, L A Gonzalez, J C Lollar, A R Fiorillo, P J McCarthy

PP14B Moscone West: 2007 Monday 1600h
Paleohistory of the Greenland Ice Sheet II (*joint with C, G*)

Presiding: **A E Carlson**, University of Wisconsin-Madison; **J S Stoner**, Oregon State University

1600h **PP14B-01** Greenland's early glacial history in the context of late Cenozoic global cooling (*Invited*): **R DeConto**, S J Koenig, D Pollard

1615h **PP14B-02** Glacial-interglacial variability of the Greenland Ice Sheet in the Pliocene: **S J Koenig**, R DeConto, D Pollard

1630h **PP14B-03** The North Atlantic/Arctic climate system with reduced Greenland Ice: insights from isotopic stages 11 and 5 (*Invited*): **A de Vernal**, C Hillaire-Marcel

1645h **PP14B-04** Importance of Insolation Anomalies for Eemian Greenland Ice Sheet Melt: **W Van De Berg**, M R van den Broeke, J Ettema, E van Meijgaard, F Kaspar

1700h **PP14B-05** Greenland Ice Sheet retreat during the Eemian: **M Helsen**, R Van de Wal, M R van den Broeke, W Van De Berg, J Oerlemans

1715h **PP14B-06** Reconstruction of the Greenland Ice Sheet since LGM (*Invited*): **K H Kjaer**, N K Larsen, S Funder, K Kjeldsen

1730h **PP14B-07** Greenland Ice Sheet Retreat from the Central West Greenland Shelf during the Last Deglaciation and the early Holocene (*Invited*): **A E Jennings**, M E Walton, C O'Cofaigh, A A Kilfeather, M Moros, J T Andrews

1745h **PP14B-08** Holocene relative sea level changes in Greenland: a review: **O Bennike**

SPA-Aeronomy

SA14A Moscone South: 301 Monday 1600h Ice Layers in the Mesopause Region: The Role of Dynamics and Relationship to the Environment in Which They Form I (joint with A)

Presiding: J M Russell, Hampton University; S M Bailey, Virginia Tech

- 1600h SA14A-01 Homogeneous nucleation of amorphous solid water particles in the upper mesosphere: E J Jensen, B J Murray
- 1615h SA14A-02 First determination of the fractal perimeter dimension of noctilucent clouds/polar mesospheric clouds (*Invited*): C von Savigny, L Brinkhoff, S M Bailey, C E Randall, J M Russell
- 1630h SA14A-03 CIPS/AIM Observation of Polar Mesospheric Cloud Structures and NOGAPS-ALPHA Analysis of the Environment in Which These Structures Form: B Thuraijajah, S M Bailey, D E Siskind, J D Lumpe, K Nielsen, C E Randall, M J Taylor, J Russell
- 1645h SA14A-04 Characteristics of gravity waves in the summer polar mesosphere and their dynamical effects on polar mesospheric clouds (*Invited*): M J Taylor, Y Zhao, P Pautet, C E Randall, A Chandran, S M Bailey, J Russell
- 1700h SA14A-05 Middle Atmospheric Interannual Variability as Recorded by Three years of the NOGAPS-ALPHA Analysis (*Invited*): D E Siskind
- 1715h SA14A-06 The roles of the saturation vapor pressure and water vapor partial pressure in controlling different stages of the polar mesospheric cloud season: P Rong, J Russell, M E Hervig, S M Bailey
- 1730h SA14A-07 An improved method for mesospheric ice temperature retrieval from 850 cm⁻¹ libration and 3200 cm⁻¹ vibration bands: S V Petelina, A Y Zasetsky
- 1745h SA14A-08 Combined studies of noctilucent clouds by Odin and AIM (*Invited*): J Gumbel, K Hultgren, S M Bailey, S Benze, B Karlsson, J D Lumpe, C E Randall

SPA-Solar and Heliospheric Physics

SH14A Moscone South: 309 Monday 1600h First Results From the Solar Dynamics Observatory III

Presiding: W D Pesnell, NASA / GSFC; P C Chamberlin, NASA / GSFC; N E Hurlburt, Lockheed Martin ATC

- 1600h SH14A-01 Ubiquitous Alfvénic Motions in Quiet Sun, Coronal Hole and Active Region Corona: S W Mcintosh, B De Pontieu, M Carlsson, V H Hansteen, Title of Team: The SDO/AIA Mission Team
- 1615h SH14A-02 SDO/AIA Observation of Kelvin-Helmholtz Instability in the Solar Corona associated with CME: L Ofman, B J Thompson
- 1630h SH14A-03 The Genesis of an Impulsive CME observed by AIA on SDO: S Patsourakos, A Vourlidas, G Stenborg
- 1645h SH14A-04 Data-Driven Simulations of Coronal Magnetic Fields: A First Attempt with SDO Data: C Cheung, M L DeRosa
- 1700h SH14A-05 Sunspot Seismology with the Solar Dynamics Observatory Helioseismic and Magnetic Imager: D C Braun, A C Birch, A D Crouch, C Clack, D Dombroski, M Rempel
- 1715h SH14A-06 Analysis of Photospheric Convection Cells with SDO/HMI: P E Williams, W D Pesnell
- 1730h SH14A-07 Tracking Vector Magnetograms from the Solar Dynamics Observatory: P W Schuck, X Sun, K Muglach, J T Hoeksema

1745h SH14A-08 Initial Results from SDO/HMI Time-Distance Helioseismology Data Analysis Pipeline: J Zhao, R S Bogart, S P Couvidat, T L Duvall, A C Birch, K Parchevsky, A G Kosovichev, J G Beck

SPA-Magnetospheric Physics

SM14A Moscone South: 305 Monday 1600h Dynamical Processes of the Cusp/Polar Cap Ionosphere II (joint with SA)

Presiding: J I Moen, University of Oslo; K Hosokawa, The Univ. of Electro-Communications; L P Dyrud, Johns Hopkins University APL

- 1600h SM14A-01 Cusp/polar cap dynamics challenge science and communications/GNSS (*Invited*): H C Carlson
- 1625h SM14A-02 Distributed ground-based optical observations of polar cap patches: J M Holmes, T R Pedersen, M G Johnsen, R Esposito
- 1640h SM14A-03 Inter-Hemispheric Comparison of GPS Phase Scintillation at High Latitudes during the Magnetic-Cloud-Induced Geomagnetic Storm of April 5-7, 2010: P Prikryl, L Spogli, P T Jayachandran, C N Mitchell, B Ning, G Li, D W Danskin, E L Spanswick, E F Donovan, L Alfonsi, G De Franceschi, V Romano
- 1655h SM14A-04 On the characteristic feature of the electron density irregularities in the cusp: T Abe, J Moen
- 1710h SM14A-05 First observations of ionospheric irregularities and flows over the south geomagnetic pole from the SuperDARN HF radar at McMurdo Station, Antarctica: W A Bristow, R T Parris, J Spaleta
- 1725h SM14A-06 The Influence of Solar Sector Structure on the Ionosphere: K A McWilliams, D R Huyghebaert
- 1740h SM14A-07 Initial Results from the Resolute Bay Incoherent Scatter Radar: M J Nicolls, H Bahcivan, C J Heinselman

SM14B Moscone South: 307 Monday 1600h Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles III (joint with AE, SA, SH)

Presiding: J Bortnik, UCLA; L J Lanzerotti, NJIT

- 1600h SM14B-01 Origin of Earth's diffuse aurora (*Invited*): R M Thorne, B Ni, X Tao, R B Horne, N P Meredith
- 1618h SM14B-02 Identifying the Driver of Pulsating Aurora using THEMIS: J W Bonnell, T Nishimura, J Bortnik, W Li, R M Thorne, L R Lyons, V Angelopoulos, S B Mende, O LeContel, C M Cully, R E Ergun, H Auster
- 1633h SM14B-03 ELF wave intensification in conjunction with fast earthward flow in the mid-tail plasma sheet ——— A THEMIS survey: J Liang, B Ni, C M Cully, E F Donovan, R M Thorne, Title of Team: THEMIS team
- 1647h SM14B-04 Modulation of whistler-mode chorus waves: W Li, R M Thorne, J Bortnik, T Nishimura, L Chen, V Angelopoulos
- 1701h SM14B-05 Modeling of Hiss spectrum from ray tracing study of chorus waves: L Chen, J Bortnik, W Li, R M Thorne
- 1715h SM14B-06 Predicting and testing the chirp rate of whistler-mode chorus: C M Cully
- 1730h SM14B-07 Chorus emissions measured by Cluster spacecraft at different L-shells: E Macusova, O Santolik, J S Pickett, D A Gurnett, N Cornilleau Wehrin
- 1745h SM14B-08 Non-Linear Processes Associated with the Generation of Whistler Waves and their Effects on Electrons: V Decyk, D Schriver, M Ashour-Abdalla, P M Travnicek, D Winningham, J S Pickett, O Santolik, M L Goldstein

Mineral and Rock Physics

MR14A Moscone West: 2024 Monday 1600h
Physical State of Planetary Cores I (*joint with DI, V*)

Presiding: R Caracas, Ecole Normale Supérieure; Y Fei, Carnegie Institution of Washington

1600h **MR14A-01** Characterizing planetary cores with spin and gravity measurements (*Invited*): J Margot

1615h **MR14A-02** Planetary cores: a geodynamic perspective (*Invited*): F Nimmo

1630h **MR14A-03** Electrical and Thermal Conductivity of Liquid Iron at Core Pressures and Temperatures: First-Principles Calculations: N de Koker, G Steinle-Neumann, V Vlček

1645h **MR14A-04** Viscosity of Iron: E Abramson, J Brown

1700h **MR14A-05** Constraints on the Composition of the Earth's Liquid Outer Core from Shock Wave Density and Sound Velocity Measurements: Y Fei, H Huang, L Cai, F Jing, H Xie, L Zhang, Z Gong

1715h **MR14A-06** Geochemistry of Planetary Cores: Insights from Iron Meteorites: R J Walker

1730h **MR14A-07** Core-mantle partitioning of oxygen on Earth and Mars (*Invited*): K Tsuno, D J Frost, D C Rubie

1745h **MR14A-08** Isotope fractionation during core formation (*Invited*): A Shahar, E D Young, V J Hillgren, Y Fei

Seismology

S14A Moscone West: 2009 Monday 1600h
Recent Advances in Infrasonic Science II (*joint with A, EP, OS, V*)

Presiding: S Arrowsmith, Los Alamos National Laboratory; M A Hedlin, U.C. San Diego; A Hutko, IRIS DMC; J M Lees, University of North Carolina; S R McNutt, UAFGI; K T Walker, IGPP/SIO/UCSD

1600h **S14A-01** Investigation of the infrasonic produced by geophysical events such as volcanoes, thunder, and avalanches: the case for local infrasonic monitoring (*Invited*): J B Johnson, O E Marcillo, R O Arechiga, R Johnson, H E Edens, H Marshall, S Havens, G P Waite

1615h **S14A-02** Harmonic Tremor and Gliding: Acoustic Chug Swarms at Tungurahua, Ecuador: J M Lees, M C Ruiz

1630h **S14A-03** Low-frequency Acoustic/Seismic Coupling in Deep Sediments: Skyquakes Look Like Earthquakes in the Mississippi Embayment (*Invited*): C A Langston

1645h **S14A-04** Finite-Difference Time-Domain Modeling of Infrasonic Waves Generated by Supersonic Auroral Arcs: V P Pasko

1700h **S14A-05** Probing atmospheric structure with infrasonic ambient noise interferometry (*Invited*): M M Haney, L G Evers, J Fricke

1715h **S14A-06** Seismo-Acoustic Studies in the European Arctic (*Invited*): S J Gibbons

1730h **S14A-07** Infrasonic source location imaging with the USArray: Application to one year of seismic data: K T Walker, R Shelby, M A Hedlin, C D deGroot-Hedlin

1745h **S14A-08** Using the Transportable Array to Explore the Relationship between Atmospheric Pressure and Ground Displacement: R Woodward, R W Busby, K Hafner

Tectonophysics

T14A Moscone West: 2011 Monday 1600h
Active Monitoring in Geophysics I (*joint with S, NH, G*)

Presiding: V A Korneev, Lawrence Berkeley National Laboratory; M S Zhdanov, University of Utah

1600h **T14A-01** 4D imaging of velocity variation of the underground by single ultra-stable seismic source and multi-receivers (*Invited*): J Kasahara, Y Hasada, K Tsuruga, N Fujii

1620h **T14A-02** PERSPECTIVES OF ELECTROMAGNETIC SOUNDING IN THE ARCTIC OCEAN (*Invited*): E Velikhov, S Korotaev, M Kruglyakov, D Orekhova, I Popova, Y Schors, V Shneyer, I Trofimov, M S Zhdanov

1640h **T14A-03** Stress-Activated Electric Currents in the Earth Crust: How they Can and Cannot Flow (*Invited*): F T Freund, T E Bleier, J Bortnik, R Dahlgren

1700h **T14A-04** Short-term and Imminent Precursors of Haiti M7.0 Earthquake: Earth Degassing and Thermal Vortex Rotated Movement: Z Qiang, J Qiang, Z Zeng, J Wang, H Xie

1715h **T14A-05** Geophysical Simulations Conducted by the SEG Advanced Modeling Project (SEAM) for a Deepwater Subsalt Resource: M C Fehler

1730h **T14A-06** Large-scale three-dimensional inversion of EarthScope MT data using the integral equation method: M S Zhdanov, A Gribenko, M Green, M Cuma

1745h **T14A-07** Crustal heat production measurements near the Sudbury geo-neutrino observatory: Implications for calculating the crustal geo-neutrino flux: C Perry, C Phaneuf, J Mareschal

T14B Moscone West: 2020 Monday 1600h
Subduction Zone Segmentation Over Multiple Earthquake Cycles II (*joint with G, NH, S*)

Presiding: I Shennan, Durham University; A J Meltzner, Nanyang Technological University; R C Witter, Oregon Dept of Geology and Mineral Industries; C Goldfinger, Oregon State University

1600h **T14B-01** Fault Segmentation and Earthquake Generation in the Transition from Strike-slip to Subduction Plate Motion, Saint Elias Orogen, Alaska and Yukon (*Invited*): R L Bruhn, I Shennan, T L Pavlis

1615h **T14B-02** What can coastal wetland stratigraphy tell us about megathrust segmentation at Cascadia? (*Invited*): A R Nelson

1630h **T14B-03** Plate boundary segmentation and upper/lower plate structure in Cascadia: A M Trehu

1645h **T14B-04** Holocene Paleoeearthquakes in the region of the 2004 Sumatra-Andaman Earthquake Compared with other Paleoseismic Data: J R Patton, C Goldfinger, A E Morey, Y Surachman, U Udrek

1700h **T14B-05** Subducted seafloor relief stops rupture in South American great earthquakes: Implications for rupture behaviour in the 2010 Maule, Chile earthquake: R Sparkes, F J Tilmann, N Hovius, J Hillier

1715h **T14B-06** Seismotectonic segmentation along the Chilean megathrust (*Invited*): D Melnick, M Moreno

1730h **T14B-07** Towards inferring earthquake patterns from geodetic observations of interseismic coupling (*Invited*): Y Kaneko, J Avouac, N Lapusta

1745h **T14B-08** Dynamic Rupture Segmentation Along The Nankai Trough, Southwest Japan: S Hok, E Fukuyama, C Hashimoto

T14C Moscone West: 2018 Monday 1600h
The Colorado Plateau and Its Margins I (*joint with S, V, G, GP, DI*)

Presiding: **I W Bailey**, University of Southern California; **M S Miller**, University of Southern California

1600h **T14C-01** Thermal and chemical modification of the lithosphere beneath the Colorado Plateau and implications for its Cenozoic evolution (*Invited*): **M Roy**

1615h **T14C-02** Dynamic subsidence and uplift of the Colorado Plateau (*Invited*): **L Liu**, M Gurnis

1630h **T14C-03** Crust and Mantle Structure Beneath the Colorado Plateau (*Invited*): **S P Grand**, J W van Wijk, W S Baldrige, R C Aster, J F Ni, D Wilson

1645h **T14C-04** An integrated model for the post-Laramide evolution of the Grand Canyon and the Colorado Plateau: **X Robert**, R Moucha, K X Whipple, A M Forte, P W Reiners

1700h **T14C-05** Post-Cretaceous stability and lithospheric architecture of the Colorado Plateau (CP): multiple working hypotheses for complex Moho structure. (*Invited*): **K E Karlstrom**, A Levander, B Schmandt, K G Dueker, R Crow, D D Coblenz, M S Miller, R C Aster, E Humphreys

1715h **T14C-06** Seismic Evidence for Thermochemical Delamination and Convective Downwelling under the Western Colorado Plateau: **A Levander**, B Schmandt, M S Miller, K Liu, K E Karlstrom, R S Crow, C Lee, E Humphreys

1730h **T14C-07** Strain rate field for Arizona and the Colorado Plateau estimated using campaign and continuous GPS velocities: **A A Holland**, R A Bennett, C W Kreemer, R Baker, K E Anderson, W E Lytle

1745h **T14C-08** P, S, and Rayleigh wave tomography of the southwestern U.S. upper mantle: **B Schmandt**, D W Forsyth, C J Rau, E Humphreys

T14D Moscone West: 2016 Monday 1600h
The Formation and Deformation of the Mediterranean Basins, Continental Margins, and Arcs II (*joint with GP, MR, NH, S, V, G*)

Presiding: **F D Pearce**, MIT

1600h **T14D-01** Arabia/Africa/Eurasia kinematics and the Dynamics of Post-Oligocene Mediterranean Tectonics: **S McClusky**, **R E Reilinger**

1615h **T14D-02** Dynamics of subduction, accretion, exhumation and slab roll-back: Mediterranean scenarios: **C Tirel**, J Brun, E B Burov, M J Wortel, S Lebedev

1630h **T14D-03** Plate boundary re-organization in the western Mediterranean: **M J Wortel**, R M Govers, M Baes

1645h **T14D-04** Initiation of the post-Oligocene subduction phase in the Western Mediterranean (*Invited*): **R M Govers**, M J Wortel, M Baes

1700h **T14D-05** Probing the deep structure and geodynamics of the Gibraltar Arc System by integrating new data sets from the IberArray platform (*Invited*): **J Gallart**

1715h **T14D-06** Seismic structure and crustal nature of the geological provinces off the SW Iberian margin: results of the NEAREST-SEIS wide-angle seismic survey: **V Sallares**, S Martinez, A Gailler, M Gutscher, R Bartolome, E Gracia, J Diaz

1730h **T14D-07** Seismic Characterization of the Transition from Continental to Oceanic Subduction along the western Hellenic Subduction Zone: **F D Pearce**, S Rondenay, H Zhang, M Sachpazi, M Charalampakis, L Royden

1745h **T14D-08** Reconciling the geological history of western Turkey with plate circuits and mantle tomography: **N Kaymakci**, **D J Van Hinsbergen**, W Spakman, T H Torsvik

Volcanology, Geochemistry, and Petrology

V14A Moscone West: 2022 Monday 1600h
The Subduction Filter: Effects on the Mantle, Arcs, and Continents IV (*joint with DI*)

Presiding: **C Chauvel**, University of Grenoble; **T Plank**, Columbia University; **W M White**, Cornell Univ.

1600h **V14A-01** Crustal overprint on mantle-derived U-series disequilibria in arc magmas: A warning signal from Volcán Llaima, Chile: **O Reubi**, B Bourdon, M Dungan, J Koornneef, D Selles, C H Langmuir, S Aciego

1615h **V14A-02** Felsic Magmatism in Intra-Oceanic Arcs: The Diamante Cross-chain in the Southern Mariana Arc: **R J Stern**, Y Tamura, M I Leybourne, A Nunokawa, H Kawabata, S H Bloomer, R W Embley

1630h **V14A-03** Crustal reworking during a long-lived magma pulse: 11 m.y. isotopic record from the Aucanquilcha Volcanic Cluster, central Andes: **B A Walker**, A Grunder

1645h **V14A-04** A ~9.4 Ma Ash Record from the Andaman Accretionary Wedge: Petrochemical Implications for Arc Evolution: **T R Cawthorn**, J E Johnson, J G Bryce, J Blichert-Toft, J A Flores

1700h **V14A-05** Rehydration of the Deep Earth Indicated by Sediment Recycling (*Invited*): **M G Jackson**, E H Hauri, A M Shaw

1715h **V14A-06** Predicting the Isotopic Composition of Subduction-Filtered Subducted Oceanic Crust and Sediment: **W M White**

1730h **V14A-07** Geochemical Tracers of Subducted Materials in a Complex Continental Magmatic Arc: The Case of the Trans-Mexican Volcanic Belt: **P E Schaaf**

1745h **V14A-08** Global Flux Balance in the Terrestrial H₂O Cycle: Reconsidering the Post-Arc Subducted H₂O Flux: **R Parai**, S Mukhopadhyay

V14B Moscone West: 3001 Monday 1600h
Volcanism and Environmental Change II (*joint with GC*)

Presiding: **S M Straub**, Lamont Doherty Earth Observatory at Columbia University; **M G Tejada**, University of the Philippines

1600h **V14B-01** SO₂ emissions from persistently active explosive volcanoes: can we estimate their contribution using satellite instruments?: **J Smekens**, A B Clarke

1615h **V14B-02** Volcanic gas impacts on vegetation at Turrialba Volcano, Costa Rica: **R Teasdale**, M Jenkins, J Pushnik, J L Houppis, D L Brown

1630h **V14B-03** The Impact of a Laki-style Eruption on Cloud Drops, Indirect Radiative Forcing and Air Quality: **K Carslaw**, A Schmidt, G Mann, K J Pringle, P Forster, M Wilson, T Thordarson

1645h **V14B-04** ~6 ka tephra from Sibuyan Sea, Philippines: Geochemical characteristics and its effects on planktonic foraminifera: **C C Lit**, S Catane, J Teves, M G Tejada, A A Mandanas, A Fernando, M T Mirabueno, M B Arpa, C L Bringas, K Escobar, K Sobrepena, J Abuda, V Abrecia, R U Solidum, A Peleo-Alampay

1700h **V14B-05** Bromine release during Plinian eruptions along the Central American Volcanic Arc: **T H Hansteen**, S Kutterolf, K Appel, A Freundt, W Perez-Fernandez, H Wehrmann

1715h **V14B-06** Evidence For Volcanic Initiation Of Cretaceous Ocean Anoxic Events (*Invited*): **B B Sageman**, M T Hurtgen, J McElwain, D Adams, R S Barclay, Y Joo

1730h **V14B-07** Oceanic ecosystem dynamics during gigantic volcanic episodes: the Ontong Java and Manihiki Plateaus recorded by calcareous nannoplankton. (*Invited*): **E Erba**

1745h **V14B-08** Marine osmium isotopic record of cherts across the Triassic-Jurassic boundary: implications for environmental change: **K Suzuki**, J Kuroda, R S Hori, N Ohkouchi, D R Grocke

V14C Moscone West: 3005 Monday 1600h
What Can Pyroclasts Tell Us? III (*joint with NH*)

Presiding: **U Kueppers**, University of Munich; **R J Brown**, Open University; **C Cimarelli**, LMU Muenchen

1600h **V14C-01** Two coarse pyroclastic flow deposits, northern Mono-Inyo Craters, CA: **R L Dennen**, M I Bursik, P J Stokes, M LaGamba, N Fontanella, A R Hintz, A S Jayko

1615h **V14C-02** Magma supply rates inferred from cinder cone volumes: **K G Bemis**, A Borgia, M Neri, M Kervyn

1630h **V14C-03** Numerical inversion and reconstruction of the tephra fallout deposits of the 1913 Plinian eruption of Volcán de Colima, México, based on best-fit with field data. Implications for hazard assessment: **R Bonasia**, L Capra, R Saucedo

1645h **V14C-04** Towards a universal set of bubble coalescence laws in low viscosity magmas: **C Schipper**, A Burgisser

1700h **V14C-05** 3D reconstruction of volcanic ash particles using Stereo-SEM: two study cases from 200 Ky ash-rich eruptions: **S Colucci**, G K Mulukutla, A A Proussevitch, D L Sahagian

1715h **V14C-06** Imaging 3D pumice textures using Synchrotron X-ray tomography: understanding andesitic Subplinian eruptions at Mt. Ruapehu, New Zealand: **N Pardo**, S J Cronin, H M Wright

1730h **V14C-07** Degassing behaviour of vesiculated basaltic magmas: an example from Ambrym Volcano, Vanuatu arc: **M Polacci**, D R Baker, A LaRue, L Mancini

1745h **V14C-08** Semi-automatic procedure for the characterization of the shape of volcanic particles: **M Lo Castro**, D Andronico, G Beckmann, K Dueffels, M Prestifilippo, J Westermann

Union

U15A Moscone South: 103 Monday 1830h
Frontiers of Geophysics: Society's Growing Vulnerability to Natural Hazards and Implications for Geophysics Research

Presiding: **C L Johnson**, University of British Columbia, Vancouver

1830h **Introduction**

1840h **U15A-01** Society's Growing Vulnerability to Natural Hazards and Implications for Geophysics Research (*Invited*): **J Slings**

Tuesday A.M.

Union

U21A Moscone South: Poster Hall Tuesday 0800h
Carbon in the Earth I Posters

Presiding: **R J Hemley**, Carnegie Inst. of Washington

0800h **U21A-0001 POSTER** Carbon isotope fractionation between Fe-carbide and diamond; a light C isotope reservoir in the deep Earth and Core?: **S Mikhail**, A P Jones, S A Hunt, C Guillermier, D P Dobson, E Tomlinson, H Dan, H Milledge, I Franchi, I Wood, A Beard, S Verchovsky

0800h **U21A-0002 POSTER** A New Carbonate Chemistry in the Earth's Lower Mantle: **E Boulard**, A Gloter, A Corgne, D Antonangeli, A Auzende, J Perrillat, F J Guyot, G Fiquet

0800h **U21A-0003 POSTER** Melting phase relations of K- and Na-bearing carbonatite at 3-21 GPa with implication to deep carbon cycle: **K D Litasov**, A Shatskiy, E Ohtani

0800h **U21A-0004 POSTER** Retention of Metasedimentary Carbon during Subduction through Forearcs: Evidence from HP/UHP Rocks: **G E Bebout**, L D Anderson, P Agard, C Bastoni, G Sills, A M McCall

0800h **U21A-0005 POSTER** Towards understanding carbon recycling at subduction zones - lessons from Central America: **D R Hilton**, P H Barry, T P Fischer

0800h **U21A-0006 POSTER** Abundance and isotope systematics of carbon in subglacial basalts, geothermal gases and fluids from Iceland's rift zones: **P H Barry**, D R Hilton, E Fueri, S A Halldorsson, T P Fischer, K Gronvold

0800h **U21A-0007 POSTER** The role of carbonatitic volcanism in the degassing of mantle CO₂: K Bailey, **E R Humphreys**

0800h **U21A-0008 POSTER** Measurements of CO₂ Carbon Stable Isotopes at Artificial and Natural Analog Sites: **S D Humphries**, S M Clegg, T Rahn, J E Fessenden, L Dobeck, L Spangler, T L McLing

0800h **U21A-0009 POSTER** Bonding and structural changes in siderite at high pressure: **G Farfan**, S Wang, H Ma, M Baldini, K Mu, N B Filipovitch, R Caracas, W L Mao

0800h **U21A-0010 POSTER** Single-crystal elastic properties of carbonates along the MgCO₃-FeCO₃ join: **C Sanchez-Valle**, A D Rosa, S Ghosh

0800h **U21A-0011 POSTER** An experimentally-based thermodynamic model for the system CaCO₃-MgCO₃-FeCO₃ at pressures to 6 GPa and implications for carbon mobility in subduction zones: E Franzolin, **S Poli**, M W Schmidt, M Merlini

0800h **U21A-0012 POSTER** Thermodynamic properties of carbonate-bearing fluids at high P-T conditions and the deep carbon cycle: **D Mantegazzi**, C Sanchez-Valle, T Driesner

0800h **U21A-0013 POSTER** Metal ion effects on the kinetics of abiotic formation of glycylglycine and diketopiperazine under the simulated conditions of the Lost City hydrothermal field: **K Sakata**, H Yabuta

U21B Moscone South: I04 Tuesday 0800h
The Magnitude 8.8 Chilean Earthquake of 27 February 2010 I

Presiding: **S E Barrientos**, Universidad de Chile; **B A Brooks**, University of Hawaii; **K Wang**, Geological Survey of Canada; **D Melnick**, University of Potsdam

0800h **U21B-01** The Maule, 2010, earthquake - geophysical and kinematic observations of the South American margin prior to the earthquake (*Invited*): **O Oncken**, C A Haberland, M Moreno, D Melnick, F Tilmann, Title of Team: TIPTEQ research groups

0815h **U21B-02** The 2010 Chile Earthquake - Variations in the Rupture Mode: S L Beck, **D Comte**, T Lay, E Kiser, M Ishii

0830h **U21B-03** The February 27, 2010 Mw 8.8 Maule Earthquake as Observed by cGPS and Strong Motion Instruments (*Invited*): **R I Madariaga**, C Vigny, M Lancieri, S Ruiz, J A Campos, Title of Team: The Montessus de Ballore International Laboratory

0845h **U21B-04** The 2010 (M 8.8) Maule, Chile Earthquake: An Overview of the Emergency Geodetic Response and Some of its Early Findings (*Invited*): **M G Bevis**, B A Brooks, R Smalley, J C Baez, H Parra, E C Kendrick, J H Foster, M Blanco, M Simons, D Caccamise II, J F Genrich, A Sladen, D Melnick, M Moreno, S Cimbaro, I M Ryder, K Wang, K Bataille, G Cassasa, J Klotz, A Folguera, X Tong, D T Sandwell

0900h **U21B-05** Fault slip associated with the Mw 8.8 Chilean Earthquake of 27 February 2010 (*Invited*): **M Simons**, A Sladen, Y N Lin, B A Brooks, J H Foster, M G Bevis, R Smalley, J F Genrich, F H Ortega Culaciati, E Fielding, S E Owen, H Parra, J Baez, D Melnick, M Blanco, S Cimbaro

0915h **U21B-06** Normal modes excited by the 2010 Chile earthquake: no evidence for an ultra-slow component to the source (*Invited*): **E Okal**, S Hongsresawat, S A Stein

0930h **U21B-07** Near Field Modeling for the Maule Tsunami from DART, GPS and Finite Fault Solutions (*Invited*): **D Arcas**, C Chamberlin, M Lagos, M Ramirez-Herrera, L Tang, Y Wei

0945h **U21B-08** Ground Shaking and Earthquake Engineering Aspects of the M 8.8 Chile Earthquake of 2010 - Applications to Cascadia and Other Subduction Zones (*Invited*): **J F Cassidy**, R Boroschek, C Ventura, S Huffman

Atmospheric Sciences

A21A Moscone South: Poster Hall Tuesday 0800h
Attribution of the Change in CO₂, CH₄, and N₂O Atmospheric Abundances to Historical, National, and Natural Emissions I Posters (joint with B, GC)

Presiding: **M J Prather**, UC Irvine; **J Fuglestedt**, CICERO; **A K Jain**, University of Illinois

0800h **A21A-0018** POSTER Well Known . . . to a Few People: Attribution of Excess Atmospheric CO₂ and Resulting Global Temperature Change to Fossil Fuel and Land Use Change Emissions: **S E Schwartz**

0800h **A21A-0019** POSTER First observations of ¹⁴CO₂ at the Boulder Atmospheric Observatory (BAO): **B W LaFranchi**, G Petron, A E Andrews, J B Miller, S J Lehman, S A Montzka, B R Miller, T P Guilderson

0800h **A21A-0020** POSTER Urban Evapotranspiration and Carbon Dioxide Flux in Miami - Dade, Florida: **T Bernier**, W Hopper

0800h **A21A-0021** POSTER On the development of a methodology for extensive in-situ and continuous atmospheric CO₂ monitoring: **K Wang**, S Chang, T Jhang

0800h **A21A-0022** POSTER Carbon Isotopic Constraints on Arctic Methane Sources, 2008-2010: **R E Fisher**, D Lowry, M Lanoiselle, S Sriskantharajah, E G Nisbet

0800h **A21A-0023** POSTER Global distributions of nitrous oxide and implications for emissions: Measurements from the HIPPO (HIAPER Pole to Pole Observations) campaign and comparisons to a global model: **E A Kort**, B C Daube, K Ishijima, P K Patra, R Jimenez Pizarro, S C Wofsy

0800h **A21A-0024** POSTER Latitudinal gradient of nitrous oxide: inferring source distribution from global measurements and model: **K Ishijima**, E A Kort, A M Crowell, E J Dlugokencky, P K Patra, P P Tans, S C Wofsy

0800h **A21A-0025** POSTER Top-down Constraints on the Landscape-scale Nitrous Oxide Budget in the Upper Midwest: **X Zhang**, T J Griffis, X Lee, J M Baker, M Erickson, J J Fassbinder

0800h **A21A-0026** POSTER Intensive flux measurements and analysis of greenhouse gases from an upland cabbage field at Kunsan, Korea: **D Kim**, U Na

A21B Moscone South: Poster Hall Tuesday 0800h
Biomass Burning: New Findings and Analyses From Multiple Perspectives I Posters (joint with B, PA)

Presiding: **R J Yokelson**, Univ Montana; **S M Kreidenweis**, Colorado State Univ

0800h **A21B-0027** POSTER WRF-Chem simulated wildfire transport and impacts: **Q Tan**, M Chin, X Zhang, J J Shi, M M Petrenko, S Kondragunta, T Matsui

0800h **A21B-0028** POSTER CO₂ Emission signatures from Biomass Burning Plumes Sampled during ARCTAS: **Y Choi**, S A Vay, G S Diskin, G W Sachse, A J Soja, J Woo

0800h **A21B-0029** POSTER Detailed Analysis of the EOS-MODIS Instrument's Fire Radiative Power Product: **L Ellison**, C M Ichoku

0800h **A21B-0030** POSTER Model assessing the impact of biomass burning on air quality and photochemistry in Mexico City: **W Lei**, G Li, C Wiedinmyer, R J Yokelson, L T Molina

0800h **A21B-0031** POSTER Modeling the role of HONO in the plume gas phase and aerosol chemistry of boreal forest biomass burning emissions during the summer 2009 ARCTAS campaign: **J M St Clair**, M J Alvarado, P O Wennberg, J Crouse, R C Cohen, J E Dibb, A Kuerten, G S Diskin, G W Sachse, X Ren, W H Brune, E C Apel, D J Knapp, J L Jimenez, M Cubison, S A Vay, L G Huey, A J Weinheimer, A Wisthaler, E M Scheuer, A Fried, P Weibring, J Walega, S R Hall, D R Blake, B E Anderson, Y Kondo, C A Cantrell, K Ullmann

0800h **A21B-0032** POSTER Effect of Biomass Burning and Regional Background Aerosols on CCN Activity Derived from Airborne In-situ Measurements: **S Lee**, Y Ghim, S Kim, S Yoon

0800h **A21B-0033** POSTER Absorption properties of biomass burning aerosol: A closure study using the I3RC community radiative transfer model and ARCTAS measurements: **H Guan**, R W Bergstrom, Y Shinozuka, A D Clarke, S Schmidt

0800h **A21B-0034** POSTER Correlation of AI and height of biomass plumes: Implications of the optical properties of large biomass plumes: **R W Bergstrom**, M J Penning de Vries, H Guan, L T Iraci

0800h **A21B-0035** POSTER Do Polyethylene Plastic Covers Affect Smoke Emissions from Debris Piles?: **D R Weise**, H Jung, D Cocker, E Hosseini, Q Li, M Shrivastava, M McCorison

0800h **A21B-0036** POSTER Analysis of Fresh and Aged Aerosols Produced by Biomass Combustion: **A S Holden**, Y Desyaterik, A Laskin, J Laskin, B A Schichtel, W C Malm, S M Kreidenweis, J L Collett

- 0800h **A21B-0037** *POSTER* A Prescribed Fire Emission Factors Database for Land Management and Air Quality Applications: **E Lincoln**, W Hao, S Baker, R J Yokelson, I R Burling, S P Urbanski, W Miller, D R Weise, T J Johnson
- 0800h **A21B-0038** *POSTER* Improved parameterization of wildfire NO_x emissions using MODIS fire radiative power and OMI tropospheric NO₂ columns: **A K Mebust**, A R Russell, R C Hudman, L C Valin, R C Cohen
- 0800h **A21B-0039** *POSTER* Heterogeneous Oxidation of Biomass Burning Aerosol Surrogates by O₃, NO₂, NO₃, and N₂O₅: **D A Knopf**, J H Slade, S Forrester, D Linville
- 0800h **A21B-0040** *POSTER* Elemental Composition of Primary Aerosols Emitted from Burning of 21 Biomass Fuels Measured by Aerosol Mass Spectrometer: **Y Desyaterik**, L Mack, T Lee, S M Kreidenweis, J L Collett, J L Jimenez, D R Worsnop
- 0800h **A21B-0041** *POSTER* Measurements of Trace Gases and Particles in Fresh and Aged Smoke from a Chaparral Fire in California: **S K Akagi**, J S Craven, J W Taylor, G R McMeeking, R J Yokelson, I R Burling, M J Alvarado, J Seinfeld, H Coe, S P Urbanski
- 0800h **A21B-0042** *POSTER* Impact of mercury from the Canadian boreal forest wildfires to New England: **G Hwang**, R W Talbot
- 0800h **A21B-0043** *POSTER* Recent Innovations in the BlueSky Smoke Modeling Framework and Assessment of Plume Injection Height with MISR and CALIPSO: **S M Raffuse**, N Larkin, T Strand, K J Craig, J L DeWinter, N Wheeler
- 0800h **A21B-0044** WITHDRAWN
- 0800h **A21B-0045** *POSTER* Argus 1000 Measurements and Analysis of Carbon Dioxide Concentrations Near Forest Fires in Russia: **K A Sinclair**, R K Jagpal
- 0800h **A21B-0046** *POSTER* A laboratory fuel efficiency and emissions comparison between Tanzanian traditional and improved biomass cooking stoves and alternative fuels: **B R Mitchell**, J C Maggio, K Paterson
- 0800h **A21B-0047** WITHDRAWN
- 0800h **A21B-0048** *POSTER* Study of the formation of the “Black Cloud” and its dynamics over Cairo, Egypt using MODIS and MISR sensors: **H S Marey**, J C Gille, H M El-Askary, E A Shalaby, M E El-Raey
- 0800h **A21B-0049** *POSTER* Studying the radiative environment of individual biomass burning fire plumes using multi-platform observations: an example ARCTAS case study on June 30, 2008: **J Redemann**, M Vaughan, Y Shinozuka, P B Russell, J M Livingston, A D Clarke, L A Remer, C A Hostetler, R A Ferrare, J W Hair, P Pilewskie, S Schmidt, E Bierwirth
- 0800h **A21B-0050** *POSTER* California Natural Disasters - Using NASA Earth Observations to Assess Smoke Emissions, Fuel Loading, Moisture Content, and Vegetation Loss due to the 2009 Station Fire in the Angeles National Forest: **M L Jones**, J Reedy, S Moustafa, D Brundage, K Anderson, R A Ferrare, A J Swanson, M M Yang
- 0800h **A21B-0051** *POSTER* Louisiana Air Quality - Using ASTER, Landsat 5, and MODIS to Assess the Impact of Sugarcane and Marsh Burning Practices on Local Air Quality: **R R Reahard**, R Clark, C Robin, J Zeringue, J L McCarty
- 0800h **A21B-0052** *POSTER* A detailed study of the 2010 fires in Russia by multiple satellite instruments: what can we learn from the UV Aerosol Indices?: **M J Penning de Vries**, T Wagner, M D Fromm
- 0800h **A21B-0053** *POSTER* Measurement of the Henry’s Law Coefficient and First Order Loss Rate of Isocyanic Acid in Water Solutions: **A K Cochran**, J M Roberts, R K Talukdar, P R Veres, S Bililign
- 0800h **A21B-0054** *POSTER* Characterization of Boreal Biomass Burning with Satellite and Airborne Measurements: **D Chu**, R A Ferrare, C A Hostetler
- 0800h **A21B-0055** *POSTER* Size Distribution Measurements of Ambient Biomass Burning Particulate Matter During Recent Southern California Wildfires: **D Curtis**, C McCrowey, R Okoshi
- 0800h **A21B-0056** *POSTER* Biomass Burning Emissions and Deforestation in The Legal Amazon: **E A Ellicott**, E F Vermote
- 0800h **A21B-0057** *POSTER* A gas chromatographic instrument for measurement of hydrogen cyanide in the lower atmosphere: **J L Ambrose**, Y Zhou, K Haase, H R Mayne, R W Talbot, B C Sive
- 0800h **A21B-0058** *POSTER* Sources of Error in Remote Sensing-Based Bottom-Up Emission Estimates of Carbon and Air Quality Emissions from Crop Residue Burning in the Contiguous United States and the Russian Federation: **J L McCarty**, V Romanenkov
- 0800h **A21B-0059** *POSTER* UTLS hydration by the smoke plume from 2009 Australian Black Saturday bushfire: **J M Siddaway**, S V Petelina, A Feofilov, A Y Zasetsky, A R Klekociuk, J Urban
- 0800h **A21B-0060** *POSTER* Overview of the Fire Lab at Missoula Experiments (FLAME): **S M Kreidenweis**, J L Collett, H Moosmuller, W P Arnott, W Hao, W C Malm
- 0800h **A21B-0061** *POSTER* Preliminary Observations of organic gas-particle partitioning from biomass combustion smoke using an aerosol mass spectrometer: **T Lee**, S M Kreidenweis, J L Collett, A P Sullivan, C M Carrico, J L Jimenez, M Cubison, S Saarikoski, D R Worsnop, T B Onasch, E Fortner, W C Malm, E Lincoln, C E Wold, W Hao
- 0800h **A21B-0062** *POSTER* Daily Fire Occurrence in Northern Eurasia from 2002 to 2009: **W M Hao**, H M Eissinger, A Petkov, B L Nordgren, S P Urbanski
- 0800h **A21B-0063** *POSTER* Overview of Asian Biomass Burning and Dust Aerosols Measured during the Dongsha Experiment in the Spring of 2010: **N Lin**, S Tsay, S Wang, G Sheu, K Chi, C Lee, J Wang
- 0800h **A21B-0064** *POSTER* Biomass burning: A significant source of nutrients for Andean rainforests: **P F Fabian**, R Rollenbeck, Title of Team: University of Marburg, Germany
- 0800h **A21B-0065** *POSTER* Spatial and temporal variability in the ratio of trace gases emitted from biomass burning: **T T Van Leeuwen**, G van der Werf
- 0800h **A21B-0066** *POSTER* Intercontinental Transport of Smoke from the Siberian Forest Fires of May 2003: **J A Smith**, P R Colarco, A da Silva, O B Toon
- 0800h **A21B-0067** *POSTER* Biomass Burning Emissions From Large and Mega Fires in East Siberia: **A Ito**
- 0800h **A21B-0068** *POSTER* Wildfire Contribution to Black Carbon in the Western U.S. Mountain Ranges: **Y Mao**, Q Li, L Zhang, Y Jin, Y Chen, J T Randerson
- 0800h **A21B-0069** *POSTER* A Wildland Fire Emission Inventory for the Western United States –Uncertainty Across Spatial and Temporal Scales: **S P Urbanski**, W Hao

**A21C Moscone South: Poster Hall Tuesday 0800h
Climate Change, Air Quality, and Their Interrelations at the
North American West Coast V Posters**

Presiding: **E Mccauley**, California Air Resources Board; **RA Zaveri**, PNNL; **D D Parrish**, NOAA/ESRL Chemical Sciences Division

0800h **A21C-0070** *POSTER* A Study of Elevated and Surface-Based Inversions in the Interior of Alaska: **J A Mayfield**, G J Fochesatto

- 0800h **A21C-0071** *POSTER* Always Downwind: The optical and chemical properties of aerosols transported to Mount Bachelor from across the Pacific and from California: **E V Fischer**, K D Perry, D A Jaffe
- 0800h **A21C-0072** *POSTER* Transport and Mixing Processes Affecting the Evolution of Aerosols in the Sacramento Valley during CARES: **J D Fast**, W J Shaw, L K Berg, M S Pekour, W I Gustafson, R A Ferrare, C A Hostetler, R A Zaveri
- 0800h **A21C-0073** *POSTER* Submicron aerosol characterization during CARES 2010 field campaign using a high resolution aerosol mass spectrometry at the suburban site: **C Song**, J E Shilling, R A Zaveri, T B Onasch, J Jayne, Q Zhang
- 0800h **A21C-0074** *POSTER* SOA precursors at the T0 site during the 2010 CARES campaign: **H W Wallace**, B T Jobson, M H Erickson
- 0800h **A21C-0075** *POSTER* The Effect of Particle Composition on Hygroscopicity and Droplet Formation at CARES: **D J Cziczo**, M S Pekour, N Hiranuma, D Nelson
- 0800h **A21C-0076** *POSTER* CCN activity of thermodenuded aerosol particles downwind of the Sacramento area urban plume: **N Hiranuma**, D J Cziczo, D Nelson, Q Zhang, A Setyan, C Song, M Shrivastava, J E Shilling
- 0800h **A21C-0077** *POSTER* Diurnal cycle of greenhouse gases and biogenic hydrocarbons during summer near Cool, CA: **B A Flowers**, C Floerchinger, W B Knighton, M K Dubey, S C Herndon, P Kelley, W T Luke, W J Shaw, J Barnard, N Laulainen, R A Zaveri
- 0800h **A21C-0078** *POSTER* Solar irradiance and aerosol optical properties during the CARES field campaign: **J Barnard**, E Kassianov
- 0800h **A21C-0079** *POSTER* Interpretation of Aerosol Optical and Morphological Properties during the Carbonaceous Aerosols and Radiative Effects Study in Sacramento, June 2010: **K Gorkowski**, C Mazzoleni, S China, N Sharma, B A Flowers, M K Dubey, M S GYAWALI, W P Arnott, R A Zaveri
- 0800h **A21C-0080** *POSTER* Mixing State of Black Carbon and Evolution during Transport: Results from CARES 2010: **R Subramanian**, G L Kok, A J Sedlacek, D Baumgardner, R A Zaveri
- 0800h **A21C-0081** *POSTER* Cloud Condensation Nuclei Activity Associated with Chemical Composition and Precipitation Events: **C Corrigan**, G C Roberts, M Zauscher, K Suski, S Noblitts, A P Sullivan, J L Collett
- 0800h **A21C-0082** *POSTER* Air-surface exchange of ammonia at an agricultural site in the northern San Joaquin Valley during CalNex: **L Myles**, M Heuer
- 0800h **A21C-0083** *POSTER* Observations of the Partitioning of Trace Acids During CalNex, Bakersfield: HONO, HCl and Oxalic Acid in an NH₃-rich Environment: **T C VandenBoer**, M Z Markovic, J Sanders, X Ren, J G Murphy
- 0800h **A21C-0084** *POSTER* Measurements of PM_{2.5}, NH₄⁺, SO₄²⁻, NO₃⁻ and associated precursor gases in Bakersfield, CA during CalNex 2010: **M Z Markovic**, T C VandenBoer, J G Murphy
- 0800h **A21C-0085** *POSTER* Tropospheric Ozone During IONS 2010/CalNex from Ozone-sonde Observations: Stratospheric Influence and Long Range Transport: **S J Oltmans**, O R Cooper, B J Johnson, M Ives, L Eddington, P Cullis
- 0800h **A21C-0086** *POSTER* Meteorology-induced variations in ozone sensitivities in California's San Joaquin Valley: **L Jin**, A Loisy, R A Harley, N J Brown
- 0800h **A21C-0087** *POSTER* Concentrations of Glyoxal and Formaldehyde During CALNEX 2010: **S B Henry**, J P DiGangi, E Boyle, Title of Team: CalNex Science Team
- 0800h **A21C-0088** *POSTER* Ozone Production in the Southern San Joaquin Valley: A NO_x Perspective: **S E Pusede**, P J Wooldridge, E C Browne, A W Rollins, K Min, R C Cohen, B C Baier, M R Beaver, E Boyle, W H Brune, J P DiGangi, D R Gentner, A H Goldstein, F Keutsch, X Ren, J Sanders, J M St Clair, J Thomas, R Weber, P O Wennberg, L Zhang
- 0800h **A21C-0089** *POSTER* OH, HO₂, and OH Reactivity Behavior in the Southern San Joaquin Valley during CalNex 2010: **J L Thomas**, W H Brune, L Zhang, D van Duin, X Ren, S E Pusede, R C Cohen, A H Goldstein
- 0800h **A21C-0090** *POSTER* Measurement of greenhouse gases (GHGs) and source apportionment in Bakersfield, CA during CALNEX 2010: **A Guha**, D R Gentner, A Goldstein, R A Provencal, A Gardner, Title of Team: The CALNEX Bakersfield Science Team
- 0800h **A21C-0091** *POSTER* Comparison of fixed prior and geostatistical inverse methods for methane emission estimation from Central California: **S Jeong**, C Zhao, A E Andrews, L Bianco, J Eluszkiewicz, T Nehr Korn, M L Fischer
- 0800h **A21C-0092** *POSTER* Airborne High Spectral Resolution Lidar Aerosol Measurements during CalNex and CARES: **C A Hostetler**, R A Ferrare, J W Hair, A Cook, D Harper, S P Burton, M D Obland, R Rogers, C F Butler, A J Swanson
- 0800h **A21C-0093** *POSTER* A Comparison of Aircraft ATOFMS Measurements in the Greater Los Angeles and Sacramento Areas: **K Suski**, J F Cahill, S P Hersey, J E Shilling, K A Prather
- 0800h **A21C-0094** *POSTER* CU Airborne MAX-DOAS measurements over California during the CalNex and CARES field campaigns: **S Baidar**, H Oetjen, S Coburn, I Ortega, B K Dix, R Sinreich, R Volkamer
- 0800h **A21C-0095** *POSTER* Measurements of hydrocarbons and halogenated hydrocarbons over the Southern California Air Basin and the California Central Valley during the CalNex-2010 mission: **E L Atlas**, R Lueb, D R Blake, S Meinardi, T B Ryerson, J S Holloway, J Peischl, J A De Gouw, C Warneke, I B Pollack, M Trainer, R Hendershot
- 0800h **A21C-0096** *POSTER* Volatile Organic Gas (VOC) Mixing States in Southern California: **R A VanCuren**
- 0800h **A21C-0097** *POSTER* PTR-TOF-MS measurements of atmospheric VOCs during the CALNEX 2010 campaign: **A L Vlasenko**, S Li, D Bon, J B Gilman, W C Kuster, J A De Gouw
- 0800h **A21C-0098** *POSTER* Airborne measurements of aerosol light extinction enhancement in California: **J M Langridge**, D A Lack, M Richardson, D C Law, C A Brock, R Bahreini, A M Middlebrook, D M Murphy
- 0800h **A21C-0099** *POSTER* Chemical composition of pollution outflow off the California coast during the 2010 CalNex study as measured by the Aerodyne Research High-Resolution and Soot Particle Aerosol Mass Spectrometers on board the WHOI R/V Atlantis: T B Onasch, **P Massoli**, I Nuaaman, K Hayden, E Fortner, C D Cappa, J Jayne, S Li, E J Williams, P Quinn, D R Worsnop
- 0800h **A21C-0100** *POSTER* Ship-board Flux Measurements made during CalNex 2010: **D E Wolfe**, C W Fairall
- 0800h **A21C-0101** *POSTER* A study of the microphysical mechanism for correlation patterns between droplet radius and optical thickness of warm clouds off the coast of California as simulated by a downscaling spectral bin microphysical model: **Y Sato**, T Nakajima, K Suzuki, T Iguchi, C In-Jin
- 0800h **A21C-0102** *POSTER* Coastal Meteorological Phenomena in CalNex: **W M Angevine**, J Brioude

0800h **A21C-0103** POSTER Pollution Effects on Marine Stratus off the Coast of California: **S Lance**, G Feingold, C A Brock, J S Holloway, C Warneke, J A De Gouw, A M Middlebrook, R Bahreini, R Moore, A Nenes

0800h **A21C-0104** POSTER Remobilization of Industrial Lead Depositions by Wildfire: **K O Odigie**, A R Flegel

0800h **A21C-0105** POSTER Measurements of pollutants and their spatial distributions over the Los Angeles Basin: **R Cheung**, O Pikel'naya, D Fu, D Chen, Q Li, S P Sander, J Stutz

0800h **A21C-0106** POSTER In-situ, quantitative speciation of aerosols over Pasadena, CA during the CalNex 2010 experiment: **G A Isaacman**, D R Worton, N M Kreisberg, Y Zhao, S V Hering, A Goldstein

0800h **A21C-0107** POSTER Gas-particle partitioning of atmospheric ammonia at the CalNex-LA ground site: **R Ellis**, J G Murphy, P L Hayes, M Cubison, J L Jimenez, P R Veres, A K Cochran, J M Roberts, J Liu, R J Weber

0800h **A21C-0108** POSTER Aircraft Aerosol Mass Spectrometer Measurements over the Los Angeles Basin during CalNex: **J S Craven**, A R Metcalf, R C Flagan, J Seinfeld

0800h **A21C-0109** POSTER CCN, hygroscopicity, and activation kinetics of Los Angeles aerosol: **JJ Lin**, T L Latham, A Nenes, K Suski, J F Cahill, K A Prather, J S Craven, A R Metcalf, H H Jonsson, R C Flagan, J H Seinfeld

0800h **A21C-0110** POSTER Black Carbon Measurements over the Los Angeles Basin during CalNex: **A R Metcalf**, H H Jonsson, R C Flagan, J H Seinfeld

0800h **A21C-0111** POSTER TEM study of soot, organic aerosol, and sea-salt particles collected during CalNex: **K Adachi**, P R Buseck

0800h **A21C-0112** POSTER Aerosol Composition in Los Angeles During the 2010 CalNex Campaign Studied by High Resolution Aerosol Mass Spectrometry: **P L Hayes**, A M Ortega, M Cubison, W Hu, D W Toohey, J H Flynn, N Grossberg, B L Lefer, S Alvarez, B Rappenglueck, J D Allan, S A McKeen, J S Holloway, J B Gilman, W C Kuster, M Graus, C Warneke, J A De Gouw, R Richter, J Hofer, A S Prevot, J L Jimenez

0800h **A21C-0113** POSTER A Comparison of Aerosol Optical, Microphysical, and Chemical Measurements between LAX and Long Beach Harbor: **K L Thornhill**, B E Anderson, G Chen, E Winstead, L D Ziemba, A J Beyersdorf, G S Diskin, A Nenes, T L Latham, Title of Team: The ARCTAS Science Team

0800h **A21C-0114** POSTER Impact of Aerosols on Photolysis Frequencies during CALNEX-LA: **N Grossberg**, B L Lefer, J Stutz

0800h **A21C-0115** POSTER Nitrous acid measurements in urban Los Angeles using novel techniques: **C J Young**, R A Washenfelder, S S Brown, P R Veres, A K Cochran, J M Roberts, O Pikel'naya, C Tsai, J Stutz, C Afif, V Michoud, A Borbon

0800h **A21C-0116** POSTER CO and CO₂ Diurnal Cycles during CalNex-LA, 15 May -16 June, 2010: **S Newman**, S Alvarez, B Rappenglueck, C E Miller, Y L Yung

0800h **A21C-0117** POSTER Nighttime photochemistry: nitrate radical destruction by anthropogenic light sources: **H Stark**, S S Brown, W P Dube, N Wagner, T B Ryerson, I B Pollack, D D Parrish

0800h **A21C-0118** POSTER Quantification and analysis of nitryl chloride (ClNO₂) during CalNex-LA 2010: **L H Mielke**, J H Flynn, N Grossberg, B L Lefer, P R Veres, J M Roberts, K D Froyd, A K Cochran, H D Osthoff

0800h **A21C-0119** POSTER LED-CE-DOAS and MAX-DOAS measurements of glyoxal and NO₂ at Milliken Library during CalNEX: **R M Thalman**, E Waxman, S Coburn, I Ortega, R Volkamer

0800h **A21C-0120** POSTER Urban Energy Balance Measurements During CalNex 2010: **C A Vogel**, W Pendergrass

0800h **A21C-0121** POSTER Evaluation of WRF/Chem simulations of meteorology, O₃ and NO_y in the Los Angeles Basin during CalNex 2010: **D Chen**, Q Li, J Stutz, O Pikel'naya, J Tsai, C L Haman, B L Lefer, J H Flynn, J M Roberts, J A De Gouw, J S Holloway, P R Veres, J B Gilman, W C Kuster

0800h **A21C-0122** POSTER Sensitivity of ozone production to organic nitrate formation in Sacramento and Los Angeles: **E C Browne**, R C Cohen

0800h **A21C-0123** POSTER Photochemical and Meteorological Grid Model Assessment of the CalNex 2010 Field Campaign: **K Baker**, R Gilliam

0800h **A21C-0124** WITHDRAWN

0800h **A21C-0125** POSTER Impacts of aerosols on the photochemistry in Mexico City during MILAGRO-2006 campaign: **G Li**, N Bei, X Tie, L T Molina

A21D Moscone South: Poster Hall Tuesday 0800h
Entrainment and Mixing in Clouds I Posters

Presiding: **S K Krueger**, University of Utah; **Z Kuang**, Harvard University; **H E Gerber**, Gerber Scientific, Inc.

0800h **A21D-0126** POSTER The Influence of the Cloud Shell on Bulk Tracer Estimates of LES Cloud Entrainment: **J T Dawe**, P Austin

0800h **A21D-0127** POSTER Entrainment in Laboratory Simulations of Cumulus Cloud Flows: **R Narasimha**, S Diwan, D Subrahmanyam, K R Sreenivas, G S Bhat

0800h **A21D-0128** POSTER Application of the stretched-vortex subgrid-scale model to large-eddy simulation of the cloud-topped atmospheric boundary layer: **G Matheou**, D Chung, J Teixeira, P E Dimotakis

0800h **A21D-0129** POSTER Investigations of cumulus entrainment rates through remotely-sensed observations: **T J Wagner**, D D Turner, L K Berg

0800h **A21D-0130** POSTER Turbulent Mixing Characteristics in Stratocumulus Clouds: **S Wang**, Q Wang, A Bucholtz, X Zheng

0800h **A21D-0131** POSTER Steady-state large-eddy simulations of the stratocumulus to trade cumulus transition: **D Chung**, G Matheou, J Teixeira

0800h **A21D-0132** POSTER The Entrainment Interface Layer of Stratocumulus-Topped Boundary Layers during POST: **S K Krueger**, S A Hill

0800h **A21D-0133** POSTER Influence of the Entrainment Interface Layer on Cloud Microphysical Properties near Stratocumulus Top: **P Y Chuang**, J K Carman, D L Rossiter

0800h **A21D-0134** POSTER Defining the Entrainment Zone in Stratocumulus-topped Boundary Layers: **Q Wang**, M Zhou, J A Kalogiros, D H Lenschow, C Dai, S Wang

0800h **A21D-0135** POSTER The role of induced entrainment in past stratiform cloud seeding experiments: **C J Walcek**

0800h **A21D-0136** POSTER Entrainment and mixing and their effects on cloud droplet size distributions of the stratocumulus clouds observed during VOCALS: **S S Yum**, J Wang, P H Daum, G Senum, S Springston

0800h **A21D-0137** POSTER Connection between Entrainment-Mixing and Microphysical Relationships in Drizzling and Non-drizzling Clouds: **C Lu**, Y Liu, S Niu

0800h **A21D-0138** POSTER Adiabaticity, Turbulence and Drizzle in Marine Stratocumulus Clouds: **J Remillard**, W Szyrmer, E P Luke, P Kollias

0800h **A21D-0139** POSTER Spatial Statistics of likely Convective clouds in CloudSat data: **J T Bacmeister**, G L Stephens

A21E Moscone South: Poster Hall Tuesday 0800h Extratropical and High-Latitude Storms, Teleconnections, and Changing Climate I Posters (joint with C, GC, H, NH, OS, PA)

Presiding: **X Zhang**, University of Alaska Fairbanks; **J E Walsh**, University of Alaska Fairbanks; **V A Alexeev**, International Arctic Research Center

0800h **A21E-0140** POSTER Downward Arctic Oscillation signal associated with moderate weak stratospheric polar vortex and the cold 2009 December: **L Wang**, W Chen

0800h **A21E-0141** POSTER Submonthly Fluctuations of Northern Hemisphere Zonal-Mean Circulation: Phase Transition and Stratosphere-Troposphere Interactions: **X Li**, J Li, X Zhang

0800h **A21E-0142** POSTER Land-atmosphere coupling in response to anomalous snowmelt and its impact on subarctic summer climate: **S Matsumura**, K Yamazaki, T Sato

0800h **A21E-0143** POSTER Summer North Atlantic Oscillation: decadal change, impact, and possible mechanisms: **J Sun**

0800h **A21E-0144** POSTER A vorticity based analysis of the Beaufort Anticyclone: **K J Gleicher**, J E Walsh, W Chapman

0800h **A21E-0145** POSTER Arctic Oscillation and Cold Surge in the Northern Hemisphere at 2009/2010 Winter: **S Kim**, B Kim, H Lee, Y Kim

0800h **A21E-0146** POSTER Intrabasin and downstream change in correlation between the PDO and streamflow in a complex mountainous environment: **R Thorne**, M Woo

0800h **A21E-0147** POSTER An Atmospheric Teleconnection Linking ENSO and Southwestern European Precipitation: **J L Shaman**, E Tziperman

0800h **A21E-0148** POSTER MERRA Arctic Synoptic Variability: **R I Cullather**, M G Bosilovich

0800h **A21E-0149** POSTER Sensitivity of WRF Simulations of a Polar Low to Initial and Boundary Conditions Prescribed by Different Reanalysis Data Sets: **P Doubrawa Moreira**, X Zhang, J Inoue, J Krieger, J Zhang

0800h **A21E-0150** POSTER Influence of a warm ocean current on regional climate in winter: **N Hirose**, K Fukudome, K Nishimura, M Yamamoto

0800h **A21E-0151** POSTER OBSERVED PRECIPITATION TRENDS IN FAIRBANKS, ALASKA AND CHANGES IN ATMOSPHERIC CONDITIONS: **V A Alexeev**

0800h **A21E-0152** POSTER The association between a weakening AMOC and the ENSO and NAO inter-annual variability: **N Kvamstø**, T Breiteig

0800h **A21E-0153** WITHDRAWN

0800h **A21E-0154** POSTER Large-scale climate controls of Interior Alaska river ice breakup: D Newman, **P A Bieniek**, U S Bhatt, L Rundquist, S Lindsey, X Zhang, R Thoman

0800h **A21E-0155** POSTER Transformed Eddy-PV Flux and Positive Synoptic Eddy Feedback onto Low-Frequency Flow: **H Ren**, F Jin, J KUG, L Gao

A21F Moscone South: Poster Hall Tuesday 0800h Ice Formation and Multiplication in Tropospheric Clouds I Posters

Presiding: **O Moehler**, Karlsruhe Institute of Technology; **X Liu**, Pacific Northwest National Laboratory; **P Connolly**, University of Manchester; **G M McFarquhar**, University of Illinois

0800h **A21F-0156** POSTER Deliquescence, efflorescence and ice nucleating ability of NaCl/hydrated NaCl particles under upper tropospheric conditions: **M E Wise**, K J Baustian, M A Freedman, T Koop, M A Tolbert

0800h **A21F-0157** POSTER New cloud chamber experiments on the heterogeneous ice nucleation ability of oxalic acid in the deposition nucleation and immersion freezing modes: **O Moehler**, R Wagner, H Saathoff, M Schnaiter, T Leisner

0800h **A21F-0158** POSTER Ice Formation of Coated Black Carbon Particles: **B Friedman**, G Kulkarni, J Beránek, A Zelenyuk, D J Cziczo, J A Thornton

0800h **A21F-0159** POSTER Marine Phytoplankton as Efficient ice Nuclei in Immersion and Deposition Modes: **P A Alpert**, J Y Aller, D A Knopf

0800h **A21F-0160** POSTER Characterizing Biological Particles in the Atmosphere at two Sites in Colorado: **E Garcia**, A J Prenni, J Prenni, J Rivest, P J DeMott, S M Kreidenweis

0800h **A21F-0161** POSTER Chemical processing does not always impair heterogeneous ice nucleation of mineral dust particles: **R C Sullivan**, P J DeMott, A J Prenni, L Minambres, S M Kreidenweis, O Moehler

0800h **A21F-0162** POSTER Measurements of Atmospheric Ice Nuclei Concentrations at Two Canadian Sites: Downtown Toronto and Whistler, British Columbia: **J C Corbin**, W R Leitch, G J Evans, A Macdonald, J Abbatt

0800h **A21F-0163** POSTER Influence of particle surface modifications on the immersion freezing behavior of supercooled droplets: **D Niedermeier**, S Hartmann, T Clauss, H Wex, A Kiselev, R C Sullivan, M D Petters, P J DeMott, O Stetzer, B Reimann, U Bundke, R A Shaw, B Sierau, A Buchholz, T F Mentel, P Reitz, J Schneider, F Stratmann

0800h **A21F-0164** POSTER Experimental evidence that nucleation of ice on clay mineral dust is a stochastic process: **B J Murray**, T W Wilson, S L Broadley, J D Atkinson

0800h **A21F-0165** POSTER Laboratory Investigation of the "Inside-Out" Contact Nucleation Hypothesis: **C Gurganus**, R A Shaw

0800h **A21F-0166** POSTER Parameterization of heterogeneous ice nucleation on mineral dust particles: An application in a regional scale model: **M Niemand**, B Vogel, H Vogel, P Connolly, H Klein, H Bingemer, C Hoose, O Moehler, T Leisner

0800h **A21F-0167** POSTER Aerosol Effects on Cirrus Clouds and Climate in NCAR CAM5: Impacts of Heterogeneous Ice Nuclei: **X Liu**, X Shi, D Barahona, A Nenes, E J Jensen, A Gettelman

0800h **A21F-0168** POSTER Modeling of the Arctic Cloud and Radiation Processes Observed during SHEBA: Importance of Heterogeneous Ice Nucleation: **E Girard**, P Du

0800h **A21F-0169** POSTER Theoretical Basis for Convective Invigoration due to Increased Aerosol Concentration: **Z J Lebo**, Y CHEN, J Seinfeld

0800h **A21F-0170** POSTER The Influence of Kinetically-limited Growth of Ice Crystal on Homogeneous Freezing Rates in Cold Clouds: J Y Harrington, **C Zhang**

0800h **A21F-0171** *POSTER* The Accommodation Coefficient of Water Molecules on Ice: Results from Cirrus Cloud Experiments at the Aerosol Chamber AIDA: **J Skrotzki**, P Connolly, M Niemand, H Saathoff, O Moehler, V Ebert, T Leisner

0800h **A21F-0172** *POSTER* Comparison between measured and simulated far-infrared spectra: **E Baugher**, P Yang, K P Bowman, M G Mlynczak, R Cageao, B A Baum, Title of Team: The Far-Infrared Spectroscopy of the Troposphere (FIRST) Project

0800h **A21F-0173** WITHDRAWN

0800h **A21F-0174** *POSTER* Aerosol-Cloud interaction simulations for liquid and ice clouds with a Single Column Model (SCM) using McRAS cloud physics with ARM data and satellite retrievals: **P S Bhattacharjee**, Y Sud, R Yang

A21G Moscone South: Poster Hall Tuesday 0800h
Regional Climate Modeling I Posters (*joint with GC, H*)

Presiding: **R W Arritt**, Iowa State University; **L Leung**, Pacific Northwest National Laboratory

0800h **A21G-0175** *POSTER* Dynamic downscaling of CFS winter seasonal simulations over the United States using the ETA/SSIB-3 model: **F De Sales**, Y Xue

0800h **A21G-0176** *POSTER* CWRP Downscaling U.S. Seasonal-Interannual Hydroclimate Prediction: **X Yuan**, X Liang

0800h **A21G-0177** *POSTER* Regional downscaling of NCEP CFS seasonal forecasts by NCEP RSM: **Y Zhang**, H H Juang

0800h **A21G-0178** *POSTER* Dynamical Downscaling NCEP Global Climate Forecast System (CFS) Seasonal Predictions Using Regional Atmospheric Modeling System (RAMS) - Evaluation with North American Regional Reanalysis: **L Lu**, Y Zheng, R A Pielke, Title of Team: dynamical downscaling using RAMS

0800h **A21G-0179** *POSTER* Uncertainties in MM5 climate simulations: physics configuration vs. driving conditions: S Jerez, **JJ Gomez-Navarro**, P Jimenez-Guerrero, R Lorente-Plazas, J P Montavez

0800h **A21G-0180** *POSTER* Analysis of the Effect of Interior Nudging on Temperature and Precipitation Distributions of Multi-year Regional Climate Simulations: **C G Nolte**, T L Otte, J H Bowden, M J Otte

0800h **A21G-0181** *POSTER* Approaches for Assessing Downscaled Climate: **L Chen**, X Fan, Z Ma

0800h **A21G-0182** *POSTER* Comparison of Grid Nudging and Spectral Nudging Techniques for Dynamical Climate Downscaling within the WRF Model: **X Fan**, L Chen, Z Ma

0800h **A21G-0183** *POSTER* INVESTIGATING THE USE OF A HIGH RESOLUTION LANDUSE DATA FOR DOWNSCALING NUMERICAL WEATHER FORECASTING MODELING: **B Kamble**, A Irmak

0800h **A21G-0184** *POSTER* Regional climate modeling over the Maritime Continent: Assessment of RegCM3-BATS1e and RegCM3-IBIS: **R L Gianotti**, D Zhang, E A Eltahir

0800h **A21G-0185** *POSTER* Validation of the HIRHAM simulated Indian Summer Monsoon Circulation: **S Polanski**, A Rinke, K Dethloff

0800h **A21G-0186** *POSTER* A new time-stepping method for regional climate models: **P D Williams**

0800h **A21G-0187** *POSTER* Development and Application to Oklahoma City of a New Mass, Energy, Vorticity, and Potential Enstrophy Conserving Scheme for 3D Nonhydrostatic Atmospheric Flows with Complex Boundaries: **G S Ketefian**, M Z Jacobson

0800h **A21G-0188** *POSTER* Testing the ability of RIEMS2.0 (Regional Integrated Environment Modeling System) on regional climate simulation in East Asia: **D Zhao**, C Fu, X Yan

0800h **A21G-0189** *POSTER* Regional climate model values in agricultural applications: **D Shin**, S Cocke

0800h **A21G-0190** *POSTER* Forecasting energy security impacts of biofuels using regional climate models: **X Yang**, E Campbell, M A Snyder, L Sloan, L M Kueppers

0800h **A21G-0191** *POSTER* Projection of Summer Climate on Tokyo Metropolitan Area using Pseudo Global Warming Method: **S A Adachi**, F Kimura, H Kusaka, M Hara

0800h **A21G-0192** *POSTER* Characterizing the Impacts of Historical Land-use Conversions on the Micro-climate of a Subtropical Metropolitan Area: **C Tien**, J Juang, Y Wang

0800h **A21G-0193** *POSTER* SNOWCARBO: CO2 Balance of Northern Terrestrial Ecosystem: N J Partamies, **A N Arslan**, M Torma, T Markkanen, K Bottcher, P Harma, J T Pulliainen

0800h **A21G-0194** *POSTER* Influence of historical land use transformation on the Greater Horn of Africa climate: Case Study over Kenya: R O Anyah, **V O Otieno**

0800h **A21G-0195** *POSTER* Assessment of regional climate change and development of climate adaptation decision aids in the Southwestern US: **K Darmenova**, G Higgins, H Kiley, D Apling

0800h **A21G-0196** *POSTER* An assessment of precipitation in the Iberian Peninsula: WRF regional simulations for a wet and dry year: **R M Cardoso**, P M Soares, P M Miranda

0800h **A21G-0197** *POSTER* A method to treat climate changes of year-to-year variations in the pseudo-global-warming method as a dynamical downscaling: **Y Wakazuki**, M Hara, F Kimura, Title of Team: Regional Climate Modeling Research Team

0800h **A21G-0198** *POSTER* Regional Climate Simulations with WRF: Application of a Regression Model to Correct Biases in CCSM Forcing Data: **R C McCoy**, J Jin, H Gu, S Wang, C Hawkins, D G Tarboton, R R Gillies

0800h **A21G-0199** *POSTER* Analogue Downscaling of Seasonal Rainfall Forecasts: **A N Charles**, B Timbal, H Hendon

0800h **A21G-0200** *POSTER* On the Role of Boundary Conditions in Simulations of Mineral Aerosols by Regional Climate Models: **M P Marcella**, E A Eltahir

0800h **A21G-0201** *POSTER* Dynamical Downscaling of NASA/GISS ModelE: Continuous, Multi-Year WRF Simulations: T Otte, J H Bowden, **C G Nolte**, M J Otte, J A Herwehe, G Faluvegi, D T Shindell

A21H Moscone West: 3002 Tuesday 0800h
Climate Change, Air Quality, and Their Interrelations at the North American West Coast IV

Presiding: **J Stutz**, University of California Los Angeles; **R Volkamer**, Univ. of Colorado, Boulder

0800h **A21H-01** Observations of plumes containing gaseous mercury from point sources in the Los Angeles Basin during the 2010 CalNex ship cruise: **P S Weiss-Penzias**, B M Lerner, E J Williams, T S Bates

0815h **A21H-02** Characterization of emissions sources in the California-Mexico Border Region during Cal-Mex 2010: **M A Zavala**, W Lei, G Li, N Bei, H Barrera, D Tejada, L T Molina, Title of Team: Cal-Mex 2010 emissions team

0830h **A21H-03** Analysis of motor vehicle emissions over eastern Los Angeles, California from in-situ airborne measurements of trace gases and particulates during CalNex: **I B Pollack**, T B Ryerson, M Trainer, G J Frost, J S Holloway, S A McKeen, J Peischl, D W Fahey, A Perring, J P Schwarz, J R Spackman

0845h **A21H-04** Quantification of Diesel Fuel Intermediate-Volatile Organic Compounds by Proton Transfer Reaction Mass Spectrometer: **M H Erickson**, B T Jobson

0900h **A21H-05** Remote Sensing of Spatial Distributions of Greenhouse Gases in the Los Angeles Basin: **D Fu**, S P Sander, T J Pongetti, R Cheung, J Stutz

0915h **A21H-06** Methane Emissions from Point and Area Sources in California: **J Peischl**, T B Ryerson, G J Frost, J S Holloway, S A McKeen, J Neuman, J B Nowak, I B Pollack, J M Roberts, M Trainer, D D Parrish

0930h **A21H-07** Nocturnal Vertical Gradients of O₃, NO₂, NO₃, HONO, HCHO, and SO₂ in Los Angeles, CA, during CalNex 2010: **J Tsai**, O Pikelnaya, S C Hurlock, K Wong, R Cheung, C L Haman, B L Lefler, J Stutz

0945h **A21H-08** Vertical Profile Measurements of Formaldehyde and NO₂ by means of the CU Airborne Multi-Axis DOAS instrument: **H Oetjen**, S Baidar, S Coburn, I Ortega, B K Dix, R Sinreich, R Volkamer

A21I Moscone West: 3006 Tuesday 0800h
Fast Physics in Climate Models: Parameterization and Evaluation I (*joint with NG*)

Presiding: **Y Liu**, Brookhaven Natl Lab; **L Donner**, GFDL/NOAA

0800h **Introduction**

0802h **A21I-01** Coupling of the surface energy balance, clouds and their diabatic forcings. (*Invited*): **A K Betts**

0822h **A21I-02** Radiation Parameterization for Climate Models: Some New Perspectives (*Invited*): **K Liou**, Y Gu, W Lee, Y Takano

0842h **A21I-03** Comprehensive rapid parameterizations of cloud drop and ice crystal formation: Developments and evaluations: **A Nenes**, D Barahona, P Kumar, R Morales

0855h **A21I-04** Understanding Effective Diameter and Its Application to Terrestrial Radiation in Ice Clouds: **D L Mitchell**, B A Baker, P Lawson

0908h **A21I-05** Generalized spectral sampling for radiation calculations in large-scale models: **R Pincus**, B B Stevens

0921h **A21I-06** Fast Physics, Feedbacks and Climate Sensitivity: **A Gettelman**, J E Kay, K M Shell

0934h **A21I-07** Evaluation of fast responses within a forcing-feedback framework: T Andrews, **P Forster**

0947h **A21I-08** Albedo, clouds and climate sensitivity in the CMIP3 models: **F Bender**, H Rodhe, A M Ekman, R Charlson

A21J Moscone West: 3008 Tuesday 0800h
Multisensor and Model Aerosol Data Intercomparison and Integration III (*joint with IN*)

Presiding: **R A Kahn**, NASA/Goddard Space Flight Ctr; **S A Christopher**, UAHuntsville

0800h **A21J-01** Constraining Aerosol Distributions in Asia by Integrating Models with Multi-sensor Observations (*Invited*): **G R Carmichael**, S Kulkarni, C E Chung, V Ramanathan

0815h **A21J-02** Evaluation of the aerosol optical depth distribution and its chemical constituents over the Indian subcontinent from combined measurement and modeling platforms: **S Verma**, M Schulz

0828h **A21J-03** Towards Consistent Characterization of Quality and Uncertainty in Multi-sensor Aerosol Level 3 Satellite Data: **G G Leptoukh**

0841h **A21J-04** Strategy for combining satellite, ground-based and in situ observations for detailed aerosol characterization in the Glory-APS era: **L A Remer**, J Martins, R C Levy, V Zubko

0854h **A21J-05** A storm-centric view of aerosols and clouds: **B S Grandey**, P Stier

0907h **A21J-06** WITHDRAWN

0920h **A21J-07** An exploration of the sensitivity of the UV Aerosol Indices, AAI and SCI, from SCIAMACHY, OMI, and GOME-2: T Wagner, **M J Penning de Vries**, O Tuinder, G Tilstra, P Stammes

0933h **A21J-08** The Next Generation of UV/VNIR/SWIR wide FOV, Hyperangular Imaging Polarimeter for Aircraft and Space Applications: **J Martins**, L A Remer, L Sparr, R A Fernandez Borda, S Buczkowski

0946h **A21J-09** Model-Measurement Integration for Global Aerosols: Old and New Challenges (*Invited*): **P J Adams**

A21K Moscone West: 3004 Tuesday 0800h
Tropospheric Multiphase Chemistry: Aerosol Formation and Modification by Aqueous Phase Processes III

Presiding: **A G Carlton**, U.S. EPA; **K Tsigaridis**, Columbia University

0800h **A21K-01** Modeling the heterogeneous hydrolysis of N₂O₅: Nitrate effect versus organic coatings (*Invited*): **N S Riemer**, H Vogel, B Vogel, T Anttila, A Kiendler-Scharr, T F Mentel

0815h **A21K-02** Case studies of size resolved CCN composition and cloud properties in cumulus humilis: **X Yu**, L K Berg, C M Berkowitz, Y Lee, L Alexander, J A Ogren, B Andrews

0830h **A21K-03** Sources of Water-soluble Organic Aerosol in the Southeastern United States - Evidence of SOA Formed Through Heterogeneous Reactions: **X Zhang**, R J Weber

0845h **A21K-04** Constraining the Contribution of Organic Acids and m/z 44 to the Organic Aerosol Budget: On the Importance of Meteorology, Aerosol Hygroscopicity, and Region (*Invited*): **A Sorooshian**, S M Murphy, S P Hersey, R Bahreini, H H Jonsson, R C Flagan, J Seinfeld

0900h **A21K-05** SPACCIM simulations of chemical aerosol-cloud interactions with the multiphase chemistry mechanism MCM-CAPRAM3.0: A Tilgner, R Schroedner, P Braeuer, R Wolke, **H Herrmann**

0915h **A21K-06** Urban Air Pollution from Ethanol (E85) in the Presence of Aqueous Aerosols and Fog: **D L Ginnebaugh**, M Z Jacobson

0930h **A21K-07** Global Modeling of In-Cloud Oxalate Formation: S Myriokefalitakis, **K Tsigaridis**, N Mihalopoulos, J Sciare, A Nenes, A Segers, M Kanakidou

0945h **A21K-08** Importance of Aqueous-phase Secondary Organic Aerosol Formation from Aromatics in an Atmospheric Hydrocarbon Mixture: **H M Parikh**, A G Carlton, W Vizuete, H Zhang, Y Zhou, E Chen, R M Kamens

Atmospheric and Space Electricity

AE21A Moscone South: Poster Hall Tuesday 0800h **Sensing Lightning From Space: From Mission Concept to Applications I Posters** (joint with A)

Presiding: E Defer, CNRS-Observatoire de Paris; S J Goodman, NOAA; J Grandell, EUMETSAT

- 0800h **AE21A-0254** POSTER The plasmopause observed by DEMETER satellite during 2005-2009: **Y Ho**, J G Liu, M Parrot, J Pinçon
- 0800h **AE21A-0255** POSTER The midlatitude electron density enhancement observed by DEMETER: **H Jhuang**, J G Liu, M Parrot
- 0800h **AE21A-0256** POSTER A Lightning Detector Onboard Austrian Nanosatellite (LiNSAT): **G Jaffer**, O Koudelka, K Schwingenschuh, H Eichelberger
- 0800h **AE21A-0257** POSTER EUMETSAT Meteosat Third Generation (MTG) Lightning Imager: From mission requirements to product development: **J Grandell**, R Stuhlmann, M Dobber, A Bennett, D Biron, E Defer, U Finke, H Hoeller, P Lopez, D M Mach, A Mäkelä, S Soula, Title of Team: MTG Lightning Imager Science Team
- 0800h **AE21A-0258** WITHDRAWN
- 0800h **AE21A-0259** POSTER GOES Infrared and Reflectance 0-1 hour Lightning Initiation Indicators: Development and Initial Testing within a Convective Nowcasting System: **J R Mecikalski**, R Harris, W MacKenzie, P A Durkee, H Iskenderian, L Bickmeier, K E Nielsen
- 0800h **AE21A-0260** POSTER Using WVLLN and TRMM data to investigate lightning activity and convective parameters in 2005 - 2010 tropical cyclones: **N N Solorzano**, J N Thomas, R H Holzworth
- 0800h **AE21A-0261** POSTER Severe storm activity in Brazil from 1999 to 2006 inferred from observations by the Lightning Imaging Sensor: **O Pinto**
- 0800h **AE21A-0262** POSTER Analysis of TRMM-LIS Lightning and Related Microphysics Using a Cell-Scale Database: **A Le Roy**, W A Petersen
- 0800h **AE21A-0263** POSTER Total lightning flash characteristics observed from TRMM Lightning Imaging Sensor (LIS) and their relationship with regional convection and precipitation type: **R I Albrecht**, K Gopalan, N Wang, E C Bruning, S J Goodman, R R Ferraro
- 0800h **AE21A-0264** POSTER Properties of Convective Clouds and Associated Lightning Activity over Western Europe as Sensed by A-TRAIN and LINET: **E Defer**, H Betz

AE21B Moscone South: Poster Hall Tuesday 0800h **Thunderstorm Effects in the Near-Earth Space Environment III Posters** (joint with SA, A)

Presiding: D D Sentman, Univ Alaska Fairbanks; C Hanuise, LPC2E/CNRS; V P Pasko, Penn State University; T Neubert, Technical University of Denmark

- 0800h **AE21B-0265** WITHDRAWN
- 0800h **AE21B-0266** WITHDRAWN
- 0800h **AE21B-0267** POSTER Midlatitude Nighttime and Daytime D Region Ionosphere Variations Measured from Radio Atmospheric: **F Han**, S A Cummer
- 0800h **AE21B-0268** POSTER Observation of the Formation of Gravity Waves from Thunderstorms: **E Blanc**, T Farges, S Soula, J Marty

- 0800h **AE21B-0269** POSTER High temporal and spatial-resolution detection of D-layer fluctuations by using time-domain lightning waveforms: E H Lay, **X Shao**
- 0800h **AE21B-0270** POSTER High-speed Telescopic Imaging of a Sprite Streamer Head: **T Kanmae**, H C Stenbaek-Nielsen, M G McHarg, R K Haaland
- 0800h **AE21B-0271** POSTER Triangulation of Sprite Features: **R K Haaland**, W H Fellman, H C Stenbaek-Nielsen, M G McHarg, T Kanmae
- 0800h **AE21B-0272** POSTER A study of the nature of lightning that produces transient luminous events such as sprites: T J Lang, S A Cummer, W A Lyons, **S A Rutledge**, J Li
- 0800h **AE21B-0273** POSTER TLEs and their electromagnetic characteristics from 2010 Taiwan ground campaign: **S Huang**, A B Chen, J Chou, L Lee, S Chang, Y Wu, Y Lee, C Hsu, G Yang, C Kuo, H Su, R Hsu
- 0800h **AE21B-0274** POSTER Deconvolving the lightning sferic VLF source waveform from its temporally-superposed ionospheric reflections: **A R Jacobson**, R H Holzworth, X Shao
- 0800h **AE21B-0275** POSTER Modeling Long-Distance ELF Radio Atmospheric Generated by Rocket-Triggered Lightning: **R C Moore**, B Kunduri, S Anand, N Dupree, M Mitchell, D Agrawal
- 0800h **AE21B-0276** POSTER VLF subionospheric disturbances and ELF transients associated with TLEs: observations and modelling: **Y Hobara**, M Hayakawa, H Fujii, M Iwamoto, K Ohta
- 0800h **AE21B-0277** POSTER Global Optical Lightning Intensity near the Equator from the C/NOFS Satellite: **M C Reeves**, R H Holzworth, A R Jacobson, M P McCarthy, M L Hutchins, R F Pfaff
- 0800h **AE21B-0278** POSTER Positions of sources of lightning-related HF signatures measured by the DEMETER satellite: **D Pisa**, O Santolik, M Parrot
- 0800h **AE21B-0279** POSTER In situ Electric Field Observations of Schumann Resonances in the Low Latitude Ionosphere and Their Implications for Tropospheric-Ionospheric Electromagnetic Coupling Mechanisms: **F Simoes**, R F Pfaff, H Freudenreich, K R Bromund, S C Martin
- 0800h **AE21B-0280** POSTER The COBRAT project (Coupled Observations from Balloon Related to Asim and Taranis): **J Pinçon**, J Renard
- 0800h **AE21B-0281** POSTER IME-HF ANALYSER FOR THE TARANIS SATELLITE: **I Kolmasova**, J Chum, O Santolik, F Hruska, J Rauch
- 0800h **AE21B-0282** POSTER Occurrence of Transient Luminous Event and Lightning during El Niño and La Niña: **Y Wu**, A B Chen, J Chou, S Chang, L Lee, Y Lee, C Kuo, H Su, R Hsu, H Hsu, H U Frey, S B Mende, Y Takahashi, L Lee
- 0800h **AE21B-0283** POSTER Optical Remote Sensing of Electric Fields Above Thunderstorms: **B M Burns**, B E Carlson, D Lauben, M Cohen, D Smith, U S Inan
- 0800h **AE21B-0284** POSTER Investigation of the Exponential Growth Rate of Sprite Streamer Characteristics: **B Kosar**, N Liu, H K Rassoul
- 0800h **AE21B-0285** POSTER On the inception of streamers from sprite halo events produced by lightning discharges with positive and negative polarity: **J Qin**, S J Celestin, V P Pasko
- 0800h **AE21B-0286** POSTER Velocity and Current of Lightning Sprites: **J Rai**, M K Paras

Biogeosciences

B21A Moscone South: Poster Hall Tuesday 0800h
Adaptation of Vegetation to Global Change I Posters (*joint with GC, H*)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley; **S Zaehle**, Max Planck Institute for Biogeochemistry

0800h **B21A-0287** *POSTER* The Response of African Land Surface Phenology to Large Scale Climate Oscillations: **M E Brown**, K de Beurs, A Vrieling

0800h **B21A-0288** *POSTER* Multiproxy, Cross-Biome Analysis Of Ecosystem Dynamics During Late-Glacial And Holocene Climatic Change In North-Central North America: **P Camill**, C E Umbanhowar, C E Geiss, R E Teed, J A Dorale, J A Lynch

0800h **B21A-0289** *POSTER* Using dendrochronology to detect and attribute CO₂-induced growth increases in *P. menziesii* and *P. ponderosa* in western North America: **V Stretch**, Z Gedalof, A A Berg

0800h **B21A-0290** *POSTER* The influence of soil-site factors on sugar maple (*Acer saccharum* Marsh.) growth response to climatic change in central Ontario: **K Schutten**, Z Gedalof

0800h **B21A-0291** *POSTER* Investigating the Underlying Causes of Tree Mortality with Carbon and Oxygen Isotopes in Tree-rings: **N B English**, N McDowell, C D Allen, A J Das, C I Mora, N L Stephenson

0800h **B21A-0292** *POSTER* The Role of Sphagnum Mosses in Methane Cycling of a Temperate Fen: **B J Young**, R K Varner, T Larmola, J L Bubier

0800h **B21A-0293** *POSTER* Evaluating Spruce Peatland Responses Under Climatic and Environmental Change Using a Replicated In Situ Field Manipulation: **P J Hanson**, R K Kolka, R J Norby, B Palik, S D Wullschleger, C T Garten, S D Sebestyen, P E Thornton, J Bradford, P J Mulholland, D E Todd, C Iversen, J Warren

0800h **B21A-0294** *POSTER* Response of vegetation structure and function to experimental drought and flooding in an Alaskan fen: **A C Churchill**, T N Hollingworth, A D McGuire, M R Turetsky

0800h **B21A-0295** *POSTER* Tentative critical levels of tropospheric ozone for agricultural crops in Japan: **T Yonekura**

0800h **B21A-0296** *POSTER* Ecophysiological Responses of Invasive and Native Grass Communities with Simulated Warming: **B Quade**, S Ravi, T E Huxman

0800h **B21A-0297** *POSTER* Physiological responses during short-term acclimation to increasing atmospheric CO₂ concentration in *Pinus nigra*: **K S Maseyk**, P Biron, P Richard, L Canale, T Bariac

0800h **B21A-0298** *POSTER* Warming Nights and Increased Precipitation Event Size Decrease *Picea engelmannii* Productivity: **A N Orgill**, M Laflin, B J Walker, R A Gill

0800h **B21A-0299** *POSTER* Altered Water Extraction and Hydraulic Redistribution of Agricultural Crop Soybean at Daily Time Scales in Open-Air Elevation of CO₂ under Drought: **P G Schmitz**, S B Gray, C Bernacchi, A D Leakey, P Kumar, S P Long

0800h **B21A-0300** *POSTER* Effect of soil frost on growing season nitrogen uptake by fine roots of mature trees in northern hardwood forests of the United States: **A M Socci**, P H Templer

0800h **B21A-0301** *POSTER* Spatial Predictive Process Models Yield Improved Forecasts of Vegetation Response to Climate Change: **A Swanson**, S Z Dobrowski, A Mynsberge

0800h **B21A-0302** *POSTER* Modeling the Influence of Vegetation Root Distribution for a Changed Climate: **J Song**, J J Hatzis

0800h **B21A-0303** *POSTER* Modeling adaptation of wetland plants under changing environments: **R Muneeppeerakul**, C P Muneeppeerakul

0800h **B21A-0304** *POSTER* Ozone-induced reductions in photosynthesis and transpiration: Parameterizing the Community Land Model (CLM): **D Lombardozzi**, G B Bonan, S Levis, J P Sparks

0800h **B21A-0305** *POSTER* Strategies of a Bornean tropical rainforest water use as a function of rainfall regime: anisohydric or isohydric?: **T Kumagai**, A M Porporato

0800h **B21A-0306** *POSTER* Evaluation of the Terrestrial Ecosystem Formation and Diversity in a Modified Dynamic Global Vegetation Model: **X Zeng**, P Shao, X Song

0800h **B21A-0307** *POSTER* Effects of change in growing season on water use efficiency of lowland rice estimated using a coupled land surface and crop growth model: **A Maruyama**, T Kuwagata

0800h **B21A-0308** *POSTER* Does optimal adaptation allow prediction of water use by vegetation without calibration?: **S J Schymanski**, M Sivapalan, M L Roderick, R Leuning

0800h **B21A-0309** *POSTER* Modeling Mediterranean forests functional adjustments under drought constraints: regional applications for carbon budget and vegetation dynamics: **J J Ruffault**, F Mouillot, S Rambal

0800h **B21A-0310** *POSTER* Impacts on the surface energy budget across the Central U.S. maize/soybean ecosystem from increasing carbon dioxide and ozone concentrations: **J Bryant**, K Richter, M Williams, A D Leakey, T E Twine

0800h **B21A-0311** *POSTER* The role of root distribution in eco-hydrological modeling in semi-arid regions: **G Sivandran**, R L Bras

B21B Moscone South: Poster Hall Tuesday 0800h
Omic Approaches to Geobiology I Posters

Presiding: **J M Dick**, Arizona State University; **A Poret-Peterson**, Arizona State University; **E Shock**, Arizona State University

0800h **B21B-0312** WITHDRAWN

0800h **B21B-0313** *POSTER* Patterns in bacterial and archaeal community structure and diversity in western Beaufort Sea sediments and waters: **L J Hamdan**, M Sikaroodi, R B Coffin, P M Gillevet

0800h **B21B-0314** *POSTER* Community Proteogenomics of a Cold-methane Seep Sediment at Nyegga, Mid-Norwegian Margin: **R Stokke**, I Roalkvam, A Lanzen, Y Chen, H Hafliadson, I Steen

0800h **B21B-0315** *POSTER* Anaerobic oxidation of methane in the terrestrial subsurface environments: **M Takeuchi**, H Yoshioka, Y Seo, S Tanabe, H Tamaki, Y Kamagata, H A Takahashi, S Igari, D Mayumi, S Sakata

0800h **B21B-0316** *POSTER* Looking For a Needle in the Haystack: Deciphering Indigenous 1.79 km Deep Subsurface Microbial Communities from Drilling Mud Contaminants Using 454 Pyrotag Sequencing: **Y Dong**, I Cann, R Mackie, N Price, T M Flynn, R Sanford, P Miller, N Chia, C G Kumar, P Kim, M Sivaguru, B W Fouke

0800h **B21B-0317** *POSTER* Metabolic Strategies in Energy-Limited Microbial Communities in the Anoxic Subsurface (Frasassi Cave System, Italy): **R L McCauley**, D S Jones, I Schaperdoth, L Steinberg, J L Macalady

0800h **B21B-0318** *POSTER* Abundance and Distribution of Diagnostic Carbon Fixation Genes in a Deep-Sea Hydrothermal Gradient Ecosystem: **H N Blumenfeld**, D S Kelley, P R Girguis, M O Schrenk

0800h **B21B-0319** POSTER Microbial Diversity of a Living Stromatolite in Yellowstone National Park, Wyoming: Learning How a Stromatolite Grows: **C P Pepe-Ranney**, W Berelson, F A Corsetti, J R Spear

0800h **B21B-0320** POSTER Changes in the community structure of microbial mats along chemical and temperature gradients in a Yellowstone hot spring: **E A Walsh**, K G Eilers, S M Ulrich, C Wenk, L A MacKenzie, S Dawson, J R Spear, J R de la Torre, Title of Team: 2010 USC International Geobiology Course

0800h **B21B-0321** POSTER Assessment of microbial biomarkers with environmental genomics: a comparison of biochemical and phylogenetic indicators of microbial diversity in Yellowstone National Park: S Kopf, **M L Gomes**, A McAnena, A Vuillemin, A L Sessions, J R Spear, Title of Team: International Geobiology Course 2010

0800h **B21B-0322** POSTER Comparison of lipidomics and genomics to describe hydrothermal communities in Yellowstone National Park: **M R Osburn**, A L Sessions, C Pepe-Ranney, J R Spear

0800h **B21B-0323** POSTER Multidimensional chemical optimization of protein assemblages: **J M Dick**, E Shock

0800h **B21B-0324** POSTER Nitrogen cycling in Yellowstone National Park thermal features: using gene expression to reveal ecological function: **S T LaFree**, M S Burton, D R Meyer-Dombard

B21C Moscone South: Poster Hall Tuesday 0800h
Phosphorus: From Geochemistry to Genomes to Global Sustainability I Posters (joint with GC, OS, PP, V)

Presiding: **A Poret-Peterson**, Arizona State University; **J R Corman**, Arizona State University; **J J Elser**, Arizona State University

0800h **B21C-0325** POSTER The paradox of algal blooms in oligotrophic waters: **P V Sundareshwar**, S Upadhyay, M B Abessa, S Honomichl, B Berdanier, S Spaulding, C Sandvik, A Trennepohl

0800h **B21C-0326** POSTER Using oxygen isotopes of phosphate to investigate phosphate release from sediments and phosphate input from waste water treatment plants into Lake Erie: **K Roberts**, T Klass, S Watson, B Mah, A Paytan

0800h **B21C-0327** POSTER Can Polyphosphate Biochemistry Affect Biological Apatite Saturation?: **S J Omelon**, N Matsuura, I Gorelikov, C Wynnyckyj, M D Grynaps

0800h **B21C-0328** POSTER Crossing the pedogenetic threshold: Apparent phosphorus limitation by soil microorganisms in unglaciated acidic eastern hardwood forests: **J L Deforest**, K A Smemo, D J Burke

0800h **B21C-0329** POSTER Changes in soil phosphorus fractions following woody plant invasion of grassland: **I B Kantola**, T W Boutton, T R Filley, C T Hallmark

0800h **B21C-0330** POSTER P Limitation and Microbial Biogeochemistry in Acidic Forest Soils of the Northeastern United States: **K A Smemo**, J L Deforest, D J Burke, H L Elliot, L A Kluber, S R Carrino-Kyker

0800h **B21C-0331** POSTER Phosphorus Speciation and Phosphate Oxygen Isotope Systematics of Type Euxinic Marine Deposits from Middle Devonian North America: **C P Carney**, M A Arthur

0800h **B21C-0332** POSTER Nutrient limitation of a thermokarst lake and large river ecosystem in the Kolyma River basin (Russia): **S Chandra**, J Heslop, W V Sobczak, J D Schade, V Spektor, R M Holmes, A G Bunn, E B Bulygina, K M Walter Anthony, K E Frey, N Zimov, S A Zimov

0800h **B21C-0333** POSTER Ecosystem effects of cultural eutrophication in a large, tropical lake: **J R Corman**, S Chandra, C Davis, M Dix, N Giron, E Rejmánková, A Roegner, J Veselá, J J Elser

0800h **B21C-0334** POSTER Characterization of P status in forest soils: stocks, fluxes and models: D L Achat, C Morel, M Bakker, L Augusto, **A Gallet-Budynek**, M Gonzalez, M Jonard

B21D Moscone South: Poster Hall Tuesday 0800h
Quantifying the Impact of Vegetation and Soil Weathering Processes on the Hydrosphere Using Biogeochemical Tracers I Posters (joint with EP, H, V)

Presiding: **S Opfergelt**, Université catholique de Louvain

0800h **B21D-0335** POSTER Analysing the isotopic evolution of Silicon in the weathering zone by numerical modelling: **B Georg**, S Opfergelt

0800h **B21D-0336** WITHDRAWN

0800h **B21D-0337** POSTER Potential of calcium isotopes to identify fractionations in vegetation: experimental approach: **F Cobert**, A Schmitt, P Bourgade, P Stille, F J Chabaux, P Badot, T Jaegler

0800h **B21D-0338** POSTER Sr, Ca, and C isotope systematic in small tropical catchments, La Selva, Costa Rica: **B A Wiegand**, L Schwendenmann

0800h **B21D-0339** POSTER Hydrological control of stream water chemistry in a glacial catchment (Damma Glacier, Switzerland): **R S Hindshaw**, E Tipper, E Lemarchand, B C Reynolds, J G Wiederhold, J Magnusson, S M Bernasconi, R Kretzschmar, B Bourdon

0800h **B21D-0340** POSTER Sources and Cycling of Carbon in Two Semi-Arid Catchments, Valles Caldera Preserve, NM: Insights From Carbon Isotopes: **J Ray**, J C McIntosh, J N Perdrial, P D Brooks, J Chorover, C Rasmussen, T Meixner

0800h **B21D-0341** POSTER Chemical weathering and carbon cycling of the Changjiang Basin, China: Evidence from $^{87}\text{Sr}/^{86}\text{Sr}$, $\delta^{13}\text{C}$ of dissolved inorganic carbon and $\delta^{34}\text{S}$ of sulfate: **C Liu**, L Yun-Chao, J Li, S Li, B Chetelat

0800h **B21D-0342** POSTER The strontium stable isotope composition of global rivers and the implications for the marine $\delta^{88}\text{Sr}$ record: **C R Pearce**, I J Parkinson, K Burton, J Gaillardet

0800h **B21D-0343** POSTER The retrieval of marine weathering records preserved by strontium stable isotopes in foraminifera: **E I Stevenson**, K Burton, F Mokadem, I J Parkinson, P Anand, E C Hathorne

0800h **B21D-0344** POSTER Ca isotopes reveal weak control of tectonic uplift on long-term climate change: **J Moore**, A D Jacobson, C E Holmden, D Craw

0800h **B21D-0345** POSTER A mathematical model for examining tectonic and climatic controls on chemical weathering and CO₂ consumption: **D D Li**, A D Jacobson, D J McInerney

0800h **B21D-0346** POSTER A quantitative model of the biogeochemical transport of iodine: **H Weng**, Z Ji, J Weng

0800h **B21D-0347** WITHDRAWN

0800h **B21D-0348** POSTER Bioleaching of Ilmenite and Basalt in the Presence of Iron-oxidizing and Iron-scavenging Bacteria: **J U Navarrete**, I Cappelle, D Borrok, Title of Team: ISRU-BIO Team

B21E Moscone South: Poster Hall Tuesday 0800h
Urban Areas and Global Change III Posters (joint with A, GC, H, PA)

Presiding: **G Churkina**, Leibniz Centre for Agricultural Landscape Research; **K A Hibbard**, NCAR

0800h **B21E-0349** POSTER Ecosystem Carbon Storage Along a 100-Year Chronosequence of Suburban Households: **J Y King**, C Fissore, J McFadden, S E Hobbie, D Nidzgorski

- 0800h **B21E-0350** *POSTER* Energy and Carbon Exchanges Along an Urbanization Gradient in Montreal, Canada: **O Bergeron**, I B Strachan
- 0800h **B21E-0351** *POSTER* Gaseous Losses of Carbon and Nitrogen from Grass and Gravel Lined Urban Waterways in a Semi-Arid Region: **C Ferlin**, E L Gallo, A M Peterson, K A Lohse, P D Brooks
- 0800h **B21E-0352** *POSTER* Carbon Sequestration Rates and the Energy Balance of Turf in the Denver Urban Ecosystem and in an Adjacent Native Grassland Under Contrasting Management Practices: **D E Anderson**, K Powell, G Szanko, C Mladinich, S Curry, A Griebel
- 0800h **B21E-0353** *POSTER* Linking Nocturnal Eddy Fluxes to Land Use-Land Cover in a Heterogeneous Landscape Surrounding the Urban-suburban Tower near Baltimore, Maryland: **N Z Saliendra**, J L Hom, R Pouyat, D Nowak, G M Heisler, M Patterson, I Yesilonis
- 0800h **B21E-0354** *POSTER* Land cover change in the Seattle metropolitan region: An examination of spatio-temporal changes and the carbon consequences of urbanization: **B Yoon**, L R Hutrya
- 0800h **B21E-0355** *POSTER* Assessment of the potential of urban organic carbon dynamics to off-set urban anthropogenic emissions: **P Gottschalk**, G Churkina, M Wattenbach, U Cubasch
- 0800h **B21E-0356** *POSTER* Estimating Carbon Storage and Sequestration by Urban Trees at Multiple Spatial Resolutions: **J Wu**, A Tran, A Liao
- 0800h **B21E-0357** *POSTER* Human and natural influences on carbon dioxide in Salt Lake City: Investigating observed concentrations with a multiple box model: **C Stwertka**, C Strong
- 0800h **B21E-0358** *POSTER* Mapping of the CO₂ and anthropogenic heat emission under spatially explicit urban land use scenarios: **K Nakamichi**, Y Yamagata, H Seya
- 0800h **B21E-0359** *POSTER* Modeling Coupled Climate and Urban Land Use Change in the Eastern United States: **F S Melton**, S J Goetz, W Wang, C Milesi, D M Theobald, R R Nemani
- 0800h **B21E-0360** *POSTER* Geographically explicit urban land use change scenarios for Mega cities: a case study in Tokyo: Y Yamagata, **H Bagan**, H Seya, K Nakamichi
- 0800h **B21E-0361** *POSTER* Urban expansion in Tokyo metropolitan area between 1972 and 2002: **H Bagan**, Y Yamagata
- 0800h **B21E-0362** *POSTER* Potential Drivers of Urban Heat Island in Northeast USA Cities: **P Zhang**, M L Imhoff, R E Wolfe, L Bounoua
- 0800h **B21E-0363** *POSTER* What's behind the warming signals in eastern China megacity areas?: Y Hu, **G Jia**
- 0800h **B21E-0364** *POSTER* Regional Climate Response to Surface Albedo Changes from Cool (reflective) Roofs and Desert Based Solar Electricity Generation: **D Millstein**, S Menon
- 0800h **B21E-0365** *POSTER* Eco-hydrologic role of urban parks in Queretaro City: **S Medina Frutos**, E Gonzalez-Sosa, C A Mastachi-Loza, M A Gutierrez-Lopez, Title of Team: CIAQ
- 0800h **B21E-0366** *POSTER* Native, Arid Green Design: Strategies to Combat Urban Heat Island Effect: **S K Tepler**, M Pavao-Zuckerman, M Livingston, S E Smith, R Stoltz
- 0800h **B21E-0367** *POSTER* Evolution of the Parisian urban climate under a global changing climate: **A Lemonsu**, R Kounkou-Arnaud, J Desplat, J Salagnac, V Masson
- 0800h **B21E-0368** *POSTER* The Arizona Sun Corridor: Quantifying climatic implications of megapolitan development: **M Georgescu**, M Moustauoui, A Mahalov
- 0800h **B21E-0369** *POSTER* Investigation of Long-Term Impacts of Urbanization and Global Warming in a Coastal Tropical Region: **D E Comarazamy**, J Gonzalez, J C Luvall
- 0800h **B21E-0370** *POSTER* Modeling based analysis of urban influences on severe thunderstorms: **M Lei**, D Niyogi, Title of Team: Indiana State Climate Office
- 0800h **B21E-0371** *POSTER* Urbanization and the Regional Rainfall Climatology of the Baltimore Metropolitan Region: **J A Smith**, M L Baeck, G Villarini, B K Smith, D B Wright
- 0800h **B21E-0372** *POSTER* A Regional Study of Urban Fluxes from a Coupled WRF-ACASA Model: **M Falk**, R D Pyles, S Marras, D Spano, R L Snyder, K Paw U
- 0800h **B21E-0373** *POSTER* The influence of air-conditioning on street temperatures in the city of Paris: **C S de Munck**, G Pigeon, V Masson, C Marchadier, F Meunier, B Tréméac, M Merchat
- 0800h **B21E-0374** *POSTER* Towards improving energy budgets in urban canopy models: **Z Wang**, E Bou-Zeid, J A Smith, S Au, S Miller, D Schreiber
- 0800h **B21E-0375** *POSTER* Pollutant Removal, Dispersion and Entrainment over Two-Dimensional Idealized Street Canyons: an LES Approach: **C Wong**, C Liu
- 0800h **B21E-0376** *POSTER* On the Air Pollutant Removal Mechanism from Two-Dimensional Urban Street Canyons: C Liu, W Cheng, T N Chung, **C Wong**
- 0800h **B21E-0377** *POSTER* Favorable Street Canyon Aspect Ratios for Pollutant Removal- a Large-Eddy Simulation Approach: **T N Chung**, C Liu
- 0800h **B21E-0378** *POSTER* Including Cities in Projections of Global Climate Change (*Invited*): **M McCarthy**, M Best, R Betts
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- B21F Moscone West: 2002 Tuesday 0800h**
Cryospheric Biogeochemistry II (*joint with C, H, V*)
- Presiding:* **E W Hood**, University of Alaska Southeast; **M Tranter**, University of Bristol; **D Nemergut**, University of Colorado - Boulder; **J C Priscu**, Montana State University; **D Scott**, Virginia Tech
- 0800h **B21F-01** Pedogenesis on ice (*Invited*): **A J Hodson**
- 0815h **B21F-02** The geomicrobiology of the Greenland Ice Sheet: impact on DOC export (*Invited*): **J L Wadham**, M Stibal, E C Lawson, M J Barnett, F Hasan, J Telling, A Anesio, G Lis, D Cullen, C Butler, M Tranter, P W Nienow
- 0830h **B21F-03** Seasonal hydrological cycle control on age, abundance and lability of carbon exported from the Greenland ice sheet: **M P Bhatia**, S B Das, M A Charette, L Xu, E B Kujawinski
- 0845h **B21F-04** A subzero microbial habitat in the basal ice of an Antarctic glacier (*Invited*): **B C Christner**, S M Doyle, S N Montross, M L Skidmore, D Samyn, R Lorrain, J Tison, S Fitzsimons
- 0900h **B21F-05** Tectonics, Microbes and Ice: Subglacial volcanism as a generator for microbial habitat beneath the West Antarctic Ice Sheet: **M L Skidmore**, D D Blankenship, S P Carter
- 0915h **B21F-06** Chemoautotrophic Bacterial Production in the Redoxcline of an Ice-Covered Antarctic Lake (*Invited*): **J Mikucki**, W Kong, J C Priscu, R Morgan-Kiss
- 0930h **B21F-07** Towards an understanding of the source of protein-like fluorescence in glacially exported organic matter. (*Invited*): **J D Barker**, Y Chin, W B Lyons
- 0945h **B21F-08** Nitrogen composition and sources across a glaciated catchment in the Canadian Rocky Mountains: **M Lafreniere**

B21G Moscone West: 2004 Tuesday 0800h
Interacting Biogeochemical Cycles: Linking Carbon, Water, and Nutrient Fluxes From Organisms to Globe II (joint with H)

Presiding: **M Reichstein**, Max-Planck-Inst. for Biogeo.; **D Drewry**, University of Illinois

0800h **B21G-01** Ecosystem carbon-water interactions of tropical pasture and afforestation: **S Wolf**, W Eugster, N Buchmann

0815h **B21G-02** Time scales of biogeochemical and organismal responses to individual precipitation events: **J C von Fischer**, A L Angert, D J Augustine, C Brown, F A Dijkstra, J D Derner, R A Hufbauer, N Fierer, D G Milchunas, J C Moore, H Steltzer, M D Wallenstein

0830h **B21G-03** Microbial respiration and root respiration follow divergent seasonal and diel temporal patterns in a temperate forest: **E A Davidson**, K E Savage, J Tang

0845h **B21G-04** Seasonality of carbon fluxes in an aseasonal environment: controls on litterfall and soil respiration in a tropical forest: **W L Silver**, Title of Team: Canopy Trimming Experiment Team

0900h **B21G-05** Carbon and water interactions and the footprint of climate-change activities (*Invited*): **R B Jackson**

0930h **B21G-06** Stimulation of both photosynthesis and respiration in response to warmer and drier conditions in a boreal peatland ecosystem: **L B Flanagan**, K H Syed

0945h **B21G-07** The Potential of Carbonyl Sulfide as a Tracer for Gross Primary Productivity at Flux Tower Sites: **J Blonquist**, S A Montzka, D Yakir, A R Desai, D Dragoni, T J Griffis, R K Monson, J W Munger, R L Scott, D R Bowling

B21H Moscone West: 2006 Tuesday 0800h
Phenologies, Change, and Sustainability I (joint with GC, H, A)

Presiding: **G M Henebry**, South Dakota State University; **K de Beurs**, Virginia Polytechnic Institute and State University; **J L Betancourt**, U.S. Geological Survey; **J F Brown**, USGS

0800h **B21H-01** Phenological control over ecosystem-atmosphere carbon exchange (*Invited*): **R K Monson**, D J Moore, L Scott-Denton, S P Burns

0820h **B21H-02** Plants and pixels: Comparing phenologies from the ground and from space (*Invited*): **T Rutishauser**, R Stoekli, F Jeanneret, J Peñuelas

0840h **B21H-03** Forecasting phenological responses to climate change: Using hierarchical models to bridge local processes and regional predictions (*Invited*): **J Diez**, I Ibanez

0900h **B21H-04** Evolved Phenological Asynchrony as a Baseline for Climate-change Impacts. (*Invited*): **M C Singer**, C Parmesan

0920h **B21H-05** Remotely-sensed phenologies of C3 and C4 grasses in Hawaii using MODIS Vegetation Indices: **S Pau**, C J Still

0940h **B21H-06** Trends in Crop Management and Phenology in the U.S. Corn Belt, and Effects on Yields, Evapotranspiration and Energy Balance: **W J Sacks**, C J Kucharik

Cryosphere

C21A Moscone South: Poster Hall Tuesday 0800h
Advances in Glacier Geophysics and Quantitative Glaciological Field Methods II Posters (joint with EP, G, GC, H, NH, NS, NG, OS)

Presiding: **D C Finnegan**, Cold Regions Research & Eng. Lab; **B Kulesa**, Swansea University; **S Anandkrishnan**, Pennsylvania State University; **G S Hamilton**, University of Maine; **T Murray**, Swansea University

0800h **C21A-0503 POSTER** Solving Free Surface Flows For Steady State Without Time Stepping: **J Brown**

0800h **C21A-0504 POSTER** Internal ice layer architecture determined by automatic processing of Radar-Echo Sounding data: Rutford Ice Stream, Subglacial Lake Ellsworth and Fletcher Promontory: **G Hiess**, R C Hindmarsh, L Sime, H F Corr, E C King, O J Marsh, H D Pritchard, N Ross

0800h **C21A-0505 POSTER** Using radar-derived measurements of basal reflectivity to locate Antarctic subglacial lakes: **K E Lapo**, J R Stamp, B W Youngblood, B C Welch, R W Jacobel

0800h **C21A-0506 POSTER** Using A Wireless In Situ Probe To Monitor Subglacial Processes: **J K Hart**, K Martinez

0800h **C21A-0507 POSTER** Basal ice flow regime influenced by glacial lake formation in Rhonegletscher, Switzerland: **D Nishimura**, S Tsutaki, S Sugiyama

0800h **C21A-0508 POSTER** Hydrogeophysical characterisation of ice-marginal moraines, with reference to moraine dam stability, Miage Glacial Lake, Italy: **S S Thompson**, B Kulesa

0800h **C21A-0509 POSTER** Joint inversion of multi-component seismic and ground-penetrating radar GPR) data for ice-physical properties, and application to the Larsen C ice shelf: **B Kulesa**, E C King, B E Barrett, D Jansen, A J Luckman, P Sammonds

0800h **C21A-0510 POSTER** An integrated radar and seismic analysis of basal roughness beneath upper Thwaites Glacier, West Antarctica: **R X Boon**, J A MacGregor, L E Peters, S Anandkrishnan, R B Alley, A M Hoch

0800h **C21A-0511 POSTER** Measurements of seismic attenuation in ice: A potential proxy for englacial temperature?: **L E Peters**, S Anandkrishnan

0800h **C21A-0512 POSTER** Accurate seismic phase identification and arrival time picking of glacial icequakes: **G A Jones**, S H Doyle, C Dow, B Kulesa, A Hubbard

0800h **C21A-0513 POSTER** Development of a Four-Element Geophone for Reflection Seismic Profiling on Glaciers: **S Anandkrishnan**, D Voigt, L E Peters

0800h **C21A-0514 POSTER** Marine Geophysical Surveying Along the Hubbard Glacier Terminus, Southeast Alaska: **J A Goff**, M Davis, S P Gulick, D E Lawson, B A Willems

0800h **C21A-0515 POSTER** Flow Characteristics of Tidewater Glaciers in Greenland and Alaska using Ground-Based LiDAR: **D C Finnegan**, L A Stearns, G S Hamilton, S O'Neel

0800h **C21A-0516 POSTER** GPS measurements of flow variations at a large Greenland outlet glacier due to ocean tidal forcing: **J de Juan**, P Elosegui, M Nettles, J L Davis, T Larsen, G S Hamilton, L A Stearns

0800h **C21A-0517 POSTER** Three dimensional monitoring of a major calving event at Helheim Glacier using stereo terrestrial photography: **T D James**, T Murray, N Selmes, K Scharrer

0800h **C21A-0518 POSTER** Innovative Camera and Image Processing System to Characterize Cryospheric Changes: **A Schenk**, B M Csatho, S Nagarajan

0800h **C21A-0519 WITHDRAWN**

0800h **C21A-0520** POSTER Airborne Hyperspectral Imaging of Supraglacial Lakes in Greenland's Ablation Zone: **J Adler**, A E Behar, N T Jacobson

0800h **C21A-0521** POSTER Electrical Resistivity Methods to Characterize Sediment Deformation; Examples from Large-scale Glaciotectonic Structures in Michigan, USA: **R L Van Dam**

0800h **C21A-0522** POSTER Development of a Micro Subglacial Lake Exploration Device: **A E Behar**

C21B Moscone South: Poster Hall Tuesday 0800h
Glacial Hydrology: Causes and Effects II Posters (joint with EP, H)

Presiding: **T T Creyts**, Columbia University; **G E Flowers**, Simon Fraser University; **L A Stearns**, University of Kansas

0800h **C21B-0523** POSTER Ice-age effects on radioactive waste disposal in Switzerland: **U H Fischer**, W Haerberli

0800h **C21B-0524** POSTER Quantifying the influence of melt on velocity variations at a large Greenland outlet glacier: **M L Andersen**, M Nettles, P Elosegui, T Larsen, G S Hamilton, L A Stearns

0800h **C21B-0525** POSTER Can surface and basal lakes be twins?: **O V Sergienko**, D R MacAyeal, C L Hulbe

0800h **C21B-0526** POSTER Ice Surface Velocity Changes On and Around Active Subglacial Lakes Whillans and Mercer Ice Streams, West Antarctica: **L Beem**, S M Tulaczyk, J I Walter, B E Smith, I R Joughin, H A Fricker

0800h **C21B-0527** POSTER Flow dynamics of a soft-bedded glacier in southeast Iceland during basal sliding events: **J Markus**, I M Howat, M King, B Oddsson, M Burke, K Matsuoka

0800h **C21B-0528** POSTER The effect of lithology and grain size on the ablation of glaciers: A Lambrecht, C Mayer, **U Kueppers**, M Juen, U Blumenthaler, L Seybold, A Wirbel

0800h **C21B-0529** POSTER Polarization Lidar for Shallow Water Supraglacial Lake Depth Measurement: **S Mitchell**, J Adler, J P Thayer, M Hayman

0800h **C21B-0530** POSTER Field Observations of Supraglacial Streams on the Juneau Icefield: **A Zok**, L Karlstrom, E W Hood, M Manga, R Wenzel, E S Kite

0800h **C21B-0531** POSTER From Supraglacial to Englacial: Evolution of Meltwater Channels: **A H Jarosch**

0800h **C21B-0532** POSTER Groundtruthing Ground Penetrating Radar Measurements of a High Arctic Glacier Using Glacial-Speleology: **K Wilson**

0800h **C21B-0533** POSTER Melt Regimes, Internal Stratigraphy, and Flow Dynamics of Three Glaciers in the Alaska Range: **S W Campbell**, K J Kreutz, S A Arcone, D A Winski, E C Osterberg, C P Wake, K Volkening

0800h **C21B-0534** POSTER Diversion of Sediment from Russell Fiord by Ice-marginal and Marine Processes, Hubbard Glacier: Implications for Calculating Sediment Yield and Denudation Rates: **B A Willems**, D E Lawson, L D Trusel, M Davis, J A Goff, S P Gulick

0800h **C21B-0535** POSTER Damming of Russell Fiord by Tidewater Hubbard Glacier, Alaska: Role of Subglacial Meltwater in Preventing Closure in 2010: **D E Lawson**, G S Hamilton, D C Finnegan, L A Stearns, B A Willems, S O'Neel, J A Goff, S P Gulick, M B Davis

0800h **C21B-0536** POSTER Planform development of distributed, sheet-like subglacial water systems: **T T Creyts**, C Schoof

0800h **C21B-0537** POSTER On the Detection of Subglacial Water in the Gamburtsev Subglacial Mountains, East Antarctica: **M Wolovick**, R E Bell, N Frearson, H F Corr, F Ferraccioli, M Studinger, T T Creyts, I Das, P Spector

0800h **C21B-0538** POSTER Short term variations of tracer transit speed on alpine glaciers: **M A Werder**, T Schuler, M Funk

0800h **C21B-0539** POSTER Geochemical characterization of subglacial water from the West Greenland Ice Sheet: **C M Landowski**, N F Humphrey, J T Harper, K W Sims

0800h **C21B-0540** POSTER Perturbations to Subglacial Water Storage through Integrated Borehole Impulse Testing: Western Greenland: **T W Meierbachtol**, J T Harper, N F Humphrey

0800h **C21B-0541** POSTER Supraglacial forcing of subglacial drainage in the ablation zone of the Greenland Ice Sheet:

P W Nienow, I D Bartholomew, A Sole, D Mair, T Cowton, S J Palmer, J L Wadham

0800h **C21B-0542** POSTER Recharge Controls on Dye Trace Breakthrough Curves in a Mapped Subglacial Conduit: **J D Gulley**, P Walthard, J B Martin, D Benn

0800h **C21B-0543** POSTER A physical model of ice sheet response to changes in subglacial hydrology: **L C Andrews**, G A Catania, J L Buttles, A Andrews, M Markowski

0800h **C21B-0544** POSTER Recovery Lakes or Recovery Swamps? Ground-based radar evidence from the upper Recovery catchment, East Antarctica: K Langley, **J Kohler**, K Matsuoka, A K Sinisalo, T A Scambos, T Neumann, J Winther, M R Albert

C21C Moscone South: Poster Hall Tuesday 0800h
Innovations in Observing and Modeling Components of the Cryosphere I Posters (joint with EP, NG)

Presiding: **J N Bassis**, University of Michigan; **U C Herzfeld**, Univ Colorado Boulder; **T L Mote**, University of Georgia; **M R Anderson**, University of Nebraska; **D R MacAyeal**, University of Chicago; **H Mayer**, University of Colorado

0800h **C21C-0545** POSTER The effect of temperature in contact problems: **S Nowicki**, O V Sergienko

0800h **C21C-0546** POSTER The parallel ice sheet model (PISM) as a flow-line model: **A Aschwanden**, C Khroulev, E Bueler

0800h **C21C-0547** POSTER Regional Modeling of Outlet Glaciers Using the Parallel Ice Sheet Model (PISM): **D N Dellagiustina**, E Bueler, A Aschwanden, C Khroulev, R M Hock

0800h **C21C-0548** POSTER Modeling the flow of the Antarctic Ice Sheet with the SeaRISE set-up: influence of different treatments of the flow regimes: **T Sato**, R Greve

0800h **C21C-0549** POSTER A Simple Method to Account for the Effects of Longitudinal Stress Gradients in a Shear-deformational Glacier Ice-flow Model: **S Adhikari**, S J Marshall

0800h **C21C-0550** POSTER Incorporating horizontal membrane stresses into calculations of balance velocities: **R Williams**, R C Hindmarsh, R Arthern

0800h **C21C-0551** POSTER Three-dimensional full-Stokes modeling of grounding line dynamics: **L Favier**, O Gagliardini, G Durand, T Zwinger

0800h **C21C-0552** POSTER Investigating the Greenland ice sheet evolution under changing climate using a three-dimensional full-Stokes model: **H Seddik**, R Greve, T Zwinger, F Gillet-Chaulet, O Gagliardini

0800h **C21C-0553** POSTER Initialization of a full-Stokes finite element model of the Greenland ice-sheet using inverse methods: **F Gillet-Chaulet**, O Gagliardini, M Nodet, C Ritz, G Durand, T Zwinger, H Seddik, R Greve

0800h **C21C-0554** POSTER Investigating the Evolution of Greenland Ablation Zone Surface Morphology: Implications for Supraglacial Lake Basin Storage Capacity: **N S Amador**, D J Lampkin

0800h **C21C-0555** POSTER A fracture mechanics view of iceberg calving from large ice shelves: **C M LeDoux**, C L Hulbe

0800h **C21C-0556** POSTER A principled stopping criterion for the reconstruction of basal properties in ice sheets: **M Habermann**, D A Maxwell, M Truffer

0800h **C21C-0557** POSTER The Statistical Physics of Iceberg Calving and the Emergence of Universal Calving Laws: **J N Bassis**

0800h **C21C-0558** POSTER A Sub-grid Parameterization of Alpine Glaciers in Land Surface Models: **C B Lawrence**, J S Famiglietti

0800h **C21C-0559** POSTER Rapid Retreat of Alaska Glaciers by Floatation and Passive Calving: **B F Molnia**

0800h **C21C-0560** POSTER Modeling the mass balance of the Wolverine Glacier Alaska USA using the PTAA model: **D Korn**

0800h **C21C-0561** POSTER What do glaciers tell us about climate variability and climate change?: **G Roe**

0800h **C21C-0562** POSTER Estimated thickness of seasonally thawed layer for the Verhne-Charsky Basin, north of the Chita region, Russia: comparison of approaches: **D Alekseyutina**, R Motenko

0800h **C21C-0563** POSTER A Comparison of Observed Antarctic Uplift Rates with Postglacial Rebound Model Predictions: **A L Darlington**, T S James, E R Ivins

0800h **C21C-0564** POSTER Accuracy of Antarctica inter-annual mass variability from GRACE: **K Pangaluru**, I Velicogna, S C Swenson, A J Monaghan

0800h **C21C-0565** POSTER Elevated East Antarctic outlet glaciers during warmer-than-present climates in southern Victoria Land: **K Swanger**, D R Marchant, J M Schaefer, G Winckler, J W Head

0800h **C21C-0566** POSTER Transition from the DMSP SSM/I to SSMIS sensors for NSIDC near-real-time snow and ice climate records: **P Gibbons**, W Meier, D Scott

0800h **C21C-0567** POSTER Loss of Arctic Snow Cover and Sea Ice Extent Across the Land-Ocean Boundary During the Melt Season: A Bliss, **M R Anderson**

0800h **C21C-0568** POSTER Assessment of the stability of satellite snow cover CDRs using station snow depth observations: **T L Mote**

0800h **C21C-0569** POSTER Extracting complex subglacial water dynamics through tight coupling of flow models to airborne radar sounding and satellite altimetry: **S P Carter**, H A Fricker, D D Blankenship, J V Johnson, S F Price, W H Lipscomb

0800h **C21C-0570** POSTER Geometry and Mesh Representations for Ice Sheet Modeling: **T Tautges**, I Grindeanu

0800h **C21C-0571** POSTER Trends and variability in summer sea ice cover in the Canadian Arctic based on the Canadian Ice Service Digital Archive: **S Howell**, A C Tivy, B Alt, S McCourt, R Chagnon, G Crocker, T G Carrieres, J Yackel

0800h **C21C-0572** POSTER Extreme Variability Within the Northern Hemisphere Snow Extent Season: **D A Robinson**, T W Estilow, G Henderson, D J Leathers

0800h **C21C-0573** POSTER Climate Data Records (CDRs) for Ice Motion, Ice Age, and Melt Pond Fraction: **M A Tschudi**, J A Maslanik, C Fowler, J C Stroeve, I G Rigor

0800h **C21C-0574** POSTER Enabling Climate Science Investigations by Students Using Cryosphere Climate Data Records (CDRs): **T S Ledley**, B Youngman, W Meier, E Bardar

0800h **C21C-0575** POSTER Future climate and surface mass balance of the Antarctic ice sheet using a regional atmospheric climate model: a contribution to Ice2Sea: **S Ligtenberg**, M R van den Broeke, J Lenaerts, W van de Berg, E van Meijgaard

0800h **C21C-0576** WITHDRAWN

C21D Moscone West: 3011 Tuesday 0800h
Monitoring Changes in Polar Ice Sheets and Sea Ice Using Airborne and Satellite Remote Sensing II (joint with G)

Presiding: **M Studinger**, Goddard Earth Science and Technology Center/UMBC; **S Martin**, University of Washington; **J S Deems**, National Snow and Ice Data Center

0800h **C21D-01** Wideband radar for airborne measurements of snow thickness on sea ice: **B Panzer**, C Leuschen, W Blake, R Crowe, A Patel, P S Gogineni, T Markus

0815h **C21D-02** Radar surveys of snow depth over Arctic sea ice during Operation IceBridge (*Invited*): **R Kwok**, C Leuschen, B Panzer, A Patel, N T Kurtz, T Markus, B Holt, P S Gogineni

0830h **C21D-03** Snow and sea ice thickness measurements from Operation IceBridge: bridging the past, present, and future: **N T Kurtz**, S L Farrell, T Markus, D C McAdoo

0845h **C21D-04** WITHDRAWN

0900h **C21D-05** WITHDRAWN

0915h **C21D-06** Monitoring Polar Sea Ice Extent Using Ten Years of QuikSCAT Scatterometer Measurements: **Q P Remund**, C Barnes, D Long

0930h **C21D-07** DETERMINING 1960'S SEA-ICE EXTENT FROM EARLY NIMBUS SATELLITE DATA: **D W Gallaher**, J F Moses, W Meier, D Wingo

0945h **C21D-08** A Data and Information System for Arctic Research: S Tanner, **D M Hardin**, S J Graves

C21E Moscone West: 3010 Tuesday 0800h
Quantifying and Modeling Spatial Variability and Wind Redistribution of Snow I (joint with B, H, NH)

Presiding: **K C Leonard**, WSL-SLF; **H Marshall**, Boise State University; **S J Dery**, UNBC; **M Lehning**, SLF Davos; **J S Deems**, National Snow and Ice Data Center

0800h **C21E-01** A Framework for Thinking about the Spatial Variability of Snow across Multiple Scales and Climate Zones (*Invited*): **M Sturm**

0815h **C21E-02** Changes in the Rain-Snow Transition Elevation: The Impact of Climate Warming on the Spatial Variability of Snow and the Hydrology of Mountains Basins (*Invited*): **D G Marks**, M L Reba, A H Winstral, M Kumar

0830h **C21E-03** A new measure of BRDF, banking on UAS measurements: **J F Burkhart**, W S Bogren, R Storvold, C A Pedersen, S Gerland, Title of Team: VAUUAV Science Team

0845h **C21E-04** The role of a roughness scaling parameter in describing alpine snow distribution (*Invited*): **M Lehning**, T Grünewald, M Schirmer

0900h **C21E-05** Snow distribution dynamics in an alpine catchment observed by repeated terrestrial laser scans: Implications for snow melt modeling (*Invited*): **T Jonas**, L Egli

0915h **C21E-06** Blowing Snow Detection via Satellite Remote Sensing (*Invited*): **S P Palm**, A Marshak, Y Yang

0930h **C21E-07** Results from a coupled blowing snow-atmospheric model over the Northern Hemisphere (*Invited*): **J Yang**, P M Yau

0945h **C21E-08** Measurements of Drifting and Blowing Snow at Iqaluit, Nunavut, Canada during the STAR Project (*Invited*): **M Gordon**, S Biswas, P A Taylor, J Hanesiak, M Albarran-Melzer, S E Fargey

Education and Human Resources

ED21A Moscone South: Poster Hall Tuesday 0800h **Learning and Understanding Complexity in the Geosciences I Posters** (*joint with A, B, GC, MR, OS, V*)

Presiding: **C Gautier**, University of California Santa Barbara;
D R Zalles, SRI International

0800h **ED21A-0650** *POSTER* EcoCasting: Using NetLogo models of aquatic ecosystems to teach scientific inquiry: **C K Buzby**, K Jona

0800h **ED21A-0651** *POSTER* Two Active Learning Techniques Promoted Student Learning of Introductory Earth Science Concepts but Failed to Improve Metacognitive Skills: **G Mora**

0800h **ED21A-0652** *POSTER* Introducing College Undergraduates to the Role of Feedbacks in the Climate System Using Numerical Models: **L J Shellito**

0800h **ED21A-0653** *POSTER* Exsolution as an Example of Complex-System Behavior: **D W Mogk**, B L Dutrow

0800h **ED21A-0654** *POSTER* Providing a Scientific Foundation in Climate Studies for Non-Science Majors: **J A Brey**, I W Geer, J M Moran, R S Weinbeck, E W Mills, J Lambert, B A Blair, E J Hopkins, K L O'Neill, H R Hyre, K A Nugnes, M N Moses

0800h **ED21A-0655** *POSTER* Geology 201: Non-linear processes in geofluids or Why does the Earth look the way it does?: **C H Orr**, C M Cooper

0800h **ED21A-0656** *POSTER* MiTEP's Collaborative Field Course Design Process Based on Earth Science Literacy Principles: **C A Engelmann**, W I Rose, J E Huntoon, M F Klawiter, K Hungwe

0800h **ED21A-0657** *POSTER* Alaska High School Students Integrate Forest Ecology, Glacial Landscape Dynamics, and Human Maritime History in a Field Mapping Course at Cape Decision Lighthouse, Kuiu Island, Southeast Alaska: **C L Connor**, R Carstensen, L Domke, S Donohoe, A Clark, D Cordero, C Otsea, M Hakala, R Parks, S Lanwermyer, Title of Team: Discover Design Research (DDR)

0800h **ED21A-0658** *POSTER* 3D GEOLOGICAL FRAMEWORK MODELS AS A TEACHING AID FOR GEOSCIENCE: **H Kessler**, E Ward, Title of Team: Geological Models for Teaching Project Team

0800h **ED21A-0659** *POSTER* High School Students' Understanding of Change over Time and System Complexity: A Focus on the Cryosphere: **K S McNeal**, J Libarkin, T S Ledley, C Guthrie

0800h **ED21A-0660** *POSTER* Student Misconceptions: A Qualitative Study of Conceptual Barriers in Plate Tectonics and in the Solar System among Upper Elementary Students: **L M Brodsky**, S Corrigan

0800h **ED21A-0661** *POSTER* Student Conceptions of Eutrophication in a Field-Based Undergraduate Course: **K L Rowbotham**, H L Petcovic, C M Koretsky

0800h **ED21A-0662** *POSTER* Sense of Place and the National Parks, Strategies for Communicating the Interconnected Nature of Earth Science: **E C Vye**, W I Rose, J E Huntoon, B L Nash

0800h **ED21A-0663** *POSTER* Potential impacts of invasive European earthworms and soil moisture on herbaceous species richness within the Ojibwa Red Lake Reservation: **C Thayer**, S M Top, T R Filley, J Jourdain, S Zurn-Birkhimer, T Kroeger, P Welle, M Jenkins, A Johnson, Title of Team: GEMscholars

0800h **ED21A-0664** *POSTER* Use of the Attribute Hierarchy Method for Development of Student Cognitive Models and Diagnostic Assessments in Geoscience Education: **S Corrigan**, L M Brodsky, S Loper, N Brown, J Curley, J Baker, M Goss, J Casteck, J Barber

0800h **ED21A-0665** WITHDRAWN

ED21B Moscone South: Poster Hall Tuesday 0800h **National and International Programs in Geosciences and Space Sciences Education I Posters** (*joint with A, B, OS*)

Presiding: **J W Farrington**, WHOI; **M Feder**, National Research Council; **C Michalopoulos**, NOAA; **S A Stockman**, NASA

0800h **ED21B-0666** *POSTER* OPPORTUNITIES FOR SPACE SCIENCE EDUCATION USING CURRENT AND FUTURE SOLAR SYSTEM MISSIONS: **M Matiella Novak**, K Beisser, L Butler, D Turney

0800h **ED21B-0667** *POSTER* THE I-CLEEN PROJECT (INQUIRING ON CLIMATE & ENERGY). ENHANCING AN ENQUIRY-BASED APPROACH TO EARTH SYSTEM SCIENCES IN ITALIAN CLASSROOMS: **M cattadori**

0800h **ED21B-0668** *POSTER* Teaching Marine Geoscience at Sea: Integrated Ocean Drilling Program's School of Rock Explores Cascadia Subduction Zone - Cores, Logs, and ACORKS: **M Reagan**, J Collins, K A Ludwig, S Slough, M L Delaney, S A Hovan, Title of Team: Expedition 328 Scientists

0800h **ED21B-0669** *POSTER* Expanding Earth and Space Science through the Initiating New Science Partnerships In Rural Education (INSPIRE): **S Radencic**, K S McNeal, D Pierce, D Hare

0800h **ED21B-0670** *POSTER* STEM Education in Jordan Applicable to Developing Future Geophysicists: An Example Combining Electrical Engineering and Medical Research: **A Fraiwan**, L Khadra, W Shahab, D L Olgaard

0800h **ED21B-0671** *POSTER* Informal STEM Education in Antarctica: **K Chell**

0800h **ED21B-0672** *POSTER* The City University of New York and NASA Goddard Space Flight Center Heliophysics Education Consortium: **L P Johnson**, P Marchese, C Ng, S A Austin, J Frost, T K Cheung, G Tremberger, I Robbins, T Paglione, C Damas, J C Steiner, E Rudolph

0800h **ED21B-0673** *POSTER* The New York City Research Initiative: A Model for Undergraduate and High School Student Research in Earth and Space Sciences and Space Technology: F Scalzo, J Frost, B E Carlson, P Marchese, C Rosenzweig, S A Austin, D M Peteet, L Druyan, M Fulakeza, S Gaffin, H Baruh, S Decker, S Thangam, J Miles, F Moshary, W Rossow, S Greenbaum, T K Cheung, **L P Johnson**

0800h **ED21B-0674** *POSTER* Rocks, Rain, and Climate: a GIFT Workshop for Teachers in Brazil: **M J Passow**, N Krusche, C D Carneiro

0800h **ED21B-0675** *POSTER* Cassini Scientist for a Day: Encouraging Science Research and Writing for Students on National and International Scales: **R Zimmerman Brachman**, E Piazza

0800h **ED21B-0676** *POSTER* STAR Library Education Network: a hands-on learning program for libraries and their communities: **P Dusenbery**

0800h **ED21B-0677** *POSTER* WWGD(What Would Galileo Do)?: Developing a Science Process Teacher Workshop at the Astronomical Society of the Pacific: **J G Manning**, G Schultz, B Kruse

0800h **ED21B-0678** *POSTER* Dark Skies Awareness Cornerstone Project for the International Year of Astronomy: **C E Walker**, S M Pompea, Title of Team: IYA Dark Skies Awareness Working Group

0800h **ED21B-0679** WITHDRAWN

0800h **ED21B-0680** *POSTER* The Urbino Summer School in Paleoclimatology: Investing in the future of paleoclimatology: **S A Schellenberg**, S Galeotti, H Brinkhuis, R M Leckie

ED21C Moscone South: Poster Hall Tuesday 0800h
Using Real- and Near-Real-Time Data in the Classroom
Posters (joint with V, G)

Presiding: **M P Poland**, U.S. Geological Survey; **K Kraft**, Mesa Community College; **R Teasdale**, California State University, Chico

0800h **ED21C-0681 POSTER** Introductory Earth science education by near real time animated visualization of seismic wave propagation across Transportable Array of USArray: **J Attanayake**, A Ghosh, A Amosu

0800h **ED21C-0682 POSTER** Incorporating Real-time Earthquake Information into Large Enrollment Natural Disaster Course Learning: **K P Furlong**, H Benz, G P Hayes, A Villasenor

0800h **ED21C-0683 POSTER** After an Earthquake: Accessing Near Real-Time Data in the Classroom: **T K Bravo**, B Coleman, M Hubenthal, T J Owens, J Taber, R Welti, B R Weertman

0800h **ED21C-0684 POSTER** Internet-accessible, near-real-time volcano monitoring data for geoscience education: the Volcanoes Exploration Project—Pu‘u ‘O‘o: **M P Poland**, R Teasdale, K Kraft

0800h **ED21C-0685 POSTER** Analysis of GPS Data Using Near Real-Time Data from the Volcano Exploration Project in the Community College Classroom (Invited): **M House**, E Nagy-Shadman, B Wilbur

0800h **ED21C-0686 POSTER** VEPP Exercise: Volcanic Activity and Monitoring of Pu‘u ‘O‘o, Kilauea Volcano, Hawaii: **L A Rodriguez**

0800h **ED21C-0687 POSTER** Using the VEPP website in a Master of Education in Earth Sciences course (Invited): **E Richardson**

0800h **ED21C-0688 POSTER** A Volcano Exploration Project Pu‘u ‘O‘o (VEPP) Exercise: Is Kilauea in Volcanic Unrest? (Invited):

S Y Schwartz

0800h **ED21C-0689 POSTER** NOAA/APT Satellite Data for Online and Real Time Monitoring of Tungurahua Volcanic Eruption and Temperature Profile in Ecuador: **G Jaffer**, R Nader, O Koudelka

0800h **ED21C-0690 POSTER** Where's the data? Summary of key polar data resources for education and research: **L Lukes**

0800h **ED21C-0691 POSTER** In the Footsteps of Roger Revelle: a Partnership between SIO, ONR and Middle School Science Students: **D Brice**, T B Appelgate, S Foley, R A Knox, P Mauricio

0800h **ED21C-0692 POSTER** Incorporating Science News Into Middle School Curricula: Current Events in the 21st Century Classroom: **E DiMaggio**

0800h **ED21C-0693 POSTER** Improving Student Understanding of Geological Rates via Chronotopographic Analysis: **S R Linneman**, D H Clark, P Buly

0800h **ED21C-0694 POSTER** Stone Soup Projects: Using real-time resources and creative partnering to meet multiple needs: **S Mclean**, **R Searle**, K Zala

0800h **ED21C-0695 POSTER** Watershed Dynamics: Using Web-based GIS to Access Data and Study the Hydrosphere: **C K Buzby**, K Jona

0800h **ED21C-0696 POSTER** UV Radiation: a new first year physics/life sciences laboratory experiment: **S V Petelina**, J M Siddaway

ED21D Moscone South: I02 Tuesday 0800h
NASA's Year of the Solar System: Science Isn't Done Until It's Shared! I (joint with P)

Presiding: **D Scalice**, NASA Astrobiology Institute; **J S Allen**, JSC/ESCG

0800h **ED21D-01** Year of the Solar System: New Worlds, New Discoveries and Why People Should Care (Invited): **J L Green**, J Adams, D McCuiston, K J Erickson

0812h **ED21D-02** The Year of the Solar System: An E/PO Community's Approach to Sharing Planetary Science: **S S Shipp**, D Boonstra, C Shupla, H Dalton, D Scalice, Title of Team: Planetary Science E/PO Community

0820h **ED21D-03** NASA Nationwide and the Year of the Solar System (Invited): **K Ferrari**

0832h **ED21D-04** Developing Nontraditional Partnerships to Disseminate the Space Science Story (Invited): **C Galindo**, J S Allen, J Garcia, D Martinez

0844h **ED21D-05** Discovery and New Frontiers: Science Missions Seeking New Answers to Timeless Questions (Invited): **S Asplund**

0856h **ED21D-06** International Observe the Moon Night – An Opportunity to Participate in the Year of the Solar System While Sharing the Excitement of Lunar Science and Exploration with the Public: **L Bleacher**, D Daou, B H Day, B C Hsu, A P Jones, B Mitchell, A J Shaner, S S Shipp

0904h **ED21D-07** Dawn: Testing Paradigms by Exploring Dichotomies: C T Russell, **B E Schmidt**, J Wise, J Ristvey, C A Raymond

0912h **ED21D-08** Bringing a Chemical Laboratory Named Sam to Mars on the 2011 Curiosity Rover: **P R Mahaffy**, L Bleacher, A Jones, S K Atreya, H L Manning, M Cabane, C R Webster, Title of Team: SAM Team

0920h **ED21D-09** MESSENGER Education and Public Outreach Arranges a Ride to the Innermost Planet: **H M Weir**, C R Chapman, J Edmonds, J Goldstein, K G Hallau, B Hirshon, H Vanhala, S C Solomon, Title of Team: MESSENGER Education and Public Outreach Team

0928h **ED21D-10** (Nearly) Seven Years on Mars: Adventure, Adversity, and Achievements with the NASA Mars Exploration Rovers Spirit and Opportunity: **J F Bell**, Title of Team: The Mars Exploration Rover Science and Engineering Teams

0936h **ED21D-11** From Earth to the Solar System: A New Online Exhibit to Help Celebrate NASA's Year of the Solar System: **D Scalice**

Earth and Planetary Surface Processes

EP21A Moscone South: Poster Hall Tuesday 0800h
Earth and Planetary Surface Processes I: Planetary, Eolian, Remote Sensing Posters

Presiding: **M P Lamb**, Caltech; **L S Sklar**, San Francisco State University

0800h **EP21A-0724 POSTER** Spatial and temporal patterns of airflow across a foredune and beach surface under offshore winds: implications for aeolian sediment transport: **D Jackson**, I Delgado-Fernandez, K Lynch, A C Baas, J A Cooper, M Beyers

0800h **EP21A-0725 POSTER** Common Spacecraft Bus for Earth Science Decadal Survey Missions: T Cook, **K Klaus**, M S Elsperman

0800h **EP21A-0726 POSTER** Aeolian Simulations: A Comparison of Numerical and Experimental Results: **O Mathews**, D M Burr, N T Bridges, J E Lyne, J R Marshall, R Greeley, B R White, J Hills, K Smith, T C Prissel, J F Aliaga-Caro

0800h **EP21A-0727 POSTER** The Relationship of the Increase in the 'Time of the Earth Day,' from 18 Hours to 24 Hours, to the Increase in the Size of the Earth, Using the Laws of the Conservation of Momentum: **S A Cimorelli**, C Samuels

0800h **EP21A-0728 POSTER** Mud volcanoes discovered near the Crommelin South Crater, Mars: **M Pondrelli**, A Rossi, G G Ori, D Praeg, S Ceramicola

0800h **EP21A-0729** *POSTER* Time-Series Development for Geophysical Research: The Role of Historical Landsat Remote Sensing: **C J Crawford**, M Bauer

0800h **EP21A-0730** *POSTER* Granular Flow Dynamics on Earth, Moon, and Mars from analytical, numerical and field analysis: **A Lucas**, A Mangeney, D Mhge

0800h **EP21A-0731** *POSTER* Salt-Induced Physical Weathering of Stone: **M Schiro**, E Ruiz-Agudo, C Rodriguez-Navarro

0800h **EP21A-0732** WITHDRAWN

0800h **EP21A-0733** WITHDRAWN

0800h **EP21A-0734** *POSTER* Evidence for a Crustal-scale Thrust Belt along the Northwestern Margin of the Tharsis Rise: Implications for Possible Plate Subduction on Mars: **A Yin**

0800h **EP21A-0735** *POSTER* Remote sensing of the hydrologic history of the eastern Sahara: **T G Farr**, R G Blom, P Paillou

0800h **EP21A-0736** *POSTER* A SIMPLE PROBABILISTIC, BIOLOGICALLY INFORMED MODEL OF THE POPULATION DYNAMICS OF DESERT SHRUBS: **S Worman**, D J Furbish, J H Clarke, A S Roberts

0800h **EP21A-0737** *POSTER* Space agriculture: the effect of micro- and hypo-gravity on soil hydraulics and biogeochemistry in a bioregenerative soil-based cropping unit: F Maggi, **C E Pallud**

0800h **EP21A-0738** *POSTER* Modeling shrub population dynamics in response to overgrazing and climate change in the southwestern US desert: **E C Stabert**, D J Furbish

0800h **EP21A-0739** *POSTER* Acid Saline Weathering of A Massive Sulfide and Gossan Formation: Implications for Development and Preservation of Biosignatures on Mars: **A J Williams**, D Y Sumner, R A Zierenberg

0800h **EP21A-0740** *POSTER* Surface Deformation Mapping Applications using Ground Based Interferometric Radar: J J Legarsky, **F G Gomez**, B Rosenblad, E Loehr

0800h **EP21A-0741** *POSTER* 3D mapping and sedimentary analysis of extensive tsunami deposits near Tokachi, Hokkaido, Japan: **K L Delbecq**, A L Moore, E W Marshall IV, Y Nishimura, Y Nakamura, K Hirakawa

0800h **EP21A-0742** *POSTER* Channel initiation and landsliding: objective mapping on lidar DTMs in Japan: Y S Hayakawa, C P Stark, P Passalacqua, **T Oguchi**

0800h **EP21A-0743** *POSTER* Rock Levitation by Water and Ice; an Explanation for Trails in Racetrack Playa, California: **G Kletetschka**, A Ryan, E McKinney, G Fercana, K P Schwebler, L McIntire, D Miller, V K Fox, J M Marbourg, C A Naquin, M Krzykowski, J R Wilde, E S Kopp, G Romine, K Yawn, I Schoch, M McAdam, D Burger, K Rilee, B K Jackson, A M Parsons, C Y Cheung, Title of Team: Lunar and Planetary Science Academy

0800h **EP43A-0741** *POSTER* Wind Enhanced Raindrop Splash Sand Transport: **B Li**

EP21B Moscone South: Poster Hall Tuesday 0800h
Linking Life to Landscape Dynamics Posters (*joint with T, B, GC*)

Presiding: **R Walcott**, School of Geosciences; **A Schmidt**, Oberlin College

0800h **EP21B-0744** *POSTER* The Volumetric Impact of Biogenic Sediment Reworking on the Geomorphology and Shallow Stratigraphy of Barrier Islands: **Z T Grimes**, I V Buynevich, J S Darrow, C T Seminack, N Griffis

0800h **EP21B-0745** *POSTER* Death and landscape dynamics: The effect of tree throw on sediment transport and landscape evolution: **G R Hancock**, K Evans, J J McDonnell, L Hopp, S Reaney

0800h **EP21B-0746** *POSTER* The Role of Solar Radiation as a Driver of Eco-geomorphic Feedbacks and Landscape Evolution (*Invited*): **E Istanbuluoglu**, J H Flores

0800h **EP21B-0747** *POSTER* The Influence of Landscape Morphology on Peatland Dynamics and Carbon Accumulation Inferred from Ground Penetrating Radar (GPR) and Peat Core Analysis: **J Loisel**, J T Nolan, Z Yu, A Parkesian, L D Slater

0800h **EP21B-0748** *POSTER* Holocene Tectonic and Sedimentary Evolution of Coastal San Diego: **J M Maloney**, N W Driscoll, D S Brothers, J M Babcock, G Kent

0800h **EP21B-0749** *POSTER* Erosion rates, stochasticity, and abiotic vs. biotic bedrock to soil production mechanisms in the Oregon Coast Range: **J A Marshall**, J J Roering

0800h **EP21B-0750** *POSTER* A rill erosion-vegetation threshold analysis approach for the assessment of restoration success in water-limited reclaimed ecosystems: J M Nicolau, **M Moreno de las Heras**, R Diaz Sierra, M A Zavala

0800h **EP21B-0751** *POSTER* Evidence for biologic response to pedogenesis along the Merced River chronosequence, Central Valley, California: **S E Reed**, R Amundson

0800h **EP21B-0752** *POSTER* Linking morphology to ecosystem structure using air-borne sensors for monitoring the Earth System: **A Taramelli**, C Giardino, E Valentini, M Bresciani, L Gasperini

0800h **EP21B-0753** WITHDRAWN

0800h **EP54B-04** *POSTER* Floodplain Responses to Rapid Climate Changes at the End of the Last Ice Age in Arctic Alaska: **D H Mann**, P Groves, M Kunz

EP21C Moscone South: Poster Hall Tuesday 0800h
Megaflooding: Causes, Processes, and Effects Posters (*joint with H, P*)

Presiding: **D M Burr**, University of Tennessee; **P A Carling**, University of Southampton

0800h **EP21C-0754** *POSTER* Rapid Formation of a Modern Bedrock Canyon by a Single Flood Event (*Invited*): **M P Lamb**, M A Fonstad

0800h **EP21C-0755** *POSTER* Anatomy of a basin break-out flood: The 2007 Crater Lake break-out lahar, Mt. Ruapehu, New Zealand (*Invited*): **V Manville**, G Lube, S J Cronin, E E Doyle, S E Cole, J Procter, J Carrivick, A H Graettinger, C Massey, R Jongens, J Watson, J Halstead, H J Keys, C Lawrence

0800h **EP21C-0756** *POSTER* Evidence of a 700-year Lake Agassiz megaflood in the slackwater deposits of Mississippi River tributaries: **H Wang**, A Stumpf, R C Berg, E D McKay III

0800h **EP21C-0757** *POSTER* Ground Penetrating Radar Stratigraphy of Megaflood Gravel Dune: **P A Carling**, C S Bristow, A Litvinov, J M Nield

0800h **EP21C-0758** *POSTER* Erosional and Depositional Processes of the 18 March 2007 Lahar at Mt. Ruapehu, New Zealand: **B C Kastl**, S A Fagents, B F Houghton

0800h **EP21C-0759** *POSTER* Experimental constraints on the dynamics of martian outflow channels: **H J Lenferink**, T Perron, A R Koss

0800h **EP21C-0760** *POSTER* Retreat of a Giant Cataract in a Martian Outflow Channel: **S Gupta**, N H Warner, J Kim, S Lin, J Muller

0800h **EP21C-0761** *POSTER* Global Inventory of Terrestrial Glacial Megafloods: **V R Baker**

EP21D Moscone South: 310 Tuesday 0800h
Coastal Geomorphology and Morphodynamics: Bridging
Event and Long-Term Processes I (*joint with H, NH, OS*)

Presiding: **C J Hapke**, U.S. Geological Survey; **J E McNinch**, Field Research Facility

0800h **EP21D-01** Integrating coastal geomorphic evolution predictions driven by storms and longer-term processes (*Invited*): **N G Plant**, J W Long, A H Sallenger

0815h **EP21D-02** Processes driving storm-scale coastal change along the Outer Banks, North Carolina: Insights from during-storm observations using CLARIS (*Invited*): **K L Brodie**

0830h **EP21D-03** Modeling Gaussian distributions of wave runup using parameterizations for setup and swash: **H F Stockdon**

0845h **EP21D-04** Beach response to extreme events: Observations and modeling: **K Splinter**, D R Strauss, R Tomlinson

0900h **EP21D-05** The impact of the 2009-10 El Niño on West Coast beaches: **P Barnard**, G M Kaminsky, J E Hansen, J C Allan, P Ruggiero, D J Hoover

0915h **EP21D-06** Coastal-change vulnerability in the northern Gulf of Mexico: A Bayesian approach: **P Howd**, N G Plant, E R Thieler, E A Pendleton

0930h **EP21D-07** A novel method for quantifying the maximum depth of beach erosion over a one-year period at Onslow Beach, North Carolina resolves along- and across-beach variability: **A B Rodriguez**, S R Fegley, P L Rodriguez

0945h **EP21D-08** Feedback mechanisms linking barrier island transgression and storm response with beach-dune interaction: **C Houser**

Geodesy

G21A Moscone South: Poster Hall Tuesday 0800h
Ground-Based Geodetic Techniques and Science Applications
Posters (*joint with B, C, EP, H, NH, T, V*)

Presiding: **G W Bawden**, US Geological Survey; **B A Brooks**, University of Hawaii; **D A Phillips**, UNAVCO

0800h **G21A-0787** POSTER Terrestrial Laser Scanning and Post-Wildfire Geomorphic Transport Processes (*Invited*): **K M Schmidt**, M N Hanshaw, J F Howle, J D Stock, G W Bawden

0800h **G21A-0788** POSTER Fire in the Mojave Desert: The role of microtopography on floral reestablishment following fire: **C E Soulard**, T Esque, D Bedford, S Bond

0800h **G21A-0789** POSTER Identifying sediment sources and quantifying rates of erosion along the North Fork Toutle River near Mount St. Helens, WA: **J Pitlick**, C M Meertens, J J Major, J Normandeau, K Spicer

0800h **G21A-0790** POSTER Motion measurement of destabilized slopes in Switzerland with the GPRI-I ground-based real-aperture radar (*Invited*): **C L Werner**, T Strozzi, A Wiesmann, U Wegmüller, A Kos, R Delaloye, H Raetz

0800h **G21A-0791** POSTER The Integration of TLS and Continuous GPS to Study Landslide Deformation: A Case Study at the El Yunque National Forest, Puerto Rico: D A Phillips, **G Wang**, J Joyce, F O Rivera, G Galan, C M Meertens

0800h **G21A-0792** POSTER Terrestrial LiDAR analyses of coseismic surface deformation from the 4 April 2010 El Mayor-Cucapa Earthquake (*Invited*): **P O Gold**, A J Elliott, M E Oskin, M H Taylor, A J Herrs, A Hinojosa, O Kreylos, T S Bernardin, E Cowgill

0800h **G21A-0793** POSTER Intersecting kink bands quantified by laser scanning and differential geometry: **R E Dunham**, J G Crider

0800h **G21A-0794** POSTER Using TLS to Improve Models of Volcano Conduit Processes (*Invited*): **C Connor**, L Connor

0800h **G21A-0795** POSTER Introducing Terrestrial Laser Scanning (TLS) to Undergraduate Geology Curricula: Insights from the Indiana University G429 Field Course, Summer 2010: **B J Douglas**, D A Phillips, C M Meertens, W Simmons

0800h **G21A-0796** POSTER Optimization of Terrestrial Laser Scanning Survey Design for Dynamic Terrain Monitoring: **M J Starek**, H Mitasova, R S Harmon

0800h **G21A-0797** POSTER 2010 Strainmeter Network Observations Along the Western Coast of North America: **E Van Boskirk**, M H Gottlieb, W Johnson, D Mencin, K M Hodgkinson, B Henderson, W Gallaher, O Fox, M E Jackson

G21B Moscone South: Poster Hall Tuesday 0800h
Measuring and Modeling of Active Tectonic Processes in
Alaska at the Beginning of the EarthScope Era II Posters (*joint with C, NH, S, T*)

Presiding: **J M Sauber**, NASA GSFC; **J T Freymueller**, University of Alaska Fairbanks; **D H Christensen**, Geophysical Institute

0800h **G21B-0798** POSTER EARTHSCOPE TRANSPORTABLE ARRAY (TA): PLANS FOR ALASKA: **K Hafner**, R W Busby, R Woodward

0800h **G21B-0799** POSTER A Decade of Shear-Wave Splitting Observations in Alaska: **A K Bellesiles**, D H Christensen, G A Abers, R A Hansen, G L Pavlis, X Song

0800h **G21B-0800** POSTER NASA's DESDynI in Alaska: **J M Sauber**, M A Hofton, R L Bruhn, R R Forster, E W Burgess, M M Cotton

0800h **G21B-0801** POSTER MAPPING SUB-GLACIER GEOMORPHOLOGY AND STRUCTURE IN A COLLISIONAL OROGEN; AN EXAMPLE FROM THE AGASSIZ AND MALASPINA GLACIERS, AK: **M M Cotton**, R L Bruhn, J M Sauber

0800h **G21B-0802** POSTER Interpretations of Complete Bouguer Gravity Anomalies from the GRAV-D Project in Alaska: **T M Diehl**, S A Preaux, V A Childers

0800h **G21B-0803** POSTER Modeling Gravity Data From a Recent (2009-2010) Survey Across the Border Ranges Fault System, Alaska: **N Mankhemthong**, D I Doser, M R Baker, G M Kaip, B E Eslick, S Jones

0800h **G21B-0804** POSTER Continental Evolution Involving Subduction Underplating and Synchronous Foreland Thrusting: Evidence from the Trans-Alaska Crustal Transect: **G S Fuis**, T E Moore, G Plafker, T M Brocher, M A Fisher, W D Mooney, W J Nokleberg, R A Page, B C Beaudoin, N I Christensen, A Levander, W J Lutter, R W Saltus, N A Ruppert

0800h **G21B-0805** WITHDRAWN

0800h **G21B-0806** POSTER The relationship of near-surface active faulting to megathrust splay fault geometry in Prince William Sound, Alaska: **S Finn**, L M Liberty, P J Haeussler, C Northrup, T L Pratt

0800h **G21B-0807** POSTER Using passive source seismic data to determine the crustal structure of the Aleutian island arc: **H A Janiszewski**, G A Abers, J A Calkins, D J Shillington

0800h **G21B-0808** POSTER Regional variability in SKS splitting measurements near the Alaska subduction zone: **J Hanna**, M D Long

0800h **G21B-0809** *POSTER* Investigating localized exhumation of rocks on the north side of the Denali fault along the eastern Alaska Range: **C J Huff**, S Roeske, J Benowitz, P G Fitzgerald, P W Layer, S E Perry, S Riccio

G21C Moscone West: 2008 **Tuesday** **0800h**
Development and Testing of Methods for Detecting and Estimating Unsteady Motion in Geodetic Time Series I (*joint with T, NS, NG, IN*)

Presiding: **S D Williams**, Proudman Oceanographic Laboratory; **J R Murray-Moraleda**, U.S. Geological Survey

0800h **G21C-01** Transient deformation detection utilizing results from time-dependent inversion of Global Positioning System data: **J R Murray-Moraleda**, Z Liu

0815h **G21C-02** Online transient deformation detection using a particle-based Network Inversion Filter: **J Fukuda**, P Segall

0830h **G21C-03** Detection of Anomalous Strain Transients Using Principal Component Analysis and Covariance Descriptor Analysis Methods (*Invited*): S Kedar, **R A Granat**, D Dong, J W Parker

0845h **G21C-04** Transient event detection from a multi-scale analysis of continuous GPS observations (*Invited*): **Z Zhan**, P Muse, M Simons, C Tape

0900h **G21C-05** Transient signal detection using GPS measurements: Application of PBO data in Alaska: **K Ji**, T Herring

0915h **G21C-06** A Multiscale Approach to InSAR Time Series Analysis: **E A Hetland**, P Muse, M Simons, N Lin, C J DiCaprio

0930h **G21C-07** An Algorithm for Automatically Detecting Offsets in Geodetic Time Series: S E Owen, F Webb, **A W Moore**, S Kedar, D Dong

0945h **G21C-08** Using the SSA method to analyze VLBI time series: **K Le Bail**, E Nilsson, J M Gipson

G21D Moscone West: 2020 **Tuesday** **0800h**
The Art and Science of Volcano Geodesy I (*joint with V, S, NH*)

Presiding: **M Battaglia**, Sapienza - University of Rome

0800h **G21D-01** Untangling temporally and spatially overlapping volcano deformation source signals at Hawaii Island (*Invited*): **T R Walter**, M Shirzaei

0815h **G21D-02** Kilauea volcano source models constrained by InSAR and GPS observations: **P Lundgren**, M P Poland, A Miklius, S Yun, Z Liu, A Bertran-Ortiz, A Pepe, F Casu, R Lanari

0830h **G21D-03** Anatomy of an unstable volcano through InSAR data: multiple processes affecting flank instability at Mt. Etna in 1994-2008: G Solaro, **V Acocella**, S Pepe, J Ruch, M Neri, E Sansosti

0845h **G21D-04** Characterizing a decade of behavior at Volcán de Colima, Mexico using long term InSAR and thermal remote sensing data: **J Sorge**, G Williams-Jones, R Wright, N R Varley

0900h **G21D-05** Activity of Nyiragongo and Nyamulagira Volcanoes (Dem. Rep. of Congo) Revealed Using Geological, Geophysical and InSAR data: **C Wauthier**, V Cayol, A Hooper, F Kervyn, P Marinkovic, N D'Oreye, M P Poland

0915h **G21D-06** Space imaging of a 300 years old cooling magma chamber: Timanfaya volcano (Lanzarote, Canary Islands): **P J Gonzalez**, K F Tiampo

0930h **G21D-07** Correlating variations in GPS and shear-wave splitting: Is there a common source?: **K Unglert**, M K Savage, N Fournier, T Ohkura

0945h **G21D-08** Subsidence of the collapsed caldera of Miyakajima, Japan, 2006-2009 (*Invited*): **Y Aoki**, E D Montgomery-Brown

Global Environmental Change

GC21A Moscone South: Poster Hall **Tuesday** **0800h**
Proxy Records and Modeling Studies of Glacial and Climatic Changes From the American Cordillera I Posters (*joint with C, PP*)

Presiding: **N D Stansell**, The Ohio State University; **B G Mark**, Ohio State University

0800h **GC21A-0852** *POSTER* Glacier Sensitivity Across the Andes: **E A Sagredo**, T V Lowell, S Rupper

0800h **GC21A-0853** *POSTER* Comparison of Glacial Records From 10°S and 11°S in the Peruvian Andes Suggests Similar Forcings but Different Local Influences: **J A Smith**, D T Rodbell

0800h **GC21A-0854** *POSTER* A ~ 20,000 year history of glacial variability in the tropical Andes recorded in lake sediments from the Cordillera Blanca, Peru: **N Stansell**, D T Rodbell, C M Moy

0800h **GC21A-0855** *POSTER* 18,000 years of environmental change in the Eastern Cordillera of the Bolivian Andes: **J J Williams**, W D Gosling, A L Coe, S J Brooks

0800h **GC21A-0856** *POSTER* A late Holocene record of trace metal deposition in lake sediments near Quelccaya Ice Cap, Peru: **S A Beal**, M A Kelly, B P Jackson, E C Osterberg, J S Stroup, R A Baker

0800h **GC21A-0857** *POSTER* THE HOLOCENE SEDIMENTARY RECORD OF CLIMATE CHANGE FROM GUALAS GLACIER, GOLFO ELEFANTES, NORTHERN PATAGONIA (46.5°S): **R A Fernandez-Vasquez**, J B Anderson, S Bertrand, J S Wellner

0800h **GC21A-0858** *POSTER* Modeling the Climatic Controls and Topographic Form of Modern and Late Pleistocene Tropical Peruvian Glaciers: **B G Mark**, N Stansell, J G Fairman, M A Plummer, D T Rodbell

0800h **GC21A-0859** *POSTER* Cosmogenic age constraints on the last deglaciation in Southern Patagonia (49 - 50°S): **D S Murray**, B S Singer, A E Carlson, M W Caffee

0800h **GC21A-0860** *POSTER* Was the Late-glacial advance at ~ 14.0 ka B.P. in Torres del Paine (Patagonia, 51S) the most extensive glacial pulse of Oxygen Isotope Stage 2?: **J Garcia**, B L Hall, M R Kaplan, J M Schaefer, R M Vega, R Schwartz, R C Finkel

0800h **GC21A-0861** *POSTER* A 6000 year, quantitative reconstruction of precipitation variability in central Washington from lake sediment oxygen isotopes and predictive models: **B A Steinman**, M Abbott, M F Rosenmeier, N Stansell

0800h **GC21A-0862** *POSTER* Reconstructing paleo-precipitation amounts using a terrestrial hydrologic model: Lake Titicaca and the Salar de Uyuni, Peru and Bolivia: **J A Nunnery**, P A Baker, M T Coe, S C Fritz

0800h **GC21A-0863** *POSTER* Tree Trunks from MIS3 Revealed in Pacific Northwest Landslide Deposits: **P K Van De Water**, S W Leavitt, I P Panyushkina, A T Jull, N R Testa, J Squire

0800h **GC21A-0864** *POSTER* Glacial flour in lacustrine sediments: Records of alpine glaciation in the western U.S.A. during the last glacial interval: **J G Rosenbaum**, R L Reynolds

0800h **GC21A-0865** *POSTER* The Utility of Proximal-Accretion Stratigraphy in Lateral Moraines: **M A Samolczyk**, G Osborn

GC21B Moscone South: Poster Hall Tuesday 0800h
Solar Irradiance Calibrations, Observations, and Implications I Posters (joint with A, SH)

Presiding: R C Willson, ACRIM; G Kopp, CU / LASP;
W E McClintock, University of Colorado; M A Snow, University of Colorado

0800h **GC21B-0866 POSTER** The space instrument SOVAP of the PICARD mission: S Dewitte, C Conscience, M Mefta, A Chevalier, D Crommelynck

0800h **GC21B-0867 POSTER** Traceability of Satellite TSI observations and their significance for the TSI database: R C Willson, R Helizon, S Kwan

0800h **GC21B-0868 POSTER** Spectral analysis of the TSI satellite records, their comparison and interpretation: N Scafetta

0800h **GC21B-0869 POSTER** ACRIM III Radiometer Cavity Reflectance at a Variety of Wavelengths across the Solar Spectrum: S R Lorentz, J S Morrill, L M Hanssen, J Zeng

0800h **GC21B-0870 POSTER** Fall 2010 Total Solar Irradiance Calibration Workshop: J S Morrill, D G Socker, R C Willson, G Kopp

0800h **GC21B-0871 POSTER** Recent Ground-Based Photometry Compared with Space-Based TSI: G A Chapman, A Cookson, D Preminger

0800h **GC21B-0872 POSTER** A survey of diffraction effects in various total solar irradiance monitors: E L Shirley, A Therniesen, Q Gong

0800h **GC21B-0873 POSTER** The preliminary measurements from the Bolometer Oscillation System (BOS) on board PICARD: P Zhu, M V Ruymbeke, M Meftah, F Clette, S Dewitte, A Chevalier, F van Ruymbeke, J Noel

0800h **GC21B-0874 POSTER** Possible Influence of Aperture Heating on VIRGO Radiometry on SOHO: C Frohlich

0800h **GC21B-0875 POSTER** New SSI and TSI reconstruction suggests large value of the radiative solar forcing: A Shapiro, W K Schmutz, G Thuillier, E Rozanov, M Haberreiter, M Schoell, A Shapiro, S Nyeki

0800h **GC21B-0876 POSTER** Future Long-term Measurements of Solar Spectral Irradiance Variability: Achievements and Lessons from the SORCE SIM: E C Richard, J W Harder, P Pilewskie, T N Woods, K Lykke, S Brown

0800h **GC21B-0877 POSTER** Trends in solar UV and EUV irradiance: An update to the MgII Index and a comparison of proxies and data to evaluate trends of the last 11-year solar cycle: R A Viereck, M Snow, M T DeLand, M Weber, L Puga, D Bouwer

0800h **GC21B-0878 POSTER** Solar Ultraviolet Irradiance Variability During the Decline of Cycle 23: M A Snow, W E McClintock, T N Woods, J W Harder, E C Richard

0800h **GC21B-0879 POSTER** The Solar Ultraviolet Spectrum Estimated Using the Mg II K Index and Ca II K disk Activity: D R McMullin, J S Morrill, L E Floyd

0800h **GC21B-0880 POSTER** Modeling the Observed Atmospheric OH Response to the Solar Cycle: S Wang, S P Sander, K Li, Y L Yung, M Liang, N J Livesey, M L Santee

0800h **GC21B-0881 POSTER** Solar Irradiance Data Products at the LASP Interactive Solar Irradiance Datacenter (LISIRD): A Ware DeWolfe, A Wilson, D M Lindholm, C K Pankratz, M A Snow, T N Woods

0800h **GC21B-0882 POSTER** Examination of the Earth's Radiation budget using satellite observations and modeling data: S Koumoutsaris, L Bengtsson

GC21C Moscone South: Poster Hall Tuesday 0800h
Stable Isotopes in Modern and Ancient Boreal Forest Systems: Indicators of Past Environmental Change I Posters (joint with B, PP, H)

Presiding: A Z Csank, University of Arizona; T J Porter, Carleton University

0800h **GC21C-0883 POSTER** Multiple tree-ring isotopes as environmental indicators of diffuse atmospheric pollution in a peri-urban area: A Doucet, M M Savard, C Bégin, T B Ouarda, J Marion

0800h **GC21C-0884 POSTER** Stable-Isotope Perspectives on Holocene Environmental Change at Archaeological Sites in the Middle Tanana Valley, Interior Alaska: W C Johnson, E P Gaines

0800h **GC21C-0885 POSTER** Large scale convergence of tree leaf temperatures: evidence from stable oxygen isotope analysis of two datasets of tree wood cellulose collected worldwide: X Song, B R Helliker, M Barbour, M Saurer

0800h **GC21C-0886 POSTER** Hydrogen apparent fractionation between source water and epicuticular waxes of Pinus sylvestris in North East Finland: S L Newberry, J Grace, N Pedentchouk

0800h **GC21C-0887 POSTER** Climatic changes during the early Medieval and recent periods inferred from $\delta^{13}C$ and $\delta^{18}O$ of Siberian larch trees: O V Sidorova, Title of Team: Matthias Saurer, Rolf Siegwolf

0800h **GC21C-0888 POSTER** Isotope variability in larch tree rings of Siberia: climate and ecology: I P Panyushkina, A Knorre, S W Leavitt, A Kirydanov, A Grachev, M Brukhanova, E A Vaganov

GC21D Moscone West: 3005 Tuesday 0800h
Regional Patterns of Global Warming: Models, Mechanisms, and Observations II (joint with A, OS, H)

Presiding: S Xie, University of Hawaii; M Watanabe, The University of Tokyo

0800h **GC21D-01** On the regional characteristics of past and future sea-level change (Invited): A Timmermann, S McGregor

0815h **GC21D-02** The role of atmospheric circulations in regional climate change: C Deser, A S Phillips, H Teng

0830h **GC21D-03** Global Warming Pattern Formation: Sea Surface Temperature and Rainfall: S Xie, C Deser, G Vecchi, J Ma, H Teng, A T Wittenberg

0845h **GC21D-04** Decadal predictability of tropical Indo-Pacific Ocean temperature trends due to anthropogenic forcing in a coupled climate model: A Solomon, M Newman

0900h **GC21D-05** The Interhemispheric gradient in 20th century and future tropical marine climate change (Invited): J C Chiang

0915h **GC21D-06** A Long, Consistent Surface Wind Dataset for Climate Change Analysis: Application over the Equatorial Atlantic: H Tokinaga, S Xie

0930h **GC21D-07** The role of regional SST warming variations in the drying of Meso-America in future climate projections: S A Rauscher, F Kucharski, D B Enfield

0945h **GC21D-08** An assessment of monsoon precipitation changes during 1901-2001: Observation and Model Simulation: T Zhou, L Zhang

GC21E Moscone West: 3001 Tuesday 0800h
The Biological Pump and Carbon Cycling in the Global and Arctic Ocean I (*joint with B, OS, C*)

Presiding: **S Honjo**, Woods Hole Oceanographic Institution;
T I Eglinton, Woods Hole Oceanographic Institution;
R W Macdonald

0800h **Introduction** *Susumu Honjo*

0805h **GC21E-01** Controls on and variability in particle export and flux attenuation in the ocean's twilight zone (*Invited*): **K Buesseler**, P W Boyd

0819h **GC21E-02** The Double Nature of the Biological Carbon Pump in the Arctic Ocean Shelf-Slope System (*Invited*): **A Forest**, L Fortier, M Sampei, C Lalande, J Tremblay, Y Gratton

0833h **GC21E-03** Uptake of CO₂ in the Pelagic Ocean by the Biological Pump; the Global Flux and the Regional Variability: **S Honjo**, R H Francois, S J Manganini, T I Eglinton

0847h **GC21E-04** Global Biogeochemical Fluxes Program for the Ocean Observatories Initiative: A Proposal. (*Invited*): **K M Ulmer**, C Taylor

0901h **Break**

0904h **GC21E-05** The Cariaco Basin Ocean Time Series: Production, Flux and Remineralization of Biogenic Material: **R Thunell**, C R Benitez-Nelson, G T Taylor, Y Astor, R Varela, L Lorenzoni, F E Muller-Karger, M I Scranton

0918h **GC21E-06** Sensitivity of Global Biogeochemical Models to the Parameterization of Organic Matter Production and Export: Remineralization Length Scale Versus Production Parameters: **I Kriest**, A Oschlies, S Khatiwala

0932h **GC21E-07** The Biological Carbon Pump of the Ocean: Comparison of Model, Satellite and Experimental Results: **S R Emerson**

0946h **GC21E-08** Why Do Organisms in the Atlantic Ocean Produce So Much CaCO₃?: **J R Toggweiler**

Geomagnetism and Paleomagnetism

GP21A Moscone South: Poster Hall Tuesday 0800h
Geomagnetic Field Modeling and Interpretation of Satellite, Observatory, Marine, and Aeromagnetic Data I Posters (*joint with OS, SA, SM, DI, T, P*)

Presiding: **M E Everett**, Texas A&M

0800h **GP21A-0984** *POSTER* Swarm: ESA's Magnetic Field Mission: **R Haagsmans**, Y Menard, R Floberghagen, G Plank, M R Drinkwater

0800h **GP21A-0985** *POSTER* A buried volcano in the Calabrian Arc (Italy) revealed by high-resolution aeromagnetic data: **R De Ritis**, R Dominici, G Ventura, I Nicolosi, M Chiappini, F Speranza

0800h **GP21A-0986** *POSTER* Closed Loop Simulation for a Magnetic Gradiometry Mission: **S Kotsiaros**, N Olsen

0800h **GP21A-0987** *POSTER* Quantification of induced and remanent magnetizations in the lithospheric mantle and consequences for long wavelength magnetic anomalies: **E C Ferre**, S A Friedman, J A Conder, F Martin Hernandez, D Ravat

0800h **GP21A-0988** *POSTER* Sq effect on the regional electromagnetic response functions in the period band between a few hours and one day: **H Utada**, H Shimizu, K Baba, N A Palshin

0800h **GP21A-0989** *POSTER* Mapping hydrothermal alteration in Yellowstone National Park using magnetic methods: **C Bouligand**, J M Glen

0800h **GP21A-0990** *POSTER* NEW MAGNETIC STUDY OF THE MID ATLANTIC RIDGE BETWEEN KURCHATOV AND HAYES FRACTURE ZONES: J M Luis, **J M Miranda**

0800h **GP21A-0991** *POSTER* Determining the Attitude of a Spinning Satellite Using Magnetic Field Data: **D Mozzoni**, B B Ferguson, J C Cain

0800h **GP21A-0992** *POSTER* CHAOS-4 - A high-resolution geomagnetic field model derived from low-altitude CHAMP data: **N Olsen**, H Luhr, T J Sabaka, I Michaelis, J Rauberg, L Toffner-Clausen

0800h **GP21A-0993** *POSTER* Observability and Implication of Magnetic signals from different ocean circulation models: **K H Singh**, W Kuang, A V Kuvshinov, T J Sabaka

GP21B Moscone West: 2003 Tuesday 0800h
Frontiers in Electromagnetic Methods I (*joint with H, NS, T*)

Presiding: **S Constable**, Scripps Inst. Oceanography; **K W Key**, Scripps Institution of Oceanography

0800h **GP21B-01** Analog and numerical modeling on the propagation of seismic electromagnetic signals (SEMS): **Q Huang**, Y Lin, Q Wang

0815h **GP21B-02** Three and two-dimensional electrical conductivity of the mantle near the Chile-Argentina Nazca Flat Slab: insights into slab behavior: **A I Burd**, J R Booker, R L Mackie, C Pomposiello, A Favetto, J C Larsen

0830h **GP21B-03** 3D Inversion of Natural Source Electromagnetics: **E M Holtham**, D W Oldenburg

0845h **GP21B-04** 2.5D controlled-source electromagnetic modeling with 3D non-symmetric source geometries: **R Streich**, M Becken

0900h **GP21B-05** Simulating Geomagnetic Depth Sounding using a Time-domain Finite Element Method: Effects of Asymmetric External Source Fields: **J T Ribaud**, C Constable

0915h **GP21B-06** ModEM: A modular system for inversion of electromagnetic geophysical data: **G D Egbert**, A Kelbert, N Meqbel, A Weng

0930h **GP21B-07** First Results from SERPENT Marine MT Study: **S Naif**, K W Key, S Constable, R L Evans

0945h **GP21B-08** Detecting Mantle Anisotropy with Marine CSEM Sounding: **S Constable**, K W Key, J P Behrens, L MacGregor, R L Evans

Hydrology

H21A Moscone South: Poster Hall Tuesday 0800h
Energy-Water Interdependence Posters

Presiding: **J A Tindall**, US DOI - USGS; **E H Moran**, USGS

0800h **H21A-1013** *POSTER* Energy-Water Interdependence: **E H Moran**, J A Tindall, A A Campbell

0800h **H21A-1014** *POSTER* Water Requirements for Energy Production Technologies: A Collaborative Effort to Support Integrated Resource Planning: **K Averyt**, J Macknick, Title of Team: Participants in the Water for Energy Workshop

0800h **H21A-1015** *POSTER* Urban Resource Islands: a new perspective on the water-energy nexus: **D Perrone**, J Murphy, G M Hornberger

0800h **H21A-1016** *POSTER* Coupling Power Generation, Geologic CO₂ Storage and Saline Groundwater Desalination to Address Growing Energy Needs in Water Constrained Regions: **C L Davidson**, S K Wurstner, L A Fortson

0800h **H21A-1017** POSTER In Hot Water: Thermoelectric Power and Thermal Pollution: **N T Madden**

0800h **H21A-1018** POSTER Current and future water needs of the shale gas industry in Texas: **J Nicot**

0800h **H21A-1019** POSTER Impact of Various Biofuel Feedstock Production Scenarios on Water Quality in the Upper Mississippi River Basin: **M Wu**, Y Demissie, E Yan

0800h **H21A-1020** POSTER Fuel from Wastewater – Harnessing a Potential Energy Source in Canada through the Co-location of Algae Biofuel Production to Sources of Effluent, Heat and CO₂: **G T Klise**, J D Roach, H D Passell, B D Moreland, S J O’Leary, P T Pienkos, J Whalen

0800h **H21A-1021** POSTER New Demands, New Supplies: A National Look at the Water Balance of Carbon Dioxide Capture and Sequestration: **J D Roach**, P Kobos, G T Klise, J L Krumhansl, A McNemar

0800h **H21A-1022** POSTER Renewable Water: Direct Contact Membrane Distillation Coupled With Solar Ponds: **F I Suarez**, S W Tyler, A E Childress

0800h **H21A-1023** WITHDRAWN

H21B Moscone South: Poster Hall Tuesday 0800h
Groundwater/Surface Water Interactions: Dynamics and Patterns Across Spatial and Temporal Scales I Posters

Presiding: **C E Hatch**, University of Nevada Reno; **J H Fleckenstein**, Helmholtz Center for Environmental Research (UFZ); **J D Gomez**, New Mexico Tech; **D F Boutt**, Univ of Massachusetts; **S Ge**, University of Colorado

0800h **H21B-1024** POSTER Implementation of Alternative Infiltration Parameters to Compensate for Coarse Temporal Resolution in Regional Hydrologic Models: **N Sepulveda**

0800h **H21B-1025** POSTER Generation of Accurate Lateral Boundary Conditions for a Surface-Water Groundwater Interaction Model: **P Khambhammettu**, M Tsou, S M Panday, J Kool, X Wei

0800h **H21B-1026** POSTER An integrated surface water-groundwater modeling in the Upper Snake River Basin, Idaho: **X Jin**, V R Sridhar

0800h **H21B-1027** POSTER Role of Climate Variability in Modulating Surface Water and Groundwater Interaction over the Southeast United States: **N Almanaseer**, S Arumugam, J D Bales

0800h **H21B-1028** POSTER Hydraulic Fracturing Return Waters and Legacy Landscapes: **D J Bain**, A R Michanowicz, K J Ferrar

0800h **H21B-1029** POSTER Assessing the spatial variability of constraints on groundwater abstractions due to potential adverse resource impacts on surface water ecosystems – a GIS based approach: **K A Watson**, A S Mayer, H W Reeves

0800h **H21B-1030** POSTER Bioherms: the conduits of connection between regional (bedrock) and surface (peatland) aquifers in the James Bay Lowlands: Diamond mining and the fate of peatlands: **P N Whittington**, J S Price

0800h **H21B-1031** WITHDRAWN

0800h **H21B-1032** POSTER Linking hydrology and pore-water biogeochemistry: results from a lake water manipulation experiment: C Neumann, J Beer, C Blodau, S Peiffer, **J H Fleckenstein**

0800h **H21B-1033** POSTER The Role of Trans Tensional Structures and Lake Mead Reservoir in Groundwater Flow in Black Canyon, Lake Mead National Recreation Area, NV-AZ: **L Justet**, S Beard

0800h **H21B-1034** POSTER Spatial patterns of hyporheic flow and biogeochemical cycling around cross-vane restoration structures: **R P Gordon**, L K Lautz, T Daniluk

0800h **H21B-1035** POSTER Integrated Analysis of the Hydrology of a Mitigated Wetland in El Paso, Texas Utilizing Water Quality and Electrical Conductivity: **R Gonzalez**, M Lucero, J I Villalobos, D I Doser, Z Sheng, Title of Team: wetland, conductivity, salinity, water quality

0800h **H21B-1036** POSTER Variation of Hyporheic Exchange Metrics along an Urbanization Gradient: **E T Hester**, E N Cranmer

0800h **H21B-1037** POSTER Use of an Instrumented Mini-Well Matrix to Document Hydraulic and Transport Fluctuations in the Hyporheic Zone: **E S Hinlein**, D W Ostendorf

0800h **H21B-1038** POSTER Temporal and spatial variability of surface water and groundwater interactions in a semi-arid agricultural valley: **C G Ochoa**, A Fernald, S Guldan, V C Tidwell

0800h **H21B-1039** POSTER Use of Continuous Real-Time Water Quality Sensors to Examine Hyporheic Exchange between Groundwater and an Alpine Stream: East Fork Jemez River, NM: **L R Sherson**, D Van Horn, C Dahm, L J Crossey

0800h **H21B-1040** POSTER The Role of Channel Bar Influences on Groundwater / Surface Water Interactions: **C L Shope**, J E Constantz, C A Cooper, W A McKay

0800h **H21B-1041** POSTER Diel fluctuations in summer streamflow depend on stream channel sediment storage and valley-floor vegetation in the forested western Cascades of Oregon, USA: **E J Albright**, N Gustafson, M B Nelson, J M Ramirez, B M Rodriguez-cardona, C M Shughrue, J A Jones

0800h **H21B-1042** POSTER Types and Variability of In-Channel and Bank Storage in Beaded Arctic Streams: **M F Merck**, B T Neilson

0800h **H21B-1043** POSTER Coordinated use of physical measurements and environmental tracers to characterize stream-aquifer interactions along two small, groundwater-connected streams: **C Kikuchi**, T A Ferre, J M Welker, B R Cohn

0800h **H21B-1044** POSTER Monsoon-driven Total Head and Temperature Variations at the GW-SW Interface – Implications for Biogeochemical Processes: **S Bartsch**, C L Shope, J H Fleckenstein, S Peiffer

0800h **H21B-1045** POSTER Water, heat and solute fluxes through hyporheic zones at stream restoration sites and their associated reference stream: **T Daniluk**, L K Lautz, R P Gordon

0800h **H21B-1046** POSTER Polymictic pool behavior in Sierra Nevada Streams: **R G Lucas**, M H Conklin, S W Tyler, F I Suarez, J E Moran, B K Esser

0800h **H21B-1047** POSTER Advection vs. conduction - Heat and water transport in a lowland river under groundwater up-welling conditions: **T Blume**, S Krause

0800h **H21B-1048** POSTER Effect of Instream Geomorphic Structures and Hydraulic Conductivity on Stream Temperature Dynamics: **G T Menichino**, E T Hester

0800h **H21B-1049** POSTER Hyporheic Flow and Heat Transport Within a Bed-to-Bank Transect of a Large Regulated River: Colorado River, Austin, TX: **K Gerecht**, B Cardenas, A J Guswa, A H Sawyer, T Swanson, J D Nowinski

0800h **H21B-1050** POSTER CHARACTERIZING VERTICAL STREAMBED WATER FLUXES USING TEMPERATURE AND HEAD DATA ON VARIOUS SPATIAL SCALES: **Y Hyun**, H Kim, S Lee, K Lee

H21C Moscone South: Poster Hall Tuesday 0800h
Groundwater/Surface Water Interactions: Linking Physical and Biogeochemical Processes in Modeling and Management Frameworks I Posters (joint with B)

Presiding: **A S Mayer**, Michigan Technological Univ; **A S Ward**, Pennsylvania State University; **A H Sawyer**, Univ of Texas-Austin; **H W Reeves**, U.S. Geological Survey; **W M Wollheim**, Institute for the Study of Earth Ocean and Space; **D M McKnight**, Univ Colorado

0800h **H21C-1051 POSTER** Use of an Analytical Model to Screen New or Increased Groundwater Withdrawals for Potential Impacts on Streamflow: **H W Reeves**

0800h **H21C-1052 POSTER** Multi-parameter Analysis and Visualization of Groundwater Quality during High River Discharge Events: **R M Page**, P Huggenberger, G Lischeid

0800h **H21C-1053 POSTER** Managing Water Resources Using WebGIS: Development and Application of an ArcGIS Explorer Toolkit - uWATER: **Y F Lin**, Y E Yang

0800h **H21C-1054 WITHDRAWN**

0800h **H21C-1055 POSTER** Development of interactive graphic user interfaces for modeling reaction-based biogeochemical processes in batch systems with BIOGEOCHEM: **C Chang**, M Li, G Yeh

0800h **H21C-1056 POSTER** Resazurin as a Proxy for Estimating Stream Respiration: **R A Gonzalez Pinzon**, R Haggerty, A Argerich, M Briggs, L K Lautz, D Lemke, D K Hare

0800h **H21C-1057 POSTER** Impact of Human Activity on Groundwater Recharge in Shule River Basin, Northwest China: **P Huang**, Z Wang

0800h **H21C-1058 POSTER** Infiltration of pesticides in surface water into nearby drinking water supply wells: **F Malaguerra**, H Albrechtsen, P J Binning

0800h **H21C-1059 POSTER** Estimating watershed irrigation capacity with an integrated hydrological model in the Lower Platte River basin, Nebraska: **G Ou**, X Chen

0800h **H21C-1060 POSTER** The role of stream network complexity in hydrologic turnover, nutrient retention, and watershed outlet signatures: **J M Mallard**, T P Covino, B L McGlynn

0800h **H21C-1061 POSTER** Exploring interactions of geomorphic setting, flow variability, and restoration on nitrate uptake and transient storage in streams: **J Mueller Price**, B P Bledsoe, D W Baker

0800h **H21C-1062 POSTER** Influence of riparian zones on stream nutrients in Great Lakes watershed flood plains: **A G Bobba**, P Chambers, J Spoelstra, C Talbot

0800h **H21C-1063 POSTER** The Effect of Beaver Dams on Geochemistry of the Hyporheic Zone at Varied Depth and Location over a Range of Discharges During Flood Recession: **D K Hare**, M Briggs, L K Lautz

0800h **H21C-1064 POSTER** Temporal variations in riverbed hydraulic properties due to sediment transport during floods: Implications for groundwater-surface water interaction and composition: **S C Simpson**, T Meixner

0800h **H21C-1065 POSTER** Extreme Groundwater Discharge to a Eutrophic Seepage Lake and the Effect on Lake Restoration: P K Engesgaard, **B Nilsson**, J Kidmose, M C Frandsen

0800h **H21C-1066 POSTER** Evaluating the Possible Role of Phosphorus Release from Sediments on Stream Restoration: **A Timm**, P McGinley

0800h **H21C-1067 POSTER** Seasonal Variation in Phosphorus and Ammonium Uptake Related to Changes in Transient Storage Characteristics: **A Argerich**, R Haggerty, R A Gonzalez Pinzon

0800h **H21C-1068 WITHDRAWN**

0800h **H21C-1069 POSTER** Drivers of Diel Stream Nitrate Patterns in a Coastal Plain Stream: **S A Flewelling**, G M Hornberger, J S Herman, A L Mills

0800h **H21C-1070 POSTER** Spatial variability in groundwater N₂ and N₂O in the San Joaquin River: **S Hinshaw**, R A Dahlgren

0800h **H21C-1071 POSTER** Using environmental isotopes to characterize hydrologic processes of the Nelson Tunnel acid mine drainage site, West Willow Creek watershed, Creede, CO: **A Krupicka**, M W Williams

0800h **H21C-1072 POSTER** Pore-Water Chemistry and Hydrology in a Spring-Fed River: Implications for Hyporheic Control of Nutrient Cycling and Speleogenesis: **M J Kurz**, J B Martin, M J Cohen

H21D Moscone South: Poster Hall Tuesday 0800h
Megascale Hydrogeology: The Promise and Challenge of Examining Groundwater Systems at Regional and Continental Scales II Posters (joint with G)

Presiding: **T Gleeson**, UBC; **J Lemieux**, Université Laval; **Y Fan**, Rutgers University

0800h **H21D-1073 POSTER** Geochemical evidence for groundwater mixing in the western Great Artesian Basin and recognition of deep inputs in continental-scale flow systems: **L J Crossey**, K E Karlstrom, A Love, S Priestley, P Shand

0800h **H21D-1074 POSTER** The influence of boreholes on the regional scale groundwater flow in a fractured rock: **S Ji**, N Ko, Y Koh, J Choi

0800h **H21D-1075 POSTER** Factors Influencing Density-Dependent Groundwater Flow in the Michigan Basin: **J F Sykes**, S D Normani, Y Yin

0800h **H21D-1076 POSTER** Robustness of Vertically Averaged Models for CO₂ sequestration: **E Keilegavlen**, J M Nordbotten

0800h **H21D-1077 POSTER** Correlating optical, microwave and thermal remote sensing signals with groundwater head measurement time series: **E H Sutanudjaja**, S de Jong, F van Geer, M F Bierkens

0800h **H21D-1078 POSTER** Compilation of regional ground water monitoring data to investigate 60 years of ground water dynamics in New England: **D F Boutt**, K M Weider

0800h **H21D-1079 POSTER** A comparison of the spatial and temporal variability of groundwater storage and GRACE terrestrial water storage: **B Li**, M Rodell

0800h **H21D-1080 WITHDRAWN**

0800h **H21D-1081 POSTER** Towards a seamless model of Quaternary sediments for continental-scale hydrogeology in North America: **M Ross**, M N Schumacher, J CHEN, E A Sudicky

0800h **H21D-1082 POSTER** U-series dates on travertine deposits in the Great Artesian Basin as paleohydrogeology and neotectonic indicators: **S Priestley**, K E Karlstrom, L J Crossey, A Love, V Polyak, Y Asmerom, E Embid

H21E Moscone South: Poster Hall Tuesday 0800h
Precipitation Measurement, Validation, and Applications: From Watershed to Global Scales III Posters (joint with A)

Presiding: **A Y Hou**, NASA Goddard SFC; **S A Braun**, NASA/GSFC; **B E Vieux**; **W K Berg**, Colorado State University; **R S Teegavarapu**, Florida Atlantic University; **Y Hong**, University of Oklahoma

0800h **H21E-1083 POSTER** Assimilation of precipitation-affected microwave radiances in a cloud-resolving WRF ensemble data assimilation system: **S Q Zhang**, M Zupanski, A Y Hou, X Lin, S Cheung

0800h **H21E-1084** *POSTER* Cross Validation of Space-borne Radar Measurements of Different Hydrometeors using Ground Polarimetric Radar: **Y Wen**, Y Hong, J J Gourley, G Zhang, T J Schuur, Z Flamig, K R Morris, Q Cao

0800h **H21E-1085** *POSTER* Community-based Services that Facilitate Interoperability and Inter-comparison Between Precipitation Data Sets from Multiple Sources: **Z Liu**, S J Kempler, W L Teng, G G Leptoukh, D Ostrenga

0800h **H21E-1086** *POSTER* Preservation of extremes in multi-sensor merging of precipitation: **M Ebtahaj**, E Foufoula-Georgiou

0800h **H21E-1087** *POSTER* A Modified Global Model for Predicting the Tritium Distribution in Precipitation, 1960-2005: **Y Zhang**, S Ye, J Wu

0800h **H21E-1088** *POSTER* Recent Improvements to the TRMM Microwave Imager Land Rainfall Algorithm: **K Gopalan**, N Wang, R Ferraro, C Liu

0800h **H21E-1089** *POSTER* The relationship between snowflake characteristics and snow gauge collection efficiency: **J M Theriault**, K Ikeda, R Rasmussen, S Landolt, S Ziegler, A Jachcik

0800h **H21E-1090** *POSTER* Visualization of GPM Standard Products at the Precipitation Processing System (PPS): **O Kelley**

0800h **H21E-1091** *POSTER* Application of GSMaP and MODIS/SeaWiFS Downward Surface Short Wave Radiation in the Land Simulation System: Yesterday's Earth at EORC (YEE): **T Oki**, M Kachi, T Kubota, H Fujii, H Murakami

0800h **H21E-1092** *POSTER* On the Sensitivity of TRMM Microwave Imager Channels to Over-Land Rainfall: G Liu, **Y You**

0800h **H21E-1093** *POSTER* Reflectivity Uncertainties and their Impact on Raindrop Size Distribution Parameters Retrieved from Vertically Pointing Doppler Profiling Radars: **C R Williams**, P E Johnston, D A Carter

0800h **H21E-1094** *POSTER* Regime Dependant Microphysical Variability in Darwin, Australia: **B Dolan**, S A Rutledge, T J Lang

0800h **H21E-1095** *POSTER* A Unified Description of the Statistics of Radar and Gauge Rainfall Data in terms of a Stochastic Dynamical Model: **P K Kundu**, J Travis

0800h **H21E-1096** *POSTER* The GPM Common Calibrated Brightness Temperature Product: **J Stout**, J Chou

0800h **H21E-1097** *POSTER* A Framework For The Generation And Dissemination Of Drop Size Distribution (DSD) Characteristics Using Multiple Platforms: **D B Wolff**, A Tokay, W A Petersen, C R Williams, P N Gatlin, M Wingo

0800h **H21E-1098** *POSTER* Evaluating Satellite Precipitation Products for Climate Applications: **W K Berg**

0800h **H21E-1099** *POSTER* A Study on Identification of Hydrometeor Phases Using Ku- and Ka-Band Dual-Wavelength Radar: R Meneghini, **L Liao**

0800h **H21E-1100** *POSTER* Analysis of the variability in the rainfall gauge observations using independent component analysis for the tropical Tahiti Island (French Polynesia): **L Sichoix**, G Ramillien, F Frappart, J Barriot

0800h **H21E-1101** *POSTER* Development of a Physically Based Land Surface Emissivity for TMI: **F J Turk**, L Li, Z Haddad

0800h **H21E-1102** *POSTER* Transformation of Brightness Temperatures between GMI and Existing Satellite Microwave Sensors: **Y Ji**

0800h **H21E-1103** *POSTER* Evaluation of High-Resolution Satellite Rainfall Products over the Nile Basin for Climatologic and Hydrologic Applications: **E H Habib**, A Haile, M ElSaadani, M E Elshamy, D Amin, R J Kuligowski

0800h **H21E-1104** *POSTER* Evaluating Flood Prediction Skill of TMPA Rainfall Products over Tar River Basin Using a Distributed Hydrologic Model: **H J Vergara**, Y Hong, J J Gourley, Y Zhang, E N Anagnostou

0800h **H21E-1105** *POSTER* On the probability distribution of drop diameter at the ground during stratiform and convective rain: **C De Michele**, M Ignaccolo

0800h **H21E-1106** *POSTER* An Observing System Simulator for GPM Precipitation Products in Regions of Complex Terrain: Initial development and QPE Applications in the Southern Appalachians: **J Tao**, A P Barros

0800h **H21E-1107** *POSTER* Enhancements to an ANN-based satellite rainfall estimation methodology: **V G Anantharaj**, M Mahrooghy, N H Younan, J V Aanstoos

0800h **H21E-1108** *POSTER* Hydrologic evaluation of the TRMM-based multi-satellite precipitation analysis data at basin scale: **B Yong**, L Ren, Y Hong, J J Gourley

0800h **H21E-1109** *POSTER* Hydroclimatologic Analyses of Extreme Rainfall and Flooding in Atlanta, Georgia Using Long-Term Radar-Rainfall Datasets: **D B Wright**, J A Smith, M L Baeck, G Villarini

0800h **H21E-1110** *POSTER* Radar rainfall estimation of stratiform winter precipitation in the Belgian Ardennes: **P Hazenberg**, H Leijnse, R Uijlenhoet

0800h **H21E-1111** *POSTER* Pixel-Based Very Short-Term Precipitation Forecasting for Hydrological Application: **A Zahraei**, J J Gourley, V Lakshmanan, Y Hong, K Hsu, S Sorooshian

0800h **H21E-1112** *POSTER* Atmosphere-Truth Z-R Rainfall Estimates: A Fresh Approach to an Old Problem: **J F Henz**

H21F Moscone South: Poster Hall Tuesday 0800h
Uncertainty Analysis Approaches in Hydrologic Modeling II
Posters

Presiding: **R S Teegavarapu**, Florida Atlantic University; **C S Pathak**, South Florida Water Management; **S U Senarath**, SFWMD

0800h **H21F-1113** *POSTER* Calibration of hydrologic models using flow-duration curves: **I Westerberg**, P Younger, J Guerrero, K Beven, J Seibert, S Halldin, C Xu

0800h **H21F-1114** *POSTER* Analytical derivation of the Horton index using a conceptual soil water balance model by cumulant expansion theory: **S Kim**, D Choi

0800h **H21F-1115** *POSTER* ASSESSING THE UNCERTAINTY IN WATERSHED NONPOINT SOURCE POLLUTION SIMULATIONS WITH PROBABILISTIC COLLOCATION METHOD (PCM): **Y Zheng**, W Wang

0800h **H21F-1116** *POSTER* Manage Short-term Flood Events and Long-term Water Needs via Reservoir Operation: A Risk Analysis Study: W Cheng, **N Hsu**, C Wei, W Cheng

0800h **H21F-1117** *POSTER* Combination of a latin hypercube sampling and of an simulated annealing method to optimize a physically based hydrological model: D Robert, I Braud, **J COHARD**, I Zin, M Vauclin

0800h **H21F-1118** *POSTER* Evaluation of scale dependent hydrologic sensitivities in the NCAR Community Land Model: **R S Singh**, N L Miller

0800h **H21F-1119** *POSTER* Propagation of information in a pilot-point based multi-objective calibration exercise for a surface-subsurface distributed hydrologic model: **M P Maneta**, W W Wallender

0800h **H21F-1120** *POSTER* Analysis of hydrogeological structure uncertainty by estimation of hydrogeological acceptance probability of geostatistical models: **D R Harp**, V V Vesselinov

0800h **H21F-1121** POSTER Predicting Peak Discharge Uncertainty from Standard Methods Due To Variability in Hydrologic Characteristics: **C A Wilson**, R E Beighley, G E Moglen, R L Ray

0800h **H21F-1122** POSTER Application of Variance-Based and Regression-Based Global Sensitivity Analysis Methods to a Distributed Parameter Hydrologic Model: **T Dessalegne**, S U Senarath, R J Novoa

0800h **H21F-1123** POSTER Evaluating the Performance of the Generalized Likelihood Uncertainty Estimation Approach on Predictive Uncertainty under Different Sampling and Behavioral Threshold Considerations: **S U Senarath**, R J Novoa

H21G Moscone South: Poster Hall Tuesday 0800h
Water Resources Science and Strategies for Adaptation to Climate Variability and Change I Posters (joint with A, B, GC, PA)

Presiding: **M J Friedel**, US Geological Survey; **J J Gurdak**, San Francisco State University; **S McNeely**, National Center for Atmospheric Research; **J A Tindall**, US DOI - USGS; **B R Lintner**, Rutgers

0800h **H21G-1124** POSTER Integrated modeling of climate change and urbanization impacts on water management: **E Chung**, K S Lee, J Oh, J Song

0800h **H21G-1125** POSTER Hindcasting 2000 years of Pacific sea and land surface temperature changes: **M J Friedel**

0800h **H21G-1126** POSTER The fractal nature of climate change - 2000 years in retrospect: **A A Esfahani**, M J Friedel

0800h **H21G-1127** POSTER Parameter Uncertainty Analysis of Reservoir Operating Rules for Implicit Stochastic Optimization: **P Liu**, J Yi, S Guo, X Xu

0800h **H21G-1128** POSTER Linking weather generators and hydrological models for streamflow assessments with seasonal climate outlooks: **S Tong**, Y Chen, M Li, C Tung

0800h **H21G-1129** POSTER Potential Impacts of Climate Change on Intensity-Duration-Frequency Relationships for Locations in the United States: **W J Forsee**, J Zhu, M Stone

0800h **H21G-1130** POSTER Climate Change Impacts in the Upper Rio Grande Catchment: **T Heikkila**, T U Siegfried, S L Sellars, E Schlager

0800h **H21G-1131** POSTER Hydrologic Sensitivity to Climatic Change in Southern Wisconsin: **E Murdock**, K W Potter, Z Schuster

0800h **H21G-1132** POSTER Optimality Conditions for A Two-Stage Reservoir Operation Problem: **J Zhao**, X Cai, Z Wang

0800h **H21G-1133** POSTER Development of Watershed Evaluation Index for Water Resources Considering Climate Change: K S Lee, **J Oh**, S Lee, E Chung

0800h **H21G-1134** POSTER Global water resources assessment at a sub-annual timescale: Application to climate change impact assessment: **T Yamamoto**, N Hanasaki, K Takahashi, Y Hijikawa

0800h **H21G-1135** POSTER Can climate change cause the Yellow River to dry up?: **S Liang**

0800h **H21G-1136** POSTER Climate change trend in the tropical and Caribbean regions and its hydrological impacts: **S G Setegn**, A M Melesse

0800h **H21G-1137** POSTER Future Global Water Resources with respect to Climate Change and Water Withdrawals: **S J Murray**, P Foster, C Prentice

0800h **H21G-1138** POSTER Optimizing Reservoir Operation to Adapt to the Climate Change: **S Madadgar**, I Jung, H Moradkhani

0800h **H21G-1139** POSTER Assessing Future Water Resources: Incorporating the Influence of Climate Change and Land Use Change: **M T Griffin**, J S Arrigo

0800h **H21G-1140** POSTER Assessing the Climate Change Impact on Rainfall IDF Curves in the Apalachicola River Basin, Florida: **D Wang**, S C Hagen, G Yeh, P Bacopoulos

0800h **H21G-1141** POSTER Modeling Economic Impacts of Environmental Flows in California's Yuba River Watershed: **D E Rheinheimer**, S Yarnell, J H Viers

0800h **H21G-1142** POSTER Applicability of CS616 Soil Water Sensors for Miami-Dade County, Florida: **K Koryto**, K Migliaccio

0800h **H21G-1143** POSTER Effects of climate variability and change on infiltration and recharge beneath natural grasslands in semiarid regions of the High Plains, USA: **B C Everett**, J J Gurdak, P B McMahon, B W Bruce

0800h **H21G-1144** POSTER Developing Stochastic Deep Drainage Surfaces In Cox's Creek Catchment: **S Bennett**, R W Vervoort, T F Bishop, Title of Team: Hydrology Research Lab

0800h **H21G-1145** WITHDRAWN

0800h **H21G-1146** POSTER Urban Expansion Dynamic and its Impact on Water Infiltration and Stream-flow in Huntsville City, Alabama: **M F Wagaw**, T Gabre, G Kebede, C Wilson, C Davis

0800h **H21G-1147** POSTER Rainfall erosivity estimates from climate change multi-model, multi-scenario projections in southern Appalachian region: **S Hoomehr**, J S Schwartz, Y Lam, J S Fu

0800h **H21G-1148** WITHDRAWN

0800h **H21G-1149** POSTER Response of shallow groundwater depth to climate change and human activity in Weihai, China: **S Han**, Y Hu, Z Gao, S Wang, L Gao

0800h **H21G-1150** POSTER Sustainable use of groundwater in Atoll Islands: **M Taniguchi**, S Nakada, Y UMEZAWA, H Yamano

0800h **H21G-1151** POSTER Recharge response to interannual and multidecadal climate variability and implications for groundwater resources of the Central Valley aquifer, California: **A M Kuss**, J J Gurdak

0800h **H21G-1152** WITHDRAWN

0800h **H21G-1153** POSTER Development of Adaptation Technologies to a Non-Reservoir Water Resources System in Taiwan: **C Lin**, C Tung, T Liu

0800h **H21G-1154** POSTER Recession Slope Analysis Coefficients, Low Flows, Groundwater and Precipitation Responses for Climate Change Studies: **A N Sharma**, V Pereira, M T Walter

0800h **H21G-1155** POSTER A Plan of Water Resource Exploitation and Groundwater Recharge in West-Sout Part of Taiwan: **S Huang**, J Wen, C Lin, C Hsu

0800h **H21G-1156** POSTER Development of sustainable groundwater extraction practices for a major superficial aquifer supporting a groundwater dependent ecosystem: **K R Smettem**, R Friend, M Davies, B Stock, M Martin, C Robertson, D Eamus

0800h **H21G-1157** POSTER Estimating groundwater recharge on a temperate humid to semiarid volcanic island (Jeju, Korea) from water table fluctuations, Cl mass balance, apparent CFC-12 ages and ³H renewal: **K B Hagedorn**, A I El-Kadi, A Mair, R Whittier

H21H Moscone West: 3018 Tuesday 0800h
Advances in Hydrologic Modeling and Prediction I (joint with A, NH)

Presiding: **M B Smith**, National Weather Service; **J Demargne**, NOAA/NWS/Office of Hydrologic Development; **A W Wood**, NOAA/NWS; **N Mizukami**, NOAA/NWS/OHD; **V Fortin**, Environment Canada, Canadian Meteorological Centre

0800h **H21H-01** Estimating and communicating hydrometeorological uncertainty in a context of operational hydrological ensemble forecasts: **T Mathevet**, M Ramos, J Gailhard, P Bernard, R Garçon

0815h **H21H-02** COMPARING POSTPROCESSING APPROACHES TO CALIBRATING OPERATIONAL RIVER DISCHARGE FORECASTS: **T M Hopson**, P J Webster, A W Wood

0830h **H21H-03** Application of a global hydrologic prediction system to the Zambezi River Basin (Invited): **N Voisin**, F Pappenberger, R Buizza, D P Lettenmaier

0845h **H21H-04** Evaluating hydrological ensemble predictions using a large and varied set of catchments (Invited): **M Ramos**, V Andreassian, C Perrin, C Loumagne

0900h **H21H-05** Hydrologic Forecasting in Mountainous Terrain (Invited): **R K Hartman**

0915h **H21H-06** Understanding the Dynamic Interaction between Precipitation and Distributed Watershed Model Behavior (Invited): **T Wagener**, P M Reed, J B Kollat, K L van Werkhoven

0930h **H21H-07** A DIFFERENT SOIL CONCEPTUALIZATION FOR THE TOPKAPI MODEL APPLICATION WITHIN THE DMIP 2: **G Coccia**, C Mazzetti, E Ortiz, E Todini

0945h **H21H-08** Improving Radar QPE's in Complex Terrain for Improved Flash Flood Monitoring and Prediction: **R Cifelli**, D P Streubel, D Reynolds

H21I Moscone West: 3022 Tuesday 0800h
Droughts and Food Security I (joint with GC, PA)

Presiding: **D Niyogi**, Purdue University; **V Mishra**, University of Washington; **M J Hayes**, University of Nebraska

0800h **H21I-01** Can the World's Farmers Feed a World of 10 Billion People In Spite of Climate Change? (Invited): **W E Easterling**

0820h **H21I-02** Will higher [CO₂] help avoid crop failures in drought years? (Invited): **J M McGrath**, D B Lobell

0837h **H21I-03** Informing climate change adaptation with insights from famine early warning (Invited): **C C Funk**, J P Verdin

0854h **H21I-04** A Catalyst for Change: Drought and Food Security in the Near East Region (Invited): **C L Knutson**

0911h **H21I-05** Globalization of water, water solidarity, and societal resilience: **P D'Odorico**, F Laio, L Ridolfi

0926h **H21I-06** Improving Agricultural Drought Monitoring in East Africa with Unbiased Rainfall Fields and Detailed Land Surface Physics: **A McNally**, S Yatheendradas, C D Peters-Lidard, J Michaelsen

0941h **H21I-07** Relative Contributions Of Initial Hydrologic State And Climate Forecast Skill To Seasonal Drought Prediction: **S Shukla**, D P Lettenmaier

H21J Moscone West: 3014 Tuesday 0800h
Evapotranspiration I: Land Surface Exchanges and the Atmospheric Boundary Layer (joint with A, PA, B)

Presiding: **E Bou-Zeid**, Princeton University; **M B Parlange**, EPFL - Lausanne; **M Chamecki**, Pennsylvania State University

0800h **H21J-01** Investigating impacts of soil moisture and atmospheric stability on land-ABL interactions and cloud development (Invited): **S A Margulis**, H J Huang

0815h **H21J-02** On land surface modeling in large-eddy simulations of atmospheric boundary layers: **C van Heerwaarden**, E Bou-Zeid, J Vila-Guerau Arellano

0830h **H21J-03** The Effect of Energy Flux Partitioning on the Atmospheric Boundary Layer Height: **C W Higgins**, T Mimouni, D F Nadeau, E Pardyjak, M B Parlange

0845h **H21J-04** Wind sheltering of lakes and wetlands: the effect of stability on turbulent canopy wakes and evaporation: **C D Markfort**, F Porte-Agel, H G Stefan

0900h **H21J-05** A large-eddy simulation study of the impact of different land-atmosphere coupling schemes on the dynamics of the nocturnal boundary layer (Invited): **J R Stoll**, N D Shingleton, F Bosveld

0915h **H21J-06** Angle-of-Arrival Fluctuations of Light Propagating through the Intermittent Nocturnal Atmospheric Surface Layer: **A Muschinski**, K Hu, L M Root, S Tichkule, S N Wijesundara

0930h **H21J-07** Thermal circulation patterns and turbulent fluxes along steep mountain slopes: **D F Nadeau**, E Pardyjak, C W Higgins, H Huwald, F Baerenbold, M B Parlange

0945h **H21J-08** Stability Effects on Coherent structures in the Unstable Atmospheric Surface Layer: **D Li**, E Bou-Zeid

H21K Moscone West: 3016 Tuesday 0800h
High-Resolution Hydrogeophysical Characterization of Soils and Aquifers From Microscale to Field Scale II (joint with NS)

Presiding: **C B Graham**, Penn State University; **K L Kuhlman**, Sandia National Laboratories; **J W Bridge**, The University of Sheffield; **H Vereecken**, Forschungszentrum Julich

0800h **H21K-01** Beyond the Black Box: Coupling x-ray tomographic imaging of multi-phase flow processes to numerical models and traditional laboratory measurements (Invited): **D Wildenschild**, M L Porter, M G Schaap, V Joekar-Niasar, P Schjonning, L Wollesen de Jonge, P Moldrup

0817h **H21K-02** Capabilities and limitations of neutron imaging for studying soil-root system (Invited): **A B Moradi**

0834h **H21K-03** Geophysical imaging to inform hyporheic flow and solute transport dynamics in 2- and 3-dimensions (Invited): **A S Ward**, M Fitzgerald, T J Voltz, M N Gooseff, K Singha

0851h **H21K-04** WITHDRAWN

0908h **H21K-05** A saline pulse test method monitored with the self-potential method to characterize hydraulic connectivity (Invited): **A Revil**

0925h **H21K-06** Estimating complex dielectric permittivity of soils from spectral ratio analysis of swept frequency (FMCW) ground-penetrating radar data (Invited): **J H Bradford**, H Marshall

0942h **H21K-07** Present and Future Hydrogeophysics: New Ways of Looking at Hydrology (Invited): **T A Ferre**

H21L Moscone West: 3020 Tuesday 0800h
Large Regional Aquifers: A Precious Resource at Risk I (*joint with NS*)

Presiding: T D Bullen, U.S. Geological Survey; P J Negrel, BRGM

0800h **H21L-01** Multilevel Groundwater Monitoring of Hydraulic Head and Temperature in the Eastern Snake River Plain Aquifer, Idaho National Laboratory, Idaho, 2007 to 2008: J C Fisher, B V Twining

0815h **H21L-02** Boron's Isotopes Help Trace Water in New Zealand: A Slade, B Whitehead

0830h **H21L-03** WITHDRAWN

0850h **H21L-04** Value of information analysis for groundwater quality monitoring network design Case study: Eocene Aquifer, Palestine: A Khader, M McKee

0905h **H21L-05** Modern Recharge of the Nubian Aquifer: Remote Sensing, Geochemical, Geophysical, and Modeling Constraints: M Sultan, S Metwally, A Milewski, D Becker, M E Ahmed, W Sauck, F Soliman, N C Sturchio, E Yan, M Rashed, A Wagdy, R Becker, B Welton

0920h **H21L-06** Effect of Short-Circuit Pathways on Water Quality in Selected Confined Aquifers (*Invited*): P B McMahon

0940h **H21L-07** The theoretical relation between unstable solutes and groundwater age: A Massoudieh, T R Ginn

Earth and Space Science Informatics

IN21A Moscone South: Poster Hall Tuesday 0800h
Information Fusion: Issues, Barriers, and Approaches Posters (*joint with A, B, GC, H, NH, PA*)

Presiding: G Percivall, Open Geospatial Consortium; S Nativi, CNR & Univ. Florence; P A Fox, Rensselaer Polytechnic Inst.; S J Cox

0800h **IN21A-1318** POSTER Experiences and Lessons Learned in Information Fusion Development Collaboratives (*Invited*): D K Arctur, G Percivall

0800h **IN21A-1319** WITHDRAWN

0800h **IN21A-1320** POSTER Data Fusion and Visualization with the OpenEarth Framework (OEF): D R Nadeau, C Baru, M J Fouch, C J Crosby

0800h **IN21A-1321** POSTER A Systematic Approach for Climate Change Decision Support: S Kumar, S J Cantrell, G J Higgins, F VanWijngaarden

0800h **IN21A-1322** POSTER Geospatial Data Fusion and Multigroup Decision Support for Surface Water Quality Management: A Y Sun, O Osidele, R T Green, H Xie

0800h **IN21A-1323** WITHDRAWN

0800h **IN21A-1324** POSTER Automating Data Submission to a National Archive: T T Work, C L Chandler, R C Groman, M D Allison, S R Gegg, Title of Team: The Biological and Chemical Oceanography Data Management Office

0800h **IN21A-1325** POSTER ADVANCING INTERDISCIPLINARY APPROACHES FOR RESEARCH AND APPLICATIONS FOR FORESTRY, BIODIVERSITY AND DROUGHT: J S Pearlman, M Craglia, F Bertrand, S Nativi, G Gaigalas, G Dubois, S Niemeyer, S Fritz

0800h **IN21A-1326** POSTER Information Fusion Issues in the UK Environmental Science Community: J R Giles

0800h **IN21A-1327** POSTER A Publish-and-Subscribe System for Publicizing Earth Science Information and Services: C Peng

0800h **IN21A-1328** POSTER GAIA: Fusing Information to Prepare for the Effects of Climate Change: A D Toigo, C K Pikas, L J Paxton, S M Babin, R K Schaefer, S Simpkins, W H Swartz, M Weiss

0800h **IN21A-1329** POSTER NERC's Science Information Strategy – promoting information fusion across the Environmental Sciences: M Thorley, D Thomas, M Brown, J R Giles

IN21B Moscone South: Poster Hall Tuesday 0800h
Model Fusion I Posters (*joint with GC, PA*)

Presiding: J R Giles, British Geological Survey; H Kessler, British Geological Survey

0800h **IN21B-1330** POSTER Integrated OpenMI Modeling of a Surface Water – Lake – Groundwater system and a management framework of the overexploited aquifer under Climate Change: N Mylopoulos, A Loukas, P Sidiropoulos, L Vasiliadis

0800h **IN21B-1331** POSTER Combining disparate data for decision making: M E Gettings

0800h **IN21B-1332** POSTER MICROWAVE BRIGHTNESS TEMPERATURE SIMULATION AT C-BAND IN TIBET PLATEAU BASED ON PHYSICAL MODELS—A CASE STUDY IN MAQU AREA: Y Li, L Zhang, L Jiang, L Chai

0800h **IN21B-1333** POSTER Reducing the invasiveness of modelling frameworks: G Donchyts, F Baart

0800h **IN21B-1334** POSTER MODEL FUSION TOOL – THE OPEN ENVIRONMENTAL MODELLING PLATFORM CONCEPT: H Kessler, J R Giles

0800h **IN21B-1335** POSTER Evaluation of a Wavelet Data Compression Technique for High-Resolution Earth System Models: N Wang, J Bao, J Lee

0800h **IN21B-1336** POSTER Coupling urban growth scenarios with nearshore biophysical change models to inform coastal restoration planning in Puget Sound, Washington: K B Byrd, J Kreitler, W Labiosa

0800h **IN21B-1337** POSTER Computational Challenges in Integrated Regional Earth System Modeling (iRESM): K Kleese van Dam, K A Hibbard, I Gorton, Y Liu

IN21C Moscone South: Poster Hall Tuesday 0800h
Uncertainty, Error, and Quality of Observational Data I Posters (*joint with A, NG, GC, OS, P*)

Presiding: R G Raskin, Jet Propulsion Laboratory; A J Braverman, Jet Propulsion Laboratory; S R Sain, NCAR

0800h **IN21C-1338** POSTER Nested-observation error covariance matrix in 1dVAR approach: C Park, A K Heidinger

0800h **IN21C-1339** POSTER Objective Assessment of Tropospheric Airborne in-situ Measurement Uncertainties: A Thornhill, G Chen, M M Kleb

0800h **IN21C-1340** POSTER Integrating stations from the National Gravity Database into a local GPS-based land gravity survey: T Shoberg, P Stoddard

0800h **IN21C-1341** POSTER Investigating Biases When Quantifying Aerosol-Cloud-Precipitation Interactions: H Duong, A Sorooshian, G Feingold

0800h **IN21C-1342** POSTER Multi-Resolution Variational Analysis of Sea Surface Temperature and Uncertainty Estimation: T M Chin, J Vazquez, E M Armstrong

0800h **IN21C-1343** POSTER Increasing the Accuracy of MODIS Snow Product using Quantitative Restoration for MODIS Band 6 on Aqua: G Bonev, I Gladkova, M Grossberg

0800h **IN21C-1344** POSTER Ground-based vicarious radiometric calibration of Landsat 7 ETM+ and Terra MODIS using an automated test site: **J Czapla-Myers**, N Leisso

0800h **IN21C-1345** POSTER A New Hybrid Method for Remote Sensing Time Series Reconstruction in Support of Land Surface Phenology: **A Barreto-munoz**, K Didan, J Riveracamacho, M Yitayew

0800h **IN21C-1346** POSTER Estimating, Validating and Conveying Measurement Differences in the Land Surface Temperature and Emissivity Products from ASTER, MODIS and AIRS: **G C Hulley**

0800h **IN21C-1347** POSTER Identifying sources of uncertainty using covariance analysis: **N P Hyslop**, W H White

IN21D Moscone South: 302 Tuesday 0800h
Research Clouds: Virtualization of Infrastructure, Tools, and Services I (joint with SM, SH, G)

Presiding: **J Shillington**, University of Alberta; **T A King**, UCLA

0800h **Opening Remarks** *Opening remarks by the session host.*

0802h **IN21D-01** Creating a Rackspace and NASA Nebula compatible cloud using the OpenStack project (*Invited*): **R Clark**

0820h **IN21D-02** Making Cloud Computing Available For Researchers and Innovators (*Invited*): **R Winsor**

0838h **IN21D-03** Towards usable and interdisciplinary e-infrastructure (*Invited*): **D De Roure**

0855h **IN21D-04** Cloud computing for geophysical applications (*Invited*): **M Zhizhin**, E A Kihn, D Mishin, D Medvedev, R S Weigel

0912h **IN21D-05** A Science Cloud: OneSpaceNet: Y Morikawa, **K T Murata**, S Watari, H Kato, K Yamamoto, S Inoue, K Tsubouchi, K Fukazawa, E Kimura, O Tatebe, S Shimojo

0924h **IN21D-06** Cloud-Enabled Space Weather Modeling and Data Assimilation Platform (CESWP): **B Satchwill**, R Rankin, J Shillington, E Toews

0936h **IN21D-07** Cloud-based Web Services for Near-Real-Time Web access to NPP Satellite Imagery and other Data: **J D Evans**, E G Valente

0948h **IN21D-08** Proposed Use of the NASA Ames Nebula Cloud Computing Platform for Numerical Weather Prediction and the Distribution of High Resolution Satellite Imagery: A Limaye, **A Molthan**

Nonlinear Geophysics

NG21A Moscone South: 308 Tuesday 0800h
Multiphase Flow: An Interdisciplinary Challenge I (joint with V, H)

Presiding: **J Suckale**, MIT; **I L Belien**, University of Oregon; **K V Cashman**, University of Oregon; **R Juanes**, Massachusetts Institute of Technology

0800h **NG21A-01** Directional solidification of a binary alloy in a Hele-Shaw cell: instability, convection, and chimney formation (*Invited*): **R F Katz**, A Anderson, M G Worster, R E Goldstein

0815h **NG21A-02** The influence of particle shape and volume fraction on the rheology of crystal-bearing magma: **S Mueller**, E W Llewellyn, H M Mader

0830h **NG21A-03** Explosive Fragmentation Criteria and Velocities for Vesicular Magma: M J McGuinness, **B Scheu**, A C Fowler

0845h **NG21A-04** Convection chimneys in three-phase magmas (*Invited*): **A Rust**, A C Fowler, M J McGuinness, S Mitchell

0900h **NG21A-05** The Askja volcano eruption in 1875 - where did all the water come from? (*Invited*): **S Geiger**, M Lupi, R Carey, T Thordarson, B F Houghton

0915h **NG21A-06** Pore-scale interfacial dynamics during gas-supersaturated water injection in porous media - on nucleation, growth and advection of disconnected fluid phases (*Invited*): **D Or**, M Ioannidis

0930h **NG21A-07** Numerical simulation of diagenetic alteration and its effect on residual gas in tight gas sandstones: **M Prodanovic**, S L Bryant, J S Davis

0945h **NG21A-08** Two-phase gravity currents in geological CO₂ storage: **J A Neufeld**, M Golding, M A Hesse, H E Huppert

Natural Hazards

NH21A Moscone South: Poster Hall Tuesday 0800h
Geophysical Hazards and Social/Ecological Vulnerabilities II Posters (joint with PA, OS, GC)

Presiding: **B G McAdoo**, Vassar College

0800h **NH21A-1390** POSTER NATURAL AND MAN-MADE HAZARDS IN THE CAYMAN ISLANDS: **D A Novelo-Casanova**, G Suarez

0800h **NH21A-1391** POSTER A socioeconomic assessment of climate change-enhanced coastal storm hazards in the U.S. Pacific Northwest: **H M Baron**, P Ruggiero, E Harris

0800h **NH21A-1392** POSTER Social vulnerability analysis of earthquake risk using HAZUS-MH losses from a M7.8 scenario earthquake on the San Andreas fault: **G R Noriega**, L Grant Ludwig

0800h **NH21A-1393** POSTER Tsunami risk zoning in south-central Chile: **M Lagos**

0800h **NH21A-1394** POSTER A comparison of geochemical characteristics of tsunami sediments with rocks, soils and marshy sediments in Sri Lanka: **D JAYAWARDANA**, H Ishiga, A Pitawala

0800h **NH21A-1395** POSTER PREDICTION OF TSUNAMI INUNDATION IN THE CITY OF LISBON (PORTUGAL): **M Baptista**, J Miranda, R Omira, J Catalao Fernandes

0800h **NH21A-1396** POSTER Natural Reworking of Tsunami Evidence in Chandipur Beach, India: **T Ghosh**, A Mukhopadhyay

0800h **NH21A-1397** POSTER Signatures of Paleo-coastal Hazards in Back-barrier Environments of Eastern and Southeastern Sri Lanka: P N Ranasinghage, J D Ortiz, A L Moore, C Siriwardana, **B G McAdoo**

0800h **NH21A-1398** POSTER ON A MONITORING NETWORK OF TERRITORY ELEMENTS FOR EMERGENCY MANAGEMENT: **A Teramo**, A Marino, D Termini, M Teramo, C Saccà, M Romeo, D De Domenico, D Lupò

0800h **NH21A-1399** POSTER Processing of the Tsunami Catalogue for Martinique Island: **J Roger**, F Accary

0800h **NH21A-1400** POSTER Social creation of Risk: Flood and Land Subsidence in Guadalajara Metropolitan Zone, México (case study): **P F Zarate-del Valle**, D Vargas del Río

0800h **NH21A-1401** POSTER The Effect of El Niño on Agricultural Water Balances in Guatemala: **D Pedreros**, J Michaelsen, L V Carvalho, C C Funk, G J Husak

NH21B Moscone South: Poster Hall Tuesday 0800h
Societal Impacts of Snowstorms Posters

Presiding: **M F Squires**; **D A Robinson**, Rutgers University

0800h **NH21B-1402** POSTER Midwest Heavy Snowstorms and Their Related Impacts (*Invited*): **D Changnon**

0800h **NH21B-1403** POSTER Forecasting Winter Storms in the Sierra: A Social Science Perspective in Keeping the Public Safe without Negatively Impacting the Local Tourism Industry: **R Milne**, J Wallmann, D T Myrick

0800h **NH21B-1404** POSTER Using Regional Snowfall Indices to Evaluate Climatological Trends in High-Impact Snow Storms: **M R Gerbush**, D A Robinson, T W Estilow, M F Squires, J H Lawrimore, R R Heim

0800h **NH21B-1405** POSTER Development and Application of a Regional Snowfall Impact Scale: **J H Lawrimore**, M F Squires, D A Robinson

0800h **NH21B-1406** POSTER Development a GIS Snowstorm Database: **M F Squires**

NH21C Moscone South: Poster Hall Tuesday 0800h
The Uncertainty of Future Sea Level Rise: Bridging Science and End Users II Posters (*joint with OS, C, PA, GC*)

Presiding: **G L Geernaert**; **W T Pfeffer**, University of Colorado; **D Behar**, San Francisco Public Utilities Commission; **R Bindschadler**, NASA; **H Plag**

0800h **NH21C-1407** POSTER Parametric uncertainty in the response of the Greenland Ice Sheet to future warming: **P J Applegate**, N Kirchner, E J Stone, R Greve

0800h **NH21C-1408** POSTER Moving beyond ice loss scenarios for Antarctica: **C M Little**, M Oppenheimer, N Urban

0800h **NH21C-1409** POSTER Is there a societal need for decadal local sea level forecasting?: **H Plag**

0800h **NH21C-1410** WITHDRAWN

0800h **NH21C-1411** POSTER Regional mean Sea Level Changes in the German Bight in the 20th Century: **F Albrecht**, T Wahl, J Jensen, R Weisse

0800h **NH21C-1412** POSTER Mapping developed coastal flood zones for climate change adaptation planning: Accounting for tides, waves, sea level rise and flood defense structures: **T Gallien**, J Schubert, Y Poon, B F Sanders

0800h **NH21C-1413** POSTER Observed patterns of sea level change in the German Bight related to global scale sea level variations: T Wahl, **F Albrecht**, J Jensen, R Weisse

0800h **NH21C-1414** POSTER The influence of uncertainty in past sea level reconstructions on 21st century mean sea level projections: **T P Phillips**, B D Hamlington, R Nerem, R R Leben

0800h **NH21C-1415** POSTER NOAA'S ROLE IN THE MONITORING AND PREDICTION OF SEA-LEVEL RISE: HISTORICAL DATASETS AND SCIENTIFIC GAPS: **D H Levinson**, P M Scholz

0800h **NH21C-1416** POSTER The thermosteric component of sea level change for the 0-2000 m layer, 1955-2009: **S Levitus**

0800h **NH21C-1417** POSTER Assessing coastal vulnerability in light of a changing climate: a multi-hazard, multi-timescale approach: **E Harris**, P Ruggiero, H Baron

0800h **NH21C-1418** POSTER The Cool Hand Luke Effect: Failure to Communicate Effectively (*Invited*): **M A Davidson**

0800h **NH21C-1419** POSTER How to place your bet on the future coastal environment (*Invited*): **N G Plant**, E R Thieler, B T Gutierrez

0800h **NH21C-1420** WITHDRAWN

Ocean Sciences

OS21A Moscone South: Poster Hall Tuesday 0800h
Deep-Sea Hydrothermal Systems: New Knowledge From New Discoveries and New Technology I Posters (*joint with B, V*)

Presiding: **R Pedersen**, University of Bergen; **D S Kelley**, University of Washington; **T M Shank**, Woods Hole Oceanographic Institution

0800h **OS21A-1468** POSTER Dodo Field and Solitaire Field: Newly Discovered Hydrothermal Fields at the Central Indian Ridge: **K Tamaki**, Title of Team: Shipboard scientists of YK09-13 Leg 1 Cruise

0800h **OS21A-1469** POSTER Cameras on the NEPTUNE Canada seafloor observatory: Towards monitoring hydrothermal vent ecosystem dynamics: **K Robert**, M Matabos, J Sarrazin, P Sarradin, R W Lee, K Juniper

0800h **OS21A-1470** POSTER Long-term tilt and acceleration data from the Logatchev Hydrothermal Vent Field, Mid-Atlantic Ridge, measured by the Bremen Ocean Bottom Tiltmeter: **H W Villinger**, M Fabian

0800h **OS21A-1471** POSTER Observation of hydrothermal flows with acoustic video camera: **M Mochizuki**, A Asada, K Tamaki, Title of Team: Scientific Team of YK09-13 Leg 1

0800h **OS21A-1472** POSTER 3D time-dependent Modeling of Hydrothermal Plumes: **Y Tao**, A Koschinsky, S Rosswog, M Brüggem

0800h **OS21A-1473** POSTER Middle Valley in perspective: New outlooks from changes in local hydrothermal venting: **K E Inderbitzen**, K Becker, E E Davis, S Hulme, C G Wheat

0800h **OS21A-1474** POSTER Seismological evidence for an along-axis hydrothermal flow at the Lucky Strike hydrothermal vents site: **A Rai**, H Wang, S C Singh, W C Crawford, J Escartin, M Cannat

0800h **OS21A-1475** POSTER Catalysis of Methane Production in Serpentinization Systems: **L Jones**, C Oze, J Goldsmith, R J Rosenbauer

0800h **OS21A-1476** POSTER Phase equilibria in the FeO-Fe₂O₃-NiO-H₂S-H₂O-HCl system: An experimental study with implications for the stability of Ni-bearing phases at ultramafic-hosted hydrothermal systems: **R H Hoover**, D Foustoukos

0800h **OS21A-1477** POSTER Magnesium-hydroxide-sulfate-hydrate formation at 200°C: Implications for sulfur fixation at the Lost City hydrothermal field: **N G Grozeva**, D D Syverson, W E Seyfried

0800h **OS21A-1478** POSTER Fluorescence sensing system for seafloor massive sulfides: **T Yamazaki**, D Okanishi, H Nagano, N Nakatani, R Arai

0800h **OS21A-1479** POSTER Geophysical survey of Hydrothermal vents in the Lau Basin: **C Kim**, E Jeong, C Park, H Kim, H Joo

0800h **OS21A-1480** POSTER Fe stable isotope fractionation in modern and ancient hydrothermal Fe-Si deposits: **K Moeller**, R Schoenberg, I H Thorseth, L Øvreås, R Pedersen

0800h **OS21A-1481** POSTER Loki's Castle: A sediment-influenced hydrothermal vent field at the ultra-slow spreading Arctic Mid-Ocean Ridge: **T Baumberger**, G L Frueh-Green, R Pedersen, I H Thorseth, M D Lilley, K Moeller

0800h **OS21A-1482** POSTER Barite chimneys from two hydrothermal sites along the slow-spreading Arctic Ridge system: Initial isotope and mineralogical results: **B Eickmann**, M A Van Zuilen, I H Thorseth, R Pedersen

0800h **OS21A-1483** POSTER Mineralogy and Geochemistry from Trollveggen Vent Field Chimneys and Metalliferous Sediments (Mohns Ridge, West Jan Mayen Fracture Zone at 71°N): **ÁGATA S Dias**, I Cruz, R Fonseca, F J Barriga, R Pedersen

0800h **OS21A-1484** *POSTER* Mineralogy and Acid-Extractable Geochemistry from the Loki's Castle Hydrothermal Field, Norwegian Sea at 74 degrees N (South Knipovich Ridge): **F J Barriga**, R Fonseca, ÁGATA S Dias, I Cruz, C Carvalho, J M Relvas, R Pedersen

0800h **OS21A-1485** *POSTER* Discovery Of An Extensive Hydrothermal Sulfide/Sulfate Mounds Field In East Diamante Caldera, Mariana Volcanic Arc: **J R Hein**, C E de Ronde, R Ditchburn, M I Leybourne, Y Tamura, R J Stern, T A Conrad, A R Nichols, H Shukuno, R W Embley, S H Bloomer, O Ishizuka, Y Hirahara, R Senda, A Nunokawa, E Jordan, I Wada

0800h **OS21A-1486** *POSTER* Geochemistry of Rift Valley Sediments at the Ultra-slow Spreading Mohns-Knipovich Ridge: **K Flesland**, R Pedersen, H Haflidason, I H Thorseth

0800h **OS21A-1487** *POSTER* Microbial community composition in the deep sea sediments surrounding the Loki castle: **S L Jorgensen**, A Lanzèn, T Baumberger, R Pedersen, I H Thorseth, K Flesland, L Øvreås, I Steen, C Schleper

0800h **OS21A-1488** *POSTER* Diversity of microbial communities of Loki's Castle black smoker field at the ultra-slow spreading Arctic Mid-Ocean Ridge: **A Jaeschke**, S M Bernasconi, I H Thorseth, R Pedersen, G Früh-Green

0800h **OS21A-1489** *POSTER* Modeling of chemosynthetic community around hydrothermal vent system: **M Ikemoto**, D Okanishi, N Nakatani, R Arai, T Yamazaki

OS21B Moscone South: Poster Hall Tuesday 0800h
Dynamics and Forecasting Western Boundary Currents I Posters

Presiding: **H E Hurlburt**, Naval Research Laboratory; **J G Richman**, Naval Research Laboratory; **H E Hurlburt**, Naval Research Laboratory; **N Usui**, Meteorological Research Instit; **H Tsujino**, Meteorological Research Institute; **N Usui**, Meteorological Research Instit

0800h **OS21B-1490** *POSTER* THE ENERGETICS OF THE GLOBAL OCEAN: THE IMPACT OF MODEL RESOLUTION AND DATA ASSIMILATION: **J G Richman**, P J Hogan, P G Thoppil

0800h **OS21B-1491** *POSTER* Mean transport structure of the deep western boundary current east of Abaco: Model results and observations: **X Xu**, H E Hurlburt

0800h **OS21B-1492** *POSTER* High-resolution simulations of the western boundary current and associated atmospheric variability in a Coupled Regional Climate Model of the Atlantic: M Li, J Hsieh, P Chang, **R Saravanan**

0800h **OS21B-1493** *POSTER* Long-Term Observations of a Coastal Countercurrent on the Southeast Florida Shelf: **A Soloviev**

0800h **OS21B-1494** *POSTER* Kuroshio Pathways in a Climatologically-Forced Model: **E M Douglass**, S R Jayne, F O Bryan, S Peacock, M E Maltrud

0800h **OS21B-1495** *POSTER* Effects of Stratification on the Kuroshio Path Variation Studied by a Nested-Grid OGCM: **M Kurogi**, H Hasumi, Y Tanaka

0800h **OS21B-1496** *POSTER* A long-term hindcast of the Kuroshio using a high resolution GCM: **H Tsujino**, S Nishikawa, K Sakamoto, G Yamanaka

0800h **OS21B-1497** *POSTER* Estimation of strait transport in the East China Sea: **J Moon**, N Hirose, N Usui, H Tsujino

0800h **OS21B-1498** *POSTER* Dynamics of a "mini" western boundary current, the East Korea Warm Current in the Japan/East Sea: **P J Hogan**, H Hurlburt

0800h **OS21B-1499** *POSTER* Adjoint sensitivity studies of coastal upwelling at northeast of Taiwan: **G Gopalakrishnan**, B D Cornuelle, I Hoteit

0800h **OS21B-1500** *POSTER* Validation, Verification, and Exploitation of an Ocean Model for Decision Support: **R E Stone**, R T Tokmakian

0800h **OS21B-1501** WITHDRAWN

0800h **OS21B-1502** *POSTER* A Real-time Operational Global Ocean Forecast System: **A Mehra**, I Rivin

OS21C Moscone South: Poster Hall Tuesday 0800h
Integrated Studies at Oceanic Spreading Centers: Linking Spreading Center Processes Across Disciplinary Boundaries III Posters (*joint with B, T, V*)

Presiding: **L G Montesi**, University of Maryland

0800h **OS21C-1503** *POSTER* Boron contents and isotopic compositions of the hydrothermally altered oceanic crust from the Troodos ophiolite, Cyprus: **S Matsukura**, K Yamaoka, T Ishikawa, H Kawahata

0800h **OS21C-1504** *POSTER* Depth profiles of trace elements and stable isotopic compositions (O, H, B, Sr) of the hydrothermally altered oceanic crust in the Oman ophiolite: **K Yamaoka**, T Ishikawa, H Kawahata

0800h **OS21C-1505** *POSTER* Consequences of off-axis melt delivery at the Moho: Sr and Nd isotopic results from the Oman ophiolite: **M Nicolle**, D Bosch, L C Reisberg, D Joussetin, A Stephant

0800h **OS21C-1506** *POSTER* Linking Sr systematics to the cooling of the lower oceanic crust – evidence from the geochemistry of oceanic gabbros: **T M Kirchner**, K M Gillis

0800h **OS21C-1507** *POSTER* Fractional crystallization and replenishment of the magma chamber at the East Pacific Rise 9° 50' N: **R C Horne**, L B Hebert, L Liu, R P Lowell

0800h **OS21C-1508** *POSTER* Modeling the Hydrothermal Convection Cell at East Pacific Rise 9° 50'N: Focus on Recharge: **A Farough**, R P Lowell

0800h **OS21C-1509** *POSTER* Modeling of 3D crustal shear structures from compliance measurements near East Pacific Rise 9° 50': **Y Zha**, S L Nooner, W C Crawford, S C Webb

0800h **OS21C-1510** *POSTER* Relationship between ridge segmentation and Moho transition zone structure from 3D multichannel seismic data collected over the fast-spreading East Pacific Rise at 9° 50'N: **O Aghaei**, M R Nedimovic, J Canales, H D Carton, S M Carbotte, J C Mutter

0800h **OS21C-1511** *POSTER* Axial magma chamber segmentation along the East Pacific Rise from Clipperton to Siqieros Fracture Zone: **M Marjanovic**, S M Carbotte, H D Carton, J C Mutter, M R Nedimovic, J Canales

0800h **OS21C-1512** *POSTER* Upper Crustal Structure above Off-axis Magma Lenses at RIDGE-2000 East Pacific Rise Integrated Study Site from 3D Multichannel Seismic Reflection Data: **S Han**, S M Carbotte, H D Carton, K R Newman, J Canales, M R Nedimovic

0800h **OS21C-1513** *POSTER* 3D multi-channel seismic imaging of melt-rich lenses beneath and off the East Pacific Rise Integrated Study Site: **M Xu**, J Canales, H D Carton, S M Carbotte, M R Nedimovic, J C Mutter

0800h **OS21C-1514** *POSTER* Three-dimensional seismic reflection images of axial melt lens and seismic layer 2A between 9° 42'N and 9° 57'N on the East Pacific Rise: **H D Carton**, S M Carbotte, J C Mutter, J Canales, M R Nedimovic, O Aghaei, M Marjanovic, K R Newman

- 0800h **OS21C-1515** *POSTER* Melt anomalies and propagating ridge offsets: Insights from the East Pacific Rise and Juan de Fuca Ridge: **S M Carbotte**, M Marjanovic, M R Nedimovic, J Canales
- 0800h **OS21C-1516** *POSTER* Analysis of crustal thickness and off-axis low-velocity zones at the Endeavour segment of the Juan de Fuca Ridge: **A E Wells**, E E Hoofft, D R Toomey, W S Wilcock, R T Weekly
- 0800h **OS21C-1517** *POSTER* Monitoring Endeavour vent field deep-sea ecosystem dynamics through NEPTUNE Canada seafloor observatory: **M Matabos**, Title of Team: and members of the NC Endeavour Science Team
- 0800h **OS21C-1518** *POSTER* Heat and chemical flux variability within the Main Endeavour Field, Juan de Fuca Ridge, from 2000, 2004: **J P Kellogg**, R E McDuff, S L Hautala, F Stahr
- 0800h **OS21C-1519** *POSTER* Partitioning Between Plume and Diffuse Flow at the Grotto Vent Cluster, Main Endeavour Vent Field, Juan de Fuca Ridge: Past and Present: **P A Rona**, K G Bemis, C Jones, D R Jackson, K Mitsuzawa, D R Palmer
- 0800h **OS21C-1520** *POSTER* Temporal Changes in the Strength of Tidal Triggering Linked to Volcanic Swarms on the Endeavour Segment, Juan de Fuca Ridge: **W S Wilcock**, R T Weekly, E E Hoofft, D R Toomey
- 0800h **OS21C-1521** *POSTER* Multi-year relationships between surface deformation and seismicity rates at Axial Volcano, Juan de Fuca Ridge: **J H Haxel**, R P Dziak, B Chadwick, S L Nooner
- 0800h **OS21C-1522** *POSTER* Biomineralization History in Low-Temperature Hydrothermal Precipitates in Valu Fa Ridge, Lau Back-arc Basin: **H ZHOU**, Z Sun, J Li, Q YANG
- 0800h **OS21C-1523** *POSTER* The composition and distribution of fatty acids in metalliferous sediments of the Eastern Lau Spreading Center: **Q YANG**, W Yang, H ZHOU, J Hu, F Ji, H Wang
- 0800h **OS21C-1524** *POSTER* Microseismicity along the Eastern Lau Spreading Center as determined from the L-SCAN experiment: **K E Godfrey**, J A Conder, R Dunn
- 0800h **OS21C-1525** *POSTER* Tectonics and mechanism of a spreading ridge subduction at the Chile Triple Junction based on new marine geophysical data: **T Matsumoto**, A Doi, S Kise, N Abe
- 0800h **OS21C-1526** *POSTER* Investigation of Icelandic rift zones reveals systematic changes in hydrothermal outflow in concert with seismic and magmatic events: Implications for investigation of Mid-Ocean Ridge hydrothermal systems: **D Curewitz**, J A Karson
- 0800h **OS21C-1527** *POSTER* Footwall Structure of Oceanic Core Complexes: New Insights from Geophysical Data for Footwall Capture of Ascending Melt: C Mallows, **R C Searle**
- 0800h **OS21C-1528** *POSTER* Modes of deformation in ultramafic rocks exhumed in the footwall of detachment faults at the Mid-Atlantic Ridge: **S M Picazo**, M Cannat, A Delacour, S Silantiev, Y Fouquet
- 0800h **OS21C-1529** *POSTER* From slow to ultra-slow: Does spreading rate affect seafloor roughness and crustal thickness?: **H Sloan**, D Sauter, M Cannat, J A Goff, P Patriat, M Schaming, W R Roest
- 0800h **OS21C-1530** *POSTER* Seismicity at 37E on Southwest Indian Ridge; Tectonics from seismicity and 3D seismic velocity structure: **M Mizuno**, T Sato, T Kitamura, M Shinohara, K Mochizuki, T Takemoto, Y Nakamura, K Kameo
- 0800h **OS21C-1531** *POSTER* Discovery of a Hydrothermal Sulfide Deposit on the Southwest Indian Ridge at 49.2°E: **X Han**, G Wu, R Cui, Z Qiu, X Deng, Y Wang, Title of Team: Scientific Party of DY115-21 cruise Leg 7
- 0800h **OS21C-1532** *POSTER* Magnetic Asymmetry of Mid-Ocean Ridges: **J P Edman**, F T Freund, X Zhao
- 0800h **OS21C-1533** *POSTER* An internally consistent inverse model to calculate ridge-axis hydrothermal fluxes: **L A Coogan**, S Dosso
- 0800h **OS21C-1534** *POSTER* Hydrogeological and geochemical modeling of hydrothermal fluids circulation in active ultramafic-hosted systems under CAST3M: **F Perez**, C Mugler, P Jean-Baptiste, J L Charlou, J Donval, O Vidal, C Marcailloux, M Munoz
- 0800h **OS21C-1535** *POSTER* Serpentinization of Sintered Olivine during Seawater Percolation Experiments: **L Luquot**, M Andreani, M Godard, P Gouze, B Gibert, G Lods
- 0800h **OS21C-1536** *POSTER* An experimental study of the effect of temperature, fluid chemistry and reaction rate on Sr-Ca partitioning in anhydrite: Implications for seafloor hydrothermal alteration processes: **D Syverson**, W E Seyfried
- 0800h **OS21C-1537** *POSTER* Experimental Constraints on Hot Spring Fluid Chemistry in Back Arc Basins: **A T Schaen**, P J Saccocia, J Seewald

OS21D Moscone South: Poster Hall Tuesday 0800h
Ocean Acidification: Observation and Prediction of Biogeochemical and Ecosystem-Scale Responses I Posters
(joint with B, GC)

Presiding: **A J Sutton**, NOAA Pacific Marine Environmental Laboratory; **A D Russell**, University of California, Davis

- 0800h **OS21D-1538** *POSTER* Design and Applications of the SAMI-pH Sensor: **T S Moore**, M D DeGrandpre, S E Cullison, K E Harris, J Beck, R Spalding, A G Dickson
- 0800h **OS21D-1539** *POSTER* Real Time Control of CO₂ Enrichment Experiments on the Sea Floor Enabled by the MARS Cabled Observatory: **P G Brewer**, Title of Team: MBARI FOCE Team
- 0800h **OS21D-1540** *POSTER* Robust Prediction of pH and Carbonate Mineral Saturation State in the North Pacific Ocean Using Empirical Relationships with Hydrographic Data: **L W Juranek**, R A Feely, S R Alin, S R Emerson, P Quay
- 0800h **OS21D-1541** *POSTER* Carbonate chemistry dynamics over a Caribbean shelf reef (Cayo Enrique) at the Atlantic Ocean Acidification Test-bed, La Parguera, Puerto Rico: **D K Gledhill**, J E Corredor, C Langdon, D Manzello, C L Sabine, V Hensley, B Brocco, S Musielewicz, N Lawrence-Slavas, J E Capella
- 0800h **OS21D-1542** *POSTER* The impact of low pH, low aragonite saturation state on calcifying corals: an in-situ study of ocean acidification from the "ojos" of Puerto Morelos, Mexico: **E D Crook**, A Paytan, D C Potts, L Hernandez Terrones, M Rebolledo-Vieyra
- 0800h **OS21D-1543** *POSTER* Ocean acidification impact on growth and the pH dependence of trace elements in skeleton of juvenile corals (*Acropora digitifera*): **M Inoue**, R Suwa, A Iguchi, A Suzuki, K Sakai, H Kawahata
- 0800h **OS21D-1544** *POSTER* STORM-BASED FLUVIAL INPUTS: NUTRIENT, PHYTOPLANKTON, AND CARBON DIOXIDE RESPONSES IN A TROPICAL EMBAYMENT, KANE'ŌHE BAY, HAWAII: **P S Drupp**, E H De Carlo, F T Mackenzie, P Bienfang
- 0800h **OS21D-1545** *POSTER* Ocean acidification impact on copepod swimming and mating behavior: consequences for population dynamics: **L Seuront**
- 0800h **OS21D-1546** *POSTER* Coastal carbonate chemistry dynamics associated with macrophyte systems: **C A Tanner**, T R Martz, L A Levin

OS21E Moscone South: Poster Hall Tuesday 0800h
Prediction of Multiscale/Multiphysics Coastal Ocean Flows
Using Model Coupling Approaches Posters (*joint with NG*)

Presiding: H Tang, CCNY; T J Campbell, Naval Research Laboratory

0800h **OS21E-1547 POSTER** Water Quality Model ROMS-ICM; Development and Calibration: C S Kim, H Lim, C F Cerco

0800h **OS21E-1548 WITHDRAWN**

0800h **OS21E-1549 POSTER** Dynamics of Low-frequency fluctuations in San Francisco Bay due to upwelling: S Subbaya, O B Fringer

0800h **OS21E-1550 POSTER** Applications of two-way nested models for ocean forecasts: Y Lu

0800h **OS21E-1551 POSTER** Coupled ADCIRC Model Systems Part I: HYCOM/ADCIRC Part II: HLRDHM/SWAN/ADCIRC: R L Kolar, K M Dresback, C A Blain, R Luettich, S V Cooten, J J Gourley, Y Hong, M K Cambazoglu, C Szpilka, K Nemunaitis, A Szpilka

0800h **OS21E-1552 POSTER** Coastal Atmospheric Circulation Around An Idealized Cape During Wind-Driven Upwelling Studied From A Coupled Ocean-Atmosphere Model: N Perlin, E D Skyllingstad, R M Samelson

0800h **OS21E-1553 POSTER** Hybrid Approaches for Simulation of Coastal Hydrodynamics — Coupling of FVCOM/CFD and FVCOM/Shallow Water Model: H Tang, X Wu, W Cheng, S Skraatz

0800h **OS21E-1554 POSTER** A real-time ocean prediction experiment downscaled to Japanese coastal region: S Nakada, N Hirose, T Senjyu, T Tsuji, N Ookei

0800h **OS21E-1555 POSTER** A Real-time, Coupled, Refined Forecasting System for Coastal Prediction: B N Armstrong, J C Warner, R P Signell

OS21F Moscone South: Poster Hall Tuesday 0800h
Refining the XBT Data Set: Implications for Global Climate
Posters (*joint with A, G, GC*)

Presiding: J M Lyman, JIMAR/PMEL; J K Willis, Jet Propulsion Laboratory; T Wong, NASA Langley Research Center

0800h **OS21F-1556 POSTER** Effects of different XBT corrections on historic and recent ocean heat content calculations (*Invited*): T Boyer, S Levitus, J I Antonov

0800h **OS21F-1557 WITHDRAWN**

0800h **OS21F-1558 POSTER** Exploring the impact of model and data uncertainties in the detection and attribution of upper-ocean warming (*Invited*): P J Gleckler, B D Santer, C M Domingues, D W Pierce, T P Barnett, K M Achutarao, J A Church, M Ishii, K E Taylor

0800h **OS21F-1559 POSTER** Tracking the Flow of Energy in the Climate System with the NCAR CCSM4 (*Invited*): J Fasullo, K E Trenberth

0800h **OS21F-1560 POSTER** Interannual Variability of Top-of-atmosphere Global Radiation Budget during NASA EOS/Terra period: Connection to Ocean Science: T Wong, N G Loeb, D R Doelling

0800h **OS21F-1561 POSTER** Impact of XBT Depth Bias Corrected Observations on Decadal Climate Prediction with a Coupled Climate Model: S Yasunaka, M Ishii, M Kimoto, T Mochizuki, H Shioyama

0800h **OS21F-1562 POSTER** Application of Pseudo Salinity Profiles to the Ensemble Coupled Data Assimilation System: Y Chang, S Zhang, A J Rosati

0800h **OS21F-1563 POSTER** XBTs and the Earth's Energy Balance: Computing Ocean Heat Content during the Satellite Era: J K Willis

0800h **OS21F-1564 POSTER** The impact of recent XBT corrections on global upper ocean heat content: J M Lyman

0800h **OS21F-1565 POSTER** Assessing XCTD Fall Rate Errors using Concurrent XCTD and CTD Profiles in the Southern Ocean: J Millar, S T Gille, J Sprintall, M Frants

0800h **OS21F-1566 POSTER** A Study of Expendable Bathythermograph (XBT) Temperature and Depth Biases From XBTs Manufactured in the Early 2000s and Six XBT Data Acquisition Systems: M O Baringer, R L Molinari, G J Goni, D P Snowden

OS21G Moscone West: 3009 Tuesday 0800h
Lessons Learned From the Deepwater Horizon Oil Spill:
Biological and Chemical Oceanography I (*joint with B, PA*)

Presiding: R C Highsmith, University of Mississippi; S B Joye, University of Georgia

0800h **OS21G-01** The Discovery of Deep Oil Plumes at the Deepwater Horizon Oil Spill Site (*Invited*): A R Diercks, V L Asper, R C Highsmith, M Woolsey, S E Lohrenz, K McLetchie, A Gossett, M Lowe III, D Joung, L McKay

0815h **OS21G-02** Long-Lived, Sub-Surface Layers of Toxic Oil in the Deep-Sea: A Molecular Organic and Isotopic Geochemical Approach to Understanding their Nature, Molecular Distribution, Origin and Impact to the Northern Gulf of Mexico: D J Hollander, K H Freeman, G Ellis, A F Diefendorf, E B Peebles, J Paul

0830h **OS21G-03** Using Optical Plume Velocimetry to Estimate the Volume of Oil Released From the 2010 Gulf of Mexico Leak: T J Crone, M Tolstoy

0845h **OS21G-04** A collaborative report on the synthesis of subsurface data from the Deepwater Horizon response effort: A R Parsons, S L Cross, Title of Team: Joint Analysis Group (JAG) for Surface and Sub-Surface Oceanography, Oil and Dispersant Data

0900h **OS21G-05** The Detection of Elevated Methane Concentration Indicate the Presence of Deep-Water Plumes Northwest of the DWH Site: K G Sleeper, R Bell, T Short, J Chanton, R Wilson, M D'Emidio, L Macelloni

0915h **OS21G-06** Methane Flux to the Atmosphere from the Deepwater Horizon Oil Leak: S A Yvon-Lewis, L Hu, J D Kessler, F Garcia Tigreros, E W Chan, M Du

0930h **OS21G-07** Fluorescence characteristics of oil during the Deepwater Horizon oil spill: P G Coble, R N Conmy, M Wood, K Lee, P Kepkay, Z Li

0945h **OS21G-08** Trace element distributions in waters affected by the Deepwater Horizon oil spill: D Joung, A M Shiller

OS21H Moscone West: 3007 Tuesday 0800h
Submarine Landslides: Characterization, Processes, and Their
Sedimentary Record II (*joint with EP, NH*)

Presiding: R Urgeles, Passeig Marítim de la Barceloneta; D C Mosher; J D Chaytor, U.S. Geological Survey; M Strasser, MARUM, University of Bremen

0800h **OS21H-01** Mass-transport deposits and the advantages of a real three-dimensional perspective (*Invited*): L G Moscardelli, L J Wood

0815h **OS21H-02** Case Studies of Massive Gravity Slides Imaged in 3D Seismic Volumes: Passive Margin and Basinal Settings (West Africa and Northwest Europe): U K Benjamin, A N Le, A P Oluboyo, D H Irving, M Huuse

0830h **OS21H-03** 3D seismic interpretation of MTDs in the Adriatic Basin (Italy) and comparison with modern examples: G Dalla Valle, F Trincardi, F Gamberi, P Rocchini, A Errera, L Baglioni

0845h **OS21H-04** Characteristics of tsunamis generated by 3D deformable granular landslides: **F Mohammed**, H M Fritz, B McFall
 0900h **OS21H-05** Landsliding as the progressive growth of a slipping region: Initiating dynamic rupture propagation by local pore-pressure increase and its potential for arrest: **R C Viesca-Falguières**, J R Rice
 0915h **OS21H-06** The Relationship of Sediment Dilation And Pore Pressure Dissipation to Slope Failure Styles During Breaching: **Y You**, P B Flemings, D C Mohrig
 0930h **OS21H-07** The effect of shearing rate and slope angle on the simple shear response of marine clays: G Biscontin, **C Rutherford**
 0945h **OS21H-08** Sliding-surface-liquefaction of sand-dry ice mixture and submarine landslides: H Fukuoka, **A Tsukui**

Planetary Sciences

P21A Moscone South: Poster Hall Tuesday 0800h
Interiors of Terrestrial Planets and Super-Earth Exoplanets I Posters (joint with DI)

Presiding: **J P Lowman**, University of Toronto

0800h **P21A-1576** *POSTER* MarsTwin: an M-mission to Mars with two geophysical laboratories: **V M Dehant**, D Breuer, M Grott, T Spohn, P Lognonne, P L Read, S Vennerstroem, B Banerdt
 0800h **P21A-1577** *POSTER* Modeling the Internal Structure of Mars Using Normal Mode Relaxation Theory: **T M Pithawala**, R R Ghent, B G Bills
 0800h **P21A-1578** *POSTER* Mantle plume interactions and the spacing of Tharsis and Elysium on Mars: **I Rose**, M Manga
 0800h **P21A-1579** *POSTER* Investigation of the Hydrous Melting of the Early Martian Mantle: **A Pommier**, T L Grove
 0800h **P21A-1580** *POSTER* In situ X-ray observation of melting temperature of FeS-H system under high pressure: Implications for the core of Ganymede: **Y Shibazaki**, E Ohtani, H Terasaki, R Tateyama, T Sakamaki, T Tsuchiya, K Funakoshi, Y Higo
 0800h **P21A-1581** *POSTER* Possible magnetic field contributions generated in oxides in Super Earths: **W J Nellis**
 0800h **P21A-1582** *POSTER* Thermodynamic properties, melting temperature and viscosity of the mantles of Super Earths: V Stamenkovic, **T Spohn**, D Breuer
 0800h **P21A-1583** *POSTER* Ab initio melting curve of iron at extreme pressures: implications for exoplanets' cores: J Bouchet, **G Morard**, D C Valencia, S Mazevet, F J Guyot
 0800h **P21A-1584** *POSTER* Post-pyrite transition in SiO₂: K Ho, S Wu, **K Umamoto**, R M Wentzcovitch, M Ji, C Wang
 0800h **P21A-1585** *POSTER* Fluid dynamics in a librating triaxial ellipsoidal planet: **K Zhang**, K Chan, X Liao
 0800h **P21A-1586** *POSTER* The Onset of Plate Tectonics on Super-Earths Using a Damage Rheology: **B J Foley**, D Bercovici, W Landuyt
 0800h **P21A-1587** *POSTER* Emulating Spherical Shell Convection in a Plane-layer Geometry High Rayleigh Number Calculation: K A O'Farrell, **J P Lowman**, H Bunge
 0800h **P21A-1588** *POSTER* The effects of mantle compressibility on mantle dynamics, magmatism and degassing for super-Earths: **X Liu**, S Zhong
 0800h **P21A-1589** *POSTER* Coupled thermal- and orbital-evolution of close-in super Earths with convective regulated tidal dissipation inside it: **C Tachinami**, D A Yuen
 0800h **P21A-1590** *POSTER* The expected interior and surface environment of CoRoT-7b: **R Ziethe**, P Wurz, H Lammer

0800h **P21A-1591** *POSTER* Tidally heated compressible mantle convection in planets and moons: **J Besserer**, G Choblet, G Tobie, M Behoukova, O Cadek, A Mocquet
 0800h **P21A-1592** *POSTER* Tidally-induced thermal runaway on extrasolar Earth: Impact on habitability: M Behoukova, **G Tobie**, G Choblet, O Cadek
 0800h **P21A-1593** *POSTER* Mantles of terrestrial planets immediately following magma ocean solidification: **A L Scheinberg**, L T Elkins-Tanton, S Zhong, E Parmentier
 0800h **P21A-1594** *POSTER* Global constraints to the properties of convection-driven magnetic fields in Super Earths: **J I Zuluaga**, P A Cuartas Restrepo
 0800h **P21A-1595** *POSTER* Spherical wavelet analysis of gravity and topography of the terrestrial planets: **P Audet**

P21B Moscone South: Poster Hall Tuesday 0800h
The Shape of Things to Come: Using Topography to Investigate the Evolution of Outer Solar System Satellites I Posters

Presiding: **L M Prockter**, Applied Physics Lab; **G Patterson**, Johns Hopkins University Applied Physics Laboratory

0800h **P21B-1596** *POSTER* Crater Relaxation and Stereo Imaging of the Icy Satellites of Jupiter and Saturn: **C B Phillips**, R A Beyer, F Nimmo, J H Roberts, G Robuchon
 0800h **P21B-1597** *POSTER* Ganymede crater dimensions from Galileo-based DEMs: **V J Bray**, P Schenk, H J Melosh, A S McEwen, J V Morgan, G S Collins
 0800h **P21B-1598** *POSTER* The topography of chaos terrain on Europa: **G Patterson**, L M Prockter, P Schenk
 0800h **P21B-1599** *POSTER* The Morphology of Europa's Ridges Examined in a Detailed Topographic and Kinematic Survey: C E Coulter, **S A Kattenhorn**
 0800h **P21B-1600** *POSTER* Rheological constraints on ridge formation on Icy Satellites: **M L Rudolph**, M Manga
 0800h **P21B-1601** *POSTER* Covert Contraction on Ganymede: Cyclic Tectonic Inversion of Extensional Faults to Accommodate Crustal Contraction: **D W Sims**, A P Morris
 0800h **P21B-1602** *POSTER* Fault Scarp Offsets and Fault Population Analysis on Dione: **S Tarlow**, G C Collins
 0800h **P21B-1603** *POSTER* Shape and Topography of Saturn's Satellites from Imaging Data: **R W Gaskell**, N Mastrodemos, B Rizk
 0800h **P21B-1604** *POSTER* Global Topography of Titan from Cassini RADAR Data (*Invited*): **R D Lorenz**, Title of Team: Cassini RADAR Team
 0800h **P21B-1605** *POSTER* Shapes and Gravitational Fields of Two-Layer Maclaurin Spheroids: Application to Planets and Satellites: **G Schubert**, K Zhang, D Kong, J D Anderson, R Helled

P21C Moscone South: 306 Tuesday 0800h
The Amazing Nature, Origin, and Evolution of Outer Planet Satellites I (joint with SM, C)

Presiding: **B J Buratti**, JPL; **C J Hansen**, JPL; **A R Hendrix**, JPL/Caltech; **K K Khurana**, University of California at Los Angeles

0800h **P21C-01** Formation of the Jovian and Saturnian Satellite Systems (*Invited*): **R M Canup**
 0815h **P21C-02** A refined model of Ganymede's internal magnetic field (*Invited*): **X Jia**, M G Kivelson, K K Khurana, R J Walker
 0830h **P21C-03** Modeling Enceladus and its torus in Saturn's magnetosphere (*Invited*): **Y Jia**, C T Russell, K K Khurana, T I Gombosi

0845h **P21C-04** Plasma erosion of moons in the outer solar system
(Invited): **T A Cassidy**

0900h **P21C-05** The Field and Particle Environment at Mimas
(Invited): **K K Khurana**, R L Tokar, T A Cassidy, C Paranicas,
M K Dougherty, C T Russell, D A Gurnett

0915h **P21C-06** An Eye on Mimas: Endo- and Exogenic Effects on
the Surface Evolution of Mimas (Invited): **P Schenk**

0930h **P21C-07** Mimas: Preliminary Evidence For Amorphous
Water Ice From VIMS (Invited): **D P Cruikshank**, G Marzo, N Pinilla-
Alonso, T L Roush, R M Mastrapa, C M Dalle Ore, B J Buratti,
K Stephan, R H Brown, K H Baines, R N Clark, P D Nicholson,
C Sotin, Title of Team: Cassini VIMS Team

0945h **P21C-08** Compositional radial variability in the
Saturn's system observed by Cassini-VIMS (INVITED) (Invited):
G Filacchione, F Capaccioni, R N Clark, R H Brown, J N Cuzzi,
B J Buratti, A Coradini, J I Lunine, P Cerroni, F Tosi, M Ciarniello,
D P Cruikshank, R Jaumann, P D Nicholson, K Stephan, R Nelson,
K H Baines

P21D Moscone South: I03 Tuesday 0900h
Shoemaker Lecture (Webcast)

Presiding: **L A Leshin**

0900h **P21D-01** Template for the Terrestrial Planets: The Moon
(Invited): **C M Pieters**

Public Affairs

PA21A Moscone South: Poster Hall Tuesday 0800h
**How Well Is Science Integrated Into the Policy of Watershed
Restoration and Management? A Comparison Among Systems
Posters** (joint with B, H)

Presiding: **S Petroy**, AGU

0800h **PA21A-1636** WITHDRAWN

0800h **PA21A-1637** POSTER A bottom up approach for engineering
catchments through sustainable runoff management: **M Wilkinson**,
P F Quinn, J Jonczyk, S Burke

0800h **PA21A-1638** POSTER Integrating Climate Change Into
Restoration Practices in the Great Lakes Region: Creating a "Climate-
smart" Great Lakes Restoration Initiative (GLRI): **M Koslow**,
M W Murray

PA21B Moscone South: Poster Hall Tuesday 0800h
**Institutional Support for Science and Scientists in an Age of
Public Scrutiny I Posters** (joint with GC, H, B, NH, ED)

Presiding: **F Grifo**, Union of Concerned Scientists; **J M Gullede**,
Pew Center on Global Climate Change; **A H Teich**, American
Association for the Advancement of Science; **K S White**, AAAS

0800h **PA21B-1639** POSTER Science, Society and Policy: **K S White**,
A H Teich

0800h **PA21B-1640** WITHDRAWN

0800h **PA21B-1641** POSTER Maintaining Credibility with the
Media and Public in Uncertain Times: **D Hosansky**

0800h **PA21B-1642** POSTER NEON: Transforming Environmental
Data into Free, Open Information: **B Wee**

PA21C Moscone South: Poster Hall Tuesday 0800h
**Priorities and Pitfalls: Pathways for Effective Science
Communication I Posters** (joint with B, ED, GC, NH, H)

Presiding: **R M Richardson**, University of Arizona; **M L La Grave**;
S Schneider, GEOTECHNOLOGIEN; **J W Harden**, U.S. Geological
Survey

0800h **PA21C-1643** POSTER Propaganda, News, or Education:
Reporting Changing Arctic Sea Ice Conditions: **K Leitzell**, W Meier

0800h **PA21C-1644** POSTER Landsat as a Political Entity:

Meaningful Communication for a National Asset: **L E Rocchio**

0800h **PA21C-1645** POSTER A Comparison of the Societal Impacts
and Warning Operations for the 1989 and 2010 Huntsville, Alabama
Tornadoes: **A M Betancourt-Negron**, M Coyne, K Scotten, J L Lee

0800h **PA21C-1646** POSTER Using your data for education and
outreach: **L Lukes**

0800h **PA21C-1647** POSTER Covering Climate Change in
Wikipedia: **R W Arritt**, W Connolley, I Ramjohn, S Schulz,
A D Wickert

0800h **PA21C-1648** POSTER Brave New Media World: Science
Communication Voyages through the Global Seas: C L Clark,
A Reisewitz, A Reisewitz

0800h **PA21C-1649** POSTER The Messenger Matters: Teacher
Research Experiences and Effective, Long-term Science
Communication: **K Timm**, J Warburton, A M Larson

0800h **PA21C-1650** POSTER How to Talk About Science: Lessons
from a Middle School Science Classroom: **B J Cushman-Patz**

PA21D Moscone South: Poster Hall Tuesday 0800h
Public Affairs General Contributions Posters (joint with GC, H,
ED, NH)

Presiding: **S Bougan Petroy**, Ball Aerospace

0800h **PA21D-1651** WITHDRAWN

0800h **PA21D-1652** POSTER Estimating Plot Scale Impacts
on Watershed Scale Management: **C L Shope**, J H Fleckenstein,
J D Tenhunen, S Peiffer, B Huwe

0800h **PA21D-1653** POSTER Cities as Water Supply Catchments
to deliver microclimate benefits: **J Beringer**, N J Tapper, A Coutts,
M Loughnan

0800h **PA21D-1654** POSTER Reutilization of waste LCD panel glass
as a building material: **K Min**, H Lee, E Seo, W Lee

0800h **PA21D-1655** POSTER Future water resources in an Alpine
watershed of Italy under climate change scenarios: **D Bocchiola**,
B Gropelli, A Soncini, R Rosso

0800h **PA21D-1656** POSTER MARCH 08, 2010 BASYURT-
KARAKOCAN (ELAZIG) EARTHQUAKE: EASTERN TURKEY:
D KALAFAT, C Zulfikar, E Vuran, Y Kamer

0800h **PA21D-1657** POSTER What are the Potential CO2 Emission
Offsets for Thorn Woodlands? A Promising Remote Sensing
Approach for Mapping Carbon Sequestration: **A Adhikari**, J D White

0800h **PA21D-1658** POSTER Monitoring REDD+: From Social
Safeguards to Social Learning: **A Ravikumar**, K Andersson

0800h **PA21D-1660** POSTER WATER INTENSITY OF
ELECTRICITY FROM GEOTHERMAL RESOURCES: G S Mishra,
W E Glassley

0800h **PA21D-1661** POSTER Supporting Climatic Trends of Corn
and Soybean Production in the USA: **V Mishra**, K A Cherkauer,
J P Verdin

0800h **PA21D-1662** WITHDRAWN

Paleoceanography and Paleoclimatology

PP21A Moscone South: Poster Hall Tuesday 0800h **Glacial Inception and Termination: Reconciling Observations, Theories, and Models I Posters** (joint with B)

Presiding: **M Jochum**, ncar; **S Peacock**, NCAR; **B L Otto-Bliesner**, NCAR

0800h **PP21A-1663** *POSTER* Spatial and temporal variation of the last ice age mega-floods in the Pacific Northwest: Sediment provenance using single-aliquot K/Ar dating: **J Gombiner**, I L Hendy, S R Hemming, M Q Fleisher, E Pierce, G Mesko, C L Dale, Title of Team: AGES - Argon Geochronology for the Earth Sciences

0800h **PP21A-1664** *POSTER* Timing the last interglacial-glacial transition in glacial sedimentary sequences of the Hudson Bay lowlands (Canada): **M Roy**, G Allard, B Ghaleb, M Lamothe

0800h **PP21A-1665** *POSTER* Can Geothermal Abyssal Heating be a Trigger of Abrupt Climate Change?: **S Huang**

0800h **PP21A-1666** *POSTER* Rhone glacier last deglaciation in western Lake Geneva from seismic reflection and sedimentary data: **S Girardclos**, A Rachoud-Schneider, N Brutsch

0800h **PP21A-1667** *POSTER* Impact of continental ice sheet on tropical Pacific climate and the implication on north-south interhemispheric teleconnection: **S Lee**, J C Chiang

0800h **PP21A-1668** *POSTER* Atmospheric CO₂ Link to Climate at Onset of the Last Glacial Termination: **J Ahn**, E Brook

0800h **PP21A-1669** *POSTER* Relative importance of CH₄, CO₂ and insolation in Laurentide Ice Sheet inception at 115 kyr BP: **F O Otieno**, D H Bromwich, R Oglesby

0800h **PP21A-1670** *POSTER* ITCZ-monsoonal association during the last glacial (Cariaco Basin, Northern Arabian Sea): **G Deplazes**, G H Haug, A Lueckge

0800h **PP21A-1671** *POSTER* Detailed Tropical Sea Level Record Spanning the Younger Dryas Chronozone: **N A Abdul**, R A Mortlock, J D Wright, R G Fairbanks

0800h **PP21A-1672** *POSTER* Precise prediction of glacial cycle with its rhythm: **C Lai**, Y Tseng, W Yu, P Chueh

0800h **PP21A-1673** *POSTER* High-resolution Atlantic and Pacific stacks of benthic $\delta^{18}\text{O}$ for the last glacial cycle: **J Stern**, L E Lisiecki

0800h **PP21A-1674** *POSTER* A reconstruction of late Quaternary Mediterranean Outflow Water from radiogenic Nd, Pb and Sr isotopes: **R Stumpf**, M Frank

0800h **PP21A-1675** *POSTER* The tropical Atlantic response to abrupt climate change during Interstadial 12: **J E Hertzberg**, D E Black, L C Peterson, R Thunell, G H Haug

0800h **PP21A-1676** WITHDRAWN

0800h **PP21A-1677** *POSTER* Evidence for millennial-scale oscillations to 735 ka utilizing high-resolution Quaternary climate records from Santa Barbara Basin, CA: **S M White**, T M Hill, J Kennett, R J Behl

0800h **PP21A-1678** *POSTER* Orbital forced rhythmites in the upper Lamar Limestone (Guadalupian) of the Delaware Basin, West Texas, USA: **Y Jin**, C Xuan, P J Noble

0800h **PP21A-1679** *POSTER* Investigating the flux of North Atlantic Deep Water into the South Atlantic Basin during Termination I: Observations from Neodymium Isotopes: **A E Hartman**, S L Goldstein, S R Hemming, K Pahnke

0800h **PP21A-1680** *POSTER* Constraining the stable isotope budget for Antarctic Bottom Water: New results from the abyssal southwestern Atlantic: **J L Hoffman**, D C Lund

0800h **PP21A-1681** *POSTER* Milankovitch forcing and meridional moisture flux in the atmosphere: Insight from a zonally averaged ocean-atmosphere model: **L A Mysak**, A Antico, F Vimeux, O Marchal

0800h **PP23C-05** *POSTER* Results from IODP Exp. 323 to the Bering Sea: sea ice history and seasonal productivity for the last 5 Ma: **Z N Stroynowski**, J Onodera, Title of Team: Exp. 323 Shipboard Scientific Party

PP21B Moscone South: Poster Hall Tuesday 0800h **Miocene to Present Evolution of Western Arctic and Sub-Arctic Environments I Posters**

Presiding: **A C Ravelo**, University of California, Santa Cruz; **J Brigham-Grette**, University of Massachusetts; **MA O'regan**, Cardiff University

0800h **PP21B-1682** *POSTER* PALEOLIMNOLOGY OF LAKE ONTARIO: AN ASSESSMENT OF GLACIAL MELT-WATER INFLUX: **R Hladyniuk**, F J Longstaffe

0800h **PP21B-1683** *POSTER* Evidence and significance of major meltwater events between H1 and H2 along the eastern Canadian margin: **A Novak**, F Saint-Ange, D J Piper, J Gosse

0800h **PP21B-1684** *POSTER* Mid-Holocene Rapid Oceanographic Change Around The Faroe Islands: **F Staines-Urias**, A Kuijpers, B Hansen

0800h **PP21B-1685** *POSTER* A multi-proxy record of Holocene climate and glacier activity from proglacial lake Hvítárvatn, central Iceland: **D J Larsen**, G H Miller, A Geirsdóttir, S Ólafsdóttir

0800h **PP21B-1686** *POSTER* Late Weichselian and Holocene environmental conditions in Sassenfjorden and Tempelfjorden, Spitsbergen, inferred from multi-proxy analyses: **M Forwick**, T O Vorren, M Hald, S Korsun, Y Roh, C M Vogt, K Yoo

0800h **PP21B-1687** *POSTER* Moderation of Neogene Deep-Water Overflow at the Greenland-Scotland Ridge by the Icelandic Plume: **T Henstock**, N J White, S M Jones, B J Murton, J MacLennan

0800h **PP21B-1688** *POSTER* Megafauna and frozen soil: the drivers of atmospheric CH₄ dynamics: **N Zimov**, S A Zimov

0800h **PP21B-1689** *POSTER* Holocene Climate Variability in the Beaufort Sea, Arctic Ocean from Benthic Foraminifers, Stable Isotopes and Pollen: **J R Farmer**, T M Cronin, R Thunell, L D Keigwin, D A Willard

0800h **PP21B-1690** *POSTER* A Model Study on the Arctic Ocean Early Miocene Transition from an Enclosed Basin to a Ventilated Ocean: **B Thompson**, M Jakobsson, J Nilsson, J Nycander

0800h **PP21B-1691** *POSTER* Magnetic properties of sediments from Lake El'gygytgyn, Northeastern Siberia: constructing an age model for a terrestrial arctic climate record: **E Haltia-Hovi**, N Nowaczyk, Title of Team: Lake El'gygytgyn Scientific Party

0800h **PP21B-1692** *POSTER* Pleistocene foraminiferal oxygen and carbon isotope records at the Gateway to the Arctic in the Bering Sea (IODP Exp. 323 Site U1343): **H Asahi**, M Ikehara, T Sakamoto, K Takahashi, A Ravelo, C A Alvarez Zarikian, Title of Team: IODP Exp. 323 Shipboard Scientists

0800h **PP21B-1693** *POSTER* Evidence that the Arctic perennial ice has disappeared several times in the past: **D A Darby**

0800h **PP21B-1694** *POSTER* Interpretation of Diatom Assemblage Changes during the Last 30 ka and Preliminary Observations of Diatoms from D1 Deep-Drilling Samples, Lake El'gygytgyn, Siberia: **J A Snyder**, A Bryan, M Cherepanova, Title of Team: Lake El'gygytgyn Scientific Party

0800h **PP21B-1695** *POSTER* High-resolution variation of biogenic opal content in the Bering Sea (IODP Expedition 323, Site U1343) from the late Pliocene to early Pleistocene (2.2 Ma to 1.4 Ma): **S KIM**, B Khim, K Takahashi, Title of Team: IODP Expedition 323 Scientists

0800h **PP21B-1696** *POSTER* Paleoproductivity and intermediate-water ventilation in the subarctic Northwest Pacific during the last deglaciation: **B Khim**, K Ikehara, T Sagawa, A Shibahara, M Yamamoto

0800h **PP21B-1697** *POSTER* Past Bering Sea Circulation and Implications for Millennial-Scale Climate Change in the North Pacific: **S A Schlung**, A C Ravelo, I W Aiello, Title of Team: IODP Expedition 323 Shipboard Scientific Party

0800h **PP21B-1698** *POSTER* An integrated study of physical properties, downhole logging and seismic data from deep drilling in Lake El'gygytgyn, Chukotka, NE Siberia: **C Gebhardt**, J Kueck, F Niessen, E 'gygytgyn Scientific Party, Title of Team: El'gygytgyn Scientific Party

0800h **PP21B-1699** *POSTER* Characteristics and paleoenvironmental significance of lacustrine sediments in the El'gygytgyn drill core: **T Cook**, V Wennrich, M Kukkonen, M Melles, J Brigham-Grette, Title of Team: El'gygytgyn Scientific Party

0800h **PP21B-1700** *POSTER* Applications of TEX86 and MBT/CBT indices to paleotemperature estimations in Holocene sediments from the Chukchi Shelf: **Y Park**, M Yamamoto, L V Polyak

0800h **PP21B-1701** *POSTER* Pliocene and Quaternary climate evolution of the high Western Arctic derived from initial geochemistry and FTIRS data of the Lake El'gygytgyn sediments, NE Siberia: **V Wennrich**, M Kukkonen, C Meyer-Jacob, P Minyuk, P Rosen, J Brigham-Grette, M Melles, Title of Team: & El'gygytgyn Scientific Party

PP21C Moscone South: Poster Hall Tuesday 0800h
Molecules Modern to Ancient I Posters (*joint with B, OS*)

Presiding: **P J Polissar**, Lamont-Doherty Earth Institute; **P J Polissar**, Lamont-Doherty Earth Institute; **S J Feakins**, University of Southern California; **S J Feakins**, University of Southern California

0800h **PP21C-1702** *POSTER* Effect Of Substrates On The Fractionation Of Hydrogen Isotopes During Lipid-Biosynthesis By *Haloarcula marismortui*: **S S Dirghangi**, M Pagani

0800h **PP21C-1703** *POSTER* Foliar Stable Isotope Dynamics in a Closed-Canopy Tropical Forest: Towards a Better Understanding of Terrestrial Productivity in the Past: **H V Graham**, K H Freeman, S Wing

0800h **PP21C-1704** *POSTER* Variation in n-Alkane Distributions of Modern Plants: Questioning Applications of n-Alkanes in Chemotaxonomy and Paleoecology: **R T Bush**, F A McInerney

0800h **PP21C-1705** *POSTER* Effects of Aridity and Vegetation on Plant-wax δD in Modern Lake Sediments: **P J Polissar**, K H Freeman

0800h **PP21C-1706** *POSTER* Reconstructing tropical African hydrology using hydrogen isotope ratios of lacustrine sedimentary biomarkers: a calibration transect across Cameroon: **Y Garcin**, V Schwab-Lavrič, G Gleixner, A Kahmen, G Todou, O Séné, J Onana, G Achoundong, D Sachse

0800h **PP21C-1707** *POSTER* Exploring Organic Matter Sources Through $\delta^{13}C$ Depletion of Lipid Biomarkers at Lake El'gygytgyn, NE Siberia: **A R Holland**, K M Wilkie, S Petsch, J Brigham-Grette, Title of Team: Lake El'gygytgyn Scientific Party

0800h **PP21C-1708** *POSTER* Using Carbon and Nitrogen Isotopic Ratios as Paleoclimate Proxies in Baffin Island Lakes: **C Florian**, G H Miller, M Fogel

0800h **PP21C-1709** *POSTER* Changes in the planktonic community of tropical hypersaline Isabela crater-lake as response to climatic variability traced by lipid biomarkers and their stable isotopic composition: **L Romero-Viana**, G H Haug, U Kienel, D Sachse

0800h **PP21C-1710** *POSTER* Ecological Constraints on Hydrology in Early Hominid Environments: **C Magill**, G M Ashley, K H Freeman

0800h **PP21C-1711** *POSTER* The hydrologic cycle of the western coast of North America since the late Miocene: **J Lariviere**, A C Ravelo, P Polissar

0800h **PP21C-1712** *POSTER* Quantitative Investigation of Post-Burial H Isotope Exchanges in Organic Molecules: **Y Wang**, A L Sessions

0800h **PP21C-1713** *POSTER* ASSESSMENT OF A POST-DEPOSITIONAL DIAGENETIC BIAS IN THE UK37' INDEX: IMPLICATIONS TO ESTIMATE PLIOCENE-PLEISTOCENE SST IN THE BENGUELA UPWELLING: **A Rosell Mele**

PP21D Moscone West: 2007 Tuesday 0800h
Advances at the Frontiers of Paleoproxy Validation II (*joint with OS, B*)

Presiding: **D P Gillikin**, Union College; **L Vetter**, University of California Davis; **A D Wanamaker**; **D H Goodwin**, Denison University

0800h **PP21D-01** Annually resolved oceanic carbon dynamics in the temperate North Atlantic during recent centuries: **B R Schone**, A D Wanamaker, J Fiebig, J Thebault, K J Kreutz

0815h **PP21D-02** Quantifying the metabolic contribution to $\delta^{13}C$ of shell carbonate of *Arctica islandica*: an experimental calibration: **E C Beirne**, A D Wanamaker

0830h **PP21D-03** Modeling the carbon isotope composition of bivalve shells (*Invited*): **C Romanek**

0845h **PP21D-04** ^{14}C and $\delta^{13}C$ in *Mytilus californianus* shells as a proxy of upwelling intensity: **J E Ferguson**, K R Johnson, G M Santos, L Meyer, K Acaylar, A K Tripathi

0900h **PP21D-05** Proxies for Metabolic Carbon (C_M) and/or Dissolved Inorganic Carbon (DIC) Contributions to Mollusk Shell Carbonate: **P Higgins**

0915h **PP21D-06** New Insights into the Carbon Isotope Variations in Coral Skeletons (*Invited*): **P K Swart**

0930h **PP21D-07** Laser ablation trace element analyses of a bamboo coral from the SE USA: Intrinsic variability and evidence for a stable Florida Current over the last 450 years. (*Invited*): **D J Sinclair**, G Allard, B Williams, B Ghaleb, S J Fallon, S Ross, M Risk, R M Sherrell

0945h **PP21D-08** Controls on Sr/Ca in Scleractinian Corals: The Effects of Ca-ATPase and Ca channels on Skeletal Chemistry: **N Allison**, I Cohen, A A Finch, J Erez

PP21E Moscone West: 2005 Tuesday 0800h
Reconciling Models of Hyperthermal Events in Earth History I (*joint with B, GC*)

Presiding: **T Dunkley Jones**, Imperial College London; **T Dunkley Jones**, Imperial College London; **C O Chun**, Goethe University Frankfurt; **C O Chun**, Goethe University Frankfurt; **R E Zeebe**, University of Hawaii; **R E Zeebe**, University of Hawaii; **A S Cohen**, The Open University; **A S Cohen**, The Open University

0800h **PP21E-01** Hyperthermal climate events in the Mesozoic-Palaeogene greenhouse world: current status, challenges, novel approaches (*Invited*): **T Wagner**

- 0815h **PP21E-02** Reconciling $p\text{CO}_2$ Estimates and Stable Isotope Records (S & C) with a Global Carbon Cycle Model During the Cenomanian-Turonian OAE2: **R S Barclay**, Y Joo, D Adams, M T Hurtgen, J McElwain, B B Sageman
- 0830h **PP21E-03** Temperature and carbon isotope histories for early Eocene hyperthermals: events linked by a similar causal mechanism? (*Invited*): **A Sluijs**, P Bijl, L Stap, L van Roij, S M Bohaty, H Brinkhuis, G J Harrington, L J Lourens, G Reichert, U Roehl, L J Schneider, J Sessa, E Thomas, S Schouten, J C Zachos
- 0800h **PP21E-04** WITHDRAWN
- 0845h **PP23B-1751** Rapid and massive carbon injections of the Early Paleogene: The carbonate and planktonic foraminifera records at ODP Site 1215 (Equatorial Pacific Ocean): **L Leon Rodriguez**, G R Dickens
- 0900h **PP21E-05** Is there evidence for a biotic response to surface water acidification in the geologic past? (*Invited*): **S Gibbs**
- 0915h **PP21E-06** Shallow-water carbonate records of hyperthermals: do Pacific Ocean guyots hold the key? (*Invited*): **S A Robinson**
- 0930h **PP21E-07** Orbital pacing of methane hydrate destabilization during the Palaeogene: **A J Ridgwell**, D J Lunt, A Sluijs
- 0945h **PP21E-08** Hyperthermals and orbitally paced permafrost soil organic carbon dynamics: **R DeConto**, S Galeotti, M Pagani, D M Tracy, D Pollard, D J Beerling

SPA-Aeronomy

SA21A Moscone South: Poster Hall Tuesday 0800h **Ice Layers in the Mesopause Region: The Role of Dynamics and Their Relationship to the Environment in Which They Form II Posters** (*joint with A*)

Presiding: **J M Russell**, Hampton University; **S M Bailey**, Virginia Tech

- 0800h **SA21A-1758** *POSTER* The Charge and Mass of Meteoritic Smoke Particles (CHAMPS) Rocket Campaign: **S Knappmiller**, S H Robertson, Z Sternovsky, J Farmer, S Dickson
- 0800h **SA21A-1759** *POSTER* Meta-equilibrium state of multi-species ambipolar diffusion and its relevance to Polar Summer Mesospheric Echoes: **P M Bellan**
- 0800h **SA21A-1760** *POSTER* Seasonal and height variation of gravity wave activities observed by a meteor radar at King Sejong Station (62°S, 57°W), Antarctica: **Y Kim**, C Lee, J Kim, J Choi, G Jee
- 0800h **SA21A-1761** *POSTER* Tomographic Studies of Noctilucent Clouds: **K Hultgren**, J Gumbel, D A Degenstein, A E Bourassa, N D Lloyd
- 0800h **SA21A-1762** *POSTER* SBUV Trends in PMC Ice Water Content: **M T DeLand**, G E Thomas, E P Shettle, J J Olivero
- 0800h **SA21A-1763** *POSTER* Latitudinal and inter-hemispheric variation of stratospheric effects on mesospheric ice layer trends: **U Berger**, F Luebken, G Baumgarten
- 0800h **SA21A-1764** *POSTER* Evolution of an "Ice-void" in a NLC-display Observed from the Ground: **J T Stegman**, P Pautet, M J Taylor
- 0800h **SA21A-1765** WITHDRAWN
- 0800h **SA21A-1766** *POSTER* New Retrievals from AIM/CIPS: **J D Lumpe**, S M Bailey, K Nielsen, C E Randall, J N Carstens, G E Thomas, B Templeman, A Merkel, L Riesberg, J Russell
- 0800h **SA21A-1767** *POSTER* Gravity Wave Tuning in WACCM/CARMA for Application to PMC Studies: **S Benze**, C Bardeen, M E Hervig

0800h **SA21A-1768** *POSTER* SOFIE observations of PMCs and meteoric smoke: **M E Hervig**, L L Gordley, J Russell, S M Bailey

SA21B Moscone South: 301 Tuesday 0800h **Dynamics and Coupling in the Lower Thermosphere I** (*joint with A*)

Presiding: **Q Zhou**, Miami University; **H Liu**, National Center for Atmospheric Research; **M J Nicolls**, SRI International; **S England**, UC Berkeley

- 0800h **SA21B-01** Stratospheric Effects on the Lower Thermospheric Semidiurnal Tides (*Invited*): **Q Wu**, D A Ortland, R Niciejewski, W R Skinner
- 0815h **SA21B-02** Direct observations of nonmigrating diurnal winds in the thermosphere: **R S Lieberman**, J Oberheide, E R Talaat
- 0827h **SA21B-03** A Multi-Year (2002-2006) Climatology of O/N₂ in the Lower Thermosphere from TIMED GUVI and Ground-Based Photometer Data: **J H Hecht**, T Mulligan, J H Clemmons, D J Strickland, J Correia, M G Conde
- 0839h **SA21B-04** Arecibo's Thermospheric Gravity Waves and the Case for an Ocean Source (*Invited*): **F T Djuth**, L D Zhang, D J Livneh, I Seker, S M Smith, M P Sulzer, J D Mathews, R L Walterscheid
- 0854h **SA21B-05** The excitation, propagation and dissipation of secondary gravity waves excited by mountain wave breaking (*Invited*): **S L Vadas**, M J Nicolls
- 0909h **SA21B-06** The Accuracy of Gravity Wave Models for a Diffusively Separated Atmosphere: **M P Hickey**, R L Walterscheid, G Schubert
- 0921h **SA21B-07** An Intense Traveling Airglow Front in the Upper Mesosphere-Lower Thermosphere with Characteristic of a Turbulent Bore Observed over Alice Springs, Australia: **R L Walterscheid**, J H Hecht, M P Hickey, L J Gelinias, R A Vincent, I M Reid, J Woithe
- 0933h **SA21B-08** Evidence for two-dimensional turbulence processes in the lower thermosphere: **M F Larsen**
- 0945h **SA21B-09** Ionospheric Spread-F and couplings between thermosphere and lower atmosphere (*Invited*): **Z Xiao**

SPA-Solar and Heliospheric Physics

SH21A Moscone South: Poster Hall Tuesday 0800h **Changing the Paradigm of the Global Heliosphere Through Remote and in Situ Measurements by IBEX and Voyager I Posters**

Presiding: **E R Christian**, NASA Goddard

- 0800h **SH21A-1790** *POSTER* Impact of Recent Voyager, IBEX, and Cassini Results on Science and Strategy for an Interstellar Probe Mission: **R L McNutt**, M Gruntman, S M Krimigis, E C Roelof, R F Wimmer-Schweingruber, R E Gold
- 0800h **SH21A-1791** *POSTER* Flow of neutral interstellar helium into the heliosphere as inferred from IBEX-Lo observations and simulations: **M Bzowski**, M A Kubiak, M Hlond, E Moebius, T Leonard, D Heirtzler, H Kucharek, P A Bochsler, N A Schwadron, G B Crew, D J McComas, S A Fuselier
- 0800h **SH21A-1792** *POSTER* New Horizons Cruise Observations of Lyman Alpha from the Interplanetary Medium: **R Gladstone**, S A Stern, W R Pryor
- 0800h **SH21A-1793** *POSTER* Suprathermal Ion Spectral Tails Throughout the Heliosphere: to 9 AU with Cassini, to 17 AU with New Horizons, and in the Outer Heliosphere and Heliosheath with Voyager 1 and 2: **M E Hill**, D C Hamilton, R L McNutt, R B Decker

0800h **SH21A-1794** *POSTER* Magnetic Field Fluctuations in Different Sheaths: **J Safrankova**, O Gutynska, Z Nemecek, A Lynnyk, J D Richardson

0800h **SH21A-1795** *POSTER* Component Reconnection at the Heliopause: **T E Moore**, F Alouani-Bibi, M Opher, G Toth, D J McComas

0800h **SH21A-1796** *POSTER* Acceleration of ions and electrons during magnetic reconnection in a multi-island environment: **K M Schoeffler**, J F Drake, M M Swisdak

0800h **SH21A-1797** *POSTER* Interplanetary Hydrogen Lyman-Alpha Emission Observations from the Mercury Atmospheric and Surface Composition Spectrometer on the MESSENGER Spacecraft: **W R Pryor**, G M Holsclaw, W E McClintock, M Snow, R J Vervack, Jr.

0800h **SH21A-1798** *POSTER* Interstellar Neutral Hydrogen - Direct Observation by IBEX-LO: **L A Saul**, P Wurz, E Moebius, D J McComas, S A Fuselier, L Petersen, D F Moreno

0800h **SH21A-1799** *POSTER* Heliospheric energetic neutral atom intensities at 1 AU derived from global fitting of the IBEX-HI data set: **R Demajistre**, H O Funsten, M Gruntman, P H Janzen, D J McComas, D B Reisenfeld, E C Roelof, N A Schwadron

0800h **SH21A-1800** *POSTER* Hydrogen deflection in the heliosphere and the effect of local interstellar magnetic field: **F Alouani-Bibi**, M Opher, D Alexashov, G Toth, V Izmodenov

0800h **SH21A-1801** *POSTER* Spectral properties of regions and structures in IBEX's global ENA sky maps: **M A Dayeh**, R W Ebert, H O Funsten, S A Fuselier, P H Janzen, G Livadiotis, D J McComas, D B Reisenfeld, N A Schwadron

0800h **SH21A-1802** *POSTER* Characterizing interstellar and secondary helium in the heliosphere: **H Mueller**

0800h **SH21A-1803** *POSTER* The Circularity and Stability of the IBEX Energetic Neutral Atom (ENA) Ribbon: **H O Funsten**, F Allegrini, G B Crew, R Demajistre, P C Frisch, S A Fuselier, M Gruntman, P H Janzen, D J McComas, E Moebius, D B Reisenfeld, E C Roelof, N A Schwadron

0800h **SH21A-1804** *POSTER* Tomography of the Heliosphere: Ulysses Dust Measurements: **A Juhasz**, M Horanyi

0800h **SH21A-1805** *POSTER* Using spectral slopes to characterize the origin of ENAs in the IBEX sky maps: **G Livadiotis**, M A Dayeh, H O Funsten, P H Janzen, D J McComas, D B Reisenfeld, N A Schwadron

0800h **SH21A-1806** *POSTER* Determining the Distance to the IBEX ENA Ribbon: **E R Christian**, Title of Team: The IBEX Science Team

0800h **SH21A-1807** *POSTER* Three-dimensional MHD modeling of the solar wind with pick-up protons from the Sun to Voyagers 1 and 2: T R Detman, **D S Intriligator**, M Dryer, W Sun, C S Deehr, J Intriligator

0800h **SH21A-1808** *POSTER* Update on Voyager 2 High Energy Ions in the Outer Heliosphere and Heliosheath: **D S Intriligator**, J Intriligator, W D Miller, W R Webber, R B Decker, E C Sittler

0800h **SH21A-1809** *POSTER* The energy spectrum of heliospheric ENAs and properties of their parent protons: **C L Prested**, M Bzowski, H O Funsten, S A Fuselier, P H Janzen, M A Kubiak, D J McComas, D B Reisenfeld, N A Schwadron, P Wu

SH21B Moscone South: Poster Hall Tuesday 0800h
From the Termination Shock to the Interstellar Medium:
Dynamics and Physical Processes I Posters

0800h **SH21B-1810** *POSTER* Simulations of Energetic Neutral Hydrogen Within the Heliosphere: Creation, Transport, and Loss: **E J Zirnstein**, J Heerikhuisen, N V Pogorelov

0800h **SH21B-1811** *POSTER* 3D Heliospheric Simulations of Heavy Neutral Particles from the Interstellar Medium: **A D Kawamura**, J Heerikhuisen, N V Pogorelov

0800h **SH21B-1812** *POSTER* Survey of solar wind behavior to prepare for use in global heliospheric models: **L J Thatcher**, H Mueller

0800h **SH21B-1813** *POSTER* Simulations of an IBEX Ribbon Model: **J Heerikhuisen**, N V Pogorelov, G P Zank

0800h **SH21B-1814** *POSTER* Two-Time GCR-Flux Decrease Associated With March 2006 Interplanetary Shock Event: **H Washimi**, G P Zank, Q Hu, G M Webb, H Shinagawa

0800h **SH21B-1815** *POSTER* UNSTEADY SOLAR WIND AT THE TERMINATION SHOCK AND IN THE HELIOSHEATH: **S Borovikov**, N V Pogorelov

0800h **SH21B-1816** *POSTER* LIMF direction inferred from the mechanism for IBEX ribbon generation based on SW-LIC interaction vs 2-3 kHz radio emission: **R Ratkiewicz**, S Grzedzielski, M Strumik, J Grygorczuk

0800h **SH21B-1817** *POSTER* Comparisons of the Interstellar Magnetic Field Directions obtained from the IBEX Ribbon and Interstellar Polarization Measurements: **P C Frisch**, B Anderssen, A Berdyugin, H O Funsten, M Magalhaes, D J McComas, V Pirola, N A Schwadron, J D Slavin, S J Wiktorowicz

0800h **SH21B-1818** *POSTER* Pickup ion dynamics at the heliospheric termination shock observed by Voyager 2: **R H Burrows**, G P Zank, G M Webb

0800h **SH21B-1819** *POSTER* Determining the location of termination shock using signature of Galactic cosmic ray modulation by global merged interaction region in the heliosheath: **X Luo**, M Zhang, H K Rassoul

0800h **SH21B-1820** *POSTER* Interstellar Pickup Ion Acceleration at the Heliospheric Termination Shock: E Smith, **J A le Roux**

0800h **SH21B-1821** *POSTER* Inner Heliosheath Size and Pressure: **G Gloeckler**, L A Fisk

0800h **SH21B-1822** *POSTER* Fluid and MHD Instabilities of Heliopause Driven by Plasma-Neutral Interaction: **B Dasgupta**, V A Florinski, G P Zank, A Bandyopadhyay, A Khare, J Heerikhuisen

0800h **SH21B-1823** *POSTER* Energetic neutral atom mapping of heliosphere boundaries using STEREO/STE observations: **K P Schmidt**, L Wang, R P Lin

SH21C Moscone South: 309 Tuesday 0800h
Coordinated Results With Solar Dynamics Observatory I

Presiding: **S E Gibson**, NCAR; **C J Schrijver**, Lockheed Martin Advanced Technology Center

0800h **SH21C-01** Subsurface Flows from SDO, SOHO, and GONG (*Invited*): **R Komm**

0818h **SH21C-02** Comparisons of Supergranule Properties from SDO/HMI with Other Datasets: **W D Pesnell**, P E Williams

0830h **SH21C-03** The role of the chromosphere in filling the corona with hot plasma (*Invited*): **B De Pontieu**, S W McIntosh, M Carlsson, V H Hansteen, T D Tarbell, P Boerner, J Martinez-Sykora, C J Schrijver, A M Title

0848h **SH21C-04** Coordinated observations of solar prominences with Hinode/SOT and SDO/AIA: **T E Berger**, T D Tarbell, C J Schrijver, A M Title, P Boerner, R A Shine

0900h **SH21C-05** Using AIA, RHESSI, EVE, and CDS Observations to Investigate the Temperature-Dependent Response of the Solar Atmosphere to Flares: **J W Brosius**, G Holman, P C Chamberlin

0912h **SH21C-06** Toward better understanding of the origin of CMEs using combined SDO/AIA and STEREO/SECCHI data (*Invited*): **N V Nitta**

0930h **SH21C-07** The Birth of Coronal Mass Ejections As Seen by STEREO and SDO: **A Vourlidas**, S Patsourakos

0942h **SH21C-08** Ionospheric Sensitivity to SDO-EVE Spectral Variability (*Invited*): **J J Sojka**, R W Schunk, M David

SPA-Magnetospheric Physics

SM21A Moscone South: Poster Hall Tuesday 0800h Magnetospheric and Auroral Acceleration: Cause and Effect I Posters

Presiding: **C Watt**, University of Alberta; **R Rankin**, University of Alberta; **D J Knudsen**, University of Calgary

0800h **SM21A-1878** *POSTER* Characterizing magnetospheric electrons from ALIS observations of discrete auroral arcs and quasi-stationary modeling of auroral acceleration: **H Lamy**, C Simon, M Echim, J M De Keyser, B Gustavsson, T Sergienko, I Sandahl, U Brandstrom

0800h **SM21A-1879** *POSTER* A multi-point perspective on the formation of polar cap arcs: kinetic modeling and observations by Cluster and TIMED: J M De Keyser, **R Maggiolo**, M Echim, C Simon, Y Zhang, J Trotignon

0800h **SM21A-1880** *POSTER* Electron thermal effects on electron acceleration and energy cascades in geomagnetic field line resonances: **P A Damiano**, J Johnson, A N Wright

0800h **SM21A-1881** *POSTER* Features and Mechanisms of Substorm Onset and Expansion: **C Z Cheng**, T Chang

0800h **SM21A-1882** *POSTER* Observational evidence for a kinetic ballooning instability during substorm: **T Chang**, C Z Cheng, J C Chiang, A B Chen

0800h **SM21A-1883** *POSTER* Auroral Power and Magnetic Wave Activity During Substorms: K R Murphy, **J Rae**, C E Watt, I R Mann, H U Frey, H J Singer

0800h **SM21A-1884** *POSTER* Polar, DMSP, and FAST spacecraft-based investigation of the evolution of high altitude, night side, wave Poynting flux as an energy source for low-latitude auroral electron acceleration during major storms: **S A Thaller**, J R Wygant, J P Dombeck, T Nishimura, L Dai, C A Cattell, A Hamre, F Mozer, C T Russell

0800h **SM21A-1885** *POSTER* Deducing spatial properties of auroral primary particle distributions from ground-based optical imaging: **I Sandahl**, T Sergienko, K Axelsson, B Gustavsson, U Brändström

0800h **SM21A-1886** *POSTER* Observational Evidence of Wave Turbulence That Can Support Field-Aligned Electric Fields in the Downward Birkeland Current Region: **E J Lund**, J R Jasperse, B Basu

0800h **SM21A-1887** *POSTER* Broadband Electron Precipitation in Global MHD Simulation and its Effect on the Ionosphere: **B Zhang**, W Lotko, O J Brambles, M J Wiltberger

0800h **SM21A-1888** *POSTER* Large-scale Aspects of Pulsating Aurora: Spatial/Temporal Evolution, Relation to Substorms, and Duration: **K M Rychert**, S Jones, M Lessard, E F Donovan, E L Spanswick

0800h **SM21A-1889** *POSTER* Spatiotemporal variations and generation mechanisms of flickering aurora: **A Yaegashi**, T Sakanoi, R Kataoka, K Asamura, M Sato, Y Miyoshi, S Okano

0800h **SM21A-1890** *POSTER* Performance Measurements and Technology Demonstration of the VASIMR® VX-200: B W Longmier, **E A Bering**, J P Squire, T W Glover, L D Cassady, A V Ilin, M D Carter, C S Olsen, G E McCaskill, F Chang Díaz

SM21B Moscone South: Poster Hall Tuesday 0800h Physical Processes in the Magnetotails of Intrinsic and Induced Magnetospheres I Posters (joint with P)

Presiding: **C S Arridge**, University College London; **N André**, Centre d'Etude Spatiale des Rayonnements

0800h **SM21B-1891** *POSTER* Transverse instability and perpendicular electric field in two-dimensional electron phase-space holes: **M Wu**, Q Lu, C Huang, S Wang

0800h **SM21B-1892** *POSTER* Relating Jupiter's auroral features to magnetospheric sources: **M F Vogt**, M G Kivelson, K K Khurana, R J Walker, B Bonfond, A Radioti

0800h **SM21B-1893** *POSTER* Entropy of a non-equilibrium plasma: **T K Nakamura**

0800h **SM21B-1894** *POSTER* Multi-Fluid/Multi-Scale Simulations of Plasmoid Production at Saturn: **A Kidder**, R Winglee, E M Harnett, C S Paty

0800h **SM21B-1895** *POSTER* Composition of the <7.5 keV/Q Plasma in Jupiter's Magnetotail from ~ 150 to 2550 R_J: **R W Ebert**, D McComas, F Bagenal, H A Elliott, M E Hill

0800h **SM21B-1896** *POSTER* Cassini observations of plasmoids and travelling compression regions in Saturn's magnetotail in 2006: C M Jackman, **J A Slavin**, M K Dougherty

0800h **SM21B-1897** *POSTER* Electron Transport and Energization in Mercury's Magnetosphere: **D Schriver**, P M Travnicek, M Ashour-Abdalla, R L Richard, P Hellinger, J A Slavin, B J Anderson, D N Baker, M Benna, S A Boardsen, R E Gold, G C Ho, H Korth, S M Krimigis, W E McClintock, T M Orlando, M Sarantos, A L Sprague, R D Starr

0800h **SM21B-1898** *POSTER* The Mutual Impedance Probe Technique for Plasma Parameters Measurements: the ROSETTA RPC/MIP Results during the Earth's Flybys: J Trotignon, **J Lebreton**, J Rauch

0800h **SM21B-1899** *POSTER* Saturn's Global Magnetospheric Mode: **A M Rymer**, D G Mitchell, T W Hill, E Kronberg, N Krupp

0800h **SM21B-1900** *POSTER* The solar wind interaction with Comet Machholz (C/2004 Q2) as revealed by amateur images: Y Ramanjooloo, G H Jones, **C S Arridge**

SM21C Moscone South: 305 Tuesday 0800h Dynamical Processes of the Cusp/Polar Cap Ionosphere III (joint with SA)

Presiding: **J I Moen**, University of Oslo; **K Hosokawa**, The Univ. of Electro-Communications; **L P Dyrud**, Johns Hopkins University APL

0800h **SM21C-01** AMPERE: Project Implementation Overview and Initial Results (*Invited*): **B J Anderson**, K Rock, L P Dyrud, H Korth, C L Waters, D L Green, R J Barnes

0825h **SM21C-02** Energetic neutral atom imaging of the magnetospheric cusps: **S M Petrinen**, S A Fuselier, H O Funsten, D Heirtzler, P H Janzen, H Kucharek, D J McComas, E Moebius, T E Moore, D B Reisenfeld, N A Schwadron, K J Trattner, P Wurz

0840h **SM21C-03** Dynamics of the Polar Cusps for Active Solar Wind Conditions: Large-scale Modeling: **J Berchem**, R L Richard, C P Escoubet, M G Taylor, H E Laakso, A Masson, I S Dandouras, H Reme, F Pitout, E A Lucek

0855h **SM21C-04** Poynting Flux Deposition in the Northern Hemisphere Near-Cusp Region: **D J Knipp**, G Crowley

0910h **SM21C-05** Coordinated ESR-Reimei observations of the cusp ionosphere: **F Pitout**, Y Ogawa, Y Ebihara, K Asamura, M Hirahara, K Seki

0925h **SM21C-06** Auroral Precipitation as a Driver of Neutral Upwelling in the Cusp: **B Sadler**, A Otto, M Lessard, E J Lund, H Luhr
0940h **SM21C-07** Aurora and convection channel events in response to solar wind - magnetosphere - ionosphere interaction processes (*Invited*): P E Sandholt, **C J Farrugia**

SM21D Moscone South: 307 Tuesday 0800h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles IV (*joint with AE, SA, SH*)

Presiding: **V K Jordanova**, Los Alamos National Laboratory;
J M Albert, Air Force Research Lab

0800h **SM21D-01** Theory and Simulations on Whistler-mode and EMIC Triggered Emissions (*Invited*): **Y Omura**

0818h **SM21D-02** OVERVIEW OF EMIC TRIGGERED CHORUS EMISSIONS IN CLUSTER DATA: **B Grison**, J S Pickett, Y Omura, O Santolik, M J Engebretson, I S Dandouras, A Masson, P M Decreau, M L Adrian, N Cornilleau Wehrlin

0832h **SM21D-03** Two-dimensional hybrid simulation of the growth, effects, and distribution of magnetospheric electromagnetic ion cyclotron waves: **R E Denton**, Y Hu

0847h **SM21D-04** Hybrid Simulations of EMIC waves In Dipolar Magnetic Field: **N Omid**, R M Thorne, J Bortnik

0901h **SM21D-05** Generation of Electromagnetic Ion Cyclotron (EMIC) Waves in a Compressed Dayside Magnetosphere: **M Usanova**, I R Mann, R D Sydora

0916h **SM21D-06** A statistical study of EMIC waves as seen by the GOES satellites at geostationary orbit: **L B Clausen**, J B Baker, H J Singer, J M Ruohoniemi

0930h **SM21D-07** A Statistical Study of EMIC Waves at Geosynchronous Orbit: **B J Fraser**, R Grew, H J Singer

0945h **SM21D-08** CRRES observations of ion composition during EMIC mode wave events: **E MacDonald**, B A Larsen

Study of Earth's Deep Interior

DI21A Moscone South: Poster Hall Tuesday 0800h
Mantle Heterogeneities I Posters (*joint with MR, S, T, V*)

Presiding: **R Caracas**, Ecole Normale Superieure; **L Boschi**, ETH Zurich; **F Albarede**, Ecole Normale Superieure de Ly

0800h **DI21A-1940** POSTER Heterogeneous lower mantle shear attenuation from ScS-S differential t^* measurements via instantaneous frequency: **S Durand**, S R Ford, J Matas, V Lekic, B A Romanowicz

0800h **DI21A-1941** POSTER Thermal plumes as mixers and samplers of the mantle. Laboratory experiments: **T Floriane**, A B Davaille, G Brandeis, A Limare

0800h **DI21A-1942** POSTER Numerical Modeling of Gravity, Geoid, and the Thermal Structure of Oceanic Lithosphere: **D Davis**, C J Grose

0800h **DI21A-1943** POSTER Self-consistent high P,T equation of state of stishovite and wustite: Implications for the lower mantle: **M M Armentrout**, A Kavner

0800h **DI21A-1944** POSTER The compositional signature of seismic velocities in the upper mantle: a hopeless problem?: **J C Afonso**, D Schutt

0800h **DI21A-1945** POSTER The Earth's spectrum constrained directly from global seismic data: an evolutionary-algorithm approach: **S Della Mora**, L Boschi, T W Becker, D Giardini

0800h **DI21A-1946** POSTER Dynamical consequences of mantle heterogeneity in two-phase models of mid-ocean ridges: **R F Katz**
0800h **DI21A-1947** POSTER Global Characterization of the Ocean Ridge System: **A Gale**, C H Langmuir, C A Dalton
0800h **DI21A-1948** POSTER New attempts to identify core-mantle interactions in plume-derived materials using ultra-high precision tungsten isotope measurements: **M Touboul**, I S Puchtel, R J Walker
0800h **DI21A-1949** POSTER Negative dynamic topography of the East European Craton: metasomatised cratonic lithosphere or mantle downwelling?: **I M Artemieva**

0800h **DI21A-1950** POSTER The extent of the Cratonic keel underneath the Southern African region: A 3D image using Finite-Frequency Tomography: **M Youssof**, M Bezada, H Thybo, A Levander

0800h **DI21A-1951** POSTER Alkaline lavas from southern Mendoza, Argentina, extend the Patagonian DUPAL mantle field to the north: **N Soager**, P M Holm, E Llambias

0800h **DI21A-1952** POSTER EMI - young HIMU rock association at the Cape Verde Islands revisited: on the role of oceanic carbonatites: **P M Holm**, T F Kokfelt, C T Dyhr

0800h **DI21A-1953** POSTER A Role for Upper Mantle Garnet Field Topography in the Structure of the Geoid over Young Seafloor?: **C J Grose**, D M Davis

DI21B Moscone South: Poster Hall Tuesday 0800h
Observations and Interpretations of Lower Mantle, Large, Low Shear Velocity Provinces II Posters (*joint with S, MR*)

Presiding: **C T Houser**, University of California Santa Cruz; **S Tanaka**, JAMSTEC; **M Murakami**, Tohoku University

0800h **DI21B-1954** POSTER The large low velocity province and the vertical flow beneath the Pacific: **K Kawai**, R J Geller, T Tsuchiya

0800h **DI21B-1955** POSTER Geographical distribution of D'' discontinuity and the boundary of LLSVP in the western Pacific: **K Idehara**, S Tanaka, N Takeuchi

0800h **DI21B-1956** POSTER Constraints on the Large Low Shear Velocity Province beneath the Pacific Ocean from joint ocean floor and islands broadband seismic experiments in French Polynesia: D Suetsugu, **S Tanaka**, H Shiobara, H Sugioka, T Kanazawa, Y Fukao, G Barruol, D Reymond

0800h **DI21B-1957** POSTER Utilizing Thermal & Thermo-Chemical Mantle Circulation Models to Constrain the Origin of Earth's Lower Mantle Seismic Signature: **D Davies**, E E Styles, S D Goes, J H Davies, J E Ritsema

0800h **DI21B-1958** POSTER Towards the Petrophysics and Petrology of Earth's Deep Mantle and the Core Mantle Boundary: **H J Mueller**

0800h **DI21B-1959** POSTER New results show that the long term stability of Large Low Shear Wave Velocity Provinces (LLSVPs) on the CMB has lasted for at least 540 My: **K C Burke**, T H Torsvik

0800h **DI21B-1960** POSTER The Evolution of the Earth's Mantle Structure and Surface and Core-mantle Boundary Heat Flux since the Paleozoic: **N Zhang**, S Zhong

0800h **DI21B-1961** POSTER Toward mineralogical interpretation of LLSVP: High-P,T elasticity of deep mantle materials: **J Tsuchiya**, T Tsuchiya

0800h **DI21B-1962** POSTER Fine Scale Deep Mantle Structure Beneath Central Pacific: LLSVP Heterogeneity and Edge, ULVZ, and CMB topography: **C Zhao**, E J Garnero, M S Thorne, A K McNamara

DI21C Moscone West: 3024 Tuesday 0800h
Structure and Dynamics of Earth's Core I (joint with MR, S, T, V)

Presiding: **H Tkalcic**, The Australian National University;
Y Kuwayama, Ehime University; **F Niu**, Rice University

0800h **DI21C-01** Inner Core Melting and Freezing: Where and How (Invited): **V F Cormier**

0815h **DI21C-02** Lopsided growth of Earth's inner core: a new interpretation for seismic hemispherical variations in the uppermost inner core (Invited): **M Calvet**, M Monnereau, L Margerin, A Souriau

0830h **DI21C-03** The Phoenix inner core - convection, melting, and the structure of the inner core and lowermost outer core (Invited): **R Deguen**, T Alboussiere, P CARDIN, M Melzani

0845h **DI21C-04** Grain Growth and Loss of Texture during Annealing of Alloys, and the Translation of Earth's Inner Core: **M I Bergman**, D Lewis, L Slivka, I Myint, S Karato, A Abreu

0857h **DI21C-05** Convection in the inner core: **S Cottaar**, B A Buffett

0909h **DI21C-06** Regional variation of inner core anisotropy from seismic normal mode observations: **A F Deuss**, J C Irving, J H Woodhouse

0921h **DI21C-07** Depth extent of hemispherical difference in equatorial path velocities in the upper inner core: **S Tanaka**

0933h **DI21C-08** Elastic isotropy of iron under core conditions and other recent advances (Invited): **R E Cohen**, X Sha

0948h **DI21C-09** Earth's Inner Core as a Conglomerate of Anisotropic Domains: **H Tkalcic**

Mineral and Rock Physics

MR21A Moscone South: Poster Hall Tuesday 0800h
Melt-Solid Density Inversions in the Earth and Planetary Interiors I Posters (joint with DI, V)

Presiding: **J W Hernlund**, University of California, Berkeley

0800h **MR21A-1986** POSTER The Partial Molar Volume and Compressibility of the FeO Component in Model Basalts (Mixed $\text{CaAl}_2\text{Si}_2\text{O}_8$ - $\text{CaMgSi}_2\text{O}_6$ - $\text{CaFeSi}_2\text{O}_6$ Liquids) at 0 GPa: evidence of Fe^{2+} in 6-fold coordination: **X Guo**, R A Lange, Y Ai

0800h **MR21A-1987** POSTER Sound velocity and density of Kilauea basalt glass at high pressure: **A E Gleason**, B Chen, R Jeanloz

0800h **MR21A-1988** POSTER Melting and Freezing of Fluorite-Structured AuGa₂ to 10 GPa: **Z M Geballe**, S V Raju, L R Benedetti, B K GODWAL, R Jeanloz

0800h **MR21A-1989** POSTER Strongly Composition-Dependent Partial Molar Compressibility of Water in Silicate Glasses: **A G Whittington**, P Richet, A Polian

0800h **MR21A-1990** POSTER Spin crossover in liquid Fe_2SiO_4 at high pressures: an ab initio Molecular Dynamics study: **D Munoz Ramo**, L P Stixrude

0800h **MR21A-1991** POSTER How to form a Basal Magma Ocean? Insights from two-phase flow numerical modeling: **G C Richard**, S Labrosse

0800h **MR21A-1992** POSTER Energy-Dispersive X-ray Diffraction Investigation of Amorphous Lithium Borate Structure: A Demonstration of the Paris-Edinburgh Cell Setup at 16BM-B at the APS: **T Yu**, Y Wang, C Park, J F Stebbins, T Sakamaki, G Shen

0800h **MR21A-1993** POSTER Investigating Vaporization of Silica through Laser Driven Shock Wave Experiments: **R G Kraus**, D C Swift, S T Stewart, R Smith, C A Bolme, D K Spaulding, D Hicks, J Eggert, G Collins

0800h **MR21A-1994** POSTER A Paris-Edinburgh cell at HPCAT for studying melts at high pressures: **C Park**, C Kenney-Benson, T Yu, Q Mei, T Sakamaki, G Shen, Y Wang

0800h **MR21A-1995** POSTER High-temperature Brillouin scattering study of haplogranitic glasses and liquids: Effects of F, K, Na and Li on T_g and elastic properties: **M H Manghnani**, A Hushur, Q C Williams, D B Dingwell

MR21B Moscone South: Poster Hall Tuesday 0800h
The Post-Perovskite Transition and the D" Layer I Posters (joint with S, DI, V)

Presiding: **H Liu**, Harbin Institute of Technology; **J P Brodholt**

0800h **MR21B-1996** POSTER High-pressure synthesis and structural, physical properties of $\text{CaIr}_{1-x}\text{Pt}_x\text{O}_3$ and $\text{CaIr}_{1-x}\text{Rh}_x\text{O}_3$: **S Hirai**, G D Bromiley, S Klemme, T Irifune, H Ohfuji, P Attfield, N Nishiyama

0800h **MR21B-1997** POSTER Experimental study of dislocations in grains of MgGeO_3 post-perovskite at 90 GPa: **C Nisr**, G Ribarik, T Ungár, G Vaughan, P Cordier, S Merkel

0800h **MR21B-1998** POSTER Experimental Evidence for Anisotropic Diffusion in Post-Perovskite Phases: **R McCormack**, D P Dobson, F Heidelbach, A Beard, M W Ammann, J P Brodholt

0800h **MR21B-1999** POSTER High Pressure X-ray Diffraction Study of $\text{Na}_{0.875}\text{K}_{0.125}\text{MgF}_3$ Perovskite: **W Liu**, M Ma, Z Chen, B Li

0800h **MR21B-2000** POSTER Can we learn more from post-perovskite structural neighborite NaMgF_3 under high pressure?: **H Liu**, L Wang

0800h **MR21B-2001** POSTER Relative thermal diffusivities of perovskite and post-perovskite analogues: **S A Hunt**, R McCormack, A Walker, D P Dobson, L Li

Seismology

S21A Moscone South: Poster Hall Tuesday 0800h
Earthquake Debates I Posters

Presiding: **D Schorlemmer**, USC; **D D Jackson**

0800h **S21A-2014** POSTER Fine seismic structure around the Atotsugawa fault revealed by seismic refraction and reflection experiments: **T Iidaka**, T Iwasaki, E Kurashimo, A Kato, F Yamazaki, H Katao

0800h **S21A-2015** POSTER Do characteristic earthquakes occur at intermediate-depths?: **G A Papadopoulos**

0800h **S21A-2016** POSTER Prospective Testing of Characteristic Earthquake Models: **D D Jackson**

S21B Moscone South: Poster Hall Tuesday 0800h
Earthquake Relocations: What Do They Tell Us About Tectonics? I Posters (joint with T)

Presiding: **G Lin**, University of Miami; **T Lecocq**, Royal Observatory of Belgium

0800h **S21B-2017** POSTER Refined focal mechanism catalog for the Southern California region (1981–2010): **W Yang**, E Hauksson

0800h **S21B-2018** POSTER Preliminary Results on Seismicity and Fault Zone Structure Along the 1944 Rupture of the North Anatolian Fault East of Ismetpasa: **Y Ozakin**, Y Ben-Zion, M Aktar, H Karabulut, Z Peng

0800h **S21B-2019** POSTER Seismogenic stress field of the bending Philippine Sea slab beneath southwest Japan: **T Miyoshi**, K Shiomi, Y Asano

0800h **S21B-2020** POSTER Back-Arc extension in the Andaman Sea: Magmatic and tectonic processes imaged by high-precision teleseismic double-difference relocation of earthquake swarms: **T Diehl**, F Waldhauser, J R Cochran, K R Kattoju, L Seeber, D P Schaff, E R Engdahl

0800h **S21B-2021** POSTER Spatial distribution of precisely determined hypocenters and focal mechanisms in the Izu-Honshu collision zone, central Japan: Y Yukutake, T Takeda, **R Honda**, A Yoshida

0800h **S21B-2022** POSTER Improving intraplate seismicity detection through lake-deployed hydrophones: **N Bellino**, J A Conder

0800h **S21B-2023** POSTER The Future of Earthquake Relocation Tools: **T Lecocq**, C Caudron

0800h **S21B-2024** POSTER Seismicity of the Lake Tahoe-Reno Area, Nevada and California: **K D Smith**, S E Hauksson

0800h **S21B-2025** POSTER Earthquake Relocations in the Eastern Tennessee Seismic Zone: The Control of Ancient Basement Structure on Present-Day Seismicity in an Intraplate Setting: **C A Powell**, M Withers, G Vlahovic, P Arroucau

0800h **S21B-2026** POSTER New Views of Earthquake Swarms at Lo`ihi Submarine Volcano, Hawai`i Using Cross-Correlation and Double Difference Locations: **G Horning**, E Laumbattus, J Caplan-Auerbach, P Okubo

0800h **S21B-2027** POSTER Source process of the 1999 Xiuyan earthquake of MS5.4 as revealed by relocation of earthquake sequence: **Z Yang**, Y Chen, B Stump, R B Herrmann, R Zhou, C Hayward

0800h **S21B-2028** POSTER Study of Seismic Clusters at Bahía de Banderas Region, Mexico: **F J Nunez-Cornu**, M Rutz-Lopez, C Suarez-Plascencia, E Trejo-Gomez

0800h **S21B-2029** POSTER Constraining the depth of earthquakes in Iran and Central Asia using a combination of Array techniques and waveform modeling at regional and teleseismic distances with special attention to the latest 27 August 2010 deadly Semnan-Damghan earthquake in Iran: **A Alinaghi**, F Krueger

0800h **S21B-2030** POSTER Earthquake relocations and location error estimates in the Puerto Rico Island: **Q Zhang**, G Lin, A M López Venegas, V A Huerfano, L Soto-Cordero

0800h **S21B-2031** POSTER Improving three dimensional velocity model for Puerto Rico - Virgin Islands for rapid earthquake relocations: **V A Huerfano**, A M Lopez, L Castillo, G Baez - Sanchez, L Soto-Cordero, G Lin, Q Zhang

0800h **S21B-2032** POSTER Accuracy and sensitivity of earthquake locations offshore Puerto Rico: **A M Lopez**, J Pulliam, U S Ten Brink, V A Huerfano, H E Mintz, G A Mattei

0800h **S21B-2033** POSTER Crustal structure of the Dead Sea basin from local earthquake tomography: **A Hofstetter**, C Dorbath, M M Calo

0800h **S21B-2034** POSTER High Resolution Hypocenter Relocation for Events in Central Java, Indonesia using Double-Difference Technique: **D P Sahara**, S Widiyantoro, A D Nugraha, R Sule, B G Luehr

0800h **S21B-2035** POSTER Preliminary result of Taiwan 3-D stress field estimated using P wave polarity data: **Y Wan**, Y Wu, S Sheng, Z Shen

0800h **S21B-2036** POSTER Shallow seismicity migration in a normal fault test site in northern Apennines (Italy): **A Amato**, T Braun, M Cattaneo, L Chiaraluce, M Cocco, E D'Alema, R Di Stefano, M Frapiccini, D Latorre, S Marzorati, G Monachesi, M Moretti, N Piana Agostinetti, D Piccinini, G Saccorotti, L Valoroso, G Selvaggi

0800h **S21B-2037** POSTER Comparison of Seismicity Preceding the 1989-1990 and 2009 Eruptions of Redoubt Volcano, Alaska: **M S Wessale**, J D Pesicek, E M Syracuse, C H Thurber, H R DeShon, J A Power, S G Prejean

0800h **S21B-2038** POSTER SUBDUCTION ZONE CHARACTERIZATION OF THE NORTHEAST CARIBBEAN USING INCREASED CONSTRAINTS ON FOCAL MECHANISM SOLUTIONS FROM DATA COLLECTED WITH AN OCEAN BOTTOM SEISMOGRAPH DEPLOYMENT: **H E Mintz**, J Pulliam, A M López Venegas, U S Ten Brink, V A Huerfano, C von Hillebrandt-Andrade

0800h **S21B-2039** POSTER New perspectives on the 2007 seismic swarm in the Anahim Volcanic Belt, British Columbia, from earthquake cross-correlation and high-resolution relocations: **J A Hutchinson**, J Caplan-Auerbach

0800h **S21B-2040** POSTER Monitoring microseismicity in the northern Dead Sea basin using portable small-aperture seismic mini-arrays: **A Inbal**, A Ziv, H G Wust-Bloch, Z Ben-Avraham

S21C Moscone South: Poster Hall Tuesday 0800h Earthquake Source Studies I Posters

Presiding: **C W Ebeling**; **B A Erickson**, Stanford University

0800h **S21C-2041** POSTER Global Instrumental Seismic Catalog: earthquake relocations for 1900-present: **A Villasenor**, E Engdahl, D A Storchak, I Bondar

0800h **S21C-2042** POSTER The 20 March 2008, Mw 7.1, Northern Tibet Normal Faulting Earthquake: **S Baag**, C J Ammon, M Cleveland

0800h **S21C-2043** POSTER Intermediate-depth earthquakes within young Cocos plate beneath Central Mexico: A hypothesis test for dehydration embrittlement and shear instability: **T Song**

0800h **S21C-2044** POSTER Relations between earthquake activities and configuration of the subducting Pacific plate interface along the Japan Trench: **T Yamada**, K Nakahigashi, A Kuwano, Y Machida, K Mochizuki, M Shinohara, T Kanazawa, R Hino, T Takunami

0800h **S21C-2045** POSTER Tsunami simulation for the great 1707 Hiei, Japan, earthquake: **T Furumura**, K Imai, T Maeda

0800h **S21C-2046** POSTER Historic and prehistoric earthquake events revealed by slope basin turbidites of the Nankai Trough, Japan: **M Iwai**

0800h **S21C-2047** POSTER Subsurface Characterization of Mystic Lake Paleoseismic site on the Claremont Fault Using CPT Data: Evidence for Straightening of the northern San Jacinto Fault, California: **G I Marliyani**, T K Rockwell, N Onderdonk, S F McGill

0800h **S21C-2048** POSTER Paleoseismic Study on the Peninsula Section of the San Andreas Fault South of Crystal Springs Reservoir, San Mateo County, California: **J A Zachariasen**, C S Prentice, O Kozaci, R R Sickler, J N Baldwin, A Sanquini, K L Knudsen

0800h **S21C-2049** POSTER sPL, an effective seismic phase for determining focal depth at near distances: **J Chong**, S Ni

0800h **S21C-2050** POSTER Rapid Estimates of the Source-Time Function and Mw using Empirical Green's Function Deconvolution: **H Benz**, R B Herrmann

0800h **S21C-2051** POSTER Evaluation of Seismic Moments of Small Events Using Borehole Records of the KiK-net: **T Akazawa**, K Irikura, A Petukhin, K Hada

0800h **S21C-2052** POSTER Grid-based Moment Tensor Inversion Technique Apply for Earthquakes Offshore of Northeast Taiwan: **H Cheng**, S Lee, K Ma

0800h **S21C-2053** POSTER Moment Tensor Inversions Using Waveforms from Taiwan Strong-Motion Instrumentation Program (TSMIP): A Case Study of 22 October 1999 Taiwan Earthquake Sequence: **K Chang**, W Chi, Y Gung, H Chiu

0800h **S21C-2054** POSTER Local and Duration Magnitudes in Western Anatolia: **E Gorgun**, M COMOGLU, A Koseoglu Kusmezer, K Kekovali, D KALAFAT

0800h **S21C-2055** POSTER Recalibration of a local magnitude scale for southern Korea: **D Sheen**

0800h **S21C-2056** POSTER Rapid magnitude estimation for moderate to large earthquakes using strong motion records in the Iranian plateau: **P Babaei**, H Sadeghi, B Rahimi, A Sadeghi Bagherabadi

0800h **S21C-2057** POSTER Complexity of the seismic signals at RER station from the 2007 collapse episode of the Dolomieu crater (La Réunion Island): **G C Roult**, J Battaglia, F Fontaine, P Bernard

0800h **S21C-2058** POSTER Determination of Earthquake Source Mechanisms at Okmok Volcano, Alaska from Inversion of P-wave Peak Amplitudes: **J D Pesicek**, C H Thurber, J Sileny, S J Ohlendorf

0800h **S21C-2059** WITHDRAWN

0800h **S21C-2060** POSTER BOREHOLE WATER LEVEL MEASUREMENTS IN KAMCHATKA AND BROADBAND RECORDS OF VERY LARGE ($M \geq 7.6$) EARTHQUAKES: V Kasimova, G Kopylova

0800h **S21C-2061** POSTER A New Global Classification of Earthquakes: **J K Costain**, G Bollinger

0800h **S21C-2062** POSTER Seismic Data QC in Support of Earthquake Source Parameter Determination: **R B Herrmann**, H Benz, J L Bonner

0800h **S21C-2063** POSTER Mainshock/Aftershock Sequences Within the Heterogeneous San Jacinto Fault Zone: Assessing if Empirical Green's Function Methods Produce Reliable Results: **D L Kane**, D L Kilb, F L Vernon

0800h **S21C-2064** POSTER A New Cluster Event Method for Accurate Determination of Attenuation and the Scaling Law between Corner Frequency and Seismic Moment: **Y Ko**, B Kuo, S Hung

0800h **S21C-2065** POSTER Earthquake scaling of intermediate-depth earthquakes in the Bucaramanga Nest: **G A Lopez**, G Prieto

0800h **S21C-2066** POSTER Experimental Modeling of Dynamic Shallow Dip-Slip Faulting: **K Uenishi**

0800h **S21C-2067** POSTER Rupture Speed and Dynamic Frictional Processes for the 1995 $M_L 4.1$ Shacheng, Hebei, China, Earthquake Sequence: **B Liu**, B Shi

0800h **S21C-2068** POSTER Dynamic Rupture Modeling in Three Dimensions on Unstructured Meshes Using a Discontinuous Galerkin Method: **C Pelties**, M Käser

0800h **S21C-2069** POSTER Proposal of an eXtended Boundary Integral Equation Method (XBIEM) for Rupture Dynamics Interacting with Medium Interfaces: **N Kame**

0800h **S21C-2070** POSTER Off-fault Yielding During Dynamic Ruptures: Distribution and Orientations: **S Xu**, Y Ben-Zion, J P Ampuero

0800h **S21C-2071** POSTER Dynamic ground motion from earthquake ruptures in models of non-planar faults: **Z Shi**, S M Day

0800h **S21C-2072** POSTER Quasi-dynamic modeling of earthquake failure, a comparison between two earthquake simulators, and application to the Lower Rhine Embayment: **G B Brietzke**, S Hainzl, G Zoeller, M Holschneider

0800h **S21C-2073** POSTER The Elastic Energy Balance within Periodic, Chaotic and Localized Slip Pulse Solutions with Dieterich-Ruina Friction: **B A Erickson**, B Birnir, D Lavallee, R I Madariaga

0800h **S21C-2074** POSTER Point source stacking method to compute the coupled seismic and electromagnetic waves radiated from a finite fault in layered porous media: **H Ren**, Q Huang, X Chen

0800h **S21C-2075** POSTER How seismic waves can be used to understand and constrain landslide dynamics: **A Mangeney**, P Favreau, L Moretti, A Lucas, A Le Friant, F Bouchut

0800h **S21C-2076** POSTER Thunderstorms recorded at seismogram: **S Park**

0800h **S21C-2077** POSTER Identification and Characterization of Several Large Hurricanes using Microseisms: **C W Ebeling**, S A Stein, C Moore

0800h **S21C-2078** POSTER Watching the wind: seismic data contamination at long-periods due to atmospheric pressure-field-induced tilting: **S De Angelis**, P Bodin, K Hagel, D Fletcher

0800h **S21C-2079** POSTER THE ANALYSIS OF WIND SEISMIC NOISE AND ALGORITHMS OF ITS DETERMINATION: **K V Kislov**, V V Gravirov, M Labuncov

S21D Moscone West: 2009 Tuesday 0800h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves II (*joint with G, NH, NS, T, V*)

Presiding: **F Brenguier**, Institut de Physique du Globe de Paris; **E F Larose**, LGIT - CNRS; **C Sens-Schönfelder**, Institut für Geophysik und Geologie; **U Wegler**, BGR

0800h **S21D-01** Temporal change of phase velocity beneath Mt. Asama, Japan, inferred from coda wave interferometry: Y Nagaoka, K Nishida, **Y Aoki**, M Takeo

0815h **S21D-02** Measurement of temporal seismic velocity variations on Piton de la Fournaise volcano, La Réunion from archived seismic noise records: **D S Clarke**, F Brenguier, N M Shapiro

0830h **S21D-03** Temporal variation of seismic anisotropy at Okmok Volcano (Alaska) from regional earthquake sources: **S K Kufner**, J H Johnson, M K Savage

0845h **S21D-04** Passive monitoring of temporal, coseismic, velocity variations at the ocean floor: **P Gouedard**, J A Collins, J J McGuire, R D van der Hilst

0900h **S21D-05** Subsurface Velocity Changes during Strong Shaking as Seen from Deconvolution method (*Invited*): **M Yamada**, J J Mori, S Ohmi

0915h **S21D-06** Shear wave splitting and velocity variations measured from noise auto-correlation reveal crack healing after the 2007 Chuetsu-Oki earthquake in Japan: **M K Savage**, S Ohmi

0930h **S21D-07** Instantaneous phase estimation to measure weak velocity variations: application to noise correlation on seismic data at the exploration scale: **M Corciulo**, P Roux, M Campillo, D Dubucq

0945h **S21D-08** Apparent velocity change caused by temporal variation of frequency content of ambient seismic noise: **Z Zhan**, R W Clayton

Tectonophysics

T21A Moscone South: Poster Hall Tuesday 0800h
Active Monitoring in Geophysics II Posters (*joint with S, NH, G*)

Presiding: **V A Korneev**, Lawrence Berkeley National Laboratory; **M S Zhdanov**, University of Utah

0800h **T21A-2124** POSTER MODELING OF THE NATURAL STATE AND EXPLOITATION CONDITIONS OF THE OIL RESERVOIR HOSTED IN VOLCANOGENIC ROCKS: **A V Kiryukhin**

0800h **T21A-2125** POSTER Frequency-dependent seismic monitoring in a fractured reservoir: **G Goloshubin**, D Silin

0800h **T21A-2126** POSTER Active monitoring of hydraulic and mechanical properties variations during the hydraulic stimulation of a fractured porous reservoir: Some preliminary results from the HPPP Project: **F Cappa**, Y Guglielmi

0800h **T21A-2127** POSTER Hydraulic fracture monitoring using active and passive seismic sources: **T Seher**, S Rondenay, H Djikpesse

0800h **T21A-2128** POSTER ACTIVE MONITORING OF HYDRAULIC FRACTURES USING SLOW WAVES IN THE FRACTURE AND TUBE WAVES IN THE BOREHOLE: **G A Maximov**, A Derov, D Lesonen, B Kashtan, M Lazarkov

0800h **T21A-2129** POSTER Magnetoacoustic Seismic Sensor and its Applications: **V A Korneev**, A S Belyakov

0800h **T21A-2130** POSTER The Corinth Rift Laboratory (CRL) strainmeters: calibration and data analysis: **A Canitano**, P Bernard, A T Linde, S I Sacks, F Boudin

0800h **T21A-2131** POSTER Submarine UXO Detection Using Resonance Scattering Sonar: **R Gritto**, V A Korneev, L R Johnson

0800h **T21A-2132** POSTER The 2010 Southern California Ocean Bottom Seismometer Deployment: **C M Booth**, M D Kohler, D S Weeraratne

0800h **T21A-2133** POSTER CONTINUOUS SOURCE MONITORING: THE HYATT POWER PLANT GENERATORS: **R A Uhrhammer**

0800h **T21A-2134** POSTER Monitoring of the Nojima Fault structure using Accurately Controlled Routinely Operated Signal System (ACCROSS): **Y Kobayashi**, T Watanabe, K Yamaoka, R Ikuta, K Nishigami

0800h **T21A-2135** POSTER Imaging a Time-variant Earthquake Focal Region along an Interplate Boundary: **K Tsuruga**, J Kasahara, Y Hasada, N Fujii

0800h **T21A-2136** POSTER Three-Dimensional Seismic Tomography Beneath Tangshan, China: **J C Chang**, K M Keranen, G Keller, G Qu, S H Harder

0800h **T21A-2137** POSTER Searching for Earthquake Sources in the Lower Tagus Valley (Portugal): First Results: J F Borges, **M A Ferry**, J P Carvalho, D D Fitzenz

0800h **T21A-2138** POSTER Simulation of tsunami propagation with space-varying seafloor topography: **T Ohata**, H Mikada, T Goto, J Takekawa

0800h **T21A-2139** POSTER Monitoring of Magnetotelluric Impedance Tensor near Parkfield, CA: **E Bowles-martinez**, K N Kappler, G D Egbert, G A Newman

0800h **T21A-2140** POSTER Using 3D Simulation of Elastic Wave Propagation in Laplace Domain for Electromagnetic-Seismic Inverse Modeling: **P Petrov**, G A Newman

0800h **T21A-2141** POSTER A Comprehensive Feasibility Study of Marine CSEM Using Analytical Calculation: **T Furukawa**, K H Lee, K Yamane

0800h **T21A-2142** POSTER 3D inversion of time-lapse CSEM data for reservoir monitoring: **N Black**, G A Wilson, M S Zhdanov

0800h **T21A-2143** POSTER A quantitative comparison of the effects of stabilizing functionals in 3D regularized inversion of marine CSEM data: **G A Wilson**, M Cuma, M S Zhdanov, A Gribenko, N Black

0800h **T21A-2144** POSTER Shallow and deep control on the thermal structure of basins - -predictions from 3D models: **M Scheck-Wenderoth**, Y P Maystrenko

0800h **T21A-2145** POSTER Construction of a statistical validation system for formulation of a rule well featuring crustal activities: **M Kawamura**, T Kudo, K Yamaoka

T21B Moscone South: Poster Hall Tuesday 0800h Contemporary Stress Field: Where We Come From and Where We Are Going II Posters (joint with S, V, G)

Presiding: **M Mariucci**, Istituto Nazionale di Geofisica e Vulcanologia, via di Vigna Murata, 605 00143; **P Montone**, Istituto Nazionale di Geofisica e Vulcanologia, via di Vigna Murata, 605 00143; **A Zang**, GFZ German Research Centre for Geosciences

0800h **T21B-2146** POSTER Modelling Hydraulic Fracture Breakdown, Shut-in, and Reopening for In Situ Stress Testing: **A P Bunger**, E Detournay, A Lakirouhani

0800h **T21B-2147** POSTER Effective Stress Approximation using Geomechanical Formulation of Fracturing Technology (GFFT) in Petroleum Reservoirs: **A Haghi**, M Asef, R Kharrat

0800h **T21B-2148** POSTER Predicting Stress-induced Anisotropy around a Borehole: **X Fang**, M Fehler, Z Zhu, M N Toksoz, Title of Team: Earth Resources Laboratory

0800h **T21B-2149** POSTER Hydrofracturing In-situ stress measurements before and after the Wenchuan earthquake in China: **W Chenghu**, Q Guo, Title of Team: Division of In-situ Stress Measurement, Qiliang Guo, Yanshan Zhang, Shiguang Zhao

0800h **T21B-2150** POSTER Imprint of global mantle convection on the intra-plate stress field of Eurasia: **K Ruckstuhl**, R M Govers, M J Wortel

0800h **T21B-2151** POSTER Crustal Stress in the Flinders Ranges, South Australia, From Earthquake First Motion Data: **P R Cummins**, N Balfour, D Love

0800h **T21B-2152** WITHDRAWN

0800h **T21B-2153** POSTER Revisiting Earthquake Focal Mechanisms in the Central and Eastern U.S. Utilizing Independent Stress Data from the World Stress Map: **O Hurd**, M D Zoback

0800h **T21B-2154** POSTER Recent Tectonic Stress Field Zoning in Tianshan Area and its Dynamic Genesis: **H Zhang**, F Xie, X Cui

0800h **T21B-2155** POSTER Contemporary stress state in Italy: updated map: **M Mariucci**, P Montone, S Pierdominici

0800h **T21B-2156** POSTER Recent tectonic stress field state in Italy from numerical modelling analysis: **S Pierdominici**, O Heidbach

0800h **T21B-2157** POSTER Mapping Crustal Stress and Strain in Southwest British Columbia: **N Balfour**, J Cassidy, S E Dosso, S Mazzotti

0800h **T21B-2158** POSTER Evolving Stress State and Deformation Mechanism in the Himalayan Foreland Fold-and-Thrust Belt, Northern Pakistan: **I Ahmad**, N Dasti

0800h **T21B-2159** POSTER Do geological field survey and remote sensing record the same fractures? The case of the corallian Loyalty Islands (SW Pacific): J Thovert, D Huaman, **P Genthon**, P M Adler

0800h **T21B-2160** POSTER Present-day stress-field in the Cooper basin of Australia: implications for petroleum exploration: **G Backé**, R King

0800h **T21B-2161** POSTER Stress State of the Ilan ChinShui Geothermal Area, NE Taiwan: **T Sun**, E Yeh, W Lin, C Liu, C Lu, Y Wu, S Song, J Hung

0800h **T21B-2162** POSTER Stress-Controlled Fracture Permeability and a Possible Cause of Hydrothermal Overflow in Seokmo Geothermal Site, South Korea: **Y Oh**, C Chang

0800h **T21B-2163** POSTER Geomechanical Response to CO₂ Sequestration: preliminary analysis using the example of Snøhvit, Norway: **L Chiaramonte**, S Johnson, J A White

0800h **T21B-2164** POSTER Stress heterogeneity observed in Barnett Shale, TX, and its relation to the distribution of clay-rich ductile formations: **H Sone**, M D Zoback

0800h **T21B-2165** POSTER Stresses and Overpressures Near Salt Bodies Predicted by Coupled Geomechanical Analyses: **M A Nikolinakou**, G Luo, M R Hudec, P B Flemings

0800h **T21B-2166** POSTER A Comparison of Ellipse-Fitting Techniques for Two and Three-Dimensional Strain Analysis, and Their Implementation in an Integrated Computer Program Designed for Field-Based Studies: **F W Vollmer**

0800h **T21B-2167** POSTER Laboratory observations of the response of fault strength as normal stress is changed, and implications for dynamic rupture: B D Kilgore, **J Lozos**, D D Oglesby, N M Beeler

T21C Moscone South: Poster Hall Tuesday 0800h
Investigation of the Earth's Interior Using Geophysical and Laboratory Measurements II Posters (*joint with GP, MR, NS, S, V*)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **A Pommier**, MIT; **R L Evans**, Woods Hole Oceanographic Institution; **G R Foulger**, University of Durham

0800h **T21C-2168** POSTER Partial melt in the oceanic low velocity zone (*Invited*): **M M Hirschmann**

0800h **T21C-2169** POSTER LVZ Constraints from Triplication Data (*Invited*): **D V Helmberger**, R Chu, D Sun

0800h **T21C-2170** POSTER Deep electrical conductivity anomalies beneath the backarc, not the arc of the Central Andes (*Invited*): **H Brasse**, D Díaz

0800h **T21C-2171** POSTER Constraining the nature of the asthenosphere: **E H Fahy**, P Hall, U Faul

0800h **T21C-2172** POSTER The electrical conductivity of the continental lithospheric mantle: new insights from integrated geophysical and petrological modelling. Application to the Kaapvaal Craton and Rehoboth Terrane, southern Africa: **J Fulla**, M R Muller, A G Jones

0800h **T21C-2173** POSTER Comparison of seismic and electrical parameters of the Southern African lithosphere: Evidence for predominantly thermally-driven lateral variation: A G Jones, **S Fishwick**, R L Evans

0800h **T21C-2174** POSTER SIGMELTS: A Web-portal for Electrical Conductivity Calculations in Geosciences: **E Le Trong**, A Pommier

0800h **T21C-2175** POSTER Realizing 2D magnetotelluric inversion in the case of divergent geoelectric strike directions in the crust and mantle - Case study using synthetic models and real data from the Tajo Basin (Spain): **J Schmoldt**, A G Jones, M R Muller, D Kiyani, C Hogg, O Rosell

0800h **T21C-2176** POSTER Lithospheric structures and Precambrian terrane boundaries in northeastern Botswana revealed through magnetotelluric profiling: M P Miensopust, A G Jones, M R Muller, X A Garcia, R L Evans, **D T Khoza**

0800h **T21C-2177** POSTER Physical Properties and Distribution of Intrusive Rocks (Plutons) in the Great Basin: **D A Ponce**, J T Watt, J M Glen

0800h **T21C-2178** POSTER Seismic wave velocity of rocks in the Oman ophiolite: constraints for petrological structure of oceanic crust: **S Saito**, M Ishikawa, S Shibata, R Akizuki, M Arima, Y Tatsumi, S Arai

0800h **T21C-2179** POSTER Rheological contrast between olivine and garnet at high pressures under anhydrous conditions: **S Mei**, A M Suzuki, D L Kohlstedt, W B Durham, N A Dixon

0800h **T21C-2180** POSTER Crustal composition in southern Norway from active and passive source seismology: **W R Stratford**, A M Frassetto, H Thybo

0800h **T21C-2181** POSTER From Crystal Elasticity to Crustal Seismology: **J Brown**

0800h **T21C-2182** POSTER Using mineral thermal diffusivities measured with Laser-Flash Analysis to redefine the continental geotherm: **J M Branlund**, A Hofmeister, J D Merriman, P I Nabelek, A G Whittington

0800h **T21C-2183** WITHDRAWN

0800h **T21C-2184** POSTER Changes in the depth and seismic response of the Moho beneath southern Fennoscandia, evidence for significant post-Caledonide modification: **A M Frassetto**, W R Stratford, H Thybo

0800h **T21C-2185** POSTER Transient convective uplift of an ancient buried landscape: **R A Hartley**, G G Roberts, N J White, Title of Team: Basin Research

0800h **T21C-2186** POSTER Uplift Histories From River Profiles: Examples From Africa: **J D Paul**, G G Roberts, N White

0800h **T21C-2187** POSTER S-wave velocity structure and Vp/Vs ratios derived from three-component OBS data in the northeastern South China Sea: **M Zhao**, X Qiu, H Xu, S Xia, T K Wang, C Lee

T21D Moscone South: Poster Hall Tuesday 0800h
The Cenozoic West Antarctic Rift System (WARS): Observations, Interpretations, Models, and Implications II Posters (*joint with C, V, S*)

Presiding: **S A Henrys**, GNS Science; **B P Luyendyk**, Univ California; **R Granot**, Institut de Physique du Globe de Paris; **F J Davey**, GNS Science

0800h **T21D-2188** POSTER Lithospheric S-velocity structure of Antarctica inverted from surface waves: **M An**, D A Wiens, Y Zhao, M Feng, A Nyblade, M Kanao, A Maggi, J L ev eque

0800h **T21D-2189** POSTER P-wave velocity structure beneath the northern Antarctic Peninsula: **Y Park**, K Kim, Y Jin

0800h **T21D-2190** POSTER Magnetic susceptibilities of rocks of the Antarctic Peninsula: Implications for the redox state of the batholith and the extent of metamorphic zones: **A P Vaughan**, A S Wendt, F Ferraccioli

0800h **T21D-2191** POSTER Crustal Structure of the Gamburtsev Mountains, East Antarctica, from S-wave Receiver Functions and Rayleigh Wave Phase Velocities: A Nyblade, **S E Hansen**, D S Heeszel, D A Wiens, P Shore, M Kanao

0800h **T21D-2192** POSTER NEW AEROGEOLOGICAL INSIGHTS INTO THE GAMBURTSEV SUBGLACIAL MOUNTAINS ENIGMA: **F Ferraccioli**, T A Jordan, C Finn, R E Bell, D Damaske, D A Braaten, M Studinger

0800h **T21D-2193** POSTER Upper Mantle Structure Beneath the Gamburtsev Subglacial Mountains, East Antarctica via Body-Wave Tomography: A J Lloyd, **A Nyblade**, D Wiens, S Hansen

0800h **T21D-2194** POSTER South Pole Fault Zone, 900 km long and almost through the pole: **D U Wise**, P Cianfarra, F Salvini

0800h **T21D-2195** POSTER The West Antarctic Rift System - some outstanding issues: **F J Davey**

0800h **T21D-2196** POSTER Deep structure in rifted crust at the ocean-continent margin in the northwestern Ross Sea: **M M Selvans**, R W Clayton, J M Stock, S C Cande, F J Davey

0800h **T21D-2197** POSTER Geophysical evidence of a Large Igneous Province (LIP) in the West Antarctic Rift System (WARS), and its potential influence on the stability of the West Antarctic Ice Sheet (WAIS): **J C Behrendt**

0800h **T21D-2198** POSTER West Antarctic Rift System: Extension and Collapse of a West Antarctic Plateau: **A D Huerta**, A E Blythe

0800h **T21D-2199** POSTER Differential Movement across Byrd Glacier, Transantarctic Mountains, Antarctica: A combined (U-Th)/He and DEM Analysis: **D J Foley**, E Stump, M C Van Soest, K X Whipple, K Hodges

0800h **T21D-2200** POSTER ROSSMAP; Regional Seismic Stratigraphic Correlations in the Victoria Land Basin and the Timing of Rifting Episodes: **B W Davy**, S A Henrys, T J Wilson, C R Fielding, R H Levy, Title of Team: ANDRILL MIS-Science Team

0800h **T21D-2201** POSTER Seismic and Gravity Data Help Constrain the Stratigraphic and Tectonic History of Offshore New Harbor, Ross Sea, Antarctica: **M A Speece**, S F Pekar, G S Wilson, D A Sunwall, K J Tinto

0800h **T21D-2202** POSTER Two-dimensional Tomographic Inversion Model of Ross Island, Antarctica: **S Maraj**, R C Aster, H A Knox, D Zandomenighi, C M Snelson, P R Kyle

0800h **T21D-2203** POSTER Neogene Fault and Feeder Dike Patterns in the Western Ross Sea: **W R Magee**, T J Wilson

T21E Moscone South: Poster Hall Tuesday 0800h
The Colorado Plateau and Its Margins II Posters (*joint with S, V, G, GP, DI*)

Presiding: **I W Bailey**, University of Southern California; **M S Miller**, University of Southern California; **A Levander**, Rice University; **C Lee**, Rice University

0800h **T21E-2204** POSTER Permeability variation around faults in the Joe Lott Tuff Member of the Mount Belknap Volcanics, southwestern Utah: **C H Okubo**

0800h **T21E-2205** POSTER Late Neogene exhumation of the Piceance basin, N.W. Colorado, USA: Integrated analysis of multiple thermochronometers and subsidence modeling: A J Vernon, **J J Kendall**, T P Becker, P E Patterson, P W Reiners, J Kapp

0800h **T21E-2206** POSTER Evidence from carbonate clumped isotope (Δ_{47}) thermometry for the Late Cretaceous 'Nevadaplano' in the northern Basin and Range Province: **K E Snell**, P L Koch, J Eiler

0800h **T21E-2207** POSTER Melt in the mantle beneath the Amagmatic Zone, Southern Nevada: **C J Rau**, D W Forsyth

0800h **T21E-2208** POSTER Retrograded eclogite xenoliths from mid-Tertiary potassic lavas along the southwest margin of the Colorado Plateau: **T J Schroeder**, N Riggs, M H Ort

0800h **T21E-2209** POSTER Effect of Shear Traction on Deformation of Western North America: **A Ghosh**, T W Becker, E Humphreys

0800h **T21E-2210** POSTER Combined Investigation of Vs and Density Structure Beneath the Colorado Plateau Based on Gravity, Receiver Function and Rayleigh Wave Phase Velocity Data: **I W Bailey**, M S Miller, A Levander, K Liu

0800h **T21E-2211** POSTER Correlation of the 410 km Discontinuity Low Velocity Layer with Tomographic Wavespeed Variations: **Z Zhang**, K G Dueker

0800h **T21E-2212** POSTER Seismic Investigations of an Accommodation zone in the Northern Rio Grande Rift, New Mexico, USA: **W S Baldridge**, J Valdes, O Nedorub, B Phrampus, L W Braile, J F Ferguson, M C Benage, M Litherland

0800h **T21E-2213** POSTER Receiver Function Analysis of the Lithospheric Structure Beneath the Western Great Plains: **S Thurner**, Y Zhai, A Levander

0800h **T21E-2214** POSTER Apatite (U-Th)/He Thermochronology from the Henry Mountains Laccolith Complex, Southeastern Utah, USA: **K E Murray**, P W Reiners

0800h **T21E-2215** POSTER New incision rates along the Colorado River system based on cosmogenic burial dating of terraces: implications for regional controls on differential incision: **A L Darling**, K E Karlstrom, D E Granger, A Aslan, E Kirby, W B Ouimet, D D Coblenz, Title of Team: CREST Working Group

0800h **T21E-2216** POSTER Correlation of Earthquakes with Faults along the Southwestern Margin of the Colorado Plateau, Northern Arizona: V S Cronin, **D S Lancaster**, D S Brumbaugh

0800h **T21E-2217** POSTER Mantle Lithosphere Support of Colorado Rocky Mountain Elevation: 3D Tomography from CREST: **J K MacCarthy**, R C Aster, S M Hansen, J C Stachnik, K G Dueker, K E Karlstrom, Title of Team: The CREST Group

0800h **T21E-2218** WITHDRAWN

0800h **T21E-2219** POSTER Petrogenesis of the Mount Taylor volcanic field and comparison to the Jemez Mountains volcanic field, New Mexico: **K Fella**, J A Wolff, F E Goff

T21F Moscone West: 2011 Tuesday 0800h
Earthquake Geology and Active Tectonics in South and East Asia II (*joint with S*)

Presiding: **Y Chan**, Academia Sinica; **T B Byrne**, University of Connecticut

0800h **T21F-01** WITHDRAWN

0815h **T21F-02** Integrated structural model for active arc-continent collision from southern Taiwan to central Taiwan inferred from seismogenic views: **S Nagai**, Y Wang, K Ma, Y Wu, H Huang

0830h **T21F-03** Deep structure and deformation history of the rapidly growing Tainan anticline, southwestern Taiwan: **O Marc**, J Suppe, S Huang, M Le Beon, M Huang, J Hu

0845h **T21F-04** Spatial distribution and focal mechanisms of the earthquakes recorded in southern Central Range of Taiwan and their tectonic implications: **K Lai**, Y Wu, Y Chen, Y Chan

0900h **T21F-05** Fault zone structure and inferences on past activities of the active Shanchiao Fault in the Taipei metropolis, northern Taiwan: **C Chen**, J Lee, Y Chan, C Lu

0915h **T21F-06** Using Broadband Seismic Waveforms to Image Seismogenic Structures of Taiwan (*Invited*): **W Chi**

0930h **T21F-07** Early Continental Rifting of the South China Sea: **C Lee**, M Chiu, C Chan

0945h **T21F-08** Active tectonic features and seismogenic structures in Taiwan submarine arc-continent collision zone (*Invited*): **A T Lin**, C Liu, S Hsu

T21G Moscone West: 2016 Tuesday 0800h
Interaction Between Magmatic and Tectonic Processes in Continental and Incipient Oceanic Rifts I (*joint with G, S, V, GP*)

Presiding: **D Keir**, University of Leeds; **C Pagli**, U. Leeds; **J Biggs**, University of Bristol; **E Rivalta**, University of Leeds

0800h **T21G-01** The importance of rift history for volcanic margin formation (*Invited*): **J Collier**, J J Armitage, T A Minshull

0820h **T21G-02** Source-limited dike propagation at the base of the lithosphere: implications for rift initiation: **C Havlin**, E Parmentier, G Hirth

0835h **T21G-03** Formation and Stability of Magmatic Segments in the Main Ethiopian Rift (*Invited*): **J W van Wijk**, E K Beutel, C J Ebinger, D Keir

0855h **T21G-04** The Role of Magma During Continent-Ocean Transition: Evidence from Seismic Anisotropy: **J M Kendall**, I D Bastow, D Keir, G W Stuart

0910h **T21G-05** Lithospheric Structure Beneath the Salton Trough/ Gulf of California Region from Sp Receiver Functions: **V Lekic**, S W French, K M Fischer
0925h **T21G-06** Widespread, Off-axis Magmatism at a Young Oceanic Rift, the Sedimented Guaymas Basin Spreading Center: **S Soule**, D Lizarralde, J Seewald, G Proskurowski
0940h **T21G-07** Magmatic alteration of the crust in the Baikal rift from P- and S-wave active source data: **H Thybo**, W R Stratford, I M Artemieva

T21H Moscone West: 2018 Tuesday 0800h
Melt Present Deformation in the Lithosphere I (joint with MR, V)

Presiding: **S C Kruckenberg**, University of Wisconsin-Madison; **A S Yoshinobu**, Texas Tech University; **B Ildefonse**, CNRS - Université Montpellier 2; **R F Weinberg**, Monash University

0800h **T21H-01** Microstructural evidence of melting in crustal rocks (Invited): **M B Holness**, B Cesare, E W Sawyer
0815h **T21H-02** Insights into partial melting processes through integrated isotopic and trace element analysis of zircon (Invited): **N M Kelly**, S L Harley, S K Appleby, J A Matthews
0830h **T21H-03** Partial melting a key agent in exhumation of the world's youngest eclogite-facies (and UHP) rocks in the D'Entrecasteaux Islands, Papua New Guinea: **T A Little**, B R Hacker, S M Gordon, S Baldwin, P G Fitzgerald
0845h **T21H-04** Stress-driven melt segregation in deforming partially molten rocks (Invited): **D L Kohlstedt**, D S King, B K Holtzman
0900h **T21H-05** Melt Impregnation, Strain Localization, and Deformation Mechanisms in a Fossil Oceanic Fracture Zone (Ingalls Ophiolite): **R B Miller**, S M Gordon
0915h **T21H-06** Oceanic Core Complex Structure Controlled by the Depth Distribution of Magma Emplacement (Invited): **J L Olive**, M D Behn, B E Tucholke
0930h **T21H-07** New seismic images in the NW Pacific and its implications for tectono-magmatic processes at paleo-fast-spreading ridge: **S Kodaira**, G Fujie, M Yamashita, N Noguchi, T Sato, T Takahashi, Y Kaiho, Y Yamamoto, N Takahashi
0945h **T21H-08** Melt percolation and associated deformation: field and microstructural evidence from the Beni Bousera ultramafic massif: **J Stanley**, O E Jagoutz, G Hirth, K Targuisti

Volcanology, Geochemistry, and Petrology

V21A Moscone South: Poster Hall Tuesday 0800h
Are Hot Spots Hot? Posters (joint with DI, T, MR)

Presiding: **G R Foulger**, University of Durham; **P D Clift**, University of Aberdeen; **J H Natland**, Rosenstiel School of Marine and Atmospheric Science

0800h **V21A-2312 POSTER** Are "Hot Spots" Hot? – An Overview: **G R Foulger**
0800h **V21A-2313** WITHDRAWN
0800h **V21A-2314** WITHDRAWN
0800h **V21A-2315 POSTER** Interaction between the nascent Reunion hotspot and the dying Mascarene spreading centre: **P D Bissessur**, J Dyment, C Deplus, P Patriat
0800h **V21A-2316 POSTER** Petrological and chemical variability of peridotite xenoliths from the Cameroon volcanic line, West Africa: an estimation of possible P-T path of upwelling mantle plume: **K N Matsukage**

0800h **V21A-2317 POSTER** Potential temperature, upwelling rate and eclogite in the formation of the North Atlantic large igneous province: **E L Brown**, C E Leshner
0800h **V21A-2318** WITHDRAWN
0800h **V21A-2319 POSTER** Magma Mixing: Why Picrites are Not So Hot: **J H Natland**
0800h **V21A-2320 POSTER** PLATE TECTONICS CONSTRAINED BY EVIDENCE-BASED MAGMATIC TEMPERATURES AND PHASE RELATIONS OF FERTILE LHERZOLITE (Invited): **D H Green**, T Falloon
0800h **V21A-2321 POSTER** Oceanic Volcanism from the Low-Velocity Zone - Without Mantle Plumes (Invited): **D C Presnall**, G H Gudfinnsson

V21B Moscone South: Poster Hall Tuesday 0800h
Life After Collapse: Five Decades of Edifice Reconstruction at Bezymianny Volcano, Kamchatka I Posters (joint with S)

Presiding: **P E Izbekov**, Geophysical Institute; **J T Freymueller**, University of Alaska Fairbanks; **E I Gordeev**, Institute of Volcanology and Seismology; **J S Pallister**, USGS
0800h **V21B-2322 POSTER** Physical characteristics of the 17 December, 2009 and 1 June, 2010 explosive eruptions of Bezymianny volcano, Kamchatka, Russia: **M V Merkulova**, O K Neill, P E Izbekov, A V Dektyarev
0800h **V21B-2323 POSTER** Pre-eruptive crystallization and degassing processes associated with laterally directed volcanic explosions: **O K Neill**, J E Hammer, P E Izbekov, M Belousova, A Belousov, A B Clarke, R Foroozan
0800h **V21B-2324 POSTER** Volumetric Changes of the Bezymianny Dome: Insights on the Eruptive Behavior: **S V Ushakov**, V N Dvigalo, P E Izbekov
0800h **V21B-2325 POSTER** GPS MONITORING BEZIMYANY VOLCANO 2006-2010 (KAMCHATKA): **S Serovetnikov**, J T Freymueller, N Titkov, V Bahtiarov, S Senyukov
0800h **V21B-2326 POSTER** Explosions of andesitic volcanoes in Kamchatka and danger of volcanic ash clouds to aviation: **E I Gordeev**, O A Girina, C A Neal
0800h **V21B-2327 POSTER** Dome collapse eruption in Tatun Volcanic Group near metropolitan Taipei, Taiwan at ~6 kyrs: **C Chen**, T Lee
0800h **V33D-08 POSTER** Trace element constraints on the origin of magma diversity at Bezymianny volcano, Kamchatka: **S J Turner**, J S Shipman, P E Izbekov, C H Langmuir
0800h **V21B-2329 POSTER** Explosive eruptions at Bezymianny Volcano (Kamchatka, Russia) from 2000-2009: warning system, prediction and risk assessment: **S Senyukov**
0800h **V21B-2330 POSTER** Cross correlation analysis and double difference relocation of deep seismic events beneath the Klyuchevskoy Volcanic Group: **O George**, M E West
0800h **V21B-2331 POSTER** Petrological constraints on magma chamber dynamics of Bezymianny Volcano, Kamchatka during 2000-2007: **V D Shcherbakov**, P Y Plechov, P E Izbekov, J S Shipman
0800h **V21B-2332 POSTER** Rapid Modal Analysis and Whole-Rock Geochemistry of the 1956-Present Eruptive Products of Bezymianny Volcano, Kamchatka, Russia: **J S Shipman**, S J Turner, M Gavrilenko, P E Izbekov, Title of Team: Partners in International Research and Education
0800h **V21B-2333 POSTER** GEOCHEMICAL SIMILARITIES BETWEEN THE PRE-CALDERA AND MODERN EVOLUTIONARY SERIES OF ERUPTIVE PRODUCTS FROM GORELY VOLCANO, KAMCHATKA: **M Gavrilenko**, A Ozerov

0800h **V21B-2334** *POSTER* Oxygen, hydrogen, and compositional characterization of Bezymyanny volcano, Kamchatka, Russia: a 2000-year geochemical history based on analysis of individual phenocrysts and glasses from tephra sections and surface lavas: **K M Wickham**, I N Bindeman, V Ponomareva, P E Izbekov, M Portnyagin

V21C Moscone South: Poster Hall Tuesday 0800h
The 2008-2010 Eruption of Halema'uma'u, Kilauea: Eruption, Ascent, and Plume Dynamics Posters (*joint with NH, NS*)

Presiding: **J P Kauahikaua**, Hawaiian Volcano Observatory; **B F Houghton**, University of Hawaii; **M R Patrick**, USGS-HVO; **R J Carey**, University of Hawaii

0800h **V21C-2336** *POSTER* Tephra deposits of impulsive explosive events during the 2008 eruption of Halema'uma'u Crater, Kilauea: **B F Houghton**, D Swanson, R J Carey, J Rausch

0800h **V21C-2337** *POSTER* Changing Componentry for Eruptions of Halema'uma'u Crater, Kilauea in 2008: Implications for Ascent and Eruption Dynamics: **L Swavely**, D Swanson, B F Houghton, R J Carey

0800h **V21C-2338** *POSTER* Shallow triggering of explosive volcanic eruptions: **R J Carey**, B F Houghton, M Manga, D Swanson, T R Orr, M R Patrick

0800h **V21C-2339** *POSTER* Evidence for gas accumulation beneath the surface crust driving cyclic rise and fall of the lava surface at Halema'uma'u, Kilauea Volcano: **M R Patrick**, T R Orr, D Wilson, A J Sutton, T Elias, D Fee, P A Nadeau

0800h **V21C-2340** *POSTER* The impact of rockfalls on shallow degassing processes during the 2008-2010 summit eruption of Kilauea Volcano, Hawaii'i (*Invited*): T R Orr, **M R Patrick**, D Wilson, A J Sutton, T Elias

0800h **V21C-2341** *POSTER* Impact of Persistent Degassing of Kilauea Volcano on Domestic Water Supplies: **D M Thomas**, T Macomber

0800h **V21C-2342** *POSTER* Very-long-period seismicity at Kilauea Volcano, Hawaii'i, 2007-2010 (*Invited*): **P B Dawson**, M C Benitez, B A Chouet

0800h **V21C-2343** *POSTER* Comparison of Rapid SO₂ Emission Rates from a Dual Ultraviolet Camera System with those of FLYSPEC Traverses at Kilauea Volcano, May 2010: **C A Werner**, P A Nadeau, I D Brewer, C R Sealing, T Elias, A J Sutton

0800h **V21C-2344** *POSTER* Ultraviolet imaging of volcanic SO₂: Implementation as part of a multidisciplinary approach to studying summit activity at Kilauea Volcano, Hawaii (*Invited*): **P A Nadeau**, C A Werner, G P Waite, I D Brewer, S A Carn, T Elias, M P Poland, A J Sutton, D Wilson

0800h **V21C-2345** *POSTER* High-Precision Pb Isotopic Analyses of Historical Kilauea Summit Lavas (1823-1982): Implications for a Heterogeneous Mantle Source and a Dynamic Magmatic Plumbing System: **D E Heaton**, A J Pietruszka, M O Garcia, J P Marske

0800h **V21C-2346** *POSTER* Evolution of Kilauea Volcano's shallow magmatic plumbing system: a geochemical perspective from historical rift lavas (1790-present): **J P Marske**, M O Garcia, A J Pietruszka, J M Rhodes, M D Norman, D E Heaton

0800h **V21C-2347** *POSTER* Satellite thermal and tilt measurements of the 2007 - 2008 eruptive period at Kilauea volcano: Implications for down rift magma transport: **A M Steffke**, A J Harris

0800h **V21C-2348** *POSTER* Kilauea's Explosive Past: Understanding Violent Explosions at Hawaii'i's most Active Volcano: **S J Weaver**, B F Houghton, D Swanson

0800h **V21C-2349** *POSTER* Emplacement of Pahoehoe Toe Networks: Observations of May, 2010 Tube-fed Flows at Kilauea Volcano, Hawaii'i: **D A Crown**, M Ramsey, K Hon

V21D Moscone South: Poster Hall Tuesday 0800h
Causes and Consequences of Rhyolite Volcanism at Chaiten Volcano, Southern Chile I Posters (*joint with NH*)

Presiding: **J M Castro**, Monash University; **J S Pallister**, USGS; **A Amigo**, SERNAGEOMIN; **F J Swanson**, US Forest Service

0800h **V21D-2350** *POSTER* Volumes and eruption rates for the 2008-2009 Chaitén rhyolite lava dome: **J S Pallister**, A K Diefenbach, J Griswold, J Muñoz, L E Lara, C Valenzuela, W C Burton, R Keeler

0800h **V21D-2351** *POSTER* Landscape-scale effects of the 2008 Chaiten (Chile) eruption on vegetation disturbance and regeneration from satellite image analysis: **K M Moore**, J A Jones, F J Swanson, C Crisafulli

0800h **V21D-2352** *POSTER* Role of large wood (LW) in rivers affected by the 2008 Chaitén volcano explosive eruption: **A IROUME**, A Andreoli, H Ulloa, A Merino, M Da Canal, A Iroume jr.

0800h **V21D-2353** *POSTER* From Chaitén to the Chilean volcano monitoring network Jorge Munoz, Hugo Moreno, Servicio Nacional de Geología y Minería, Chile, jmunoz@sernageomin.cl: **J Muñoz**, H Moreno

0800h **V21D-2354** *POSTER* Volatile Contents, Degassing Behaviour and Hydration of Early-erupted Rhyolitic Pyroclasts and Ashes from Vulcan Chaitén, Chile: **H Tuffen**, C S Riley, J M Castro

0800h **V21D-2355** *POSTER* Monitoring the Chaiten Rhyolite Dome: Interpretation of Airborne Thermal and Aeromagnetic Data: M Bernstein, A Pavez Alvarado, **P L Whelley**, E S Calder, H Rymer

0800h **V21D-2356** *POSTER* Tephra fall deposits from Chaitén-Michinmahuida volcanoes: constrains on granulometry, geochemical data and 14C ages: **A Amigo**, L E Lara

V21E Moscone South: Poster Hall Tuesday 0800h
VGP General Contributions I Posters

Presiding: **A Grunder**, Oregon State University; **M J Kohn**, Boise State University

0800h **V21E-2357** *POSTER* Thermal plumes and electric potentials generation in a porous medium locally heated from below: **R Antoine**, K Kurita

0800h **V21E-2358** *POSTER* Silica and Iron Oxide Minerals in Acidic Hydrothermal Alteration Products at Volcanic Fumaroles - Crystallinity of Cristobalite and Morphology of Hematite: **H Isobe**, Y Korenaga

0800h **V21E-2359** *POSTER* Helium-carbon isotopic composition of thermal waters from Tunisia: E Fourré, A Aiuppa, R Di Napoli, F Parello, E Gaubi, **P Jean-Baptiste**, P Allard, S Calabrese, A Ben Mammou

0800h **V21E-2360** *POSTER* Evidence for a Fracture Dominated Hydrothermal System at St. George's Hill, Montserrat: **C L Kenedi**, G Ryan

0800h **V21E-2361** *POSTER* Geochemical analyses of crustal fluids in forearc regions in central Japan: **C Kusuda**, H Iwamori, K Kazahaya, N Morikawa, M Takahashi, H A Takahashi, M Ohwada, T Ishikawa, M Tanimizu, K Nagaishi

0800h **V21E-2362** *POSTER* Variations in Advected Heat from Devils Kitchen Hydrothermal Area, Lassen Volcanic National Park, California 1922-2010: **N G Randolph-Flagg**, R H Mariner, E A Lundstrom, S Ingebritsen

0800h **V21E-2363** *POSTER* Modeling water table and electrical conductivity at Solfatara volcano (Campi Flegrei caldera, Southern Italy): **A P Rinaldi**, M Todesco, J Vandemeulebrouck, M Bonafede

0800h **V21E-2364** *POSTER* Phreatic and Hydrothermal Explosions: A Laboratory Approach: **B Scheu**, D B Dingwell

0800h **V21E-2365** POSTER Carbon isotope exchange between CO₂ and CH₄ in hydrothermal fluids from the Tuscan-Roman and Campanian degassing systems (central-southern Italy): **F Tassi**, J Fiebig, M Nocentini, O Vaselli

0800h **V21E-2366** POSTER Volcanic Monitoring Techniques Applied to Controlled Fragmentation Experiments: **U Kueppers**, M A Alatorre-Ibarguengoitia, M K Hort, S Kremers, K Meier, L Scharff, B Scheu, J Taddeucci, D B Dingwell

0800h **V21E-2367** POSTER Developing monitoring capability of a volcano observatory: the example of the Vanuatu Geohazards Observatory: **S Todman**, E Garaebiti, G E Jolly, S Sherburn, B Scott, A D Jolly, N Fournier, C A Miller

0800h **V21E-2368** POSTER Assessment of Glassy and Vesicular Textures on Silicic Lava Domes through Analysis of Ground-based and Airborne LIDAR Data: **S W Anderson**, D C Finnegan, M Bulmer

0800h **V21E-2369** POSTER Refining the Workflow of UV Camera Measurements: Data Collection from Low Emission Rate Volcanoes under Variable Conditions: **I D Brewer**, C A Werner, P A Nadeau

0800h **V21E-2370** POSTER Iron in Plagioclase: Synthesis Experiments with Applications to Lunar Reflectance Spectroscopy: **L Cheek**, S W Parman, C M Pieters

0800h **V21E-2371** POSTER Risk-Free Volcano Observations Using an Unmanned Autonomous Helicopter: seismic observations near the active vent of Sakurajima volcano, Japan: **T Ohminato**, T Kaneko, T Koyama, A Yasuda, A Watanabe, M Takeo, Y Honda, K Kajiwara, W Kanda, M Iguchi, T Yanagisawa

0800h **V21E-2372** POSTER Eruptive Process, Geochemical Variation, and Weathering Controls on the Hyperspectral Reflectance Properties of the Blue Dragon Lava Flow, Craters of the Moon National Monument: **J Poplawski**, D J Chadwick

0800h **V21E-2373** POSTER Automated System for Anomalous Volcanic Crustal Deformation Detection and Source Estimation by Using Real Time Observation Data of NIED: **H Ueda**, E Fujita, M Ukawa, Y Kohno, T Tanada

0800h **V21E-2374** POSTER The Surface Temperature Characteristics of Earth's Active Lavas: Implications for the Design of Earth Observation Missions: **R Wright**

0800h **V21E-2375** POSTER The influence of big earthquakes on volcanism in Chile since 1900, including the recent M=8.8 offshore Maule event: **C A Farias**, J A Valdivia

0800h **V21E-2376** POSTER Strongly Gliding Harmonic Tremor Preceding Eruptions of Redoubt Volcano, Alaska, 2009: **A J Hotovec**, S G Prejean, J E Vidale, J S Gombert

0800h **V21E-2377** POSTER Investigation of shallow volcano-tectonic (VT) earthquakes at Mount St. Helens, Washington, from 1990-2010: **H L Lehto**, D C Roman, S C Moran

0800h **V21E-2378** POSTER Seismic expression of magma-induced crustal strains and localized fluid pressures during initial eruptive stages, Soufrière Hills volcano, Montserrat: **V Miller**, B Voight, C J Ammon, E Shalev, G Thompson

0800h **V21E-2379** POSTER Volcanic earthquakes and tremor associated with the 2010 eruption of Shinmoe-dake in Kirishima volcano group, Japan: **J Oikawa**, A Watanabe, H Tsuji, T Koyama, Y Morita, T Ohminato, M Takeo, S Nakada, Y Aoki, Y Maeda

0800h **V21E-2380** POSTER Precursory seismicity associated with the May 29, 2010 undersea eruption south of Sarigan Island, Northern Mariana Islands: C K Searcy, **J A Power**, P Webley

0800h **V21E-2381** POSTER Repeating LP events and increases in high-frequency seismic energy preceding the December 1999 eruption of the quiescently active Telica Volcano, Nicaragua: **M Rodgers**, D C Roman, H Geirsson, P LaFemina, A Muñoz, C Guzman, V Tenorio

0800h **V21E-2382** POSTER Event Detection Tools Applied to Volcanic Swarms - An Assessment of Comparative and Complementary Performance: **C A Rowe**, M Maceira, D Anderson, A S Self, R A White

V21F Moscone West: 2022 Tuesday 0800h
Tracking Magma Through the Crust to Eruption I (joint with G, S)

Presiding: **T Arnadottir**, Inst. of Earth Sciences; **C J Bean**, University College Dublin

0800h **V21F-01** Structure and Tectonic Position of the Eyjafjallajökull Volcano, S-Iceland: **P Einarsson**, ÁSTA R Hjartardóttir

0815h **V21F-02** Seismic evidence of magma transport in Eyjafjallajökull during 2009-2010 (Invited): **S Hjaltadóttir**, K S Vogfjord

0830h **V21F-03** Surface Deformation of Eyjafjallajökull Volcano During the 2009-2010 Unrest (Invited): **S Hreinsdóttir**, A Hooper, A Auriac, F Sigmundsson, M Hensch, T Arnadóttir, M J Roberts, H Sveinbjornsson, R Pedersen, H Geirsson, B G Ofeigsson, E C Sturkell, K Feigl

0845h **V21F-04** Trace-element variations reveal dynamic magma mixing during the 2010 eruption of Eyjafjallajökull, Iceland: **O Sigmarsson**, I Vlastelic, J Devidal

0900h **V21F-05** Intrusive activity beneath Eyjafjallajökull 1991-2010 from analysis of earthquake and geodetic data: **M Hensch**, B Brandsdóttir, T Arnadóttir, A Auriac, B S Thorbjarnardóttir

0915h **V21F-06** Volcanic tremor, case studies from Iceland: **K Jonsdóttir**, C J Bean, K S Vogfjord

0930h **V21F-07** Seismicity and Tremor Signals Associated With Magma Movements in Icelandic Volcanoes: **K S Vogfjord**

0945h **V21F-08** Imaging Lower Crustal Intrusion in Iceland using Microseismics: **R S White**, J Drew, H R Martens, J Key, H Soosalu, S Jakobsdóttir

Union

U22A Moscone South: 104 Tuesday 1020h
Breakthroughs in Understanding and Developing Renewable Energy I

Presiding: **E C Weatherhead**, U. Colorado; **S K Avery**

1020h **Introduction** Dr. Susan Avery will present an overview of atmospheric and hydrological renewable energy and her thoughts on the importance of geophysical sciences to be fully engaged in the development renewable energy.

1030h **U22A-01** Scientific breakthroughs necessary for the commercial success of renewable energy (Invited): **J Sharp**

1050h **U22A-02** The Promise of Wave Power (Invited): **T Brekken**

1110h **U22A-03** Development and Application of Advanced Weather Prediction Technologies for the Wind Energy Industry (Invited): **W P Mahoney**, G Wiener, Y Liu, W Myers, D Johnson

1130h **U22A-04** Solving the Meteorological Challenges of Creating a Sustainable Energy System (Invited): **M Marquis**

1150h **Panel Discussion** Panelists will respond to questions submitted to conveners.

1210h **Concluding Remarks** Dr. Betsy Weatherhead will summarize the primary points and offer direction for next steps.

Atmospheric Sciences

A22A Moscone West: 3004 Tuesday 1020h **Biomass Burning: New Findings and Analyses From Multiple Perspectives II** (*joint with B, PA*)

Presiding: Y Shinozuka, ORAU/NASA Ames Research Center;
S P Urbanski, US Forest Service

1020h **A22A-01** Optical and Structural Properties of Aerosols Emitted from Open Biomass Burning (*Invited*): **H Moosmuller**, R K Chakrabarty, K Lewis, M Gyawali, C Mazzoleni, M K Dubey, S M Kreidenweis, W P Arnott

1050h **A22A-02** Emission Rates and Optical Properties of Pollutants Emitted from a Traditional and an Improved Wood-Burning Cookstove: **T Kirchstetter**, O L Hadley, C Preble, A Gadgil

1105h **A22A-03** OH Reactivity and Potential SOA Yields from Volatile Organic Compounds and Other Trace Gases Measured in Controlled Laboratory Biomass Burns: **J B Gilman**, C Warneke, W C Kuster, P D Goldan, P R Veres, J M Roberts, J A De Gouw, I R Burling, R J Yokelson

1120h **A22A-04** Organic Aerosol Evolution with Photochemical Processing of Open Biomass Burning Smoke: Field vs. Lab Observations and Implications for the Global OA Budget: **J L Jimenez**, A M Ortega, M Cubison, D A Day, W H Brune, C J Hennigan, A L Robinson, H Coe, D Bon, J A De Gouw, S M Kreidenweis, C Warneke

1135h **A22A-05** Oxidative Aging and Secondary Organic Aerosol Formation from Simulated Wildfire Emissions: **C J Hennigan**, M A Miracolo, G J Engelhart, A A May, C E Wold, W M Hao, T Lee, A P Sullivan, J B Gilman, W C Kuster, J A De Gouw, J L Collett, S M Kreidenweis, A L Robinson

1150h **A22A-06** Examination of Smoke Maker Ratios from Controlled Laboratory Burns vs. Wildfires and Prescribed Burns: **A P Sullivan**, S M Kreidenweis, J L Collett

1205h **A22A-07** Nitrated Secondary Organic Tracer Compounds in Biomass Burning Smoke: **Y Iinuma**, O Böge, R Gräfe, H Herrmann

A22B Moscone West: 3002 Tuesday 1020h **Climate Change, Air Quality, and Their Interrelations at the North American West Coast VI**

Presiding: A H Goldstein, University of California, Berkeley;
D D Parrish, NOAA/ESRL Chemical Sciences Division

1020h **A22B-01** Airborne Measurements of Nitryl Chloride and Implications for Chlorine Activation in the South Coast Air Basin of California (*Invited*): **J M Roberts**, S S Brown, W P Dube, J Neuman, J B Nowak, C A Brock, A M Middlebrook, R Bahreini, T B Ryerson, I B Pollack, P R Veres, A K Cochran, C Warneke, J A De Gouw

1035h **A22B-02** Ambient Concentrations and Emissions of a Comprehensive Suite of Volatile Organic Compounds at the CalNex-Bakersfield Supersite: **D R Gentner**, A H Goldstein

1050h **A22B-03** Measurements Of Volatile Organic Compounds At A Ground Site In The Los Angeles Basin During Calnex 2010: W C Kuster, J B Gilman, M Graus, C Warneke, **J A De Gouw**

1105h **A22B-04** Ground based organic and inorganic acids measurements using negative-ion proton-transfer chemical-ionization mass spectrometry in Pasadena, CA during CalNex 2010: **P R Veres**, J M Roberts, A K Cochran, C Warneke, J A De Gouw

1120h **A22B-05** Cloud property retrievals from surface spectral transmittance and airborne spectral reflectance: Comparisons with satellite, microwave, and in-situ observations during CalNex: **P J McBride**, S Schmidt, P Pilewskie, S Lance, P Minnis, K M Bedka, D E Wolfe

1135h **A22B-06** Fine-resolution model simulations of California air quality: **S Kim**, M Trainer, W M Angevine, S Lee, R J Alvarez II, S Baidar, G J Frost, R Hardesty, A O Langford, S A McKeen, H Oetjen, I B Pollack, T B Ryerson, C J Senff, R Sinreich, R Volkamer

1150h **A22B-07** Evaluation of Real-time Air Quality Model Forecasts and Their Emissions During the CalNex-2010 Field Campaign: **S A McKeen**, G A Grell, S Peckham, W Gong, S Menard, H Landry, J McQueen, Y Tang, J McHenry, D Olerud

1205h **A22B-08** Airmass Characteristics of Surface Air Quality over California: **G Pfister**, C Wiedinmyer, D P Edwards, L K Emmons

A22C Moscone West: 3006 Tuesday 1020h **Fast Physics in Climate Models: Parameterization and Evaluation II** (*joint with NG*)

Presiding: Y Liu, Brookhaven Natl Lab; **L Donner**, GFDL/NOAA

1020h **Introduction**

1024h **A22C-01** Use of the PDF method to parameterize subgrid variability and drive microphysical schemes (*Invited*): **V E Larson**, B M Griffin, D P Schanen

1044h **A22C-02** WITHDRAWN

1056h **A22C-03** Biases in parameterized autoconversion and accretion rates due to subgrid variations and correlations of cloud water, droplet number, and drizzle water: **J Wang**, G Senum, Y Liu, P H Daum, L I Kleinman, R L McGraw

1108h **A22C-04** A new parameterization for predicting the fast response of stratiform cloud to unresolved diabatic radiative heating: **T J Garrett**, C T Schmidt

1120h **A22C-05** Parameterizing convective organization: **B E Mapes**, R B Neale

1132h **A22C-06** Exploring the role of mesoscale forcing on deep convection: **F Robinson**, D Gerstle, S C Sherwood, C Liu, D J Kirshbaum

1144h **A22C-07** Observational Evaluation of Mass Flux Parameterizations of Fair-Weather Cumuli: **B A Albrecht**, P Kollias

1156h **A22C-08** Cloud-Aerosol Interactions in a Multiscale Aerosol Climate Model: **S J Ghan**, W Minghuai, R C Easter, E Kassianov, M Ovchinnikov, Y Qian, V E Larson, D P Schanen, H Yu, H Morrison, M Khairoutdinov

1208h **A22C-09** Microphysics Parameterization in Convection and its Effects on Cloud Simulation in the NCAR CAM5: **G J Zhang**, X Song

A22D Moscone West: 3008 Tuesday 1020h **Greenhouse Gas Measurements Using Active Optical Remote Sensing I** (*joint with B*)

Presiding: E V Browell, NASA Langley Research Ctr; **J B Abshire**

1020h **A22D-01** Applications of active remote sensing of CO₂ to atmospheric studies of regional greenhouse gas sources and sinks (*Invited*): **K J Davis**, E V Browell, M P Butler, A Denning, L I Diaz Isaac, F Gibert, S Ismail, G Koch, T LAUVAUX, N L Miles, P J Rayner, S Richardson, C Sweeney

1045h **A22D-02** An Advanced Ground-Based 1.6 μ m DIAL for Daytime Measurements of Vertical CO₂ Concentration Profiles in the Atmosphere: **C Nagasawa**, M Abo, Y Shibata, T Nagai, T Sakai, M Tsukamoto, T Honda

1100h **A22D-03** On the use of active remote sensing of CO₂ for estimating surface fluxes. (*Invited*): **P J Rayner**, F Chevalier, M Vaughan, L Feng

1125h **A22D-04** Atmospheric Airborne Pressure Measurements using the Oxygen A Band for the ASCENDS Mission: **H Riris**, M Rodriguez, M Stephen, W Hasselbrack, G Allan, J Mao, S R Kawa, C J Weaver

1140h **A22D-05** Lessons of space-based CO₂ measurements based on recent results from GOSAT project (*Invited*): **O Uchino**, I Morino, Y Yoshida, T Yokota

1205h **A22D-06** Ultraprecise laboratory reference data to support remote sensing: **D A Long**, D K Havey, M Okumura, C E Miller, J T Hodges

Biogeosciences

B22A Moscone West: 2006 Tuesday 1020h
Adaptation of Vegetation to Global Change II (*joint with GC, H*)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley; **S Zaehle**, Max Planck Institute for Biogeochemistry

1020h **B22A-01** Global change, soil water content, stomatal behavior and the statistics of rainfall (*Invited*): **G D Farquhar**, F Sun, M L Roderick, W Lim

1035h **B22A-02** Plant water use efficiency shapes co-evolution of stomata size and density over geologic time: **S Assouline**, D Or

1050h **B22A-03** Mechanisms Controlling Species Responses to Climate Change: Thermal Tolerances and Shifting Range Limits. (*Invited*): **R F Sage**, O Bykova, H Coiner

1105h **B22A-04** Photosynthetic physiology of eucalypts along a sub-continental rainfall gradient in northern Australia: **L A Cernusak**, L B Hutley, J Beringer, P R Isaac, J A Holtum, B L Turner

1120h **B22A-05** Thermal Acclimation and Adaptation of Net Ecosystem Carbon Exchange (*Invited*): **Y Luo**, S Niu, S Fei, W Yuan, Z Zhang, D Schimel, . FLUXNET PIs

1135h **B22A-06** Co-Existence, Competition And Collapse: What Do New Demographic Data From Amazonia Tell Us About Ecosystem Resilience To Future drying? (*Invited*): **R A Fisher**

1150h **B22A-07** Optimality Versus Resilience In Patterns Of Carbon Allocation Within Plants Under Climate Change: **V Srinivasan**, P Kumar, M Sivapalan

1205h **B22A-08** The Jena Diversity Model: Towards a Richer Representation of the Terrestrial Biosphere for Earth System Modelling: **R Pavlick**, B Reu, K Bohn, J Dyke, A Kleidon

B22B Moscone West: 3016 Tuesday 1020h
Eolian Processes: Biophysical Drivers and Biogeochemical Implications I (*joint with EP, H*)

Presiding: **S Ravi**, University of Arizona; **J Li**, UCLA; **T M Zobeck**, USDA, Agricultural Research Service

1020h **B22B-01** Distribution of Atmospheric Mineral Dust across Dryland Ecosystems (*Invited*): **R L Reynolds**, H Goldstein, M E Miller, J C Neff, D Fernandez, M C Reheis

1035h **B22B-02** Quantifying surface moisture influences on aeolian transport (*Invited*): **J M Nield**, G F Wiggs

1050h **B22B-03** Sediment transport in the lee of obstacles: separating the effects of flow separation and upwind surface heterogeneity: **K C Leonard**, K Burri, M Lehning, B A Walter

1105h **B22B-04** A field study of flow turbulence and sediment transport dynamics on a beach surface in the lee of a coastal foredune under offshore winds: **A C Baas**, D Jackson, J A Cooper, K Lynch, I Delgado-Fernandez, M Beyers, Z S Lee

1120h **B22B-05** In defence of wind erosion: how some ecosystems benefit from aeolian sediment transport (*Invited*): **C Hugenholz**, T Hamilton, D Koenig, K Lamble

1135h **B22B-06** Wind and water transport of soil mediate dryland biogeochemical processes via effects on decomposition: **H L Throop**, S R Archer, P W Barnes

1150h **B22B-07** Biophysical drivers of erosion and aeolian transport in semiarid grasslands: Consequences of prescribed fire, livestock grazing and climate variability (*Invited*): **J P Field**, D D Breshears, J J Whicker

1205h **B22B-08** Fire, microclimate, wind- and water-erosion create positive feedback for microsite soil resources: meta-analysis in sagebrush steppe: **J B Sankey**, M J Germino, T Sankey, A N Hoover, N F Glenn

B22C Moscone West: 3018 Tuesday 1020h
Ecological Migration and Dispersal From a Geophysical Perspective I

Presiding: **J M Ramirez**, Universidad Nacional Colombia; **M E Power**, Univ. California Berkeley; **E C Waymire**, Oregon State University; **J A Jones**, Oregon State University

1020h **B22C-01** Riverine Landscapes: Exploring Connectivity, Extinction Risk, and Biogeography in an Alternative Geometry (*Invited*): **W Fagan**

1040h **B22C-02** Large scale effects of localized physical heterogeneity on environmental processes (*Invited*): **E Thomann**, T Appuhamillage, V A Bokil, E C Waymire, B D Wood

1100h **B22C-03** Impact of Landscape Topology and Spatial Heterogeneity on the Shape and Parameters of Dispersal Kernels (*Invited*): **I Rodriguez-Iturbe**, R Muneeppeerakul, A Rinaldo, S A Levin

1120h **B22C-04** Seasonal and spatial variation of bug flux in a northern California drainage network under a Mediterranean climate: implications for reciprocal subsidies between coupled ecosystems: **M E Power**, D Moreno-Mateos, H Uno, C Bode, W Rainey

1140h **B22C-05** Conditions for Extinction of Species under Advection-Diffusion Dispersal in River Networks: a Mathematical Model: **J M Ramirez**

1200h **B22C-06** First passage time: Connecting random walks to functional responses in heterogeneous environments (*Invited*): **M A Lewis**, H McKenzie, E Merrill

B22D Moscone West: 2002 Tuesday 1020h
Environmental Aspects of Bioenergy Production I (*joint with PA, H*)

Presiding: **U Mishra**, University of California Berke; **M S Torn**, Berkeley Lab/UCB; **E H DeLucia**, University of Illinois

1020h **B22D-01** Impacts of bioenergy feedstock production on environmental factors in the Central U.S. using an agroecosystem model (*Invited*): **T E Twine**, A D VanLoocke, M Williams, C Bernacchi

1035h **B22D-02** Air Emissions and Health Benefits from Using Sugarcane Waste as a Cellulosic Ethanol Feedstock: **C Tsao**, E Campbell, Y Chen, G Carmichael, M Mena-Carrasco, S Spak

1050h **B22D-03** Water Quality and Quantity Implications of Biofuel Intercropping at a Regional Scale (*Invited*): **S F Christopher**, S H Schoenholtz, J Nettles

1105h **B22D-04** Soil, Water, and Greenhouse-gas Impacts of Alternative Biomass Cropping Systems: **L A Schulte Moore**, E Bach, C Cambardella, S Hargreaves, M Helmers, K Hofmockel, T Isenhardt, R K Kolka, T Ontl, W Welsh, R Williams, Title of Team: Landscape Biomass Team

1120h **B22D-05** Quantifying the Climate Impacts of Land Use Change (*Invited*): **K J Anderson-Teixeira**, P K Snyder, T E Twine
 1135h **B22D-06** Biofuel production and climate mitigation potential from marginal lands in US North Central region: **I Gelfand**, R Sahajpal, X Zhang, R C Izaurrealde, G P Robertson
 1150h **B22D-07** Factors Driving Biofuel Crops' Influence on Climate: **A Jones**, M S Torn, W J Riley, W Collins
 1205h **B22D-08** Designing bioenergy crop buffers to mitigate nitrous oxide emissions and water quality impacts from agriculture: **G Gopalakrishnan**, C M Negri

B22E Moscone West: 2004 Tuesday 1020h
Interacting Biogeochemical Cycles: Linking Carbon, Water, and Nutrient Fluxes From Organisms to Globe III (*joint with H*)

Presiding: **D Drewry**, University of Illinois; **R Vargas**, University of California-Berkeley

1020h **B22E-01** The Rocky Mountain Epidemic of Bark Beetles and Blue Stain Fungi Cause Cascading Effects on Coupled Water, C and N cycles: **B E Ewers**, E Pendall, U Norton, D Reed, J Franks, T Aston, F Whitehouse, H R Barnard, P D Brooks, J Angstmann, W J Massman, D G Williams, A A Harpold, J Biederman, S L Edburg, A J Meddens, D J Gochis, J A Hicke
 1035h **B22E-02** Comparative analysis of carbon, water, and energy exchanges in co-located mid-latitude forests at various stages of development: **C A Williams**, J W Munger, J Hadley, D R Fitzjarrald
 1050h **B22E-03** Integrating water, carbon, and nutrient cycling at the landscape scale (*Invited*): A M Porporato, **S Manzoni**, G Vico
 1120h **B22E-04** Inter-annual Variability of Evapotranspiration in a Semi-arid Oak-savanna Ecosystem: Measured and Modeled Buffering to Precipitation Changes: **N Raz-Yaseef**, O Sonnentag, H Kobayashi, D D Baldocchi
 1135h **B22E-05** Quantifying the impacts of piñon mortality on ecosystem-scale carbon and water cycling: a twinned flux tower approach: **A M Fox**, M E Litvak, N McDowell, T Rahn, M G Ryan
 1150h **B22E-06** Ecohydrology and biogeochemistry of seasonally-dry ecosystems: **X Feng**, A M Porporato
 1205h **B22E-07** Multi-sensor synthesis of vegetation pattern over a large climatic gradient transect in Africa: **K Guan**, E F Wood, K K Caylor

Cryosphere

C22A Moscone West: 3010 Tuesday 1020h
Characterization of Grain Size and Other Snowpack Properties I (*joint with H, GC*)

Presiding: **N Rutter**, Northumbria University; **M Sandells**, NCEO, University of Reading; **I J Davenport**, The University of Reading; **H Marshall**, Boise State University; **R J Gurney**, nerc-essc

1020h **C22A-01** The determination of snow grain size from infrared spectra of snow (*Invited*): **A A Kokhanovsky**
 1035h **C22A-02** Deep profiles of snow specific surface area at Dome C, Antarctica, and application to passive microwave remote sensing. (*Invited*): **G Picard**, L Arnaud, N Champollion, F Domine, M Fily
 1050h **C22A-03** Measuring the specific surface area of snow using optical methods, and application to remote sensing in Antarctica (*Invited*): **F Domine**, J Gallet, S Morin, G Picard, L Arnaud, N Champollion

1105h **C22A-04** Measurements of snow radiometric and microstructure properties over a transect of plot-scale field observations: Application to snow thermodynamic and passive microwave emission models (*Invited*): **A Langlois**, A Royer, B Montpetit, A Roy, C Derksen
 1020h **C22A-05** WITHDRAWN
 1120h **C33A-0517** Snow grain size measurements in Antarctica and analysis of size variability at regional, local and sample scale: **S M Ingvander**, P Jansson, I Brown
 1135h **C22A-06** Plot-scale observations of snow surface roughness (*Invited*): **S R Fassnacht**
 1150h **C22A-07** Sensitivity of passive microwave brightness temperatures to snow cover properties through a seasonal cycle: observations and simulations: **C Derksen**, P Toose, J Lemmetyinen, C Fuller, A Langlois, A Royer, N Rutter
 1205h **C22A-08** Impact of small-scale microstructure variations on passive microwave brightness temperature: **M Sandells**, N Rutter, C Derksen, A Langlois, J Lemmetyinen, A Royer, P Toose

C22B Moscone West: 3011 Tuesday 1020h
Monitoring Changes in Polar Ice Sheets and Sea Ice Using Airborne and Satellite Remote Sensing III (*joint with G*)

Presiding: **M Studinger**, Goddard Earth Science and Technology Center/UMBC; **S Martin**, University of Washington; **N T Kurtz**, University of Maryland Baltimore County; **J S Deems**, National Snow and Ice Data Center

1020h **C22B-01** Improvements in the determination of ice sheet mass fluxes and freshwater fluxes using Icebridge data. (*Invited*): **E J Rignot**, M Schodlok, D Menemenlis, M Studinger, J R Cochran, R E Bell
 1035h **C22B-02** Combining ICESat and Ice bridge altimetry data with surface velocity data to constrain the mechanisms of ice surface elevation change (*Invited*): **B E Smith**, I R Joughin
 1050h **C22B-03** recent changes the in flow of the Ross Ice Shelf, West Antarctica (*Invited*): **C L Hulbe**, T A Scambos, J A Bohlander, C M LeDoux
 1105h **C22B-04** Tributary Glacier Elevation and Mass Loss in the Larsen A and B Ice Shelf Embayments, 2001-2009: **T A Scambos**, C A Shuman, E Berthier
 1120h **C22B-05** New constraints on the structure and dynamics of the East Antarctic Ice Sheet from the joint IPY/Ice Bridge ICECAP aerogeophysical project: **D D Blankenship**, D A Young, M J Siegert, T D van Ommen, J L Roberts, A Wright, R C Warner, J W Holt, N W Young, E le Meur, B Legresy, M Cavitte, Title of Team: ICECAP Team
 1135h **C22B-06** Tracking Changes in Northwest and Southeast Greenland with NASA's Operation IceBridge and the Airborne Topographic Mapper: **J G Sonntag**, W B Krabill, S S Manizade, J Yungel
 1150h **C22B-07** A new, multi-resolution bedrock elevation map of the Greenland ice sheet: **J A Griggs**, J L Bamber, Title of Team: GRISBed Consortium
 1205h **C22B-08** Operation IceBridge Alaska: **C F Larsen**, A Johnson, S L Zirnheld, P Claus

Education and Human Resources

ED22A Moscone South: 102 Tuesday 1020h The Future of Cyber-Education in the Geosciences: New Directions and Opportunities I (joint with IN)

Presiding: J G Ryan, University of South Florida; S C Eriksson, UNAVCO; K A Lehnert, Columbia University

1020h **ED22A-01** Geospatial Technology and Geosciences – Defining the skills and competencies in the geosciences needed to effectively use the technology (*Invited*): **A Johnson**

1035h **ED22A-02** New Collaborative Strategies for Bringing the Geosciences to Students, Teachers, and the Public: Progress and Opportunities from the National Earth Science Teachers Association and Windows to the Universe: **R M Johnson**, A Herrold, M A Holzer, M J Passow

1050h **ED22A-03** The Disproportionate and Potentially Negative Influence of Research Universities on the Quality of Geoscience Education: **P J Samson**

1105h **ED22A-04** New Initiatives in the Development of a National Geoinformatics Community (*Invited*): S J Whitmeyer, **L C Gundersen**, J D Walker, M L Allison, H A Babaie, C Cervato, D Fils, S M Richard, R Arrowsmith

1120h **ED22A-05** Cyberlearning for Climate Literacy: Challenges and Opportunities: **M S McCaffrey**, S M Buhr, A U Gold, T S Ledley, M E Mooney, F Niepold

1135h **ED22A-06** MGDS: Free, on-line, cutting-edge tools to enable the democratisation of geoscience data: **A M Goodwillie**, W B Ryan, S O'Hara, V Ferrini, R A Arko, J Coplan, S Chan, S M Carbotte, F O Nitsche, J Bonczkowski, J J Morton, R Weissel, A Leung

1150h **ED22A-07** The Curriculum Customization Service: A Tool for Customizing Earth Science Instruction and Supporting Communities of Practice: **L C Melhado**, H Devaul, T Sumner

1205h **ED22A-08** Real Students and Virtual Field Trips: **D G De Paor**, S J Whitmeyer, J E Bailey, R C Schott, R Treves, Title of Team: Scientific Team of www.DigitalPlanet.org

Earth and Planetary Surface Processes

EP22A Moscone South: 310 Tuesday 1020h Quantifying Event-Scale Landscape Change I (joint with GC, H, NH)

Presiding: S DeLong, University of Arizona; J P Johnson, The University of Texas at Austin

1020h **EP22A-01** Sediment budget for a polluted Hawaiian reef using hillslope monitoring and process mapping (*Invited*): **J D Stock**, M Rosener, K M Schmidt, M N Hanshaw, B A Brooks, G Tribble, J Jacobi

1035h **EP22A-02** Hillslope Effects on the Character of the Geomorphic Instantaneous Unit Hydrograph for a Burned Landscape (*Invited*): **J A Moody**, B M Troutman

1050h **EP22A-03** Quantifying the Influence of Hillslope Form, Aspect and Burn Severity on Post-Wildfire Hillslope Erosion Rates: **L M Perreault**, E M Yager, R E Aalto

1105h **EP22A-04** Experimental Study of Bedrock Incision Processes by Both Suspended Load and Bedload Abrasions: **P Chatanantavet**, K X Whipple, M A Adams

1120h **EP22A-05** Monitoring the event-scale evolution of a rapidly eroding bedrock gorge: **K L Cook**, J Suppe

1135h **EP22A-06** Direct measurements of bed sediment entrainment and basal stress from the headwaters of a natural debris-flow basin: **S W McCoy**, J W Kean, J A Coe, G E Tucker, D M Staley, T A Wasklewicz

1150h **EP22A-07** Ordinary High Water Mark in ephemeral and intermittent channels in the arid southwestern United States: **K E Curtis**, R Lichvar, L Dixon

1205h **EP22A-08** Control of sediment concentration in major rivers of the Nepal Himalayas: A Crave, **C Andermann**, R Gloaguen, S Bonnet

Geodesy

G22A Moscone West: 2008 Tuesday 1020h GPS/GNSS Network Solutions for Science: New Techniques, Data Systems, Results, and Implications I (joint with IN, NH, T, S)

Presiding: T Herring, MIT; W R Thatcher, U S Geological Survey

1020h **G22A-01** The ITRF combination and the increasing number of estimated parameters (*Invited*): **Z Altamimi**, X Collilieux, L Metivier, I PANET, D Coulot, O Jamet

1035h **G22A-02** A System to Produce Precise Global GPS Network Solutions for all Geodetic GPS Stations in the World: **G Blewitt**, C W Kreemer

1050h **G22A-03** Dense Regional GPS Networks for Real-Time Crustal Motion and Seismic Monitoring (*Invited*): **Y Bock**, B W Crowell, D Melgar Moctezuma

1105h **G22A-04** Assimilation of Heterogeneous Continuous and Episodic GNSS Observations for Board Scale Earth Science Studies. (*Invited*): **S McClusky**, R E Reilinger, T Uzel, K Eren, A A Dindar

1120h **G22A-05** The Pacific Northwest GPS Velocity Field (*Invited*): **R McCaffrey**, R W King, S J Payne

1135h **G22A-06** Combined Analysis of CGPS-Derived Velocity and Deformation Fields in the Western U.S.: **D Dong**, Y Bock, F Webb, P Fang, S Kedar, P Jamason, S E Owen, M B Squibb, B W Crowell

1150h **G22A-07** Horizontal strain rate estimation using discrete geodetic data and its application to Southern California (*Invited*): **Z Shen**, Y Zeng

1205h **G22A-08** Present-day crustal motion along the Carboneras fault in the Betic Cordilleras, Spain: **G Khazaradze**, E Asensio, X Moreno, E Masana

G22B Moscone West: 2020 Tuesday 1020h The Art and Science of Volcano Geodesy II (joint with V, S, NH)

Presiding: M Battaglia, Sapienza - University of Rome; M P Poland, U.S. Geological Survey

1020h **G22B-01** Surface deformation versus eruption rates of the two Eyjafjallajökull 2010 eruptions; implications for the magma plumbing system and origin of melts: **R Pedersen**, F Sigmundsson, S Hreinsdottir, T Arnadóttir, A Hoskuldsson, M T Gudmundsson, E Magnusson

1035h **G22B-02** Eyjafjallajökull Magma Monitoring From Time Series Data of TerraSAR-X: **J C Martins**, K Spaans, A J Hooper, F Sigmundsson, K Feigl

1050h **G22B-03** Sixteen-year (1992-2008) Deformation at Campi Flegrei (Italy) Caldera: Clues on the Source Responsible for the Subsidence and the Uplift Phases: **A Amoroso**, L Crescentini, I Sabetta

- 1105h **G22B-04** Deformation and Stress from a Finite Uniformly Pressurized Triaxial Ellipsoidal Cavity: Approximate Solution and Application to the Campi Flegrei Caldera, Italy: **L Crescentini**, A Amoruso
- 1120h **G22B-05** Calibrating nonlinear volcano deformation source parameters in FEMs: The pinned mesh perturbation method. (*Invited*): **T Masterlark**, J Stone, K Feigl
- 1135h **G22B-06** Mesh parameterization opens the door to FEM-based inverse methods for estimating nonlinear source parameters of volcano deformation: **J Stone**, T Masterlark, K Feigl
- 1150h **G22B-07** Measurement of post-eruptive deformation and depositional features from the 2009 Redoubt Volcanic Eruption using high-resolution digital elevation models: **D B McAlpin**, F Meyer, P Webley
- 1205h **G22B-08** Analysis of GPS-measured deformation before, during, and after the 2004-2008 dome-building eruption of Mount St. Helens, Washington: **M Lisowski**, M Battaglia, M P Poland

Global Environmental Change

GC22A Moscone West: 3001 Tuesday 1020h **Can We Counteract Global Warming? I** (*joint with A, PA*)

Presiding: **A Robock**, Rutgers University; **K Caldeira**, Carnegie Institution

- 1020h **GC22A-01** A Process-Modeling Study of Aerosol-Cloud-Precipitation Interactions in Response to Controlled Seawater Spray in Marine Boundary Layer (*Invited*): **H Wang**, P J Rasch, G Feingold
- 1032h **GC22A-02** Efficient formation of stratospheric aerosol for geoengineering by emission of condensable vapour from aircraft (*Invited*): **J R Pierce**, D K Weisenstein, P Heckendorn, T Peter, D Keith
- 1044h **GC22A-03** Stratospheric geoengineering with black carbon aerosols: **B Kravitz**, A Robock
- 1056h **GC22A-04** Climate Responses to Stratospheric SRM: Results from a Perturbed Physics Ensemble Modeling Experiment: **K Ricke**, D J Rowlands, D Keith
- 1108h **GC22A-05** Efficacy of geoengineering to limit 21st century sea level rise: **J C Moore**, S Jevrejeva, A Grinsted
- 1120h **GC22A-06** Can stratospheric sulfate aerosols prevent cryospheric change and sea level rise in the 21st? (*Invited*): **C M Bitz**, K E McCusker, D S Battisti, S J Marshall
- 1132h **GC22A-07** Impacts on the Hydrological Cycle of Counteracting Global Warming with Albedo Changes over Oceans or Land: **G Bala**, K Caldeira, R R Nemani, L Cao, G A Ban-Weiss, H Shin
- 1144h **GC22A-08** Assessing the Regional Disparities in Geoengineering impacts: **P J Irvine**, A J Ridgwell, D J Lunt
- 1156h **GC22A-09** Effects of Stratospheric Sulfate Geoengineering on Food Supply in China: **L Xia**, A Robock
- 1208h **Poster Summaries:** *One slide by each poster presenter with short summary*

GC22B Moscone West: 3005 Tuesday 1020h **Uncertainty Quantification and Its Application to Climate Change I** (*joint with A, IN, PP, NG*)

Presiding: **M Boslough**, Sandia National Laboratories; **D Higdon**, Los Alamos National Laboratory

- 1020h **GC22B-01** Characterizing and Quantifying Uncertainty Within a Vulnerability and Response Option Analysis Framework (*Invited*): **R Lempert**
- 1035h **GC22B-02** Climate sensitivity estimated from the past 450,000 years: **C Snyder**

- 1050h **GC22B-03** Implications of long timescale feedbacks for the range of plausible future temperature fluctuations. (*Invited*): **P Huybers**

- 1105h **GC22B-04** Paleoclimatic Warming Increased Carbon Dioxide Concentrations: **D Lemoine**
- 1120h **GC22B-05** Climate model parameter optimization and sensitivity and the challenges of precipitation: **J Neelin**, J C McWilliams, A Bracco, H Luo, J E Meyerson
- 1135h **GC22B-06** Generation of Pareto Optimal Ensembles of Calibrated Parameter Sets for Climate Models: **K R Dalbey**
- 1150h **GC22B-07** Quantifying uncertainty of simulations from NCAR Community Atmospheric Models at regional scales: **C E Forest**, W Li, J J Barsugli
- 1205h **GC22B-08** Interpreting regional climate projections (*Invited*): **D W Nychka**

Geomagnetism and Paleomagnetism

GP22A Moscone West: 2003 Tuesday 1020h **Recent Progress in Magnetic Fabrics and Applications to Earth Sciences I**

Presiding: **F Martin Hernandez**, Universidad Complutense; **C L Waters-Tormey**, Western Carolina University

- 1020h **GP22A-01** Anisotropy of Magnetic Susceptibility: Preliminary results from IODP Expedition 318 to Wilkes Land (*Invited*): **L Tauxe**, S Sugisaki
- 1035h **GP22A-02** An automated system to measure ARM anisotropy, pARM spectra and high resolution AF demagnetization curves: **M Wack**, S A Gilder
- 1050h **GP22A-03** WITHDRAWN
- 1105h **GP22A-04** What is inverse fabric in basalt? An alternative explanation: **C T Aubourg**, W Hastie, M K Watkeys
- 1120h **GP22A-05** Constraints on Magnetite-Silicate Strain Partitioning from Magnetic Fabrics in Experimentally-Deformed Synthetic Shear Zones: **J L Till**, M J Jackson, B M Moskowitz
- 1135h **GP22A-06** AMS and AARM Data Bearing on the Emplacement of the Early Eocene Shonkin Sag and Square Butte Laccolith, north-central Montana: **D K Holm**, **J W Geissman**, T J Naibert, N K George
- 1150h **GP22A-07** Using AMS of weakly deformed red beds for determining the spatial and temporal evolution of layer parallel shortening fabrics in the Cordilleran of Wyoming, USA: **A Yankee**, **A B Weil**
- 1205h **GP22A-08** A new inclination shallowing correction of the Mauch Chunk Formation of Pennsylvania, based on high field-AIR results: Implications for the Carboniferous North American APW path and Pangea reconstructions: **D Bilardello**, K P Kodama

Hydrology

H22A Moscone South: 103 Tuesday 1020h **Langbein Lecture (Webcast)**

Presiding: **D P Lettenmaier**, University of Washington

- 1020h **H22A-01** Opportunities for Impacting the Trajectory of Hydrologic Model Development (*Invited*): **W G Gray**

Earth and Space Science Informatics

IN22A Moscone South: 302 Tuesday 1020h
Advances in Cyberinfrastructure for the Earth and Environmental Sciences I (*joint with GC, NG*)

Presiding: C E Tweedie, Univ Texas at El Paso; A A Velasco; G R Keller, University of Oklahoma; J A Gamon, University of Alberta

1020h **IN22A-01** Cyberinfrastructure for Online Access to High-Quality Data: Advances and Opportunities (*Invited*): C Baru

1040h **IN22A-02** Progress toward a Semantic eScience Framework; building on advanced cyberinfrastructure: D L McGuinness, P A Fox, P West, E Rozell, S Zednik, C Chang

1055h **IN22A-03** Swiss Experiment: Design, implementation and use of a cross-disciplinary infrastructure for data intensive science: N Dawes, A Salehi, A Clifton, M Bavay, K Aberer, M B Parlange, M Lehning

1110h **IN22A-04** Software Tool Support to Specify and Verify Scientific Sensor Data Properties to Improve Anomaly Detection: I Gallegos, A Q Gates, C Tweedie, Title of Team: CyberShare

1125h **IN22A-05** WITHDRAWN

1145h **IN22A-06** EuroGEOSS/GENESIS "e-Habitar" AIP-3 Use Scenario: P Mazzetti, G Dubois, M Santoro, S Peedell, B De Longueville, S Nativi, M Craglia

1200h **IN22A-07** Participatory Design of Human-Centered Cyberinfrastructure (*Invited*): D D Pennington, A Q Gates

Near Surface Geophysics

NS22A Moscone West: 3020 Tuesday 1020h
Near-Surface Geophysics General Contributions I (*joint with GP, H, NG, S*)

Presiding: C J Weiss, Virginia Tech; L H Cox, Montana Tech

1020h **NS22A-01** The National Geoelectromagnetic Facility - an open access resource for ultra wideband electromagnetic geophysics (*Invited*): A Schultz, S Urquhart, M Slater

1035h **NS22A-02** Fractional diffusion in geologic systems (*Invited*): R Schumer, M M Meerschaert, B Baeumer

1050h **NS22A-03** Fractional calculus demystified (don't get lost in the math and keep your physics straight) (*Invited*): A Cortis

1105h **NS22A-04** Mechanisms Resulting in Induced Polarization: M Skold, A Revil, P Vaudelet, F Martinez

1120h **NS22A-05** Predicting heat and mass transfer in fractured porous media (*Invited*): S Geiger, A Cortis, S Emmanuel

1135h **NS22A-06** Geothermal structure of Australia's east coast basins: C R Danis, C O'Neill

1150h **NS22A-07** Seismic Attenuation due to Patchy Saturation: Y Masson, S R Pride

1205h **NS22A-08** Field Experiment Provides Ground Truth for Surface NMR Measurement: R J Knight, J D Abraham, J C Cannia, K I Dlubac, B Grau, E D Grunewald, T Irons, Y Song, D Walsh

Ocean Sciences

OS22A Moscone West: 3014 Tuesday 1020h
Carbon System Dynamics in Large River-Dominated Coastal Margins I (*joint with H, B*)

Presiding: S E Lohrenz, Univ Southern Mississippi; S E Lohrenz, Univ Southern Mississippi; W Cai, University of Georgia; W Cai, University of Georgia

1020h **OS22A-01** Isotopic Composition and Export Fluxes of Organic Carbon Species from the Lower Mississippi River (*Invited*): L Guo

1035h **OS22A-02** Comparison of carbon chemistry data in the East China Sea between the 1990s and 2000s: implications for the impact of eutrophication from the Changjiang River (*Invited*): W Chou, G Gong, C Tseng, C Hung

1050h **OS22A-03** Patterns in plankton community respiration in the NGOM: linkage between oxygen and carbon cycles. (*Invited*): M C Murrell, J C Lehrter, R M Greene, J D Hagy, J C Kurtz, R Devereux, R S Stanley, B A Schaeffer, R N Conmy

1105h **OS22A-04** The CO₂ System In The Scotian Shelf Region Of The Northwestern Atlantic: From Seasonal To Interannual Variability: E H Shadwick, H Thomas, K Azetsu-Scott, A Comeau, S E Craig, E Head, E Horne, C Hunt, B J Greenan, J Salisbury

1120h **OS22A-05** Pore water constraints on organic carbon and biogenic Si deposition and remineralization in the sediments underlying the Amazon Plume: L Chong, W Berelson, J Fleming, N Rollins, J McManus

1135h **OS22A-06** Carbon System Dynamics in the Large River-Dominated Northern Gulf of Mexico Coastal Margin: An Overview of the GulfCarbon Program: S E Lohrenz, W Cai, K Martin, S Chakraborty, S Epps, K Gundersen, W Huang, Y Wang

1150h **OS22A-07** Enhanced ocean acidification in the northern Gulf of Mexico hypoxic bottom waters: W Cai, X Hu, W Huang, M C Murrell, J C Lehrter, S E Lohrenz, Y Wang, X Guo, F Chen, K Gundersen

1205h **OS22A-08** Water and Nutrient Fluxes from Land to Coast in North America Driven by Climate Change, Land Use, and Nitrogen Deposition During 1900-2008: M Liu, H Tian, Q Yang, X Song, J Yang, G Chen, X Xu, W Ren

OS22B Moscone West: 3009 Tuesday 1020h
Lessons Learned From the Deepwater Horizon Oil Spill: Biological and Chemical Oceanography II (*joint with B, PA*)

Presiding: R C Highsmith, University of Mississippi; S B Joye, University of Georgia

1020h **OS22B-01** Entry of Oil to the Coastal Planktonic Food Web During the Deepwater Horizon Spill (*Invited*): W M Graham, R H Condon, R H Carmichael, I D'Ambra, H K Patterson, F J Hernandez, Jr.

1035h **OS22B-02** A Horizon of Natural Gas in the Deep Gulf of Mexico Dominates the Microbial Landscape (*Invited*): D L Valentine, J D Kessler, M C Redmond, S D Mendes, M B Heintz, C Farwell, L Hu, F Kinnaman, S A Yvon-Lewis, M Du, E W Chan, F Garcia Tigreros, C Villanueva

1050h **OS22B-03** Formation of marine snow and enhanced enzymatic activities in oil-contaminated seawater: K Ziervogel, L McKay, T Yang, B Rhodes, L Nigro, T Gutierrez, A Teske, C Arnosti

1105h **OS22B-04** Bacterial communities of surface and deep hydrocarbon-contaminated waters of the Deepwater Horizon oil spill: T Yang, L M Nigro, L McKay, K Ziervogel, T Gutierrez, A Teske

1120h **OS22B-05** Temporal and Spatial Variability in Composition of Polar Components of Oil and Dispersants During and After the Deepwater Horizon Oil Spill: **E B Kujawinski**, K Longnecker, M C Kido Soule, A K Boysen

1135h **OS22B-06** Oxygen metabolism in the northern Gulf of Mexico in the vicinity of the Deepwater Horizon oil spill: **N E Ostrom**, H Gandhi, B Kamphuis, S DeCamp, Z Liu, W S Gardner

1150h **OS22B-07** Microbial Community Response to the Deepwater Horizon Oil Spill: **M C Redmond**, D L Valentine, S B Joye

1205h **OS22B-08** Fates, Budgets, and Health Implications of Macondo Spill Volatile Hydrocarbons in the Ocean and Atmosphere of the Gulf of Mexico: **I Leifer**, B Barletta, D R Blake, N J Blake, E S Bradley, S Meinardi, B Lehr, B P Luyendyk, D A Roberts, F S Rowland

OS22C Moscone West: 3007 **Tuesday** **1020h**
Submarine Landslides: Characterization, Processes, and Their Sedimentary Record III (*joint with EP, NH*)

Presiding: **R Urgeles**, Passeig Marítim de la Barceloneta; **D C Mosher**; **J D Chaytor**, U.S. Geological Survey; **M Strasser**, MARUM, University of Bremen

1020h **OS22C-01** 1. Physical properties and age of mid-slope sediments dredged from the Eastern Australian Continental Margin and the implications for continental margin erosion processes: **T Hubble**, P Yu, D Airey, S L Clarke, R Boyd, J Keene, N Exon, J V Gardner

1035h **OS22C-02** Sedimentary Characteristics and Ages of Submarine Mass Movements around Puerto Rico and the Virgin Islands: **J D Chaytor**, U S Ten Brink

1050h **OS22C-03** Identification and dating of a submarine landslide in the western Argentine Basin - an interdisciplinary approach: **S Henkel**, M Strasser, T Schwenk, D Winkelmann, N Riedinger, J Hüsener, M Formolo, J Tomasini, S Krastel, S Kasten

1105h **OS22C-04** Submarine tsunamigenic landslides at Stromboli Volcano: characterization and estimation of recurrence time: **D Casalbore**, F L Chiocci, C Romagnoli, A Bosman

1120h **OS22C-05** Slow-motion gravitational collapse on the flanks of a rapidly subsiding transform basin: the Marmara Sea, Turkey: **D J Shillington**, L Seeber, C C Sorlien, M S Steckler, H Kurt, G Çifci, C Imren, D Dondurur, S Gürçay, D Timur, E Demirbag

1135h **OS22C-06** Response of submarine slopes to shaking by earthquakes: Examples from Sagami and Nankai troughs, Japan: **K Ikehara**, J Ashi

1150h **OS22C-07** Evidence for seismic strengthening and climate influence in creation of an anomalously large slope failure, Aleutian-Yakutat margin, Gulf of Alaska: **R Reece**, S P Gulick, G L Christeson

1205h **OS22C-08** Slide Activity along the eastern slope of the Gela Basin (offshore Sicily): First results from expedition MSM-15/3: **K Huhn**, M Strasser, T Freudenthal, F Fogliini, F Trincardi, D Minisini, Title of Team: MSM15/3 working group

Planetary Sciences

P22A Moscone South: 306 **Tuesday** **1020h**
Titan: The Methane Cycle and Potential for Watery Warm Spots I

Presiding: **C J Alexander**, Jet Propulsion Laboratory; **R M Lopes**, Jet Propulsion Laboratory, Caltech; **R Nelson**, Jet Propulsion Laboratory; **C Sotin**, Jet Propulsion Laboratory

1020h **P22A-01** Radiogenic Argon Release from Titan: Sources, Efficiency, and Role of the Ocean (*Invited*): **W B McKinnon**

1035h **P22A-02** Distinct Aqueous and Hydrocarbon Cryovolcanism on Titan and Other Icy Satellites (*Invited*): **J S Kargel**, R Furfaro, P Candelaria

1050h **P22A-03** La Sotra y las otras: Topographic evidence for (and against) cryovolcanism on Titan (*Invited*): **R L Kirk**, E Howington-Kraus, J W Barnes, A G Hayes, R M Lopes, R D Lorenz, J I Lunine, K L Mitchell, E R Stofan, S D Wall

1105h **P22A-04** Organics on Titan: Carbon Rings and Carbon Cycles (*Invited*): **R D Lorenz**

1120h **P22A-05** The Methane Cycle on Titan: Surface-Atmosphere Thermochemical Coupling (*Invited*): **S K Atreya**, J I Lunine, H B Niemann

1135h **P22A-06** Dune material budget and distribution on Titan using Cassini radar and radiometry observations (*Invited*): **A A Le Gall**, M A Janssen, L Wye, A G Hayes, R D Lorenz, J Radebaugh, J I Lunine, R L Kirk, R M Lopes, S D Wall, E R Stofan, T G Farr, P Paillou, Title of Team: Cassini Radar Team

1150h **P22A-07** Seasonal variation in Titan's lakes and their role in the methane cycle. (*Invited*): **A G Hayes**, O Aharonson, J I Lunine, R L Kirk, E P Turtle, R D Lorenz, L Wye, C Elachi, Title of Team: Cassini RADAR Team

1205h **P22A-08** The Formation of Oxygen-Containing Molecules in Liquid Water Environments on the Surface of Titan (*Invited*): **C Neish**

Paleoceanography and Paleoclimatology

PP22A Moscone West: 2007 **Tuesday** **1020h**
Advances at the Frontiers of Paleoproxy Validation III (*joint with OS, B*)

Presiding: **M LaVigne**, University of California Davis; **A D Russell**, University of California, Davis; **L Vetter**, University of California Davis

1020h **PP22A-01** Resolving ontogenetic from gametogenic and outer crust calcification in planktic foraminifers (*Invited*): **S M Eggins**, H J Spero, L Vetter, B Hoenisch

1035h **PP22A-02** Assessing the intratest Mg/Ca variability in the planktonic foraminifera *Neogloboquadrina dutertrei*: Does shell morphology play a role?: **J S Fehrenbacher**, P A Martin

1050h **PP22A-03** Crystal structural controls on boron incorporation in Calcium Carbonate: Implications for the B-isotope paleo-pH proxy (*Invited*): **N Hemming**

1105h **PP22A-04** Ion microprobe measurements of boron and oxygen isotopes in deep-sea coral: toward a better understanding of vital effects? (*Invited*): **C Rollion-Bard**, D Blamart, J Cuif, Y Dauphin

1120h **PP22A-05** Distinguishing Phosphate Structural Defects From Inclusions in Calcite and Aragonite by NMR Spectroscopy (*Invited*): **B L Phillips**, H E Mason

1135h **PP22A-06** Simulation of FeCO₃ ion clusters in aqueous solution: Implications for crystal growth: **A F Wallace**, P Raiteri, G Julian, J J DeYoreo, J F Banfield

1150h **PP22A-07** EXAFS Reveals the Mechanism of U Isotope Fractionation During Adsorption to Mn Oxyhydroxide:

L E Wasylenki, G Brennecke, J Bargar, S Weyer, A D Anbar

1205h **PP22A-08** Calcium Isotope Signature of Amorphous Calcium Carbonate: A Probe of Crystallization Pathway? (*Invited*):

A C Gagnon, D J Depaolo, J J DeYoreo

PP22B Moscone West: 2005 Tuesday 1020h
Cenozoic Evolution of Ocean and Climate Systems: New Results From Ocean Drilling I (*joint with B, GP, GC, OS*)

Presiding: **H Pälke**, University of Southampton; **H Pälke**, University of Southampton; **M W Lyle**, Texas A&M University; **M W Lyle**, Texas A&M University; **A C Ravelo**, University of California, Santa Cruz; **A C Ravelo**, University of California, Santa Cruz; **H Brinkhuis**; **H Brinkhuis**

1020h **PP22B-01** Insights into the East Antarctic ice sheet history from sediments recovered from the Wilkes Land margin during IODP Expedition 318 (*Invited*): **C Escutia**, H Brinkhuis, R B Dunbar, A Klaus, Title of Team: Scientific Team of IODP Drilling Expedition 318

1035h **PP22B-02** The role of the Bering Sea in the global climate: Preliminary results of the IODP Expedition 323, Bering Sea paleoceanography (*Invited*): **T Sakamoto**, S Sakai, K Iijima, S Sugisaki, K Oguri, K Takahashi, H Asahi, M Ikehara, J Onodera, A Ijiri, Y Okazaki, K Horikawa, A C Mix, A C Ravelo, C A Alvarez Zarikian, Title of Team: Scientific party of IODP Expedition 323

1050h **PP22B-03** Miocene-Pliocene alkenone and coccolithophorid stable isotopic data for sea surface condition reconstructions in the Eastern Equatorial Pacific (IODP Site U1338). (*Invited*): **C Beltran**, G Rousselle, I Raffi, J Backman, M Sicre, M de Raféls, Title of Team: IODP Expedition 320/321 Shipboard Scientific Party

1105h **PP22B-04** Toward the Cenozoic Megasplice - high-resolution XRF core scanning data and improved composite records from IODP Expedition 320: implications for fine scale paleoceanography (*Invited*): **T Westerhold**, P R Bown, T Dunkley Jones, M W Lyle, T C Moore, H Pälke, U Roehl, R H Wilkens, Title of Team: Expedition 320/321 Scientists

1120h **PP22B-05** Biogenic Sedimentation in the eastern equatorial Pacific, 0-18 Ma: XRF scanning on Site U1338, IODP Expedition 320/321: **M W Lyle**, A Olivarez Lyle, J Baldauf, J Backman, E Shipboard Scientific party

1135h **PP22B-06** Preliminary data from IODP Site U1338 of the Pacific Equatorial Age Transect (PEAT IODP Expedition 320/321): a study on the interaction between paleoenvironment and evolution of selected calcareous nannofossil taxa: **I Raffi**, M Ciummelli, J Backman, Title of Team: IODP Expedition 320/321 Shipboard Scientific Party

1150h **PP22B-07** Calcareous phytoplankton perturbations through the Eocene/Oligocene Transition: P R Bown, **T Dunkley Jones**, Title of Team: Expedition 320/321 Shipboard Party

1205h **PP22B-08** Commotion in the Ocean: Tasmanian Gateway Tectonics and Initiation of Circum-Antarctic Circulation: **H D Scher**, J Whittaker, S Williams, M L Delaney

SPA-Aeronomy

SA22A Moscone South: 301 Tuesday 1020h
Connections Between the Lower and Upper Atmosphere and Ionosphere I (*joint with A*)

Presiding: **RA Akmaev**, NOAA SWPC; **RS Lieberman**, NorthWest Research Associates

1020h **SA22A-01** Missing links in atmospheric-ionospheric coupling (*Invited*): **T J Immel**, S England, J M Forbes, R A Heelis, G Crowley, J D Huba, J J Makela, G R Swenson, A W Stephan, A Maute, S B Mende, C R Englert, H U Frey

1035h **SA22A-02** WAVE-DRIVEN LONGITUDINAL AND LOCAL TIME VARIABILITY IN THE ITM: WHAT CONTRIBUTES TO THE "WAVE-4"?: **J Oberheide**, J M Forbes, X Zhang, S L Bruinsma

1050h **SA22A-03** Thermospheric and Ionospheric Variability during 2006: Nonmigrating Tides in the Presence of Variable Solar Geomagnetic Conditions: **M E Hagan**, A I Maute, R G Roble, A D Richmond

1105h **SA22A-04** Connection between Tropospheric Activities and Ionospheric behaviors Simulated by a Whole Atmosphere-Ionosphere Coupled Model: **H Jin**, Y Miyoshi, H Fujiwara, H Shinagawa, K Terada, N Terada, M Ishii, Y Otsuka, A Saito

1120h **SA22A-05** Seasonal and longitudinal variations of the solar quiet current system during solar minimum determined by CHAMP satellite magnetic field observations: **N M Pedatella**, J M Forbes, A D Richmond

1135h **SA22A-06** Ionospheric variations associated with stratospheric sudden warmings: current understanding and future challenges (*Invited*): **L P Goncharenko**, A J Coster, J L Chau

1150h **SA22A-07** Dynamic and electrodynamic response to stratospheric warmings simulated by the Whole Atmosphere Model (WAM) (*Invited*): **T J Fuller-Rowell**, R A Akmaev, H Wang, F Wu, T Fang, M Fedrizzi, E A Araujo-Pradere

1205h **SA22A-08** Antarctic Mesospheric Temperature Anomaly in 2007 (*Invited*): **S I Azeem**, W J French, D E Siskind, E R Talaat, G G Sivjee

SPA-Solar and Heliospheric Physics

SH22A Moscone South: 309 Tuesday 1020h
Solar Dynamics Observatory Data Access and Analysis Tools I (*joint with IN*)

Presiding: **J B Gurman**, NASA Goddard Space Flight Center; **P H Scherrer**, Stanford University

1020h **SH22A-01** AIA and HMI Data from the SDO Joint Science Operations Center (*Invited*): **RS Bogart**

1040h **SH22A-02** Guided searches to SDO Data using the Heliophysics Events Knowledgebase (*Invited*): **N E Hurlburt**, C Cheung, C J Schrijver, Title of Team: HEK team

1100h **SH22A-03** Data Access for the EUV Variability Experiment on the NASA Solar Dynamics Observatory: **D Woodraska**, M Dorey, T N Woods, F G Eparvier, A Jones, C Jeppesen

1115h **SH22A-04** SDO Data Access Using the Virtual Solar Observatory (VSO) (*Invited*): **A R Davey**, Title of Team: The VSO Team

1135h **SH22A-05** JHelioviewer: Open-Source Software for Discovery and Image Access in the Petabyte Age (*Invited*): **D Mueller**, G Dimitoglou, M Langenberg, S Pagel, A Dau, M Nuhn, J P Garcia Ortiz, H Dietert, L Schmidt, V K Hughtitt, J Ireland, B Fleck

1155h **SH22A-06** Finding Magnetic Features and Emerging Flux Regions in HMI Data with SWAMIS: **D A Lamb**, C DeForest

1210h **Summary** *Joseph Gurman*

SPA-Magnetospheric Physics

SM22A Moscone South: 307 Tuesday 1020h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles V (*joint with AE, SA, SH*)

Presiding: **A A Chan**, Rice University; **S P Gary**, Los Alamos National Laboratory

1020h **SM22A-01** Radiation Belt Radial Diffusion Coefficients Derived From Ground-based and In-situ ULF Wave Measurements: **I R Mann**, J Rae, L Ozeke, K R Murphy, D K Milling, A A Chan, S R Elkington

1035h **SM22A-02** ULF Modulation of Relativistic Electron Precipitation during the Geomagnetic Storm of 21 Dec 2005: **E A Bering**, R M Millan, M McCarthy, R H Holzworth, L A Woodger, M Kokorowski, J G Sample, D M Smith

1050h **SM22A-03** Simulations and analysis of relativistic electron energization by ULF waves in the Radiation Belts: **M Tornquist**, D Vassiliadis, M Koepke, C Huang

1105h **SM22A-04** Temporal and spatial ULF wave observations by SuperDARN radar: C L Waters, **L Norouzi Sedeh**

1120h **SM22A-05** Multipoint Observation of Fast Mode Waves Trapped in the Dayside Plasmasphere: **K Takahashi**, J W Bonnell, K Glassmeier, V Angelopoulos, H J Singer, P J Chi, R E Denton, Y Nishimura, D Lee, M Nose, W Liu

1135h **SM22A-06** Multi-point observations of the Poynting vector associated with field line resonance: **M Hartinger**, V Angelopoulos, M Moldwin, K Glassmeier

1150h **SM22A-07** Multipoint Observation of Quarter-Wave Length, Standing Alfvén Modes: **Y Obana**, I Yoshikawa, F W Menk, C L Waters, M D Sciffer, A Yoshikawa, M Moldwin, I R Mann, D Boteler

1205h **SM22A-08** Ion-ion Hybrid Alfvén Wave Resonator: **S T Vincena**, J Maggs, G J Morales, W Farmer

SM22B Moscone South: 305 Tuesday 1020h
Magnetospheric Response to Transient Solar Wind Features II

Presiding: **Q Zong**, UML CAR; **H Zhang**, NASA Goddard Space Flight Center

1020h **SM22B-01** Radiation Belt Electron Response to CME- and CIR-driven Geomagnetic Storms (*Invited*): **M K Hudson**, T Brito, S R Elkington, B Kress, Z Li, M J Wiltberger

1035h **SM22B-02** Fast Acceleration of “Killer” Electrons and Energetic Ions by Interplanetary Shock Stimulated ULF Waves in the Inner Magnetosphere: **Q Zong**

1050h **SM22B-03** First IBEX Observations of the Terrestrial Plasma Sheet and a Likely Disconnection Event: **D J McComas**, M A Dayeh, H O Funsten, S A Fuselier, J Goldstein, J Jahn, P H Janzen, S M Petrinec, D B Reisenfeld, N A Schwadron

1105h **SM22B-04** TWINS Observations of Anisotropic ENA Emissions from Trapped and Precipitating Ions: **J Goldstein**, P C Brandt, J D Perez, P W Valek, D J McComas, J A Redfern

1120h **SM22B-05** Multipoint Observations of the Large Substorm Associated with the Galaxy 15 Anomaly: **H J Singer**, P T Loto’aniu, J C Green, J V Rodriguez, B J Anderson, J J Love, V Angelopoulos, D N Baker, M G Connors, W F Denig, E F Donovan, O LeContel, T G Onsager, T Nagatsuma, A Runov, E L Spanswick

1135h **SM22B-06** Comparisons of Simulated and Observed Stormtime Magnetic Intensities, Ion Plasma Parameters, and ENA Proton Flux in the Ring Current During Storms: **M W Chen**, C Lemon, T B Guild, M Schulz, J L Roeder, G Le, T Lui, J Goldstein
1150h **SM22B-07** Case study of nightside magnetospheric magnetic field response to interplanetary shocks: **C Wang**, T Sun, X Guo, J D Richardson

1205h **SM22B-08** Magnetospheric ULF wave generation during an ICME-magnetosphere interaction: **D Vassiliadis**, X Shao, S F Fung, A S Sharma, M Tornquist

Study of Earth’s Deep Interior

DI22A Moscone West: 3024 Tuesday 1020h
Structure and Dynamics of Earth’s Core II (*joint with MR, S, T, V*)

Presiding: **H Tkalcic**, The Australian National University; **Y Kuwayama**, Ehime University; **F Niu**, Rice University

1020h **DI22A-01** Hemispherical Anisotropic Patterns of the Earth’s Inner Core: **M Mattesini**, A B Belonoshko, E Bufo, M Ramirez, S I Simak, A Udias, H Mao, R Ahuja

1032h **DI22A-02** The crystal structure of iron at the inner core: **S Tateno**, K Hirose, Y Ohishi, Y Tatsumi

1044h **DI22A-03** Composition of the Earth’s inner core from high-pressure sound velocity measurements in Fe-Ni-Si alloys: **D Antonangeli**, J Siebert, J Badro, D Farber, F J Ryerson, G Morard, G Fiquet

1056h **DI22A-04** Outer core compositional stratification from observed core wavespeed profiles: **G R Helffrich**, S Kaneshima

1108h **DI22A-05** Constraints on the magnetic field at the core-mantle and inner core boundaries from Earth’s nutations: **M Dumberry**, L Koot

DI22B Moscone West: 3024 Tuesday 1120h
Time Variability of the Geomagnetic Field I (*joint with GP*)

Presiding: **J E Mound**, University of Leeds; **P W Livermore**, University of Leeds, UK; **M Dumberry**, Department of Physics

1120h **DI22B-01** The Geomagnetic Field in the Archaeal (*Invited*): **A J Biggin**, C G Langereis, M De Wit

1135h **DI22B-02** Core heat flow drives geomagnetic superchron cycles (*Invited*): **P E Driscoll**

1150h **DI22B-03** Magnetic flux expulsions and secular acceleration pulses at the core surface: is there a link? (*Invited*): **A Chulliat**

1205h **DI22B-04** Earth’s Dynamo: Fore- and Hind- casting Limits from a Variational Data Assimilation Approach: **L L Dimitrova**, G D Egbert, W Kuang, A Tangborn

Mineral and Rock Physics

MR22A Moscone West: 3022 Tuesday 1020h
Stability, Elasticity, and Rheology of Hydrous Phases: Geodynamical Implications II (*joint with S, DI, T, V*)

Presiding: **B Reynard**, CNRS; **M Mookherjee**, Bayerisches Geoinstitut; **I Katayama**, Hiroshima Univ

1020h **MR22A-01** The Stability of Phase D at High Pressure and Temperature: **S Ghosh**, M W Schmidt

1035h **MR22A-02** High pressure behaviour of hydrous aluminosilicate phases in the lower mantle: **M G Pamato**, T Boffa Ballaran, D J Frost, D M Trots, A Kurnosov, F Heidelbach, N Miyajima

1050h **MR22A-03** Elasticity of dense hydrous phases and seismic detectability of hydration in deep subducted slabs (*Invited*):

C Sanchez-Valle, A D Rosa

1105h **MR22A-04** Low velocity layer (LVL) in subduction zones: elasticity of lawsonite: **J Chantel**, M Mookherjee, D J Frost

1120h **MR22A-05** Transmission electron microscopy characterization of the plastic mechanisms of phase A: **P Cordier**, A Mussi, D J Frost

1135h **MR22A-06** Comparative compressibility of hydrous wadsleyite: **Y Chang**, S D Jacobsen, S Thomas, C R Bina, J R Smyth, D J Frost, E H Hauri, Y Meng, P K Dera

1150h **MR22A-07** Olivine-Wadsleyite-Pyroxene Epitaxy: Element and Volatile Distributions at the 410km Discontinuity: **J R Smyth**, N Miyajima, G R Huss, E Hellebrand, D C Rubie, D J Frost

1205h **MR22A-08** Thermo-Petrologic Structure of Subduction Zones and Its Implications for Fluid Availability at Depth (*Invited*): **I Wada**, K Wang, M D Behn, A M Shaw

MR22B Moscone South: 308 Tuesday 1020h
Superhard Materials: Synthesis and Systematics I (*joint with DI*)

Presiding: **K K Lee**, Yale University; **K K Lee**, Yale University; **B Kiefer**, New Mexico State Univ; **B Kiefer**, New Mexico State Univ

1020h **MR22B-01** Characterization of Superhard Solids to Mbar Pressures (*Invited*): **T S Duffy**, Z Mao, D He

1035h **MR22B-02** Extreme mechanical properties of materials under extreme pressure and temperature conditions (*Invited*): **A Kavner**, M M Armentrout, M Xie, M Weinberger, R B Kaner, S H Tolbert

1050h **MR22B-03** Evolutionary search for novel superhard phases, or can TiO₂ be the hardest oxide? (*Invited*): **A R Oganov**, A O Lyakhov

1105h **MR22B-04** A superhard, quenchable carbon polymorph formed by the room-temperature compression of graphite (*Invited*): **Y Wang**, B Kiefer, K K Lee

MR22C Moscone South: 308 Tuesday 1120h
Mudstone Multiphysics II (*joint with H, V, T*)

Presiding: **T A Dewers**, Sandia National Laboratories; **J E Heath**, Sandia National Laboratories

1120h **MR22C-01** Nanostructures and radionuclide transport in clay formations (*Invited*): **Y Wang**

1135h **MR22C-02** Finite element analysis of grain-matrix micro-cracking in shale within the context of a multiscale modeling approach for fracture (*Invited*): **R A Regueiro**, S Yu

1150h **MR22C-03** Pore-scale studies of gas shale: **D Silin**, J B Ajo Franklin, S Cabrini, T J Kneafsey, A MacDowell, P S Nico, V Radmilovic

1205h **MR22C-04** Primary migration of hydrocarbon fluids through invasion-percolation cracking in a source rock: **M Kobchenko**, H Panahi, F Renard, A Malthe-Sorensen, J Scheibert, D Dysthe, P Meakin

Seismology

S22A Moscone West: 2009 Tuesday 1020h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves III (*joint with G, NH, NS, T, V*)

Presiding: **F Brenguier**, Institut de Physique du Globe de Paris; **E F Larose**, LGIT - CNRS; **U Wegler**, BGR

1020h **S22A-01** Diffusion of laboratory ultrasonic waves: **W Wei**, L Fu

1035h **S22A-02** Simulation of Seismic Scattering from Rock Fractures: **C Petrovitch**, N Teasdale, L J Pyrak-Nolte, M V De Hoop

1050h **S22A-03** The Effect of Saturation on Shear Wave Anisotropy in a Transversely Isotropic Medium: **W Li**, L J Pyrak-Nolte

1105h **S22A-04** ANALYSIS TECHNIQUES OF ACOUSTIC EMISSION DATA FOR DAMAGE ASSESSMENT OF REINFORCED CONCRETE STRUCTURES: **G Garilli**, E Proverbio, A Marino, D De Domenico, D Termini, A Teramo

1120h **S22A-05** Microseismicity illuminates open fractures in the shallow crust: **R J Lunn**, S Pytharouli, Z K Shipton, J D Kirkpatrick, A Farias do Nascimento

1135h **S22A-06** Resolving temporal and spatial variations in seismic velocity using similar event clusters (*Invited*): **P M Shearer**, G Lin, E Hauksson

1150h **S22A-07** Matched Field Detection of Microseismicity in a Geothermal Field: D C Templeton, **D B Harris**

1205h **S22A-08** Temporal seismic velocity changes in the deep crust driven by aseismic afterslip of the great Sumatra earthquakes: **W Yu**, T Song, P G Silver

Tectonophysics

T22A Moscone West: 2011 Tuesday 1020h
Earthquake Geology and Active Tectonics in South and East Asia III (*joint with S*)

Presiding: **X Xu**, Institute of Geology, CEA; **Y Awata**

1020h **T22A-01** Expression of Active Tectonics in Erosional Landscapes (*Invited*): **K X Whipple**, J A McDermott, B A Adams

1035h **T22A-02** Location and mechanism of the 1933 Diexi earthquake and its association with the regional tectonic deformation prior to the 2008 Wenchuan earthquake: **K Wang**, Z Shen

1050h **T22A-03** Deep structures of the Bayan Har Terrane, NE Tibetan Plateau, and their control on the strong earthquakes along the terrane boundaries: **M Feng**, M An, W Zhao, G Xue, Y Zhao, J Mechie

1105h **T22A-04** Yushu earthquake slip: implication of great earthquake migration along boundary fault system of Bayan Har block, Tibetan Plateau: **X Xu**, G Yu, S Xinzhe, Title of Team: National Center for active fault studies

1120h **T22A-05** Late Quaternary Kinematical Transformation and Slip Partitioning on the Southeastern Segment of the Xianshuihe Fault Zone: **G Chen**, X Xu, X Wen

1135h **T22A-06** 16ch high-resolution seismic reflection surveys on the active fault of upper fore-arc slope off Okinawa Island, central Ryukyu Island Arc, Southwest Japan: **K Arai**, T Inoue, T Sato, T TuZino

1150h **T22A-07** Preservation of Holocene Prehistoric Earthquakes, Sungai Pinang, Western Sumatra: **T Dura**, C M Rubin, H M Kelsey, B Horton, C Grand Pre, A D Hawkes, M Daryono, T Ladinsky

1205h **T22A-08** GPS Velocities and Structure Across the Burma Accretionary Prism and Shillong Plateau in Bangladesh: S H Akhter, **M S Steckler**, L Seeber, N P Agostinetti, M G Kogan

T22B Moscone West: 2018 Tuesday 1020h
From Sediment Inputs to Seismogenesis at Subduction Zones II (joint with S, V, G, NH)

Presiding: R E Wells, U.S. Geological Survey; C R Ranero, ICREA at CSIC

1020h **T22B-01** Tectonic development of forearc basins along the Western Sunda/Andaman Subduction Zone: **J R Cochran**, K R Kattoju

1035h **T22B-02** 3-D Seismic Imaging of Sedimentary Underplating at the Corner of the Cascadia Mantle Wedge: **A J Calvert**, L A Preston, A M Farahbod

1050h **T22B-03** Fluid flow in ocean crust cools the Cascadia subduction zone: **B D Cozzens**, G A Spinelli

1105h **T22B-04** A possible source of water in seismogenic subduction zones: **J Kameda**, A Yamaguchi, G Kimura, Title of Team: IODP Exp. 322 scientists

1120h **T22B-05** Preliminary Results From the Serpentine, Extension and Regional Porosity Experiment Across the Nicaraguan Trench (SERPENT): **K W Key**, S Constable, R L Evans, S Naif, T Matsuno, D Lizarralde

1135h **T22B-06** IODP CRISP Program A: the first step toward drilling the Seismogenic Zone in Central America (Invited): **P Vannucchi**, K Ujiie

1150h **T22B-07** Estimating trench-fill thickness from satellite gravity data and implications for global estimation of megathrust-earthquake potential: **K M Keranen**, R J Blakely, D W Scholl, R E Wells, S H Kirby

1205h **T22B-08** Confirmation that Large-Magnitude Megathrust Earthquakes Are Linked to the Subduction of Thick, Laterally Continuous Bodies of Trench Sediment: **D W Scholl**, S H Kirby, K M Keranen, R J Blakely, R E Wells

T22C Moscone West: 2016 Tuesday 1020h
Interaction Between Magmatic and Tectonic Processes in Continental and Incipient Oceanic Rifts II (joint with G, S, V, GP)

Presiding: D Keir, University of Leeds; C Pagli, U. Leeds; J Biggs, University of Bristol; E Rivalta, University of Leeds

1020h **T22C-01** Length and Time Scales of Rifting and Magmatism in an Unusual Continental Arc, Taupo Volcanic Zone, New Zealand. (Invited): **J V Rowland**, C J Wilson

1040h **T22C-02** Insights into Rift-Related Extension in Western Saudi Arabia through Observations and Modeling of the 2009 Dike Intrusion in Harrat Lunayyir (Invited): **S Jonsson**, J S Pallister

1100h **T22C-03** InSAR observations of post-rifting deformation around the Dabbahu rift segment, Afar, Ethiopia: I J Hamling, **T J Wright**, L S BENNATI RASSION, E Calais, E Lewi, C Pagli

1115h **T22C-04** Kinematics and dynamics of the East African Rift from GPS geodesy and thin-sheet modeling: **D S Stamps**, E Calais, L M Flesch, D Koehn, E E Saria, H Dickinson

1130h **T22C-05** Recent Surface Deformation in the East African Rift: **J Biggs**, E Nissen, T Craig, J A Jackson, D P Robinson, E Lewi, I D Bastow

1145h **T22C-06** Faulting processes during early-stage rifting: seismicity analysis of the 2009-2010 Northern Malawi earthquake sequence: **J B Gaherty**, D J Shillington, A E Shuler, W Kapanje, P Chindandali, S L Nooner, C J Ebinger, A Nyblade, L Kalindekaffe, M E Pritchard, C A Scholz

1200h **T22C-07** Magma plumbing systems deduced from comparison of multiple dike intrusions in an incipient seafloor spreading segment in Afar, Ethiopia: **M Belachew**, C J Ebinger, D M Cote, D Keir, J V Rowland, J O Hammond, A Ayele

Volcanology, Geochemistry, and Petrology

V22A Moscone West: 2022 Tuesday 1020h
Bowen Lectures (Webcast)

1020h **V22A-01** The double-edged sword of high-precision U-Pb geochronology or be careful what you wish for. (Invited): **S A Bowring**

1120h **V22A-02** Volatiles in Earth's interior (Invited): **H Keppler**

Tuesday P.M.

Union

U23A Moscone South: Poster Hall Tuesday 1340h
Breakthroughs in Understanding and Developing Renewable Energy II Posters

Presiding: E C Weatherhead, U. Colorado; S K Avery

1340h **U23A-0014** POSTER Calculating the carbon emissions associated with San Jose's Green Vision goals: **E C Cordero**, L Prada

1340h **U23A-0015** POSTER Subsurface environment database for application of ground heat exchanger system: H Hamamoto, S Hachinohe, H Shiraiishi, I Takashi, K Sasaka, A MIYAKOSHI, **S Goto**

1340h **U23A-0016** POSTER Renewable Energy Resources in Lebanon: **R Hamdy**

1340h **U23A-0017** POSTER A GLOBAL ASSESSMENT OF SOLAR ENERGY RESOURCES: NASA's Prediction of Worldwide Energy Resources (POWER) Project: **T Zhang**, P W Stackhouse, Jr., W Chandler, J M Hoell, D Westberg, C H Whitlock

U23B Moscone South: 103 Tuesday 1340h
Carbon in the Earth II

Presiding: C M Bertka, Carnegie Institution of Washington; R M Hazen

1340h **U23B-01** Deep Horizons - Implications of the deep carbon cycle for life, energy, and the environment (Invited): **B Sherwood Lollar**, C J Ballentine, E Shock

1410h **U23B-02** Opportunities and challenges in studies of deep life (Invited): **K J Edwards**

1425h **U23B-03** Petrology of Deep Storage, Ingassing, and Outgassing of Terrestrial Carbon (Invited): **R Dasgupta**

1440h **U23B-04** Carbon Cycle in the Subduction Zone and Deep Mantle: Constraints from Equilibrium Experiments at High Pressure and Temperature (Invited): **Y Fei**, K D Litasov

1455h **U23B-05** On the relative roles of carbonate and molecular CO₂ in subduction zones: implications for Earth's deep carbon cycle (Invited): **C E Manning**, A Kavner, A Chopelas

1510h **U23B-06** H₂O and CO₂ devolatilization in subduction zones: implications for the global water and carbon cycles (Invited): **P E Van Keken**, B R Hacker, E M Syracuse, G A Abers

1525h **U23B-07** Novel synchrotron x-ray probes for deep carbon (Invited): **W L Mao**

U23C Moscone South: I04 Tuesday 1340h
Incorporating Climate Change Impacts Into Policy Analysis
(joint with GC)

Presiding: **R E Kopp**, AAAS Science & Technology Policy Fellow;
B Mignone; **M C Sarofim**, EPA; **G B Dreyfus**, AAAS S&T Policy Fellow

1340h **Introduction**

1345h **U23C-01** From Science to Policy: How Climate Impacts Research Informs Decision-Making (*Invited*): **K Hayhoe**

1400h **U23C-02** The U.S. Federal Government's Efforts to Estimate an Economic Value for Reduced Carbon Emissions (*Invited*):

A Wolverton

1415h **U23C-03** Limitations and opportunities for the social cost of carbon (*Invited*): **S K Rose**

1430h **U23C-04** Valuing Precaution in Climate Change Policy Analysis (*Invited*): **R B Howarth**

1445h **U23C-05** Beyond Optimality: Risk Management Approaches to Climate Change (*Invited*): **K Keller**

1500h **U23C-06** Risk Management Framework for Incorporating Climate Impacts into Policy Analysis (*Invited*): **M D Webster**, J M Reilly, S Paltsev, A P Sokolov, C Wang, R G Prinn

1515h **Panel Discussion** Moderated by Michael Oppenheimer

Atmospheric Sciences

A23A Moscone South: Poster Hall Tuesday 1340h
Fast Physics in Climate Models: Parameterization and Evaluation III Posters (joint with NG)

Presiding: **Y Liu**, Brookhaven Natl Lab; **L Donner**, GFDL/NOAA; **S Menon**, Lawrence Berkeley national Laboratory

1340h **A23A-0202 POSTER** Comparison of a global-climate model to a cloud-system resolving model for the long-term response of thin stratocumulus clouds to preindustrial and present-day aerosol conditions: **S Lee**, J E Penner

1340h **A23A-0203 POSTER** Developing A Multi-Year Ensemble Cloud Retrieval Properties Dataset (ECLDRET) from Atmospheric Radiation Measurement Observations: **C Zhao**, S Xie, S A Klein, R McCoy, J M Comstock, M Deng, M Dunn, R Hogan, M P Jensen, G G Mace, S A McFarlane, O J Oconnor, M Shupe, D Turner, Z Wang

1340h **A23A-0204 POSTER** Cloud microphysical properties in contrasting monsoon days as revealed by CAIPEEX and MODIS observation and by cloud permitting WRF simulation: **K Chakravarty**, P Mukhopadhyay, S Halder, S Taraphdar, B Goswami

1340h **A23A-0205 POSTER** Parameterization of the cloud-mediated radiative forcing of climate due to aerosols in the two-way coupled WRF-CMAQ over the continental United States: **S Yu**, R Mathur, J Pleim, D Wong, A G Carlton, S J Roselle, S Rao

1340h **A23A-0206 POSTER** Quantifying Uncertainty in Cloud Fraction Observations over the Southern Great Plains: **W Wu**, Y Liu, M P Jensen, T Toto

1340h **A23A-0207 POSTER** Radar derived storm dynamics for cloud-resolving model evaluation and climate model parameterization development: **S M Collis**, P T May, A Protat, A M Fridlind, A S Ackerman, C R Williams, A Varble, E J Zipser

1340h **A23A-0208 POSTER** Orographic propagating precipitation systems over the US in a global climate model with embedded explicit convection: **M S Pritchard**, M W Moncrieff, R C Somerville

1340h **A23A-0209 POSTER** Estimating Large-Scale Convection from a No-Microphysics WRF Simulation over the SGP: **Z T Segele**, L M Leslie, P Lamb

1340h **A23A-0210 POSTER** Using a two-moment bulk microphysics under the WRF framework to investigate effects of urban aerosols on thunderstorm and lightning in a megacity: **Y Wang**, Q Wang, R Zhang

1340h **A23A-0211 POSTER** Enhanced Cloud Regime Classification for Evaluation of Model Fast Physics: **W Lin**, Y Liu, A M Vogelmann, D Lubin

1340h **A23A-0212 POSTER** Simulation Study on Ground Surface Water and Energy Balance in Arid and Semiarid Areas: **X Zhang**

1340h **A23A-0213 POSTER** Scale-based Biases in Observation and Model Representation of Aerosol Indirect Effects: **A C McComiskey**, G Feingold

1340h **A23A-0214 POSTER** Assessing the Significance of Varying AGCM Physics Packages on Idealized Tropical Cyclone Simulations: **K A Reed**, C Jablonowski

1340h **A23A-0215 POSTER** Impacts of a new radiation scheme capable of treating subgrid variability on the climate of the GEOS-5 AGCM: D Lee, **L Oreopoulos**, M Suarez

1340h **A23A-0216 POSTER** Treatment of LW and SW Radiative Processes in a Climate GCM: **A A Laci**, V Oinas

1340h **A23A-0217 POSTER** Parameterization of Surface Solar Fluxes in Mountains: Application to the Tibetan Plateau: **W Lee**, K Liou, A D Hall

1340h **A23A-0218 POSTER** Radiative Impacts of Precipitating Hydrometeors on Atmosphere Circulation Features, Convection, Clouds and Precipitation in Weather and Climate models: **J F Li**, D E Waliser, T L'Ecuyer, A Molod, J Chern, R Forbes, W Tung, Y Wang, L Oreopoulos, M Suarez, M Rienecker, M Miller, W Tao

1340h **A23A-0219 POSTER** Testing the Parameterizations of Cloud Base Mass-Flux for Shallow Cumulus Clouds using Cloud Radar Observations: **A Chandra**, P Kollias, B A Albrecht, P Zhu, S A Klein, Y Zhang

1340h **A23A-0220 POSTER** Influence of two convection schemes on the radiative energy budget: **L Li**

1340h **A23A-0221 POSTER** An integrated TKE based eddy-diffusivity/mass-flux boundary layer scheme for the dry convective boundary layer: **M L Witek**, J Teixeira, G Matheou

1340h **A23A-0222 POSTER** Comparison and Evaluation of SCM Results against Observations: **H Song**, W Lin, L Donner, Y Lin, A D Genio, A Wolf, R Neggers, Y Liu

1340h **A23A-0223 POSTER** Development of Boundary Layer Parameterization for Simulating Moist Convective Boundary Layers: **K Suselj**, J Teixeira, G Matheou

1340h **A23A-0224 WITHDRAWN**

1340h **A23A-0225 POSTER** Evaluation of Subgrid Cloud Variability and Its Parameterization for GCM Radiation Calculation Using Year-Long CRM Simulations: **S Park**, X Wu

1340h **A23A-0226 POSTER** Cloud-resolving modeling of aerosol indirect effects in idealized radiative-convective equilibrium with interactive and fixed sea-surface temperature: **C Yang**, M Khairoutdinov

1340h **A23A-0227 POSTER** Configuration and Use of WRF as a Cloud Resolving Model in Evaluation against Observations: **S Endo**, Y Liu, W Lin, G Liu

1340h **A23A-0228 POSTER** A Multi-Scale Three-Dimensional Variational Data Assimilation System and Its Application to Cloud Resolving Models: **Z Li**, Z Ye

1340h **A23A-0229** *POSTER* Direct and indirect effects of anthropogenic aerosols as simulated by SP-CAM global climate model with superparameterization of clouds: **M Khairoutdinov**, W Grabowski, H Morrison

1340h **A23A-0230** *POSTER* Evaluation of Parameterized Surface Fluxes with ARM Observations: **G Liu**, Y Liu, T Toto, M P Jensen, S Endo

1340h **A23A-0231** *POSTER* Drizzle Variability in Marine Stratocumulus in the Azores: **E P Luke**, P Kollias

1340h **A23A-0232** *POSTER* Turbulence induced fluctuations in cloud saturation ratio: Doppler radar measurements and implications for drizzle formation: **R L McGraw**, E P Luke, P Kollias

1340h **A23A-0233** *POSTER* Evaluation of the total energy mass flux boundary layer scheme in the WRF model using DYCOMS2 data: **H J Huang**, A D Hall, J Teixeira

1340h **A23A-0234** *POSTER* The Parametrization of Momentum Transport in the Boundary Layer: **P M Soares**, P M Miranda, J Teixeira

1340h **A23A-0235** *POSTER* Parameterization of Ice Fall Speeds for Reducing Cloud Uncertainties in Climate Models: **S Mishra**, D L Mitchell, B A Baker, P Lawson

A23B Moscone South: Poster Hall Tuesday 1340h
Greenhouse Gas Measurements Using Active Optical Remote Sensing II Posters (*joint with B*)

Presiding: **J B Abshire**; **C Nagasawa**, Tokyo Metropolitan Univ

1340h **A23B-0236** *POSTER* Development and Deployment of Mobile Emissions Laboratory for Continuous Long-Term Unattended Measurements of Greenhouse Gases, Fluxes, Isotopes and Pollutants: **A Gardner**, D S Baer, T G Owano, R A Provencal, M Gupta, V Parsotam, P Graves, A Goldstein, A Guha

1340h **A23B-0237** *POSTER* Sub-Surface Carbon Dioxide Concentration Measurement Using a Fiber Based Sensor in a Call/Return Geometry for Carbon Sequestration Site Monitoring: **G R Wicks**, B Soukup, K S Repasky, J Carlsten, J L Barr, L Dobeck

1340h **A23B-0238** *POSTER* Development of a Differential Absorption Lidar (DIAL) for Carbon Sequestration Site Monitoring: **W Johnson**, A Bares, A R Nehrir, K S Repasky, J Carlsten

1340h **A23B-0239** *POSTER* The Use of a Pseudo Noise Code for DIAL Lidar: **J Burris**, X Sun, J B Abshire

1340h **A23B-0240** *POSTER* Ground Based Test Results for Broad Band LIDAR: **W S Heaps**, E Georgieva, W Huang, B Baldauf, T McComb

1340h **A23B-0241** *POSTER* Validation of Airborne CO₂ Laser Measurements: **E V Browell**, J T Dobler, S Kooi, M A Fenn, Y Choi, S A Vay, F W Harrison, B Moore, T S Zaccheo

1340h **A23B-0242** *POSTER* Recent Pulsed Airborne Lidar measurements of Atmospheric CO₂ Column Absorption to 13 km altitudes: **J B Abshire**, H Riris, G R Allan, C J Weaver, J Mao, W Hasselbrack, X Sun, M R Rodriguez

1340h **A23B-0243** *POSTER* Airborne pulsed lidar measurements over Railroad Valley Nevada compared with GOSAT observations: **C J Weaver**, G R Allan, H Riris, W Hasselbrack, J B Abshire

1340h **A23B-0244** *POSTER* Signal and Noise Analysis of the Recent Airborne CO₂ and O₂ Measurements with an Integrated Path Differential Absorption Lidar: **X Sun**, J B Abshire, H Riris, A Amediek, G Allan, M R Rodriguez, W Hasselbrack

1340h **A23B-0245** *POSTER* Data Analysis for the Recent Flight Campaigns towards Future NASA Space Mission ASCENDS: **J Mao**, C J Weaver, J B Abshire, H Riris, G R Allan, W Hasselbrack, M R Rodriguez, S R Kawa

1340h **A23B-0246** *POSTER* A review of recent and planned remote column integrated Carbon Dioxide measurements; technique improvements and campaign results conducted at JPL to further the development of the ASCENDS mission: **G D Spiers**, R T Menzies, J C Jacob, L E Christensen, P Meras, D Crisp, S Forouhar, J Hyon, M W Phillips

1340h **A23B-0247** *POSTER* Development of a 1.65 μm pulsed laser DIAL System to map atmospheric CH₄ distributions: **S Ismail**, J H Crawford, I Leifer, F Hovis, J W Hair, L R Brown, R Hardesty, A Fix, N Abedin, V Devi, D Benner, K Sung, G S Diskin, C A Hostetler

1340h **A23B-0248** *POSTER* Performance predictions for a mid-IR lidar suitable for measuring N₂O in the boundary layer: **G G Gimmestad**, D W Roberts, A J Mercer, D K Tan, D J Armstrong

1340h **A23B-0249** *POSTER* A Fast, Locally Adaptive, Interactive Retrieval Algorithm for the Analysis of DIAL Measurements: **D V Samarov**, R Rogers, J W Hair, K O Douglass, D Plusquellic

1340h **A23B-0250** *POSTER* Line selection and sensitivity analysis for oxygen sensing in the 1.26-1.27 micron spectral band for the ASCENDS mission: **N Prasad**, E V Browell, T S Zaccheo, B Karpowicz

1340h **A23B-0251** *POSTER* Development of Low SWAP Laser Transmitters at 1262nm and 1571nm: A Rosiewicz, S Coleman, **N Prasad**

1340h **A23B-0252** *POSTER* High Power, Eye Safe, Tunable 1.5 μm OPO Lidar Transmitter: **R Foltynowicz**, M Wojcik

1340h **A23B-0253** *POSTER* Development of the 1.6μm OPG/OPA system wavelength-controlled precisely for CO₂ DIAL: **M Abo**, Y Shibata, C Nagasawa

A23C Moscone West: 3004 Tuesday 1340h
Biomass Burning: New Findings and Analyses From Multiple Perspectives III (*joint with B, PA*)

Presiding: **R J Yokelson**, Univ Montana; **H Moosmuller**, Desert Research Institute

1340h **A23C-01** Emissions from vegetation fires and their influence on atmospheric composition over the Amazon Basin (*Invited*): **M O Andreae**, P Artaxo, M M Bela, S R de Freitas, C Gerbig, K M Longo, K T Wiedemann, S C Wofsy

1410h **A23C-02** Black carbon aerosol properties measured by a single particle soot photometer in emissions from biomass burning in the laboratory and field: **G R McMeeking**, J W Taylor, A P Sullivan, M J Flynn, S K Akagi, C M Carrico, J L Collett, E Fortner, T B Onasch, S M Kreidenweis, R J Yokelson, C Hennigan, A L Robinson, H Coe

1425h **A23C-03** First results from a large, multi-platform study of trace gas and particle emissions from biomass burning: **I R Burling**, R J Yokelson, S K Akagi, T J Johnson, D W Griffith, S P Urbanski, J W Taylor, J S Craven, G R McMeeking, J M Roberts, C Warneke, P R Veres, J A De Gouw, J B Gilman, W C Kuster, W M Hao, D Weise, H Coe, J Seinfeld

1440h **A23C-04** Chemical, physical, and optical evolution of biomass burning aerosols: A case study: G Adler, M Flores, S Borrmann, **Y Rudich**

1455h **A23C-05** Investigating Emissions and Evolution of Trace Gases and Aerosol Components from Biomass Burning Plumes in Canadian Boreal Forests during ARCTAS-2008: **A Hecobian**, Z Liu, C Hennigan, Y Wang, L G Huey, M Cubison, J L Jimenez, S A Vay, G S Diskin, G W Sachse, A Wisthaler, T Mikoviny, P O Wennberg, J Crounse, A J Weinheimer, D J Knapp, R J Weber

1510h **A23C-06** WITHDRAWN

1525h **A23C-07** Evolution of a Canadian biomass burning aerosol smoke plume transported to the U.S. East Coast: **D J Miller**, K Sun, M A Zondlo, D Kanter, P A Ginoux

A23D Moscone West: 3002 Tuesday 1340h
Climate Change, Air Quality, and Their Interrelations at the North American West Coast VII

Presiding: **S A McKeen**, CIRES/NOAA-CSD

1340h **A23D-01** Airborne lidar measurements of pollution transport in central and southern California during CalNEX 2010:

C J Senff, R J Alvarez II, R Hardesty, A O Langford, R M Banta, A Brewer, F Davies, S Sandberg, R Marchbanks, A Weickmann

1355h **A23D-02** Elevated ozone layers in the lower free troposphere during CalNex: **A O Langford**, C J Senff, R J Alvarez II, R M Banta, A Brewer, R Hardesty, J Brioude, O R Cooper

1410h **A23D-03** First multi-site assessment of tropospheric baseline ozone along the U.S. west coast: **O R Cooper**, S J Oltmans, B J Johnson, M Trainer, D D Parrish, T B Ryerson, I B Pollack, P Cullis, M Ives, D W Tarasick, J A Al-Saadi, I Stajner

1425h **A23D-04** Characteristics of Aerosol Transport from Asia to the West Coast of North America: **C A Brock**, R Bahreini, A M Middlebrook, E L Atlas, D R Blake, J Brioude, O R Cooper, J A De Gouw, J S Holloway, D A Lack, J M Langridge, S Meinardi, J B Nowak, J Peischl, A Perring, I B Pollack, J M Roberts, T B Ryerson, J P Schwarz, J R Spackman, M Trainer, J Trytko, C Warneke

1440h **A23D-05** LOWER BOUNDARY LAYER AND OZONE PROFILES OVER FRESNO DURING WILDFIRE EVENTS:

S O Ogunjemiyo, S A Omolayo

1455h **A23D-06** Asian Impact on surface ozone in the western United States: Chemistry, Seasonality, and Transport Mechanisms: **B Brown-Steiner**, P G Hess

1510h **A23D-07** Impacts of long-range transport and local emissions on California near-surface ozone and sulfur oxides during the ARCTAS period—A multi-scale modeling study: **M Huang**, G R Carmichael, S Spak, B Adhikary, S Kulkarni, Y Cheng, C Wei, Y Tang, D D Parrish, S J Oltmans, A D'Allura, P O Wennberg, L G Huey, J E Dibb, J L Jimenez, A J Weinheimer, A Kaduwela, C Cai, M Wong, R Pierce, J A Al-Saadi, D G Streets, Q Zhang

1525h **A23D-08** Impacts of Asian emissions on ozone air quality over western U.S. in spring and summer: **M Lin**, A M Fiore, O R Cooper, L W Horowitz, V Naik, B Wyman, R J Alvarez II, R M Banta, R Bahreini, J S Holloway, R Hardesty, B J Johnson, A O Langford, A M Middlebrook, S J Oltmans, I B Pollack, T B Ryerson, C J Senff, C Wiedinmyer, J R Ziemke

A23E Moscone West: 3006 Tuesday 1340h
Ice Formation and Multiplication in Tropospheric Clouds II

Presiding: **O Moehler**, Karlsruhe Institute of Technology; **X Liu**, Pacific Northwest National Laboratory

1340h **A23E-01** Ice nucleation processes: theoretical expectations versus evidence from laboratory experiments and field measurements (*Invited*): **E J Jensen**

1355h **A23E-02** Arctic Observations Supporting Liquid-Dependent Ice Nucleation at Low-Altitudes and Moderate Temperatures: **G de Boer**, H Morrison, M Shupe, R Hildner

1410h **A23E-03** The origin and development of the ice phase in frontal layer clouds (*Invited*): **T Choulaton**, Title of Team: Scientific Team of APPRAISE Clouds programme

1425h **A23E-04** Importance of Chemical Composition for Ice Nucleation: A Combined Field and Laboratory Approach: **K J Baustian**, M E Wise, D J Cziczko, A G Hallar, M A Tolbert

1440h **A23E-05** Investigating and parameterizing physical, chemical, and thermodynamic dependencies of ice nuclei concentrations (*Invited*): **P J DeMott**, A J Prenni, R C Sullivan, X Liu, S M Kreidenweis, J M Carpenter, M Branson, O Moehler, A Glen, S D Brooks

1455h **A23E-06** The Ice Nucleation Ability of Selected Atmospherically Abundant Fungal Spores: **R Iannone**, D I Chernoff, A K Bertram

1510h **A23E-07** How important is biological ice nucleation in clouds on a global scale? (*Invited*): **C Hoose**, J E Kristjansson, S M Burrows, J Chen, A Hazra

1525h **A23E-08** Uncertainty in Representing Cloud Ice Nuclei Number Concentration in Climate Models and Its Impact on Model Simulations: **S Xie**, X Liu, J S Boyle, S A Klein, S J Ghan

A23F Moscone West: 3008 Tuesday 1340h
Regional Climate Modeling II (joint with GC, H)

Presiding: **R W Arritt**, Iowa State University; **L Leung**, Pacific Northwest National Laboratory

1340h **A23F-01** CORDEX: A Coordinated Regional Downscaling Experiment (*Invited*): **C Jones**

1355h **A23F-02** Evaluation of the regional climate model REMO over several CORDEX domains throughout the globe: **A Elizalde**, A Haensler, S Hagemann, D Jacob, P Kumar, R Podzun, D Rechid, A Remedio, F Saeed, K Sieck, C Teichmann, C Wilhelm

1410h **A23F-03** Ensemble Downscaling of Winter Seasonal Forecasts: The MRED Project: **R W Arritt**, Title of Team: The MRED Team

1425h **A23F-04** Potential Improvement in Warm Season North American Monsoon Forecast Using Dynamically Downscaled GCM Data: **H Chang**, C L Castro, F Dominguez, B Ciancarelli

1440h **A23F-05** How Useful Are Regional Climate Models For Downscaling Seasonal Forecasts?: **A W Robertson**, J Qian, V Moron, M Tippett, A Lucero

1455h **A23F-06** Seasonal Analysis of a Regional Climate Model for the Western US using Climateprediction.net Beta Run Experiments: **A Salahuddin**, P Mote

1510h **A23F-07** Using the WRF Regional Model to Produce High Resolution AR4 Simulations of Climate Change for Mesoamerica: **R J Oglesby**, C M Rowe, C Hays

1525h **A23F-08** Comparison of the PRECIS regional climate model performance using lateral boundary conditions from GCM and reanalysis data over tropical South America: **D McGlone**, M Vuille

Atmospheric and Space Electricity

AE23A Moscone West: 3007 Tuesday 1340h
Electricity and Lightning in Thunderstorms I (joint with A)

Presiding: **T Marshall**, University of Mississippi; **W P Winn**, New Mexico Tech; **M Stolzenburg**, University of Mississippi

1340h **AE23A-01** Toward a Time-Domain Fractal Lightning Simulation: **C Liang**, B E Carlson, N G Lehtinen, M Cohen, D Lauben, U S Inan

1355h **AE23A-02** Measured Close Lightning Leader-Step Electric-Field-Derivative Waveforms: **J S Howard**, M A Uman, C J Biagi, J D Hill, V A Rakov, D M Jordan

1410h **AE23A-03** High-Speed Video Observations of a Natural Lightning Stepped Leader: D M Jordan, **J D Hill**, M A Uman, S Yoshida, Z Kawasaki

- 1425h **AE23A-04** High-speed spectral observations of a lightning negative stepped leader: **R E Orville**, T A Warner
- 1440h **AE23A-05** Physical Characteristics of Triggered Lightning Determined by Optical Spectroscopy: **T D Walker**, J D Hill, D M Jordan, M A Uman, H Christian
- 1455h **AE23A-06** Lightning M-components with Peak Current in the Range of Kilo-amperes: **X Qie**, R Jiang, J Yang, C Wang
- 1510h **AE23A-07** Relationships between Lightning Leader Progression Characteristics and Local Charge Structures in Thunderclouds: **M Akita**, S Yoshida, T Morimoto, T Ushio, Z Kawasaki, D Wang
- 1525h **AE23A-08** Condition for Positive Corona Inception from Thundercloud Hydrometeors: **H K Rassoul**, N Liu, J R Dwyer

Biogeosciences

B23A Moscone South: Poster Hall Tuesday 1340h **Advances in High-Frequency Optical Measurements of Trace Gases and Their Isotopes II Posters** (joint with A, H)

Presiding: **U Seibt**, UCLA; **C I Czimczik**, University of California, Irvine

1340h **B23A-0379** POSTER DETECTING AND ELIMINATING INTERFERING ORGANIC COMPOUNDS IN WATERS ANALYZED FOR ISOTOPIC COMPOSITION BY CRDS: B A Richman, **G S Hsiao**, C Rella

1340h **B23A-0380** POSTER Inter-comparison of three commercial instruments for water vapor isotope measurement: **X Wen**, X Sun, S Li, X Lee

1340h **B23A-0381** POSTER Concentration effects on laser-based 18O and 2H measurements and implications for the calibration of vapour data with liquid standards: **U Seibt**, M Schmidt, K S Maseyk, C Lett, P Biron, P Richard, T Bariac

1340h **B23A-0382** POSTER Development of an off-axis integrated cavity output spectrometer (OA-ICOS) for high frequency aircraft flux measurements of methane, nitrous oxide, and water vapor: **C E Healy**, J Munster, D S Sayres, M F Witinski, J Anderson

1340h **B23A-0383** POSTER Development and Deployment of a Fast, High-Precision Analyzer for Simultaneous N₂O, CO, and H₂O Measurements in Field Applications: **R A Provencal**, D S Baer, T G Owano, R Fellers

1340h **B23A-0384** POSTER HIGH-FREQUENCY ISOTOPE MEASUREMENTS IN NITROUS OXIDE BY USING MID-IR LASER ABSORPTION SPECTROSCOPY: **F Dong**, D S Baer

1340h **B23A-0385** POSTER In Situ Stable Isotopic Detection of Anaerobic Oxidation of Methane in Monterey Bay Cold Seeps Via Off-Axis Integrated Cavity Output Spectroscopy: S D Wankel, M Gupta, **J Leen**, R A Provencal, V Parsotam, P R Girguis

1340h **B23A-0386** POSTER FAST CARBON ISOTOPE ANALYSIS OF CO₂ USING CAVITY ENHANCED LASER ABSORPTION: WATER EFFECTS AND EXTENDED DYNAMIC RANGE: **W I McAlexander**, R Fellers, T G Owano, D S Baer

1340h **B23A-0387** POSTER Portable multiple laser continuous-flow cavity-ringdown spectrometer for Martian methane Isotopologues: T C Onstott, **Y Chen**, K K Lehmann

1340h **B23A-0388** POSTER SOLUTION FOR MINIMIZING SURFACE HEATING EFFECT FOR FAST OPEN-PATH CO₂ FLUX MEASUREMENTS IN COLD ENVIRONMENTS: J R Hupp, **G G Burba**, D K McDermitt, D J Anderson, R D Eckles

1340h **B23A-0389** POSTER CALCULATING CO₂ AND H₂O EDDY COVARIANCE FLUXES FROM LOW-POWER GAS ANALYZER USING FAST MIXING RATIO: **G G Burba**, A Schmidt, R L Scott, J C Kathilankal, B E Law, D K McDermitt, C Hanson, D J Anderson, R D Eckles, M D Furtaw, M Velgersdyk

1340h **B23A-0390** POSTER Methodological considerations for measuring δ¹³C of CO₂ by CRDS: **B T Galfond**, B M Giebel, D D Riemer, P K Swart

B23B Moscone South: Poster Hall Tuesday 1340h **Application of Isotope and Genetic Platforms to Develop Spatial and Temporal Perspectives in Ecosystem Ecology II Posters** (joint with GC, OS, PP)

Presiding: **P H Ostrom**, Michigan State University; **A J Welch**, Smithsonian Conservation Biology Institute; **C A Stricker**, US Geological Survey; **A Wiley**, Michigan State University

1340h **B23B-0391** POSTER Inter-annual variation in the foraging ecology of a brown bear population in southwest Alaska: **C A Stricker**, S D Kovach, G H Collins, S D Farley, R O Rye, M T Hinkes

1340h **B23B-0392** POSTER Stable Isotope (δ¹³C, δ¹⁵N, δ³⁴S) Analysis and Satellite Telemetry Depict the Complexity of Gray Wolf (*Canis lupus*) Diets in Southwest Alaska: **A Stanek**, D E Watts, B R Cohn, P Spencer, B Mangipane, J M Welker

1340h **B23B-0393** POSTER Oceanic δ¹⁵N biogeography: a novel top-down approach to examine nutrient dynamics in the equatorial Pacific Ocean: **B S Graham**, B Fry, B N Popp, V Allain, R Olson, F Galvan

1340h **B23B-0394** WITHDRAWN

1340h **B23B-0395** POSTER Stable Isotopic Insights into the Foraging Ecology of an Endangered Marine Predator, the Hawaiian Petrel: **A E Wiley**, P H Ostrom, H F James

1340h **B23B-0396** POSTER Temporal δ¹³C records from bottlenose dolphins (*Tursiops truncatus*) reflect variation in foraging location and global carbon cycling: **S L Rossman**, N B Barros, P H Ostrom, H Gandhi, R S Wells

1340h **B23B-0397** POSTER Variation in Fish δ¹³C and δ¹⁵N along a Climatic Gradient: An Isoscape Perspective for the West Florida Shelf: **K R Radabaugh**, S A Huelster, E B Peebles

1340h **B23B-0398** POSTER Stable Isotopic Shifts in Fish Bones from Multiple Archeological Coastal Middens in Penobscot Bay, Maine: **C Harris**, B Johnson, W G Ambrose, B Bourque, P Dostie, E Crowley

1340h **B23B-0399** POSTER Using stable isotope systematics and trace metals to constrain the dispersion of fish farm pollution: **A Torchinsky**, A E Shiel, M Price, D A Weis

1340h **B23B-0400** POSTER A lithology-based model for ⁸⁷Sr/⁸⁶Sr values of bedrock and water in the conterminous US: **C P Bataille**, G J Bowen

B23C Moscone South: Poster Hall Tuesday 1340h **Detecting Thresholds of Ecosystem Resilience in a Changing Climate I Posters** (joint with GC, H)

Presiding: **A White**, New Mexico Institute of Mining and Technology; **L Dong**, New Mexico University; **R Heinse**, University of Idaho; **C M Steele**, New Mexico State University

1340h **B23C-0401** POSTER Greening Trends in North American Boreal Forest and Tundra during 2000-2009 from MODIS and in situ Measurements: **D Wang**, D C Morton, J G Masek, K M McManus, J O Sexton

1340h **B23C-0402** POSTER What does the 2003 SouthWest USA vegetation dieback event tell us about vegetation resilience to climate change? Results from a high-resolution land surface modeling exercise: **RA Fisher**, S A Rauscher, A B White, N McDowell, T Ringle

1340h **B23C-0403** POSTER Drought tolerance and forest resiliency in tropical Amazonia: **AB Harper**, I T Baker, A Denning, D Markewitz, P M Brando, R Stockli

1340h **B23C-0404** POSTER Evaluating the impacts of drought stress on arid and semi-arid ecosystems in Northeast Asia using satellite imagery data: **N Do**, S Kang, G Choi

1340h **B23C-0405** POSTER Climate controls on forest productivity along the climate gradient of the western Sierra Nevada: **AE Kelly**, M L Goulden

1340h **B23C-0406** POSTER Quantifying vegetative variability and patterns of landscape change in the Mexican Yucatán Peninsula before, during, and after Hurricane Dean, August, 2007: **ZJ Christman**, J Rogan, L Schneider, Title of Team: Environmental Disturbances in the Greater Yucatán

1340h **B23C-0407** POSTER Assessing ecosystem structure and health using the patch size distribution of vegetation in semiarid Australian landscapes: **M Moreno de las Heras**, P M Saco, G R Willgoose

1340h **B23C-0408** POSTER Influence of grazing and precipitation change on ecosystem carbon exchange along an elevation gradient in central Utah: **RA Gill**

1340h **B23C-0409** POSTER Canary in the Coal Mine: Monitoring Indicators and Thresholds of Ecological Integrity: **LM Applegate**

1340h **B23C-0410** POSTER Experimental Manipulation of Soil Moisture Regime Impacts Soil Microbial Community Abundance, Diversity, and Function in a Semi-Arid Sagebrush Steppe: **PO Sorensen**, K P Feris, M J Germino

1340h **B23C-0411** POSTER Tracking the response of *E. camaldulensis* to moisture stress recovery using spectral reflectance: **LA Chisholm**

B23D Moscone South: Poster Hall Tuesday 1340h
Environmental Aspects of Bioenergy Production II Posters
(joint with PA, H)

Presiding: **U Mishra**, University of California Berke; **MS Torn**, Berkeley Lab/UCB; **EH DeLucia**, University of Illinois

1340h **B23D-0412** POSTER Ecosystem performance assessment for grasslands in the Greater Platte River Basin: implications for cellulosic biofuel development: **Y Gu**, S P Boyte, B K Wylie, L L Tieszen

1340h **B23D-0413** POSTER Modelling the growth of *Populus* species using Ecosystem Demography (ED) model: **D Wang**, D S LeBauer, X Feng, M C Dietze

1340h **B23D-0414** POSTER Expansion of Bioenergy Crops in the Midwestern United States: Implications for the Hydrologic Cycle under Climate Change: **PV Le**, P Kumar, D Drewry

1340h **B23D-0415** POSTER A regional comparison of water-use efficiency for *Miscanthus x giganteus* and *Panicum virgatum*: **AD VanLoocke**, T E Twine, M Zeri, R Arundale, C Bernacchi

1340h **B23D-0416** POSTER Carbon sequestration in response to rising atmospheric CO₂ in active and abandoned pine plantations of the southeastern US: **SC Davis**, J E Drake, E H DeLucia

1340h **B23D-0417** POSTER Root zone soil water dynamics and its effects on above ground biomass in cellulosic and grain based bioenergy crops of Midwest USA: **AK Bhardwaj**, S K Hamilton, R L Van Dam, K Diker, B Basso, Title of Team: GLBRC-Sustainability Thrust- 4.3 Biogeochemistry

1340h **B23D-0418** POSTER Preparing the EPIC Model for Evaluating Bioenergy Production Systems: A Test of the Denitrification Submodel using a Long-Term Dataset: **DH Manowitz**, D E Schwab, R C Izaurralde

1340h **B23D-0419** POSTER Expansion of woody biomass for bioenergy feedstock in the Southeastern US has local and remote climate impacts: **LN Murphy**, W J Riley, M S Torn, W Collins

1340h **B23D-0420** POSTER Evaluating multi-scale grids for regional agro-ecosystem simulations of switchgrass and miscanthus: **AV Di Vittorio**, N L Miller

1340h **B23D-0421** POSTER Biochemical Disincentives to Fertilizing Cellulosic Ethanol Crops: **ME Gallagher**, W C Hockaday, S Snapp, C McSwiney, J Baldock

B23E Moscone South: Poster Hall Tuesday 1340h
Linking Dissolved Organic Matter Quality With
Biogeochemical Cycles I Posters *(joint with V, H)*

Presiding: **ER Hotchkiss**, University of Wyoming; **KJ Goodman**, NEON, Inc.; **WH McDowell**, University of New Hampshire; **JB Fellman**, University of Western Australia

1340h **B23E-0422** POSTER An analysis of the chemical character of dissolved organic matter and soluble soil organic matter within the same catchment: **RS Gabor**, N Russell, D M McKnight

1340h **B23E-0423** POSTER Isolation of dissolved organic matter from permafrost soil and freshwater environments of the Kolyma River basin, east Siberia, for high resolution structural analysis: **IV Dubinenkov**, I V Perminova, E B Bulygina, R M Holmes, S Davydov, P J Mann, J Vonk, S A Zimov

1340h **B23E-0424** POSTER DOM in Northern Peatlands: Correlating Bulk Spectroscopic Properties with Molecular Composition: **MM tfaily**, J Corbett, J Chanton, W T Cooper

1340h **B23E-0425** POSTER Dissolved organic carbon in peat porewater increases with warming: a field manipulation experiment in a northern temperate bog: **ES Kane**, L R Mazzoleni, C J Kratz, J A Hribljan, C P Johnson, T G Pypker, R A Chimner

1340h **B23E-0426** POSTER Response of DOC in Acid-Sensitive Maine Lakes to Decreasing Sulfur Deposition (1993 - 2009): **GP Oelsner**, M SanClements, D M McKnight, J L Stoddard

1340h **B23E-0427** POSTER Controls of vegetation, hydrology, and climate on DOC production in Alaskan peatlands: **KR Neufeld**, M R Turetsky, E S Kane

1340h **B23E-0428** POSTER Controls on DOM biogeochemistry across a gradient of streams within the Congo River Basin: R G Spencer, **PJ Mann**, B Dinga, J Poulsen, G Fiske, C Linder, E B Bulygina, P J Hernes, J W Six, R Y Dyda, B Peucker-Ehrenbrink, T I Eglinton, R M Holmes

1340h **B23E-0429** POSTER Examining Controls on Dissolved Organic Carbon Quantity and Quality in Large North American Rivers: **KW Hanley**, W M Wollheim, J Salisbury, G Aiken

1340h **B23E-0430** POSTER Bio- and Photodegradation of DOM from Lakes, Streams, and Rivers within the Kolyma River Watershed, Northeast Siberia: **L Russell-Roy**, P J Mann, E B Bulygina, J D Schade, W V Sobczak, N Zimov, R M Holmes

1340h **B23E-0431** POSTER Temporal evolution of hyporheic dissolved organic carbon: **PJ Gabrielsen**

1340h **B23E-0432** POSTER Estimating the Age Distribution of Oceanic Dissolved Organic Carbon: **C L Follett**, D C Forney, D Repeta, D Rothman

B23F Moscone South: Poster Hall Tuesday 1340h
Mercury Cycling in Heterogeneous Environments II Posters
(joint with A, H, V)

Presiding: **M S Bank**, Harvard University, School of Public Health; **J B Shanley**, U. S. Geological Survey

1340h **B23F-0433** POSTER Stable mercury isotope ratios as tracers for Hg cycling at the inoperative New Idria Hg mine, California:

J G Wiederhold, A D Jew, G E Brown, B Bourdon, R Kretzschmar

1340h **B23F-0434** POSTER Geoecological controls on net mercury retention in northern peatlands: **R Bindler**, J Rydberg

1340h **B23F-0435** POSTER Mercury Export from the Yukon River Basin: a unique opportunity to assess global atmospheric sources at large scales and potential future response to climate change:

P F Schuster, R Streigl, M Dornblaser, G Aiken, D P Krabbenhoft, J DeWild, K Butler

1340h **B23F-0436** POSTER Characterization of the extent of Mercury Contamination in the Androscoggin River from a former Chlor-alkali Facility, Berlin, New Hampshire: **A Chalmers**, M C Marvin-DiPasquale, C Rosiu, D Luce, J Coles, M Zimmerman, T Smith

1340h **B23F-0437** POSTER Streamwater Particulate Mercury and Suspended Sediment Dynamics in a Forested Headwater Catchment: **A Riscassi**, K Hokanson, T M Scanlon

1340h **B23F-0438** POSTER Spatial Patterns of Mercury Bioaccumulation in the Upper Clark Fork River Basin, MT:

M F Staats, H Langner, J N Moore

1340h **B23F-0439** POSTER Factors controlling methylmercury production in the Allequash Creek wetland: a multivariate statistical approach: **J E Creswell**, C Babiarz, M M Shafer, S Tan, T Schott, E E Roden, D E Armstrong

1340h **B23F-0440** POSTER Importance of Forest Composition on Mercury Deposition through Litterfall and Accumulation in Soils: **J I Juillerat**, D S Ross

1340h **B23F-0441** POSTER Climate Change and Mercury Accumulation in Canadian High and Subarctic Lakes: **J L Kirk**, D C Muir, D Antoniadis, M S Douglas, M S Evans, T A Jackson, H Kling, S F Lamoureux, D S Lim, R Pienitz, J P Smol, K Stewart, X Wang, F Yang

1340h **B23F-0442** POSTER The mass dependent and independent equilibrium fractionation of stable mercury isotopes during laboratory synthesis of metacinnabar and other mercury-bearing phases: **R S Smith**, J G Wiederhold, B Bourdon, R Kretzschmar

1340h **B23F-0443** POSTER MERGANSER - A Predictive Model of Mercury in Fish and Loons in New England Lakes: **R B Moore**, J B Shanley, R A Smith, E K Miller, A Simcox, N C Kamman, D E Nacci, K W Robinson, J M Johnston, M Hughes, C M Johnston, K Williams, J Graham, S King

1340h **B23F-0444** POSTER Does Stormwater Management Create a Methylmercury Problem?: **J B Shanley**, A Chalmers, L Medalie

1340h **B23F-0445** POSTER Gaseous Mercury Monitoring at a Complex Source: The Las Cuevas Decommissioned Mining Complex and Current Hg Storage Facility (Almadén District, Spain): **P L Higuera**s, J M Esbri, W R Llanos, R Oyarzun, A Martinez-Coronado, Title of Team: Grupo de Estudios en Minería y Medioambiente - GEMM

1340h **B23F-0446** POSTER Mercury speciation, fluxes, and fate in the volcanically acidified fluids of Copahue volcano, Argentina: T Kading, **J C Varekamp**, M Andersson, P Balcom, R P Mason

1340h **B23F-0447** POSTER Production and Cycling of Methylmercury in High Arctic Wetland Ponds: **I Lehnherr**, V L St. Louis

1340h **B23F-0448** POSTER Mercury and other Mining-Related Contaminants in Ospreys along the Upper Clark Fork River, MT: **H Langner**, R Domenech, E Greene, M F Staats

1340h **B23F-0449** POSTER Landscape controls on total and methyl mercury in the upper Hudson River basin of New York State: **D A Burns**, K R Murray, P M Bradley, M E Brigham, G Aiken, M Smith

1340h **B23F-0450** POSTER Soil Redox Potential as a Control of Soil Total Gaseous Mercury Fluxes in Background Soils: **C W Moore**, M S Castro

1340h **B23F-0451** POSTER Effects of Hypolimnetic Oxygenation on Mercury Cycling in Twin Lake, Washington: **M Beutel**, S Dent, B Reed, B Moore, D Yonge, E Shallenberger

1340h **B23F-0452** POSTER Isotope tracing of Hg pollution from artisanal small scale gold mining in an aquatic ecosystem of Amapá, Brazil: **R Adler Miserendino**, E K Silbergeld, J D Guimarães, S Ghosh, B A Bergquist

1340h **B23F-0453** WITHDRAWN

1340h **B23F-0454** POSTER Changes in Mercury Volatilization between Planted and Unplanted Soils: **C Briggs**, M S Gustin

1340h **B51D-0383** POSTER Hg bioaccumulation in a contaminated flowing water system-sediment, macroinvertebrates, and fish interactions: **C Pizarro-Barraza**, M S Gustin, M Peacock

B23G Moscone South: Poster Hall Tuesday 1340h
Phenologies, Change, and Sustainability II Posters (joint with GC, H, A)

Presiding: **G M Henebry**, South Dakota State University; **K de Beurs**, Virginia Polytechnic Institute and State University; **J L Betancourt**, U.S. Geological Survey; **J F Brown**, USGS

1340h **B23G-0455** POSTER A Comparative Study of Vegetation Phenology Using MODIS and AmeriFlux Data: **D Hui**, V Chandola, C Wilson, L Gu, R R Vatsavai

1340h **B23G-0456** POSTER Quantifying the impact of changes in crop area on evapotranspiration regimes in the US corn and soybean belts through phenological modeling and data assimilation: **V Kovalsky**, G M Henebry

1340h **B23G-0457** POSTER Modeling Crop Phenology in a Process-based Land Surface Scheme: CN-CLASS: **K Chang**, J S Warland, P A Bartlett, M A Arain, F Yuan, P Voroney, C Wagner-Riddle

1340h **B23G-0458** POSTER National and international organization of phenology as a tool for science, management and education in a changing environment: **J F Weltzin**, Title of Team: National Coordinating Office of USA National Phenology Network

1340h **B23G-0459** POSTER PHYSICAL PROCESSES AFFECTING THE DISTRIBUTION OF *DIYDYMOSPHEA GEMINATA* BIOMASS BLOOM IN RAPID CREEK, SOUTH DAKOTA:

M B Abessa, P V Sundareshwar, S Updhayay

1340h **B23G-0460** POSTER Toward Transfer Functions for Land Surface Phenologies: **G M Henebry**

1340h **B23G-0461** POSTER Assessing Change and Variability in First Flowering Dates: An Initial Look at Rescued Legacy Data from North Dakota and Kansas: **S Travers**, G M Henebry

1340h **B23G-0462** POSTER Geospatiotemporal Data Mining of Remotely Sensed Phenology for Unsupervised Forest Threat Detection: **R T Mills**, F M Hoffman, J Kumar, S S Vulli, W W Hargrove, J Spruce

1340h **B23G-0463** POSTER Forests and Phenology: Designing the Early Warning System to Understand Forest Change: T Pierce, **M B Phillips**, W W Hargrove, G Dobson, J Hicks, M Hutchins, K Lichtenstein

1340h **B23G-0464** POSTER Toward a National Early Warning System for Forest Disturbances Using Remotely Sensed Land-Surface Phenology: **W W Hargrove**, J Spruce

1340h **B23G-0465** POSTER An Intercomparison of Annual Seasonality estimates in the Shenandoah National Park from 2000 to 2009: **A Hudson Dunn**, J Jones, J F Brown

1340h **B23G-0466** POSTER Vegetation Dynamics of NW Mexico using MODIS time series data: **M Valdes**, R Bonifaz, G Pelaez, A Leyva Contreras

1340h **B23G-0467** POSTER An Evaluation of Data Fusion Products for the Analysis of Dryland Forest Phenology: **JJ Walker**, K de Beurs, R H Wynne, F Gao

1340h **B23G-0468** POSTER Continuous Monitoring of Dynamic Pulse-Driven Phenological Phases in a Semiarid Shrubland: **K Nelson**, S A Kurc

1340h **B23G-0469** POSTER Characterizing Past Variances, Extremes, and Trends in Land Surface Phenology: **J F Brown**, A Gallant, W Sadinski, B Stricherz

1340h **B23G-0470** POSTER Three Decades of Remote Sensing Based Tropical Forests Phenological Patterns and Trends: **K Didan**

1340h **B23G-0471** POSTER Why we need to validate land surface phenology products: an update from the CEOS Land Product Validation subgroup: **J T Morissette**, J Dash, N Dwyer, J M Nightingale, J Nickeson, Title of Team: CEOS LPV Phenology Focus Group

1340h **B23G-0472** POSTER Assessment of Remotely Sensed Land Surface Phenology Data for North America: Inter-comparison and Forecasting: **G Zhang**, S Ganguly, M A White, R R Nemani, S H Hiatt, H Hashimoto, C Milesi, W Wang, A Michaelis, P Votava, F S Melton, J L Dungan

1340h **B23G-0473** POSTER Large-scale seasonal changes in leaf cover over the Amazon basin are explained by variations in solar radiation: **S Caldararu**, P I Palmer, D Purves

1340h **B23G-0474** POSTER The relationship of GIMMS AVHRR NDVI, MODIS NDVI, SPOT NDVI and SeaWiFS NDVI for phenological analysis: **J Chai**, K de Beurs

1340h **B23G-0475** POSTER Changing Climate And Timberline Dynamics Of The Carpathians During XX Century: **V Martazinova**, P Weisberg, V Maderych, E Ivanova, S Savchuk, A Shandra

1340h **B23G-0476** POSTER The Phenology of Carbon Dioxide Exchange in Northern Peatlands: Patterns and Drivers: **A Kross**, N T Roulet, T Moore

1340h **B23G-0477** POSTER Decadal trends of RSMA-based GV and NPV in western China during 2000-2008: J Gu, **G S Okin**

1340h **B23G-0478** POSTER Global Land Cover Change in Drylands from 2001 to 2008 using MODIS data: **J Cho**, K Otsuki, T Oki

1340h **B23G-0479** POSTER Linking Landsat observations with MODIS derived Land Surface Phenology data to map agricultural expansion and contraction in Russia: **S Caliskan**, K de Beurs

1340h **B23G-0480** POSTER Phenological variations in China's Loess plateau since 1981: **D Yan**, K de Beurs, J Fan

B23H Moscone South: Poster Hall Tuesday 1340h Stable Isotope Fluxes in Carbon and Water Cycles of Terrestrial Ecosystems II Posters (joint with A, H, V)

Presiding: **M J Zeeman**, Oregon State University; **A Knohl**, Chair of Bioclimatology; **K P Tu**, UC Berkeley

1340h **B23H-0481** POSTER Constraining Terrestrial $^{13}\text{C}_2$ Surface Fluxes on Local to Regional Scales: **C B Alden**, J W White, J B Miller

1340h **B23H-0482** POSTER Interpreting δD and $\delta^{18}\text{O}$ isotopic signals of ambient water vapor in PNW coniferous forest using a high frequency CRDS analyzer: **S T Allen**, B J Bond, J J McDonnell, J R Brooks, C K Thomas

1340h **B23H-0483** POSTER Soil moisture, temperature, and carbon substrate influences on soil respiration in a piñon-juniper woodland: **E Berryman**, J D Marshall, T Rahn, M E Litvak

1340h **B23H-0484** POSTER Partitioning peat respiration with stable carbon isotopes: **J Chanton**, J Corbett, D J Burdige, P H Glaser, W T Cooper, M M tfaily

1340h **B23H-0485** POSTER Understanding how the leaf physiology of mangrove plants differs from fresh water plants: a fundamental step to use cellulose as a proxy for sea level rise: **P Ellsworth**, L O Sternberg

1340h **B23H-0486** POSTER Deciduous and Evergreen Trees Rely on Deep Water Throughout the Year in a Subtropical Seasonal Forest: **P Ellsworth**

1340h **B23H-0487** POSTER Isotope Techniques For The Partitioning of Evapotranspiration Into Its Constituent Components: **S P Good**, L Wang, K K Caylor

1340h **B23H-0488** POSTER Linking water use and carbon gain in an alpine grassland on the Tibetan Plateau: **J Hu**, K A Hopping, B Schmidt, J A Klein

1340h **B23H-0489** POSTER Using natural abundance of $\delta^{13}\text{C}$ to partition ecosystem soil respiration: **J Hunt**, P Millard, A J Midwood, D Whitehead

1340h **B23H-0490** POSTER Degassing of CO_2 from headwater streams as a Rayleigh process: **J G Metzger**, B Andersen, G Lewis

1340h **B23H-0491** POSTER Carbon isotopic composition of assimilated and respired CO_2 in Southeastern US pine forests: **B Mortazavi**, M H Conte, J Chanton, T Martin, T Teklemerian, W Cropper, J Weber

1340h **B23H-0492** POSTER An analysis of $^{13}\text{C}/^{12}\text{C}$ signals from the terrestrial biosphere using SIBCASA and CarbonTracker: I R van der Velde, J B Miller, K M Schaefer, G van der Werf, **W Peters**

1340h **B23H-0493** POSTER Effects of complex carbon addition to soil CO_2 efflux and isotopic composition to soils near dead and live piñon pine trees: **H Powers**, N McDowell, D O Breecker

1340h **B23H-0494** POSTER Investigating temperature effects on methane production and oxidation in the rice ecosystem using stable carbon and hydrogen isotope ratios: **A L Rice**, A Sithole, M J Shearer, E Hanson, A Fisher, A K Khalil

1340h **B23H-0495** POSTER Isotopic Variability in Surface Water Vapor and Precipitation in the Upper Midwest, USA: **N M Schultz**, T J Griffis, J M Baker, X Lee, M Erickson, X Zhang, W Xiao, N Hu

1340h **B12B-07** POSTER $\delta^{18}\text{O}$ of water vapor and evapotranspiration in a temperate steppe: **Z Hu**, S Li, X Sun, X Wen, X Lee

1340h **B23H-0497** POSTER A novel design for a dual stable isotope continuous labeling chamber: results on labeling efficiency and C and N allocation in *Andropogon gerardii*: **J Soong**, C Stewart, D Reuss, C Pinney, F M Cotrufo

1340h **B23H-0498** POSTER Evapotranspiration partitioning of a winter wheat and summer maize double-cropping system using isotopic labeling: **X Sun**, X Wen, G Yu, X Lee

1340h **B23H-0499** POSTER A New Method to Quantify the Isotopic Signature of Leaf Transpiration: Implications for Landscape-Scale Evapotranspiration Partitioning Studies: **L Wang**, S P Good, K K Caylor

1340h **B23H-0500** POSTER Measurements of Forest-Atmosphere Isotopic CO₂ Exchange by Eddy Covariance: **R A Wehr**, J W Munger, D D Nelson, J B McManus, M S Zahniser, S R Saleska

1340h **B23H-0501** POSTER Decadal patterns in δ¹⁸O of atmospheric CO₂: **E Zakem**, J W White

1340h **B23H-0502** POSTER Assessing how seasonal hydrological balance has changed during the warming 20th century in the montane forests of Southeast Asian monsoon region using a stable isotope dendroclimatology approach: **M Zhu**, L D Stott

B23I Moscone West: 2004 Tuesday 1340h
Interacting Biogeochemical Cycles: Linking Carbon, Water, and Nutrient Fluxes From Organisms to Globe IV (joint with H)

Presiding: **A D Richardson**, Harvard University; **D Papale**, University of Tuscia

1340h **B23I-01** SPECIAL – The Savanna Patterns of Energy and Carbon Integrated Across the Landscape campaign: **J Beringer**, J Hacker, L B Hutley, R Leuning, S K Arndt, R Amiri, L Bannehr, L A Cernusak, S Grover, C Hensley, D J Hocking, P R Isaac, H Jamali, K Kanniah, S Livesley, B Neiningner, K Paw U, W B Sea, D Straten, N J Tapper, R A Weinmann, S Wood, S J Zegelin

1355h **B23I-02** Local and Regional Studies of Water-Carbon Linkage Improve Global Climate Projections (Invited): **A Denning**, I T Baker, A B Harper

1425h **B23I-03** Modeling coupled cycles of carbon, water and nutrients in the terrestrial biosphere: DLEM model and its applications: **H Tian**

1440h **B23I-04** Coupled Biogeochemical Cycles and Global Change in Terrestrial Ecosystems: **A C Finzi**

1455h **B23I-05** Interactions between atmospheric circulation, nutrient deposition, and tropical forest primary production (Invited): **J T Randerson**, Y Chen, B M Rogers, D C Morton, G van der Werf, N M Mahowald

1525h **B23I-06** Global Nutrient Limitation in Terrestrial Vegetation from Remote Sensing: **J B Fisher**, G Badgley, E Blyth

B23J Moscone West: 2002 Tuesday 1340h
Omic Approaches to Geobiology II

Presiding: **J M Dick**, Arizona State University; **A Poret-Peterson**, Arizona State University; **E Shock**, Arizona State University

1340h **B23J-01** Genomic Insights Into the First Cultured Member of the Zeta-Proteobacteria, the Fe-Oxidizing Mariprofundus Ferrooxydans PV-1: **E Singer**, D Emerson, E Webb, W Nelson, J Heidelberg, G Kuenen, K J Edwards

1355h **B23J-02** Energy and Carbon Flow: Comparing ultramafic- and basalt-hosted vents: **M Perner**, W Bach, R Seifert, H Strauss, J LaRoche

1410h **B23J-03** A variety of Microbial Mats cover the Chimney Walls of the Loki's Castle Hydrothermal Field: **H Dahle**, I Roalkvam, S L Jørgensen, R Stokke, I H Thorseth, R Pedersen, I Steen

1425h **B23J-04** Transcriptomic evidence for net methane oxidation and net methane production in putative ANaerobic MEthanotrophic (ANME) archaea: **K G Lloyd**, M J Alperin, A Teske

1440h **B23J-05** Metaproteomic Analysis of a Chemosynthetic Hydrothermal Vent Community Reveals Insights into Key-Metabolic Processes: **I Steen**, R Stokke, A Lanzen, R Pedersen, L Øvreås, T Urich

1455h **B23J-06** Nitrogen cycling in Hot Spring Sediments and Biofilms (Invited): **D R Meyer-Dombard**, M S Burton, J R Havig, E Shock

1510h **B23J-07** Integrated studies of uncultured microbes in the global ocean (Invited): **C Dupont**, D Rusch, A Martiny, R Lasken

1525h **B23J-08** Using metabolomics approaches to understand the effects of changing nutrient availability on cellular metabolism: **M B Higgins**, J D Rabinowitz

B23K Moscone West: 2006 Tuesday 1340h
Quantifying the Impact of Vegetation and Soil Weathering Processes on the Hydrosphere Using Biogeochemical Tracers II (joint with EP, H, V)

Presiding: **B Georg**, Trent University; **A West**, University of Southern California

1340h **B23K-01** Vegetation: A natural capacitor for contaminant metals input into the Critical Zone (Invited): S L Brantley, **E Herndon**, L Jin, D Eissenstat, P Raymond

1355h **B23K-02** Calcium isotopic compositions as tracers of vegetation activity in boreal permafrost ecosystems (Kulingdakan watershed, Central Siberia): **M Bagard**, A Schmitt, F J Chabaux, J Viers, O S Pokrovsky, A S Prokushkin, P Stille, B Dupré

1410h **B23K-03** Fractionation of Fe isotopes during granite weathering, soil formation, and plant uptake in an Alpine glacier forefield: **R Kretzschmar**, M Kiczka, J G Wiederhold, A Voegelin, S Kraemer, B Bourdon

1425h **B23K-04** The source of dissolved silicon in soil surface solutions of a temperate forest ecosystem: Ge/Si and Si isotope ratios as biogeochemical tracers: **J Cornelis**, B Delvaux, D Cardinal, L André, J Ranger, S Opfergelt

1440h **B23K-05** Magnesium isotope fractionation in volcanic soils controlled by clay mineralogy and exchangeable Mg: **S Opfergelt**, B Georg, K Burton, B Delvaux, C Siebert, R Guicharnaud, Y Cabidoche, A Halliday

1455h **B23K-06** Understanding Metal Sources and Transport Processes in Watersheds: a Hydrogeologic Approach (Invited): **T D Bullen**, S W Bailey, K J McGuire, P Brousseau, D S Ross, R Bourgault, M A Zimmer

1510h **B23K-07** Contribution of Deep Groundwater to Weathering Budget in a Rapidly Eroding Mountain Belt, Taiwan: **A Galy**, D Calmels, N Hovius, A West, M J Bickle

1525h **B23K-08** The role of soil weathering and hydrology in regulating chemical fluxes from catchments (Invited): **K Maher**, C P Chamberlain

Cryosphere

C23A Moscone South: Poster Hall Tuesday 1340h
Assessing Past and Future Mass Changes of Earth's Mountain Glaciers and Ice Caps I Posters (joint with EP, GC, NH, H)

Presiding: **R M Hock**, University of Alaska; **J M Hagen**, Department of Geosciences; **S O'Neel**, USGS

1340h **C23A-0577** POSTER Modeling past and future mass balance and discharge of Gulkana Glacier, Alaska: **A C Roth**, R M Hock, A A Arendt, J Zhang

1340h **C23A-0578** POSTER Glacier modeling in support of field observations of mass balance at South Cascade Glacier, Washington, USA: **E G Josberger**, W Bidlake

1340h **C23A-0579** POSTER The Effects of Changing Climate on Glaciers in the Central Alaska Range, Alaska, USA: A Case Study on the Kahiltna Glacier: **J C Young**, A A Arendt

1340h **C23A-0580** POSTER Modeling energy balance and melt layer formation on the Kahiltna Glacier, Alaska: D A Winski, **K J Kreutz**, E C Osterberg, S W Campbell, Title of Team: Denali Ice Core Team

1340h **C23A-0581** POSTER Rapid Thinning of a Lake Calving Glacier: Yakutat Glacier, Southeast Alaska: **B Truessel**, R J Motyka, C F Larsen, M Truffer

1340h **C23A-0582** POSTER Regional Observations of Alaska Glacier Dynamics: **E W Burgess**, R R Forster, D K Hall

1340h **C23A-0583** POSTER Inter-annual and intra-seasonal flow variability of Hubbard Glacier – an advancing tidewater glacier in SE Alaska: **L A Stearns**, G S Hamilton, D E Lawson, D C Finnegan

1340h **C23A-0584** POSTER A new inventory of glaciers and supraglacial debris for the Alaska Range with a case study of rock avalanche loading: **S J Herreid**, A A Arendt, R M Hock, C Kienholz

1340h **C23A-0585** POSTER Including the effects of debris cover in a distributed glacier energy balance model (*Invited*): **F Pellicciotti**, T Reid, M Carenzo, B W Brock

1340h **C23A-0586** POSTER The Use of Surface Energy Balance Models As a Means to Quantify Changes in Glacier Mass Balance: Application to the Collier Glacier, OR: **A C Beedlow**, P U Clark, S W Hostetler

1340h **C23A-0587** POSTER Combining a Distributed Melt Model and Meteorological Data of Shackleton Glacier, Canadian Rockies: M Mueller, **H Jiskoot**

1340h **C23A-0588** POSTER Modeling distributed glacier ablation for climate change simulations: comparison of an energy-balance and an enhanced temperature-index model: **M Carenzo**, F Pellicciotti, P Burlando

1340h **C23A-0589** POSTER Glacier melt-model transferability within a small subarctic mountain range: successes and limitations: **A H MacDougall**, G E Flowers

1340h **C23A-0590** POSTER Reconstructing winter snowpack accumulation from energy balance simulations in alpine glacierised basins: **I Clemenzi**, M Carenzo, S Morin, F Pellicciotti

1340h **C23A-0591** POSTER Winter snow accumulation reconstruction with MODIS imagery, southern Coast Mountains, British Columbia, Canada: **J M Shea**, R D Moore, B Menounos

1340h **C23A-0592** POSTER The Seasonal Glacier Contributions to the Illecillewaet River Basin, British Columbia, Canada: **J M Hirose**, S J Marshall

1340h **C23A-0593** WITHDRAWN

1340h **C23A-0594** POSTER Response of Kolahoi Glacier, Kashmir Himalaya to climate change: A preliminary Study: **G Jeelani**, S I Hasnain

1340h **C23A-0595** POSTER The geodetic glacier mass balance of Jan Mayen for the period 1949 to 2008: **C Rolstad Denby**, J Hulth, A K Sinisalo, E Beaudon

1340h **C23A-0596** POSTER Determining surface elevation change of small ice caps on Greenland: **D P Hess**, A Schenk, B M Csatho, S Nagarajan, J P Briner

1340h **C23A-0597** POSTER Basal Mass Balance of Antarctica and Greenland: **S Hossainzadeh**, S M Tulaczyk

1340h **C23A-0598** POSTER Balance Fluxes and Bed Topography of the Antarctic Peninsula Ice Sheet: **N E Barrand**, R C Hindmarsh

1340h **C23A-0599** POSTER Characteristics and change of the Milne Ice Shelf, Nunavut, Canada, over the last 50 yrs: **C A Mortimer**, L Copland, D Mueller

1340h **C23A-0600** WITHDRAWN

1340h **C23A-0601** POSTER Tropical New World Glacier Recession from the mid-1980s to the mid-2000s: **D A Slayback**, C J Tucker

1340h **C23A-0602** POSTER Basal topography of Kronebreen, NW Svalbard: **M O'Sadnick**, J Kohler, K Langley, L M Kehrl, E Berthier

C23B Moscone South: Poster Hall Tuesday 1340h Evolution and Stability of the Greenland Ice Sheet I Posters
(joint with EP, G, GC, NG, PP)

Presiding: **M Truffer**, University of Alaska Fairbanks

1340h **C23B-0603** POSTER Indications of Gas-Hydrate Dissociation Caused by Sea Level Rise off Ilulissat Icefjord, Greenland: K Schumann, **W Weinrebe**, D Voelker, A Kuijpers

1340h **C23B-0604** POSTER Evolution of supraglacial lakes and drainage patterns on the margin of the Greenland Ice Sheet, Part 2: Idealized models of crescentic surface lakes and their trailing ogives: **KN Darnell**, L M Cathles, J E Vidonish, J M Amundson, D S Abbot, D R MacAyeal

1340h **C23B-0605** POSTER Modelled dynamic sensitivity of Isunnguata Sermia, Western Greenland to the perturbation of basal boundary conditions: **D J Brinkerhoff**, J V Johnson, T W Meierbachtol, J T Harper

1340h **C23B-0606** POSTER Temperate Ice Under Jakobshavn Isbrae and Other Greenland Glaciers: **K E Poinar**, I R Joughin

1340h **C23B-0607** POSTER Using improved surface boundary conditions for mass balance modelling of the Greenland Ice Sheet: **RS Fausto**, A P Ahlstrom, D van As

1340h **C23B-0608** POSTER Sub- and Inter-annual Variability in Flow Speed of Outlet Glaciers in Greenland and Antarctica since 1999: **Y Ahn**, I M Howat

1340h **C23B-0609** POSTER Modeling the future ice discharge of a small tidewater glacier, West Greenland: **W Colgan**, H Rajaram, K Steffen, I R Joughin, W Abdalati, D McGrath, R S Anderson

1340h **C23B-0610** POSTER Late glacial and Early Holocene climatic conditions along the margin of the Greenland Ice Sheet, registered by glacial extents in Milne Land, east Greenland: **L Levy**, M A Kelly, T V Lowell

1340h **C23B-0611** POSTER Exploring the deglaciation and thinning of the west Greenland Ice Sheet using cosmogenic exposure dating: **N K Larsen**, K H Kjaer, S Funder, H C Linge

1340h **C23B-0612** POSTER Glacial erosion efficiency, early Holocene ice retreat rates, and interglacial exposure: new cosmogenic ¹⁰Be data from three sites in western Greenland: **L Corbett**, P R Bierman, J A Graly, T Neumann, D H Rood, R C Finkel

1340h **C23B-0613** POSTER POLAR ICE CAPS: A CANARY FOR THE GREENLAND ICE SHEET: **W Honsaker**, T V Lowell, E Sagredo, M A Kelly, B L Hall

1340h **C23B-0614** POSTER New cosmogenic exposure dates from Sermilik Fjord, southeast Greenland document rapid early Holocene retreat of Helheim Glacier: **A L Hughes**, E Rainsley, T Murray, C J Fogwill

1340h **C23B-0615** POSTER Greenland's Contribution to Early 20th Century Sea-Level Rise Determined by Sea-Level Fingerprinting: **WR Gehrels**, G A Milne, S L Callard, P T Moss, W A Marshall, B V Morrison, P L Woodworth

1340h **C23B-0616** POSTER Assessing Geometric Controls on Tidewater Glacier Sensitivity to Frontal Perturbations Using a Numerical Ice Flow Model: **EM McFadden**, I M Howat

1340h **C23B-0617** POSTER Century-Scale Relative Sea-Level Changes in West Greenland – Unravelling the Contributions from the Cryosphere and the Ocean: **L M Wake**, G A Milne, A J Long, S Woodroffe, M Simpson, P Huybrechts, S J Marshall

1340h **C23B-0618** POSTER Surface melt on the Greenland Ice Sheet in the Nuuk and Kangerlussuaq regions: **D van As**, A Hubbard, A P Ahlstrom, A Mikkelsen, B Hasholt, M R van den Broeke, M L Andersen, S Nielsen, S Rysgaard

1340h **C23B-0619** POSTER Links between acceleration, melting, and supraglacial lake drainage at the western Greenland Ice Sheet: **M J Hoffman**, T Neumann, G A Catania, L C Andrews

1340h **C23B-0620** POSTER Seasonal variations in Greenland Ice Sheet motion: inland extent and behaviour at higher elevations in a land-terminating transect: **I D Bartholomew**, P W Nienow, A Sole, D Mair, T Cowton, M King, M Burke

1340h **C23B-0621** POSTER High resolution, long term reconstruction of surface evolution in northwestern Greenland for investigating dynamic glacier behavior: **G S Babonis**, B M Csatho, A Schenk, C J Van der Veen

1340h **C23B-0622** POSTER Extreme Short-term Variability in Southeast Greenland Outlet Glacier Dynamics: **I M Howat**, E M McFadden, Y Ahn, I R Joughin, B E Smith

1340h **C23B-0623** POSTER Changes in the marine-terminating glaciers of the Geikie Plateau and Blossville Coast Region, East Greenland, 2000-2009: **K Walsh**, I M Howat, A A Arendt, Y Ahn

1340h **C23B-0624** POSTER Crevasse Detection and Avoidance for Safe Traversing on the Dynamic and Annually Changing Margin of the Greenland Ice Sheet: **J L Mercer**, J H Lever, S D Newman, E J Deeb, B Tracy, J C Weale, A J Delaney, R Davies, K S Emery

1340h **C23B-0625** POSTER Changes in ice geometry and supraglacial hydrology, Sermeq Avannarleq ablation zone, West Greenland: **W S Mclamb**, W Colgan, T P Phillips, W Abdalati, K Steffen, R J Motyka, H Rajaram

1340h **C23B-0626** POSTER Evolution of supraglacial lakes and drainage patterns on the margin of the Greenland Ice Sheet, Part 1. Observation of crescentic surface lakes and their trailing ogives: **J E Vidonish**, P S Wooley, L M Cathles, J M Amundson, K N Darnell, D R MacAyeal

1340h **C23B-0627** POSTER Greenland Ice Margin Processes Inferred from Terrestrial River Discharge: **A K Rennermalm**, L C Smith, V W Chu, R R Forster, B Hagedorn, J E Box

1340h **C23B-0628** POSTER Greenland glacier calving rates from Extreme Ice Survey (EIS) time lapse photogrammetry: **J Jung**, J E Box, J D Balog, Y Ahn, D T Decker, P Hawbecker

1340h **C23B-0629** POSTER Greenland outlet glacier dynamics from Extreme Ice Survey (EIS) photogrammetry: **P Hawbecker**, J E Box, J D Balog, Y Ahn, R J Benson

1340h **C23B-0630** POSTER Multistability and critical thresholds of the Greenland Ice Sheet: **A J Robinson**, R Calov, A Ganopolski

C23C Moscone South: Poster Hall Tuesday 1340h
Interactions of Ice Sheets and Glaciers With the Ocean III
Posters (joint with OS)

Presiding: **H A Fricker**, Scripps Institution of Oceanography; **L Padman**, Earth & Space Research; **K M Brunt**, Scripps Institution of Oceanography

1340h **C23C-0631** POSTER The kinematic response of Petermann Glacier, Greenland to ice shelf perturbation: **A Hubbard**, J E Box, R Bates, F Nick, A J Luckman, R Van de Wal, S H Doyle

1340h **C23C-0632** POSTER Changes and drivers of marine terminating outlets in Greenland: **K Scharrer**, T Murray, A Booth, T D James, A J Luckman, A L Hughes, A Goldsack, S L Bevan, S Cook, Y Drocourt, J Bradley, L Cordero Llana, J Mc Govern

1340h **C23C-0633** POSTER Tidewater Margin Dynamics in Central East Greenland Over two Decades: **H Jiskoot**, D Juhlin, H St.Pierre, M Citterio

1340h **C23C-0634** POSTER Seasonal speed-up of large Greenland marine-terminating outlet glacier related to surface melt-induced changes in subglacial hydrology: **D Mair**, A Sole, P W Nienow, I D Bartholomew

1340h **C23C-0635** POSTER Reconstruction of the latest 100 years of iceberg calving from Helheim Glacier, Southeast Greenland, on basis of marine sediment cores from Sermilik Fjord: **C S Andresen**, T J Andersen, A Kuijpers, G Massé, K Weeckstroem, A P Ahlstrom, N Noergaard-Pedersen, A Bjoerk, K H Kjaer

1340h **C23C-0636** POSTER Short Period Velocity Response to Tides and Calving Near the Terminus of Jakobshavn Isbrae: **D B Podrasky**, M Truffer, M A Fahnstock, M P Luethi

1340h **C23C-0637** POSTER Controls on the calving flux of North West Svalbard glaciers: **D Mansell**, A J Luckman, T Murray

1340h **C23C-0638** POSTER Larsen C Ice Shelf acceleration, surface elevation change, rheology and ice-ocean interaction: **A Khazendar**, M Schodlok, E Y Larour, E J Rignot

1340h **C23C-0639** POSTER Summer basal melt rate at the Larsen-C ice shelf, Antarctic Peninsula, measured by phase sensitive radar: **N Gourmelen**, A Shepherd, M Mcmillan, A Jenkins, M King

1340h **C23C-0640** POSTER Glaciological investigations on Fimbulisen, East Antarctica - first results from the 2009/10 field season: **H Anschuetz**, A K Sinisalo, K Langley, E D Isaksson, J M Hagen, S Hamran, M Øyan, A Humbert, T Martma, J Kohler, O Nøst

1340h **C23C-0641** POSTER Origin of surface undulations at the Kamb Ice Stream grounding line, West Antarctica: **F Seifert**

1340h **C23C-0642** POSTER Simulations of Ocean Circulation under Static and Dynamic Ice Shelves: **X S Asay-Davis**, W H Lipscomb, S F Price

1340h **C23C-0643** POSTER Sea Level As A Stabilizing Factor For Marine Ice Sheets: **N Gomez**, J X Mitrovica, P Huybers, P U Clark, D Pollard

1340h **C23C-0644** POSTER Adaptive mesh refinement for large ice sheets using the Chombo toolkit: **S L Cornford**, D F Martin, R M Gladstone, A J Payne

1340h **C23C-0645** POSTER Exploring Mechanisms of Ice-Shelf Collapse Using a Laboratory Scale Model: **J C Burton**, A Boghosian, D D Styron, J M Amundson, L M Cathles, D S Abbot, D R MacAyeal

1340h **C23C-0646** WITHDRAWN

1340h **C23C-0647** POSTER Small iceberg bursts: melting breakwaters in the Southern Ocean: F Ardhuin, **J Tournadre**, P Queffeuilou, F Girard-Ardhuin

1340h **C23C-0648** POSTER The far field effect of ice shelf calving: the oceanographic effect of the decay of large tabular icebergs at South Georgia: **M A Brandon**, P Enderlein, E Murphy

1340h **C23C-0649** POSTER Ice shelf losses in the Canadian High Arctic, 2005-2010: **L Copland**, T Wohlleben, D Mueller, S G Pope, C A Mortimer

C23D Moscone West: 301 I Tuesday 1340h
Ice Cores, Climate, and Ice Sheets: New Frontiers II (joint with A, PP)

Presiding: **J W White**, University of Colorado; **D Dahl-Jensen**, University of Copenhagen

1340h **Introduction** *Short Introduction of session by Convenors*

1341h **C23D-01** The isotope records from WAIS Divide and US ITASE: climate in West Antarctica over the past two millennia (*Invited*): **E J Steig**, J W White, M Kuettel, Q Ding, G Hoffmann, D P Schneider, P A Mayewski, D A Dixon, K Taylor

1403h **C23D-02** Modeling methanesulfonic acid (MSA) deposition on Antarctica to understand the MSA-sea ice link: **P J Hezel**, B Alexander, E J Steig, C M Bitz

1418h **C23D-03** Past fire reconstructions in the EPICA ice core through the determination of specific molecular markers: **C Barbante**, P Gabrielli, N M Kehrwald, A Gambaro, R Zangrando

1433h **C23D-04** Multidecadal variability of atmospheric methane and the Inter Polar Gradient: 0-1800 C.E: **L Mitchell**, E Brook

1448h **C23D-05** Continuous Methane Concentration Measurements along the NEEM Core: **T Blunier**, J Chappellaz, S Schüpbach, C Stowasser, R Dallmayr, O Pascual, M Bigler, D Leuenberger

1503h **C23D-06** New ice core records on the glacial/interglacial change in atmospheric $\delta^{13}\text{C}_{\text{CO}_2}$: **H Fischer**, J Schmitt, R Schneider, J Elsig, A Lourantou, M Leuenberger, T F Stocker, P Koehler, J Lavric, D P Raynaud, J A Chappellaz

1518h **C23D-07** The North Greenland Eemian (NEEM) Ice Drilling: Isotopic Profiles, Regional Climate Gradients, and Abrupt Climate Change (*Invited*): **T J Popp**, D Dahl-Jensen, S J Johnsen, J Steffensen, Title of Team: NEEM Isotope Consortium

Education and Human Resources

ED23A Moscone South: Poster Hall Tuesday 1340h
NASA's Year of the Solar System: Science Isn't Done Until It's Shared! II Posters (joint with P)

Presiding: **D Scalice**, NASA Astrobiology Institute; **J S Allen**, JSC/ESCG

1340h **ED23A-0697** POSTER FROM THE SUN TO PLUTO AND BEYOND - INSPIRING THE NEXT GENERATION OF EXPLORERS: **K Beisser**, M Matiella Novak, L Butler, D Turney

1340h **ED23A-0698** POSTER Pieces of Other Worlds - Enhance YSS Education and Public Outreach Events with Extraterrestrial Samples: **C Allen**

1340h **ED23A-0699** POSTER Extreme Solar System in the Undergraduate Classroom: **D Baker**

1340h **ED23A-0700** POSTER Professionals and Emerging Scientists Sharing Science: **P V Graff**, J S Allen, K Tobola

1340h **ED23A-0701** POSTER Planetary Science Research Discoveries (PSRD) www.psrdd.hawaii.edu: **L Martel**, J Taylor

1340h **ED23A-0702** POSTER Cosmochemistry Illustrated: Recruiting and Training the Next Generation of Cosmochemists: **J Taylor**, L Martel

1340h **ED23A-0703** POSTER New Horizons: Bridge to the Beginning - to Pluto and Beyond: **H M Weir**, K G Hallau, P Seaton, K Beisser, Title of Team: New Horizons Education and Public Outreach Team

1340h **ED23A-0704** POSTER NASA's LADEE Mission: Opportunities for Citizen Science and Student Participatory Exploration: **B H Day**

1340h **ED23A-0705** POSTER NASA's What's Up Astronomy and Mission video series celebrates the Year of the Solar System: Fall 2010 - late summer 2012: **J Houston Jones**, Title of Team: Alice Wessen, Manager of Solar System Education and Public Engagement

1340h **ED23A-0706** POSTER "Discoveries in Planetary Sciences": Slide Sets Highlighting New Advances for Astronomy Educators: **D A Brain**, N M Schneider, R A Beyer

1340h **ED23A-0707** POSTER NASA/AESP Support for the Year of the Solar System: **A D Leavitt**

1340h **ED23A-0708** POSTER Comets, Asteroids and Rubble Piles: not just debris: **J B Harold**, P Dusenbery

1340h **ED23A-0709** POSTER Playing Around in the Solar System: Mini-games for Many Missions: **D K Fisher**, N Leon, A J Fitzpatrick, A Wessen

1340h **ED23A-0710** POSTER Mosaic Postcards from Mercury: **K G Hallau**, C R Chapman, J Edmonds, J Goldstein, B Hirshon, S C Solomon, H Vanhala, H M Weir, Title of Team: MESSENGER Education and Public Outreach Team

1340h **ED23A-0711** POSTER Our Place in Space: Exploring the Earth-Moon System and Beyond with NASA's CINDI E/PO Program: **M L Urquhart**, M R Hairston

1340h **ED23A-0712** POSTER HiRISE: The People's Camera: **A S McEwen**, E Eliason, V C Gulick, Y Spinoza, R A Beyer, Title of Team: HiRISE Team

1340h **ED23A-0713** POSTER Goldilocks and the Three Planets: **M O Fillingim**, D A Brain, L M Peticolas, D Yan, K Fricke

1340h **ED23A-0714** POSTER Mars Science Laboratory: An Opportunity for Public Engagement in the First Astrobiology Mission Since Viking: **M A Meyer**

ED23B Moscone South: Poster Hall Tuesday 1340h
The Future of Cyber-Education in the Geosciences: New Directions and Opportunities II Posters (joint with IN)

Presiding: **J G Ryan**, University of South Florida; **S C Eriksson**, UNAVCO; **L A Guertin**, Penn State Brandywine; **K A Lehnert**, Columbia University

1340h **ED23B-0715** POSTER Computer simulations for minds-on learning with "Project Spectra!": **E L Wood**, S Renfrow, N Marks, R Christofferson

1340h **ED23B-0716** POSTER Video Tutorials and Interactive Online Resources for Multibeam Sonar Software Training: **L R Sautter**, J Mode, P Duguid

1340h **ED23B-0717** POSTER Water Exploration: An Online High School Water Resource Education Program: **K K Ellins**, L R McCall, S Amos, R F McGowan, A Mote, K Negrito, B Paloski, C Ryan, B Cameron

1340h **ED23B-0718** POSTER A community initiative for developing data and modeling driven curriculum modules for hydrology education: **B L Ruddell**, V Merwade

1340h **ED23B-0719** POSTER HydroViz: A web-based hydrologic observatory for enhancing hydrology and earth-science education: **E H Habib**, Y Ma, D Williams

1340h **ED23B-0720** POSTER Geophysics on Wikipedia: **A J Newell**

1340h **ED23B-0721** POSTER Examining Geospatial Technology Tools to Compensate for Limited Exposures and Integrate Diverse Map and Data Resources in Geological Studies of the Southern Blue Ridge: **N Collins**, J G Ryan

1340h **ED23B-0722** POSTER Planning for the Future of Geo-Cybereducation: Outcomes of the Workshop, Challenges, and Future Directions: **J G Ryan**, S C Eriksson

1340h **ED23B-0723** POSTER Integrating LiDAR Data into Earth Science Education: **S E Robinson**, R Arrowsmith, R M De Groot, C J Crosby, A S Whitesides, J Colunga

ED23C Moscone South: 102 Tuesday 1340h
Learning and Understanding Complexity in the Geosciences II
(joint with A, B, GC, MR, OS, V)

Presiding: **C Gautier**, University of California Santa Barbara;
D R Zalles, SRI International

1340h **ED23C-01** Developing Students' Understanding of Complex Systems in the Geosciences (Invited): **C A Manduca**, D W Mogk, D M Bice, E Pyle, J Slotta

1355h **ED23C-02** Structure, Behavior, Function as a Framework For Teaching and Learning about Complexity In Ecosystems: Lessons from Middle School Classrooms (Invited): C Hmelo-Silver, **S Gray**, R Jordan

1410h **ED23C-03** Strategies and Rubrics for Teaching Complex Systems Theory to Novices (Invited): **L S Fichter**

1425h **ED23C-04** Understanding Complexity: Pattern Recognitions, Emergent Phenomena and Causal Coupling: **F Raia**

1440h **ED23C-05** Using place-based curricula to teach about restoring river systems: **D R Zalles**, B D Collins, C Updegrave, D R Montgomery, T G Colonnese, A J Sheikh, K Haynie, V Johnson, Title of Team: Data Sets and Inquiry in Environmental Restoration Studies (NSF GEO Project 0808076)

1455h **ED23C-06** Environment, Energy and Sustainability from a Systems Perspective: **N E Selin**, M D Webster, J Trancik

1510h **ED23C-07** Conceptual Challenges in Learning Ozone Formation for Collegiate Students: **K E Howard**, S H Chung, B T Jobson, T M VanReken, S A Brown

1525h **ED23C-08** Concept Mapping to Assess Learning and Understanding of Complexity in Courses on Global Climate Change: S Rebich-Hespanha, **C Gautier**

Earth and Planetary Surface Processes

EP23A Moscone South: Poster Hall Tuesday 1340h
Coastal Geomorphology and Morphodynamics: Bridging Event and Long-Term Processes II Posters (joint with H, NH, GC)

Presiding: **J E McNinch**, Field Research Facility; **C J Hapke**, U.S. Geological Survey

1340h **EP23A-0762** POSTER Avulsion in Action: Reconstruction and Modelling Sedimentation Pace and Upstream Flood Water Levels Following a Medieval Tidal-River Diversion and Storm Surge Catastrophe, The Netherlands, 1421-1750 AD: K Cohen, **M G Kleinhans**, H Weerts

1340h **EP23A-0763** POSTER Impact of the tidal power dam in the Rance estuary: geomorphological changes, hydrosedimentary processes and reconstructions plans: **A Susperregui**

1340h **EP23A-0764** POSTER Influence of storm surges and sea level on shallow tidal basin erosive processes: G Mariotti, **S Fagherazzi**, P L Wiberg, K McGlathery, L Carniello, A Defina

1340h **EP23A-0765** POSTER Coastal system mapping: a new approach to formalising and conceptualising the connectivity of large-scale coastal systems: **J French**, H Burningham, R Whitehouse

1340h **EP23A-0766** POSTER Large-Scale, Complex Shaped Coastline Responses to Different Forms of Local Shoreline Stabilization and Climate Change: **K Eills**, A B Murray, J M Slott

1340h **EP23A-0767** POSTER Sedimentological and Geophysical Signatures of a Relict Tidal Inlet along a Wave-Dominated Barrier, Assateague Island, Maryland, USA: **C T Seminack**, I V Buynevich, Z T Grimes, N Griffis, R J Goble

1340h **EP23A-0768** POSTER Outer Banks Climate - Utilizing NASA Earth Observations to Establish a Methodology for Assessing Coastal Change in North Carolina: **M A Vaughan**, K Morgan, D Doddridge, D Norman, C Burns, C Collins, J Warren

1340h **EP23A-0769** WITHDRAWN

1340h **EP23A-0770** POSTER The Role of Summertime Storms in Thermoabrasion of a Permafrost Coast: **C W Wobus**, R S Anderson, I Overeem, T P Stanton, G D Clow, F E Urban

1340h **EP23A-0771** POSTER Evaluation of conditions leading to inundation of the airstrip serving the remote village of Kaktovik, North Slope, Alaska: **L H Erikson**, B M Richmond, A Gibbs, B Jones

1340h **EP23A-0772** POSTER Characterizing Morphology and Erosional Trends of Permafrost Bluffs, Barter Island, Alaska: **A Gibbs**, L H Erikson, B Jones, B M Richmond

1340h **EP23A-0773** POSTER Modeling rocky coastline evolution and equilibrium: **P W Limber**, A B Murray

1340h **EP23A-0774** POSTER Seven years of geomorphic change in the head of Monterey Canyon, CA: Steady state equilibrium or monotonic change?: **D P Smith**, R G Kvitek, E Ross, P Iampietro, C K Paull, M Sandersfeld

1340h **EP23A-0775** POSTER An application of vessel-based LiDAR to quantify coastal retreat in Southern Monterey Bay, CA during the 2008-2009 year and the 2009-2010 El Nino: **S Quan**, R G Kvitek, D P Smith

1340h **EP23A-0776** POSTER Coastal foredune evolution: evidence for ecological control: **P L Zarnetske**, P Ruggiero, J Mull, S Hacker, E Seabloom

1340h **EP23A-0777** WITHDRAWN

1340h **EP23A-0778** POSTER INVESTIGATING CAUSES AND CONSEQUENCES OF 150 YEARS OF CHANNEL MORPHOLOGY EVOLUTION IN SAN PABLO BAY, CALIFORNIA: **M V Wegen**, J Roelvink, B E Jaffe

1340h **EP23A-0779** POSTER Using delta-front bathymetry to understand river delta progradation: **J B Shaw**, D C Mohrig

EP23B Moscone South: Poster Hall Tuesday 1340h
Quantifying Event-Scale Landscape Change II Posters (joint with GC, H, NH)

Presiding: **S DeLong**, University of Arizona; **J P Johnson**, The University of Texas at Austin

1340h **EP23B-0780** POSTER The Automatically Triggered Video or Imaging Station (ATVIS): An Inexpensive Way to Catch Geomorphic Events on Camera: **A D Wickert**

1340h **EP23B-0781** POSTER Predicting Event-Scale Floodplain Change with Coupled Hydrodynamic (ANUGA) and Landscape Evolution (CHILD) Models: a Case Study of the Rio Puerco Arroyo, NM: **M C Perignon**, G E Tucker, E R Griffin, J M Friedman, K R Vincent

1340h **EP23B-0782** POSTER Monitoring the sensitivity of active gully erosion to individual runoff events and seasonal soil moisture changes: **J P Johnson**, S DeLong, K X Whipple

1340h **EP23B-0783** POSTER Climatic and geomorphic interactions on alluvial fans in the Atacama Desert, Chile: **E R Kraal**, E Haug, J O Sewall, M Van Dijk, G Chong Diaz

1340h **EP23B-0784** POSTER The effects of changes in flow rate on erosion volumes in young incising river systems: **S S Day**, K B Gran
1340h **EP23B-0785** POSTER Quantifying mean velocity and turbulence in experimental flash flood bores: **P J Polito**, J P Johnson
1340h **EP23B-0786** POSTER Exhumation in the Bendeleben Mountains, Seward Peninsula, Alaska constrained by radiogenic helium thermochronometry: **K T McDannell**, J Toro, J K Hourigan

EP23C Moscone South: 310 Tuesday 1340h
Quantifying Present and Ancient Rates of Earth Surface Processes I (*joint with H, PP, V*)

Presiding: **A Dosseto**, University of Wollongong; **A M Heimsath**, Arizona State University; **E J Rhodes**, UCLA

1340h **EP23C-01** Residence Time of Sediments in Alluvial Plains from U-Th Isotope Analyses: The Ganges River System. (*Invited*): **F J Chabaux**, E Blaes, M Granet, A Dosseto, P Stille, C France-Lanord, M Lupker
1355h **EP23C-02** Changes in chemical weathering intensity in the Himalayas over the past 30 kyr: **A Dosseto**, N Vigier
1410h **EP23C-03** Lithium isotopes and water/rock interactions: Clues from low and high temperature hydrosystems: **R Millot**, J Gaillardet, N Vigier, B Sanjuan, P Négrel
1425h **EP23C-04** Integrating Geochemical and Morphologic Evolution of Soil-Covered Hillslopes in a Transient Tributary Basin: **B A Weinman**, K Yoo, S M Mudd, M D Hurst, K Maher, K Mayer, C Andersen
1440h **EP23C-05** Extraterrestrial Matter Chronometry of Sediments: **B Peucker-Ehrenbrink**, C A Waters, P F Hoffman, M D Kurz
1455h **EP23C-06** Climate and the erosional efficiency of fluvial systems: **M W Rossi**, K X Whipple, R A DiBiase, A M Heimsath
1510h **EP23C-07** Isotopic variations in the recent sediment of the Caspian Sea: a record of Quaternary continental weathering?: **M Pierret-neboit**, F J Chabaux, S Leroy
1525h **EP23C-08** Impact of surface processes and climate variability on clumped isotope thermometry of soil carbonates, southern Central Andes, Argentina (*Invited*): **K W Huntington**, N Peters, G Roe, G D Hoke, J Eiler

Geodesy

G23A Moscone South: Poster Hall Tuesday 1340h
Development and Testing of Methods for Detecting and Estimating Unsteady Motion in Geodetic Time Series II Posters (*joint with T, NS, NG, IN*)

Presiding: **S D Williams**, Proudman Oceanographic Laboratory; **J R Murray-Moraleda**, U.S. Geological Survey

1340h **G23A-0810** POSTER The Detection of Offsets in GPS Experiment (DOGEx): **S D Williams**, M King
1340h **G23A-0811** POSTER Correlation Weighted Spatial Filtering of Common-mode Noises and Detection of Regional Transient Signals in Continuous GPS Network: Y Tian, **Z Shen**
1340h **G23A-0812** POSTER The Ups and Downs of Geodetically-Derived Deformation Rates in the Western Transverse Ranges Region, CA: **S T Marshall**, S E Owen, G J Funning
1340h **G23A-0813** POSTER Case Study in Detection of Transient Crustal Deformation: **B W Crowell**, D Avraham, Y Bock, D Dong, P Fang, P Jamason, S E Owen, M B Squibb, F Webb
1340h **G23A-0814** POSTER Detection of anomalous signals in temporally correlated data (*Invited*): **J O Langbein**

1340h **G23A-0815** POSTER Analysis of spatio-temporal crustal deformation from dense, continuous GPS network data: E Chang, **B F Chao**

1340h **G23A-0816** POSTER Time series and MinTS analysis of strain accumulation along the Haiyuan fault (Gansu, China) over the 2003-2010 period, from ENVISAT InSAR data: **R Jolivet**, C Lasserre, N Lin, M Simons, M Doin, E A Hetland, P Muse, G Peltzer, S Jianbao, R Dailu

1340h **G23A-0817** POSTER Multitemporal InSAR analysis at Betic-Rif arc: transient and steady state ground deformation style varieties: **J Fernandez**, P Gonzalez

G23B Moscone South: Poster Hall Tuesday 1340h
GPS/GNSS Network Solutions for Science: New Techniques, Data Systems, Results, and Implications II Posters (*joint with IN, NH, T, S*)

Presiding: **A A Borsa**, UNAVCO; **G Blewitt**, University of Nevada, Reno

1340h **G23B-0818** POSTER A GPS/GNSS dense network used to monitor ionospheric positioning error: G Wautelet, **S Lejeune**, R Warnant
1340h **G23B-0819** POSTER USGS Menlo Park GPS Data Processing Techniques and Derived North America Velocity Field (*Invited*): **J L Svarc**, J R Murray-Moraleda, J O Langbein
1340h **G23B-0820** POSTER Implications for stress changes along the Motagua fault and other nearby faults using GPS and seismic constraints on the M=7.3 2009 Swan Islands earthquake: **S E Graham**, M Rodriguez, R D Rogers, W Strauch, D Hernandez, C DeMets
1340h **G23B-0821** POSTER Impact of acoustic velocity structure to measurement of ocean bottom crustal deformation: **R Ikuta**, K Tadokoro, T Okuda, S Sugimoto, T Watanabe, S Eto, M Ando
1340h **G23B-0822** POSTER An investigation of Terrestrial Reference Frames for Sea-Level Studies: Experiences from the British Isles: D N Hansen, **F N Teferle**, R M Bingley, S D Williams, M King
1340h **G23B-0823** POSTER Results from an initial re-processing of the British Isles continuous GNSS Facility (BIGF) archive of CGPS data for 1997 to 2010: **R Bingley**, D N Hansen, J Leighton, F N Teferle, B David
1340h **G23B-0824** POSTER Reanalysis of CORS and Global GPS Data at the National Geodetic Survey: **J R Rohde**, Title of Team: NGS GPS Reanalysis Team
1340h **G23B-0825** POSTER Preliminary results of an updated North American GPS velocity field: **M R Craymer**, J A Henton, M Piraszewski, E Lapelle
1340h **G23B-0826** POSTER Exploring Lithospheric Deformation of Western US with Large GPS Networks: P Fang, Y Bock, B W Crowell, D Dong, P Jamason, S Kedar, A W Moore, **S E Owen**, M B Squibb, F Webb
1340h **G23B-0827** POSTER Geodetic Seamless Archive Centers Modernization - Information Technology for Exploiting the Data Explosion: **F M Boler**, G Blewitt, C W Kreemer, Y Bock, C E Noll, J McWhirter, P Jamason, M B Squibb
1340h **G23B-0828** POSTER Rigorous GNSS network solutions of unlimited size: **H Boomkamp**, Title of Team: IAG Working Group 1.1.1
1340h **G23B-0829** POSTER The QuakeSim System for GPS Time Series Analysis: **R A Granat**, X Gao, M Pierce, J Wang
1340h **G23B-0830** POSTER The EarthScope Plate Boundary Observatory (PBO) High-rate Real-time Cascadia network: **K E Austin**, A A Borsa, K Feaux, M E Jackson, T B Williams

G23C Moscone South: Poster Hall Tuesday 1340h
The Art and Science of Volcano Geodesy III Posters (joint with V, S, NH)

Presiding: **M P Poland**, U.S. Geological Survey; **M Battaglia**, Sapienza - University of Rome

1340h **G23C-0831 POSTER** Modeling Secular Deformation of Kilauea Volcano, Hawaii: **D K Sinnett**, E D Montgomery-Brown, F Casu, P Segall, Y Fukushima, A Miklius, M P Poland

1340h **G23C-0832 POSTER** Mapping three-dimensional surface deformation by combining multiple aperture interferometry and conventional interferometry: application to the June 2007 eruption at the Kilauea volcano, Hawaii: **Z Lu**, H Jung, M P Poland, A Miklius

1340h **G23C-0833 POSTER** First results from continuous gravity measurements at Kilauea Volcano, Hawaii: **M P Poland**, D Carbone

1340h **G23C-0834 POSTER** Tracking lava flow emplacement on the east rift zone of Kilauea, Hawai'i with InSAR coherence: **H R Dieterich**, D A Schmidt, M P Poland, K V Cashman

1340h **G23C-0835 POSTER** Continuous deflation at Askja, Iceland, as seen in InSAR and precise levelling: **E de Zeeuw-van Dalfsen**, E C Sturkell, F Sigmundsson, R Pedersen, A J Hooper

1340h **G23C-0836 POSTER** Volcanic and earthquake hazards at eastern Turkey volcanoes investigated by InSAR: **H Bathke**, T R Walter

1340h **G23C-0837 POSTER** Time Series Deformation Analysis of Lumpur Sidoarjo (LUSI) Mud Volcano Using Interferometry Synthetic Aperture Radar: **T P Sidiq**, Y Aoki, T Kato, H Z Abidin

1340h **G23C-0838 POSTER** MONITORING THE UPS AND DOWNS OF SUMATRA AND JAVA WITH D-INSAR TIME-SERIES: **E Chaussard**, F Amelung

1340h **G23C-0839 POSTER** A Time Series Analysis of Volcanic Deformation near Three Sisters, Oregon, using InSAR: **S N Riddick**, D A Schmidt

1340h **G23C-0840 POSTER** Finite Element Analysis Of Structural And Magmatic Interactions At Mono Basin (California): D La Marra, A Manconi, **M Battaglia**

1340h **G23C-0841 POSTER** Gravity and magnetic investigations of the Mono-Inyo Volcanic Chain, Mono Basin, California: **A A Pera**, D A Ponce, D K McPhee, M Battaglia

1340h **G23C-0842 POSTER** Detection of deformation time-series in Miyake-jima using PALSAR/InSAR: **T Ozawa**, H Ueda

1340h **G23C-0843 POSTER** ANALYSIS OF 2005-2010 DOME EXTRUSION AT THE VOLCAN DE COLIMA, MEXICO USING TILT METER SURVEYS: **J J Ramirez-Ruiz**, A C Eliseo, S J Hydyn

1340h **G23C-0844 POSTER** Steady downslope movement on the western flank of Arenal Volcano, Costa Rica: **S K Ebmeier**, J Biggs, T A Mather, G Wadge, F Amelung

1340h **G23C-0845 POSTER** Differential GPS measurements at Santa Ana (Illumatepec) Volcanic Complex and associated deformation at the Coatepeque Caldera, September 2008 - September 2009: **H N Lechner**, C DeMets, W I Rose, D Hernandez, D Escobar, R P Escobar-Wolf

1340h **G23C-0846 POSTER** Gravity and Geodetic Studies at Concepción volcano, Nicaragua: **J A Saballos**, R Malsersvi, C Connor

1340h **G23C-0847 POSTER** Observations and modelling of inflation in the Lazufre volcanic region, South America: **J Pearse**, P Lundgren

1340h **G23C-0848 POSTER** Borehole Tiltmeter and CGPS Response to VLP Seismic Events under Cotopaxi Volcano, Ecuador: **P A Mothes**, M Lisowski, M C Ruiz, A Ruiz, P B Palacios Palacios

1340h **G23C-0849 POSTER** Gravity anomaly of a deep active intrusion beneath Uturuncu volcano in the central Andes: **R del Petro**, J Gottsmann, A Camacho, D D Muir, M Sunagua

1340h **G23C-0850 POSTER** Inflation and deflation modeling at Sierra Negra and Fernandina volcanoes based on GPS measurements. Galapagos Islands, Ecuador: **A G Ruiz Paspuel**, D Geist, W Chadwick, D Johnson, N Vigouroux-Caillibot, K S Harpp, S Batt

1340h **G23C-0851 POSTER** The shallow magmatic system of Fernandina Volcano, Galápagos Islands. Evidence of multiple magma reservoirs from Satellite Radar Interferometry: **M Bagnardi**, F Amelung, S Baker

1340h WITHDRAWN

Global Environmental Change

GC23A Moscone South: Poster Hall Tuesday 1340h
Climate Modeling in Support of Policy Decision Making: Needs and Limitations I Posters (joint with A, PA)

Presiding: **I T Foster**, University of Chicago and Argonne National Laboratory; **E J Moyer**, University of Chicago; **L A Smith**, London School of Economics; **A H Sanstad**, Lawrence Berkeley National Laboratory

1340h **GC23A-0889 POSTER** Global warming targets and heatwave risk: **RT Clark**, J M Murphy, S J Brown

1340h **GC23A-0890 POSTER** Climate Impacts on US Energy Infrastructure: A New High Resolution Model, Policy Implications and Feedbacks: **D J Erickson**, S J Fernandez, O Omitaomu, M L Branstetter, G Butler, A R Ganguly, R Oglesby, K Steinhäuser, E Kodra, S Gray

1340h **GC23A-0891 POSTER** Limitations of Single-Basket Trading: A Lesson from the Montreal Protocol for Climate Policy Options: **J S Daniel**, S Solomon, T J Sanford, M McFarland, J Fuglested, P Friedlingstein

1340h **GC23A-0892 POSTER** Quantifying of uncertainty range of regional temperature change due to global warming using RCM: **K Ishihara**, I Takayabu

1340h **GC23A-0893 POSTER** Modeling the Heterogeneous Effects of GHG Mitigation Policies on Global Agriculture and Forestry: **A Golub**, B Henderson, T W Hertel, S K Rose, B Sohngen

1340h **GC23A-0894** WITHDRAWN

1340h **GC23A-0895 POSTER** Bio-physical vs. Economic Uncertainty in the Analysis of Climate Change Impacts on World Agriculture: **T W Hertel**, D B Lobell

1340h **GC23A-0896 POSTER** Geospatial Issues in Energy-Climate Modeling: Implications for Modelers, Economists, Climate Scientists and Policy Makers: **RL Newmark**, D Arent, P Sullivan, W Short

1340h **GC23A-0897 POSTER** Regional climate modeling and development of climate adaptation decision aids for energy use in the Southwestern US: **G Higgins**, K Darmanova, D Apling, H Kiley

1340h **GC23A-0898 POSTER** Modeling the Near-Term Risk of Climate Uncertainty: Interdependencies among the U.S. States: **T S Lowry**, G Backus, D Warren

1340h **GC23A-0899 POSTER** COUPLING CLIMATE MODELS AND FORWARD-LOOKING ECONOMIC MODELS: **K Judd**, W A Brock

1340h **GC23A-0900 POSTER** What We (also) Need to Know is How the Weather is Changing: **M C MacCracken**

1340h **GC23A-0901** POSTER Climate-agriculture interactions and needs for policy making: **J G Phillips**

1340h **GC23A-0902** POSTER Local and Regional Impacts of Large Scale Wind Energy Deployment: **J Michalakes**, S Hammond, J K Lundquist, P Moriarty, M Robinson

1340h **GC23A-0903** WITHDRAWN

1340h **GC23A-0904** POSTER From Global Climate Model Projections to Local Impacts Assessments: Analyses in Support of Planning for Climate Change: **A K Snover**, J S Littell, N J Mantua, E P Salathe, A F Hamlet, M McGuire Elsner, I Tohver, S LEE

1340h **GC23A-0905** POSTER Providing climate change information to managers: interpreting the science and estimating the uncertainty: **D M Bachelet**, D R Conklin, B Kerns

1340h **GC23A-0906** POSTER CIM-EARTH: Community Integrated Model of Economic and Resource Trajectories for Humankind: I Foster, **J Elliott**, T Munson, K Judd, E J Moyer, A H Sanstad

1340h **GC23A-0907** POSTER Integrating the Socio-economic and Physical Drivers of Land-use Change at Climate-relevant Scales: an Example with Biofuels: **J Elliott**, N Best, T Munson, I T Foster

GC23B Moscone South: Poster Hall Tuesday 1340h
Decadal-Scale Arctic Climate Variability: Observations and Modeling II Posters (joint with A, C)

Presiding: **M Wang**, University of Washington; **I Polyakov**, IARC/UAF; **C K Folland**, UK Met Office

1340h **GC23B-0908** POSTER A dynamic ecosystem process model for understanding interactions between permafrost thawing and vegetation responses in the arctic: **C Xu**, B J Travis, R A Fisher, C J Wilson, N McDowell

1340h **GC23B-0909** POSTER WHY ARCTIC SUMMER ICE MINIMA OCCURRED IN 2007, 08, 09, AND 2010?: **J Wang**, X Bai

1340h **GC23B-0910** POSTER Regional Climate Modeling of Volcanic Eruptions and the Arctic Climate System: A Baffin Island Case Study: **M Losic**, A Robock

1340h **GC23B-0911** POSTER RECENT LARGE INCREASES IN FRESHWATER FLUXES FROM GREENLAND INTO THE NORTH ATLANTIC: **J L Bamber**, M R van den Broeke, J Ettema, E J Rignot

1340h **GC23B-0912** POSTER Investigating Gulf of Alaska climate and ecosystem variability at annual to centennial resolution over the Holocene: **J A Addison**, B P Finney, L Anderson

1340h **GC23B-0913** POSTER FINDING HIGH RESOLUTION RECORDS OF CONTINENT-OCEAN CLIMATE CHANGE IN THE HIGH ARCTIC: AN EXPLORATORY STUDY OF THE COLVILLE DELTA REGION: M A Allison, **A Miller**, T S Bianchi, K M Schreiner

1340h **GC23B-0914** POSTER Summer temperatures inferred from varved lacustrine sediment at Iceberg Lake in southcentral Alaska: **K Diedrich**, M G Loso

1340h **GC23B-0915** POSTER Arctic climate response to decadal-paced explosive volcanism in CCSM3: **Y Zhong**, G H Miller, B L Otto-Bliesner, C M Ammann, M M Holland, D A Bailey, D P Schneider, A Geirsdottir, S J Marshall

1340h **GC23B-0916** POSTER Influence of the continental ice retreat on Future Global Climate: **A Hu**, G A Meehl, W Han

GC23C Moscone South: Poster Hall Tuesday 1340h
Improving the Simulation of Climate-Agriculture Interactions and Global Land Processes I Posters (joint with A, B, IN, H)

Presiding: **E Lee**, MIT; **J M Winter**, NASA Goddard Institute for Space Studies; **A C Ruane**, NASA Goddard Institute for Space Studies; **C A Schlosser**, MIT

1340h **GC23C-0917** POSTER Development of the Vegetation Integrative Simulator for Trace Gases (VISIT): a Model for Simulating Atmosphere-ecosystem Biogeochemical Interactions: **A Ito**, M Inatomi

1340h **GC23C-0918** POSTER Including sugar cane in the agro-ecosystem model ORCHIDEE-STICS: **A Valade**, N Vuichard, P Ciais, N Viovy

1340h **GC23C-0919** POSTER BIOMAP A Daily Time Step, Mechanistic Model for the Study of Ecosystem Dynamics: **J R Wells**, R P Neilson, R J Drapek, B S Pitts

1340h **GC23C-0920** POSTER Uncertainty of establishment scheme in the Community Land Model-Dynamic Global Vegetation Model: **X Song**, X Zeng

1340h **GC23C-0921** POSTER Simulating large-scale crop yield by using perturbed-parameter ensemble method: **T Iizumi**, M Yokozawa, G Sakurai, M Nishimori

1340h **GC23C-0922** POSTER Comparing the simulation of climate impacts on crop yields with observed and synthetic weather data: **B Qian**, R De Jong, J Yang, H Wang, S Gameda

1340h **GC23C-0923** POSTER An Integrated Biogeochemical and Biophysical Analysis of Bioenergy Crops: **M Liang**, Y Song, R Barman, A K Jain

1340h **GC23C-0924** POSTER Analysis of consistency of global net land-use change carbon emission scenario using offline vegetation model and earth system model: **E Kato**, M Kawamiya

1340h **GC23C-0925** POSTER Using Daily GCM Rainfall for Crop Yield Predictions: Advances and Challenges: **A M Ines**, J W Hansen, A W Robertson, W Baethgen, L Sun, M Indeje

1340h **GC23C-0926** POSTER Assessing the performance of dynamical and statistical downscaling techniques to simulate crop yield in West Africa: **B Sultan**, P Oettli, M Vrac, C Baron

1340h **GC23C-0927** POSTER Historical Weather Conditions and Maize Yields: **E Butler**, P Huybers

1340h **GC23C-0928** POSTER Area estimation of crop damage due to tropical cyclones using crop fragility curves for paddy rice in Japan: **Y Masutomi**, T Iizumi, K Takahashi, M Yokozawa

1340h **GC23C-0929** POSTER Assessment of Predictability of Philippine Rice Production with Climate Information: **N Koide**, A W Robertson, J Qian, A M Ines

1340h **GC23C-0930** POSTER The contribution of weather to recent maize and wheat yield trends in the US: a comparison of two approaches: **G Maltais-landry**, D B Lobell

1340h **GC23C-0931** POSTER Influence of drought in 2003 on winter wheat yield and nitrogen use efficiency: **M Mesic**, F Basic, I Kusic, Z Zgorelec, I Vukovic

1340h **GC23C-0932** POSTER The Future of Food: Regional Adaptation Strategies for Optimizing Grain Yields Under Climate Change: K A Nicholas, N Chhetri, E H Girvetz, H R McCarthy, **T E Twine**, C C Ummenhofer

1340h **GC23C-0933** POSTER Integrating a Detailed Agricultural Model in a Global Economic Framework: New methods for assessment of climate mitigation and adaptation opportunities: **A M Thomson**, R C Izaurralde, K Calvin, X Zhang, M Wise, T O West

1340h **GC23C-0934** *POSTER* Climate change impacts on global rainfed agricultural land availability: **X Zhang**, X Cai

1340h **GC23C-0935** *POSTER* Carbon-Water Coupling in Forests, Grasslands, and Shrublands in the Arid Western U.S.: **B S Felzer**, T Cronin, C A Schlosser, J M Melillo, D W Kicklighter, S Dungal

1340h **GC23C-0936** *POSTER* Impacts of wind-dispersed seed availability on the estimation of natural vegetation distributions to climate scenarios for the 21st century: **E Lee**, C A Schlosser, R G Prinn

1340h **GC23C-0937** *POSTER* Projections of climate change impacts on crop yields in Africa and India from a DGVM: **A Berg**, B Sultan, N de Noblet-Ducoudré

1340h **GC23C-0938** *POSTER* Assessing changes to South African maize production areas in 2055 using empirical and process-based crop models: **L Estes**, B Bradley, M Oppenheimer, H Beukes, R E Schulze, M Tadross

1340h **GC23C-0939** *POSTER* Modelling Changes to Crop Yield Under Climate Change Scenarios: **J S Gerber**, D Deryng, D K Ray, N D Mueller, J A Foley, N Ramankutty

1340h **GC23C-0940** *POSTER* Spatial Modeling of Indian Agriculture, Economic Activity and Population under Climate Change: **G C McCord**

1340h **GC23C-0941** *POSTER* Potential Cultivation of Maize and Soybeans in the Amazon Basin: Current and Future Perspectives: **F Justino**

1340h **GC23C-0942** *POSTER* MC1 Model Simulations Suggest that Fire Will Determine whether the Biosphere Acts as a Carbon Source or Sink in the 21st Century: **R J Drapek**, R P Neilson, J M Lenihan, J R Wells

1340h **GC23C-0943** *POSTER* Climatological sensitivity analysis of crop yield to changes in temperature and precipitation using particle filter: **M Yokozawa**, G Sakurai, T Iizumi

1340h **GC23C-0944** *POSTER* Modeling Joint Climate and Bioenergy Policies: Challenges of integrating economic and environmental data. (*Invited*): **C M Hellwinckel**, T O West, D De La Torre Ugarte, R Perlack

GC23D Moscone South: Poster Hall Tuesday 1340h
The Biological Pump and Carbon Cycling in the Global and Arctic Ocean II Posters (*joint with B, OS, C*)

Presiding: **S Honjo**, Woods Hole Oceanographic Institution;
T I Eglinton, Woods Hole Oceanographic Institution;
R W Macdonald

1340h **GC23D-0945** *POSTER* The Biological Pump in the Cryopelagic Arctic Ocean (*Invited*): **S Honjo**, T I Eglinton

1340h **GC23D-0946** *POSTER* Organic carbon export to the deep Canada Basin: Importance of lateral supply: **J Hwang**, T I Eglinton, S J Manganini, R A Krishfield, D R Griffith, S Honjo, F A McLaughlin, R W Macdonald

1340h **GC23D-0947** *POSTER* Investigation of O₂, NO₃⁻, and associated parameters as indicators of Canadian Basin Deep Water ventilation: **J A McAlister**, K J Orians

1340h **GC23D-0948** *POSTER* On the Role of Missed Components of Carbon Cycling in the East Siberian Arctic Shelf: **I P Semiletov**, O Dudarev, M Grigoriev, I Pipko, N E Shakhova, O Gustafsson, L Sanchez-Garcia, V Alling, J Vonk, L G Anderson

1340h **GC23D-0949** *POSTER* The Oceanic Flux Program: A three decade time-series of particle flux in the deep Sargasso Sea: J C Weber, **M H Conte**

1340h **GC23D-0950** *POSTER* Fecal Pellet Flux in the Mesopelagic Sargasso Sea: **D Koweek**, O Shatova, M H Conte, J C Weber

1340h **GC23D-0951** *POSTER* NET COMMUNITY AND GROSS PHOTOSYNTHETIC PRODUCTION RATES IN THE EASTERN TROPICAL SOUTH PACIFIC, AS DETERMINED FROM O₂/AR RATIOS AND TRIPLE OXYGEN ISOTOPIC COMPOSITION OF DISSOLVED O₂: **M G Prokopenko**, L Y Yeung, W Berelson, J Fleming, N Rollins, E D Young, W Z Haskell, D E Hammond, D G Capone

1340h **GC23D-0952** *POSTER* Export POC flux calculated from 234Th measurements, sediment traps and O₂ supersaturation in the Eastern Tropical South Pacific: **W Z Haskell**, W Berelson, D E Hammond, M G Prokopenko, L Y Yeung, D G Capone

1340h **GC23D-0953** *POSTER* DI14C, DO14C, and PO14C in the Canada Basin: Carbon Transfer Processes in the Changing Arctic: **A P McNichol**, D R Griffith, L Xu, T I Eglinton, F A McLaughlin, R W Macdonald

1340h **GC23D-0954** *POSTER* Lagrangian Model of Sinking Biogenic Aggregates: **T Jokulsdottir**, D E Archer

1340h **GC23D-0955** *POSTER* Constraining the North Pacific carbon sink: biological and physical processes: **J Ayers**, M Lozier

GC23E Moscone South: Poster Hall Tuesday 1340h
The Future of Polar Science: The Path Beyond the International Polar Year II Posters (*joint with C, PP, A, B, OS*)

Presiding: **J W White**, University of Colorado; **J Brigham-Grette**, University of Massachusetts; **J H Swift**, UCSD Scripps Institution of Oceanography; **L M Brown**, National Academy of Sciences

1340h **GC23E-0956** *POSTER* Libre: Freeing Polar Data in an Information Commons: **R E Duerr**, M A Parsons

1340h **GC23E-0957** *POSTER* Discoveries Within the Ice: Plans of the Ice Coring and Drilling Science Community: **M R Albert**, C R Bentley, M Twickler, Title of Team: IDPO/IDDO

1340h **GC23E-0958** *POSTER* POLARTREC- RESEARCHER-EDUCATOR PARTNERSHIPS AND THE LEGACY OF THE IPY: **J Warburton**, K Timm, A M Larson

1340h **GC23E-0959** *POSTER* Towards structured model hierarchies for understanding the arctic system: **A Roberts**, J E Cherry, S M Elliott, L D Hinzman, J E Walsh

1340h **GC23E-0960** *POSTER* ARCTIC IN RAPID TRANSITION (ART): INTEGRATING PRIORITIES FOR ARCTIC MARINE SCIENCE OVER THE NEXT DECADE: C Wegner, **A Forest**, M Forwick, K E Frey, J T Mathis, C Michel, A Nikolopoulos, M A O'regan, I Peeken, M Reigstad

1340h **GC23E-0961** *POSTER* The LARsen Ice Shelf System, Antarctica, LARISSA a Model for Antarctic Integrated System Science (AISS) Investigations using Marine Platforms: **E W Domack**, B A Huber, M Vernet, A Leventer, T A Scambos, E S Mosley-Thompson, C R Smith, M A De Batist, H Yoon, Title of Team: LARISSA

1340h **GC23E-0962** *POSTER* An Antarctic Time Capsule: Compiling and Hosting 60 years of USGS Antarctic Aerial Photography: **S Niebuhr**, S Child, C Porter, B Herried, P J Morin

1340h **GC23E-0963** *POSTER* The Antarctic Geospatial Information Center: Three Years of Supporting Antarctic Science and Operations: **B Herried**, P J Morin, M LaRue, C Porter, S Niebuhr, Title of Team: Antarctic Geospatial Information Center

1340h **GC23E-0964** *POSTER* The Arctic Research Consortium of the United States (ARCUS): **K R Creek**, S E Fox, H V Wiggins

1340h **GC23E-0965** *POSTER* SEARCH: Study of Environmental Arctic Change—A System-scale, Cross-disciplinary Arctic Research Program: **H V Wiggins**, H Eicken, S E Fox, Title of Team: SEARCH Science Steering Committee

1340h **GC23E-0966** WITHDRAWN

1340h **GC23E-0967** WITHDRAWN

1340h **GC23E-0968** *POSTER* Integrating Antarctic Science Into Geospace System Science: **J D Kelly**

GC23F Moscone South: Poster Hall Tuesday 1340h
Uncertainty Quantification and Its Application to Climate Change II Posters (*joint with A, IN*)

Presiding: **M Boslough**, Sandia National Laboratories; **C C Covey**, **D Higdon**, Los Alamos National Laboratory

1340h **GC23F-0969** WITHDRAWN

1340h **GC23F-0970** *POSTER* Trends in the planetary sink of atmospheric CO₂: The importance of land use change emission uncertainty: **A M Chiodi**, D E Harrison

1340h **GC23F-0971** *POSTER* Uncertainty Associated with Harmonization of Global Land-Use Scenarios for the 5th IPCC Assessment: **L P Chini**, G C Hurtt, S E Frolking, R Betts, J J Feddema, G Fischer, J Fisk, K Klein Goldewijk, K A Hibbard, R A Houghton, A C Janetos, C D Jones, G Kindermann, T Kinoshita, K Riahi, E Shevliakova, S Smith, E Stehfest, A M Thomson, P E Thornton, D van Vuuren, Y Wang

1340h **GC23F-0972** *POSTER* Trends in ENSO diagnosed with the Darwin sea level pressure record: **D E Harrison**, A M Chiodi

1340h **GC23F-0973** *POSTER* Uncertainty Quantification given Discontinuous Climate Model Response and a Limited Number of Model Runs: **K Sargsyan**, C Safta, B Debusschere, H Najm

1340h **GC23F-0974** *POSTER* Time Scale Dependence of Climate Sensitivity in Models and Observations: **C Proistosescu**, P Huybers

1340h **GC23F-0975** *POSTER* EQUIP: end-to-end quantification of uncertainty for impacts prediction: A P Morse, **A J Challinor**, Title of Team: The EQUIP consortium

1340h **GC23F-0976** *POSTER* Carbon Sequestration: Enhanced Evaluation of Uncertainty: **J A McNeish**, Y Wang, T Dewars, T Hadgu, C F Jove Colon, A Sun

1340h **GC23F-0977** *POSTER* Relative contributions of natural variability versus choice of model to uncertainty in projected trends in near-surface temperature and precipitation: **P Duffy**, S Tyan, E P Maurer

1340h **GC23F-0978** *POSTER* Robust Emergent Climate Phenomena Associated with the High-Sensitivity Tail: **M Boslough**, M Levy, G Backus

1340h **GC23F-0979** *POSTER* Understanding the Uncertainty in the Ocean/Ice components of a Climate Model and its association with multi-model analysis: **R T Tokmakian**, P Challenor

1340h **GC23F-0980** *POSTER* Uncertainties In Future Climate Over NYC Watersheds In AR4 Model Projections: **A Anandhi**, S M Pradhanang, A Frei, D C Pierson, R Mukundan, A H Matonse, E Schneiderman, M Zion, D Lounsbury

1340h **GC23F-0981** *POSTER* The Climate Uncertainty Quantification Project at Lawrence Livermore National Laboratory: I. Initial Analysis of the Sensitivities and Uncertainties in the Community Atmosphere Model: **J Tannahill**, S T Brandon, C C Covey, D M Domyancic, X Garaizar, G Johannesson, R I Klein, D D Lucas, Y Zhang

1340h **GC23F-0982** *POSTER* Quantification of Uncertainty in AVHRR NDVI Data: **J R Nagol**, E F Vermote, S D Prince

1340h **GC23F-0983** *POSTER* Uncertainties of global moderate resolution Leaf Area Index (LAI) products derived from remote sensing data: **H Fang**, S Liang, S Wei

GC23G Moscone West: 3001 Tuesday 1340h
Carbon Dioxide Sequestration via Mineral Carbonation: Insights From Field Observations, Experiments, and Modeling I (*joint with A, V, NS*)

Presiding: **B Jamtveit**, PGP; **A Beinlich**, University of Oslo; **P B Kelemen**, Columbia University

1340h **GC23G-01** On Serpentinization and Mineral Carbonation of Serpentinite (*Invited*): **F Klein**, C J Garrido

1355h **GC23G-02** Geologic CO₂ Capture via Reaction of Seawater with Peridotite: **P B Kelemen**

1410h **GC23G-03** Naturally sequestered CO₂ in ultramafic rocks – field examples from Norway (*Invited*): **H Austrheim**, A Beinlich, O Pluempfer, J Hövelmann, B Jamtveit

1425h **GC23G-04** Natural Carbonation, In-situ Brecciation and Local-scale Transportation of Ocean Floor Peridotites: **E Hellebrand**, J E Snow

1440h **GC23G-05** Low-Temperature Carbonation and Hydration of Peridotite: **E Streit**, P B Kelemen

1455h **GC23G-06** Carbon mineralization: insights from field observations, experiments and modeling of accelerated weathering in mine tailings (*Invited*): **G M Dipple**, S A Wilson, S Bea, K U Mayer, I M Power, S L Barker, G Southam

1510h **GC23G-07** Coupled geomechanical-geochemical aspects of CO₂-sequestration in peridotites: **R van Noort**, C Spiers, M Kandianis, M R Drury, S M ten Grotenhuis

1525h **GC23G-08** In Situ Carbon Dioxide Sequestration via Mineral Carbonation: New Insights from Lab-scale Flow-through Experiments (*Invited*): **P Gouze**, L Luquot, M Andreani, M Godard, S Peuble

GC23H Moscone West: 3005 Tuesday 1340h
Proxy Records and Modeling Studies of Glacial and Climatic Changes From the American Cordillera II (*joint with C, PP*)

Presiding: **N D Stansell**, The Ohio State University; **B G Mark**, Ohio State University

1340h **GC23H-01** A Comparison of Climate Change in the Lahontan and Bonneville Basins with the GISP2 δ18O Record for the Period 45-11 cal ka (*Invited*): **L V Benson**, S Lund, J Smoot

1355h **GC23H-02** Precipitation Response in Western North America to Dansgaard-Oeschger Events during Marine Isotope Stages 3 and 4: **J L Oster**, I P Montanez, W D Sharp, H J Spero

1410h **GC23H-03** Revised reconstruction of the North Atlantic meridional overturning circulation during the last deglaciation: a multi-proxy study: **H Rashid**, R Vouis, E A Boyle, L Skinner

1425h **GC23H-04** Assessing the Paleo-Forcings of Southeastern Patagonia Deglaciation using General Circulation Model Simulations (*Invited*): **A E Carlson**, D S Murray, F S Anslow, F He, B S Singer, Z Liu, B L Otto-Bliessner

1440h **GC23H-05** Glacial and Climate History of Central and Southern Patagonia: Recent Insights (*Invited*): M R Kaplan, **E A Sagredo**, P I Moreno, M Rojas, R Villa-Martinez, J Garcia

1455h **GC23H-06** Linearity or non-linearity: fire and clouds as factors in deglacial and future landscapes of the Andes: **M B Bush**, B G Valencia, D H Urrego, A M Alfonso, M R Silman, W D Gosling

1510h **GC23H-07** A 1700-year Record of Tropical Sea Surface Temperatures and High-altitude Andean Climate Derived from the Quelccaya Ice Cap, Peru (*Invited*): **L G Thompson**, E S Mosley-Thompson, M E Davis, P Lin

1525h **GC23H-08** Correlating Ice Cores from Quelccaya Ice Cap with Chronology from Little Ice Age Glacial Extents: **J S Stroup**, M A Kelly, T V Lowell

Geomagnetism and Paleomagnetism

GP23A Moscone South: Poster Hall Tuesday 1340h
Frontiers in Electromagnetic Methods II Posters (*joint with H, NS, T*)

Presiding: **S Constable**, Scripps Inst. Oceanography; **K W Key**, Scripps Institution of Oceanography

1340h **GP23A-0994** *POSTER* Electromagnetic depth sounding in the Earth's crust: Survey and modeling of the effects of a meteorite impact on the conductivity structure in Southern Germany: **J Kerch**, K Bahr

1340h **GP23A-0995** *POSTER* Application of electrical and electromagnetic depth sounding in highly conductive sediments: The concept of vertical electrical anisotropy: **A Köhler**, K Bahr

1340h **GP23A-0996** *POSTER* Electromagnetic imaging the of the Pacific-North American plate boundary in central California, USA: **B D Wheelock**, S Constable, K W Key

1340h **GP23A-0997** *POSTER* AN ANALYSIS ON 3D MARINE CSEM RESPONSES BASED ON A FINITE DIFFERENCE METHOD: N Han, **M Nam**, H Kim

1340h **GP23A-0998** *POSTER* Marine controlled-source electromagnetic sounding on submarine massive sulphides using 2.5-D simulation: **N Imamura**, T Goto, J Takekawa, H Mikada

1340h **GP23A-0999** *POSTER* Time-Domain vs. Frequency-Domain CSEM: Implications for Marine Exploration: **D M Connell**, K W Key

1340h **GP23A-1000** *POSTER* ANALYSIS ON 3D TOPOGRAPHY EFFECTS ON MAGNETOTELLURIC RESPONSES: **M Nam**, N Han, H Kim, Y Song

1340h **GP23A-1001** *POSTER* SAGE 2010 Magnetotelluric Soundings Provide New Constraints on Rio Grande Rift Mid-Crustal Conductor: **A E Strader**, C L Martin, T Thomas, P A Bedrosian, L Pellerin, G R Jiracek

1340h **GP23A-1002** *POSTER* Deep geoelectrical structure inferred from sea-effect-corrected magnetotelluric (MT) data obtained at Jeju Island, Korea: J Yang, **H Lee**, H Yoo

GP23B Moscone South: Poster Hall Tuesday 1340h
Planetary Magnetic Fields: Observations and Models I Posters (*joint with P, DI*)

Presiding: **M H Heimpel**, University of Alberta; **N Gomez Perez**, Carnegie Intitution of Washing

1340h **GP23B-1003** *POSTER* Numerical Dynamo Simulations in a Full Sphere: **P Marti**, A Jackson

1340h **GP23B-1004** *POSTER* Investigation of a stratification due to the light element from CMB using a numerical simulation in a rotating spherical shell: **H Matsui**, B A Buffett

1340h **GP23B-1005** *POSTER* Observational and numerical models of Earth's magnetic field: comparing like with like: **C J Davies**, C Constable

1340h **GP23B-1006** *POSTER* Magnetospheric Feedback Effects on Mercury's Dynamo: **N Gomez Perez**, D Heyner, J Wicht, S C Solomon, K Glassmeier

1340h **GP23B-1007** *POSTER* Simulation of an Ice Giant-style Dynamo: **K M Soderlund**, J M Aurnou

1340h **GP23B-1008** *POSTER* Saturn's Very Axisymmetric Magnetic Field: New Upper Limit on the Dipole Tilt and Implications for the Interior of the Planet: **H Cao**, C T Russell, U R Christensen, M K Dougherty

1340h **GP23B-1009** *POSTER* The dynamical structure of giant planets: **M H Heimpel**, N Gomez Perez, J M Aurnou

1340h **GP23B-1010** *POSTER* Why are the Magnetic Fields of Jupiter and Saturn so Different?: **H Houben**

1340h **GP23B-1011** *POSTER* Using the "Current-Free" Magnetospheric Field Measurements to Model the Internal Field of Jupiter and Deduce its Rotation Rate: **C T Russell**, H Cao, S P Joy

1340h **GP23B-1012** *POSTER* Jovimagnetic Secular Variation: **V A Ridley**, R Holme

GP23C Moscone West: 2003 Tuesday 1340h
Magnetostratigraphy: Not Only a Dating Tool II

Presiding: **L Jovane**, Western Washington University; **E Herrero-Bervera**, University of Hawaii at Manoa

1340h **GP23C-01** How Accurate are Deep-Sea Sediments as Paleomagnetic Recorders: A case study from the North Atlantic?: **S E Strano**, J S Stoner, P F Almasi, G Bond

1355h **GP23C-02** Harnessing Paleomagnetic Secular Variation as a Long Distance Stratigraphic Tool (*Invited*): **J S Stoner**, G St-Onge, M H Davies, A C Mix, C Xuan

1410h **GP23C-03** Paleomagnetic-secular-variation based chronostratigraphy of the Late Quaternary (8-16,000 YBP) Tahiti coral reef: evidence for Melt-Water Pulses 1a and 1b and estimates of associated reef growth patterns (*Invited*): **S Lund**, E S Platzman, G Camoin, N Thouveny

1425h **GP23C-04** Integrated magnetobiostratigraphy, paleoclimatic and paleoceanographic inferences of the middle Eocene-Oligocene interval from the Monte Cagnero Section, central Italy: **L Jovane**, J F Savian, S M Bohaty, P A Wilson, R Coccioni, F Frontalini, G Bancala, V Luciani, A Roberts

1440h **GP23C-05** Global Milankovitch Cycles Recorded by Rock Magnetism in the Shallow Marine Cretaceous Cupido Formation, NE Mexico (*Invited*): **K P Kodama**, L A Hinnov, D J Anastasio, M Elrick, D Latta

1455h **GP23C-06** High Resolution Magnetostratigraphy Susceptibility (MS) and Gamma Radiation (GR) Measurements from Three Coeval Upper Cretaceous Stratigraphic Sequences in Colorado: Testing MS and GR Variations Arising from Detrital Components in Variably Weathered Marine Sedimentary Rocks (*Invited*): **B B Ellwood**, J H Tomkin, W Wang

1510h **GP23C-07** Magnetostratigraphy and Block Rotation of the Canyon Sin Nombre Area, Western Salton Trough, CA: **C J DeBoer**, B A Housen, T C Peryam, R J Dorsey, M E Oskin

1525h **GP23C-08** Magnetostratigraphy and Paleomagnetism of the Plio-Pleistocene Arroyo Diablo and Borrego Formations in the Borrego Badlands, western Salton Trough, CA: **B A Housen**, R J Dorsey

Hydrology

H23A Moscone South: Poster Hall Tuesday 1340h **Advances in Hydrologic Modeling and Prediction II Posters** (joint with A, NH)

Presiding: **J Demargne**, NOAA/NWS/Office of Hydrologic Development; **M B Smith**, National Weather Service; **A W Wood**, NOAA/NWS; **N Mizukami**, NOAA/NWS/OHD; **V Fortin**, Environment Canada, Canadian Meteorological Centre

1340h **H23A-1158 POSTER** Effect of Streamflow Forecast Uncertainty on Real-Time Reservoir Operation: **T Zhao**, X Cai, D Yang

1340h **H23A-1159 POSTER** Forcing a distributed hydrological model with ensemble precipitation forecasts to support dam operation during floods: **O C Saavedra**, T Koike, K Yang, T Graf, X Li, L Wang, X Han

1340h **H23A-1160 POSTER** Comparison of Multiple Quantitative Precipitation Estimates for Warm-Season Flood Forecasting in the Colorado Front Range: **H A Moreno**, E R Vivoni, D J Gochis

1340h **H23A-1161 POSTER** Identification of Atlantic Ocean Sea Surface Temperatures Drivers of French Streamflow: **O A Aziz**, G A Tootle, S Anderson

1340h **H23A-1162 POSTER** Combined Effect of Uncertain Initial Condition and Atmospheric Forcing in Ensemble Streamflow Prediction: The Value of Data Assimilation and ESP: **M Najafi**, C M DeChant, H Moradkhani

1340h **H23A-1163 POSTER** Use of Forecast Verification Methods for Evaluating Forecast System Enhancements: **A Bradley**, M A Habib, S S Schwartz, A Kruger

1340h **H23A-1164 POSTER** Developing of operational hydro-meteorological simulating and displaying system: **Y Wang**, D Shih, C Chen

1340h **H23A-1165 POSTER** Generation of medium-range precipitation ensemble forecasts from the GFS ensemble mean at the basin scale: **L Wu**, J C Schaake, J D Brown, J Demargne, R K Hartman

1340h **H23A-1166 POSTER** Using the TIGGE database for ensemble hydrological forecasting: a study on 74 catchments in France (*Invited*): **M Ramos**, I Zalachori, T Mathevet, C Loumagne

1340h **H23A-1167 POSTER** Verification of Experimental Short-Term Streamflow Ensemble Forecasts Produced by the U.S. National Weather Service: **J Demargne**, L Wu, S K Regonda, J D Brown

1340h **H23A-1168 POSTER** Incorporating weather and climate predictions from NCEP GFS and CFS into operational water supply forecasts for the Western U.S.: **A W Wood**, J Lhotak, J Schaake, K Werner, M Schmidt, A Goodbody, D C Garen, J D Brown

1340h **H23A-1169 POSTER** CNRFC Experiences with Short-term Hydrologic Ensemble Streamflow Prediction (*Invited*): **R K Hartman**

1340h **H23A-1170 POSTER** Estimation of Predictive Hydrological Uncertainty using Quantile Regression: **A Weerts**, H Winsemius, J Verkade

1340h **H23A-1171 POSTER** Distributed Model Intercomparison Project Phase 2: Results of the Western Basin Experiments: **M B Smith**, V Koren, Z Zhang, Z Cui, N Mizukami, B Cosgrove, F Ding, D H Kitzmiller

1340h **H23A-1172 POSTER** Diagnosis of inconsistencies in multi-year gridded precipitation data over mountainous areas and related impacts on hydrologic simulations: **N Mizukami**, M B Smith

1340h **H23A-1173 POSTER** AUTOMATIC CALIBRATION OF A DISTRIBUTED RAINFALL-RUNOFF MODEL, USING THE DEGREE-DAY FORMULATION FOR SNOW MELTING, WITHIN DMIP2 PROJECT: **F Frances**, I Orozco

1340h **H23A-1174 POSTER** Evaluation of an energy balance snow model with MODIS albedo for predicting spring runoff in mountainous watersheds: **L R Karsten**, K J Franz

1340h **H23A-1175 POSTER** A Distributed Hydrological model Forced by DIMP2 Data and the WRF Mesoscale model: **N E Wayand**

1340h **H23A-1176 POSTER** Snowpack Estimates Improve Water Resources Climate-Change Adaptation Strategies: **L Lestak**, N P Molotch, B Guan, S L Granger, S Nemeth, D Rizzardo, F Gehrke, K J Franz, L R Karsten, S A Margulis, K Case, M Anderson, T H Painter, J Dozier

1340h **H23A-1177 POSTER** Recognition of Effective Climate Variables on Dez Dam Inflow: M Tajrishy, **A ABRISHAMCHI**, M Azimi

1340h **H23A-1178 POSTER** Uncertainty Evaluation and Appropriate Distribution for the RDHM in the Rockies: **J Kim**, L A Bastidas, E P Clark

1340h **H23A-1179 POSTER** Evaluation of Noah model performance in two basins in the Sierra Nevada Mountains on the Hydrologic Rainfall Analysis Project (HRAP) grid: **J Dong**, M B Ek

1340h **H23A-1180 POSTER** The Impact of Dynamic Lapse Rates and Geostatistical Interpolation in Hydrological Modeling: An Application in the Swiss Alps: C C Tobin, **L Nicotina**, A Berne, M B Parlange, A Rinaldo

1340h **H23A-1181 POSTER** How a geology map of the Upper Santa Maria Valley in the Southern Swiss Alps played a critical role in solving a hydrogeologic enigma: **M H Oetz**, I Oetz

H23B Moscone South: Poster Hall Tuesday 1340h **Droughts and Food Security II Posters** (joint with GC, PA)

Presiding: **D Niyogi**, Purdue University; **V Mishra**, University of Washington; **M J Hayes**, University of Nebraska

1340h **H23B-1182 POSTER** Modeling the hydrologic responses of the Pampangga River Basin, Philippines: A quantitative approach for identifying droughts: **P A Jaranilla-sanchez**, L Wang, T Koike

1340h **H23B-1183 POSTER** Causes of over- and underestimation of low streamflows by use of index-streamgage approaches in the United States: **K Eng**, J E Kiang, Y Chen, D M Carlisle, G E Granato

1340h **H23B-1184 POSTER** Variability of Food Security Reporting to Environmental Variability and Agricultural Production Deficits: **E B Brickley**, M E Brown

1340h **H23B-1185 POSTER** Climate change impacts on water availability: developing regional scenarios for agriculture of the Former Soviet Union countries of Central Asia: **A Kirilenko**, N Dronin

1340h **H23B-1186 POSTER** Climate-Base Forecasts of Seasonal Streamflow in the Karoon River Basin Using Support Vector Machine Approach: **A ABRISHAMCHI**, S Shakeri, M Tajrishy

1340h **H23B-1187 POSTER** Is The Water Shortage Crisis Really One of the Most Dangerous?: **M Narayanan**

1340h **H23B-1188 POSTER** An updated hydroclassification of streamflows at minimally-altered streamgages for the conterminous United States: D Wolock, **S A Archfield**, D M Carlisle, J G Kennen, K Eng, J E Kiang

1340h **H23B-1189 POSTER** Global Drought Monitoring and Forecasting based on Satellite Data and Land Surface Modeling: **J Sheffield**, D B Lobell, E F Wood

1340h **H23B-1190 POSTER** Bias correction of satellite rainfall estimation using a gauge-adjusted radar product: **K B Tesfagiorgis**, S E Mahani, R Khanbilvardi, D H Kitzmiller

1340h **H23B-1191** POSTER Predicting and Monitoring Drought for a Rice Cultivation Season in the Humid Tropics: **D N Fernando**, D A Robinson

1340h **H23B-1192** POSTER A statistical technique for defining rainfall forecast probabilities in southern Africa: **G J Husak**, T Magadzire

H23C Moscone South: Poster Hall Tuesday 1340h Hydrogeophysics: Advances in Measurement, Monitoring, and Modeling of Hydrological Processes IV Posters (joint with NS)

Presiding: **A Pidlisecky**, University of Calgary; **B Dafflon**, Center for Geophysical Investigation of the Shallow Subsurface

1340h **H23C-1193** POSTER A Geoelectrically-Monitored Tracer Test At The Macrodispersion Experiment (MADE) Site In Columbus, Mississippi: **R D Swanson**, K Singha, A Pidlisecky, D W Hyndman, J J Butler, G Bohling

1340h **H23C-1194** POSTER Long-Term Monitoring of Infiltration at a Managed Aquifer Recharge Site Using Electrical Resistivity Probes: **R Cockett**, A Pidlisecky, R J Knight

1340h **H23C-1195** POSTER Bench-Scale Experiments to Evaluate ERT as a Monitoring Tool for Geologic CO₂ Sequestration: **S J Breen**, R L Detwiler, C R Carrigan

1340h **H23C-1196** POSTER Monitoring three-dimensional moisture content development in the unsaturated zone using cross borehole geophysical methods: Exploring the lateral flow: **E B Harder**, A Binley, K H Jensen, M C Looms, L Nielsen

1340h **H23C-1197** POSTER Automated Time-lapse GPR Imaging of an Ethanol Release: **D R Glaser**, R Henderson, R J Versteeg, D D Werkema, R Kinoshita, E Mattson

1340h **H23C-1198** POSTER Spectral induced polarization (SIP) measurement of NAPL contaminated soils: N Schwartz, J A Huisman, **A Furman**

1340h **H23C-1199** POSTER USE OF THE TIME-DOMAIN INDUCED POLARIZATION METHOD TO MAP THE SPATIAL DISTRIBUTION AND DEPTH OF THE HANFORD-RINGOLD CONTACT IN THE HANFORD 300 AREA: RESULTS FROM 2D COMPLEX RESISTIVITY INVERSION: **K E Mwakanyamale**, L D Slater, D Ntarlagiannis, A Binley, F D Day-Lewis, A L Ward, J Heenan, E Placencia

1340h **H23C-1200** POSTER Markov chain Monte Carlo (McMC) estimation of spectral induced polarization (SIP) as a distribution of simple Debye relaxations: **J S Keery**, A Binley, L D Slater

1340h **H23C-1201** POSTER Application of Self-potential Measurements to Investigate Groundwater Flow in Saijo Plain, Western Japan: **F Hachani**, M Tsujimura, Y Tosaki, T Goto, Y Ozaki, M Tokumasu

1340h **H23C-1202** POSTER Effect of heterogeneity of hydraulic conductivity on streaming potential: **Y Ozaki**, H Mikada, T Goto, J Takekawa, M Tsujimura, F Hachani

1340h **H23C-1203** POSTER Electromagnetic methods for rapidly characterizing porosity distributions in the upper part of the Biscayne aquifer, southern Florida: **G J Mount**, X Comas, K J Cunningham

1340h **H23C-1204** POSTER Monitoring of seismoelectric signal in homogeneous sand as a function of water saturation: **P Sénéchal**, J Barrière, C Bordes

1340h **H23C-1205** POSTER Relationship between P-wave attenuation and water saturation in an homogeneous unconsolidated and partially saturated porous media : An experimental study: **J Barrière**, P Sénéchal, C Bordes, H Perroud

1340h **H23C-1206** POSTER A Laboratory Study to Determine the Effect of Partially Saturated Conditions on Relaxation: **S Falzone**, K Keating

1340h **H23C-1207** POSTER A Practical Property Transfer Model for Estimating and Upscaling the Specific Surface Area of Unconsolidated Sediments Using Textural Characteristics: **K Draper**, A L Ward

1340h **H23C-1208** POSTER NMR relaxation measurements on partially water saturated rocks (from a tight gas reservoir): **R Jorand**, N Klitzsch, C Clauser, B de Wijn

1340h **H23C-1209** POSTER Estimation of Field-scale Aquifer Hydraulic and Sorption Parameters Based on Borehole Spectral Gamma Methods: **A L Ward**, K Draper, N Hasan

1340h **H23C-1210** POSTER Comprehensive glacial sediment characterization and correlation with natural gamma log response to identify hydrostratigraphic units in a rotosonic well core: **A L Frahm**, L D Lemke

1340h **H23C-1211** POSTER Assessing spatial variability of soil moisture and thermal properties within controlled agricultural plots using Distributed Temperature Sensing: S W Tyler, **L Williamson**, C E Hatch, P Stive, J Jenson, N Van De Giesen

1340h **H23C-1212** POSTER Actively Heated Fiber Optic Method for Distributed Soil Moisture Monitoring: **C Sayde**, J S Selker, L Rodriguez-Sinobas, M Gil-Rodriguez, R H Cuenca, S W Tyler, M English

1340h **H23C-1213** POSTER Detection of Flowing Fractures and Estimation of Fracture Continuum Permeability From Borehole Temperature Logging Data: Semi-Analytical Solution and Inverse Modeling Results: **S Mukhopadhyay**

1340h **H23C-1214** POSTER Introduction on groundwater monitoring system in China: **J Yang**, A Wang, G Wang

1340h **H23C-1215** POSTER Development of enabling scientific tools to characterize the geologic subsurface at Hanford: **T C Kenna**, M Herron, A L Ward

1340h **H23C-1216** POSTER A Wireless Sensor Network Field Study: Network Development, Installation, and Measurement Results: **T W Davis**, C Kuo, H van Hemmen, A Aouni, E Ferriss, Y Liang, X Liang

H23D Moscone South: Poster Hall Tuesday 1340h Large Regional Aquifers: A Precious Resource at Risk II Posters (joint with NS)

Presiding: **T D Bullen**, U.S. Geological Survey; **P J Negrel**, BRGM

1340h **H23D-1217** POSTER Using an Artificial Neural Network to forecast groundwater levels following the removal of a large dam, Milltown Montana Ashley Marks: **A M Marks**

1340h **H23D-1218** POSTER Heterogeneities and interconnections in groundwater: Coupled B, and Li isotope variations in a large aquifer system (Eocene sand aquifer, south western France): **P J Negrel**, R Millot, E PETELET-GIRAUD, C Guerrot, A Brenot, E Malcuit

1340h **H23D-1219** POSTER Large sedimentary aquifer systems functioning. Constraints by classical isotopic and chemical tools, and REE in the Eocene sand aquifer, SW France: **E PETELET-GIRAUD**, P J Negrel, R Millot, C Guerrot, A Brenot, E Malcuit

1340h **H23D-1220** POSTER Chemical, multi-isotopic (Li-B-Sr-U-H-O) and thermal characterization of Triassic formation waters from the Paris Basin (France): C Guerrot, **R Millot**, C Innocent, P Négrel, B Sanjuan

1340h **H23D-1221** *POSTER* Large sedimentary aquifer system and sustainable management: investigations of hydrogeological and geochemical variations in Eocene sand aquifer, south western France: E Malcuit, **P J Negrel**, E PETELET-GIRAUD, P Durst

1340h **H23D-1222** *POSTER* Groundwater study using drill holes in the Abukuma granitic province, NE Japan: chemical and isotopic features in the fracture zone around the geological tectonic line: **H A Takahashi**, H Tsukamoto, K Kazahaya, M Takahashi, N Morikawa, M Yasuhara, A Inamura, H Handa, T Nakamura

1340h **H23D-1223** *POSTER* Future groundwater levels scenarios at the Guadalupe Valley Aquifer, BC, Mexico: **J Campos-Gaytan**, T Kretzschmar

1340h **H23D-1224** *POSTER* Characteristics of permeability in carbonate areas of Korea: **Y Park**, Y Park, J Lee, H Lim, Y Keehm

1340h **H23D-1225** *POSTER* Radium isotopes in groundwater around Fuji Volcano, Japan -application for groundwater dating on volcanic area-: **T Ohta**, Y Mahara

1340h **H23D-1226** *POSTER* Nitrate Removal by Acid-Washed Sulfur Modified Iron (SMI) and Zero Valent Iron (ZVI): **K Han**, J Ko, U Hong, J Lim, S Park, S Kwon, Y Kim

1340h **H23D-1227** *POSTER* Porosity and Velocity Relations of Grosmont Formation, Alberta, Canada: **Y Keehm**, D Hu

1340h **H23D-1228** *POSTER* Groundwater under climate change: **C Moeck**, M Schirmer, D Hunkeler, Title of Team: Project of National Research Programme "Sustainable Water Management" (NRP 61)

1340h **H23D-1229** *POSTER* Isotopic Systematics (U, nitrate and Sr) of the F-Area Acidic Contamination Plume at the Savannah River Site: Clues to Contaminant History and Mobility: **J N Christensen**, M E Conrad, M Bill, M Denham, J Wan, S Rakshit, W T Stringfellow, N Spycher

1340h **H23D-1230** *POSTER* Assessment of groundwater storage derived from IPCC models in comparison with GRACE data for the Western US, and projections for the next 50 years: **K Pitts**, A F Bridger

1340h **H23D-1231** *POSTER* A new interpretation of the Budyko Framework: The role of groundwater storage and streamflow persistence: **O Wright**, E Istanbuluoglu, T Wang

1340h **H23D-1232** *POSTER* Fluid Flow through Porous Sandstone with Overprinting and Intersecting Geological Structures of Various Types: **X Zhou**, M Karimi-Fard, L Durlofsky, A Aydin

1340h **H23D-1233** *POSTER* Role of vegetation in interplay of climate, soil and groundwater recharge in a global dataset: **J H Kim**, R B Jackson

H23E Moscone South: Poster Hall Tuesday 1340h
Recent Advances in Groundwater Hydrology Posters

Presiding: **B A Bekins**, U.S. Geological Survey; **G Bohling**

1340h **H23E-1234** *POSTER* COMPARISON OF STEADY STATE METHOD AND TRANSIENT METHODS FOR WATER PERMEABILITY MEASUREMENT IN LOW PERMEABILITY ROCKS: **P F Boulain**, P Bretonnier, N Gland

1340h **H23E-1235** *POSTER* A Revisit of Drawdown Behavior during Pumping in Unconfined Aquifers: **D Mao**, L Wan, T J Yeh

1340h **H23E-1236** *POSTER* Characterization of the permeability near borehole with Wireline Formation Tester (WFT) : Critical review of interpretation results from a collection of 420 data: **M Noirot**, H Jourde, G Massonnat

1340h **H23E-1237** *POSTER* Spatial and Temporal Variability of Local and Instantaneous Dispersivities Determined in a Porous Medium Lab Tank: **J E Capilla**, I Sánchez-Fuster, C Llopis-Albert

1340h **H23E-1238** *POSTER* Solute transport in a well under slow-purge and no-purge conditions: **M A Plummer**, S L Britt, J M Martin-Hayden

1340h **H23E-1239** *POSTER* Comparison of Stochastic and Wavelet Analyses of Spatial Variability of Hydraulic Conductivity and Hydraulic Head: **R M Neupauer**, M F Dillin

1340h **H23E-1240** *POSTER* Efficient random walk particle tracking algorithm for modeling advection-dispersion transport in highly heterogeneous porous media: **M Bechtold**, J Vanderborght, O Ippisch, H Vereecken

1340h **H23E-1241** *POSTER* Approximate Solution to the Generalized Boussinesq Equation: **A S Telyakovskiy**, J Mortensen

1340h **H23E-1242** *POSTER* Dimension Constraint of Using 2-D Cross-Sectional Flow to Represent 3-D Groundwater Mounding beneath a Rectangular Recharge Area: **J Zhang**, S StClair, C Tsai

1340h **H23E-1243** *POSTER* Combine Grey System Theory and Markov Chain to Forecast Groundwater Level: **C Huang**, S Huang, J Wen, J Lee, C Tseng

1340h **H23E-1244** *POSTER* Improved Eulerian-Lagrangian techniques for complex transport on unstructured computational meshes: **M W Farthing**, C E Kees, S E Howington, P Cheng, R Cheng, C T Miller

1340h **H23E-1245** *POSTER* Application of POD-based Monte Carlo approach for the solution of stochastic groundwater flow problems: **D Pasetto**, A Guadagnini, M Putti

1340h **H23E-1246** *POSTER* Massively parallel multiple interacting continua formulation for modeling flow in fractured porous media using the subsurface reactive flow and transport code PFLOTRAN: **J Kumar**, R T Mills, P C Lichtner, G E Hammond

1340h **H23E-1247** *POSTER* Experimental Study of Flow and Solute Transport in a Channeled Single Fracture: **J Qian**, Z Chen, H Zhan, H Qin

1340h **H23E-1248** *POSTER* Investigating the Role of Hydromechanical Coupling on Flow Systems in a Shallow Fractured Rock Aquifer: **E J Earnest**, D F Boutt

1340h **H23E-1249** *POSTER* Development of a Methodology for Hydrogeological Characterization of Faults: Progress of the Project in Berkeley, California: **J Goto**, T Moriya, K Yoshimura, H Tsuchi, K Karasaki, T Onishi, K Ueta, S Tanaka, K Kiho

1340h **H23E-1250** *POSTER* Modeling Integrated Cave Drip Recharge Data using DReAM (Daily Recharge Assessment Model) in a Dry Eastern Mediterranean Area, Sif Cave - Israel: **Y Anker**, **N A Sheffer**, B R Scanlon, A Gimburg, E Morin

1340h **H23E-1251** *POSTER* Hydrologic responses to local and distant earthquakes in Korea: **H Lee**, M Kim, N C Woo

1340h **H23E-1252** *POSTER* Advances in basinal-scale groundwater modeling in China: **Z Eryong**

1340h **H23E-1253** *POSTER* Defining Hydrogeological Boundaries for Mountain Front Recharge (MFR) Predictions in Multi-Catchment Mountainous Systems: **L A Neilson-Welch**, D M Allen

1340h **H23E-1254** *POSTER* The Impact of Hsueh-Shan Tunnel Construction on the Hydrogeological Environment in Northern Taiwan: **Y Chiu**, Y Chia

1340h **H23E-1255** *POSTER* Trends and Numerical Simulation of Land Subsidence Caused by Groundwater Exploitation in the North China Plain: **X Wang**, G Cao, J Liu, C Zheng

1340h **H23E-1256** *POSTER* Mathematical Modeling for Simulating Groundwater flow in small part of Niger Delta, Nigeria: A Case Study: **S Roy**, D Ophori

1340h **H23E-1257** *POSTER* A Precipitation and Spring Discharge Model in Sinking Stream Basin: **R Zhang**, L Shu, J Zhu, L Liu

1340h **H23E-1258** POSTER An investigation into variable recharge behaviors among eight alluvial observation wells in Pajarito Canyon, Los Alamos, New Mexico: **S R Schmeer**

1340h **H23E-1259** POSTER River Induced Wellbore Flow Dynamics in Long-Screen Wells and their Impact on Aqueous Sampling Results: **V Vermeul**, J P McKinley, D Newcomer, B G Fritz, R Mackley, J M Zachara

1340h **H23E-1260** POSTER Hydrogeologic Framework of the Salt Basin, New Mexico and Texas: **A B Ritchie**, F M Phillips

1340h **H23E-1261** POSTER Macroscopic Thermal Energy Balance on Montane Valley Aquifers and Groundwater Recharge Source Identification: **J C Trask**, G E Fogg

1340h **H23E-1262** POSTER A Quasi-3D transport model for simulation of non-point source contamination in large domains: **G Kourakos**, F Klein, T Harter

1340h **H23E-1263** POSTER Aquifer-Scale Proportion as a Measure of Regional-Scale Groundwater Quality: **K Belitz**, B Jurgens, M K Landon, M S Fram, T Johnson

1340h **H23E-1264** POSTER Hydrogeological factors affecting the multiple plumes of chlorinated contaminants in an industrial complex, Wonju, Korea: **J Yang**, D Kaown, H Lee, K Lee

1340h **H23E-1265** POSTER Effects of hydrogeological characteristics on the attenuation of TCE- contaminated groundwater plume in Wonju, Korea: **H Lee**, J Yang, K Lee

1340h **H23E-1266** POSTER Aquitard contaminant diffusion resulting from DNAPL source zone dissolution: **G H Brown**, B Michael

1340h **H23E-1267** WITHDRAWN

1340h **H23E-1268** POSTER Semi-analytical Solution of One-dimensional Multispecies Reactive Transport in a Permeable Reactive Barrier-aquifer System: **J M Miele**, H Zhan

1340h **H23E-1269** POSTER Hydrological Tracer Studies at a DOE IFRC Site in Rifle, Colorado: **M Gupta**, K H Williams, E S Berman, M E Conrad

1340h **H23E-1270** POSTER Monitoring electron donor metabolism under variable electron acceptor conditions using ¹³C-labeled lactate: **M Bill**, M E Conrad, L Yang, H R Beller, E L Brodie

1340h **H23E-1271** POSTER Modeling Perchlorate Contamination In Coastal Aquifer of Israel: **A Yakirevich**, M Kuznetsov, E Adar, R Nativ

1340h **H23E-1272** POSTER Degassing of groundwater with elevated dissolved methane from monitoring wells in Alberta, Canada: **J W Roy**, C Ryan, K Long

1340h **H23E-1273** POSTER Determining the Time of Peak Radionuclide Concentration in Groundwater for the Codell & Duguid (1983) Equation: **M C Carney**, J D Carney

H23F Moscone South: Poster Hall Tuesday 1340h
Remote Sensing of Hydrology and Its Applications I Posters
(joint with G)

Presiding: **M H Cosh**, USDA-ARS-HRSL; **D Ryu**, The University of Melbourne; **A K Sahoo**, Center for Research on Environment and Water; **J D Bolten**, NASA GSFC

1340h **H23F-1274** POSTER Early results of the SMAP In Situ Sensor Testbed: **M H Cosh**, T Ochsner, L McKee, S R Evert

1340h **H23F-1275** POSTER A strategy for downscaling SMOS-based soil moisture: M Pan, **A K Sahoo**, E F Wood

1340h **H23F-1276** POSTER Importance of Vertical Coupling in Agricultural Models on Assimilation of Satellite-derived Soil Moisture: **I E Mladenova**, W T Crow, W L Teng, P Doraiswamy

1340h **H23F-1277** POSTER Spatial Variability of Soil Moisture and the Validation of Remote Sensing Products in a Unique Beach Environment: **J Rogers**, A A Berg

1340h **H23F-1278** POSTER Using GPS Interferometric Reflectometry to estimate soil moisture and vegetation water content fluctuations: **C C Chew**, E E Small, K M Larson, J J Braun, C M Shreve

1340h **H23F-1279** POSTER Temporal variations in soil moisture content and its influence on biomass estimates, observed by UAVSAR, ALOS PALSAR, and in-situ field data: **A I Calderhead**, M Simard, M Lavalle

1340h **H23F-1280** POSTER Multispectral and Microwave Satellite Remote Sensing for Flood monitoring in ungauged basins: **S I Khan**, Y Hong, H J Vergara, J J Gourley, R F Adler, F Policelli

1340h **H23F-1281** POSTER USE OF SAR DATA, OPTIMAL IMAGES, AND TOPOGRAPHY DATA FOR COASTAL FLOOD MAPPING IN THE NORTHERN GULF OF MEXICO: J J Angelo, **S C Hagen**, N Chaouch, M Temimi, S C Medeiros, J C Feyen, Y Funaksohi, R Khanbilvardi, J Weishampel, F Aikman, P J Restrepo, D Reed

1340h **H23F-1282** POSTER Monitoring of water level changes In Anzali Mordab wetland, North Iran, Using SAR Interferometry: **N Pesian**, M Motagh, M Sharifi, S Alipour

1340h **H23F-1283** POSTER Congo Basin Streamflow characterization using multi-source satellite-derived data: Preliminary Results: **Y Munzimi**, M C Hansen, K O Asante

1340h **H23F-1284** POSTER CHARACTERIZING TERRESTRIAL RUNOFF PATTERNS FROM THE WESTERN U.S.: **Y Wei**, R E Beighley, R L Ray, H Lee, D E Alsdorf, C Shum, Title of Team: Spatial-Hydro Research Team

1340h **H23F-1285** WITHDRAWN

1340h **H23F-1286** POSTER Remote sensing of climate and management driven groundwater storage changes and land subsidence in the Central Valley, CA: **K J Anderson**, M Lo, J S Famiglietti, S C Swenson

1340h **H23F-1287** POSTER Spatial and temporal variations of Terrestrial Water Storage in five major Africa river basins: **T Beyene**, P Kabat, D P Lettenmaier, F Ludwig

1340h **H23F-1288** POSTER Development and Evaluation of Global Wetlands Mappings from Coarse-Resolution Satellite Microwave Remote Sensing: **R Schroeder**, K C McDonald, E Podest, K Willacy, L A Jones, J S Kimball, R Zimmermann

1340h **H23F-1289** POSTER Hydrological response to the drought estimation using Thermal Remote Sensing: A case study of the Little River Experimental Watershed in Georgia region, U.S.: **M Choi**, J M Jacobs, M C Anderson, S Bhat, D D Bosch

1340h **H23F-1290** POSTER Satellite Observations of the Drought Factor and Their Applications to Bushfire Risk Assessment: **D Ryu**, K A McColl

1340h **H23F-1291** POSTER Online Remote-Sensing Tool for Calculating Evapotranspiration: **J Wang**, T W Sammis

1340h **H23F-1292** POSTER Estimating Evapotranspiration Based on MODIS and Meteorology Data over the Colorado River Basin: **W Nie**, Y Yuan, M Jackson, J T Lin, W G Kepner

1340h **H23F-1293** POSTER Estimation of shortwave radiation using MODIS products under all sky conditions: **K Jang**, S Kang

1340h **H23F-1294** POSTER Turkish Cloud-Radiation Database (CRD) and Its Application with CDR Bayesian Probability Algorithm: **A Oztopal**, A Mugnai, D Casella, M Formenton, P Sano, I Sonmez, Z Sen, Title of Team: HSAF Team

1340h **H23F-1295** WITHDRAWN

1340h **H23F-1296** POSTER LINEAMENT MAPPING FOR HYDROGEOLOGICAL CHARACTERIZATION OF VOLCANIC TERRAINS USING PRODUCTS DERIVED FROM DEMs, RADAR, LANDSAT AND ASTER IMAGERY: **M Rios-Sanchez**, J S Gierke, T Muñoz-Martínez

1340h **H23F-1297** POSTER Analysis of Subsidence and Ground Fissuring in the FenWei Basin (Northern China) using Radar Interferometry: **J R Myers**, F G Gomez

1340h **H23F-1298** POSTER USING THE NIR/BLUE SURFACE MOISTURE INDEX TO EXPLORE FEATURE IDENTIFICATION AT MULTIPLE SPATIAL RESOLUTIONS: B Morris, **L Dupigny-Giroux**

1340h **H23F-1299** POSTER Measuring and Simulating Passive C-band Microwave Relief Effects over Qinghai-Tibet Plateau in Remote Sensing: **X Li**, L Zhang, L Jiang, S Zhao

1340h **H23F-1300** POSTER Comparison of Lidar and GPS DEMs: **J Chassereau**

1340h **H23F-1301** POSTER REMOTE SENSING DATA AS INPUT FOR ARCTIC HYDROLOGIC MODELS IN WESTERN ALASKA: **C E Jones**, L D Hinzman

H23G Moscone South: Poster Hall Tuesday 1340h
Science Informing Decisions in the Colorado River Basin II
Posters (joint with GC, PP, PA)

Presiding: **J R Prairie**, Univ Colorado; **C A Woodhouse**, University of Arizona; **A W Wood**, NOAA/NWS; **D W Pierce**, Scripps Institution of Oceanography

1340h **H23G-1302** POSTER Impacts of Changing Water Demands in the Lower Colorado River Basin Under Different Climate Scenarios: **D A Bunk**, T C Piechota

1340h **H23G-1303** POSTER Uncertainties in Picking Climate Projections for Water Resources Impact Studies: **B L Harding**, A W Wood, J R Prairie

1340h **H23G-1304** POSTER Quantifying the Benefits of Different Management Approaches to Climate Change on the Colorado River Water Supply: **D W Pierce**, T P Barnett

1340h **H23G-1305** POSTER Streamflow Simulations in the Salt and Verde River basins using Statistically and Dynamically Downscaled Climate Scenarios: **E M Demaria**, P A Troch, M Durcik, F Dominguez, S Rajagopal

1340h **H23G-1306** POSTER Creating Dynamically Downscaled Seasonal Climate Forecast and Climate Change Projection Information for the North American Monsoon Region Suitable for Decision Making Purposes: **C L Castro**, F Dominguez, H Chang

1340h **H23G-1307** POSTER Assessing impacts of climate change in a semi arid watershed using downscaled IPCC climate output: **S Rajagopal**, F Dominguez, H V Gupta, P A Troch, C L Castro

1340h **H23G-1308** POSTER Development of Streamflow Projections under Changing Climate Conditions over Colorado River Basin Headwaters: **W P Miller**, T C Piechota, S Gangopadhyay, T Pruitt

1340h **H23G-1309** POSTER Hydrologic sensitivities to warming temperatures in the Colorado River basin: **J A Vano**, T Das, D P Lettenmaier

1340h **H23G-1310** POSTER A Conceptual Model of Water Quantity Impacts from Insect-Induced Tree Mortality in Coniferous Forests: Implications for Colorado River Basin Water Management: **E Gordon**, E T Pugh

1340h **H23G-1311** POSTER Drivers of annual to decadal streamflow variability in the lower Colorado River Basin: **R S Lambeth-Beagles**, P A Troch

1340h **H23G-1312** POSTER Multi-Decadal Variability of Colorado River Basin Streamflow: **K C Nowak**, B Rajagopalan, M Hoerling, E A Zagona

1340h **H23G-1313** POSTER Predicting regime shifts in flow of the Colorado River: **S Gangopadhyay**, G J McCabe, L D Brekke

1340h **H23G-1314** POSTER Decadal Predictability in the Colorado River Basin Using Observed and Reconstructed Records: **M Switanek**, P A Troch

1340h **H23G-1315** POSTER A Catalog of Upper Colorado River Basin Droughts: **C A Woodhouse**, M F Glueck

1340h **H23G-1316** POSTER Hydrologic regime shifts from perennial to intermittent stream flow under climate change in the Upper Colorado River Basin: **L V Reynolds**, P B Shafrath

1340h **H23G-1317** POSTER Evapotranspiration Retrieval through Optical/Thermal Satellite Imagery and Ground Measurements in the Green River Basin, Wyoming: **N Pradhan**, J M Hendrickx, F L Ogden, S W Wolf

H23H Moscone West: 3020 Tuesday 1340h
Advances in Hydrologic Data Assimilation and Uncertainty Analysis II

Presiding: **M T Durand**, The Ohio State University; **M He**, UCLA; **A N Flores**, Boise State University; **K J Franz**, Iowa State University; **H Lee**, NOAA/NWS/OHD; **S C Steele-Dunne**, TU Delft; **A Weerts**, Deltares

1340h **H23H-01** ADVANCES IN HYDROLOGIC STATE AND PARAMETER ESTIMATION USING ENSEMBLE FILTERING AND SMOOTHING (*Invited*): **H Moradkhani**, C M DeChant, M Leisenring

1355h **H23H-02** Ensemble Kalman Filter vs Particle Filter in a Physically Based Coupled Model of Surface-Subsurface Flow (*Invited*): **M Putti**, M Camporese, D Pasetto

1410h **H23H-03** WITHDRAWN

1425h **H23H-04** Soil moisture assimilation from riverflow information to improve short-term streamflow forecast: **V Mishra**, N Voisin, M S Wigmosta, D P Lettenmaier

1440h **H23H-05** Improving short term streamflow forecast using SNOTEL data assimilation: **N Voisin**, V Mishra, D P Lettenmaier, M S Wigmosta

1455h **H23H-06** An integrated uncertainty analysis and data assimilation approach for improved streamflow predictions: T S Hogue, **M He**, K J Franz, S A Margulis, J A Vrugt

1510h **H23H-07** Large-scale Estimation of River Discharge from SWOT Satellite Observations: A Fraternal Twin Data Assimilation Experiment: **K Andreadis**, D Moller, E Rodriguez, B F Sanders, P D Bates, M Chaubell, M McCann, M T Durand, D E Alsdorf

1525h **H23H-08** Impact of GRACE Data Assimilation on the Simulation of Hydrologic States Across North America: **R Houborg**, M Rodell, B F Zaitchik, R H Reichle

H23I Moscone West: 3009 Tuesday 1340h
Enhanced Geothermal Systems: Characterization, Integration, Stimulation, and Induced Seismicity I (joint with NG, S, V, NS)

Presiding: **S M Ezzedine**, LLNL; **M A Person**, NM Tech

1340h **H23I-01** Seismology and Enhanced Geothermal Systems: **B R Julian**, G R Foulger

1355h **H23I-02** Thermal-Hydrologic-Mechanical Behavior of Single Fractures in EGS Reservoirs: **G Zvoloski**, S Kelkar, K Yoshioka, S Rapaka

1410h **H23I-03** A Semi-Analytical Model for Heat and Mass Transfer in Geothermal Reservoirs to Estimate Fracture Surface-Area-to-Volume Ratios and Thermal Breakthrough using Thermally-Decaying and Diffusing Tracers: **P W Reimus**

1425h **H23I-04** The Suitability of Conductive and Convective Geothermal Resources in New Mexico for EGS Systems: **M A Person**, L Owens, J Hubbling, S Kelley, J C Witcher, S Lucero

1440h **H23I-05** Application of Microearthquake(MEQ)Monitoring for Characterizing the Performance of Enhanced Geothermal Systems: **E Majer**

1455h **H23I-06** Carbon-dioxide plume geothermal (CPG) systems, an alternative engineered geothermal system (EGS) that does not require hydrofracturing: Comparison with traditional EGS regarding geologic reservoir heat energy extraction and potential for inducing seismicity: **J B Randolph**, M O Saar

1510h **H23I-07** Investigation of an Aseismic “Doughnut Hole” Region in The Northwest Geysers, CA: **K Boyle**, S Jarpe, L J Hutchings, J Peterson, D DePaolo, E Majer

1525h **H23I-08** The Design of Large Geothermally Powered Air-Conditioning Systems Using an Optimal Control Approach: **F G Horowitz**, L O’Byran

H23J Moscone West: 3014 Tuesday 1340h
Evapotranspiration II: Remote Sensing Applications From Water Management to the Global Water Cycle (*joint with PA, A, B*)

Presiding: **E F Wood**, Princeton University; **M C Anderson**, USDA-ARS

1340h **H23J-01** Use of multi-platform and frequency remote sensing data for mapping latent and sensible heat flux over the Gourma Region in West Africa: **L Farhadi**, D Entekhabi, G Salvucci, J Sun

1355h **H23J-02** Estimation of land surface fluxes using MOIDS and weather satellites: **Q Tang**, D P Lettenmaier

1410h **H23J-03** Assessing regional evapotranspiration across a montane gradient by combining a mobile measurement platform with satellite observations: **R G Anderson**, M L Goulden, Y Jin

1425h **H23J-04** Description of the Improvements on MODIS Global Terrestrial Evapotranspiration: **Q Mu**, M Zhao, S W Running

1440h **H23J-05** An evaluation of SEBAL algorithm using high resolution aircraft data acquired during BEAREX07: **G Paul**, P H Gowda, V P Prasad, T A Howell, S Staggenborg

1455h **H23J-06** Estimation of Evapotranspiration of Tamarisk using Energy Balance Models with High Resolution Airborne Imagery and LIDAR Data: **H M Geli**, S Taghvaeian, C M Neale, R Pack, D R Watts, J Osterberg

1510h **H23J-07** Retrieving latent heat flux from MODIS Aqua and its comparison with ARM CLASIC 2007 observations, LDAS and recent reanalyses products over US Southern Great Plains: **K Mallick**, A Jarvis, D Niyogi, S Fall, U Charusambot, B Bhattacharya

1525h **H23J-08** GROWING SEASON EVAPOTRANSPIRATION WITH SATELLITE REMOTE SENSING PROCEDURE: **A Irmak**, I Ratcliffe, P Ranade, B Kamble, D Mutiibwa, O Z Akasheh, Title of Team: Hydrologic Information System Team

H23K Moscone West: 3018 Tuesday 1340h
Hydroclimatic Extremes: Monitoring, Diagnosis, and Prediction II (*joint with A, NG*)

Presiding: **A AghaKouchak**, University of California Irvine; **U Lall**, Columbia Univ; **K Hsu**, UC Irvine

1340h **H23K-01** High resolution diagnosis and monitoring of extreme precipitation events using multi-sensor multi-platform remotely sensed data: **H H Aumann**, S G Desouza-Machado, A Behrangi

1355h **H23K-02** Trends in Heavy Rainfalls in the Observed Record in Selected Areas of the U.S. (*Invited*): **G M Bonnin**

1415h **H23K-03** A Multi-Sensor Approach to Access Precipitation Patterns and Hydro-Climatic Extremes in the Southeastern United States: **O P Prat**, B R Nelson, T M Rickenbach

1430h **H23K-04** Modeling the Spatiotemporal Distribution of Dam-Break Inundation in a Developed Area: Topographic and Hydrodynamic Controls: **B F Sanders**, J E Schubert, H A Gallegos

1450h **H23K-05** The Middle East and North Africa Land Data Assimilation System: First Results (*Invited*): **J D Bolten**, M Rodell, B F Zaitchik, M Ozdogan, D L Toll, E T Engman, S Habib

1510h **H23K-06** Is precipitation in northern New England becoming more extreme?: **E M Douglas**

1525h **H23K-07** Estimating the design flood for ungauged catchments in a nonstationary world: **A Sharma**, S Westra, R Mehrotra

H23L Moscone West: 3022 Tuesday 1340h
Hydrogeophysical Data Fusion and Integrated Site Investigation Methods II (*joint with NS*)

Presiding: **A Binley**, Lancaster University; **O A Cirpka**, University of Tübingen

1340h **H23L-01** Non-uniqueness in relationships between geophysical and hydrologic parameters: Existence, implications, and improving methods of data integration (*Invited*): **M A Cardiff**, W Barrash, B Dafflon, B Malama

1355h **H23L-02** Enhanced Subsurface Fluid Characterization Using Joint Hydrological and Geophysical Imaging: **M Commer**, M B Kowalsky, S Finsterle, G A Newman

1410h **H23L-03** Stochastic fusion of dynamic hydrological and geophysical data for estimating hydraulic conductivities: insights and observations (*Invited*): **J D Irving**, K Singha

1425h **H23L-04** COUPLED HYDROGEOPHYSICAL PARAMETER ESTIMATION USING A PARTICLE FILTER WITH FULL-PATH MONTE CARLO RESAMPLING: **J A Huisman**, J Rings, J A Vrugt, H Vereecken

1440h **H23L-05** Modeling water storage at the field scale using temporal gravity observations as calibration constraint: **B Creutzfeldt**, A Güntner, H Wziontek, B Merz

1455h **H23L-06** Using geostatistical constraints in electrical imaging for improved reservoir characterization: R Martin, **A Kemna**, T Hermans, F H Nguyen, A Vandenbohede, L Lebbe

1510h **H23L-07** Hydrogeophysical inversion of salt-tracer experiments monitored by ERT in a physical aquifer model (*Invited*): **D Pollock**, O A Cirpka

1525h **H23L-08** Developing Data Analysis Infrastructure to Support Regional and Global Scale Synthesis: **D Agarwal**, C van Ingen, M Humphrey, M Goode, J Li, Y Ryu, A Shoshani, B Faybishenko, A Romosan, J R Hunt, T Moran

H23M Moscone West: 3016 Tuesday 1340h
Water Resources Science and Strategies for Adaptation to Climate Variability and Change II (joint with A, B, GC, PA)

Presiding: **M J Friedel**, US Geological Survey; **J J Gurdak**, San Francisco State University; **S McNeeley**, National Center for Atmospheric Research; **J A Tindall**, US DOI - USGS; **B R Lintner**, Rutgers

1340h **H23M-01** Adapting California Water Management to Climate Change (*Invited*): **E Hanak**, J R Lund

1355h **H23M-02** A Novel Framework for Adaptation in Agriculture: Lessons Learned from California's Wine Industry (*Invited*): **K A Nicholas**

1410h **H23M-03** Effects of Altered Weather Variables and Increased CO₂ Concentrations on the Main Agricultural Crops of California's Central Valley Project: **F Flores-Lopez**, C A Young, M Tansey, D Yates

1425h **H23M-04** Decision Scaling to Aid the development of a dynamic regulation plan for the Upper Great Lakes: **C M Brown**, P Moody, W J Werick

1440h **H23M-05** WITHDRAWN

1455h **H23M-06** Water, Energy, and Ecosystems: A Case Study of California's Sierra Nevada to Assess Vulnerability to Climate Change and Opportunities for Adaptation: **J H Viers**, S Null, S T Ligare, D E Rheinheimer, J N Williams

1510h **H23M-07** Simulated Changes in Salinity in the York and James River Estuaries, Southeastern Virginia, USA, from Projected Sea-Level Rise in the Chesapeake Bay: **K C Rice**, J Shen, B Hong

1525h **H23M-08** Sustainable Hydro Assessment and Groundwater Recharge Projects (SHARP) in Germany - Water Balance Models: **C Niemand**, K Kuhn, R Schwarze

Earth and Space Science Informatics

IN23A Moscone South: Poster Hall Tuesday 1340h
Advances in Cyberinfrastructure for the Earth and Environmental Sciences II Posters (joint with GC, NG)

Presiding: **C E Tweedie**, Univ Texas at El Paso; **A A Velasco**; **G R Keller**, University of Oklahoma; **J A Gamon**, University of Alberta

1340h **IN23A-1348** POSTER Grass Roots Design for the Ocean Science of Tomorrow: **S Jul**, C L Peach, D L Kilb, O Schofield, C Fisher, C Quintana, C S Keen

1340h **IN23A-1349** POSTER A Framework for Integrating Oceanographic Data Repositories: **E Rozell**, A R Maffei, S E Beaulieu, P A Fox

1340h **IN23A-1350** POSTER Data-Driven Oceanographic Web Portal: **T Huang**, C Alarcon, A Bingham, M L Henderson, M Kessler, A Takagi, C K Thompson, Title of Team: Physical Oceanography Distributed Active Archive Center

1340h **IN23A-1351** POSTER GlyphSea: Interactive Exploration of Seismic Wave Fields Using Shaded Glyphs: **E McQuinn**, A Chourasia, J H Minster, J Schulze

1340h **IN23A-1352** POSTER On Optimizing Joint Inversion of Constrained Geophysical Data Sets: **U A Sosa Aguirre**, L Velazquez, M Arguez, A A Velasco, R Romero

1340h **IN23A-1353** POSTER Model Fusion: Results and Challenges: **O Ochoa**, V Kreinovich, A A Velasco

1340h **IN23A-1354** POSTER WebViz: A Web-based Collaborative Interactive Visualization System for large-Scale Data Sets: D A Yuen, **E McArthur**, R M Weiss, J Zhou, B Yao

1340h **IN23A-1355** POSTER Implementation of the OGC Web Processing Service for Use in Spatial Web Portal: **M Sun**, Q Huang, J Li, C Yang

1340h **IN23A-1356** POSTER The Arctic Research Mapping Application Utilizes Best Practices and Standards to Release a New ARMAP 2D Web Mapping Application: **R P Cody**, G W Johnson, J C Franco, A G Gaylord, W F Manley, M Dover, D Garcia-Lavigne, R Score, C Tweedie

1340h **IN23A-1357** POSTER New cyberinfrastructure for studying land-atmosphere interactions using eddy covariance techniques: **A Jaimes**, L Salayandia, I Gallegos, A Q Gates, C Tweedie

IN23B Moscone South: Poster Hall Tuesday 1340h
Research Clouds: Virtualization of Infrastructure, Tools, and Services II Posters (joint with SM, SH, G)

Presiding: **R Rankin**, University of Alberta; **R S Weigel**, George Mason University

1340h **IN23B-1358** POSTER VOs and Heliophysics: Would anyone like some CASSIS?: **R D Bentley**, G Lapenta, M Blanc, P Fox, R J Walker, Title of Team: The CASSIS Team

1340h **IN23B-1359** POSTER HELIO - First Services of The Heliophysics Integrated Observatory: **A Csillaghy**, R D Bentley

1340h **IN23B-1360** POSTER Science in the Cloud: Experiences Building an International Cloud for Computational Science: **W R Harris**, T A King, R J Walker, J Shillington, X Jia

1340h **IN23B-1361** POSTER UTILIZING CLOUD COMPUTING TO SUPPORT EARTH SCIENCE APPLICATIONS: **Q Huang**, C Yang, H Wu

1340h **IN23B-1362** POSTER Using an Open-Source Grid Framework and Virtualization for Embarrassingly Parallel Computations: **S Freeman**, Y Qu, R A Boller, C Yang, G S Wojcik, M Bambacus, R F Cahalan

IN23C Moscone South: 302 Tuesday 1340h
Model Fusion II (joint with GC, PA)

Presiding: **J R Giles**, British Geological Survey; **H Kessler**, British Geological Survey

1340h **Jerry Giles, Holger Kessler** *Introduction*

1345h **IN23C-01** Community Surface Dynamics Modeling System and its CSDMS Modeling Tool to couple models and data (*Invited*): **J P Syvitski**, Title of Team: CSDMS Scientific and Software Team

1400h **IN23C-02** The Dream: **D Peach**

1415h **IN23C-03** Integrated Modelling - the next steps (*Invited*): **R V Moore**

1430h **IN23C-04** From Process Models to Decision Making: The Use of Data Mining Techniques for Developing Effect Decision Support Systems: **P A Conrads**, E A Roehl

1440h **IN23C-05** Towards a regional climate model coupled to a comprehensive hydrological model: **S H Rasmussen**, M Drews, J H Christensen, M B Butts, K H Jensen, J Refsgaard, Title of Team: Hydrological Modelling for Assessing Climate Change Impacts at different Scales (HYACINTS)

1450h **IN23C-06** WITHDRAWN

1500h **IN23C-07** A Web-Based Earth-Systems Knowledge Portal and Collaboration Platform: **F A D'Agnesse**, A K Turner

1515h **IN23C-08** Integrated Modeling for Decision Analysis and Support in Phoenix (*Invited*): **P Gober**

1530h **Discussion** *The chairs will facilitate 10 minutes of discussion*

Nonlinear Geophysics

NG23A Moscone South: Poster Hall Tuesday 1340h
Multiphase Flow: An Interdisciplinary Challenge II Posters
(joint with V, H)

Presiding: J Suckale, MIT; I L Belien, University of Oregon;
K V Cashman, University of Oregon; R Juanes, Massachusetts
Institute of Technology

1340h **NG23A-1363 POSTER** Distinct Element Modeling of Dry and Wet Bouldery Debris Flows: **B Tewoldebrhan**, M C Palucis, R Kaitna, W E Dietrich, K M Hill

1340h **NG23A-1364 POSTER** Compaction and Crystallisation in Magma Chambers: Towards a Model of the Skaergaard Intrusion: **D P McKenzie**

1340h **NG23A-1365 POSTER** Reactive multiphase flow at the pore-scale: the melting of a crystalline framework during the injection of buoyant hot volatiles: P Andrea, **C Huber**, O Bachmann, B Chopard

1340h **NG23A-1366 POSTER** Potential Causes for the Non-Newtonian Rheology of Crystal-bearing Magmas: Y Deubelbeiss, **B J Kaus**, J Connolly, L Caricchi

1340h **NG23A-1367 POSTER** A Mechanism for Shear-Thinning Rheology of Suspensions of Solid Particles: **E W Llewellyn**, S Mueller, B J Kaus, H M Mader

1340h **NG23A-1368 POSTER** RHEOLOGY OF PURE GLASSES AND CRYSTAL BEARING MELTS: FROM THE NEWTONIAN FIELD TO THE BRITTLE ONSET: **B Cordonnier**, L Caricchi, M Pistone, J M Castro, K Hess, D B Dingwell

1340h **NG23A-1369 POSTER** Experimental particle acceleration by water evaporation induced by shock waves: **T Scolamacchia**, M Alatorre Ibarquengoitia, B Scheu, D B Dingwell, C Cimarelli

1340h **NG23A-1370 POSTER** Ash aggregation in explosive volcanic eruptions: **J W Telling**, J Dufek

1340h **NG23A-1371 POSTER** Two-Phase Flow Characteristics of the Ejection of Experimentally Generated Pyroclasts: **M A Alatorre-Ibarquengoitia**, D B Dingwell, B Scheu

1340h **NG23A-1372 POSTER** Gas expansion and migration through a viscous liquid: **I L Belien**, A Rust, L Farrell

1340h **NG23A-1373 POSTER** Insights from comparison of bubbles in gas-liquid and fluidized gas-solid particle flows: **M Gilbertson**, A Rust, A Nye

1340h **NG23A-1374 POSTER** Direct numerical simulations of magmatic differentiation at the microscopic scale: J Sethian, **J Suckale**, L T Elkins-Tanton

1340h **NG23A-1375 POSTER** Simulation of Nonisothermal Multiphase Flows of Binary Mixtures in a Porous Media: **A A Afanasyev**

1340h **NG23A-1376 POSTER** Possible high sonic velocity due to the inclusion of gas bubbles in water: **T Banno**, H Mikada, T Goto, J Takekawa

1340h **NG23A-1377 POSTER** Impact of methane flow through deformable lake sediments on atmospheric release: **B Scandella**, R Juanes

1340h **NG23A-1378 POSTER** Simulation of Natural CO₂ Leak at Mammoth Mountain, California: **E Ogretim**, D Crandall, D D Gray, G Bromhal, J L Lewicki

1340h **NG23A-1379 POSTER** Experimental Simulations of Methane Gas Migration through Water-Saturated Sediment Cores: **J Choi**, Y Seol, E J Rosenbaum

1340h **NG23A-1380 POSTER** Modeling of Fluid Pressure and Overburden Response Caused by Activation of a Dormant Fracture in Caprock: **G S Bromhal**, H Siriwardane, R Gondle

1340h **NG23A-1381 POSTER** Fluid flow and damage in two-phase media: theory and application to carbon sequestration: **Z Cai**, D Bercovici

1340h **NG23A-1382 POSTER** Application of computational software to model the geochemical and geomechanical interactions in geologic carbon sequestration sites: **C M Augustin**, P K Swart, T H Dixon, D D Riemer

1340h **NG23A-1383 POSTER** Evaluating the impacts of caprock and reservoir properties on potential risk of CO₂ leakage after injection: **Z Hou**, C J Murray, M L Rockhold

1340h **NG23A-1384 POSTER** Evaluation of CO₂ Substitution for CH₄ as a Mechanism for Concurrent Gas Production and CO₂ Sequestration in Hydrate-Bearing Geologic Media: **G J Moridis**, M T Reagan, S Silpngarmert

NG23B Moscone South: Poster Hall Tuesday 1340h
Nonlinear Geophysics in Seismic and Tectonic Processes
Posters (joint with EP)

Presiding: U C Herzfeld, Univ Colorado Boulder

1340h **NG23B-1385 POSTER** A Fuse Model for Fracture and Damage: **J Kazemian**, K F Tiampo

1340h **NG23B-1386 POSTER** Availability of Fresnel volume migration to one-component seismic reflection data using tau-P transforms: **T Kawabayashi**, J Takekawa, T Goto, H Mikada, K Onishi

1340h **NG23B-1387 POSTER** Application of a particle method to elastic wave propagation and failure phenomenon: **J Takekawa**, H Mikada, T Goto

1340h **NG23B-1388 POSTER** A new paradigm in modeling pulselike ruptures: The pulse energy equation: **A E Elbanna**, T H Heaton

1340h **NG23B-1389 WITHDRAWN**

NG23C Moscone South: 308 Tuesday 1340h
Non-Gaussian and Nonlinear Aspects of Data Assimilation and Predictability in the Geosciences I (joint with A, H)

Presiding: S J Fletcher, Cooperative Institute for Research in the Atmosphere; **B Ancell**, Texas Tech University

1340h **NG23C-01** On the use of Markov chain Monte Carlo algorithms for model uncertainty estimation and evaluation of assimilation algorithms (*Invited*): **D J Posselt**

1410h **NG23C-02** Observation impacts on California Current transport during 4D-Var using ROMS (*Invited*): **A M Moore**, H G Arango, G Broquet, C A Edwards, M Veneziani, B Powell

NG23D Moscone South: 308 Tuesday 1440h
Predictive Modeling and Uncertainty Quantification for Systematic Evaluation of Climate Models and Data-Guided Enhancements of Regional Climate Projections I (joint with A, GC, H)

Presiding: A R Ganguly, Oak Ridge National Laboratory; **D N Williams**, Lawrence Livermore National Laboratory; **C Doutriaux**; **H Najm**, Sandia National Laboratories

1440h **NG23D-01** Challenges in statistical calibration of global climate models: ensemble-based calibration of CAM using multiple observational constraints (*Invited*): **G Johannesson**, S T Brandon, C C Covey, D M Domyancic, A Kupresanin, D D Lucas, J R Tannahill, Y Zhang, X Garaizar, R I Klein

1452h **NG23D-02** Interpreting the Latitudinal Structure of Differences Between Modeled and Observed Temperature Trends (*Invited*): **B D Santer**, C A Mears, P J Gleckler, S Solomon, T Wigley, J Arblaster, W Cai, N P Gillett, D P Ivanova, T R Karl, J Lanzante, G A Meehl, P Stott, K E Taylor, P Thorne, M F Wehner, C Zou
 1504h **NG23D-03** A Critical Appraisal of Uncertainty Challenges in Climate Change (*Invited*): **R Ghanem**
 1516h **NG23D-04** Statistical methods for analyzing regional climate model ensembles (*Invited*): **S R Sain**
 1528h **NG23D-05** Analysis and quantification of uncertainty for climate change decision aids for energy consumption in the southwestern US: D Apling, **G Higgins**, H Kiley, K Darmenova

Natural Hazards

NH23A Moscone South: Poster Hall Tuesday 1340h
Remote Sensing and Modeling of Landslides: Detection, Monitoring, and Risk Evaluation I Posters (*joint with NH, EP, PA*)

Presiding: **N Lu**, Colorado School of Mines; **H Fukuoka**, Kyoto University

1340h **NH23A-1421 POSTER** A multi-parameter remote system to monitoring active landslides by using middle-low cost sensors: **J Londono**, C A Vega, L M Maya

1340h **NH23A-1422 POSTER** Regional reconnaissance of seasonal landslide activity in the Eel River catchment, northern California, using InSAR and airborne LiDAR: **A L Handwerker**, D A Schmidt, J J Roering

1340h **NH23A-1423 POSTER** InSAR imaging of movement along the Bull Lake Creek Slide, Wind River Mountains, Wyoming: **B Held**, F G Gomez

1340h **NH23A-1424 POSTER** C-band and L-band InSAR for recognition and monitoring of landslides in Taleghan, Central Iran: **N Khavaninzadeh**, M Motagh, M Sharifi, S Alipour

1340h **NH23A-1425 POSTER** The application of InSAR technique for investigating mass movement in Semrom, Southeast Iran: **B Gozalpour**, M Motagh, M Momeni

1340h **NH23A-1426 POSTER** Trial to Measure the Ground Surface Areal Displacement of Landslide Using Three-dimensional Laser Scanner: K Ishida, K Fujisawa, T Uto, H Homma, **H Shimomura**, K Mishima, H Komatsuzaki, A Noda, S Ishizaka, K Higuchi, Y Ootsuka, H Saito, M Yabe, M Murasaki, S Nishiyama, T Kitahara, Y Kodama, Y Inagaki, S Kamiyama

1340h **NH23A-1427 POSTER** Satellite Monitoring and Characterization of the 2010 Rockslide-Dammed Lake Gojal, North Pakistan: **G J Leonard**, J S Kargel, R E Crippen, S G Evans, K B Delaney, J F Schneider

1340h **NH23A-1428 POSTER** Prototyping an Early-warning System for Rainfall-triggered Landslides on a Regional Scale Using a Physically-based Model and Remote Sensing Datasets: **Z Liao**, Y Hong, D B Kirschbaum, H Fukuoka, K Sassa, D Karnawati, F Fathani

1340h **NH23A-1429 POSTER** Shear strength characteristics and activation of the Asato landslide, Okinawa, Japan: **S Nakamura**, S Kimura

1340h **NH23A-1430 POSTER** Modelling of Rainfall Induced Landslides in Puerto Rico: **C Lepore**, E Arnone, G Sivandran, L V Noto, R L Bras

1340h **NH23A-1431 POSTER** Landslides in Uzbekistan, caused by simultaneous influence of precipitation and remote, deep earthquakes in Hindu-kush: R Nyazov, **B S Nurtaev**

1340h **NH23A-1432 POSTER** Deep-seated submarine landslides and frictional properties of accretionary prism from the hanging wall of the frontal thrust region, offshore the Kii Peninsula: **A Tsukui**, A Tsutsumi, H Fukuoka

1340h **NH23A-1433 POSTER** The destruction of mountain's roads caused by typhoon-induced landslides: **C Huang**, S Yang, T Shih, C Shen, P Wang, C Lee, C Chen

1340h **NH23A-1434 POSTER** Using SWAT model to evaluate the sediment load in Feitsui Reservoir watershed under severe rainfall and land-cover change conditions: **C Chang**, Y Huang, C Liu

1340h **NH23A-1435 WITHDRAWN**

1340h **NH23A-1436 POSTER** TDR PROCEDURES FOR SLOPE STABILITY AND HYDRAULIC REGIME CONDITION MONITORING: **D Ceccio**, A Marino, A Teramo

1340h **NH23A-1437 POSTER** TERRITORIAL DIAGNOSTICS GEOPHYSICAL SURVEYS FOR THE EVALUATION OF DAMAGE SUSCEPTABILITY OF HISTORICAL CENTRES: **M Gorgone**, D De Domenico, A Marino, G Puglisi, D Termini, A Teramo

1340h **NH23A-1438 POSTER** Evaluation used underground water drain pipes of experimental studies: **T Abe**, J Ohara, K Fujisawa, R Nakano, Y Tabata

NH23B Moscone West: 3010 Tuesday 1340h
Strategies for Earthquakes and Natural Hazards Mitigation I (*joint with PA, S*)

Presiding: **J H Venus**, School of Earth and Environmen; **W Meng**, China University of Geosciences

1340h **Jo Venus** *Introduction to session*

1343h **NH23B-01** Making the Handoff from Earthquake Hazard Assessments to Effective Mitigation Measures (*Invited*): **D Applegate**

1400h **NH23B-02** System development over the monitoring for the purpose of early warning of population from the threat of landslides. (*Invited*): **D V Zakhidova**, A Kadyrhodjaev, Title of Team: Scientific Team of HYDROENGEIO Institute on Natural Hazards

1417h **NH23B-03** Disaster Risk Reduction through Innovative Uses of Crowd Sourcing (*Invited*): **J Berger**, M Greene

1434h **NH23B-04** GEOPHYSICAL SURVEYS FOR THE CHARACTERIZATION OF SEISMIC AND SYSTEMIC DAMAGE SCENARIOS OF HISTORICAL AND ENVIRONMENTAL VALUE SMALL CITIES: **F Muscolino**, A Marino, D De Domenico, D Campo, D Termini, A Teramo

1451h **NH23B-05** Parameter sensitivity of ground motion simulations based on hybrid broadband calculations. A case study for Izmir, Turkey: **L W Bjerrum**, M B Sorensen, K Atakan

1508h **NH23B-06** A Procedure for Rapid Localized Earthquake Hazard Analysis: **J R Holliday**, J B Rundle

1525h **Jo Venus & Wang Meng** *Panel Questions*

Near Surface Geophysics

NS23A Moscone South: Poster Hall Tuesday 1340h
Near-Surface Geophysics General Contributions II Posters (*joint with GP, H, NG, S*)

Presiding: **X Zhou**, Montana Tech of The University of Montana

1340h **NS23A-1439 POSTER** Detecting abandoned and unknown mineshafts using microgravity survey on South Korea: **H Rim**, Y Park, M Lim, Y Shin

1340h **NS23A-1440 POSTER** A 3D Gravity Investigation of Devils Tower, Wyoming, U.S.A: **K Crain**, S Holloway, J C Chang, P Závada, P Dědeček, G Keller

1340h **NS23A-1441** *POSTER* Review of magnetic functions for geophysical prospecting: **S Fleury**, M Munsch

1340h **NS23A-1442** *POSTER* Electrical resistivity survey in eastern Jeju Island: **H Jung**

1340h **NS23A-1443** *POSTER* 3-D resistivity imaging of buried concrete infrastructure with application to unknown bridge foundation depth determination: M E Everett, **R Arjwech**, J Briaud, S Hurlebaus, Z Medina-Cetina, S Tucker, N Yousefpour

1340h **NS23A-1444** *POSTER* Exploration of a Buried Building Foundation and a Septic Tank Plume Dispersion Using a Laboratory-fabricated Resistivity Apparatus: **A Lachhab**, N Stepanik, A Booterbaugh

1340h **NS23A-1445** *POSTER* The peobing depth of Transient Electromagnetic Method with the large-loop source: **N Zhou**, G Xue, S Yan

1340h **NS23A-1446** *POSTER* A proto-Okavango Delta?: **JE Podgorski**, L Kgotlhang, T Ngwisanyi, C Ploug, E Auken, W K Kinzelbach, A G Green

1340h **NS23A-1447** *POSTER* Study on Tunnel-ground Controlled Source Electromagnetic Method: **J Jing**, S Jin, W Wei, M Deng, G Ye

1340h **NS23A-1448** *POSTER* EC and EM surveys of a levee of the Tuolumne River, Stanislaus County, California: **I Murillo**, H D Ferriz

1340h **NS23A-1449** *POSTER* Compression on Width of Pseudo-seismic Waveform in the Transient Electromagnetic Imaging: **G Xue**, X Li, N Zhou, Z Qi

1340h **NS23A-1450** *POSTER* GPR SURVEYS FOR BUILDING FOUNDATION DETECTION: **D Termini**, D Campo, D De Domenico, A Teramo

1340h **NS23A-1451** *POSTER* Properties of Frozen Peat Determined Using Waveguide Dispersion Analysis of Ground-Penetrating Radar (GPR) Data: **A Parsekian**, J Van Der Kruk, L D Slater

1340h **NS23A-1452** *POSTER* Estimates of Arctic Wetland Extent Using Ground Penetrating Radar: **S Schultheiss**, C E Geiss, P Camill, M Edlund, C E Umbanhowar

1340h **NS23A-1453** *POSTER* Fractional diffusion analysis of the electromagnetic fields generated by a transient straight current source over a porous geological media: **J Ge**, M E Everett, C J Weiss

1340h **NS23A-1454** *POSTER* Maxwell Wagner Relaxation in Common Minerals and a Desert Soil at Low Water Contents: **S A Arcone**

1340h **NS23A-1455** *POSTER* Field Demonstration of Slim-hole Borehole Nuclear Magnetic Resonance (NMR) Logging Tool for Groundwater Investigations: D Walsh, P Turner, I Frid, R Shelby, **ED Grunewald**, E Magnuson, J J Butler, C D Johnson, J C Cannia, D A Woodward, K H Williams, J W Lane

1340h **NS23A-1456** *POSTER* Acidity-Facilitated Mobilization of Surface Clay Colloid from Natural Sand Medium: **Y Huang**, C Wang, B P Mohanty

1340h **NS23A-1457** *POSTER* Self-Potential Measurements of a Pore-Water Modification Technique to Reduce Earthquake-Induced Liquefaction Susceptibility: **D Graham**, L W Wolf, D Elton

1340h **NS23A-1458** *POSTER* Elucidating the Significance of the “Nano-Effect” in Determining the Mobility of C_{60} Nanoparticles in Saturated Porous Media: **Q Jia**, J Brant

1340h **NS23A-1459** *POSTER* The Complex Resistivity Spectrum Characteristics About Stratabound Sulfide Deposits: **P Dong**, B Sun, L Wang, Z Chen, Z Dong, Y Wu

1340h **NS23A-1460** *POSTER* CLASSIFICATION OF UXO BY PRINCIPAL DIPOLE POLARIZABILITY: **KN Kappler**

1340h **NS23A-1461** *POSTER* Geophysical and Geochemical Characterization of Subsurface Drip Irrigation Sites, Powder River Basin, Wyoming: **B L Burton**, C R Bern, J I Sams III, G Veloski, B J Minsley, B D Smith

1340h **NS23A-1462** *POSTER* Geophysical survey applied to underwater archaeology: a 19th century town submerged in Tequesquitengo Lake, Morelos, México: **RE Galindo Dominguez**, W L Bandy

1340h **NS23A-1463** *POSTER* Comparison Study of Reflection Seismic Surveys on Paved Site According to Sources and Receivers: **H Kim**, Y Keehm, J Jin

1340h **NS23A-1464** *POSTER* A new instrumentation to measure seismic waves attenuation: **N Tisato**, C Madonna, S Boutareaud, J Burg

1340h **NS23A-1465** *POSTER* State of the art of SWAM: Seismic Wave Attenuation Module: C Madonna, **N Tisato**, S Boutareaud, J Burg

1340h **NS23A-1466** *POSTER* Enhanced NH₃ emission from swine liquid waste: **S Lee**, W P Robarge, J T Walker

1340h **NS23A-1467** *POSTER* Finisher hog production in the Southeastern United States: Ancillary measurements derived from the National Air Emissions Monitoring Study (NAEMS): **W P Robarge**, S Lee, J T Walker

Ocean Sciences

OS23A Moscone South: Poster Hall Tuesday 1340h Eastern Boundary Ocean Margin Carbon Cycles I Posters
(joint with B, H)

Presiding: **B R Hales**, COAS; **F Chavez**, MBARI; **M A Goni**, Oregon State University; **S A Siedlecki**, University of Chicago

1340h **OS23A-1567** *POSTER* High silicate:nitrate ratios in eastern boundary upwelling waters may produce greater carbon drawdown than predicted from Redfield C:N ratios: **RC Dugdale**, J R Fuller, A Marchi, A E Parker, F P Wilkerson

1340h **OS23A-1568** *POSTER* Continuous Time-Series of Carbonate System Dynamics in the Coastal Oregon Upwelling System: **KE Harris**, M D DeGrandpre, B R Hales

1340h **OS23A-1569** *POSTER* Biogeochemical Connections Between Inner Shelf Bottom Boundary Layer and Surface Waters: **B R Hales**, M Segura-Noguera, R K Shearman

1340h **OS23A-1570** *POSTER* Predictive Relationships for pH and Carbonate Saturation in the Southern California Current System Using Oxygen and Temperature Data: **S R Alin**, R A Feely, A G Dickson, J M Hernandez-Ayon, L W Juranek, M D Ohman, R Goericke

1340h **OS23A-1571** *POSTER* Enhanced Biological Processes at a Frontal Zone in the Southern California Current System: A Model and Data Synthesis: **Q P Li**, P J Franks, M D Ohman, M R Landry

1340h **OS23A-1572** *POSTER* Vertical diffusivity in the benthic boundary layer of the Oregon shelf from a deliberate tracer release experiment: **S Ferrón**, D T Ho, B R Hales

1340h **OS23A-1573** *POSTER* Distribution and Composition of Particulate Organic Carbon along Oregon’s Upwelling Zone: **M A Goni**, R R Holser, B R Hales, Title of Team: SUCCES Team

1340h **OS23A-1574** *POSTER* CHANGES IN THE CHEMICAL COMPOSITION OF THE BOTTOM BOUNDARY LAYER DURING AN UPWELLING EVENT AT THE OREGON COAST: **M Segura-Noguera**, S Ferrón, S A Siedlecki, B R Hales, D T Ho

1340h **OS23A-1575 POSTER** Marine and terrestrial organic matter supplying Tomales Bay ecosystem respiration: modern vs historical estimates: **A D Russell**, T M Hill, B Gaylord, L M Jacobs, J Hosfelt

Planetary Sciences

P23A Moscone South: Poster Hall Tuesday 1340h
Planetary Radar Investigations: Observations, Theory, Lab Measurements, Field Analogues, and Future Opportunities I Posters (*joint with C, NS*)

Presiding: **S M Clifford**, LPI/USRA; **V Ciarletti**, LATMOS; **E Heggy**, Jet Propulsion Laboratory

1340h **P23A-1606 POSTER** Modeling Lunar Radar Scatter from Icy Regoliths: **T W Thompson**, E Heggy, E A Ustinov

1340h **P23A-1607 POSTER** Insights from a Geophysical and Geomorphological Mars Analog Field Study at the Great Kobuk Sand Dunes, Northwestern Alaska: **R N McGinnis**, C L Dinwiddie, D Stillman, K Bjella, D M Hooper, R E Grimm

1340h **P23A-1608 POSTER** Regolith thickness of the lunar nearside: Preliminary results from Earth-based 70 cm radar observations: **W Fa**, M A Wiczorek

1340h **P23A-1609 POSTER** CONSERT/Rosetta: Status of the experiment: **S Zine**, A Herique, W W Kofman, J Goutail, Title of Team: CONSERT/Rosetta Co-Investigators

1340h **P23A-1610 POSTER** Correlations between VIMS and RADAR data over the surface of Titan: Implications for Titan's surface properties: **F Tosi**, R Orosei, R Seu, A Coradini, J I Lunine, G Filacchione, F Capaccioni, P Cerroni, E Flamini, R H Brown, D P Cruikshank, R M Lopes

1340h **P23A-1611 POSTER** Marius Hills: Surface Roughness from LROC and Mini-RF: **S Lawrence**, B R Hawke, B Bussey, J D Stopar, B Denevi, M Robinson, T Tran

1340h **P23A-1612 POSTER** Using Mini-RF To Improve Accuracy Of Lunar TiO₂ Maps: **J J Gillis-Davis**, B Bussey, D Trang, L M Carter, K K Williams

1340h **P23A-1613 POSTER** Comparison of MESSENGER Optical Images with Thermal and Radar Data for the Surface of MERCURY: **D T Blewett**, E I Coman, N L Chabot, N R Izenberg, J K Harmon, C Neish

1340h **P23A-1614 POSTER** The Response of Martian Ground Ice to Burial by a Volatile-Poor Mantle: Potential Implications for the Volatile Evolution of the Medusae Fossae Formation: **S M Clifford**, J Lasue, A A Le Gall, E Heggy

1340h **P23A-1615 POSTER** Surface Roughness Estimates From Mars Odyssey Bistatic Radar Experiments: **H M Gunnarsdottir**, I R Linscott, H A Zebker

1340h **P23A-1616 POSTER** An enhanced Planetary Radar Operating Centre (PROC): **C Catallo**

1340h **P23A-1617 POSTER** Intercalibration of Mars Express Subsurface and Ionospheric Radar Total Electron Content: **D D Morgan**, J J Plaut, D A Gurnett, D L Kirchner, E Nielsen

1340h **P23A-1618 POSTER** GPR-Based Characterization of Retrogressive Thaw Slumps Near Eureka, Ellesmere Island, Canadian High Arctic: **R R Ghent**, D W Leverington, W H Pollard, L Roy

1340h **P23A-1619 POSTER** A Ground Penetrating Radar Lunar Analogue Field Campaign in the Haughton Impact Structure, Canada: **T Unrau**, K F Tiampo, R G Pratt, G Osinski

1340h **P23A-1620 POSTER** Natural radio emission of Jupiter as interferences for radar investigations of the icy satellites of Jupiter: **B Cecconi**, S Hess, A Herique, D Santos-Costa, M Santovito, P M Zarka, G Alberti, D D Blankenship, J H Bougeret, L Bruzzone, W W Kofman

1340h **P23A-1621 POSTER** Nightside ionosphere of Mars observed by MARSIS: **F Nemec**, D D Morgan, D A Gurnett, F Duru

1340h **P23A-1622 POSTER** EXPLORING DIELECTRIC SIGNATURE OF MARTIAN MID-LATITUDE ICE USING EARTH ANALOG STUDY: **J Boisson**, E Heggy, S M Clifford, K Yoshikawa, A Anglade, P Lognonne

1340h **P23A-1623 POSTER** Beyond Clutter: Long-Wavelength Topographic Effects on Subsurface Interface Geometries Derived from Orbital Radar Sounding Data: **J W Holt**, P Choudhary, S Christian

1340h **P23A-1624 POSTER** Automatic Detection and Characterization of Subsurface Features from Mars Radar Sounder Data: **A Ferro**, L Bruzzone, E Heggy, J J Plaut

1340h **P23A-1625 POSTER** Constraining the Equatorial Basins Sedimentation Chronology from MARSIS Tomographic Data Analysis: **E Heggy**, J Boisson, S M Clifford, J J Plaut, A Ferro, Y Gim

1340h **P23A-1626 POSTER** Radar Detection of Copernicus Secondary Craters: **K S Wells**, D B Campbell, B A Campbell, L M Carter, R Anderson

P23B Moscone South: Poster Hall Tuesday 1340h
Planetary Rings: Theory and Observation I Posters

Presiding: **L W Esposito**; **L J Spilker**, JPL

1340h **P23B-1627 POSTER** Comparison of F Ring Features Observed in Cassini UVIS Occultations with Other Observations: **B K Meinke**, L W Esposito, N Albers, M Sremcevic

1340h **P23B-1628 POSTER** Boom and Bust Cycles in Saturn's Rings: **L W Esposito**, B K Meinke, M Sremcevic, N Albers

1340h **P23B-1629 POSTER** Variations in Ring Particle Cooling across Saturn's Rings with Cassini CIRS: **S M Brooks**, L J Spilker, S Pilorz, S G Edgington, E Déau, N Altobelli

1340h **P23B-1630 POSTER** Saturn Ring Equinox Temperature Variations Retrieved by Cassini CIRS: **L J Spilker**, C C Ferrari, R Morishima, A Flandes, N Altobelli, E Deau, C Leyrat, S Pilorz, M Showalter, S G Edgington, S M Brooks

1340h **P23B-1631 POSTER** Speed Distribution Characteristics of Supersonic Dust Particles in Dusty Plasmas: **W L Theisen**

1340h **P23B-1632 POSTER** Experimental investigations on the collisional properties of ice particles in Saturn's rings: **D Heisselmann**, J Blum, F Spahn

1340h **P23B-1633 POSTER** The Saturn Ring Observer: In situ studies of planetary rings: P D Nicholson, **M S Tiscareno**, L J Spilker

1340h **P23B-1634 POSTER** Saturn Ring Observer Mission Concept: Closer Than We Thought: **T R Spilker**, P Nicholson, M S Tiscareno, L J Spilker, Title of Team: SRO Study Team

1340h **P23B-1635 POSTER** Earth: A Ringed Planet?: **L O Hancock**, H Povenmire

P23C Moscone South: 306 Tuesday 1340h
Eyes on Enceladus I (*joint with B*)

Presiding: **C Porco**, CICLOPS/SSI; **C McKay**, Ames Research Center

1340h **P23C-01** The interior and evolution of Enceladus: Current knowledge and future prospects (*Invited*): **F Nimmo**

1355h **PP23C-02** The Gravity Field of Enceladus: **L Iess**, J W Armstrong, S W Asmar, M Ducci, R A Jacobson, N J Rappaport, D J Stevenson, P Tortora

1405h **PP23C-03** Thermal stability of internal liquid water reservoir at Enceladus' South pole: **G Tobie**, M Behounkova, J Besserer, O Cadek, G Choblet

1415h **PP23C-04** Leading-Side Terrains on Enceladus: Clues to Early Volcanism and Tectonism from Cassini ISS: **P Helfenstein**, B Giese, J E Perry, T Roatsch, J Veverka, P C Thomas, T Denk, G Neukum, C Porco

1425h **PP23C-05** Tectonized Terrains of Enceladus: The Same but Different: **R T Pappalardo**, E Crow-Willard

1435h **PP23C-06** Physico-chemical processes in the icy plumes of Enceladus: **D C Boice**, R Goldstein, S E Martinez

1445h **PP23C-07** Saturnian Stream Particles as a Probe of Enceladus' Interior: **H Hsu**, F Postberg, S Kempf, M Trieloff

1455h **PP23C-08** Can Surface Induced Dissociation (SID) help untangle the issues associated with the Cassini INMS measurement of organic molecules in Enceladus' plume?: **J H Waite**, B A Magee, T Brockwell

1505h **PP23C-09** The Composition and Structure of Enceladus' Plume from a Cassini UVIS Observation of a Solar Occultation: **C J Hansen**, D E Shemansky, L W Esposito, I Stewart, A R Hendrix

1515h **PP23C-10** An approach to numerical simulation of the gas distribution in the atmosphere of Enceladus: **V Tennishev**, M R Combi, J H Waite

1525h **PP23C-11** The Jets of Enceladus: Locations, Correlations with Thermal Hot Spots, and Jet Particle Vertical Velocities: **C Porco**, A P Ingersoll, D DiNino, P Helfenstein, T Roatsch, C J Mitchell, S P Ewald

Paleoceanography and Paleoclimatology

PP23A Moscone South: Poster Hall Tuesday 1340h
Cenozoic Evolution of Ocean and Climate Systems: New Results From Ocean Drilling II Posters (*joint with B, GP, GC, OS*)

Presiding: **H Pälke**, University of Southampton; **H Pälke**, University of Southampton; **M W Lyle**, Texas A&M University; **M W Lyle**, Texas A&M University; **A C Ravelo**, University of California, Santa Cruz; **A C Ravelo**, University of California, Santa Cruz; **H Brinkhuis**; **H Brinkhuis**

1340h **PP23A-1714 POSTER** The equatorial Pacific pelagic sedimentary system: **N C Mitchell**, M Tominaga, N Dubois, M W Lyle

1340h **PP23A-1715 POSTER** Reconstructing ocean carbonate compensation depth variability in the Oligocene and early Miocene: **K M Edgar**, H Pälke, P A Wilson, Title of Team: IODP Expedition 320/321 scientists

1340h **PP23A-1716 POSTER** Orbitally-paced Carbonate Dissolution During the Paleocene: **D J Thomas**, S C Woodard, U Roehl, T Westerhold

1340h **PP23A-1717 POSTER** Late Eocene-early Oligocene carbonate accumulation in the subantarctic South Atlantic: evidence for orbitally-paced fluctuations in regional lysocline depth: **S M Bohaty**, H Pälke

1340h **PP23A-1718 POSTER** Reconstruction of Early Paleogene North Pacific Deep-Water Circulation using the Neodymium Isotopic Composition of Fossil Fish Debris: **A M Hague**, D J Thomas, J A Schubert, R Korty, M Huber

1340h **PP23A-1719 POSTER** Paleoenvironmental Interpretation of Quartz Surface Textures, from the Middle Eocene Central Arctic IRD Record: **K K St John**, S Passchier, L Kearns

1340h **PP23A-1720 POSTER** Paleogene sedimentation changes along a depth transect at the northern flank of the Walvis Ridge (ODP Leg 208), South Atlantic Ocean: **D C Leuschner**, W U Ehrmann

1340h **PP23A-1721 POSTER** Seismic/Well Integration, IODP Expedition 323, Bering Sea: **G Guerin**, Title of Team: IODP Expedition 323 Shipboard Scientists

1340h **PP23A-1722 POSTER** Carbonate Fluxes to the Eastern Equatorial Pacific during the Eocene: using the GENIE Earth System Model to investigate carbonate accumulation event mechanisms and dynamics revealed by the Pacific Equatorial Age Transect (PEAT): **H Pälke**, M W Lyle, A J Ridgwell, K M Edgar, I Science Party, Title of Team: IODP Expeditions 320/321 Science Party

1340h **PP23A-1723 POSTER** Faunal change of benthic foraminifera in CAE-3 (middle Eocene) in the eastern Equatorial Pacific (IODP Exp 320): **H Takata**, B Khim, R Nomura, A Tsujimoto, Title of Team: IODP Expedition 320/321 Scientists

1340h **PP23A-1724 POSTER** New records of the Eocene/Oligocene transition from the IODP Pacific Equatorial Age Transect (PEAT): **P A Wilson**, H Pälke, K M Edgar, T Westerhold, B H Murphy, J C Zachos, T Dunkley Jones, Title of Team: PEAT Shipboard Scientific Party, IODP Expedition 320/321

1340h **PP23A-1725 POSTER** Tropical sea surface temperature variability near the Oligocene - Miocene boundary: **Y Zhang**, M Pagani

1340h **PP23A-1726 POSTER** New insights on the Neogene erosion regime of the Himalaya: a Pb-Nd isotopic study of deep-sea fan sediments (ODP Leg 116): **J C Gattacceca**, A Galy, A M Piotrowski, M Frank

1340h **PP23A-1727 POSTER** Glacial Erosion of Antarctica Evidenced by a Rapid Nd Isotope Excursion Associated with the Eocene-Oligocene Transition: **A E Pusz**, H D Scher, R Thunell

1340h **PP23A-1728 POSTER** Paleogene reconstruction of southern Pacific water mass composition using Nd isotopes: **J A Schubert**, D J Thomas, A M Hague, R Korty, M Huber

1340h **PP23A-1729 POSTER** Equatorial Pacific climatic variations during the Miocene - Pliocene at IODP-Site U-1338: **G Rousselle**, C Beltran, M Sicre, M de Rafélis, I Raffi, J Backman, Title of Team: IODP Expeditions 320/321 Shipboard Scientific Party

1340h **PP23A-1730 POSTER** A high resolution, one million year record of extraterrestrial ³He from the Shatsky Rise (site 1209) following the K/T impact: **A Bhattacharya**, S Mukhopadhyay, P M Hull, R D Norris

1340h **PP23A-1731 POSTER** Early Pleistocene short-term intermediate water mass variability influences Carbonate Mound development in the NE Atlantic (IODP Site 1317): **J Raddatz**, A Rüggeberg, S Margreth, V Liebetrau, W Dullo, A Eisenhauer, Title of Team: IODP Expedition 307 Scientific Party

1340h **PP23A-1732 POSTER** The Geochemical Signature of Antarctic Glaciation: **G Munn**, H D Scher, S M Bohaty, A E Pusz, R Thunell, M L Delaney

1340h **PP23A-1733 POSTER** Is optically simulated luminescence dating useful in our IODP sediment cores? - an interim report from IODP Exp.323 and 318-: **S Sugisaki**, T Sakamoto, K Oguri, J Buylaert, A Murray

PP23B Moscone South: Poster Hall Tuesday 1340h
Reconciling Models of Hyperthermal Events in Earth History
II Posters (*joint with B, GC*)

Presiding: **T Dunkley Jones**, Imperial College London; **T Dunkley Jones**, Imperial College London; **C O Chun**, Goethe University Frankfurt; **C O Chun**, Goethe University Frankfurt; **R E Zeebe**, University of Hawaii; **R E Zeebe**, University of Hawaii; **A S Cohen**, The Open University; **A S Cohen**, The Open University

1340h **PP23B-1734 POSTER** A marine Mo-isotope record across OAE1a: **G J Izon**, A S Cohen, A L Coe

1340h **PP23B-1735 POSTER** An improved correlation of the multi-event Aptian/Albian OAE 1b: **J Trabucho Alexandre**, R I van Gilst, J P Rodríguez-López, P L De Boer

1340h **PP23B-1736 POSTER** Combined oxygen- and carbon-isotope records through the Early Jurassic: multiple global events and two modes of carbon-cycle/temperature coupling: **S P Hesselbo**, C Korte

1340h **PP23B-1737 POSTER** A Multi-proxy Examination of the Toarcian Oceanic Anoxic Event in Argentina: **A H Al-Suwaidi**, F Baudin, S E Damborenea, S P Hesselbo, H C Jenkyns, M O Manceñido, R D Pancost, A C Riccardi, C Siebert

1340h **PP23B-1738 POSTER** Pacific and Tethyan Os-isotope data for OAE 1a: The link between volcanism and marine anoxia: **A S Cohen**, C Bottini, A L Coe, E Erba, H C Jenkyns

1340h **PP23B-1739 POSTER** Cumulative inputs of carbon into the Early Toarcian ocean-atmosphere system: from volcanism to an Oceanic Anoxic Event: **M Hermoso**, R E Rickaby, C Bjerrum, F Baudin, F Minoletti, S P Hesselbo, H C Jenkyns

1340h **PP23B-1740 POSTER** Pacing of middle Eocene climate during the Middle Eocene Climate Optimum and the Chron C19r event – new results from the expanded ODP Site 1260 in the tropical western Atlantic: **T Westerhold**, U Roehl

1340h **PP23B-1741 POSTER** Testing sources and size of carbon release during the PETM: **C O Chun**, A J Ridgwell, R Marsh

1340h **PP23B-1742 POSTER** A review of the Paleocene-Eocene Thermal Maximum temperature anomaly: **T Dunkley Jones**, D J Lunt, D N Schmidt, C O Chun, M A Maslin, A J Ridgwell, P J Valdes

1340h **PP23B-1743 POSTER** Molybdenum and Osmium isotope evidence for palaeoceanographic changes in the Arctic Ocean over the Paleocene-Eocene Thermal Maximum (PETM): **A J Dickson**, A S Cohen, A L Coe

1340h **PP23B-1744 POSTER** Changes in seasonality and productivity recorded at low latitudes in Tanzania during the PETM: **A O'Halloran**, C J Nicholas, R Goodhue

1340h **PP23B-1745 POSTER** Calcareous nannoplankton changes during the middle Eocene in the Agost section (Spain): evidence for hyperthermal events: **S Monechi**, F Tori

1340h **PP23B-1746 POSTER** Methane and environmental change during the Paleocene-Eocene thermal maximum (PETM): Modeling the PETM as a multistage event: **D A Carozza**, L A Mysak

1340h **PP23B-1747 POSTER** Carbon addition during the Paleocene-Eocene Thermal Maximum: Model inversion of a new, high-resolution carbon isotope record from Svalbard: **Y Cui**, L Kump, A Ridgwell, C Junium, A F Diefendorf, K H Freeman, N Urban

1340h **PP23B-1748 POSTER** Ocean Stagnation and Anoxia at the Paleocene-Eocene Boundary – Implications for the Benthic Extinction: **A M Winguth**, C Winguth

1340h **PP23B-1749 POSTER** Constraining carbon input for early-middle Eocene 'hyperthermals': **S E Kirtland**, P F Sexton, A Ridgwell, R D Norris

1340h **PP23B-1750 POSTER** A depth transect comparison of extraterrestrial ³He-based timescales for the Paleocene-Eocene thermal maximum (PETM) from ODP Leg 208: **B H Murphy**, K A Farley, J C Zachos

1340h **PP23B-1752 POSTER** Large amplitude variations in global carbon cycling and terrestrial weathering from the late Paleocene through the early Eocene: carbon isotope and terrigenous accumulation records at Mead Stream, New Zealand: **B S Slotnick**, G R Dickens, M Nicolo, C J Hollis, J S Crampton, J C Zachos

1340h **PP23B-1753 POSTER** Mammalian faunal response to the Early Eocene Climatic Optimum (~53.5-48.5 mya) and a new terrestrial record of the associated carbon isotope excursion from Raven Ridge in the Uinta Basin, Colorado-Utah: **A R Dutchak**

1340h **PP23B-1754 POSTER** Using n-alkane records to constrain carbon cycle – hydrological cycle coupling: Case study from the Northern Hemisphere mid-latitudes during the PETM: **S Krishnan**, M Pagani, B J Tipler

1340h **PP23B-1755 POSTER** New Insights into Early Cenozoic Carbon Cycling: Continental Ecosystem Response to Orbital Forcing in the Lacustrine Green River Formation (Western US) at the Conclusion of the Early Eocene Climatic Optimum: **D Musher**, D S Grogan, J H Whiteside

1340h **PP23B-1756 POSTER** B/Ca evidence for surface water pH changes over the PETM: **D E Penman**, J C Zachos, R E Zeebe

1340h **PP23B-1757 POSTER** Calcareous Nannoplankton and Rapid Climate Change: Was High Climate Variability Responsible for Nannofloral Turnover during the PETM and Plio-Pleistocene?: **J Schueth**, T J Bralower

PP23C Moscone West: 2005 Tuesday 1340h
Miocene to Present Evolution of Western Arctic and Sub-Arctic Environments II

Presiding: **A C Ravelo**, University of California, Santa Cruz; **J Brigham-Grette**, University of Massachusetts; **M A O'regan**, Cardiff University; **L V Polyak**, Ohio State University

1340h **PP23C-01** What Causes Arctic Amplification? (*Invited*): **M M Holland**, C M Bitz, J E Kay

1355h **PP23C-02** Diatom Surface Sediment Assemblages from the Bering Sea Shelf: a Tossed Salad or Faithful Recorder of 50 Years of Environmental Change?: **B Caissie**, J Brigham-Grette, K Kanamaru-Shinn

1410h **PP23C-03** Extended Quaternary Record of Sea-Ice Conditions and Glacierization in the Western Arctic Ocean: **L V Polyak**, K Crawford, R Gray, K Best, E A Council, J D Ortiz, C Xuan, J E Channell, D S Kaufman, B Haley

1425h **PP23C-04** Pliocene-Pleistocene paleo-productivity changes in the Bering Sea: results from IODP Expedition 323 (*Invited*): **K Takahashi**, A C Ravelo, C A Alvarez Zarikian, T Nagashima, Y Kanematsu, Y Hioki, M Ikehara, S KIM, B Khim, I W Aiello, J Onodera, T Radi, T Sakamoto, Z N Stroynowski, H Asahi, M Chen, E Colmenero-Hidalgo, K Husum, A Ijiri, S Kender, S Lund, M Okada, Y Okazaki, K Horikawa, O Seki, Title of Team: IODP Expedition 323 Shipboard Scientists

1440h **PP23C-06** Neogene arctic forests: deep-time analogs of a mild ice-free Arctic (*Invited*): **C Williams**

1455h **PP23C-07** Initial Results on the Pliocene and Quaternary Evolution of the Western Arctic from the Deep Drilling in 2008/09 at Lake Elgygytgyn, Chukotka (*Invited*): **M Melles**, J Brigham-Grette, P Minyuk, C Koerberl, Title of Team: El'gygytgyn Scientific Party

1510h **PP23C-08** New insights from old mud: Compound-specific isotopic evidence of paleoenvironmental and hydrological change at Lake El'gygytyn, NE Russia: **K M Wilkie**, S Petsch, S J Burns, J Brigham-Grette, Title of Team: Lake El'gygytyn Scientific Party

SPA-Aeronomy

SA23A Moscone South: Poster Hall Tuesday 1340h
Dynamics and Coupling in the Lower Thermosphere II Posters
(joint with A)

Presiding: **Q Zhou**, Miami University; **H Liu**, National Center for Atmospheric Research; **M J Nicolls**, SRI International; **S England**, UC Berkeley

1340h **SA23A-1769 POSTER** Properties of the quasi-three day wave in the equatorial lower thermosphere during January 2010 from both ground and space-based observations: **S England**, G Liu, Q Zhou, T Immel

1340h **SA23A-1770 POSTER** Response of the low and mid-latitude ionosphere to the forcing by the quasi-three day wave in the equatorial thermosphere during January 2010 from both ground and space-based observations: **G Liu**, S England, T Immel, Q Zhou

1340h **SA23A-1771 POSTER** Nonlinear Interaction Between the Migrating Diurnal Tide and the Quasi-Two Day Wave: **L C Chang**, S E Palo, H Liu

1340h **SA23A-1772 POSTER** Diagnosing Interactions of the Diurnal Tide with the MLT Background Atmosphere Using Data from the TIDI and SABER Instruments: **D M Rigglin**, D A Ortland, R S Lieberman

1340h **SA23A-1773 POSTER** An Analysis of tidal and planetary waves at Arecibo during January 2010: **Y Gong**, Q Zhou, N Aponte, M P Sulzer, S A Gonzalez

1340h **SA23A-1774 POSTER** Long-term measurements of lower thermospheric neutral winds over Poker Flat, Alaska: **C J Heinselman**, M J Nicolls

1340h **SA23A-1775 POSTER** Modeling Waves in the Thermosphere: **L C Gardner**, R W Schunk

1340h **SA23A-1776 POSTER** Initial Ground-based Thermospheric Wind Measurements Using Doppler Asymmetric Spatial Heterodyne Spectroscopy (DASH): **C R Englert**, J Harlander, J T Emmert, D D Babcock, F L Roesler

1340h **SA23A-1777 POSTER** The relation between the E-region gravity waves and the F-region plasma depletions observed with an all-sky imager at Arecibo: **I Seker**, S F Fung, J D Mathews

1340h **SA23A-1778 POSTER** Structures in the Na airglow images after a bright meteor fireball: **H Suzuki**, T Nakamura, S L Vadas, M Tsutsumi, M Taguchi, Y Fujiwara

1340h **SA23A-1779 POSTER** Acoustic and Atmospheric Gravity Waves Excited by a Fireball Meteor: T Nakamura, **S L Vadas**, H Suzuki

1340h **SA23A-1780 POSTER** Gravity wave compressible dissipation polarization relations, and their relation to Fabry Perot and PFISR observations in January 2010: **S L Vadas**, M J Nicolls, J W Meriwether

1340h **SA23A-1781 POSTER** Nonlinear airglow signatures of ducted gravity waves in the mesosphere and lower thermosphere: **J B Snively**, M P Hickey, M J Taylor

1340h **SA23A-1782 POSTER** Predicting the Global Average Temperature of the Thermosphere From an Empirical Model of the Polar Poynting Flux: **D R Weimer**, E K Sutton, W Tobiska

1340h **SA23A-1783 POSTER** The Role of Spatial and Temporal Variability in Determining the Magnitude and Structure of Thermospheric Vertical Winds: **E Yigit**, A J Ridley

1340h **SA23A-1784 POSTER** Examining the contributions to the longitudinal variation of the low latitude upward ExB drift as simulated by TIME-GCM: **A Maute**, A D Richmond, M E Hagan, R G Roble

1340h **SA23A-1785 POSTER** Ionospheric and field-aligned currents caused by the lower atmospheric disturbances: **T Iyemori**, Y Tanaka, K Taira, E Choque, D Rosales, M Matsumura, K Nakanishi, S Yamanaka, J Ishitsuka, Title of Team: Geomagnetic, barometric and HF-Doppler observation team

1340h **SA23A-1786 POSTER** Medium-Scale Traveling Structure in the Ionosphere-Thermosphere System: **E S Miller**, E R Talaat

1340h **SA23A-1787 POSTER** Seasonal Dependence of Equatorial Electrodynamic Effects During Stratospheric Warming Periods: **M E Olson**, B G Fejer, C Stolle, H Luhr

1340h **SA23A-1788 POSTER** The electrodynamics of the low-latitude ionosphere during and after the prereversal enhancement of the vertical plasma drift: **J V Eccles**

1340h **SA23A-1789 POSTER** Incoherent scatter radar measurement of E-region electric field at Arecibo: **Q Zhou**, Y Morton, C Huang, N Aponte, M P Sulzer, S A Gonzalez

SA23B Moscone South: 301 Tuesday 1340h
Heliosphere-Atmosphere Coupling and Climate I (joint with A, GC, SM, SH)

Presiding: **C E Randall**, University of Colorado; **X Fang**, University of Colorado

1340h **SA23B-01** Detection of Long-Term Temperature Changes in the Stratosphere and Mesosphere: **J Yee**, W H Swartz, M G Mlynczak, J M Russell

1352h **SA23B-02** 11-year Solar Cycle Influences on the Earth's Climate (*Invited*): **L J Gray**, M Lockwood, T J Woollings

1407h **SA23B-03** Global views of energetic particle precipitation and their sources: Combining large-scale models with observations during the 21-22 January 2005 magnetic storm (*Invited*): **J U Kozyra**, P C Brandt, C A Cattell, M Clilverd, D De Zeeuw, D S Evans, X Fang, H U Frey, A J Kavanagh, M W Liemohn, G Lu, S B Mende, L J Paxton, A J Ridley, C J Rodger, F Soraas

1422h **SA23B-04** Parameterization of Monoenergetic Electron Impact Ionization: **X Fang**, C E Randall, D Lummerzheim, W Wang, G Lu, S Solomon, R A Frahm

1434h **SA23B-05** Mesospheric Hydroxyl Response to Electron Precipitation From the Radiation Belts: **P T Verronen**, C J Rodger, M Clilverd, S Wang

1446h **SA23B-06** Recent observations and modeling of the coupling between middle and upper atmospheric odd nitrogen (*Invited*): **D E Siskind**

1501h **SA23B-07** Mean circulation and transport of trace species in the polar winter middle atmosphere (*Invited*): **A K Smith**, R R Garcia, D R Marsh

1516h **SA23B-08** Mesospheric Transport in WACCM: **V Harvey**, C E Randall, H Liu, D R Marsh, E D Peck, S M Bailey

1528h **SA23B-09** The vertical propagation and extent of stratospheric temperature and wind anomalies related to enhanced geomagnetic activity: **A M Seppälä**, A J Baumgaertner, P Jöckel, M Clilverd

SPA-Solar and Heliospheric Physics

SH23A Moscone South: Poster Hall Tuesday 1340h Coordinated Results With Solar Dynamics Observatory II Posters

Presiding: T N Woods, University of Colorado; D F Webb, Boston College

1340h **SH23A-1824** POSTER Solar Magnetic Activity: Explored with Dynamical Systems and SDO/SOHO Data: **H H Lundstedt**, T Persson

1340h **SH23A-1825** POSTER Observations of Coronal Bright Fronts using SDO/AIA: **D Long**, E E DeLuca, P T Gallagher

1340h **SH23A-1826** POSTER AIA and RHESSI Observations of Solar Coronal Jets: **S Krucker**, R P Lin, A Csillaghy

1340h **SH23A-1827** POSTER A "black light flare" observed by HMP?: **J Martinez Oliveros**, H S Hudson, S Krucker

1340h **SH23A-1828** POSTER Probing flare temperatures using AIA dispersion effects and RHESSI imaging/spectroscopy: **C L Raftery**, S Krucker

1340h **SH23A-1829** POSTER Study of Flare Energetics Using X-ray, Radio, and EUV Observations: **L Glesener**, S Krucker, H M Bain, R P Lin

1340h **SH23A-1830** POSTER SDO and RHESSI Observations of Microflares: **S Christe**, S Krucker, I G Hannah

1340h **SH23A-1831** POSTER Multi-temperature Observations of Solar Microflares using RHESSI and SDO/AIA: **J M McTiernan**, S Krucker

1340h **SH23A-1832** POSTER Solar flare impulsive phase observations from SDO and other observatories: **P C Chamberlin**, T N Woods, C J Schrijver, H P Warren, R O Milligan, S Christe, J W Brosius

1340h **SH23A-1833** POSTER A Preliminary comparison of the Flares as seen by SDO-EVE-ESP and GOES XRS: **J Goetz**, A R Jones, T N Woods, F Eparvier, P C Chamberlin, L V Didkovsky

1340h **SH23A-1834** POSTER 3D Study of Solar Eruptions Using SDO and STEREO Observations: **G de Toma**, A A Reinard, S E Gibson, J Burkepile, Y Fan, T Torok

1340h **SH23A-1835** POSTER An Earth-Directed CME not Observed in LASCO Images: **S Yashiro**, N Gopalswamy, S Akiyama

SH23B Moscone South: Poster Hall Tuesday 1340h Initiation, Evolution, and Interaction of Coronal Mass Ejections, Corotating Interaction Regions, and Interplanetary Shocks From the Sun to 1 AU | Posters (joint with SM)

Presiding: K Liou; S P Plunkett, Naval Research Laboratory; C Wu, Naval Research Laboratory; S T Lepri, Univ Michigan

1340h **SH23B-1836** POSTER Candidate coronal mass ejection heating mechanisms: **N A Murphy**, J C Raymond, K E Korreck

1340h **SH23B-1837** POSTER Constraints on CME evolution from in situ observations of ionic charge states: **J R Gruesbeck**, S T Lepri, T Zurbuchen, S K Antiochos

1340h **SH23B-1838** POSTER Statistical Study of Solar Activity Associated with SOHO UVCS Coronal Mass Ejections: **J F O'Neill**, O C St Cyr, L Mays, N Gopalswamy, J C Raymond, A Ciaravella, S Yashiro, H Xie, S Giordano, C Quirk

1340h **SH23B-1839** POSTER Transition Region Luminosities of Solar Flares: **H Johnson**, J C Raymond, N A Murphy

1340h **SH23B-1840** POSTER Spatially dependent heating and ionization: From CME to ICME: **S T Lepri**, J Laming, C E Rakowski

1340h **SH23B-1841** POSTER Connecting CME expansion from Sun to 1 AU: **T Nieves-Chinchilla**, R C Colaninno, A Vourlidas, A Szabo, A F Vinas, J M Davila

1340h **SH23B-1842** POSTER On the Eruption of Coronal Flux Ropes: **Y Fan**

1340h **SH23B-1843** POSTER Observational and numerical study of the 25 July 2004 event: **A Soenen**, C Jacobs, S Poedts, L van Driel - Gesztelyi, T Torok, G Lapenta

1340h **SH23B-1844** POSTER Kinematic analysis and comparison of the CME and its related EIT wave for January 10, 2010 event: **X Zhao**, S Wu, A Wang, A Vourlidas

1340h **SH23B-1845** POSTER White Light and Radio Emission of CME-Shocks: their Evolution in the Interplanetary Medium: **V Ontiveros**, P Corona-Romero, A Gonzalez-Esparza, E Aguilar-Rodriguez, A Vourlidas

1340h **SH23B-1846** POSTER Non-Flux-Rope CME-Driven Shocks and Connection to Particle Acceleration in Solar 3He-Rich Events: **T Zhang**, S Wu

1340h **SH23B-1847** POSTER On the Occurrence of Energetic Storm Particle Events and Type II Radio Bursts in CME-driven Shocks: **P A Makela**, N Gopalswamy, S Akiyama, H Xie, S Yashiro

1340h **SH23B-1848** POSTER CME and Flare Initiation Challenge: **G Lapenta**, L Bettarini, S Poedts, Title of Team: SOTERIA Team

1340h **SH23B-1849** POSTER The statistical and numerical study of the global distribution of coronal plasma and magnetic field near 2.5 Rs over a 10-year period, and its application to the CME simulation: **F Shen**, X Feng, C Xiang, W Song

1340h **SH23B-1850** POSTER Understanding Interplanetary Shock Dynamics in the Inner Heliosphere with New Observations and Modeling Techniques: **O C St Cyr**, C Henning, H Xie, D Odstrcil, L Mays, H Cremades, F Iglesias, N Gopalswamy, M L Kaiser

1340h **SH23B-1851** POSTER Tracking of Interplanetary CME/ Shocks evolution using Type II radio burst observations: **E Aguilar-Rodriguez**, A Gonzalez-Esparza, V Ontiveros

1340h **SH23B-1852** POSTER The Relation between Coronal Holes and CMEs during the Rise, Maximum and Declining Phases of the Solar Cycle 23: **A A Mohamed**, N Gopalswamy, S Yashiro, S Akiyama, P A Makela, H Xie, H Jung

1340h **SH23B-1853** POSTER Kinematic Characterization Of In/out Pairs As Seen In Secchi: **K L Baldwin**, A Vourlidas, J Zhang, M Linton

1340h **SH23B-1854** POSTER Statistical Study of the Time Duration of the ICME Sheath: **T Niembro**, A Lara, A Borgazzi

1340h **SH23B-1855** POSTER Helicity Shedding in a Simulated CME: **N Seehafer**, B Kliem

1340h **SH23B-1856** POSTER Capturing the Three-Dimensional Motion of the 16 June 2010 CME in the STEREO-SECCHI Observations using Scene Flow: **R C Colaninno**, A Vourlidas

1340h **SH23B-1857** POSTER Bulk Properties and Three Dimensional Structure of CIRs at 1 AU: **T W Broiles**, M I Desai

1340h **SH23B-1858** POSTER Understanding Interplanetary Shock Dynamics in the Inner Heliosphere with New Observations and Modeling Techniques: Case studies on the 2010-04-03 and 2010-08-01 events: **H Xie**, L Mays, O C St Cyr, N Gopalswamy, D Odstrcil, H Cremades

1340h **SH23B-1859** POSTER Numeric and analytic study of ICME and shock evolution: driving, decoupling and decaying: **A Gonzalez-Esparza**, P Corona-Romero

1340h **SH23B-1860** POSTER Interplanetary evolution of fast CMEs-shocks and type II burst emission: **P Corona Romero**, A Gonzalez-Esparza

1340h **SH23B-1861** POSTER Reconstructing CMEs with Coordinated Imaging and In Situ Observations: Global Structure, Kinematics, and Implications for Space Weather Forecasting: **Y Liu**, A F Thernisien, J G Luhmann, A Vourlidas, J A Davies, R P Lin, S Bale

1340h **SH23B-1862** POSTER Space Profile of the Interplanetary Coronal Mass Ejection Acceleration: **A Lara**, A Borgazzi, P Subramanian

1340h **SH23B-1863** POSTER Kinematic, Morphological Evolution and Dynamics of Coronal Mass Ejections in the Interplanetary Space: **W Poomvises**, J Zhang

1340h **SH23B-1864** POSTER Study of waves in the regions upstream and downstream of interplanetary shocks: **P Kajdic**, X Blanco-Cano, E Aguilar-Rodriguez, C T Russell, L Jian, J G Luhmann

SH23C Moscone South: Poster Hall Tuesday 1340h
Solar Dynamics Observatory Data Access and Analysis Tools II Posters (*joint with IN*)

Presiding: **N E Hurlburt**, Lockheed Martin ATC

1340h **SH23C-1865** POSTER The Many Ways to Access SDO Data: B J Thompson, **J A Hourcle**, K Addison, R S Bogart, P C Chamberlin, H Dietert, S L Freeland, V K Hughitt, J Ireland, D Mueller, A Somani, J Sommers

1340h **SH23C-1866** POSTER Accessing SDO Data Through the VSO IDL Client (updated): J B Gurman, **J A Hourcle**, A Amezcua, A R Davey, V K Hughitt, F I Suarez Sola, A Somani, J Spencer, Title of Team: The VSO Team

1340h **SH23C-1867** POSTER Access to Solar Dynamics Observatory HMI and AIA Data via the Joint Science Operations Center (JSOC): P H Scherrer, **A Amezcua**, R S Bogart

1340h **SH23C-1868** POSTER Heliowiewer: Simplifying Your Access to SDO Data: **V K Hughitt**, J Ireland, D Mueller, J Beck, D Lyon, A Dau, H Dietert, M Nuhn, G Dimitoglou, B Fleck

1340h **SH23C-1869** POSTER Accessing SDO data in a pipeline environment using the VSO WSDL/SOAP interface: **F I Suarez Sola**, J A Hourcle, A Amezcua, R Bogart, A R Davey, J B Gurman, F Hill, V K Hughitt, P C Martens, J Spencer, Title of Team: VSO Team

1340h **SH23C-1870** POSTER SDO Data Access And Analysis: **A Somani**, N E Hurlburt, C J Schrijver, C Cheung, S L Freeland, G L Slater, R Seguin, R Timmons, S Green, L Chang, A Kobashi, A Jaffey

1340h **SH23C-1871** POSTER Calibration of AIA/SDO: Accessing and implementing the response functions: **P Boerner**, R Soufli, W Podgorski, C J Wolfson

1340h **SH23C-1872** POSTER Flat Fielding and Image Alignments for AIA/SDO Data Images: **R A Shine**, R W Nightingale, P Boerner, T D Tarbell, C J Wolfson

1340h **SH23C-1873** POSTER Automated Coronal Seismology: Curvelet Characterization of Probability Maps of Image Data with Oscillatory Signal: **C Young**, J Ireland

1340h **SH23C-1874** POSTER What is the origin of current sheets observed in the solar wind?: **G Li**, Y Yan, B Miao

1340h **SH23C-1875** POSTER Initial Analysis of the Solar Dynamics Observatory Radiation Environment: **A D Vafai**, S Close, A G Kosovichev, R A Stern

1340h **SH23C-1876** POSTER The UCLan SDO Data Hub: **S Dalla**, R W Walsh, S A Chapman, M Marsh, S Regnier, D Bewsher, D S Brown, J Kelly, T Laitinen, C Alexander

1340h **SH23C-1877** POSTER SDO IN PULKOVO OBSERVATORY: **E E Benevolenskaya**, V Efremov, V Ivanov, N Makarenko, E Miletsky, O Okunev, Y Nagovitsin, L Parfinenko, A Soloviev, A Stepanov, A Tlatov

SH23D Moscone South: 309 Tuesday 1340h
Changing the Paradigm of the Global Heliosphere Through Remote and in Situ Measurements by IBEX and Voyager II

Presiding: **M Opher**, Physics and Astronomy; **J D Richardson**, M.I.T.; **N A Schwadron**, University of New Hampshire; **P Wurz**, University of Bern

1340h **SH23D-01** The highly variable magnetic field of the inner heliosheath (*Invited*): **L F Burlaga**, N F Ness

1357h **SH23D-02** Low-energy Charged Particles at Voyagers 1 and 2 10-20 AU into the Heliosheath (*Invited*): **R B Decker**, S M Krimigis, E C Roelof, M E Hill

1414h **SH23D-03** Plasma observations in the heliosheath through 2010: **J D Richardson**

1427h **SH23D-04** Is the Magnetic Field in the Heliosheath Sector Region and in the Outer Heliosheath Laminar?: **M Opher**, J F Drake, M M Swisdak, G Toth

1440h **SH23D-05** Recent IBEX Observations and the Evolving Interstellar Interaction (*Invited*): **D J McComas**

1457h **SH23D-06** Cassini ENA (E > 5 keV) Heliosphere Belt and overlapping in-situ Voyager measurements: Pressure and ISMF implications: **S M Krimigis**, D G Mitchell, E C Roelof, R B Decker

1510h **SH23D-07** Short timescale variation in the heliospheric ENA flux: IBEX observations and correlations with solar wind observations: **P H Janzen**, D B Reisenfeld, T Abell, F Allegrini, M Bzowski, G B Crew, R Demajistre, P C Frisch, H O Funsten, S A Fuselier, M A Kubiak, H Kucharek, D J McComas, E C Roelof, N A Schwadron

1523h **SH23D-08** Two Years of Interstellar Flow Observations with the Interstellar Boundary Explorer (IBEX) - Implications on the LIC Parameters and the Boundary (*Invited*): **E Moebius**, P A Bochsler, M Bzowski, H O Funsten, S A Fuselier, D Heirtzler, M A Kubiak, H Kucharek, M A Lee, T Leonard, D J McComas, L Petersen, L A Saul, N A Schwadron, M Witte, X Wu, P Wurz

SPA-Magnetospheric Physics

SM23A Moscone South: Poster Hall Tuesday 1340h
Dynamics in the Saturnian Magnetosphere I Posters (*joint with P*)

Presiding: **D G Mitchell**, JHU/APL

1340h **SM23A-1901** POSTER Updated Background Subtraction Procedures for Electrons measured by LEMMS on Cassini/MIMI: H Gramling, D G Mitchell, **J D Vandegriff**

1340h **SM23A-1902** POSTER Energetic Electron Fluxes at Saturn from Cassini Observations: **R Tang**, D Summers

1340h **SM23A-1903** POSTER LARGE SCALE STRUCTURES OF ELECTRONS IN THE INNER MAGNETOSPHERE OF SATURN, FROM THE QUASI-THERMAL NOISE OBSERVED WITH CASSINI/RPWS ANTENNAS: **M Moncuquet**, N Meyer-Vernet

1340h **SM23A-1904** POSTER Long Term Time Variations of the Suprathermal Ion Composition in Saturn's Magnetosphere: **R D DiFabio**, D C Hamilton, D G Mitchell, S M Krimigis

- 1340h **SM23A-1905** *POSTER* A detailed investigation of the effects of molecules and defocusing in the high resolution mass spectrogram of Cassini Plasma Suites Ion Mass Spectrometer (CAPS IMS): **M Shappirio**, E C Sittler, D J Chornay, S Brown, D G Simpson, D T Young
- 1340h **SM23A-1906** *POSTER* Further Observations of Plasma Properties in Saturn's Magnetosphere: **R L Powell**, M F Thomsen, R L Tokar, D Delapp, D B Reisenfeld, F J Crary, D T Young
- 1340h **SM23A-1907** *POSTER* Cassini CAPS Measurements of Thermal Ion Properties: An Update: **R J Wilson**, F Bagenal, P A Delamere
- 1340h **SM23A-1908** *POSTER* Charged particle drifts in Saturn's inner and middle equatorial magnetosphere using different magnetospheric field models: **E Roussos**, C Paranicas, N Krupp, P Kollmann, K K Khurana, D G Mitchell, S M Krimigis
- 1340h **SM23A-1909** *POSTER* Levenberg-Marquardt Algorithm Applied to Cassini-CAPS Corotational Data: **R Livi**, J L Burch, J Goldstein, A D DeJong, D T Young, F J Crary, F Bagenal
- 1340h **SM23A-1910** *POSTER* Plasma transport in a rapidly rotating axisymmetric magnetosphere with asymmetric plasma distribution and non-uniform ionospheric conductivities: General equations and preliminary implications: **N André**, P Louarn, K M Ferrière, C Peymirat
- 1340h **SM23A-1911** *POSTER* Ion mass outflow rate in Saturn's inner magnetosphere: **Y Chen**, T W Hill, Y Dong, X Liu, H T Smith
- 1340h **SM23A-1912** *POSTER* The growth of plasma convection in Saturn's inner magnetosphere: **X Liu**, T W Hill, R A Wolf, H T Smith, Y Chen
- 1340h **SM23A-1913** *POSTER* Mass and Energy Flow Through the Jovian Magnetosphere: **F Bagenal**, P A Delamere
- 1340h **SM23A-1914** *POSTER* Mirror Modes observed in the Saturnian Middle Magnetosphere: **M RODRIGUEZ-MARTINEZ**, X Blanco-Cano, C T Russell, J S Leisner, R J Wilson, M K Dougherty, R Perez-Enriquez
- 1340h **SM23A-1915** *POSTER* First Analysis of Quasi-Periodic Whistler Mode Emissions in Saturn's Inner Magnetosphere: **J S Leisner**, G Cinar, G B Hospodarsky, P Schippers, D A Gurnett, O Santolik, A J Coates
- 1340h **SM23A-1916** *POSTER* Cassini observations of low-frequency drifting radio bursts in Saturn's magnetosphere: **U Taubenschuss**, J S Leisner, G Fischer, D A Gurnett, F Nemeč
- 1340h **SM23A-1917** *POSTER* Similar LF/VLF Radio Emissions Observed at Jupiter and Saturn: **S Ye**, J D Menietti, W S Kurth, G Fischer, D A Gurnett
- 1340h **SM23A-1918** *POSTER* Auroral hiss observations at high magnetic latitudes at Saturn: **G B Hospodarsky**, A J Kopf, T Averkamp, W S Kurth, D A Gurnett, P Schippers, M K Dougherty, O Santolik, D G Mitchell
- 1340h **SM23A-1919** *POSTER* Observations in the downward auroral current region of Saturn's magnetosphere by Cassini: Electron and ion beams and their relation to the Low-frequency waves: **P Schippers**, J D Menietti, D A Gurnett, C S Arridge, A J Coates, D G Mitchell
- 1340h **SM23A-1920** *POSTER* Analysis of Ion Cyclotron Harmonics in the Saturn Downward Current Auroral Region: **J D Menietti**, P Schippers, O Santolik, D A Gurnett, A J Coates
- 1340h **SM23A-1921** *POSTER* CMI Growth Rates for Kronian kilometric radiation: **R L Mutel**, J D Menietti, D A Gurnett, W S Kurth, P Schippers, C Lynch, L Lamy, B Cecconi
- 1340h **SM23A-1922** *POSTER* Comparison of UV/IR auroral emissions from Jupiter and Saturn: **C Tao**, S V Badman, M Fujimoto
- 1340h **SM23A-1923** *POSTER* Effect of Field-Aligned Potentials on M-I Coupling at Jupiter: A parameter space study: **L C Ray**, R E Ergun, P A Delamere, F Bagenal
- 1340h **SM23A-1924** *POSTER* Force Balance in Saturn's Equatorial Ring Current: **K M Ramer**, M G Kivelson, N Sergis
- 1340h **SM23A-1925** *POSTER* Sub-corotating region of Saturn's magnetosphere: Cassini observations of the azimuthal field and implications for the ionospheric Pedersen Current (*Invited*): **E J Smith**, M K Dougherty, X Zhou
- 1340h **SM23A-1926** *POSTER* The Global Current System in Saturn's Inner Magnetosphere: **J Aiello**, A Y Ukhorskiy, P C Brandt, K K Khurana, D G Mitchell, E C Roelof, M K Dougherty
- 1340h **SM23A-1927** *POSTER* An Investigation of the Rotational Periodicities of Saturn's High-Latitude Density Boundary: **A M Persoon**, D A Gurnett, J S Leisner, J B Groene, M Morooka, J Wahlund, W S Kurth, G B Hospodarsky
- 1340h **SM23A-1928** *POSTER* Magnetospheric Periodicities at Saturn Equinox: **J F Carbary**, D G Mitchell, E Roelof, C Paranicas, S M Krimigis, N Krupp, D C Hamilton, M K Dougherty
- 1340h **SM23A-1929** *POSTER* Sources of Structure in the Outer Magnetosphere of Saturn: **A Eviatar**, R Goldstein, F J Crary, D T Young, C S Arridge, A J Coates, M K Dougherty, M F Thomsen, R J Wilson
- 1340h **SM23A-1930** *POSTER* Outer Magnetospheric Structure: Jupiter and Saturn Compared: **D R Went**, M G Kivelson, N A Achilleos, C S Arridge, M K Dougherty
- 1340h **SM23A-1931** *POSTER* Plasma Convection in the Magnetotail of Saturn and a Comparison to Jupiter: **M Kane**, D G Mitchell, J F Carbary, S M Krimigis
- 1340h **SM23A-1932** *POSTER* Modeling of Saturn's magnetosphere with anisotropic equilibrium: **M Chou**, F Cheng
- 1340h **SM23A-1933** *POSTER* The "Asymmetric-lift" Model of Saturn's Magnetosphere Revisited: Observations Through the Equinox: **K K Khurana**, M K Dougherty, C T Russell
- 1340h **SM23A-1934** *POSTER* Response of Saturn's Current Sheet Structure to Changes in the Solar Wind Dynamic Pressure and IMF: **K C Hansen**, X Jia, T I Gombosi
- 1340h **SM23A-1935** *POSTER* Supercorotating plasma in Saturn's dawn magnetosphere: **A Masters**, M F Thomsen, S V Badman, C S Arridge, A J Coates, M K Dougherty, D T Young
- 1340h **SM23A-1936** *POSTER* MHD Simulations of Kelvin-Helmholtz Waves at the Earth, Jupiter and Saturn: **R J Walker**, K Fukazawa, T Ogino
- 1340h **SM23A-1937** *POSTER* Formation of vortices on the Kronian magnetosphere with the high temporal and spatial resolution for MHD simulation: **K Fukazawa**, T Ogino, R J Walker, K Yumoto
- 1340h **SM23A-1938** *POSTER* The Kelvin-Helmholtz instability in Saturn's outer magnetosphere: **P A Delamere**, R J Wilson, A Masters
- 1340h **SM23A-1939** *POSTER* Energetic ion events upstream from the Saturnian bow shock: A multi-instrument study with Cassini measurements: **N Sergis**, S M Krimigis, A Masters, C S Arridge, C M Jackman, C Bertucci, N Andres, N André, D G Mitchell, D C Hamilton, N Krupp, M K Dougherty, A J Coates, G B Hospodarsky, W S Kurth
- 1340h **SM32A-05** *POSTER* Magnetospheric Driving of Saturn's Thermosphere during Storm-Like Events: N A Achilleos, C G Smith, **A D Aylward**

SM23B Moscone South: 305 Tuesday 1340h
Magnetospheric Response to Transient Solar Wind Features III

Presiding: **Q Zong**, UML CAR; **H Zhang**, NASA Goddard Space Flight Center

1340h **SM23B-01** Density Holes Upstream of Earth's Bow Shock (*Invited*): **G K Parks**, E Lee, N Lin, A F TESTE, M Wilber, I S Dandouras, H Reme, J Cao, S Fu, P Canu

1355h **SM23B-02** Hot Flow Anomalies: Explosions at the Earth's Bow Shock: **H Zhang**, D G Sibeck, Q Zong, S P Gary, J P McFadden, D E Larson, K Glassmeier, V Angelopoulos

1410h **SM23B-03** Concerning the Motion of FTEs and Attendant Signatures: **D G Sibeck**, N Omid

1425h **SM23B-04** THEMIS FTE Encounter Between Oppositely Directed Reconnection Jets at the Dayside Subsolar Region on 27 June 2007: **S Eriksson**, W Teh, B U Sonnerup, J P McFadden, K Glassmeier, V Angelopoulos, M V Goldman, R E Ergun

1440h **SM23B-05** Can the Plasmaspheric Plume Significantly Contribute to Magnetosheath Densities?: **D L Gallagher**, J Goldstein, D G Sibeck

1455h **SM23B-06** Understanding the geoeffective properties of rapid changes in the solar wind and interplanetary magnetic field (*Invited*): **A J Ridley**, Y Yu, M W Liemohn, A M Dodger

1510h **SM23B-07** Effect of solar wind dynamic pressure enhancements on dayside and nightside ionospheric convection and the polar cap boundary location: **A Boudouridis**, L R Lyons, E Zesta, J M Weygand, J M Ruohoniemi, D Lummerzheim, P C Anderson

1525h **SM23B-08** A Superposed Epoch Analysis of Geomagnetic Storms over a Solar Cycle: Geomagnetic and Solar Wind Data, Radar Backscatter & Auroral Imagery: **J A Hutchinson**, D M Wright, S E Milan, A Grocott

SM23C Moscone South: 307 Tuesday 1340h
Radiation Belt Physics: Mysteries and Solutions I

Presiding: **A Y Ukhorskiy**, JHU/APL; **N J Fox**, Johns Hopkins University/Applied Phy

1340h **SM23C-01** Outstanding Scientific Problems on the Earth's Radiation Belts (*Invited*): **R B Horne**

1400h **SM23C-02** Radial transport in the Earth's radiation belts (*Invited*): **B T Kress**, A Y Ukhorskiy, M K Hudson

1420h **SM23C-03** Anomalous radial diffusion by pitch-angle scattering on split drift shells: Calculations: **T P O'Brien**, Y Shprits, J L Roeder, J Fennell, S G Claudepierre, R H Friedel

1433h **SM23C-04** Localized Wave-particle Interactions: Acceleration and Loss Across the Outer Radiation Belt (*Invited*): **R M Millan**, L A Woodger

1453h **SM23C-05** Extremely Large Amplitude Whistler Waves in the Earth's Inner Radiation Belt: **A W Breneman**, C A Cattell, J R Wygant, K Kersten, L B Wilson, P J Kellogg, K Goetz

1506h **SM23C-06** Wave-particle interactions in planetary magnetospheres (*Invited*): **R M Thorne**

1526h **SM23C-07** Implication for O⁺ nonadiabatic acceleration in the inner magnetosphere: **K Keika**, P C Brandt, S Ohtani, D G Mitchell, K Min, M Nose, T Obara, H Koshiishi, H Matsumoto

Study of Earth's Deep Interior

DI23A Moscone South: Poster Hall Tuesday 1340h
Imaging and Understanding the Electrical Conductivity of Earth's Mantle: Lab Measurements, Regional and Global Studies, and Physical Interpretations I Posters (*joint with GP, MR, SM, T, S*)

Presiding: **A Kelbert**, Oregon State University; **J A Tyburczy**, Arizona State University

1340h **DI23A-1963 POSTER** 3-D inversion of synthetic marine magnetotelluric data: resolution and sensitivity: **N Tada**, K Baba, W Siripunvaraporn, M Uyeshima, H Utada

1340h **DI23A-1964 POSTER** 27-day modulation of the electromagnetic impedance tensor at mid-latitude: **I Lemperger**, M Menvielle, V Westergom, L Szarka, A Kis, J Szendroi

1340h **DI23A-1965 POSTER** A upper mantle electrical conductivity profile beneath the Australian continent and a comparison with a laboratory-based model: **M Ichiki**, K Fujita, L Wang, A P Hitchman

1340h **DI23A-1966 POSTER** Electromagnetic evidence of high angle convergence between the Congo and Kalahari cratons in southern Africa: **D T Khoza**, A G Jones, M R Muller, M P Miensopust, S J Webb, P Share

1340h **DI23A-1967 POSTER** Study of the geo-electrical anisotropy in the Cape Fold Belt (RSA) using magnetotelluric: **X Chen**, U Weckmann

1340h **DI23A-1968 POSTER** Properties of the magmatic system that feeds Yellowstone inferred from 3-D electrical conductivity model: **A Kelbert**, G D Egbert, C D deGroot-Hedlin, N Meqbel

1340h **DI23A-1969 POSTER** D-H Interdiffusion Coefficients in Olivine: Implications for Electrical Conductivity in the Upper Mantle: **W L Du Frane**, J A Tyburczy, T G Sharp

1340h **DI23A-1970 POSTER** Electrical conductivity of fluid-bearing quartzite at high pressure and high temperature: **A Shimajuku**, T Yoshino, D Yamazaki

1340h **DI23A-1971 POSTER** Electrical Conductivity of Al³⁺-doped MgO: **H C Watson**, J A Van Orman, K L Crispin, J J Roberts

1340h **DI23A-1972 POSTER** Electrical conductivity anisotropy of natural deformed talc rocks and serpentinite at 3 GPa: **X Guo**, T Yoshino, D Yamazaki, I Katayama

DI23B Moscone South: Poster Hall Tuesday 1340h
Time Variability of the Geomagnetic Field II Posters (*joint with GP*)

Presiding: **J E Mound**, University of Leeds; **P W Livermore**, University of Leeds, UK; **M Dumberry**, Department of Physics

1340h **DI23B-1973 POSTER** Air temperature and man-made forcing: Insights from the solid Earth: **J O Dickey**, S L Marcus, O de Viron

1340h **DI23B-1974 POSTER** Geomagnetic variation and its relation to micro-earthquakes in the seismically inactive Korean Peninsula: **S Oh**, M Noh, Y Ji, T Ahn, J Lim

1340h **DI23B-1975 POSTER** Decadal Variations in Geomagnetic Observatory Data from Empirical Mode Decomposition: **J E Mound**, L P Jackson

1340h **DI23B-1976 POSTER** Forecasting changes in the Earth's magnetic field using core-surface flows and torsional oscillations: **V Soukhovitskaya**, J Bloxham

1340h **DI23B-1977 POSTER** Geomagnetic field intensity: How high can it get? How fast can it change? Constraints from Iron Age copper-slag: **R Shaar**, E Ben-Yosef, L Tauxe, H Ron, A Agnon, R Kessel

- 1340h **DI23B-1978** *POSTER* CALS10k.1: A geomagnetic field model spanning 10⁷ kyr: **C Constable**, M C Korte, F Donadini
- 1340h **DI23B-1979** *POSTER* On the Duration of Mantle Control of the Magnetic Flux Pattern at the CMB: **K A Hoffman**
- 1340h **DI23B-1980** *POSTER* From Superchrons to Secular Variation: A Broadband Dynamo Frequency Spectrum for the Geomagnetic Dipole Moment: **P Olson**, U R Christensen, P E Driscoll
- 1340h **DI23B-1981** *POSTER* Ensemble statistics of core dynamical state from geomagnetic data assimilation: **A Tangborn**, W Kuang, Z Wei
- 1340h **DI23B-1982** *POSTER* Effect of cross-correlation in geomagnetic data assimilation: **W Kuang**, A Tangborn, Z Wei
- 1340h **DI23B-1983** *POSTER* Multivariate statistics from numerical geodynamo models: synthetic experiments with geomagnetic data assimilation: **J Aubert**, A Fournier
- 1340h **DI23B-1984** *POSTER* Multivariate statistics from numerical geodynamo models: estimating core surface flows from geomagnetic field models: **A Fournier**, J Aubert, E Thebault
- 1340h **DI23B-1985** *POSTER* Towards millennial-timescale geodynamo models with zero viscosity: **P W Livermore**, A Jackson, G Ierley

DI23C Moscone West: 3024 Tuesday 1340h
The Transition Zone: Improved Scrutiny, Greater Complexity I
(joint with S, MR, V)

Presiding: **B Tauzin**, Utrecht University; **Y J Gu**, University of Alberta; **Q Williams**, UC Santa Cruz; **J F Lawrence**, Stanford University

- 1340h **DI23C-01** Transition from slab stagnation to penetration beneath the northwestern Pacific and South America (*Invited*): **Y Fukao**, M Obayashi
- 1355h **DI23C-02** Complex plume dynamics in the transition zone underneath the Hawaii hotspot: seismic imaging results: **Q Cao**, R D van der Hilst, M V De Hoop, S Shim
- 1410h **DI23C-03** The Efficacy of Using P'P' Precursors to Study Upper Mantle Discontinuities: **P Lin**, E J Garnero, S Rest
- 1425h **DI23C-04** Apparent topography on the 660km seismic discontinuity: Implications for chemical heterogeneity at the base of the mantle transition zone: **E A Day**, A F Deuss
- 1440h **DI23C-05** Ferric iron and water incorporation in wadsleyite at 410-km depth: **N Bolfan-Casanova**, A Ferot, M Munoz, S Pascarelli, C A McCammon
- 1455h **DI23C-06** The Transition Zone low-velocity zone: insights from Northwestern Canada (*Invited*): **A J Schaeffer**, M G Bostock
- 1510h **DI23C-07** Phase Relations and Densities of Crustal Material Deeply Buried into the Mantle: **H Massonne**, T Fockenbergl, M Janitschke
- 1525h **DI23C-08** Seismicity triggered by the olivine-spinel transition: New insights from combined XRD and acoustic emission monitoring during deformation experiments in Mg₂GeO₄: **A J Schubnel**, N Hilairet, J Gasc, E Héripré, F Brunet, Y Wang

Mineral and Rock Physics

MR23A Moscone South: Poster Hall Tuesday 1340h
Physical State of Planetary Cores II Posters (*joint with DI, V*)

Presiding: **G Steinle-Neumann**, Bayerisches Geoinstitut

- 1340h **MR23A-2002** *POSTER* Improvements of the multichannel collimator set-up on ID27, ESRF: applications to the Fe-FeS system: M Mezouar, **G Morard**, S Bauchau, M Álvarez-Murga, J Hodeau, G Garbarino
- 1340h **MR23A-2003** *POSTER* Melting properties of iron alloys at high pressure determined by in situ X-ray diffraction: **G Morard**, D Andraut, N Guignot, D Antonangeli, J Siebert, G Garbarino
- 1340h **MR23A-2004** *POSTER* Partitioning of siderophile elements between metallic liquids and silicate liquids under high-pressure and temperature: **A Nakatsuka**, S Urakawa
- 1340h **MR23A-2005** *POSTER* Melting relationships of the Ni-NiS system up to 10 GPa and the stability of the Ni₃S: **S Urakawa**, R Matsubara, T Katsura, T Watanabe, T Kikegawa
- 1340h **MR23A-2006** *POSTER* Light elements in the Earth's core: Fe₃X compounds: **A V Calderon**, R Caracas, A H Romero
- 1340h **MR23A-2007** *POSTER* Temperature profile of the outer core based on X-ray diffraction of Fe-Fe₃S and (Fe,Ni)-(Fe,Ni)₃S system: **S Kamada**, E Ohtani, H Terasaki, T Sakai, Y Ohishi, N Hirao, N Sata
- 1340h **MR23A-2008** *POSTER* Hydrogenation of iron coexisting with hydrous ringwoodite: In-situ X-ray experiments with single crystal diamond capsule: **T Imai**, E Takahashi, N Tsujino, U Masashi, Y Higo, K Funakoshi
- 1340h **MR23A-2009** *POSTER* Equation of State of FeO: **R A Fischer**, A J Campbell, G A Shofner, O T Lord, V Prakapenka, P K Dera
- 1340h **MR23A-2010** *POSTER* Spin Transition of Iron and Crystal Structure in FeO from X-ray Emission Spectroscopy and Diffraction Measurements: **H Ozawa**, K Hirose, H Ishii, N Hiraoka, Y Ohishi
- 1340h **MR23A-2011** *POSTER* Non-Hydrostatic Studies on High-Pressure Iron Analog Osmium: **B K GODWAL**, Z M Geballe, R Jeanloz, W Kanitpanyacharoen, L M Miyagi, R Wenk
- 1340h **MR23A-2012** *POSTER* Electrical conductivity measurement of iron at high static pressure: **H Gomi**, K Ohta, K Hirose
- 1340h **MR23A-2013** *POSTER* Elasticity of hcp-Fe in the Earth's Inner Core: **Z Mao**, J Lin, A Alatas, H Yavas, J Zhao, L S Dubrovinsky

Seismology

S23A Moscone South: Poster Hall Tuesday 1340h
Toward Elucidating the Physics of Fault Tremor and Slow Slip IV Posters (*joint with G, H, MR, T*)

Presiding: **A Wech**, University of Washington; **H Houston**, University of Washington

- 1340h **S23A-2080** *POSTER* Split from slip: Crustal Anisotropy Beneath Northern Cascadia from Non-volcanic Tremor: **M G Bostock**, N I Christensen
- 1340h **S23A-2081** *POSTER* Tremor Depth and V_p/V_s Ratio from Moho Reflected Phases: **A J Klaus**, K C Creager, A Ghosh, J E Vidale
- 1340h **S23A-2082** *POSTER* Strainmeter observations of the 2010 slow slip event in Cascadia: A critical look at noise, artifacts, and tectonic signals: **R Krogstad**, D A Schmidt
- 1340h **S23A-2083** *POSTER* Constraining the relation between tremor and slow slip using tremor distributions and PBO strainmeter data: **B Delbridge**, H Houston

- 1340h **S23A-2084** POSTER Space-time evolution of tremor and slip during the August 2009 ETS event in central Cascadia: **N M Bartlow**, S Miyazaki, P Segall, A Wech
- 1340h **S23A-2085** POSTER A continuum of stress, strength and slip in the Cascadia transition zone: **A Wech**, K C Creager
- 1340h **S23A-2086** POSTER Slow slip along the Cascadia margin: Offset updip from tremor, more heterogeneous along strike than tremor, and caused by a separate peak in inter-ETS plate coupling: **S G Holtkamp**, M R Brudzinski, D C Boyarko
- 1340h **S23A-2087** POSTER Empirical relationships among slow earthquake source parameters from tremor and slip across Cascadia: **D C Boyarko**, M R Brudzinski
- 1340h **S23A-2088** POSTER Episodic tremor and slip along the Rivera and Cocos subduction zones of southern Mexico: **K M Schlanser**, M R Brudzinski, N J Kelly, S P Grand, E Cabral-Cano, C DeMets, Title of Team: Kristen Schlanser, Mike Brudzinski, Nicholas Kelly, Steve Grand, Enrique Cabral-Cano, Alajendra Arciniega-Caballeros, Oscar Diaz-Molina, Charles DeMets
- 1340h **S23A-2089** POSTER Quantifying NVT in southern Mexico and its apparent lack of correlation with slow slip: **S M Sit**, M R Brudzinski
- 1340h **S23A-2090** POSTER Low-Frequency Earthquakes in Cascadia: Results from Array of Arrays: **J R Sweet**, K C Creager, A Ghosh, J E Vidale
- 1340h **S23A-2091** POSTER Evidence for Deep Tectonic Tremor in the Alaska-Aleutian Subduction Zone: **J R Brown**, S G Prejean, G C Beroza, J S Gombert, P J Haeussler
- 1340h **S23A-2092** POSTER Non-volcanic tremor during several transient slip episodes in Alaska: **M Schwed**, M R Brudzinski, D H Christensen, J T Freymueller
- 1340h **S23A-2093** POSTER Volcanic? Non-Volcanic? Low-Frequency Earthquakes beneath Osaka Bay - Event Search from Continuous Records -: **N Aso**, S Ide
- 1340h **S23A-2094** POSTER The Search for Non-volcanic Tremor on the Reelfoot Fault, Northern Tennessee: **B Bockholt**, C A Langston, H R DeShon, S Horton
- 1340h **S23A-2095** POSTER Precise Monitoring of Non-volcanic Low-frequency Tremors using Vertical Seismic Array: The case of Tokai Area, Southwest Japan: **N Takeda**, K Imanishi, N Koizumi
- 1340h **S23A-2096** POSTER Seismic Moments for Episodic Tremor near Cholame Estimated from Spectra of Ground Motion at UPSAR: **J B Fletcher**, A McGarr
- 1340h **S23A-2097** POSTER Cascadia Tremor Spectra from Beamforming Fall Off as Frequency Squared: **P Gerstoft**, J Zhang, P M Shearer, H Yao, J E Vidale, A Ghosh
- 1340h **S23A-2098** POSTER Automated Detection Method of Slow Slip Events in Southwest Japan: **T Kimura**, H Hirose, K Obara, H Kimura
- 1340h **S23A-2099** POSTER 2009 ETS in Cascadia, Crustal Deformation and its effect on Mt. St. Helens: **G M Schmalzle**, K C Creager, A Wech
- 1340h **S23A-2100** POSTER Gravity change observed during 2004-2009 in the Tokai slow slip area and the possibility of detecting high-pressure-fluid flow: **Y Tanaka**, A Kato, T Sugano, G Fu, X Zhang, M Furuya, W Sun, S Okubo, S Matsumoto, M Honda, Y Sugawara, I Ueda, M Kusaka, M Ishihara
- 1340h **S23A-2101** POSTER Investigating 2010 Northern Cascadia ETS Processes With Absolute Gravity & Deformation Measurements Near Port Renfrew, British Columbia: **J A Henton**, H Dragert, K Wang, H Kao, A Lambert
- 1340h **S23A-2102** POSTER Observation of very low frequency earthquakes near the Nankai Trough by using broadband ocean bottom seismometers: **K Nakahigashi**, Y Machida, T Isse, T Yamada, K Mochizuki, M Shinohara, H Shiobara, T Kanazawa, K Uehira
- 1340h **S23A-2103** POSTER Shallow Very-Low-Frequency Earthquakes off the Kii Peninsula Observed by Broadband Ocean Bottom Seismographs: **K Obana**, A Ito, H Sugioka, Y Ishihara, T Nakamura, D Suetsugu, S Kodaira, M Kinoshita, E Araki, Y Kaneda, Y Fukao, T Okamoto
- 1340h **S23A-2104** POSTER Detection of near-source ground motions associated with VLF (very low frequency) earthquakes beneath the forearc slope of the Nankai trough by broadband ocean bottom seismometers: **H Sugioka**, A Ito, T Okamoto, T Nakamura, Y Ishihara, K Obana, Y Fukao, E Araki, S Kodaira, D Suetsugu, M Kinoshita
- 1340h **S23A-2105** POSTER Moment Tensor Inversion of The Very Low Frequency (VLF) Earthquakes Off The Kii Peninsula, Japan, Recorded by Broadband Ocean Bottom Seismometers: **T Okamoto**, T Nakamura, H Sugioka, Y Ishihara, A Ito, K Obana, S Kodaira, D Suetsugu, M Kinoshita, Y Fukao
- 1340h **S23A-2106** POSTER Deep Tremor Activities beneath the Central Range in Taiwan and Their Relationship to Local, Regional, and Teleseismic Earthquakes: **K Chao**, Z Peng, C Tang, C Lin, C Chen
- 1340h **S23A-2107** POSTER Complex Non-volcanic Tremor in Guerrero Mexico Triggered by the 2010 Mw 8.8 Chilean Earthquake: **D Zigone**, M Campillo, A L Husker, V Kostoglodov, J S Payero, W Frank, N M Shapiro, C Voisin, G Cougoulat, N Cotte
- 1340h **S23A-2108** POSTER Ambient Tremor, But No Triggered Tremor at the Northern Costa Rica Subduction Zone: **Z Swiecki**, S Y Schwartz
- 1340h **S23A-2109** POSTER Triggered Non-Volcanic Tremor in the Hikurangi Subduction Zone, New Zealand: **B Fry**, K Chao, S C Bannister, Z Peng
- 1340h **S23A-2110** POSTER Low Frequency Earthquake (LFE) Families within Tectonic Tremor near the Southern Bay Area in California, Triggered by the 2002 Mw=7.9 Denali Earthquake: **A C Aguiar**, J R Brown, G C Beroza
- 1340h **S23A-2111** POSTER Study of triggered non-volcanic tremor and local earthquakes near the Anza segment of the San Jacinto fault, southern California: **T Wang**, E S Cochran
- 1340h **S23A-2112** POSTER Identification, Location and Stress Modeling of Tremor Dynamically Triggered in Subduction Zones: **H Gonzalez-Huizar**, A A Velasco
- 1340h **S23A-2113** POSTER Initial results from new Northern Cascadia tide gauge network: **P Vincent**, R J Weldon, D Livelybrooks, D A Schmidt, S Alba, T Maciel, J Bug, B Croes
- 1340h **S23A-2114** POSTER Tidal Modulation of Simulated Slow Slip Events in a Rate and State Model with a Velocity-Weakening to -Strengthening Transition: **J C Hawthorne**, A M Rubin
- 1340h **S23A-2115** POSTER Efficient Numerical Modeling of Slow-Slip and Quasi-Dynamic Earthquake Ruptures: **A M Bradley**, P Segall
- 1340h **S23A-2116** POSTER Modeling of features of slow earthquakes in a dynamical framework: **T Yamashita**
- 1340h **S23A-2117** POSTER Models of Slow Slip Events Using a Strain Wave Formulation in a Lithosphere Perturbed by Fluid Filled Shear Fractures: **L Logan**, L L Lavier, R A Bennett
- 1340h **S23A-2118** POSTER Rupture propagation patterns of deep low-frequency earthquakes depending on source structure and frictional property: numerical analysis based on dynamic model: **R Nakata**, R Ando, T Hori, S Ide

1340h **S23A-2119** POSTER Numerical model of episodic tremor and slow slip in the seismic cycle of megathrust earthquakes:

T Matsuzawa, B Shibazaki, H Hirose, K Obara

1340h **S23A-2120** POSTER Simulations of slow slip events:

Interactions with a zone of continuous creep: **H V Colella**, J H Dieterich, K B Richards-Dinger

1340h **S23A-2121** POSTER The dynamics of tectonic tremor throughout the seismic cycle: **E G Daub**, D R Shelly, R A Guyer, P A Johnson

1340h **S23A-2122** POSTER Automatic tremor detection and waveform component analysis using a neural network approach: **T Horstmann**, R M Harrington, E S Cochran, T Wang, C E Potier

1340h **S23A-2123** POSTER Exploring the Geographic Distribution of Tremor: **B C Bagley**, J Revenaugh

S23B Moscone West: 2009 Tuesday 1340h Earthquake Debates II

Presiding: **D D Jackson**, **D Schorlemmer**, USC

1340h **S23B-01** Limiting Maximum Magnitude by Fault Dimensions (*Invited*): **M W Stirling**

1400h **S23B-02** Can diligent and extensive mapping of faults provide reliable estimates of the expected maximum earthquakes at these faults? No. (*Invited*): **P Bird**

1420h **Panel Discussion** *Mark Stirling, Peter Bird, Natanya Black, David D. Jackson*

1440h **S23B-03** Basis for using characteristic earthquake models for individual faults in PSHA (*Invited*): **N A Abrahamson**

1500h **S23B-04** Some thoughts on the feasibility of the 'characteristic earthquake' model. (*Invited*): **W Marzocchi**

1520h **Panel Discussion** *Normal Abrahamson, Warner Marzocchi, Gerassimos Papadopoulos, Takashi Iidaka*

S23C Moscone West: 2007 Tuesday 1340h Role of Scattering in Seismic Interferometry and Time Reversal II

Presiding: **C S Larmat**, Los Alamos National Laboratory; **R Snieder**, Colorado School of Mines; **H Sato**, Tohoku Univ

1340h **S23C-01** Reconstruction of the Green function by re-correlating the coda of noise correlations (*Invited*): **M Campillo**, B Froment, P Roux

1355h **S23C-02** WITHDRAWN

1410h **S23C-03** Recent Development of Source-Scanning Algorithm and Its Applications in Earthquake and Geohazard Studies (*Invited*): **H Kao**, S Shan, C Kan, Y Liao

1425h **S23C-04** Extending the Aperture and Enhancing the S/N Ratio of Refraction Imaging by Super-virtual Interferometry (*Invited*): **G Schuster**, P Bharadwaj

1440h **S23C-05** Seismic interferometry by crosscorrelation and by multi-dimensional deconvolution: a systematic comparison: **C A Wapenaar**, J R Vanderneut, E N Ruigrok, D Draganov, J Hunziker, E C Slob, J Thorbecke, R Snieder

1455h **S23C-06** Inter-source body wave propagations derived from seismic interferometry: **T Tonegawa**, K Nishida

1510h **S23C-07** Time reversal of scattering wavefield with applications for imaging fault damaged zones close to bimaterial interfaces: **R A Benites**, Y Ben-Zion

1525h **S23C-08** Looking inside an active transform fault using source-side seismic interferometry: **E Matzel**

Tectonophysics

T23A Moscone South: Poster Hall Tuesday 1340h Melt Present Deformation in the Lithosphere II Posters (*joint with MR, V*)

Presiding: **S C Kruckenberg**, University of Wisconsin-Madison; **A S Yoshinobu**, Texas Tech University; **B Ildefonse**, CNRS - Université Montpellier 2; **R F Weinberg**, Monash University; **E C Ferre**, SIUC

1340h **T23A-2220** POSTER Pristine MORB mantle from Gakkel Ridge: **J E Snow**, E Hellebrand

1340h **T23A-2221** POSTER Major Element Geochemistry of Peridotites from Santa Elena Ophiolite Complex, NW Costa Rica and Their Tectonic Implications: **S Wright**, J E Snow, E Gazel, V Sisson

1340h **T23A-2222** POSTER Noble gas behavior during deformation and serpentinization of abyssal peridotites: St. Peter-St. Paul massif: **J Angel Amaya**, M D Kurz, S E Sichel, J Blusztajn

1340h **T23A-2223** POSTER Complex Dyke Emplacement at the Hyper-Inflated EPR 16°N Segment: **J Dymant**, A Deschamps, P Gente, Title of Team: and the Parisub Scientific Party (A. Agranier, A. Aquilon-Robles, M. Benoit, Ch. Hémond, M. Janin, M. Maia, L. Rodrigues-Leon, F. Sztikar, R. Thibaud, V. Tilot)

1340h **T23A-2224** POSTER Axial morphology of the East-Pacific Rise crest at its intersection with the Mathematician hot-spot: results of the PARISUB'2010 cruise: **A Deschamps**, P Gente, J Dymant, A Agranier, M A Maia, C Hemond, M Benoit, F Sztikar, M Janin, R Thibaud, A Aguillon Robles, L Rodriguez Leon, V Tilot

1340h **T23A-2225** POSTER Seismic Structure and Inferred Lithology of the Heterogeneous Upper Lithosphere at Atlantis Massif Oceanic Core Complex, 30°N MAR: **A S Henig**, D K Blackman, A J Harding, G Kent

1340h **T23A-2226** POSTER Phlogopite-bearing peridotite from the 25°S oceanic core complex, along the Central Indian Ocean Ridge: **Y Soda**, M Igarashi, Y Ogasawara, H Takagi, T Sawaguchi, N Neo, T Morishita, K Nakamura, H Kumagai, Title of Team: YK05-16Leg1 Scientific Party

1340h **T23A-2227** POSTER Systematics of melt stagnation in peridotites from the Godzilla Megamullion: **M Loocke**, J E Snow, Y Ohara

1340h **T23A-2228** POSTER Crystallographic preferred orientations and melt-rock interactions : olivine-rich troctolites from IODP Hole U1309D: M Drouin, **B Ildefonse**, G Hirth, C L Waters, M Godard

1340h **T23A-2229** POSTER Compaction driven melt localization in dunites and associated rocks in the mantle: Field observations and numerical experiments: **N J Dygert**, Y Liang

1340h **T23A-2230** POSTER From isotropic to layered gabbro: evolution record in the Oman ophiolite: **D Jouselin**, L G Morales, A Stephant, M Nicolle

1340h **T23A-2231** POSTER THE YUKON WINDY MCKINLEY TERRANE HIGHLY DEPLETED PERIDOTITES, ANALOGOUS TO THE MID ATLANTIC RIDGE?: **M P Escayola**, C R Van Staal, D Murphy, F Zaccarini, J Proenza, G Garutti

1340h **T23A-2232** POSTER Uppermost mantle anisotropy beneath the Rio Grande rift: Evidence from Kilbourne Hole peridotite xenoliths, New Mexico: **T Satsukawa**, K Michibayashi, E Y Anthony, R J Stern

1340h **T23A-2233** POSTER Modeling of formation of intraplate partial melting zones: **Y V Perepechko**, K E Sorokin

1340h **T23A-2234** POSTER Mechanics of Saucer-Shape Sills Emplacement: **M Lapotre**, O Galland, M Dabrowski

1340h **T23A-2235** POSTER Stopping & Screen Formation In The Wooley Creek Batholith And Andalshatten Pluton: Complex Pluton - Host Rock Interactions During Magma Emplacement: A S Yoshinobu, **B Hargrove**

1340h **T23A-2236** POSTER The interplay of mid-crustal tectonics and magmatism in the central Sierra Nevada arc: **V Memeti**, S R Paterson

1340h **T23A-2237** POSTER Multiple Use of Magma Pathways: Mechanism for Hybridization: P Hasalova, **R F Weinberg**, H Reichardt

1340h **T23A-2238** POSTER The Karakoram Shear Zone dike swarm: syn-kinematic magma transfer linking source to batholith: H Reichardt, **R F Weinberg**

1340h **T23A-2239** POSTER High-temperature flow and dynamics of an anatectic migmatite dome: example from Naxos, Greece: **S C Kruckenberg**, E C Ferre, O Vanderhaeghe, C Teyssier, D L Whitney

1340h **T23A-2240** POSTER Temporal constraints on partial melting and deformation in the Himalayan mid-crust, Leo Pargil Dome, NW India: **G W Lederer**, J M Cottle, M J Jessup, J Langille, T Ahmad

1340h **T23A-2241** POSTER Melting in migmatites associated with sub-grain boundaries in quartz: **J Levine**, S Mosher

1340h **T23A-2242** POSTER Melt microstructures and U-Pb SHRIMP zircon ages of tonalitic migmatites, Daeijak Island, South Korea: A contrast in melt distribution during the Triassic anatexis: **Y Lee**, M Cho, Y Kim

1340h **T23A-2243** POSTER Microstructural and U-Pb Zircon Constraints on the Relationship between Partial Melting and Ductile Shear in the East Gobi Fault Zone, Southeast Mongolia: **M Stypula**, L E Webb

1340h **T23A-2244** POSTER Continental magmatism by shear heating at geometric complexities on fault systems: **M Deves**, S Tait, G C King, R Grandin, P tapponnier

1340h **T23A-2245** POSTER Surface Melt Produced on Faults During Laboratory Stick-slip Experiments: **D A Lockner**, D E Moore, N M Beeler, B D Kilgore

T23B Moscone South: Poster Hall Tuesday 1340h
SinoProbe: Deep Exploration in China III Posters (*joint with DI, S*)

Presiding: **M Liu**, University of Missouri

1340h **T23B-2246** POSTER Crustal structure of the Paleozoic Kunlun orogeny from an active-source seismic profile between Moba and Guide in East Tibet, China: **Z Zhang**, S L Klemperer, Z Bai, Y Chen, J Teng

1340h **T23B-2247** POSTER Crust structure revealed from the deep seismic reflection profile across Solonker suture zone in North China: a preliminary interpretation: **S Zhang**, R Gao, H Li, Q Li, H Hou, C Li, W Li, J Zhang, Q Cao, G Keller, M Liu

1340h **T23B-2248** POSTER Teleseismic tomography beneath the mid-lower Yangtze region in China: **G Jiang**, G Zhang, Q Lu, D Shi

1340h **T23B-2249** POSTER Seismic Refraction & Wide-angle Reflection Experiment on the Northern Margin of North China Craton -Data Acquisition and Preliminary Processing Result: **W Li**, R Gao, G R Keller, H Hou, Q Li, C M Cox, J C Chang, J Zhang, Y Guan

1340h **T23B-2250** POSTER Reflection from the Mantle: A Deep Seismic Reflection Profile from Songliao Basin to Hulin Basin in Northeast China: Z Feng, R Gao, **C Yu**, C Wang, Z Liu

1340h **T23B-2251** POSTER Seismic Velocity and Attenuation Tomography of Southwestern China: **H Zhang**

1340h **T23B-2252** POSTER The Lithospheric Structure beneath the West and the South Ordos Block, China, from S Wave Receiver Functions: **H Li**, L Wang, M Xu, C Li, P Wang, N Mi, D Yu

1340h **T23B-2253** WITHDRAWN

1340h **T23B-2254** POSTER The Crustal Structure beneath the South Margin of Ordos Block, China from P Wave Receiver Functions: **M Xu**, L Wang, N Mi, H Li, D Yu, P Wang

1340h **T23B-2255** POSTER The differ respond of China continental to the collision between Eurasian and Philippine Sea plate: **Q Li**, R Gao, C He, Y Guan, W Li

1340h **T23B-2256** POSTER Lithospheric electrical structure beneath Ordos region, North China —The study of standard lithospheric electrical model beneath Chinese continent (SinoProbe-01): **W Wei**, S Jin, G Ye, M Deng, J Jing, L Zhang, H Dong, F Zhang, C Xie

1340h **T23B-2257** POSTER Long magnetotelluric sounding profile for the study of crust and upper mantle beneath chinese continent: **S Jin**, G Ye, W Wei, H Dong, L Zhang, W Ren, J Jing

1340h **T23B-2258** POSTER The Design of High Sensitivity Induction Magnetometer for the Magnetotellurics: **W Zhu**, G Fang

1340h **T23B-2259** POSTER Processing and interpretation for Gravity and Magnetic Anomalies in the Daba Mountain and Periphery Areas: **J Zhang**, R Gao, Q Li, S Zhang, Y Guan, H Wang

1340h **T23B-2260** POSTER Understanding the Geological Structures of North China By Analyzing Regional Gravity and Magnetic Data: L Shi, **L Guo**, X Meng, C Yao

1340h **T23B-2261** POSTER Satellite Gravity Anomalies Separation in the South China Sea and its Regional Tectonic Significance: **X Meng**, C Yao, S Li, L Guo, Z Chen, L Shi, X Zheng, Title of Team: Key Laboratory of Geo-detection, Ministry of Education

1340h **T23B-2262** POSTER The correspondence analysis of the satellite gravity anomalies with the deep lithosphere structure of the East China Sea: **C Yao**, X Meng, W Guo, Y Zheng, D Gao, H Li, H He

1340h **T23B-2263** POSTER Crust structure, geodynamic and metallogenesis of major metallogenic belts in East China: an introduction to SinoProbe-03 (*Invited*): **Q Lu**, Y Chang

1340h **T23B-2264** POSTER Data Acquisition and Analyses of Magnetotelluric Sounding in Lujiang-Zongyang Ore Concentrated Area: **J Tang**, X Xiao, C Zhou, Q Lu

1340h **T23B-2265** POSTER Continental ultra-deep drilling locating research status and progress in the Jinchuan Ni-Cu ore-concentrated area, Western China: **H Yan**, Z Tang, J Yang

1340h **T23B-2266** POSTER 3D-FEM numerical analysis of thermal lithospheric structure in the China continent and its adjacent regions: **Y Sun**, H Zhang, Y Shi

1340h **T23B-2267** POSTER Inhomogeneous Media 3D EM Modeling with Integral Equation Method: **Q Di**, R Wang, Z An, C Fu, C Xu

1340h **T23B-2268** POSTER Upper mantle flow and lithospheric dynamics beneath the Eurasian region: **G Zhang**, G Jiang, Z Jia, R Gao, R Fu

1340h **T23B-2269** POSTER The dynamic implication of focal mechanism solutions of Wenchuan earthquake sequence: **X Hu**, X Cui, L Chen

1340h **T23B-2270** POSTER Stress Accumulation on Longmenshan Fault and Recurrence Interval of Wenchuan Earthquake Based on Visco-elasticity: **C Liu**, B Zhu, Y Shi

1340h **T23B-2271** POSTER Study of Geochemistry, Geochronology and Petro-genesis of the Early Paleozoic Granitic Plutons in South China: **Y Zhang**, L Shu

- 1340h **T23B-2272** POSTER Comparison of Results Analyzed by China and European Laboratories for the FOREGS Geochemical Baselines Mapping Samples: **W Yao**, X Wang, L Nie
- 1340h **T23B-2273** POSTER SinoProbe Data Center-Supporting the Next Generation of Chinese Deep Exploration Research: **Y Guan**, S Dong
- 1340h **T23B-2274** POSTER Design and study of geosciences data share platform :platform framework, data interoperability, share approach: **H Lu**, D Yi
- 1340h **T23B-2275** POSTER SinoProbe-09 Exploration Measurement Development and Combination Strategies: **P Yu**, D Huang, C Liu
- 1340h **T23B-2276** POSTER A Three-component Magnetic Compensation Approach in Airborne Magnetic Survey: **Z Guo**, B Zhang, Title of Team: Sinoprobe-09-03

T23C Moscone South: Poster Hall Tuesday 1340h
The Formation and Deformation of the Mediterranean Basins, Continental Margins, and Arcs III Posters (*joint with GP, MR, NH, S, V, G*)

Presiding: **X A Garcia**, Unitat de Tecnologia Marina, CSIC; **W P Schellart**, Monash University; **J Van Hunen**, Durham University; **A Levander**, Rice University

- 1340h **T23C-2277** POSTER Seismic Structure of the Eastern Alboran Sea, Western Mediterranean: **W Leuchters**, I Grevemeyer, C R Ranero, G Booth-Rea, J Gallart
- 1340h **T23C-2278** POSTER Evidence of a North-trending lithospheric detachment beneath the Betic Cordillera revealed by magnetotelluric data: **O Rosell**, A Marti, A Marcuello, J Ledo, P Queralt, E Roca, J Campanya
- 1340h **T23C-2279** POSTER The origin and nature of the rapid Late Tertiary filling of the Levant Basin: **J Steinberg**, Z Gvirtzman, Y Folkman, Z Garfunkel
- 1340h **T23C-2280** POSTER Forecasting database for the tsunami warning regional center for the western Mediterranean Sea: **A Gailler**, H Hebert, A Loevenbruck, B Hernandez
- 1340h **T23C-2281** POSTER Crustal and lithospheric imaging of the Atlas Mountains of Morocco inferred from magnetotelluric data: **D Kiyani**, A G Jones, J Fulla, C Hogg, J Ledo, A Sinischalchi, J Campanya, Title of Team: PICASSO Phase II Team
- 1340h **T23C-2282** POSTER CRUSTAL SCALE MAGNETOTELLURIC IMAGING OF THE CENTRAL ATLAS IN MOCCO: **J Ledo**, A G Jones, A Sinischalchi, M Rouais, J Campanya, D Kiyani, P Moretti, P Piña, C Hogg, G Romano, Title of Team: PICASSO Team
- 1340h **T23C-2283** POSTER FACTORS CONTROLLING THE EVOLUTION OF ANATOLIA: CLUES FROM TELESEISMIC FINITE-FREQUENCY TOMOGRAPHY: **C B Biryol**, S L Beck, G Zandt, A A Ozacar
- 1340h **T23C-2284** POSTER Magnetotelluric Measurements in the Alboran Sea: **R L Evans**, M D Jegen, X A Garcia, T Matsuno, J Elsenbeck, T W Worzewski
- 1340h **T23C-2285** POSTER Tectonic uplift at the Gibraltar Arc and the desiccation of the Mediterranean. Towards a mechanistic model for the Messinian Salinity Crisis: **D Garcia-Castellanos**
- 1340h **T23C-2286** POSTER Architecture of Deposits Formed in a Tectonically Generated Tidal Strait, Eocene Ager Basin, South Central Pyrenees, Spain: **A E Bens**, C Olariu, R J Steel
- 1340h **T23C-2287** POSTER Geodetic constraints on kinematics of Africa-Iberia plate boundary from GPS data: **A Koulali Idrissi**, D Ouazar, P Vernant, A Tahayt, A Fadil, T Mourabit, J M Davila, N Amraoui, R W King, R E Reilinger, S McClusky

- 1340h **T23C-2288** POSTER Deep structure of crust and mantle beneath Iberian Peninsula and surrounding regions from P and S receiver functions: **I Morais**, L P Vinnik, M M Silveira, S Kiselev, L M Matias
- 1340h **T23C-2289** POSTER Crustal structure of Tolfa domes complex (northern Latium - Italy) inferred from receiver functions analysis: an interplay between tectonics and magmatism: **M Buttinelli**, I Bianchi, M Anselmi, C Chiarabba, D De Rita, F Quattrocchi
- 1340h **T23C-2290** POSTER Wrench faulting initiated by continent-continent collision between the Eratosthenes Seamount and Cyprus: **A Ehrhardt**, M Schnabel, V Damm, C P Huebscher
- 1340h **T23C-2291** WITHDRAWN
- 1340h **T23C-2292** POSTER Neotectonic Studies of the Lake Ohrid Basin (FYROM/Albania): **H Nadine**, A Liermann, U A Glasmacher, K R Reicherter
- 1340h **T23C-2293** POSTER Syn-rift and post-rift structures of the north-eastern Tyrrhenian margin: **G Pezzati**, N Zitellini, P Vannucchi
- 1340h **T23C-2294** POSTER 3D Crustal Structure of the North-Ligurian Margin from Refraction Tomography S. Simon (1), J.-X. Dessa (1), M.-O. Beslier (1), A. Deschamps (1), N. Béthoux (1), S. Solarino (2), E. Eva (2), F. Sage (1), G. Ferretti (3), C. Eva (3), M. Lelièvre (1), and the GROSMarin Team (1)UNS/UPMC/OCA/INSU-CNRS/IRD, Villefranche-sur-Mer, France (ssimon@geoazur.obs-vlfr.fr), (2)INGV/Dip.Te.Ris, Genova, Italia (3) Univ. Genova/Dip. Te.Ris, Genova, Italia: **S Simon**, J Dessa, M Beslier, A Deschamps, N Béthoux, S Solarino, E Eva, G Ferretti, C Eva, M Lelievre
- 1340h **T23C-2295** POSTER A new look at intermediate depth earthquakes in the Greater Caucasus: **R J Mellors**, G Yetirmishli, S C Myers, R Gok
- 1340h **T23C-2296** POSTER A possible cause of the Miocene uplift and volcanism in the central Anatolian plateau: **J Bartol**, R M Govers, M J Wortel
- 1340h **T23C-2297** POSTER The shape of the Aegean MCC's, Insights from 3D numerical modelling: **L Le Pourhiet**, Y Denèle, B Huet, L Jolivet
- 1340h **T23C-2298** POSTER Crustal Thickness and Oceanic Lithosphere Distribution in the Eastern Mediterranean from Satellite Gravity Anomaly Inversion: **L Cowie**, N J Kusznir
- 1340h **T23C-2299** POSTER Extension in the Aegean nappe-stacks: Numerical Model and their Geological Validation: E LECOMTE, B Huet, **L Le Pourhiet**, L Labrousse, L Jolivet
- 1340h **T23C-2300** POSTER The modes of propagation of the North Anatolian Fault and the mechanical nature of the Aegean lithosphere: **B Huet**, L Le Pourhiet, L Jolivet
- 1340h **T23C-2301** POSTER Exhumation of HP-LT metamorphic rocks in the Cyclades: constraints from Pressure-Temperature-time-strain: L Labrousse, **B Huet**, P Monié, L Jolivet
- 1340h **T23C-2302** POSTER The Tyrrhenian Basin: A natural laboratory to study the processes of extension of continental lithosphere and rifted margin formation: **C R Ranero**, V Sallares, N Zitellini, I Grevemeyer, Title of Team: MEDOC experiment scientific team
- 1340h **T23C-2303** POSTER LIMITED EXTENT OF FAST SEISMIC ANOMALY BENEATH NORTHERN APENNINES FAVORS A LITHOSPHERIC DELAMINATION SCENARIO: **V L Levin**, M H Benoit, M Torpey, J J Park
- 1340h **T23C-2304** POSTER Slab stress field in the Hellenic subduction zone as inferred from intermediate depth earthquakes: **S Rontogianni**, K Konstantinou, N S Melis, C Evangelidis

1340h **T23C-2305** POSTER A Wide-Angle Seismic Reflection Transect across the Moroccan Atlas (SIMA): **R Carbonell**, M Harnafi, A Teixell, J Gallart, A Levander, P Ayarza, A Kchikach, M Amrhar, M Charroud

1340h **T23C-2306** POSTER The role of the Variscan eastern Gondwana-Laurussia/Laurasia boundary in the evolution of the central Mediterranean area: **M Padovano**, F M Elter, E Pandeli

1340h **T23C-2307** POSTER First palaeomagnetic results from the Kyrenia Range terrane of northern Cyprus and their implication for the regional plate tectonic evolution of the eastern Mediterranean: **A Morris**, M Anderson, E Hodgson, A Robertson

1340h **T23C-2308** POSTER Neogene Topography And Precipitation Patterns Of The Central Anatolian Plateau: **A Mulch**, T Mikes, F Schemmel, B Rojay

1340h **T23C-2309** POSTER The Ionian Abyssal Plain – closure of a remnant Mesozoic oceanic domain: subbottom structures, deep deformation and the Calabrian subduction zone: **F Gallais**, M Gutscher, D Graindorge, D Klaeschen

1340h **T23C-2310** POSTER Along-strike slab segmentation under Greece from a 500 km long teleseismic receiver-function swath profile : control on large earthquakes, upper plate motion, and surface morphology: **M Sachpazi**, M Laigle, J Diaz, A Gesret, M Charalampakis, E H Kissling, A Hirn

1340h **T23C-2311** POSTER ESTIMATES OF SEISMOGENIC STRENGTH FOR DEFORMING FAULT ZONES IN TURKEY: S M Ozeren, **E C Klein**

T23D Moscone West: 2011 Tuesday 1340h
Earthquake Geology and Active Tectonics in South and East Asia IV (*joint with S*)

Presiding: **J H Shyu**, National Taiwan University; **J Lee**, Academia Sinica

1340h **T23D-01** Chronological constraints of active thrusting from cosmic ray exposure modeling: A case study of the Changhua Fault in Western Foothills of Taiwan (*Invited*): **L Siame**, R Chen, F Derrieux, J Lee, D L Bourles, R Braucher, K Chang

1355h **T23D-02** Application of in situ-produced cosmogenic nuclides to decipher activity of the deformation front in western Taiwan: **R Chen**, F Derrieux, D Lee, L L Siame, K Chang, R Braucher, J Lee, D L Bourles

1410h **T23D-03** Geologic Setting of the 2010 Jiasian earthquake, southern Taiwan: **C Huang**, T B Byrne, D Mirakian

1425h **T23D-04** Characterization of transient deformation near surface fault zone during an earthquake: A case study of the Chihshang fault in eastern Taiwan: **J Lee**, K Ching, J Angelier, H Chu, J Hu, H Chen

1440h **T23D-05** Existing large-scale landslides assessment by means of LiDAR data: Example from Tatun volcanic area, northern Taiwan: **K Chang**, Y Chan, R Chen, Y Hsieh

1455h **T23D-06** Decadal Erosion Rates Derived From An Earthquake-Induced Landslide Region, Central Taiwan: **Y Chan**, C Lu, K Chang, R Chen

1510h **T23D-07** Spatial Distribution of Groundwater-Level Changes Induced by Earthquakes: **Y Chia**, C Liu, P Chuang

1525h **T23D-08** Tectonic Morphology of the Husta Fault (Northern Mongolia) : Implications for Regional Geodynamics: A Schlupp, **M A Ferry**, U Munkhuu, M Munsch, S Fleury

T23E Moscone West: 2018 Tuesday 1340h
From Sediment Inputs to Seismogenesis at Subduction Zones III (*joint with S, V, G, NH*)

Presiding: **S Saito**, JAMSTEC; **L C McNeill**, University of Southampton

1340h **T23E-01** Seismic Reflection Images of the 1946 Nankai Megasplay Fault off Kii Peninsula, southwest Japan (*Invited*): **J Park**, S Kodaira

1355h **T23E-02** Seismic anisotropy from walk-around VSP data in the Kumano basin south of Kii Peninsula (IODP Site C0009A): **T Tsuji**, R Hino, Y Sanada, J Park, T No, E Araki, M Kinoshita, N L Bangs, R von Huene, G F Moore

1410h **T23E-03** Space-time evolution of the seismo-tsunamiogenic splay fault in the Nankai Trough: **G Kimura**, M Strasser, G F Moore, E Screaton, D Curewitz, C M Streiff, H Tobin

1425h **T23E-04** Heat flow estimated from BSR distribution and thermal conductivity in IODP NanTroSEIZE boreholes in the Nankai Trough forearc slope region off Kumano: **M Kinoshita**, G F Moore, Y N Kido

1440h **T23E-05** Tectono-stratigraphy, seismic character and the future position of the seismogenic zone, NanTroSEIZE Expedition 322 results (*Invited*): **K T Pickering**, M Underwood, S Saito, H Naruse, J Park, G F Moore, S Kutterolf, R P Scudder, Y Yamamoto, Y Kitamura, Y Kubo, E Scientists

1455h **T23E-06** Composition of Sedimentary Strata Entering the Nankai Trough Subduction Zone: Implications for Diagenetic Transitions into the Seismogenic Zone: **M Underwood**, J Guo, S Kutterolf, H Wu, S Saito, Y Kubo, E 3 Scientists, Title of Team: Scientific Team of IODP Expedition 322

1510h **T23E-07** Flow Zone Isolation in Sedimentary Inputs to the Nankai Trough Subduction Zone, IODP Expedition 322 (*Invited*): **B Dugan**, M E Torres, C Destrigneville, V Heuer, M B Underwood, S Saito, Title of Team: IODP Expedition 322 Shipboard Scientific Party

1525h **T23E-08** The Impact of Subducting Basement Topography on Piggyback Slope Basins within the Outer Wedge of the Nankai Trough Accretionary Prism, Southwest Japan: **J D Kington**, H J Tobin

T23F Moscone West: 2016 Tuesday 1340h
Structure, Dynamics, and Evolution of the African-Arabian Rift Systems I (*joint with S, V*)

Presiding: **D Keir**, University of Leeds; **I D Bastow**, University of Bristol; **C Tiberi**, CNRS; **C Doubre**, EOST-IPGS

1340h **T23F-01** Geochemical evidence of mantle reservoir evolution during progressive rifting: **T O Rooney**, P Mohr, L Dosso, C M Hall

1355h **T23F-02** Connecting the African Superplume to the Anomalous Upper Mantle beneath East Africa and Western Arabia: Results from Adaptively Parameterized P-wave Tomography: **S E Hansen**, A Nyblade, M H Benoit, S A Burdick, R D van der Hilst

1410h **T23F-03** High-resolution modelling and error analysis of late-Cenozoic African topography driven by mantle convection: **R Moucha**, A M Forte, D B Rowley, J Mitrovica, N A Simmons, S P Grand, P Glisovic

1425h **T23F-04** Uplift, rifting and related geomorphological evolution of the Ethiopian volcanic province: what do we really know ? (*Invited*): **R Pik**, D Ayalew, G Yirgu

1445h **T23F-05** Multi Plumes and Their Flows beneath Arabia and East Africa: **S Chang**, S van der Lee

1500h **T23F-06** New Insights into the Basin and Swell Dynamics of Africa Driven by Whole-Mantle Convection (*Invited*): **A M Forte**, R Moucha, N A Simmons, S P Grand, D B Rowley, J Mitrovica
1520h **T23F-07** Anisotropy in the western branch of the East African Rift – New shear-wave splitting results: **E M Desser**

Volcanology, Geochemistry, and Petrology

V23A Moscone South: Poster Hall Tuesday 1340h
Lakes in Volcanic Environments: Geochemical, Limnological, Biological, and Geophysical Aspects Posters

Presiding: **D Rouwet**, Ist. Naz. di Geofis. e Vulcan.; **F Tassi**, university of florence; **S Hurwitz**, U.S. Geological Survey; **L A Morgan**, US Geological Survey

1340h **V23A-2383** *POSTER* Unstable Crater Lakes: geophysical signature and sensitivity to external triggering. (*Invited*):

J Vandemeulebrouck

1340h **V23A-2384** *POSTER* Modeling CO₂ air dispersion from gas driven lake eruptions (*Invited*): **G Chiodini**, A Costa, D Rouwet, F Tassi

1340h **V23A-2385** *POSTER* Geomicrobiology of Hydrothermal Vents in Yellowstone Lake: Phylogenetic and Functional Analysis suggest Importance of Geochemistry (*Invited*): **W P Inskeep**, R Macur, Z Jay, S Clingenpeel, A Tenney, D Lavalvo, W C Shanks, T McDermott, J Kan, Y Gorby, L A Morgan, S Yooseph, J Varley, K Nealson

1340h **V23A-2386** *POSTER* Volcanic Lake System at Aso Volcano, Japan: Fluctuations in the Supply of Volcanic Fluid from the Hydrothermal System beneath the Crater Lake (*Invited*): **A Terada**, T Hashimoto, T Kagiya

1340h **V23A-2387** *POSTER* Degassing of Aso Volcano, Japan through an Acid Crater Lake: Differentiation of Volcanic Gas-Hydrothermal Fluids Deduced from Volcanic Plume Chemistry: **H Shinohara**, S Yoshikawa, Y Miyabuchi

1340h **V23A-2388** *POSTER* Gas Transfer Through Ruapehu Crater Lake: Insights gained from a Recent Water-borne Survey: **B W Christenson**, A Mazot, K Britten

1340h **V23A-2389** *POSTER* Acid fluids from Copahue Volcano, Argentina, and their environmental effects: **J C Varekamp**, T Kading

1340h **V23A-2390** *POSTER* Yellowstone Lake: A Large Volcanic Lake Influenced by the Yellowstone Magmatic System: **W C Shanks**, L A Morgan

1340h **V23A-2391** *POSTER* Is the risk of a CO₂ gas burst real at the Kabuno sub-basin of the Lake Kivu (Democratic Republic of the Congo)? A geochemical and isotopic point of view: **O Vaselli**, F Tassi, D Tedesco, R J Poreda

1340h **V23A-2392** *POSTER* Hydrogeochemical model of the Irazú and Turrialba “twin volcanoes” (Costa Rica): **D Rouwet**, R Mora-Amador, C Ramírez-Umaña, G González

1340h **V23A-2393** *POSTER* Catalog of crater lakes from Costa Rica: **C J Ramirez**, R Mora-Amador, G González

1340h **V23A-2394** *POSTER* Isotope hydrology of El Chichón volcano-hydrothermal system; a coupled system of crater lake and hot springs: **L Peiffer**, Y Taran, D Rouwet

1340h **V23A-2395** *POSTER* A Bathymetric Survey of Lake Atitlan, Guatemala: **C A Chesner**, S P Halsor

1340h **V23A-2396** *POSTER* Quantifying the Impact of Freshwater Diatom Productivity on Silicon Isotopes and Silicon Fluxes: Lake Myvatn, Iceland: C Siebert, **S Opfergelt**, K Burton, A Einarsson, E S Eiriksdottir, S R Gislason, A Halliday

1340h **V23A-2397** *POSTER* CO₂ emission from Costa Rica and Nicaragua volcanic lakes, Central America: **G Padilla**, D Nolasco, M Ibarra, D Chavarría, J Alvarez, J Barrancos, F Rodriguez, E Padron, G Melian Rodriguez, P A Hernandez Perez, N Perez, A Muñoz

V23B Moscone South: Poster Hall Tuesday 1340h
VGP General Contributions II Posters

Presiding: **A Grunder**, Oregon State University; **M J Kohn**, Boise State University

1340h **V23B-2398** *POSTER* Field-mapping and petrographic analysis of volcanoes surrounding the Lake Natron Homo sapiens footprint site, northern Tanzania: **S M Hewitt**, B Zimmer, C Liutkus, S K Carmichael, K McGinnis

1340h **V23B-2399** *POSTER* Distribution of REE between clinopyroxene and basaltic melt along a mantle adiabat: Effects of major element composition, water, and temperature: **C Sun**, Y Liang

1340h **V23B-2400** *POSTER* Effects of Juan de Fuca Ridge Convergence on the Composition of Cobb Hotspot Lavas, 33 Ma to Present: **D J Chadwick**, R A Keller, G D Kamenov

1340h **V23B-2401** *POSTER* Archean orthogneiss lithologies of Northern Yellowstone National Park and their geochemical contribution to the younger rhyolites: **K Tarbert**, P B Larson

1340h **V23B-2402** *POSTER* Widespread silicic volcanism from the Yellowstone hotspot: implications for ‘eruptive centres’: **B S Ellis**, J A Wolff, D Mark, I N Bindeman

1340h **V23B-2403** *POSTER* Isotopic modeling and the formation of the post-caldera eastern Upper Basin Member rhyolites, Yellowstone, WY: **C J Pritchard**, P B Larson

1340h **V23B-2404** *POSTER* Paleomagnetic correlation of the surface and subsurface stratigraphy in the southern part of the Idaho National Laboratory, eastern Snake River Plain, Idaho: **M K Hodges**, L C Davis, D E Champion

1340h **V23B-2405** *POSTER* Eruptive history and petrogenesis of the mid-Miocene McDermitt tuff, northern NV and southern OR: **W A Starkel**, C D Henry, B S Ellis, J A Wolff

1340h **V23B-2406** *POSTER* Composition of glass from high-temperature rhyolite of the Snake River Plain Yellowstone hotspot track: implications for crustal melting: **B P Nash**, H E Cathey, C M Allen, I H Campbell

1340h **V23B-2407** *POSTER* The ‘Strawberry Volcanic Field’ of Northeastern Oregon: Another Piece of the CRB Puzzle?: **A R Steiner**, M J Streck

1340h **V23B-2408** *POSTER* Structure, stratigraphy, and eruption chronology of the Hanauma Bay Tuff Ring, Oahu, Hawaii: **K M Rottas**, B F Houghton

1340h **V23B-2409** *POSTER* Depth and Pressures of Crystallization of Magma Chambers beneath Hawai’ian Volcanoes: **J Ditkof**

1340h **V23B-2410** *POSTER* Excesses of Seawater-Derived ²³⁴U in Volcanic Glasses from Loihi Seamount due to Crustal Contamination: **A J Pietruszka**, E H Hauri, R W Carlson, M O Garcia

1340h **V23B-2411** *POSTER* Temporal-spatial-geochemical characteristics of the Tarim Permian large igneous province: evidence for mantle plume and lithospheric mantle interaction: **Z Li**, S Yang, H Chen, Y Li, C H Langmuir, Z Chen, X Yu, Y Xu

1340h **V23B-2412** *POSTER* Hot Spot Induced Cenozoic Volcanism in the Upper Rajang Valley, Sarawak – Is Borneo Rifting?: **N Taib**

1340h **V23B-2413** *POSTER* Multiple metasomatic events recorded in Kilbourne Hole peridotite xenoliths: the relative contribution of host basalt interaction vs. silicate metasomatic glass: S J Hammond, M Yoshikawa, **J Harvey**, K W Burton

- 1340h **V23B-2414** POSTER Highly Siderophile Elements as Tracers for the Subcontinental Mantle Evolution Beneath the Southwestern USA: The San Carlos and Kilbourne Hole Peridotite Xenoliths Revisited: **D van Acken**, A D Brandon, A H Peslier, C Lee
- 1340h **V23B-2415** POSTER He and Ne isotopic ratios along the Terceira Rift: implications for the Azores mantle source: **P Madureira**, M A Moreira, J Nunes, N Lourenco, M Carvalho, J Mata, M Pinto de Abreu
- 1340h **V23B-2416** POSTER New Insights into the Kimberlites and Lamproites of Southern India via Ar/Ar dating and Nd isotope analysis: **I Osborne**, S Sherlock, M Anand, T Argles
- 1340h **V23B-2417** POSTER Lead isotopic evolution of Archean continental crust, Northern Tanzania: **JJ Bellucci**, W F McDonough, R L Rudnick, R J Walker
- 1340h **V23B-2418** POSTER Hydrogen and Oxygen Isotope Composition of Archean Oceans Preserved in the ~3.8 Ga Isua Supracrustal Belt: **E C Pope**, M Rosing, D K Bird
- 1340h **V23B-2419** POSTER Isotopic Studies of the Guerrero Composite Terrane, West-Central Mexico: Implications for Provenance of Crustal Rocks and Ore Metals: **A Potra**, A W Macfarlane, V J Salters, A Sachi-Kocher
- 1340h **V23B-2420** POSTER Sr-Nd-Pb Isotopic Compositions of Volcanic Rocks Associated to the Apan-Tlaloc Fault System, Trans-Mexican Volcanic Belt, Mexico: **G Solis-Pichardo**, R Martinez-Serrano, G Garcia, J Correa, Y Nuñez, P E Schaaf
- 1340h **V23B-2421** POSTER Assessment of island arc contribution to global oceanic osmium budget: **T S Blazina**, J Landis, M Sharma
- 1340h **V23B-2422** POSTER The silicon isotopic composition of I- and S-type granites: **P S Savage**, R B Georg, H M Williams, K W Burton, A Halliday, B W CHAPPELL
- 1340h **V23B-2423** POSTER Slab melting as an origin of EMS reservoirs: **G Shimoda**
- 1340h **V23B-2424** POSTER Petrogenesis of Mt. Baker basalts (Cascade arc): Constraints from thermobarometry, phase equilibria, trace elements and isotopes: **E K Mullen**, I S McCallum
- 1340h **V23B-2425** POSTER Paleozoic and Paleoproterozoic Zircon in Igneous Xenoliths Assimilated at Redoubt Volcano, Alaska: **C R Bacon**, J A Vazquez, J L Wooden
- 1340h **V23B-2426** POSTER Morphology and growth of the 2009 Redoubt Volcano lava dome: **K F Bull**, S W Anderson, A K Diefenbach, R L Wessels
- 1340h **V23B-2427** POSTER Near-Vent Processes during the 2008 Okmok Eruption, Umnak Island, Alaska: **M H Ort**, C A Neal, J F Larsen, J A Unema, J E Beget, J R Schaefer
- 1340h **V23B-2428** POSTER Ilchulbong tuff cone, Jeju Island, Korea, revisited: A compound monogenetic volcano involving multiple magma batches, shifting vents, and discrete eruptive phases: **Y Sohn**, M Brenna, I E Smith, K Nemeth, J D White, R Murtagh, Y Jeon, C Kwon, S J Cronin
- 1340h **V23B-2429** POSTER A newly recognized 7.5 ka dome-forming eruption of Towada volcano, Northeast Japan Arc: **T Kudo**
- 1340h **V23B-2430** POSTER Compositions of melt inclusions hosted in olivine phenocrysts from four Quaternary volcanoes in Kyushu, Southwest Japan arc: **T Tamura**, T Hasenaka, P J Wallace, A Yasuda, Y Mori
- 1340h **V23B-2431** POSTER Sequential change in intensity and magma supply of the Hoei eruption, Fuji Volcano, Japan (AD 1707): **K Mannen**, M Naomichi
- 1340h **V23B-2432** POSTER Source characteristics inferred from variations in trace element compositions and Sr, Nd, and Hf isotope ratios of Lutao lavas from the North Luzon arc (NLA): **H Yang**, Y Hung, Y Hsu, Y Liu, C You
- 1340h **V23B-2433** POSTER Magma evolutions in the northern Luzon Arc: **Y Lai**, S Song, C Lo
- 1340h **V23B-2434** POSTER Marapi an active West-Central Sumatra Volcano: a geological and petrological study: **M del Marmol**, A Budianto, J Fournelle, P Jacobs, M A Elburg
- 1340h **V23B-2435** POSTER Preliminary Holocene Eruptive History of Ambang Volcano, North Sulawesi, Indonesia: **C Harpel**, K Hendratno, F Ruskanda Bina, J S Pallister, J Griswold
- 1340h **V23B-2436** POSTER The submarine South Sandwich arc: structure, instability and sediment wave formation: **P T Leat**, A J Tate, T J Deen, S J Day, M Owen
- 1340h **V23B-2437** POSTER Unveiling Turrialba (Costa Rica) volcano's latest geological evolution through new ⁴⁰Ar/³⁹Ar, ages: **P Ruiz Cubillo**, B D Turrin, G J Soto, R del Potro, D Gagnevin, E Gazel, M Mora Fernandez, M J Carr, C C Swisher
- 1340h **V23B-2438** POSTER Hafnium Isotopic Output and Input Along and Across the Central American Subduction Zone: **R C Anderson**, J A Walker, M J Carr, D W Peate, C Lundstrom, J M Thompson
- 1340h **V23B-2439** POSTER Multiple voluminous sector collapses at Volcán Barú, Panama: **J A Herrick**, W I Rose
- 1340h **V23B-2440** POSTER Young Rhyolitic and Alkaline Volcanism of the Ecuadorian Arc – A Result of the Carnegie Ridge Subduction?: **M L Hall**, P A Mothes
- 1340h **V23B-2441** POSTER Cerro Uturuncu SW Bolivia: Preliminary Observations from Field work, Geochemistry and Petrology: **G Michelfelder**, T Feeley
- 1340h **V23B-2442** POSTER Pre-eruption pressure, temperature and volatile content of rhyolite magma from the 1650 AD eruption of Kolumbo submarine volcano, Greece: **K Cantner**, S Carey, H Sigurdsson, G Vougioukalakis, P Nomikou, C Roman, K L Bell, M Alexandri
- 1340h **V23B-2443** POSTER Eruptive history of western and central Aeolian Islands volcanoes (South Tyrrhenian Sea, Italy): temporal evolution of magmatism and of morphological structures: **E Leocat**, P Gillot, A Peccerillo
- 1340h **V23B-2444** POSTER Evidence of partial melting in xenoliths from the Wooley Creek batholith, Klamath Mountains, California: implications for assimilation processes: **N Coingt**, C G Barnes, A S Yoshinobu, M A Barnes
- 1340h **V23B-2445** POSTER Geochronology and Geochemistry of a Late Cretaceous Granitoid Suite, Santa Rosa Range, Nevada: Linking Arc Magmatism in Northwestern Nevada to the Sierra Nevada Batholith: **K Brown**, R Stuck, W K Hart
- 1340h **V23B-2446** POSTER Mineral Chemistry of the Tuolumne Intrusive Suite: Evidence for Disequilibrium and Implications for Estimated Magmatic Intensive Variables: **W Gray**, R K Smith
- 1340h **V23B-2447** POSTER Petrotectonic interpretation of the Yates unit of the Poorman Formation (DUSEL bedrock) in the context of other northern Black Hills meta-basalts: **B T Jordan**, M P Terry
- 1340h **V23B-2448** POSTER Subvolcanic mafic to intermediate dike-systems: constraints on post-plutonic activity (S-Adamello, N-Italy): **N Hurlimann**, O Muntener, P Ulmer
- 1340h **V23B-2449** POSTER PGE and geochemistry of Wajilitag ultramafic cryptoexplosive brecciated rocks from Tarim basin: implications for petrogenesis: Y Li, **Z Li**, Y Sun, H Chen, S Yang, X Yu
- 1340h **V23B-2450** POSTER Tetrad-like REE geochemistry in the Eocene rhyolitic sub-volcanic rocks from the Qiaga, Tethyan Himalaya, Southern Tibet: **G Hu**, L Zeng, L Gao, K Xie

1340h **V23B-2451** POSTER Statistic study on developing condition of horizontal columnar joints in Jeongja and Eupchon beach areas, SE Korea: **K Jin**, Y Kim, Title of Team: Geologic Structure and Geohazard Research Group

1340h **V23B-2452** POSTER The Geomunoreum Lava Tube System in the northeastern Jeju Island, Korea: **S Yun**, U Ahn, S Hwang, M Lee

1340h **V23B-2453** POSTER Assessing the effusion rate of lava flows from their thermal radiated energy: theoretical study and lab-scale experiments: **F Garel**, E Kaminski, S Tait, A Limare

1340h **V23B-2454** POSTER A comparative study of melt-rock reactions in the mantle: laboratory dissolution experiments and geological field observations: **E Tursack**, Y Liang

1340h **V23B-2455** POSTER Effect of Iron on Rheological Properties of HPG8: **M O Chevrel**, K Hess, D B Dingwell

1340h **V23B-2456** POSTER Exchange of Mg-Fe²⁺ Between Olivine and Melt: Revisited: **V E McCann**, M Barton

1340h **V23B-2457** POSTER The effect of dopants on phase equilibria: Implications for tests of Henry's Law behavior: J L Cunningham, **R L Nielsen**

1340h **V23B-2458** POSTER Water-CO₂ Mixtures Under Extreme Conditions: **D L Plattner**, M Somayazulu

1340h **V23B-2459** POSTER Disproportionation and Thermochemical Sulfate Reduction Reactions in S-H₂O-CH₄ and S-D₂O-CH₄ Systems from 200 to 340 °C at Elevated Pressures: **I Chou**, S Yuan, R C Burruss

1340h **V23B-2460** POSTER Enigmatic hydrothermal fluid-flow pathways in sandstone associated with a near-shore basaltic lava: **K E Alley**, P Carr, B Jones

V23C Moscone West: 2020 Tuesday 1340h
EARTHTIME Geochronology I (*joint with B, EP, GP, OS, T*)

Presiding: **P R Renne**, Berkeley Geochronology Ctr; **S A Bowring**, MIT; **L E Morgan**, Vrije Universiteit Amsterdam; **J Hiess**, British Geological Survey

1340h **V23C-01** The Next Generation Cretaceous Time Scale: How to integrate 40Ar/39Ar, U-Pb and Astrochronologic ages? (*Invited*): **B S Singer**, D J Condon, S E Siewert, B B Sageman, D A Sawyer, J D Obradovich, S R Meyers, B Jicha

1355h **V23C-02** Inter-monitor standard calibration and tests for Ar-Ar biases: **S R Hemming**, B D Turrin, C C Swisher, S E Cox, G T Mesko, S Chang

1410h **V23C-03** First-principles calibration of ⁴⁰Ar/³⁹Ar mineral standards and complete extraction of ⁴⁰Ar* from sanidine: **L E Morgan**, K Kuiper, D Mark, O Postma, I M Villa, J R Wijbrans

1425h **V23C-04** "Smoking From The Same Pipe": Development of an ⁴⁰Ar/³⁹Ar Dating Intercalibration Pipette System (*Invited*): **B D Turrin**, C C Swisher, A Deino, S R Hemming, K Hodges, P R Renne

1440h **V23C-05** Opportunities and Challenges for the Precise Chronology of Solar System Formation (*Invited*): **R W Carlson**, C Alexander, L E Borg, M M Boyet, J Connelly, L R Nittler, J O'Neil, L Qin

1455h **V23C-06** Evaluating ²³⁸U/²³⁵U in U-bearing accessory minerals: **J Hiess**, D J Condon, S R Noble, N McLean, S A Bowring, J M Mattinson

1510h **V23C-07** U-Pb* and 207Pb*/206Pb* Fractionations During Leaching of Un-annealed Zircon Revisited: **J M Mattinson**

1525h **V23C-08** Application of U-Pb ID-TIMS dating to the end-Triassic global crisis: testing the limits on precision and accuracy in a multidisciplinary whodunnit (*Invited*): **B Schoene**, U Schaltegger, J Guex, A Bartolini

V23D Moscone West: 2008 Tuesday 1340h
Innovative Geothermal Exploration Methods II (*joint with T*)

Presiding: **D F Stockli**, The University of Kansas; **B Martini**, Ormat Technologies

1340h **V23D-01** The Advancement of Geothermal Energy Production through Improved Exploration Methods: **H Thorsteinsson**, K Klein

1355h **V23D-02** Application of the MultiGAS Sensor to Geothermal Exploration and Monitoring: Comparison of Plume and Fumarole Gas Compositions at Kawah Ijen Volcano, Indonesia: G Williams-Jones, **N Vigouroux-Caillibot**, V van Hinsberg, A Williams-Jones

1410h **V23D-03** Application of high-resolution thermal infrared sensors for geothermal exploration at the Salton Sea, California: **K A Reath**, M Ramsey, D M Tratt

1425h **V23D-04** Helium Isotopes in Geothermal Exploration: **B M Kennedy**, B W Christenson, M C Van Soest

1440h **V23D-05** Apatite (U-Th)/He Thermochronometry as an innovative Geothermal Exploration Tool - A case study from the Wassuk Range, Hawthorne, Nevada: **K E Gorynski**, D F Stockli, J D Walker

1455h **V23D-06** Ground Penetrating Radar Successful In Imaging Hot Spring Deposits: A New Geothermal Exploration Tool: **B Lynne**, A Dougherty

1510h **V23D-07** Geoscientific Data Types Used to Support Geothermal Exploration at Akutan, Alaska: An Analysis of Relative Effectiveness in Thermal Gradient Well Targeting: **P L Stelling**, A Kolker, W B Cumming

1525h **V23D-08** Models based experimentation: numerical modelling of 3D basin scale architecture heat & fluid flow: **S M Quenette**, L N Moresi

V23E Moscone West: 2022 Tuesday 1340h
Volatiles in Magmas: Breath of the Deep Earth I (*joint with MR, DI*)

Presiding: **S Demouchy**, Geosciences Montpellier -CNRS-; **P Ruprecht**, Lamont-Doherty Earth Observatory

1340h **V23E-01** He-Ne-Ar isotope studies of mafic volcanic rocks and mantle xenoliths from the East African Rift System – contrasting isotope signals in different rift branches: **S A Halldorsson**, D R Hilton, P Scarsi, T Abebe, K M Massi, P H Barry, T P Fischer, J de Moor, R L Rudnick

1355h **V23E-02** Experimental Constraints on He, Ne, Ar Behavior at Mantle Conditions: **C Jackson**, S P Kelley, S W Parman, R F Cooper

1410h **V23E-03** Water concentrations in mantle peridotite minerals: **J M Warren**, E H Hauri

1425h **V23E-04** Water contents and OH speciation in pyroxenes: **K Bégaudeau**, Y Morizet, J Mercier

1440h **V23E-05** Experimentally determined water storage capacity in the Earth's upper mantle: **A Ferot**, N Bolfan-Casanova

1455h **V23E-06** Decoupling of H₂O, Oxygen Fugacity and Incompatible Elements in Olivine-Hosted Melt Inclusions By Diffusive Re-Equilibration (*Invited*): **G A Gaetani**, J A O'Leary, N Shimizu, C E Bucholz

1515h **V23E-07** NanoSIMS determination of H₂O, Cl and F concentrations in olivines and their associated melt inclusions: **M Le Voyer**, J Eiler, Y Guan, J L Mosenfelder, E M Stolper, P J Wallace, P Schiano

Atmospheric Sciences

A24A Moscone West: 3002 Tuesday 1600h
Attribution of the Change in CO₂, CH₄, and N₂O Atmospheric Abundances to Historical, National, and Natural Emissions II (*joint with B, GC*)

Presiding: **M J Prather**, UC Irvine; **J Fuglestedt**, CICERO

1600h **A24A-01** Contributions of individual countries' emissions to climate change and their uncertainty (*Invited*): **N Höhne**, H Blum, J Fuglestedt, R Bieltvedt Skeie, A Kurosawa, G Hu, J Lowe, L Gohar, B Matthews, A C Nioac de Salles, C Ellermann

1615h **A24A-02** From Human Activities to Climate Change: Uncertainties in the Causal Chain (*Invited*): **J E Penner**, Title of Team: The MATCH Team (Modeling and assessment of contributions to climate change)

1630h **A24A-03** Inverse modelling estimates of N₂O surface emissions and stratospheric losses using a global dataset: **R L Thompson**, P Bousquet, F Chevallier, E J Dlugokencky, A T Vermeulen, T Aalto, L Haszpra, F Meinhardt, S O'Doherty, J B Moncrieff, M Popa, M Steinbacher, A Jordan, T J Schuck, C A Brenninkmeijer, S C Wofsy, E A Kort

1645h **A24A-04** Understanding the Recent Methane Budget: **L Bruhwiler**, E J Dlugokencky, K Masarie

1700h **A24A-05** Analysis of methane and ozone changes between 1850 and 2100 in CMIP5 simulations. (*Invited*): **J Lamarque**

1715h **A24A-06** Evaluation of constraint provided by current atmospheric monitoring network for quantifying anthropogenic emissions and biospheric carbon fluxes (*Invited*): **A M Michalak**, S M Gourdjji, K L Mueller, V Yadav, A E Andrews, G Petron, M E Trudeau

1730h **A24A-07** Relevance of Preindustrial Land Cover Change and Emissions for Attribution of Excess Atmospheric Carbon Dioxide: **J Pongratz**, K Caldeira

1745h **A24A-08** Attributing the increase of atmospheric CO₂ to emitters and absorbers: **T Gasser**, P Ciaï, J PARIS, K Caldeira, M R Raupach, J Canadell, A Patwardhan, P Friedlingstein, S Piao, V Gitz

A24B Moscone West: 3004 Tuesday 1600h
Biomass Burning: New Findings and Analyses From Multiple Perspectives IV (*joint with B, PA*)

Presiding: **J Redemann**, BAERI / NASA Ames Research Center; **S G Howell**, Univ. Hawaii

1600h **A24B-01** New perspectives on quantitative characterization of biomass burning (*Invited*): **C M Ichoku**

1630h **A24B-02** Sub-Pixel Fractional Area of Wildfires from MODIS Observations: Retrieval, Validation, and Potential Applications: **D A Peterson**, J Wang, C M Ichoku, E J Hyer

1645h **A24B-03** A Validation of Automated and Quality Controlled Satellite Based Fire Detection: **M G Ruminski**, J Hanna

1700h **A24B-04** Horizontal variability of aerosol optical properties observed during the ARCTAS airborne experiment: **Y Shinozuka**, J Redemann, P B Russell, J M Livingston, A D Clarke, J R Podolske

1715h **A24B-05** Retrieval of aerosol properties, surface albedo, and radiative forcing from SSFR, AATS-14 and HSRL measurements during CalNex and ARCTAS: **S E LeBlanc**, S Schmidt, P Pilewskie, J Redemann, P B Russell, C A Hostetler, R A Ferrare

1730h **A24B-06** Using OMI observations to measure aerosol absorption of biomass burning aerosols above clouds: **O Torres**, H T Jethva, P K Bhartia

1745h **A24B-07** Improving satellite retrievals of NO₂ in biomass burning regions: **N Boussez**, R V Martin, L N Lamsal, J Mao, R C Cohen, B E Anderson

A24C Moscone West: 3006 Tuesday 1600h
Entrainment and Mixing in Clouds II

Presiding: **S K Krueger**, University of Utah; **Z Kuang**, Harvard University; **H E Gerber**, Gerber Scientific, Inc.

1600h **A24C-01** Simulations of the Interactions between Shallow Cumulus Clouds and their Environment: A Lagrangian and Time Depending Perspective. (*Invited*): **T Heus**, H J Jonker

1612h **A24C-02** A resiliant matrix for steady-state convection (*Invited*): **D M Romps**, Z Kuang

1624h **A24C-03** Entrainment in a High-resolution Simulation of a Cumulus Cloud: **S Lasher-Trapp**, A M Blyth

1636h **A24C-04** A revised conceptual model of cumulus clouds as thermal vortices: **S C Sherwood**, M Colin, F Robinson

1648h **A24C-05** Mammatus Clouds: an Example of Radiatively Driven Mixing Processes at the Cloud/Clear-Sky Boundary: **C T Schmidt**, T J Garrett, S Kihlgren, C Cornet

1700h **A24C-06** SMALL SCALE STRUCTURE OF ENTRAINMENT EVENTS AT THE TOP OF MARINE STRATOCUMULUS (*Invited*): **S P Malinowski**, K E Haman, M K Kopec

1712h **A24C-07** Analysis and Numerical Simulation of a Laboratory Analog of Radiatively Induced Cloud-Top Entrainment (*Invited*): **A R Kerstein**, H Schmidt, R Nedelec, S Wunsch, B J Saylor

1724h **A24C-08** Entrainment Rates in POST Stratocumulus: **H E Gerber**, G Frick

1736h **A24C-09** The EUCLIPSE/GCSS model intercomparison study of a stratocumulus to cumulus cloud transition as observed during ASTEX: **S R de Roode**, J J van der Dussen

1748h **A24C-10** Tracking parcels that are entrained across cloud tops: **T Yamaguchi**, D A Randall

A24D Moscone West: 3008 Tuesday 1600h
Regional Climate Modeling III (*joint with GC, H*)

Presiding: **R W Arritt**, Iowa State University; **L Leung**, Pacific Northwest National Laboratory

1600h **A24D-01** Atmospheric results from a regional Arctic climate model: Comparison of coupled and uncoupled simulations: **J J Cassano**, M Higgins

1615h **A24D-02** Influence of Regional Climate Model spatial resolution on wind climates: **S C Pryor**, R J Barthelmie, G Nikulin, C Jones

1630h **A24D-03** Sensitivity of Midwest Diurnal Cycle of Precipitation to Grid Spacing and Cloud Spectrum Characteristics in NASA GEOS-5: **C J Anderson**, D J Posselt, R W Arritt

1645h **A24D-04** The Role of Complex Terrain in Precipitation Variability in a Dynamically Downscaled Simulation over Asia: **L Leung**, C Zhao, Y Qian

1700h **A24D-05** Modeling the Hydroclimatology of the Midwestern United States: Predicting Soil Moisture Under a Warmer Climate: **J M Winter**, E A Eltahir

1715h **A24D-06** The influence of convective and land surface processes on the variability of the West African Monsoon:

C B Skinner, M Ashfaq, N S Diffenbaugh

1730h **A24D-07** Toward a Unified Representation of Atmospheric Convection in Variable Resolution Climate Models: **R L Walko**, D Medvigy, R Avissar

Atmospheric and Space Electricity

AE24A Moscone West: 3007 Tuesday 1600h
Sensing Lightning From Space: From Mission Concept to Applications II (*joint with A*)

Presiding: **E Defer**, CNRS-Observatoire de Paris; **S J Goodman**, NOAA; **J Grandell**, EUMETSAT

1600h **AE24A-01** Lightning Sensing from Space: Early Observations to the Geostationary Lightning Mapper (*Invited*): **H Christian**

1620h **AE24A-02** Geostationary Lightning Imager for FY-4 Meteorological Satellite (*Invited*): **F Huang**

1640h **AE24A-03** The Lightning Imager (LI) on MTG - Scientific studies and developments (*Invited*): **U Finke**, J Grandell, E Defer, H Hoeller

1700h **AE24A-04** Relative Contributions of Electrified Shower Clouds and Thunderstorms to the Global Circuit: Can 10 Years of TRMM Data Help Solve an Old Puzzle? (*Invited*): **E J Zipser**, C Liu, E Williams, G B Burns

1715h **AE24A-05** Monitoring lightning from space with TARANIS: **T Farges**, E Blanc, J Pinçon

1730h **AE24A-06** Gradual approach to realize lightning monitoring from space by means of VHF observations: **T Morimoto**, H Kikuchi, T Ushio, Z Kawasaki

1745h **AE24A-07** Global Estimates of Lightning Peak Current from the WWLLN: **M L Hutchins**, R H Holzworth, C J Rodger, J B Brundell, S F Abarca, K L Corbosiero, D Vollaro

Biogeosciences

B24A Moscone West: 2002 Tuesday 1600h
Assessing Carbon Storage and Greenhouse Gas Emissions in Coastal and Inland Aquatic Systems II (*joint with H, OS*)

Presiding: **B A Bergamaschi**, USGS; **K D Kroeger**, USGS; **G L Chmura**; **A F Rahman**, Indiana University

1600h **B24A-01** Carbon Burial in Inland Waters: **J A Downing**, R G Striegl

1615h **B24A-02** Spatially and temporally distributed re-evaluation of global CO₂ outgassing from inland waters: The tropics dominate global fluxes: **A K Aufdenkampe**, E Mayorga, S R Alin, P Raymond, J M Melack, S C Doney

1630h **B24A-03** Stream Carbon Dioxide Dynamics and Evasion in Temperate Forest Catchments at Hubbard Brook: **S F Werner**, C T Driscoll, J J Cole

1645h **B24A-04** Shifts and dynamics of greenhouse gas fluxes in coastal marshes: Responses to short- and long-term nitrogen additions (*Invited*): **S Moseman-Valtierra**, K D Kroeger, J Tang, K Fisher, J F Bratton, J Crusius

1700h **B24A-05** Effects of Sea Level-Rise on Carbon Accretion in Coastal Wetlands (*Invited*): **J T Morris**

1715h **B24A-06** Organic Carbon Burial in Brazilian Mangrove Sediments (*Invited*): **C Sanders**, J M Smoak, L Sanders, S Patchineelam

1730h **B24A-07** Spatial and Temporal Patterns of Soil Organic Carbon in Mangrove Forest Ecosystems (*Invited*): **K L McKee**

1745h **B24A-08** Sediment Nitrous Oxide Fluxes from Shore to Shelf: **R W Fulweiler**, E M Heiss, E J Morgan

B24B Moscone West: 2004 Tuesday 1600h
Biophysical Pulses in Variable Environments II (*joint with H*)

Presiding: **C A Williams**, Clark University; **G D Jenerette**, University of California Riverside; **R L Scott**, USDA ARS

1600h **B24B-01** Extracting Information on Rain-Induced Pulses of Ecosystem Respiration across Scales Spanning the Plot, Canopy and Planetary Boundary Layer (*Invited*): **D D Baldocchi**, S Ma, J Hatala, B Giolio

1615h **B24B-02** Quantifying Ecological Memory of Plant and Ecosystem Processes in Variable Environments: **K Ogle**, G A Barron-Gafford, L Bentley, J Cable, R Lucas, T E Huxman, M E Loik, S D Smith, D Tissue

1630h **B24B-03** Grassland ecosystem responses to short- and long-term experimental manipulations of precipitation regime (*Invited*): **A Knapp**, M D Smith, J M Blair, S L Collins

1645h **B24B-04** A dynamical system view of rainfall-pulse propagation through biogeochemical cycles (*Invited*): **A M Porporato**, S Manzoni, A Austin, J Schimel

1700h **B24B-05** Separating Root and Microbial Respiration Responses to Moisture and Moisture Pulses: **M S Carbone**, R Vargas, A Ambrose, T E Dawson, C J Still

1715h **B24B-06** Dynamic Response of Forest Litter and Mineral Soil to Pulsed Water Additions: C M Boot, **S M Schaeffer**, M S Carbone, C J Still, J Schimel

1730h **B24B-07** Investigating the Pulse Dynamics paradigm at the ecosystem scale in both disturbed and undisturbed biomes across an elevation gradient in the semiarid Southwest (*Invited*): **M E Litvak**, A M Fox, R Sinsabaugh

1745h **B24B-08** Spatial pulses of water inputs in deciduous and hemlock forest stands: **A J Guswa**, M Mussehl, A Pecht, C Spence

B24C Moscone West: 2006 Tuesday 1600h
Climate and the Nitrogen Cycle I (*joint with A*)

Presiding: **C L Goodale**, Cornell University; **P G Hess**, cornell

1600h **B24C-01** Climate System Impacts of the Changing Nitrogen Cycle (*Invited*): **E A Holland**

1615h **B24C-02** Impacts of Land Use Change, Nitrogen Deposition and Nitrogen Fertilizers on Carbon and Nitrogen Stocks of Plants and Soils: **A K Jain**, X Yang, M Liang, R Barman, P Meiyappan

1630h **B24C-03** The role of nitrogen availability in land-atmosphere interactions: a systematic evaluation of carbon-nitrogen coupling in a global land surface model using plot-level nitrogen fertilization experiments: **R Q Thomas**, C L Goodale, G B Bonan, N M Mahowald, D M Ricciuto, P E Thornton

1645h **B24C-04** Consequences of anthropogenic N_r addition on global terrestrial biogeochemistry, 1700-2005 (*Invited*): **S Zaehle**, P Friedlingstein, A D Friend

1700h **B24C-05** Quantifying nitrogen fluxes and their influence on the greenhouse gas balance - recent findings of the NitroEurope Integrated Project: **S Reiss**, M A Sutton, E Nemitz, C Beier, K Butterbach-Bahl, P Cellier, W de Vries, J Erisman, S Zechmeister-Boltenstern, A Bleeker, Title of Team: NitroEurope IP consortium

1715h **B24C-06** Climate, nitrogen limitation, and nitrate losses from tropical rainforests: **J Brookshire**, S Gerber, D Menge

1730h **B24C-07** WITHDRAWN

1745h **B24C-08** Global N cycling: Isotopic and C, N, P constraints on worldwide patterns (*Invited*): **B Z Houlton**, E Bai, Y Wang

Cryosphere

C24A Moscone West: 301 I Tuesday 1600h
Ice Cores, Climate, and Ice Sheets: New Frontiers III (*joint with A, PP*)

Presiding: **J W White**, University of Colorado; **D Dahl-Jensen**, University of Copenhagen

1600h **C24A-01** Isotopic ($\delta^{18}\text{O}$, δD and deuterium excess) records from the TALDICE ice core (East Antarctica) (*Invited*): **B Stenni**, D Buiron, V Masson-Delmotte, M Bonazza, M Braida, J Chappellaz, M Frezzotti, S Falourd, B Minster, E Selmo

1622h **C24A-02** Sources of Sea Salts to Coastal Antarctica: **M A Curran**, T D van Ommen, A D Moy, T Vance, G J Wong, I D Goodwin, B Domensino

1637h **C24A-03** Seasonal climate information preserved within West Antarctic ice cores and its relation to large-scale atmospheric circulation and regional sea ice variations: **M Küttel**, E J Steig, Q Ding, D S Battisti

1652h **C24A-04** Evidence of Recent Warming in Polar Latitudes from Borehole Temperature: **A J Orsi**, J P Severinghaus

1707h **C24A-05** Persistent and Pervasive Basal Freeze-on: Implications for the Preservation of the Oldest Ice: **R E Bell**, F Ferraccioli, D A Braaten, H F Corr, T T Creyts, I Das, N Frearson, T A Jordan, M Studinger, M Wolovick

1722h **C24A-06** The Eemian ice from the new Greenland ice core at NEEM: **D Dahl-Jensen**

1737h **C24A-07** Present-day land ice contribution to sea level (*Invited*): **A A Cazenave**, W LLOVEL

1759h **Last Statements** *Conclusion on session by convenors*

C24B Moscone South: 104 Tuesday 1700h
Nye Lecture (Webcast)

Presiding: **A W Nolin**, Oregon State University; **J E Box**, Byrd Polar Research Center

1700h **C24B-01** Mountain Hydrology, The Fourth Paradigm, and the Color of Snow (*Invited*): **J Dozier**

Education and Human Resources

ED24A Moscone South: 102 Tuesday 1600h
National and International Programs in Geosciences and Space Sciences Education II (*joint with A, B, OS*)

Presiding: **J W Farrington**, WHOI; **M Feder**, National Research Council; **C Michalopoulos**, NOAA; **S A Stockman**, NASA

1600h **ED24A-01** NOAA Education Program: Review and Critique, and Relevance to Education Programs of Other Federal Agencies: **J W Farrington**, M Feder

1615h **ED24A-02** The Role of Federal Agencies in Education, Inter-Agency Coordination, and Impact Assessment: **M Feder**

1630h **ED24A-03** NOAA Education: Adventures in Strategic Planning, External Review, and Evaluation: **C Michalopoulos**

1645h **ED24A-04** Advancing Earth System Science Literacy and Preparing the Future Geoscience Workforce Through Strategic Investments at the National Science Foundation (*Invited*): **J L Karsten**, L C Patino, E L Rom, C S Weiler

1700h **ED24A-05** The Development of a Conceptual Framework for New K-12 Science Education Standards (*Invited*): **T Keller**

1715h **ED24A-06** Outreaches on Space Sciences in Taiwan: I Lee, **J Y Liu**, T Liu

1730h **ED24A-07** NASA y Tú (NASA and You) - NASA's partnership with UNIVISION to promote Science, Technology, Engineering, and Math (STEM) careers among Hispanic youth: **M Colon-Robles**, I Gilman, S Verstynen, R Jaramillo, S Bednar, T Shortridge, J Bravo, S Bowers

1745h **ED24A-08** Evaluation and Strategic Planning for the GLOBE Program: E E Geary, **V L Williams**

Earth and Planetary Surface Processes

EP24A Moscone South: 310 Tuesday 1600h
Geomorphological and Ecological Processes in Tidal Flats and Wetlands I (*joint with B, OS*)

Presiding: **S Fagherazzi**, Boston University; **A S Ogston**, University of Washington; **C M Palinkas**, University of Maryland Center for Environmental Science; **K Engelhardt**, University of Maryland Center for Environmental Science

1600h **EP24A-01** Morphology and hydrodynamics of wave-cut gullies: **A M Priestas**

1615h **EP24A-02** EXPERIMENTAL OBSERVATIONS OF THE MORPHODYNAMIC EVOLUTION OF A TIDAL CHANNEL FLANKED LATERALLY BY TIDAL FLATS: **C De Capitani di Vimercate**, N Tambroni, G Seminara

1630h **EP24A-03** Effects of Intertidal Creek 2D and 3D Structure on Sediment Accretion (*Invited*): **R Torres**, J M Bell

1645h **EP24A-04** Enhanced decomposition offsets enhanced productivity and soil carbon accumulation in coastal wetlands responding to climate change (*Invited*): **M L Kirwan**, L K Blum

1700h **EP24A-05** Catastrophic Shifts in Wetland Geomorphology and Ecology in Response to Hydrology-Vegetation-Sediment Transport Feedbacks (*Invited*): **L G Larsen**, J W Harvey

1715h **EP24A-06** Analysis of the erosion of marsh boundaries produced by wind-wave impact in a shallow tidal basin: **S Lanzoni**, M Santalucia, A D'Alpaos, M Marani

1730h **EP24A-07** Controls on wetland loss during large magnitude storms: a case study in Breton Sound, LA: **N C Howes**, Z J Hughes, D FitzGerald, I Y Georgiou, M A Kulp, M D Miner, J M Smith, J A Barras

1745h **EP24A-08** Ecosystem Resilience of Coastal Marshes Following a Massive Oiling Event: **A S Kolker**, A D Ameen, T S Bianchi, R L Cook, N Green, P Kolic, Y Zhang

EP24B Moscone South: 308 Tuesday 1600h
The Morphodynamics of Big Rivers: What Do and Don't We Know? I (*joint with H*)

Presiding: **P J Ashworth**, University of Brighton; **J Best**, University of Illinois; **D R Parsons**, University of Leeds

1600h **EP24B-01** The Puzzle of Large, Low-Slope Sand-Bed Rivers: How Can They Be So Deep? (*Invited*): **G Parker**, R Wang, E Eke, D Parsons, G V Wilkerson, J Best, J A Zinger, B L Rhoads, F Engel

1615h **EP24B-02** Downstream change in the patterns of sediment deposition and erosion in the lower Mississippi River associated with varying water discharge: **J A Nittrouer**, J B Shaw, M P Lamb, D C Mohrig

1630h **EP24B-03** Imaging beneath the skin of large tropical rivers: Clay controls on system morphodynamics revealed by novel CHIRP sub-surface sonar and deep coring along the Fly and Strickland Rivers, Papua New Guinea (*Invited*): **RE Aalto**, M Grenfell, J W Lauer
 1645h **EP24B-04** Similarities and differences between a large meandering river and an anabranching river: the Ucayali and Amazon River cases: **JD Abad**, J R Paredes, H Montoro
 1700h **EP24B-05** The paradox of large alluvial rivers (*Invited*): **EM Latrubesse**
 1715h **EP24B-06** Effect of tectonics and meandering on the avulsion of the Ganga – Bhagirathi System: N Gupta, **MG Kleinhans**, E Addink, P M Atkinson, P A Carling
 1730h **EP24B-07** Avulsion threshold in a large Himalayan river: the case of the Kosi, India and Nepal: **R Sinha**, S Kommula
 1745h **EP24B-08** Preservation of distributive vs. tributive and other fluvial system deposits in the rock record (*Invited*): **CR Fielding**

Geodesy

G24A Moscone South: 103 Tuesday 1600h
Bowie Lecture (Webcast)

Presiding: **DT Sandwell**, SIO

1600h **David Sandwell** *Introduction*

1605h **G24A-01** Ultra-High Resolution Four Dimension Imaging Across the Earth Sciences (*Invited*): **GW Bawden**

Global Environmental Change

G24A Moscone West: 3001 Tuesday 1600h
Promising Paths of Research in Geological Storage of Anthropogenic CO₂ I (*joint with A, H, NS, V*)

Presiding: **A Bonneville**, Pacific Northwest National Laboratory; **D Goldberg**

1600h **G24A-01** Microbial monitoring during CO₂ storage in deep subsurface saline aquifers in Ketzin, Germany: **H Wuerdemann**, M Wandrey, S Fischer, K Zemke, D Let, M Zettlitzer, D Morozova

1615h **G24A-02** Fundamental Science Tools for Geologic Carbon Sequestration and Mineral Carbonation Chemistry: In Situ Magic Angle Spinning (MAS) Nuclear Magnetic Resonance: **DW Hoyt**, R V Turcu, J A Sears, K M Rosso, S D Burton, J Kwak, A R Felmy, J Hu

1630h **G24A-03** A reactive transport model of CO₂-water-rock interaction in a push-pull test in basaltic rocks: **JJ Hidalgo**, C de Dieuleveult, P Agrinier, V Lagneau

1645h **G24A-04** Sensitivity of geochemical monitoring for CO₂ sequestration in basalt: **NV Zakharova**, D Goldberg, M Herron, J Grau

1700h **G24A-05** Active CO₂ Reservoir Management: A Strategy for Controlling Pressure, CO₂ and Brine Migration in Saline-Formation CCS: **TA Buscheck**, Y Sun, Y Hao, B Court, M A Celia, T Wolery, A F Tompson, R D Aines, J Friedmann

1715h **G24A-06** Long term CO₂ trapping and associated leakage efficiency: the role of active faults: **E Frery**, J Gratier, N Ellouz, R Swennen, D Blamart, C Aubourg, P Deschamps, J Faure, A Battani

1730h **G24A-07** Regional migration pathways and associated well risk for the IEAGHG Weyburn-Midale CO₂ Project: **A Cavanagh**, B J Rostron

1745h **GC24A-08** Using large Aquifer Storage and Recovery (ASR) Sites as Analogs to Study the Mechanical Behavior of Large CO₂ Storage Sites: **A Bonneville**, E C Sullivan, E Heggy, J Dermond, M Sweeney

GC24B Moscone West: 3005 Tuesday 1600h
Stable Isotopes in Modern and Ancient Boreal Forest Systems: Indicators of Past Environmental Change II (*joint with B, PP, H*)

Presiding: **AZ Csank**, University of Arizona; **TJ Porter**, Carleton University; **SW Leavitt**, Univ Arizona

1600h **GC24B-01** Independent support for leaf homeothermy during carbon uptake and the implications of the interpretation of tree-ring oxygen isotopes: **BR Helliker**, D D Baldocchi, A R Desai, M L Goulden, K J Davis, S C Wofsy, J W Munger

1612h **GC24B-02** Increasing Ambient CO₂ Concentrations are Reflected in the Stable C and O Isotopes from Tree Rings along a Siberian North South Transect in the Last 150 Years: **RT Siegwolf**, O V Sidorova, M Saurer, A Knorre, A Kirilyanov

1624h **GC24B-03** Stable carbon isotopes and drought signal in the tree-rings of northern white-cedar trees from boreal central Canada. (*Invited*): **JC Tardif**, R Au

1636h **GC24B-04** Interpreting Tree-Ring Stable Isotopes in the Peace-Athabasca Delta, Canada (*Invited*): **DM Meko**, S W Leavitt

1648h **GC24B-05** Summer temperatures reconstructed from tree-ring δ¹³C at boreal treeline, Mackenzie Delta, northwestern Canada: **TJ Porter**, M F Pisaric, S V Kokelj

1700h **GC24B-06** Use of water isotope tracers to characterize present and past hydrology of northern boreal freshwater landscapes in Canada (*Invited*): **BB Wolfe**, B E Brock, Y YI, K W Turner, E M Dobson, N M Farquharson, T W Edwards, R I Hall

1712h **GC24B-07** Using Water Isotope Tracers to Investigate Past and Present Water Balance Conditions in the Old Crow Flats, Yukon Territory: **K Turner**, B B Wolfe, T W Edwards

1724h **GC24B-08** Oxygen isotopes and hydroclimatic change in the Yukon Flats National Wildlife Refuge, northeast Alaska (*Invited*): **L Anderson**, B P Finney, N Guldager, J A Rover, M Shapley, D R Van Sistine

1736h **GC24B-09** Effects of climatic change on carbon cycling in the Boreal forest during the Holocene: Insights from stable carbon isotopes in lake sediment organic matter: **BP Finney**

1748h **GC24B-10** Potential of tree-ring δ¹⁸O records to reconstruct winter and mean annual temperatures in Northeastern Siberia: implications for climate reconstructions in a Pliocene boreal forest: **AZ Csank**, S W Leavitt, M K Hughes

Geomagnetism and Paleomagnetism

GP24A Moscone West: 2003 Tuesday 1600h
Frames of Reference for Plate Motion I (*joint with DI, T, V, G*)

Presiding: **RG Gordon**, Rice University; **L Tauxe**, Scripps Inst. Oceanography

1600h **GP24A-01** Comparisons of the Hawaiian and Louisville volcanic chains: Implications for frames of reference and processes causing hotspot motion (*Invited*): **JA Tarduno**, P V Doubrovine, N H Sleep

1615h **GP24A-02** Paleomagnetic reference frame: Construction, accuracy and coupling with mantle evolution. (*Invited*): **J Besse**, M Greff-Lefftz

1630h **GP24A-03** A Global Moving Hotspot Reference Frame: How well it fits?: **PV Doubrovine**, B Steinberger, T H Torsvik

1645h **GP24A-04** True Polar Wander and Hotspot Fixity: A Paleomagnetic Investigation of the Skewness of Magnetic Anomaly 12r (32 Ma B.P.) on the Pacific Plate: **R G Gordon**, B C Horner-Johnson

1700h **GP24A-05** Present-Day Net-Rotation Constrained by Crustal Stress and Mantle Anisotropy Orientations (*Invited*): **C W Kreemer**, L Husson

1715h **GP24A-06** Net Rotation of the Lithosphere Induced by Slabs, Plate Geometry, and Keels: **M Gérard**, T W Becker, B J Kaus, C Faccenna, L N Moresi

1730h **GP24A-07** Current Plate Motion Relative to the Hotspots and to the Mantle: **L Zheng**, R G Gordon, D Argus, C DeMets, C W Kreemer

1745h **GP24A-08** GEODVEL, MORVEL, and the velocity of Earth's center (*Invited*): **D Argus**, R G Gordon, C DeMets

Hydrology

H24A Moscone West: 3020 Tuesday 1600h
Advances in Hydrologic Data Assimilation and Uncertainty Analysis III

Presiding: **M T Durand**, The Ohio State University; **S C Steele-Dunne**, TU Delft

1600h **H24A-01** Correcting the Mathematical Structure of a Hydrological Model via Bayesian Data Assimilation (*Invited*): **H V Gupta**, N Bulygina

1615h **H24A-02** Differential Evolution Adaptive Metropolis with Sampling From Past States: **J A Vrugt**, E Laloy, C ter Braak

1630h **H24A-03** A state-space approach to predict stream temperatures and quantify model error: Application on the Sacramento River, California: **A Pike**, E Danner, S Lindley, F S Melton, R R Nemani, H Hashimoto

1645h **H24A-04** Multiple objective function simulator algorithm for hydraulic parameters estimation by surface soil moisture and evapotranspiration: **J A Pollacco**, B P Mohanty

1700h **H24A-05** A Wavelet Approach to Adjoint-State Sensitivity Computation for Steady-State Differential Equations: **A A Awotunde**, R Horne

1715h **H24A-06** Modeling Spatial Variability as Measurement Uncertainty: **J L Mead**, M M Gribb, J P McNamara

1730h **H24A-07** Comparing precipitation datasets from different sources: implications for uncertainty characterization: **E Polyakova**, J L Dungan, A Michaelis

1745h **H24A-08** Impact of Temporal Data Resolution on Parameter Inference and Model Identification in Conceptual Hydrological Modeling: Insights from an Experimental Catchment: **F Fenicia**, D Kavetski, M Clark

H24B Moscone West: 3014 Tuesday 1600h
Evapotranspiration III: Modeling Fundamentals and Applications (*joint with PA, A, B*)

Presiding: **M B Parlange**, EPFL - Lausanne; **E F Wood**, Princeton University; **E Bou-Zeid**, Princeton University; **M Chamecki**, Pennsylvania State University

1600h **H24B-01** An MEP Model for Remote Sensing of Evapotranspiration (*Invited*): **R L Bras**, J Wang

1615h **H24B-02** Modelling of evapotranspiration and soil moisture patterns based on simulation of actual radiation and wind fields: **M Liu**, A Bárdossy, J Li

1630h **H24B-03** Quantifying surface energy fluxes by Fourier analysis of soil measured temperatures: **G U Schenk**, K Roth

1645h **H24B-04** A calibration-free evapotranspiration mapping technique: **J Szilagyi**

1700h **H24B-05** Investigation of land-atmosphere feedbacks through coupled hydrologic modeling (*Invited*): **F K Chow**, J Rihani, R M Maxwell

1715h **H24B-06** Spatio-temporal Characteristics of Actual Evapotranspiration Trends in sub-Saharan Africa: **M T Marshall**, C C Funk, J Michaelsen

1730h **H24B-07** Integration of Remote Sensing derived Actual Evapotranspiration with Meteorological Data for Real Time Demand Forecasting in Semi-arid Regions: **M K Ullah**, M M Hafeez, Y Chemin, R Faux, J Sixsmith

1745h **H24B-08** Diagnosing the Local Land-Atmosphere Coupling (LoCo) in Models and Observations: A Study of Dry/Wet Extremes in the U. S. Southern Great Plains: **J A Santanello**, C D Peters-Lidard, S Kumar, X Dong, A D Kennedy

H24C Moscone West: 2009 Tuesday 1600h
Groundwater/Surface Water Interactions: Linking Physical and Biogeochemical Processes in Modeling and Management Frameworks II (*joint with B*)

Presiding: **A S Mayer**, Michigan Technological Univ; **A S Ward**, Pennsylvania State University; **A H Sawyer**, Univ of Texas-Austin; **H W Reeves**, U.S. Geological Survey; **W M Wollheim**, Institute for the Study of Earth Ocean and Space; **D M McKnight**, Univ Colorado

1600h **H24C-01** Should the Clean Water Act Follow Stream Water Underground? Managing Beyond the Stream Banks: **M N Taptich**, M N Gooseff

1615h **H24C-02** The Timing, Spatial Extent and Magnitude of Fishery Benefits Obtained From Re-watering Interconnected Stream-Aquifer Systems Depleted by Historical Diversions and Pumping - A case study in the Shasta Valley, CA: **J C Davids**, S Mehl

1630h **H24C-03** Estimation of Vertical Groundwater Fluxes into a Streambed through Continuous Temperature Profile Monitoring and the Relationship of Groundwater Fluxes to Coaster Brook Trout Spawning Habitat: **M J Van Grinsven**, A S Mayer, C Huckins

1645h **H24C-04** Controls on Hyporheic Nitrate Removal: Assessing Transport and Substrate Limitations with 15N Tracer Studies (*Invited*): **J P Zarnetske**, R Haggerty, S M Wondzell, M A Baker

1700h **H24C-05** WITHDRAWN

1715h **H24C-06** Determining the potential contribution of hyporheic flow to nitrogen and phosphorus retention in streams in a northern California watershed: **C H Orr**, J D Schade, S A Thomas

1730h **H24C-07** The effects of transient storage on carbon uptake in a sub-arctic stream in interior Alaska: **A Rinehart**, J B Jones

1745h **H24C-08** Use of rhodamine WT to quantify stream transport and hyporheic exchange: Is there a price to pay for the easy way out? (*Invited*): **R L Runkel**

H24D Moscone West: 3018 Tuesday 1600h
Hydroclimatic Extremes: Monitoring, Diagnosis, and Prediction III (*joint with A, NG*)

Presiding: **A AghaKouchak**, University of California Irvine; **U Lall**, Columbia Univ; **B F Sanders**; **K Hsu**, UC Irvine

1600h **H24D-01** Monitoring Tropical Cyclone Impacts on the Coastal Vegetation of the Southeastern USA in the First Decade of the 21st Century: **J Brun**, A P Barros

1615h **H24D-02** Assessing the Impacts of Climate Change on Hydrologic Extremes in the Pacific Northwest: **A F Hamlet**, I Tohver, S LEE, E Salathe, E Lutz

1630h **H24D-03** A Bayesian Hierarchical Approach to Regional Frequency Analysis of Extremes: **B Renard**

1645h **H24D-04** Statistical Model for Converting Precipitation to Rainfall Frequency Estimates: **F Yan**, T Zhao, S Perica

1700h **H24D-05** Improving Satellite-based Instantaneous Precipitation Estimate by using Integration of Ground Radar and Satellite Dataset: **Z Feng**, X Dong, B Xi, P Minnis, M Khaiyer, A AghaKouchak

1715h **H24D-06** Bayesian Non-Stationary Flood Frequency Estimation at Ungauged Basins Using Climate Information and a Scaling Model: **C H Lima**, U Lall

1730h **H24D-07** Study of Changes in the Frequencies of Unusual Climatic Events, from Regional to Continental Scale: **Y Yulizar**, S Singh, A Bárdossy

1745h **H24D-08** Drought assessment of six UK catchments using two stochastic rainfall generators: **K P Chun**, H S Wheater, C Onof

H24E Moscone West: 3022 Tuesday 1600h
Hydrogeophysical Data Fusion and Integrated Site Investigation Methods III (*joint with NS*)

Presiding: **J Luo**, Georgia Institute of Technolog; **J A Huisman**, Forschungszentrum Juelich

1600h **H24E-01** Integration of High-resolution GPR and Direct-Push Methods: Subsurface Imaging of the Highly Heterogeneous MADE Site (*Invited*): **D W Hyndman**, M DOGAN, G Bohling, R L Van Dam, G Liu, J J Butler

1615h **H24E-02** Three-Dimensional Bayesian Geostatistical Aquifer Characterization at the Hanford 300 Area using Tracer Test Data: **X Chen**, H Murakami, M S Hahn, G E Hammond, M L Rockhold, Y Rubin

1630h **H24E-03** Aspects on the use of high resolution Direct Push based slug testing for acquiring hydraulic conductivity distributions: **C Leven**

1645h **H24E-04** Integrated Site Investigation Methods and Modeling: Recent Developments at the BHRS (*Invited*): **W Barrash**, J H Bradford, M A Cardiff, B Dafflon, B A Johnson, B Malama, M J Thoma

1700h **H24E-05** The Value of Natural Tracers for Parameter Estimation in a Creek-Wetland Complex: **M N Fienen**, R J Hunt, J F Walker

1715h **H24E-06** Near-Real-Time Geophysical and Biological Monitoring of Bioremediation Methods at a Uranium Mill Tailings Site in Rifle, Colorado: **A N Tarrell**, A Haas, A Revil, L A Figueroa, D Rodriguez, Title of Team: SmartGeo

1730h **H24E-07** Organic Chemical Sorption Heterogeneity in a Sedimentary Framework: **I K Kalinovich**, R M Allen-King, S S George, D F Dominic, R W Ritz, G S Weissmann

1745h **H24E-08** The Value of the Groundwater Age Observation in Characterization of Regional Groundwater Systems: An Inverse Model Study Performed in San Joaquin Valley, California: **H Haeri**, L Foglia, T R Ginn

H24F Moscone West: 3016 Tuesday 1600h
Water Resources Science and Strategies for Adaptation to Climate Variability and Change III (*joint with A, B, GC, PA*)

Presiding: **M J Friedel**, US Geological Survey; **J J Gurdak**, San Francisco State University; **S McNeely**, National Center for Atmospheric Research; **J A Tindall**, US DOI - USGS; **B R Lintner**, Rutgers

1600h **H24F-01** Absolute Humidity and the Seasonality of Influenza (*Invited*): **J L Shaman**, V Pitzer, C Viboud, B Grenfell, E Goldstein, M Lipsitch

1615h **H24F-02** Integrated Scenarios Analysis for the California Water Plan Update: **B A Joyce**, D Yates, D Groves, A Draper, R Juricich, D Purkey

1630h **H24F-03** A Comparison of the Vulnerability of Groundwater to Climate Change in Two High Elevation Catchments of the Sierra Nevada: **J E Moran**, M J Singleton, G Shaw, M H Conklin

1645h **H24F-04** Water Management Adaptations for Aquatic Ecosystem Services Under a Changing Climate. Analytical Framework and Case Study for Chinook Salmon in California: **M Escobar**, C M Mosser, L C Thompson, D Purkey, P B Moyle

1700h **H24F-05** Vulnerability of a municipal water supply system in Central Chile to climate change impacts: **S Vicuna**, F J Meza, M Jelinek, E Bustos, S Bonelli

1715h **H24F-06** Examining the Vulnerability of Hydropower Production in Meso-Scale Snowmelt-Runoff Basins Under Different Climate Change Scenarios: **P Furey**, S K Kampf, J Lanini, A Dozier

1730h **H24F-07** USING DAMAGE FUNCTIONS AND TOTAL RISK TO QUANTIFY THE IMPACTS OF CLIMATE CHANGE ON EXTREME PRECIPITATION: **Z Schuster**, K W Potter

1745h **H24F-08** Development of Spatiotemporal Bias-Correction Techniques for Downscaling GCM Predictions: **S Hwang**, W D Graham, J Geurink, A Adams, C J Martinez

Earth and Space Science Informatics

IN24A Moscone South: 302 Tuesday 1600h
Uncertainty, Error, and Quality of Observational Data II (*joint with A, NG, GC, OS, P*)

Presiding: **R G Raskin**, Jet Propulsion Laboratory; **A J Braverman**, Jet Propulsion Laboratory; **S R Sain**, NCAR

1600h **IN24A-01** Uncertainty, Error and Quality of Earth Observing Data (*Invited*): **M E Maiden**, S W Berrick

1615h **IN24A-02** Components of uncertainty in spatial statistical modeling of geophysical processes (*Invited*): **H M Nguyen**, A J Braverman

1630h **IN24A-03** Validating MISR and MODIS Aerosol Products: Assessing the Strengths & Limitations of the Way We Assess Strengths & Limitations (*Invited*): **RA Kahn**, A J Braverman, R C Levy

1645h **IN24A-04** Climate Observations and Their Uncertainty: From Paleo Proxy Records to Satellite Data Streams (*Invited*): **A Kaplan**

1700h **IN24A-05** Comprehensive Error Estimates for Geophysical Retrievals from Microwave Radiometers: **F J Wentz**, C A Mears, K A Hilburn, D K Smith

1715h **IN24A-06** Ambiguity of Data Quality in Remote Sensing Data: **C Lynnes**, G G Leptoukh

1730h **IN24A-07** Managing Uncertainty in Data and Models: UncertWeb: **S Nativi**, D Cornford, E J Pebesma

1745h **IN24A-08** Total Uncertainty in Measurements Record for Climate: Strategies from the CLARREO Mission: **J A Dykema**, J Anderson

Natural Hazards

NH24A Moscone West: 3010 **Tuesday** **1600h**
Multidisciplinary Research for Validation of Earthquake Precursors: Case Studies and Statistics I (*joint with A, NH, S, SM, T, G*)

Presiding: **D P Ouzounov**, NASA/GSFC; **S A Pulinets**, Institute of Applied Geophysics; **M Parrot**, LPC2E/CNRS; **J G Liu**, National Central University; **K Hattori**, Chiba University

1600h **NH24A-01** Study of Geomagnetic Anomalies Related to Earthquakes at Pisco Peru 2007 (M=8.0) and at Taiwan 2009 (M=6.4) (*Invited*): **K Yumoto**, E Takla, J Ishitsuka, D Rosales, S L Dutra, J G Liu, Y Kakinami, T Uozumi, S Abe

1615h **NH24A-02** Current progress in using multiple electromagnetic indicators to determine location, time, and magnitude of earthquakes in California and Peru (*Invited*): **T E Bleier**, C Dunson, S Roth, J Heraud, F T Freund, R Dahlgren, N Bryant, R Bamberg, A Lira

1630h **NH24A-03** Physical Model of Earthquake Ionospheric Precursors (*Invited*): **A A Namgaladze**

1645h **NH24A-04** LAIC MODEL DEVELOPMENT AND VALIDATION BY NATURAL PROCESSES CONNECTED WITH IONIZATION: **S A Pulinets**, D P Ouzounov

1700h **NH24A-05** Ionospheric variations at the time of the M8.8 Chile earthquake and statistical analysis of plasma parameters recorded by DEMETER: **M Parrot**

1715h **NH24A-06** On the correlation between ionospheric perturbations as detected by subionospheric VLF/LF signals and earthquakes as defined by seismic intensity: **M Hayakawa**, Y Kasahara, T Nakamura, Y Hobara, A Rozhnoi, M Solovieva, O Molchanov

1730h **NH24A-07** IMPROVING AND INTEGRATING GROUND AND SATELLITE BASED OBSERVATIONAL TECHNOLOGIES FOR EARTHQUAKE PRECURSOR STUDIES: THE CASE OF ABRUZZO EARTHQUAKE (APRIL 6, 2009; ML ~ 5.8) (*Invited*): **V Tramutoli**, R Corrado, C Filizzola, N Genzano, M Lisi, N Pergola

1745h **NH24A-08** Multidisciplinary Approach for Earthquake Atmospheric Precursors Validation by Joint Satellite and Ground Based Observations: **D P Ouzounov**, S A Pulinets, K Hattori, J G Liu, M Parrot, M Kafatos, T F Yang, H Jhuang, P Taylor, K Ohyama, S Kon

Ocean Sciences

OS24A Moscone West: 3009 **Tuesday** **1600h**
Integrated Studies at Oceanic Spreading Centers: Linking Spreading Center Processes Across Disciplinary Boundaries IV (*joint with B, T, V*)

Presiding: **M Cormier**, University of Missouri; **L B Hebert**, University of Maryland

1600h **OS24A-01** Eruption-related changes in magma chamber structure at 9° 50' N on the EPR from coincident reflection images, 1985 and 2008: **J C Mutter**, H D Carton, M Marjanovic, S M Carbotte, J Canales, M R Nedimovic

1615h **OS24A-02** Contrasting Crustal Production and Rapid Mantle Transitions Beneath the Eastern Lau Spreading Center: **R Dunn**, F Martinez

1630h **OS24A-03** Mantle Flow Beneath the Juan de Fuca and East Pacific Rise Spreading Centers and Adjacent Plates: **D R Toomey**, E E Hooft, W S Wilcock

1645h **OS24A-04** Crustal thickness variations at oceanic ridge segment and transform faults: implications for three-dimensional melt extraction pathways: **L B Hebert**, L G Montesi

1700h **OS24A-05** Two-layer Models Of Hydrothermal And Magmatic Processes Interactions At Mid-Ocean Ridge Axes: **F J Fontaine**, M Cannat, J Escartin, M Rabinowicz

1715h **OS24A-06** Laboratory quantification of permeability-porosity relationships for seafloor vent deposits: anisotropy in flange, slab, and crust samples: **J L Gribbin**, W Zhu, M K Tivey

1730h **OS24A-07** Sulfide Oxidation across Diffuse Flow Zones of Hydrothermal Vents: **A Gartman**, M Yucel, A Madison, C Janzen, S Ma, G W Luther

1745h **OS24A-08** Transfer and partitioning of energy and mass through seafloor hydrothermal systems: comparative studies at the Ridge2000 Integrated Study Sites (ISS) (*Invited*): **M K Tivey**

Planetary Sciences

P24A Moscone South: 306 **Tuesday** **1600h**
Icy Ocean Worlds I (*joint with OS, C*)

Presiding: **R T Pappalardo**, Jet Propulsion Laboratory; **S Vance**, Jet Propulsion Laboratory / Caltech

1600h **P24A-01** THE DIVERSITY OF ICY OCEAN WORLDS (*Invited*): **H Hussmann**

1615h **P24A-02** Compositions of Oceans on Icy Solar System Bodies (*Invited*): **M Y Zolotov**

1630h **P24A-03** Modeling Vertical Structure and Heat Transport within the Oceans of Ice-covered Worlds (*Invited*): **J C Goodman**

1645h **P24A-04** The "Perrier Oceans" Of Europa And Enceladus (*Invited*): **D Matson**, T V Johnson, J I Lunine, J C Castillo

1657h **P24A-05** Organized Chaos at Europa?: **B E Schmidt**, D D Blankenship

1709h **P24A-06** Titan's internal ocean: evolution, exchange processes and geophysical signatures. (*Invited*): **G Tobie**, O GRASSET

1724h **P24A-07** The role of methanol on the crystallization of Titan's primordial ocean: O Mousis, **F Deschamps**, C Sanchez-Valle, J I Lunine

1736h **P24A-08** Testing Candidate Driving Forces for Faulting on Dione: Implications for Nonsynchronous Rotation and a Freezing Ocean: **G C Collins**

1748h **P24A-09** Thermal evolution of Pluto and implications for despinning and sub-surface oceans: **G Robuchon**, F Nimmo

Paleoceanography and Paleoclimatology

PP24A Moscone West: 2007 **Tuesday** **1600h**
Glacial Inception and Termination: Reconciling Observations, Theories, and Models II (*joint with B*)

Presiding: **M Jochum**, ncar; **B L Otto-Bliesner**, NCAR

1600h **PP24A-01** Isotopic constraints on the relative timing between ice cores and deep-sea cores?: **J J Jouzel**, G Hoffmann, A Landais, B Stenni, G B Dreyfus, V Masson-Delmotte, C Waelbroeck

1612h **PP24A-02** The Timing of Events of the Last Termination as Inferred Through Sediment Core Records: **G Gebbie**

1624h **PP24A-03** Millennial and sub-millennial scale climatic variability over Marine Isotopic Stage 5: insights from polar ice cores (*Invited*): **E Capron**, A Landais, J Chappellaz, A Schilt, D Buiron, D Dahl-Jensen, H Fischer, S J Johnsen, J Jouzel, B Lemieux-Dudon, M Leuenberger, V Masson-Delmotte, H Meyer, H Oerter, B Stenni, T F Stocker

1636h **PP24A-04** The role of the winds in past climate change and CO₂ (*Invited*): **R F Anderson**

1648h **PP24A-05** Anatomy of the Last Glacial Termination (*Invited*): **A Timmermann**, L Menviel

1700h **PP24A-06** Glacial Inception and Carbon Cycle in CCSM4: **M jochum**, D A Bailey, J Fasullo, J E Kay, S Levis, K T Lindsay, J K Moore, B L Otto-Bliesner, S Peacock

1712h **PP24A-07** Biological consequences of a cold, stratified, high latitude, glacial ocean: **J D Hays**

1724h **PP24A-08** What is the main driver of atmospheric CO₂ dynamic: ocean or permafrost?: **S A Zimov**, N Zimov

1736h **PP24A-09** Southern Ocean intermediate water pH information provided by modern and fossil scleraxonian deep-sea corals: **M Gutjahr**, D Vance, G L Foster, C Hillenbrand, G Kuhn

1748h **PP24A-10** Quasi-100 ky glacial-interglacial cycles triggered by subglacial burial carbon release: **N Zeng**

PP24B Moscone West: 2005 **Tuesday** **1600h**
Molecules Modern to Ancient II (*joint with B, OS*)

Presiding: **P J Polissar**, Lamont-Doherty Earth Institute; **P J Polissar**, Lamont-Doherty Earth Institute; **S J Feakins**, University of Southern California; **S J Feakins**, University of Southern California

1600h **PP24B-01** Does transpiration matter to the hydrogen isotope ratios of leaf wax n-alkanes? (*Invited*): **F A McInerney**, B R Helliker, K H Freeman

1615h **PP24B-02** Leaf wax lipid D/H ratios of a single species along an environmental gradient on the Big Island of Hawai'i - lessons for the paleorecord (*Invited*): **D Sachse**, S K Arndt, H Wilkes, A Kahmen

1630h **PP24B-03** Is there a seasonal bias in MBT-CBT temperature reconstructions? (*Invited*): **J Weijers**, B Bernhardt, F Peterse, J P Werne, J A Dungait, S Schouten, J S Sinninghe Damste

1645h **PP24B-04** Cenozoic climate, topography and ecologic change in the Sierra Nevada and Basin and Range: Coupled organic molecular and inorganic isotopic records of environmental change: **M T Hren**, C P Chamberlain, A Mulch, M Pagani

1700h **PP24B-05** Temporal Insights on Biomarker-Based Climate Records (*Invited*): **N Drenzek**, R H Stanley, G M Santos, J R Southon, E R Druffel, D Montlucon, K A Huguen, T I Eglinton

1715h **PP24B-06** Molecular Radiocarbon Dating of Tropical Lake Sediments: Insights into the Chronology of Leaf Wax Stable Isotope Records: **P M Douglas**, M Pagani, T I Eglinton, M Brenner, J H Curtis, D A Hodell

1730h **PP24B-07** Lipid D/H Ratios from Multiple Sources and Deposits Indicate Drier Little Ice Age at Washington Island (4°43' N, 160°25' W), Central Pacific: **I Muegler**, D Sachse, J P Sachs

1745h **PP24B-08** Biomarker and molecular isotope approaches to deconvolve the terrestrial carbon isotope record: modern and Eocene calibrations: A F Diefendorf, **K H Freeman**, S Wing, E D Currano

SPA-Aeronomy

SA24A Moscone South: 301 **Tuesday** **1600h**
Response of the Atmosphere and Ionosphere to Solar Extreme Ultraviolet Variability I (*joint with SH*)

Presiding: **L Qian**, National Center for Atmospheric Research; **P G Richards**, George Mason university

1600h **SA24A-01** Lower Solar Extreme Ultraviolet Irradiances During the Solar Cycle 23/24 Minimum (*Invited*): **T N Woods**

1620h **SA24A-02** Is There Enough Solar EUV to Maintain the Global Mean Thermospheric Temperature? Revisiting a 37-year-old Problem (*Invited*): **S C Solomon**

1640h **SA24A-03** New measurements and improved modeling of solar flares with SDO EVE (*Invited*): **P C Chamberlin**, T N Woods, A Wilson, C Lindholm

1700h **SA24A-04** LWS FST: Determine and Quantify the Responses of Atmospheric/Ionospheric Composition and Temperature to Solar XUV Spectral Variability: **E R Talaat**, T J Fuller-Rowell, L Qian, P G Richards, A J Ridley

1715h **SA24A-05** Impacts on the Thermosphere of the Short Term Variability of the Solar EUV and XUV Spectral Irradiance Measured by SDO-EVE: **F G Eparvier**, T J Fuller-Rowell, S M Bailey, Title of Team: EVE Team

1730h **SA24A-06** Flare Rising Time and Duration: Modeling the Thermosphere and Ionosphere Response: **L Qian**, A G Burns, P C Chamberlin, S C Solomon

1745h **SA24A-07** On the heating of the thermosphere neutral gases by auroral electrons: **P G Richards**, T J Fuller-Rowell

SPA-Solar and Heliospheric Physics

SH24A Moscone South: 309 **Tuesday** **1600h**
From the Termination Shock to the Interstellar Medium: Dynamics and Physical Processes II

Presiding: **J Heerikhuisen**, University of Alabama in Huntsville; **H Kucharek**, University of New Hampshire

1600h **SH24A-01** The Heliosheath and Interstellar Medium: What the Voyagers Can Tell Us (*Invited*): **E C Stone**

1615h **SH24A-02** What Can Global Models Combined with Observations Tell Us About the Structure of the Heliosphere? (*Invited*): **N V Pogorelov**

1630h **SH24A-03** What Do We Know About the Local Interstellar Medium? (*Invited*): **J D Slavin**

1645h **SH24A-04** Microphysical processes at shocks and in the inner and out heliosheaths (*Invited*): **G P Zank**

1700h **SH24A-05** Microstructure of the heliospheric termination shock: Full particle electromagnetic simulations: **M Scholer**, S Matsukiyo

1715h **SH24A-06** New Hybrid Simulations of the Acceleration of Pickup Ions to High Energies at the Termination Shock: **J Giacalone**

1730h **SH24A-07** Separation of the IBEX Ribbon from the Globally Distributed Energetic Neutral Atom Flux: **N A Schwadron**, F Allegrini, M Bzowski, E R Christian, G B Crew, M A Dayeh, R Demajistre, P C Frisch, H O Funsten, S A Fuselier, K A Goodrich, M Gruntman, P H Janzen, H Kucharek, G Livadiotis, D J McComas, E Moebius, C L Prested, D B Reisenfeld, M L Reno, E C Roelof, J E Siegel

1745h **SH24A-08** Sources and Formation of the Ribbon Observed by IBEX: "... Good Things may be Close by": **H Kucharek**, S A Fuselier, N V Pogorelov, M A Lee, E Moebius, P Wurz, D B Reisenfeld, H O Funsten, N A Schwadron, D J McComas, P H Janzen

SPA-Magnetospheric Physics

SM24A Moscone South: 307 **Tuesday** **1600h**
Inner Magnetospheric Response to High-Speed Streams II
(joint with SA, SH)

Presiding: **M W Liemohn**; **V Perroomian**, UCLA

1600h **SM24A-01** Corotating High-Speed Streams and Interplanetary Coronal Mass Ejections: An Overview of Interplanetary Observations, Geomagnetic Effects and Energetic Particles (*Invited*): **I G Richardson**

1615h **SM24A-02** Energetic Coupling of the Solar Wind-Magnetosphere-Ionosphere System During High-Speed Streams (*Invited*): **G Lu**

1630h **SM24A-03** High Speed Stream Activity in an IMF-By magnetosphere (*Invited*): **J U Kozyra**, P C Brandt, N Buzulukova, C A Cattell, D De Zeeuw, C P Escoubet, M H Fok, H U Frey, J Goldstein, W D Gonzalez, M W Liemohn, D J McComas, S B Mende, L J Paxton, J D Perez, W K Peterson, L Rastaetter, A J Ridley, T Sotirelis, M F Thomsen, B Tsurutani, P W Valek

1645h **SM24A-04** Ring Current Dynamics in High Speed Stream Storms: TWINS Observations and CRCM Modeling: N Buzulukova, **M H Fok**, J Goldstein, P Valek, J A Redfern, D J McComas

1700h **SM24A-05** Modeling Ring Current Ion Anisotropy and Plasma Instability in Non-Dipolar Magnetic Fields: **V K Jordanova**, L Chen, R M Thorne, S G Zaharia, D T Welling, M F Thomsen

1715h **SM24A-06** Responses of the electron radiation belt to high speed streams (*Invited*): **S Morley**, R H Friedel, G D Reeves, E L Spanswick

1730h **SM24A-07** Modeling the Rapid Rebuilding of the Radiation Belts During High Speed Streams: **A Glocer**, M H Fok, T Nagai, G Toth

1745h **SM24A-08** Dayside Outer Zone Chorus Properties During the Declining Phase of the Solar Cycle: Polar: **B Tsurutani**, B J Falkowski, O P Verkhoglyadova, J S Pickett, O Santolik, G S Lakhina

SM24B Moscone South: 305 **Tuesday** **1600h**
Multiscale Wave/Plasma Interactions Between the Magnetosphere and Ionosphere at High Latitudes I (joint with NG, SA)

Presiding: **A V Streltsov**, Dartmouth College; **J L Semeter**, Boston University

1600h **SM24B-01** Magnetospheres of Planets and Moons: Links to Their Ionospheres. (*Invited*): **M G Kivelson**

1615h **SM24B-02** Phase Mixing, Density Cavities And Ion Outflow On Auroral Field Lines (*Invited*): **R L Lysak**, Y Song

1630h **SM24B-03** On the Relative Importance of Waves and Electron Precipitation in Driving Ionospheric Outflows (*Invited*): **R J Strangeway**

1645h **SM24B-04** The orientation of auroral arcs in general and in the late growth phase (*Invited*): **E F Donovan**

1700h **SM24B-05** Ionospheric heating, upwelling, and depletions in auroral current systems: **M D Zettergren**, J L Semeter

1715h **SM24B-06** Ionosphere-Magnetosphere Waves: **A J Russell**, A N Wright, A V Streltsov, A W Hood

1730h **SM24B-07** Dispersive Alfvén Waves Radiated by a Reconnection Diffusion Region Dispersive Alfvén Waves Radiated by the Reconnection Diffusion Region: **N Singh**

1745h **SM24B-08** Magnetosphere-Ionosphere Coupling: Effects of E-Region Plasma Turbulence on Ionospheric Conductances: **Y S Dimant**, M M Oppenheim

Mineral and Rock Physics

MR24A Moscone West: 3024 **Tuesday** **1600h**
Deep Mantle Properties II (joint with DI, S, T)

Presiding: **R M Wentzcovitch**, Univ Minnesota; **K Hirose**, Tokyo Tech

1600h **MR24A-01** Iron-Rich Perovskite and Post-Perovskite in the Lower Mantle (*Invited*): **J Lin**, Z Mao

1615h **MR24A-02** Experimental determinations of the wave velocities and density of candidate lowermost mantle materials (*Invited*): **J M Jackson**

1630h **MR24A-03** Iron spin transitions and elastic properties of (Mg,Fe)(Si,Al)O₃ perovskite using a newly developed synchrotron Mössbauer source and nuclear inelastic scattering: **C A McCammon**, V Potapkin, A I Chumakov, J P Celse, R Rüffer, G Smirnov, S L Popov, K Glazyrin, A Kantor, I Kantor, I Sergueev, T Boffa Ballaran, L S Dubrovinsky

1645h **MR24A-04** Spin crossover in ferropericlase and its influence on mantle velocities: **R M Wentzcovitch**, Z Wu, J F Justo, H Hsu, C R da Silva, J Wang, J D Bass

1700h **MR24A-05** Density profile of pyrolytic lower mantle: **R Sinmyo**, K Hirose, Y Ohishi

1715h **MR24A-06** Reverse-time migration, constraining small-scale thermal and thermo-chemical convection in the lowermost mantle, and the post-perovskite phase transition (*Invited*): **M V De Hoop**, R D van der Hilst, A P Van Den Berg, D A Yuen, S Wang

1730h **MR24A-07** The High Pressure Electronic Spin Transition in Iron: Impacts upon Mantle Mixing: **M Shahnas**, W R Peltier, Z Wu

1745h **MR24A-08** Lower mantle dynamics and the role of pressure-dependent thermodynamic and transport properties: N Tosi, **D A Yuen**, O Cadek

Seismology

S24A Moscone South: 103 **Tuesday** **1700h**
Gutenberg Lecture (Webcast)

Presiding: **P M Shearer**, U.C. San Diego

1700h **Presentation of Aki Award and Gutenberg Lecture Introduction (Peter Shearer, UCSD)**

1705h **S24A-01** The Fate of Water in the Cascadia Forearc (*Invited*): **M G Bostock**

Tectonophysics

T24A Moscone West: 2018 Tuesday 1600h
From Sediment Inputs to Seismogenesis at Subduction Zones IV (*joint with S, V, G, NH*)

Presiding: **T B Byrne**, University of Connecticut; **Y Hashimoto**, Kochi University

1600h **T24A-01** A new brittle to plastic constitutive law and its implications for subduction-zone seismicity: **T Shimamoto**, H Noda

1615h **T24A-02** Three-dimensional stress orientation in the basement basalt at the subduction input site, Nankai Subduction Zone, using anelastic strain recovery (ASR) data, IODP NanTroSEIZE Site C0012: **Y Yamamoto**, W Lin, H Oda, T B Byrne, Y Yamamoto, M Underwood, S Saito, Y Kubo, Title of Team: the IODP Expedition 322 Shipboard Scientific Party

1630h **T24A-03** Experimental Investigations Of Failure Mechanisms Associated With Slow Slip Events: **W Zhu**, T Tamarin

1645h **T24A-04** High-velocity frictional properties and microstructures of clay-rich fault gouge in megasplay fault zone, Nankai subduction zone: **K Ujiie**, A Tsutsumi

1700h **T24A-05** Large-Strain Frictional Behavior of Megasplay Fault Zone Materials and Accretionary Wedge Sediments Recovered from NanTroSEIZE Expedition 316 Drilling: **D Goldsby**, O Fabbri

1715h **T24A-06** Mechanical and hydraulic properties of subducted sediments, Nankai Trough accretionary prism: Effect of stress path: **H Kitajima**, F M Chester, G Biscontin

1730h **T24A-07** Effect of elevated stress and temperature on smectite dehydration in subducting sediments – an experimental approach: **A Huepers**, A Kopf

1745h **T24A-08** Paleo-stress estimation of elastic rebounded fault rock based on calcite twin: **A Sakaguchi**, D Nishiura, H Sakaguchi

T24B Moscone West: 2011 Tuesday 1600h
Lithospheric Structure of East Asia II (*joint with S*)

Presiding: **M L Begnaud**, Los Alamos National Laboratory; **Y Liu**, Woods Hole Oceanographic Institution

1600h **T24B-01** Deformation along the Taiwan-Luzon plate boundary from GPS velocity, stress inversion, and gravity data (*Invited*): **Y Hsu**, S Yu

1615h **T24B-02** Mapping Pn Amplitude Spreading and Attenuation in Asia (*Invited*): **X Yang**, W S Phillips, R J Stead

1630h **T24B-03** Spatial Correlation between Crustal Strength and Relocated Seismicity in the Taiwan Region Inferred from 3-D Vp and Vs Images and Gravity Data (*Invited*): **J Chiu**, K Kim, Y Horng-Yuan, J Pujol, S C Chiu, K Chen, B Huang, Y Yeh

1645h **T24B-04** Revised South China Sea Seafloor Spreading Anomalies: **U Barckhausen**, M Engels, D Franke

1700h **T24B-05** Surface wave tomography of China from ambient noise and earthquake data: **Z Xu**, X Song, S Zheng

1715h **T24B-06** WITHDRAWN

1730h **T24B-07** 3D gravity imaging of deep geological structure of Huangling Anticline in Three Gorges area, China: **Y Zhang**, C Chen

1745h **T24B-08** An attempt to detect temporal variations of crustal structure in the source area of the 2006 Wen-An earthquake in North China: **J Lei**, D Zhao, F Xie, J Liu

T24C Moscone West: 2016 Tuesday 1600h
Structure, Dynamics, and Evolution of the African-Arabian Rift Systems II (*joint with S, V*)

Presiding: **D Keir**, University of Leeds; **I D Bastow**, University of Bristol; **C Tiberi**, CNRS; **C Doubre**, EOST-IPGS

1600h **T24C-01** Volcanic architecture of the Afar Rift: **C Vye**, K Smith, L Bateson, C Jordan

1615h **T24C-02** The role of magmatic processes in strain localization from rift onset to rupture in East Africa and the Red Sea (*Invited*): **C J Ebinger**, N Lindsey, D M Cote, D Keir, A Ayele, C Tiberi

1635h **T24C-03** Dyke intrusion dynamics during the ongoing rifting episode in Afar: **E Jacques**, R Grandin, A Nercessian, A Ayele, D Keir, C Doubre, A Socquet, A Lemarchand

1650h **T24C-04** Origin of silicic crust by rifting and bimodal plume volcanism in the Afar Depression: A Ghatak, **A R Basu**, C J Ebinger

1705h **T24C-05** Continental margins and Ocean-Continent Transitions of the Gulf of Aden: how Africa and Arabia broke up? (*Invited*): **S Leroy**, F Lucazeau, E D'Acromont, H Sloan, P Razin, J Robinet, J Autin, L Watremez

1725h **T24C-06** GPS Velocity Field at the Western Tip of the Aden Ridge ; Implications for Rifting and the Arabia-Somalia-Nubia Triple Junction Dynamics: **C Doubre**, A Socquet, F Masson, C Cressot, K Mohamed, C Vigny, J Ruegg

1740h **T24C-07** Two-dimensional surface velocity field across the Asal Rift (Afar Depression) from 11 years of InSAR data: **J Tomic**, G Peltzer, C Doubre

Volcanology, Geochemistry, and Petrology

V24A Moscone West: 2008 Tuesday 1600h
Supervolcanoes: Modeling of Eruption Scenarios and Their Regional and Global Impacts II

Presiding: **M R Rampino**, New York University; **F Dobran**, Hofstra University

1600h **Introduction**

1605h **V24A-01** Explosive Super-eruptions: Problems and Prejudices: **S Self**

1623h **V24A-02** The largest volcanic eruptions on Earth: **I Ukstins Peate**, S E Bryan, D W Peate, S Self, M Mawby, D A Jerram, J Marsh

1641h **V24A-03** Limited climate impact of the Young Toba Tuff eruption: C Timmreck, **D Zanchettin**, H Graf, S Lorenz, U Niemeier, D Matei, J H Jungclaus, T J Crowley

1659h **V24A-04** Brief Lifespans and Rapid Recurrence of Large Ignimbrite-Caldera Cycles (Super-Eruptions) in the Mid-Tertiary Southern Rocky Mountain Volcanic Field, Colorado-New Mexico: **P W Lipman**, W C McIntosh, M J Zimmerer

1717h **V24A-05** Coupled evolution of magma chambers and flow in conduits during large volcanic eruptions: **L Karlstrom**, M Manga, M L Rudolph

1735h **V24A-06** Eruption column modeling of supervolcanoes: **F Dobran**

1753h **Open Discussion and Conclusions**

V24B Moscone West: 2020 Tuesday 1600h
Ultrahigh-Pressure Metamorphism: 25 Years After the
Discovery of Coesite and Microdiamond II (*joint with MR, DI, T*)

Presiding: L Dobrzhinetskaya, University of California at Riverside;
R Wirth, GFZ Potsdam; J Zhang, Faculty of Earth Sciences

1600h **V24B-01** An extensional piggyback model for large apparent displacements along major “thrusts”: examples from nappes of the Norwegian Caledonides (*Invited*): **H K Brueckner**

1615h **V24B-02** Diamond in ocean-derived UHP rocks from the Western Alps: a first record and some consequences: **M Frezzotti**, J Selverstone, R Compagnoni, Z D Sharp

1630h **V24B-03** Diamond and other mineralogical records of ultra-deep origin in spinel-garnet peridotite from Moldanubian Zone, Bohemian Massif (*Invited*): **K Naemura**, D Ikuta, H Kagi, S Odake, T Ueda, S Ohi, T Kobayashi, T Hirajima, M Svojtka

1645h **V24B-04** POLYCRYSTALLINE DIAMONDS FROM THE ERZGEBIRGE ULTRAHIGH-PRESSURE METAMORPHIC TERRANE, GERMANY: **L Dobrzhinetskaya**, R Wirth, H W Green

1700h **V24B-05** Fluid inclusions in carbonado diamond: Implication to the crystal growth environment: **H Kagi**, H Ishibashi, H Sakurai, H Ohfuji

1715h **V24B-06** Diamond and coesite discovered in Saxony-type granulite: solution to the Variscan garnet peridotite enigma?: **P J O'Brien**, J Kotkova, M A Ziemann

1730h **V24B-07** PARTIAL MELTING OF DEEPLY-SUBDUCTED ECLOGITE: IMPLICATIONS FOR MELT TRANSPORT, RHEOLOGY, AND DECRATONIZATION (*Invited*): **L Wang**, T M Kusky, K Zong, L Guo

1745h **V24B-08** Coesite-Diamond Assemblage in Ultrahigh Pressure Crustal and Mantle rocks: Evidence for Carbon Recycling: **N V Sobolev**

V24C Moscone West: 2022 Tuesday 1600h
Volatiles in Magmas: Breath of the Deep Earth II (*joint with MR, DI*)

Presiding: S Demouchy, Geosciences Montpellier -CNRS-; P Ruprecht, Lamont-Doherty Earth Observatory; T Plank, Columbia University

1600h **V24C-01** Solution behavior of C-O-H volatiles in silicate melts under upper mantle pressures and temperatures as a function of redox conditions: **K Kumamoto**, B Mysen, G D Cody

1615h **V24C-02** Water content in olivine-hosted melt inclusions measured by Raman spectroscopy and possible effect of water reequilibration during magma ascent and eruption: **Y Chen**, A Provost, P Schiano, N Cluzel

1630h **V24C-03** The melting, differentiation and H₂O condition of low alkali tholeiite from Izu-Bonin arc: **I Ogitsu**, O Ishizuka, Y Kawanabe, N Geshi, T TuZino, R N Taylor, K Sano, T Yamamoto

1645h **V24C-04** Volatile Loss from Melt Inclusions in Clasts of Differing Sizes: **A S Lloyd**, T Plank, P Ruprecht, E H Hauri, W I Rose

1700h **V24C-05** Water and carbon heterogeneity in MORB mantle sources (*Invited*): **E H Hauri**, A E Saal

1720h **V24C-06** Modeling the dehydrogenation of mantle olivine with implications for the water content of the Earth's upper mantle, and ascent rates of kimberlite and alkali basaltic magmas (*Invited*): **F Costa Rodriguez**, R Dohmen, S Demouchy

1740h **V24C-07** Polybaric degassing of island arc low-K tholeiitic basalt recorded in OH concentrations of Ca-rich plagioclase: **M Hamada**, T Kawamoto, E Takahashi, T Fujii

Wednesday A.M.

Union

U31A Moscone South: 104 Wednesday 0800h
Earth's First Few Hundred Million Years I

Presiding: J Badro, Institut de Physique du Globe de Paris;
M J Walter, University of Bristol

0800h **U31A-01** The geochemical constraints on Earth's accretion and core formation (*Invited*): **J F Rudge**, T Kleine, B Bourdon

0820h **U31A-02** Constraints from metal-silicate partitioning on accretion, core formation and volatile addition to the growing earth (*Invited*): **B J Wood**

0840h **U31A-03** Fifty Years of Pb Core Pumping: The History of Core Segregation and Terrestrial Volatiles (*Invited*): **F Albarede**

0900h **U31A-04** Earth Formation and Initial Differentiation (*Invited*): **R W Carlson**, J O'Neil, M M Boyet, M Jackson

0920h **U31A-05** Onset, Persistence and Structure of the Magnetic Field in the Early Earth (*Invited*): **B A Buffett**

0940h **U31A-06** Mantle differentiation and chemical cycling in the Archean (*Invited*): **C Lee**

Atmospheric Sciences

A31A Moscone South: Poster Hall Wednesday 0800h
Aerosol Observability and Predictability: From Research to Operations for Chemical Weather Forecasting I Posters

Presiding: P R Colarco, NASA GSFC; J S Reid, Naval Research Laboratory; G R Carmichael, University of Iowa

0800h **A31A-0015** POSTER Modelling cloud processing of gases and particles in urban-industrial plumes: Comparison of several meso-scale aerosol forecasting models: **W Gong**, J Zhang, S Kim, M Leriche, G J Frost, G A Grell, C Mari, S A McKeen, J Pinty, T Pierre, A Macdonald, W R Leitch

0800h **A31A-0016** POSTER Adjoint sensitivity analyses for three Asian dust events affected the Korean Peninsula: **S Kim**, H Kim, Title of Team: atmospheric predictability and data assimilation laboratory

0800h **A31A-0017** POSTER Dust Aerosol Analysis and Prediction with Lidar Observations and Ensemble Kalman Filter: **T T Sekiyama**, T Y Tanaka, A Shimizu, T Miyoshi

0800h **A31A-0018** POSTER Aerosol Optical Depth Retrieval over Boreal Forests using AATSR - Case Studies: **L Sogacheva**, P Kolmonen, A Sundström, G De Leeuw

0800h **A31A-0019** POSTER Development of global aerosol forecasting system at NCEP: **S Lu**, H Huang, Y Hou, A da Silva, M Chin, S Moorthi, J Wang, H H Juang, M Iredell, J McQueen, T L Diehl

0800h **A31A-0020** POSTER Applied Remote Sensing Education and Training (ARSET): Opportunities to shorten the learning curve in use of NASA satellite data products: **R G Kleidman**, A I Prados, S A Christopher

0800h **A31A-0021** POSTER Satellite Lidar Data Assimilation For Improved Global Aerosol Forecasting: Lessons Learned From CALIOP, With an Eye Toward EarthCARE: **J R Campbell**, J S Reid, J L Tackett, D L Westphal, D M Winker, J Zhang

0800h **A31A-0022** POSTER AERONET Version 1.5 for near real-time data analysis: **B N Holben**, T F Eck, A Smirnov, J S Reid

0800h **A31A-0023** POSTER Daytime variations of aerosol optical properties from AERONET in Americas: **Y Zhang**

0800h **A31A-0024** POSTER Overview of the data assimilation quality satellite aerosol products (*Invited*): **J Zhang**, E Hyer, J Campbell, Y Shi, J S Reid, D L Westphal

0800h **A31A-0025** POSTER Evaluation of the MODIS Deep Blue aerosol product over the North Africa Regions for aerosol forecasts related applications: **Y Shi**, J Zhang, J S Reid, C Hsu

0800h **A31A-0026** POSTER Prediction of particle formation and number concentration over the United States with WRF-Chem + APM model: **G Luo**, F Yu

0800h **A31A-0027** POSTER Thick absorbing aerosol layer observed in the monsoon season over India: **S N Tripathi**, S Dey, J Jaidevi, B N Singh, M Michael, T Gupta

0800h **A31A-0028** POSTER First Direct Evidence of Strong Absorption Associated with Coarse Mode Particles Over CTCZ Region from Aircraft Experiment 2009: **J Jaidevi**, P Choudhry, M Michael, S N Tripathi, T Gupta

0800h **A31A-0029** POSTER The Development Of NCEP Global Aerosol Modeling System: Fire Emissions: **H Huang**, A da Silva, X Zhang, S Kondragunta, Y Tang, S Lu, M Tsidulko, C Tassone, J Huang, J McQueen, B Lapenta, S Lord, M Chin, T Diehl

0800h **A31A-0030** POSTER A Multi-Scale Three-Dimensional Data Assimilation Scheme for Improving Regional PM Air Quality Prediction: **Z Zang**, Z Li, Y Chao, Q Li, D CHEN, K Liou

0800h **A31A-0031** POSTER Recent Updates to FNMOC Operational Aerosol Modeling and Products: **C Skupniewicz**, D L Westphal

A31B Moscone South: Poster Hall Wednesday 0800h Gulf of Mexico Air Quality and Climate Impacts: Urban and Regional Pollution Including the 2010 Oil Spill I Posters (*joint with PA*)

Presiding: **B L Lefer**, University of Houston; **E P Olaguer**, Houston Advanced Research Center

0800h **A31B-0032** POSTER Considerations for Planning a Monitoring Campaign at Petrochemical Complexes: Lessons Learned: **A Cuclis**

0800h **A31B-0033** POSTER Characterizing Industrial Emissions using a Mobile Laboratory: **S C Herndon**, E C Wood, W B Knighton, L Oluwole, S Albo, T B Onasch, E Fortner, J Wormhoudt, M A Zavala, L T Molina, C E Kolb

0800h **A31B-0034** POSTER Investigation of VOC radical sources in the Houston Area by the Solar Occultation Flux (SOF) method and Mobile DOAS: J Mellqvist, **J Johansson**, J Samuelsson, B Offerle, B Rappenglueck

0800h **A31B-0035** POSTER Evaluation of the Industrial Point Source Emission Inventory for the Houston Ship Channel Area Using Ship-Based, High-Time-Resolution Measurements of Volatile Organic Compounds: **D Bon**, J A De Gouw, J B Gilman, W C Kuster, B M Lerner, E J Williams, G J Frost

0800h **A31B-0036** POSTER Atmospheric ammonia measurements in Houston, TX using an external cavity-quantum cascade laser-based sensor: **L Gong**, R Lewicki, R J Griffin, J H Flynn, B L Lefer, F K Tittel

0800h **A31B-0037** POSTER Measurements of Reactive Nitrogen Compounds (NO, NO_x, NO_y) During the Study of Houston Atmospheric Radicals Program (SHARP): **W T Luke**, P Kelley, B L Lefer, J H Flynn

0800h **A31B-0038** POSTER Coupled Variations in HNO₃ and Soluble Gas Phase Chloride in the Houston Region: **J E Dibb**, C A Corr, B L Lefer, J H Flynn

0800h **A31B-0039** POSTER Ambient measurements of N₂O₅ during SHARP using cavity ring-down spectroscopy: **J N Geidosch**, K Perkins, S W North

0800h **A31B-0040** POSTER Nitrous Acid Vertical Gradients during SHARP 2009 in Houston, TX: **K Wong**, J Tsai, O Pikelnaya, J Stutz

0800h **A31B-0041** POSTER Formaldehyde Source Attribution in Houston during TexAQ5 II and TRAMP: **B Guven**, E P Olaguer

0800h **A31B-0042** POSTER Beyond SHARP— Primary Formaldehyde from Oil and Gas Exploration and Production in the Gulf of Mexico Region: **E P Olaguer**

0800h **A31B-0043** POSTER Hydrogen peroxide and methylhydroperoxide variations in Houston urban air during May 2009: **J Golovko**, B Rappenglueck, B T Jobson

0800h **A31B-0044** POSTER Radical Budget and Ozone Production in Houston, TX during SHARP 2009: **X Ren**, D van Duin, M Cazorla, S Chen, W H Brune, J H Flynn, B L Lefer, J E Dibb, K Wong, C Tsai, J Stutz

0800h **A31B-0045** POSTER OH and HO₂ Measurements in Houston TX, during SHARP 2009: **D van Duin**, W H Brune, X Ren

0800h **A31B-0046** POSTER Ozone production and emission precursors during SHARP 2009: **M Cazorla**, W H Brune, X Ren, B T Jobson, B L Lefer

0800h **A31B-0047** POSTER Cloud Impacts on Photolysis and Ozone Production Rates in Urban Southeast Texas: **J H Flynn**, B L Lefer, B Rappenglueck, W T Luke, L G Huey, J E Dibb, B T Jobson

0800h **A31B-0048** POSTER Ozone and secondary aerosol formation – Analysis of particle observations in the 2009 SHARP campaign: J Cowin, **X Yu**, N Laulainen, M Iedema, B L Lefer, D Anderson, D Pernia, J H Flynn

0800h **A31B-0049** POSTER Solubility of Particulate Mercury in Coastal Waters of the Central U.S. Gulf Coast: **M Engle**, D P Krabbenhoft, T G Sabin, N J Geboy, A Kolker

0800h **A31B-0050** POSTER Evidence of Entrainment Impacting Surface Ozone and Sulfur Dioxide in Houston, TX: **C Haman**, B L Lefer, G A Morris, J H Flynn

0800h **A31B-0051** POSTER Improved Specification of Transboundary Air Pollution over the Gulf of Mexico Using Satellite Observations: **A Pour Biazar**, M N Khan, Y H Park, R T McNider, B Cameron

0800h **A31B-0052** POSTER Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling: **J Hare**, C MacDonald, A Ray, C W Fairall, S Pezoa, B Gibson, C H Huang

0800h **A31B-0053** POSTER Stratosphere-Troposphere Exchange Over Houston: **M E Taylor**, B Rappenglueck, A M Thompson, G A Morris, B L Lefer, C Haman, J H Flynn, C Klich

0800h **A31B-0054** POSTER Characterization of Volatile Organic Compounds measured in the lower troposphere around the Deep Water Horizon oil spill site (Gulf of Mexico): **B Barletta**, S Meinardi, N J Blake, I Leifer, F S Rowland, D R Blake

0800h **A31B-0055** POSTER Influence of the Deep Water Horizon Oil Spill on Atmospheric Hydrocarbon Levels over the Gulf of Mexico: **N J Blake**, B Barletta, S Meinardi, I Leifer, F S Rowland, D R Blake

0800h **A31B-0056** POSTER Source Attribution of Ozone in Southeast Texas Before and After the Deepwater Horizon Accident Using Satellite, Sonde, Surface Monitor, and Air Mass Trajectory Data: **G A Morris**, B L Lefer, B Rappenglueck, C L Haman, M Taylor, M R Schoeberl

0800h **A31B-0057** POSTER POLARIMETRIC RETRIEVALS OF SURFACE AND AEROSOL PROPERTIES IN THE REGION AFFECTED BY THE DEEPWATER HORIZON OIL SPILL: **M Ottaviani**, B Cairns, J Chowdhary, K D Knobelspiesse, R A Ferrare, C A Hostetler, J W Hair, R Rogers, M D Obland, P Zhai, Y Hu

A31C Moscone South: Poster Hall Wednesday 0800h
Interactions Between Tropospheric Chemistry and Climate I
Posters (joint with GC)

Presiding: **L J Mickley**, Harvard University; **A M Fiore**, NOAA GFDL

0800h **A31C-0058** *POSTER* GEM-MACH15 Operational Air Quality Forecast Model: An Evaluation of the First Year's Performance:

R Pavlovic, S Menard, M D Moran, P Beaulieu, S Gilbert, J Chen, P Makar, G Morneau

0800h **A31C-0059** *POSTER* Influence of global changes on modeled ozone response to changes in local emissions and the policy implications for ozone abatement strategies in the US: **J C Avise**, R Gonzalez Abraham, S H Chung, B K Lamb, E P Salathe, Y Zhang, D G Streets, C G Nolte, D Loughlin, A B Guenther, C Wiedinmyer, T Duhl, J Chen

0800h **A31C-0060** WITHDRAWN

0800h **A31C-0061** *POSTER* Defining the common spatio-temporal patterns of aerosols in Europe for the XXI century under different IPCC SRES scenarios: P Jimenez-Guerrero, **J J Gomez-Navarro**, S Jerez, R Lorente-Plazas, J P Montavez

0800h **A31C-0062** *POSTER* Warmer and wetter climate: More soluble pollutants: **Y fang**, A M Fiore, L W Horowitz

0800h **A31C-0063** *POSTER* Impact of climate change on summer cyclones and air pollution: **C Lang**, D Waugh

0800h **A31C-0064** *POSTER* Contribution of various carbon sources toward isoprene synthesis mediated by altered atmospheric CO₂ concentrations: **A M Trowbridge**, D Asensio, A S Eller, M J Wilkinson, J Schnitzler, R B Jackson, R K Monson

0800h **A31C-0065** *POSTER* Multi-model prediction of climate-induced changes in ozone and reactive nitrogen fluxes into the troposphere: **M I Hegglin**, T G Shepherd, Title of Team: CCMVal modelling team

0800h **A31C-0066** *POSTER* Ozone column and solar zenith angle effects on ozone photolysis: **S R Hall**, K Ullmann, S Madronich, B E Anderson, J W Hair

0800h **A31C-0067** *POSTER* Leveling-off of atmospheric methane caused by coupling of climate change and tropospheric chemistry: **K Sudo**, P K Patra, A Ito

0800h **A31C-0068** *POSTER* Sea of Scenarios: Reducing Uncertainties in Methane Projections: **E Matthews**, E Baum

0800h **A31C-0069** *POSTER* Implications of Climate Policies for Future Aerosol: Health and Economic Impacts: **N E Selin**, C Wang, A P Sokolov, S Paltsev, M D Webster, J M Reilly

0800h **A31C-0070** *POSTER* The Impact of Subsonic Aircraft Emission on Upper Troposphere/Lower Stratosphere Composition and Radiative Forcing: An Update: **J M Rodriguez**, M R Damon, M Natarajan, T D Fairlie, J E Nielsen, S L Baughcum, G S Wojcik, T Clune

0800h **A31C-0071** *POSTER* Liquid Cloud Responses to Soot: **D M Koch**

0800h **A31C-0072** *POSTER* Radiative effects due to tropospheric ozone and carbonaceous aerosol enhancements caused by Asian wildfires during Spring, 2008: **M Natarajan**, R Pierce, T Schaack, A Lenzen, J A Al-Saadi, A J Soja, T P Charlock, F G Rose

0800h **A31C-0073** *POSTER* A modeling study of ammonium-sulfate-nitrate aerosols in terms of radiative forcings: **D Goto**, T Nakajima, T Takemura

0800h **A31C-0074** *POSTER* Humidity Dependent Extinction of Clay Aerosols: **M E Greenslade**, A R Attwood

0800h **A31C-0075** *POSTER* Production and physicochemical evolution of size-resolved marine aerosol in the NCAR Community Atmosphere Model: Implications for oxidation processes, radiative transfer, and climate: **M S Long**, W C Keene, D J Erickson, X Liu, S J Ghan, R C Easter

0800h **A31C-0076** *POSTER* High-Resolution WRF-Chem Simulations of Particulate Matter Emitted By Different Agriculture Tillage under Different Weather Conditions Using: **K Moore**, M Wojcik, J Jin, J Hatfield

A31D Moscone South: Poster Hall Wednesday 0800h
Understanding Drought Variability, Forcing, and Feedbacks I
Posters (joint with PA)

Presiding: **B I Cook**, NASA-GISS; **R Seager**, Lamont Doherty Earth Obs; **R Touchan**, The University of Arizona; **D M Meko**, University of Arizona

0800h **A31D-0077** *POSTER* Increase of SO₂ emissions detected from space due to the severe 2006 summer-drought in the southwest of China: **L Zhu**, Y Song

0800h **A31D-0078** *POSTER* A 500-year reconstruction of streamflow variability in Spring Valley, Nevada, USA, and a look at the future of watershed-scale dendrohydrology: **S D Strachan**, F Biondi, J F Leising

0800h **A31D-0079** *POSTER* A High-Resolution Record of Hydroclimate Changes in the Last Three Millennia from a Stalagmite at DeSoto Caverns (Alabama, USA): **R Dhungana**, P Aharon

0800h **A31D-0080** *POSTER* The Role of Soil Moisture Transition Zones in Predicting Climate in North America: **R Saikku**, J S Pal, E A Eltahir

0800h **A31D-0081** *POSTER* Meteorological analysis and historical perspective of the 1999-2005 Canadian Prairie drought: **J R Gyakum**, L Hryciw

0800h **A31D-0082** *POSTER* Interactions between large-scale modes of climate and their relationship with Australian climate and hydrology: **K R Whan**, J A Lindesay, B Timbal, M R Raupach, E Williams

0800h **A31D-0083** *POSTER* Attribution of Global Precipitation Change over the Past 1000 Years: **J Liu**, B Wang, S Yim

0800h **A31D-0084** *POSTER* Forced and unforced variability of twentieth century North American droughts and pluvials: **B I Cook**, E Cook, K J Anchukaitis, R Seager, R L Miller

0800h **A31D-0085** *POSTER* Centennial-to-millennial climate variability over the Great Plains in transient simulations of the Holocene with a coupled GCM: **S Wagner**, A Schwalb, E Zorita

0800h **A31D-0086** *POSTER* Developing paleoclimate, historical and GCM based future scenarios of moisture indices for upper sub-basins in the Canadian Rockies: D Sauchyn, **S L Lapp**, J St. Jacques, J R Vanstone, R J MacDonald, J M Byrne

0800h **A31D-0087** *POSTER* A tree-ring reconstruction of monsoon precipitation for the southwestern United States: **D Griffin**, C A Woodhouse, D M Meko, R Touchan, S W Leavitt, C L Castro

0800h **A31D-0088** *POSTER* Evaluation of Three Downward Shortwave Radiative Flux Datasets for Near Real-time Land Surface Modeling: **J Zeng**, C D Peters-Lidard, J B Eylander, J Wang, B J Choudhury, Y Tian

0800h **A31D-0089** *POSTER* Drought in the Nile Basin: characterizing variability, quantifying uncertainty, and studying processes with the Nile Land Data Assimilation System: **C A Alo**, B F Zaitchik, S Habib, M C Anderson, M Ozdogan

0800h **A31D-0090** POSTER Hydroclimate Events Revealed by a 4,300 Year Record of $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ Variability in a Speleothem from DeSoto Caverns (Alabama, USA): **D E Aldridge**, P Aharon

0800h **A31D-0091** POSTER Drought Variability in Mediterranean Basin: **D M Meko**, R Touchan

0800h **A31D-0092** POSTER Decadal climate variability and drought in the Mediterranean region: role of large-scale forcings and regional processes: **A Mariotti**, A Dell'Aquila

A31E Moscone West: 3002 Wednesday 0800h
Atmospheric Circulations and Climate Change I (*joint with GC*)

Presiding: **P A O’Gorman**, MIT; **T M Merlis**, Caltech

0800h **A31E-01** Climate Feedbacks and the Increase of Poleward Energy Transport in AR4 Simulations (*Invited*): **D L Hartmann**, M D Zelinka

0815h **A31E-02** Changing storm track diffusivity and the upper limit to poleward latent heat transport: **R Caballero**

0830h **A31E-03** Title: Energetics of PCMDI/CMIP3 Climate Models: Net Energy Balance and Meridional Enthalpy Transport: F Ragone, **V Lucarini**

0845h **A31E-04** Storm Tracks in a Warmer Climate (*Invited*): **K Hodges**

0900h **A31E-05** STATISTICS OF ATMOSPHERIC CIRCULATIONS FROM CUMULANT EXPANSIONS: **B Marston**, F Sabou

0915h **A31E-06** Downstream self-destruction of storm tracks: **Y Kaspi**, T Schneider

0930h **A31E-07** The dynamics of a poleward shift of the westerlies in a hierarchy of GCMs: **J Kidston**, G K Vallis

0945h **A31E-08** Abrupt circulation responses of the stratosphere-troposphere coupled system to climate change-like forcing in a relatively simple AGCM: **S Wang**, E P Gerber, L M Polvani

A31F Moscone West: 3006 Wednesday 0800h
Atmospheric Sciences General Contributions: Tropospheric and Stratospheric Ozone I

Presiding: **S Madronich**, NCAR

0800h **A31F-01** The Ozone Hole - from today's observations to long-term predictions: **M von Hobe**, Title of Team: The RECONCILE Science Team

0815h **A31F-02** Polar Ozone Loss in a Changing Climate: **M Brakebusch**, C E Randall, D E Kinnison, S Tilmes, M L Santee

0830h **A31F-03** Rate coefficient measurements for the ClO radical self-reaction as a function of pressure and temperature: **J B Burkholder**, K Feierabend

0845h **A31F-04** Improved simulation of preindustrial surface ozone in a model with bromine chemistry: **J P Parrella**, M J Evans, D J Jacob, L J Mickley, B Miller, Q Liang

0900h **A31F-05** Variations in ozone depletion potentials of very short-lived substances with season and emission region: **J Brioude**, R W Portmann, J S Daniel, O R Cooper, G J Frost, K H Rosenlof, C Granier, A R Ravishankara, S A Montzka, A Stohl

0915h **A31F-06** Blowing snow-sourced bromine and its implications for polar tropospheric ozone: **X Yang**, J A Pyle, R A Cox, N Theys, M Van Roozendael

0930h **A31F-07** A New Interpretation of Total Column BrO during Arctic Spring: **R J Salawitch**, T P Canty, T P Kurosu, K Chance, Q Liang, S Pawson, P K Bhartia, X Liu, L G Huey, J E Dibb, W R Simpson, D Donohoue, A J Weinheimer, F M Flocke, J Neuman, J B Nowak, T B Ryerson, S J Oltmans, D R Blake, E L Atlas, D E Kinnison, S Tilmes, L Pan, F Hendrick, M Van Roozendael, K Kreher, P V Johnston, R Pierce, J H Crawford, D J Jacob, Title of Team: and A da Silva, J.E. Nielsen, J.M. Rodriguez, J. Liao, R.E. Stickel, D.J. Tanner, D. Knapp, D. Montzka, R.S. Gao, T.P. Bui, and G. Chen

0945h **A31F-08** Global patterns in halogen-induced changes in vertically resolved stratospheric ozone: **B Hassler**, G E Bodeker, M Dameris, D E Kinnison, S Solomon

A31G Moscone West: 3004 Wednesday 0800h
Biomass Burning: New Findings and Analyses From Multiple Perspectives V (*joint with B, PA*)

Presiding: **S M Kreidenweis**, Colorado State Univ; **A P Sullivan**, Colorado State University

0800h **A31G-01** Detection, transport and chemistry of biomass burning plumes with IASI: **L Clarisse**, P Coheur, Y R'Honi, D Hurtmans, C Clerbaux, A Razavi

0815h **A31G-02** Recent progress in biomass burning research: a perspective from analyses of satellite data and model studies. (*Invited*): **J A Logan**

0845h **A31G-03** Investigating the environmental impact of the 2010 Russian fires with the NASA GEOS-5 modeling and data assimilation system: **A S Darmenov**, A da Silva, P R Colarco, R C Govindaraju

0900h **A31G-04** Episodes of cross-polar transport in the Arctic troposphere during July 2008 as seen from models, satellite, and aircraft observations: A Stohl, **H Sodemann**, M Pommier, S R Arnold, S A Monks, K Stebel, J F Burkhart, J W Hair, G S Diskin, C Clerbaux, P Coheur, D Hurtmans, H Schlager, A Blechschmidt, J E Kristjansson

0915h **A31G-05** Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: An integrated analysis of aircraft and satellite observations: **M J Alvarado**, J A Logan, J Mao, E C Apel, D D Riemer, D R Blake, R C Cohen, K Min, A E Perring, E C Browne, P J Wooldridge, G S Diskin, G W Sachse, H E Fuelberg, W Sessions, D L Harrigan, L G Huey, J Liao, A T Case Hanks, J L Jimenez, M Cubison, A J Weinheimer, D J Knapp, F M Flocke, P O Wennberg, A Kuerten, J Crouse, J St. Clair, A Wisthaler, S A Vay, Title of Team: ARCTAS Science Team

0930h **A31G-06** New global fire emission estimates and evaluation of volatile organic compounds: **C Wiedinmyer**, L K Emmons, S K Akagi, R J Yokelson, J J Orlando, J A Al-Saadi, A J Soja

0945h **A31G-07** The impact of diverse types of biomass burning in a tropical country: **R J Yokelson**, I R Burling, S P Urbanski, T J Christian, E L Atlas, C Wiedinmyer, S K Akagi, G Engling

A31H Moscone West: 3008 Wednesday 0800h
Local-Scale Atmospheric Monitoring and Modeling for Exposure Assessment I

Presiding: **L D Lemke**, Wayne State University; **X Xu**, University of Windsor; **R Cook**, US Environmental Protection Agency

0800h **A31H-01** Using Mobile Monitoring to Assess Spatial Variability in Urban Air Pollution Levels: Opportunities and Challenges (*Invited*): **T Larson**

- 0820h **A31H-02** Evaluation of the Quick Urban and Industrial Complex (QUIC) Modeling System to Predict Ultrafine Particle Levels in an Urban Neighborhood near a Highway: **A St. Vincent**, C Milando, S Zhu, W Zamore, D Brugge, J Durant
- 0835h **A31H-03** Local-Scale Exposure Assessment of Air Pollutants in Source-Impacted Neighborhoods in Detroit, MI (*Invited*): **A F Vette**, S Bereznicki, J Sobus, G Norris, R Williams, S Batterman, M Breen, V Isakov, S Perry, D Heist, Title of Team: Community Action Against Asthma Steering Committee
- 0855h **A31H-04** Assessing Local-scale Air Quality Modeling for PM_{2.5} for Exposure Modeling Applications: K Wesson, **K Baker**, J Burke
- 0910h **A31H-05** Use of Cokriging to Improve Spatial Resolution of Ambient Airborne Contaminant Concentration Estimates in Detroit and Windsor: **L D Lemke**, S M Bobryk, X Xu
- 0925h **A31H-06** Local-Scale Air Quality Modeling in Support of Human Health and Exposure Research (*Invited*): **V Isakov**
- 0945h **A31H-07** A subgrid scale scheme accounting for concentration variability due to heterogeneous emissions in chemistry-transport models: **M Valari**, V Isakov

Atmospheric and Space Electricity

AE31A Moscone West: 3007 **Wednesday 0800h**
Volcano Lightning I (*joint with V, A*)

Presiding: **A A Few**, Rice University; **P R Krehbiel**

- 0800h **AE31A-01** Observations of volcanic Lightning (*Invited*): **R J Thomas**, S A Behnke, P R Krehbiel, W Rison, H E Edens, S R McNutt
- 0815h **AE31A-02** Electrical charging of explosive volcanic plumes (*Invited*): **M R James**, S J Lane, J S Gilbert
- 0830h **AE31A-03** Volcanic Lightning: Review of Global Observations and the Role of Water (*Invited*): **S R McNutt**, E Williams
- 0845h **AE31A-04** Global detection of explosive volcanic eruptions with the World Wide Lightning Location Network (WWLLN) and application to aviation safety (*Invited*): **J W Ewert**, R H Holzworth, A K Diefenbach

AE31B Moscone West: 3007 **Wednesday 0900h**
Electricity and Lightning in Thunderstorms II (*joint with A*)

Presiding: **M Stolzenburg**, University of Mississippi; **T Marshall**, University of Mississippi; **W P Winn**, New Mexico Tech

- 0900h **AE31B-01** Remote Sensing of Electric Atmospheric Field Produced by Storm Cloud With an Instrumented Aircraft: **P A Laroche**, A Delannoy, P Blanchet, P Lalande
- 0915h **AE31B-02** Three-dimensional mapping of lightning currents using LINET VLF magnetic sensors: **H D Betz**, T Marshall, M Stolzenburg, G Wieczorek
- 0930h **AE31B-03** Lightning Observations with the Upgraded Lanmuir Lab Lightning Mapping Array: **W Rison**, P R Krehbiel, S Hunyady, H E Edens, G D Aulich
- 0945h **AE31B-04** Lightning Mapping and Electric Field Change Observations of a Stationary New Mexico Storm: **P R Krehbiel**, W Rison, S J Hunyady, H E Edens, R G Sonnenfeld, G D Aulich

Biogeosciences

B31A Moscone South: Poster Hall **Wednesday 0800h**
Climate and the Nitrogen Cycle II Posters (*joint with A, V*)

Presiding: **C L Goodale**, Cornell University; **P G Hess**, cornell

- 0800h **B31A-0283** *POSTER* Modeling N₂O emissions from Japanese tea fields with modified DNDC model: **Y Kwack**, K Kobayashi, C Li
- 0800h **B31A-0284** *POSTER* Subsoil Denitrification experiment at KBS MSU: **I Shcherbak**, G P Robertson
- 0800h **B31A-0285** *POSTER* Global greenhouse gas balance induced by nitrogen addition: Modeling annual fluxes of CO₂, CH₄ and N₂O from 1948 to 2008: **C Lu**, H Tian, X Xu, M Liu, W Ren
- 0800h **B31A-0286** *POSTER* Field observations and process-based model predictions of methane flux in a pine forest soil: **E L Aronson**, B R Helliker
- 0800h **B31A-0287** *POSTER* Bedrock Nitrogen Contributes to Increased Carbon Storage in Temperate Conifer Forests of Northern California, USA: **S L Morford**, B Z Houlton, R A Dahlgren

B31B Moscone South: Poster Hall **Wednesday 0800h**
Determining the Controls of Terrestrial Net Ecosystem Exchange and Related Processes at Regional to Global Scales I Posters (*joint with A*)

Presiding: **C Yi**, Queens College, CUNY; **D M Ricciuto**, Oak Ridge National Laboratory; **B N Sulman**, U. of Wisconsin-Madison

- 0800h **B31B-0288** *POSTER* Carbon Fluxes in a Managed Landscape: Assessing the Drivers of Temporal and Spatial Variability in Flux Tower, MODIS and Forest Inventory Data of the Pacific Northwest: **S Wharton**, K Bible, M Falk, K Paw U
- 0800h **B31B-0289** *POSTER* Bioclimatic limitations on global tree distributions: **J A Greenberg**, S Z Dobrowski, M Santos, V C Vanderbilt, S Ustin
- 0800h **B31B-0290** *POSTER* Environmental Controls on Soil Respiration in Semiarid Ecosystems: The Role of the Vertical Distribution of Soil Moisture: **A L Neal**, S Kurc, P D Brooks
- 0800h **B31B-0291** *POSTER* Effects of climate change and plantation on carbon budget of coniferous forests in Poyang Lake Basin from 1981 to 2008: **S Wang**, Y Yan, H Nie, L Zhou, Y Zhang
- 0800h **B31B-0292** *POSTER* Carbon accumulation and allocation in a primary Bornean tropical rainforest: **A Katayama**, H Komatsu, T Kume, M Ohashi, M Nakagawa, K Otsuki, T Kumagai
- 0800h **B31B-0293** *POSTER* Light, Soil Temperature, and VPD as controls of flux-tower NEE partitioning into gross photosynthesis and respiration in grassland and agricultural ecosystems: **T G Gilmanov**
- 0800h **B31B-0294** *POSTER* Net ecosystem fluxes for the Iberian Peninsula: a bottom-up approach integrating eddy-covariance data and remote sensing-based diagnostic modeling: **N Carvalhais**, M Reichstein, G J Collatz, M D Mahecha, M Migliavacca, C S Neigh, E Tomelleri, A A Benali, D Papale, J Seixas
- 0800h **B31B-0295** *POSTER* Coupling WRF and the land surface model ACASA for Future Carbon Dioxide Simulation: **L Xu**, R D Pyles, K Paw U
- 0800h **B31B-0296** *POSTER* Impacts of inter-annual vegetation changes on climate simulation in HadGEM2: **S Park**, H Kang, Y Byun, J Lee, Title of Team: Climate Modeling Team
- 0800h **B31B-0297** *POSTER* Improved parameterization of managed grassland in a global process-based vegetation model using Bayesian statistics: **S Rolinski**, C Müller, H Lotze-Campen, A Bondeau

0800h **B31B-0298** POSTER Seasonal and spatial variations of carbon fluxes of arctic and boreal ecosystems in Alaska: **M Ueyama**, H Iwata, Y Harazono, E S Euskirchen, W C Oechel, D Zona, K Ichii

0800h **B31B-0299** POSTER Assessment of Ecosystem Respiration Dependence on the Soil Temperature: **M Kondo**, K Ichii

0800h **B31B-0300** POSTER Estimating Wetland Extent in Land Surface Models: **P M Kraus**, A Denning

0800h **B31B-0301** POSTER The Influence of Treefall Gap Size on Carbon and Nitrogen Biogeochemistry in Late-Successional Hardwood Forests of the Upper Great Lakes Region: **S A Schliemann**, J Bockheim

0800h **B31B-0302** POSTER Relationships between NEP and water table position in a western Canadian poor fen during a wet and a dry year: **A Malhotra**, R Wieder, D H Vitt, M A Vile, K Scott

0800h **B31B-0303** POSTER Interpretation of Variations in MODIS-Measured Greenness Levels of Amazon Forests During 2000 To 2009: **A Samanta**, S Ganguly, E F Vermote, R R Nemani, R B Myneni

0800h **B31B-0304** POSTER Strategies to design and place towers for long-term ecological observations at continental scale: **H Luo**, H W Loescher, E Ayres, R Clement

0800h **B31B-0305** POSTER Relating Plant Carbon Exchange with Reflectance Spectroscopy: **S A Long**, K F Huemmrich, L Corp

0800h **B31B-0306** POSTER Seasonal Dynamics of Boreal Forest Structure and Reflectance: **M Rautiainen**, J Heiskanen

0800h **B31B-0307** POSTER Canopy Structure and Spectral Leaf Albedo from Multiangular Imaging Spectroscopy: **M Mottus**, M Rautiainen, P Lukeš

0800h **B31B-0308** POSTER Modeling high resolution space-time variations in energy demand/CO₂ emissions of human inhabited landscapes in the United States under a changing climate: **A V Godbole**, K R Gurney

0800h **B31B-0309** POSTER Future CO₂ Emissions and Climate Change from Existing Energy Infrastructure: **S J Davis**, K Caldeira, D Matthews

0800h **B31B-0310** POSTER Scaling up food production in the Upper Mississippi river basin: modeling impacts on water quality and nutrient cycling: **E E Bowen**, P A Martin, T J Schuble, E Yan, Y Demissie

B31C Moscone South: Poster Hall Wednesday 0800h
Linkages in Biogeochemical Cycles Between the Surface Ocean and Lower Atmosphere Over the Pacific Ocean I Posters (joint with A, GC, OS, V)

Presiding: **M Uematsu**, The University of Tokyo

0800h **B31C-0311** POSTER Analyses of the long-range transport of nitrogenous species through the atmosphere from the Asian continent using observational data at Cape Hedo, Okinawa, and CMAQ postanalyses: Y Sadanaga, **H Bandow**, I Uno, T Sera, A Yuba, N Takenaka, A Takami, J Kurokawa, S Hatakeyama

0800h **B31C-0312** POSTER The diurnal variation of total odd nitrogen oxides species, gaseous nitric acid and particulate nitrate in the southern remote island, Japan, facing the Asian Continent: **A Yuba**, Y Sadanaga, T Sera, A Takami, S Hatakeyama, N Takenaka, H Bandow

0800h **B31C-0313** POSTER Distribution of atmospheric particulate nitrogen and phosphorus over the North and South Pacific: J Jung, H Furutani, H Ogawa, **M Uematsu**

0800h **B31C-0314** POSTER Tracing atmospheric nitrate deposited onto western north Pacific ocean: **D D Komatsu**, U Tsunogai, S Daita, U Konno, S Ohkubo, F Nakagawa

0800h **B31C-0315** POSTER A Year-round Observation of Size Distribution of Aerosol Particles at the Cape Ochiishi, Japan: **K Miura**, H Mukai, S Hashimoto, M Uematsu

0800h **B31C-0316** POSTER Optimization of dynamic headspace extraction system for measurement of halogenated volatile organic compounds in liquid or viscous samples: **G Taniai**, H Oda, M Kurihara, S Hashimoto

0800h **B31C-0317** POSTER Production of volatile organic compounds in cultures of cryptophytes: **T Yamakoshi**, M Kurihara, S Hashimoto

0800h **B31C-0318** POSTER Measurements of isoprene in surface seawater of the Indian and the Pacific Oceans: **A Ooki**, T Kodama, K Furuya, S Takeda, A Tsuda, Y Yokouchi

0800h **B31C-0319** POSTER Stratospheric halogens from the western Pacific ocean: B Quack, K Krueger, **S Tegtmeier**, E L Atlas, A Bracher, T Dinter, S Wache, D Wallace

0800h **B31C-0320** POSTER Effect of metal complex formation on the potential of organic aerosols as cloud condensation nuclei: **T Furukawa**, Y Takahashi

0800h **B31C-0321** POSTER Impact of Kilauea volcano eruption in 2008 for the volcanic sulfate distribution and cloud/radiation property changes over the central/western North Pacific region: **K Eguchi**, I Uno, K Yumimoto, T Takemura, M Toratani, H Fukushima, H Furutani, M Uematsu

0800h **B31C-0322** POSTER Numerical analysis of long-range trans-boundary pollution during the 2008 W-PASS field campaign at Cape Hedo, Okinawa: **S Itahashi**, I Uno, K Yamaji, A Takami, K Osada, H Furutani, M Uematsu

0800h **B31C-0323** POSTER Direct Measurement of Turbulent Particle and Gas Fluxes by Eddy Covariance Technique: **F Kondo**, F Griessbaum, O Tsukamoto, M Uematsu

0800h **B31C-0324** POSTER High-resolution measurement of DMS and volatile organic compounds dissolved in seawater using equilibrator inlet-proton transfer reaction-mass spectrometry (EI-PTR-MS): S Kameyama, **H Tanimoto**, S Inomata, U Tsunogai, A Ooki, Y Yokouchi, S Takeda, H Obata, A Tsuda, M Uematsu

0800h **B31C-0325** POSTER CO₂ and DMS Flux measurement by the profiling buoy system: **T iwata**, S Kameyama, H Tanimoto

0800h **B31C-0326** POSTER Determination of dissolved Fe(II) in seawater of the western North Pacific with luminol chemiluminescence method: **H Obata**, A Mase, T Gamo, J Nishioka, S Takeda

0800h **B31C-0327** POSTER Cycling of Dissolved Organic Phosphorus and Alkaline Phosphatase Activity in Euphotic Zone of the Western North Pacific: **M Suzumura**

0800h **B31C-0328** POSTER C:N RATIO AND BIODEGRADABILITY OF DISSOLVED ORGANIC MATTER IN SURFACE WATERS ALONG THE LONGITUDINAL SECTIONS ACROSS THE NORTH PACIFIC: **H Ogawa**, H Fukuda, I Koike

0800h **B31C-0329** POSTER Oxygen production/consumption rates in the upper layer of the northwestern subtropical North Pacific: **K Tsubono**, T Suga, C Sukigara, T Kobayashi, S Hosoda

0800h **B31C-0330** POSTER The estimate of the denitrification using nitrogen gas excess in the Sea of Okhotsk: **M Ito**, Y Watanabe, S S Tanaka, T Ono, J Nishioka, T Nakatsuka

0800h **B31C-0331** POSTER The annual cycle of surface iron and the source of iron supporting the spring diatom bloom in the Oyashio region, western subarctic Pacific: **J Nishioka**, T Ono, H SAITO, K Sakaoka, T Yoshimura, S Matoba

0800h **B31C-0332** POSTER Primary production enhancement by typhoon in Western North Pacific over a decade from 1998 to 2007: **M Toratani**, K Suzuki, A Tsuda, S Saitoh

0800h **B31C-0333** *POSTER* Secular Trend and Decadal Variability found in a New Global Gridded Phosphate Dataset: **S Minobe**, Y Hosoya, M Urasawa

B31D Moscone South: Poster Hall Wednesday 0800h
North American Carbon Program Synthesis Results and Similar Model-Data Comparisons I Posters (*joint with GC*)

Presiding: **K M Schaefer**, National Snow and Ice Data Center; **S M Ogle**, Colorado State University; **D N Huntzinger**, University of Michigan; **L Goncalves**, NASA and University of Maryland

0800h **B31D-0334** *POSTER* Identifying the timescales of model error: NACP inter-comparison wavelet analysis: **M C Dietze**, R Vargas, P C Stoy, A D Richardson, Title of Team: NACP Site-Level Interim Synthesis Team

0800h **B31D-0335** *POSTER* Sensitivity of modeled carbon pools and fluxes to biases in reanalysis meteorology forcing data: **D M Ricciuto**, P E Thornton, R B Cook, N Site Interim Synthesis Participants

0800h **B31D-0336** *POSTER* EVALUATION OF SITE AND CONTINENTAL TERRESTRIAL CARBON CYCLE SIMULATIONS WITH NORTH AMERICAN FLUX TOWER OBSERVATIONS: B M Raczka, **K J Davis**, N Regional-Interim Synthesis Participants, N Site Level Interim Synthesis, Title of Team: Regional/Continental Interim Synthesis Team

0800h **B31D-0337** *POSTER* North American Carbon Program (NACP) Interim Synthesis Project: Regional Forward Model Intercomparison (*Invited*): **M Post**, D N Huntzinger, A M Michalak, Y Wei, A R Jacobson, R B Cook, N Regional-Interim Synthesis Participants, Title of Team: Regional/Continental Interim-Synthesis Team

0800h **B31D-0338** *POSTER* Regional-scale NEE estimates over 4 flux towers in the US: **X Dang**, C Lai, D Y Hollinger, J W Munger, K Paw U, C Owensby, S C Wofsy, A Schauer, J Ehleringer

0800h **B31D-0339** *POSTER* Understanding the mechanisms behind observed biomass dynamics at 10 Amazonian field sites: a model-data intercomparison: **N M Levine**, D Galbraith, N Restrepo-Coupe, H A Imbuzeiro, B J Christoffersen, L Goncalves, S R Saleska, Y Malhi, M H Costa, P R Moorcroft

0800h **B31D-0340** *POSTER* Quantification of Biosphere and Anthropogenic CO₂ using WRF-VPRM Mesoscale Transport and Biosphere Models: **A Jamroensan**, R Ahmadov, G Petron, G R Carmichael, A E Andrews, C Sweeney, R Kretschmer, C Gerbig, L M Olsen, C O Stanier

0800h **B31D-0341** *POSTER* Land surface model parameterization strategies and North American regional CO₂ flux interannual variability examined with a simple land surface model: **T W Hilton**, K J Davis, K Keller

0800h **B31D-0342** *POSTER* A Contemporary Assessment of Lateral Fluxes of Organic Carbon in Inland Waters of the USA and Delivery to Coastal Waters: **E W Boyer**, R B Alexander, R A Smith, J Shih, G E Schwarz

B31E Moscone South: Poster Hall Wednesday 0800h
Regional Biosphere-Atmosphere Interactions in Complex Terrain: Processes and Feedbacks Among Nutrients, Water, and Climate I Posters (*joint with H, A, GC*)

Presiding: **D Riveros-Iregui**, University of Nebraska; **J Hu**, NCAR; **A R Desai**, University of Wisconsin - Madison

0800h **B31E-0343** *POSTER* Spatial Variation of Surface Fluxes Measured in the Canopy Sublayer of a Mountainous Cryptomeria Forest: **C Hsieh**, S Cheng, Title of Team: Environmental Physics

0800h **B31E-0344** *POSTER* Horizontal turbulent carbon dioxide flux divergence and energy balance closure: loose ends from an advection experiment in a Douglas-fir forest on a gentle slope: **A S Leitch**, Z Nestic, A Christen, T A Black

0800h **B31E-0345** *POSTER* Lidar-based Evaluation of Sub-pixel Forest Structural Characteristics and Sun-sensor Geometries that Influence MODIS Leaf Area Index Product Accuracy and Retrieval Quality: **J Jensen**, K S Humes

0800h **B31E-0346** *POSTER* Downscaling Climate Projections to a Mountainous Landscape: A Climate Impact Assessment for the U.S. Northern Rockies Crown of the Continent Ecosystem: **J Oyler**, R Anderson, S W Running

0800h **B31E-0347** *POSTER* The Mountain Pine Beetle epidemic contributes to increased spatial and temporal variability and decoupling of carbon and water fluxes from lodgepole pine ecosystems: **D E Reed**, R D Kelly, B E Ewers, E Pendall

0800h **B31E-0349** *POSTER* Changes in carbon uptake and release cause by insect outbreaks in the Colorado Rocky Mountains from 2000 through 2010: **D J Moore**, P Wilkes, T L Quai e, N A Trahan, R K Monson, B B Stephens

0800h **B31E-0350** *POSTER* A Geospatial Assessment of Mountain Pine Beetle Infestations and Their Effect on Forest Health in Okanogan-Wenatchee National Forest: **M Allain**, A Nguyen, E Johnson, E Williams, S Tsai, S Prichard, T Freed, J W Skiles

0800h **B31E-0351** *POSTER* Climatic controls on carbon exchange in the US mountain west at multiple scales: **A R Desai**, W K Ahue, B Brooks, D J Moore, T Quai e, R K Monson, S De Wekker, T L Campos, B B Stephens, P Wilkes, D Schimel

0800h **B31E-0352** *POSTER* Comparison of carbon dioxide uptake between inverse and bottom-up models over the Mountain West: **B Brooks**, A R Desai, B B Stephens

0800h **B31E-0353** *POSTER* A Process-Based Assessment of Soil-Plant-Atmosphere Interactions in Complex Terrain: **D Riveros-Iregui**, V J Pacific, B L McGlynn, R E Emanuel, L A Marshall, H E Epstein, D L Welsch

0800h **B31E-0354** *POSTER* Seasonal Evolution, Interannual Variability and Partitioning of Evapotranspiration in Two Mountainous Semiarid Forest Ecosystems: **L A Mendez-barroso**, E R Vivoni, J C Rodriguez, C Watts, J Garatuza-Payan, E A Yopez

0800h **B31E-0355** *POSTER* The Fate of Aspen in a World with Diminishing Snowpacks: **K Kavanagh**, T E Link, M S Seyfried, K B Kemp

0800h **B31E-0356** *POSTER* Peatland Distribution and Characterization in the Susitna River Basin, Alaska: **D P Brosseau**, J M Ramage, Z Yu, E S Klein, R K Booth, J Loisel, B G Mark

0800h **B31E-0357** *POSTER* The Importance of Marine Nutrient Subsidies in Mountainous Riparian Forests: **T Wheeler**, K Kavanagh, A J Noble Stuen

0800h **B31E-0358** *POSTER* Modeling the effects of anadromous fish nitrogen on the carbon balance of riparian forests in central Idaho: **A J Noble Stuen**, K Kavanagh, T Wheeler

0800h **B31E-0359** *POSTER* Response of mating activity of the plainfin midshipman to inflow into San Francisco Bay from a summer storm: **R W Bland**

B31F Moscone South: Poster Hall Wednesday 0800h
Regional Land and Ocean Carbon Budgets I Posters (joint with A, OS)

Presiding: **J Canadell**, CSIRO Marine & Atmospheric Res;
A J Dolman, VU University Amsterdam; **P Ciaais**, CEA-CNRS-UVSQ

- 0800h **B31F-0360** POSTER CO₂/CH₄ flux inversion from cavity ring-down spectroscopy measurement at Zotino Tall Tower Observatory (ZOTTO) in Central Siberia: **J Winderlich**, C Gerbig, H Chen, C Roedenbeck, K Trusilova, A V Panov, M Heimann
- 0800h **B31F-0361** POSTER Observationally based surface fluxes of CH₄ and N₂O, and fossil fuel-derived CO₂ for a 300x100 km region (the Netherlands): **S V Laan**, U Karstens, R Neubert, I V Laan-Luijkx, H A Meijer
- 0800h **B31F-0362** POSTER US Stream and River CO₂ Evasion from the Bottom Up: **D E Butman**, P Raymond
- 0800h **B31F-0363** POSTER Interannual variances of CO₂ flux and primary production in the Southern Ocean: **S Wang**, J K Moore
- 0800h **B31F-0364** POSTER Spatial and temporal variability of sea-air CO₂ fluxes in the tropical Atlantic Ocean: **X Wang**, R G Murtugudde, E C Hackert, A J Busalacchi
- 0800h **B31F-0365** POSTER Variations of the three-dimensional atmospheric CO₂; implications for carbon budget from model simulations and aircraft measurements: **Y Niwa**, P K Patra, Y Sawa, T Machida, H Matsueda, D Belikov, M Ikegami, T Maki, S Maksyutov, T Oda, R Imasu, M Satoh
- 0800h **B31F-0366** POSTER A Terrestrial Ecosystem Full Verified Carbon Accounting for Russian Land: Results and Uncertainty: **A Shvidenko**, D Schepaschenko, S Maksyutov
- 0800h **B31F-0367** POSTER Evaluating the role of prior information in atmospheric inverse modeling frameworks through comparison with geostatistical inverse modeling techniques: **M Goeckede**, V Yadav, A M Michalak, B E Law
- 0800h **B31F-0368** POSTER Climate Variability Impact on Regional Carbon Fluxes over Temperate and Boreal North America: **X Zhang**, K R Gurney
- 0800h **B31F-0369** POSTER Constructing a carbon cycle analysis system with the local ensemble transform Kalman filter and online transport model: **T Maki**, T T Sekiyama, K Shibata, K Miyazaki, T Miyoshi, K Yamada, T Iwasaki
- 0800h **B31F-0370** POSTER Optimizing Monthly Grid-based CO₂ Fluxes with 4D-Var Data Assimilation Technique: **R Saito**, S Maksyutov
- 0800h **B31F-0371** POSTER The Australian terrestrial carbon budget: preliminary results: **J Canadell**, V Haverd, M R Raupach, R Law, M Meyer, C Pickett-Heaps
- 0800h **B31F-0372** POSTER Export Production in the Southern Ocean Estimated from Satellite Ocean Color Data and Seasonal Variations in Atmospheric Potential Oxygen: **C D Nevison**, R F Keeling, M Kahru, M Manizza, M A Charette, K Maiti
- 0800h **B31F-0373** POSTER Recovering CO₂ Fluxes with Different Observation Schemes: **R S Lokupitiya**, D F Baker, D Zupanski, A Denning, S R Kawa, I T Baker, K R Gurney, S C Doney, M Zupanski
- 0800h **B31F-0374** POSTER Comparing Helicopter-based Eddy Flux Measurements with Highly Resolved Bottom-up Land Surface Model Predictions: **S C Biraud**, W J Riley, M S Torn, R Avissar, M A Bolch
- 0800h **B31F-0375** POSTER Combined Effects of Wind and Rain on Air-Water Gas Exchange: **S Eggleston**, E Harrison, D T Ho, F Veron
- 0800h **B31F-0376** POSTER Regional Eddy Covariance Measurements of CO₂ Exchange from a Tall Tower near Boulder, Colorado: **E B Graham**, D E Wolfe, P Blanken

- 0800h **B31F-0377** POSTER Role of ocean ventilation in setting regional patterns of uptake and storage of anthropogenic CO₂; insights from inverse estimates of the ocean's transport Green function: **S Khatiwala**, F W Primeau, M B Holzer
- 0800h **B31F-0378** POSTER Forest carbon imbalance information improves atmosphere based carbon data assimilation systems: **W Peters**, J B Miller, K M Schaefer, I van der Velde, G van der Werf, A J Dolman, N Carvalhais, P P Tans
- 0800h **B31F-0379** POSTER The full greenhouse gas balance compensates the terrestrial carbon sink of EU-25: **E Schulze**, P Ciaais, S Luyssaert, A J Dolman

B31G Moscone West: 2005 Wednesday 0800h
Carbon Dynamics in Fire-Prone Forests I (joint with GC)

Presiding: **M Hurteau**, Northern Arizona University; **H Zald**, Oregon State University

- 0800h **B31G-01** Mitigation of emissions from wildfires in Australia: potential for use of managed prescribed fire in eucalypt dominated vegetation, present and future. (Invited): **R Bradstock**, O Price, D Williams, L Hutley
- 0820h **B31G-02** Wildfire effects on carbon stocks and emissions in fuels treated forests (Invited): **M North**, M Hurteau
- 0840h **B31G-03** Fire and Carbon Cycling for the Yellowstone National Park Landscape (Invited): **M G Ryan**, D M Kashian, W H Romme, M G Turner, E A Smithwick, D B Tinker
- 0900h **B31G-04** Potential impact of forest management and increased area burned on the C balance of Canada's managed forest in the 21st century. (Invited): **J Metsaranta**, W A Kurz, G Stinson, E Neilson, Title of Team: Canadian Forest Service Carbon Accounting Team
- 0920h **B31G-05** Assessing Potential Future Carbon Dynamics with Climate Change and Fire Management in a Mountainous Landscape on the Olympic Peninsula, Washington, USA: **R S Kennedy**
- 0940h **B31G-06** Greenhouse Gas and Criteria Air Pollutant Emission Reductions from Forest Fuel Treatment Projects in Placer County, California: **D S Saah**, M Moritz, D J Ganz, P A Stine, T Moody

B31H Moscone West: 2006 Wednesday 0800h
Foundations for Earth System Stewardship I (joint with A, GC, OS, H)

Presiding: **R B Jackson**, Duke University; **J W Harden**, U.S. Geological Survey

- 0800h **B31H-01** Planetary Biogeochemical Stewardship (Invited): **W H Schlesinger**
- 0820h **B31H-02** The Role of Terrestrial Ecosystems in Earth-System Resilience and Thresholds (Invited): **I Fung**
- 0840h **B31H-03** Implications of a changing climate for river systems (Invited): **D P Lettenmaier**
- 0900h **Discussion 15 minute discussion**
- 0915h **B31H-04** The Other Inconvenient Truth: Feeding 9 Billion While Sustaining the Earth System: **J A Foley**
- 0930h **B31H-05** Satellite Supported Estimates of Human Rate of NPP Carbon Use on Land: Challenges Ahead: **M L Imhoff**, L Bounoua, P Zhang, R E Wolfe
- 0945h **B31H-06** SOCIAL-ECOLOGICAL CONTROLS OVER EARTH-SYSTEM STEWARDSHIP: A FRAMEWORK FOR SUSTAINABILITY IN A RAPIDLY CHANGING WORLD: **F S Chapin**, M E Power, S Pickett, R B Jackson, D Carter, J W Harden

B31I Moscone West: 2004 Wednesday 0800h
Global Soil Change: Mechanisms of Carbon Stabilization and Response I (joint with GC, EP)

Presiding: K Lajtha, Oregon State University; N Cavallaro, USDA/CSREES

0800h **B31I-01** Long-term carbon stabilization through sorption of dissolved aromatic acids to reactive particles (*Invited*): M G Kramer, J Sanderman, O Chadwick, J Chorover, P Vitousek

0815h **B31I-02** Soil Organic Matter Responses to Chronic Nitrogen Additions in a Temperate Forest (*Invited*): S D Frey, K Nadelhoffer, R Bowden, E R Brzostek, B A Caldwell, S E Crow, A C Finzi, C L Goodale, S Grandy, K Lajtha, S V Ollinger, A F Plante

0830h **B31I-03** Stabilization of labile organic C along a chronosequence of soil development: mineralogical vs. biological controls: J W McFarland, M P Waldrop, D Strawn, J W Harden

0845h **B31I-04** Relationships between soil microbial communities and soil carbon turnover along a vegetation and moisture gradient in interior Alaska: M P Waldrop, J W Harden, M R Turetsky, D G Petersen, A D McGuire, M J Briones, A C Churchill, D H Doctor, L E Pruet

0900h **B31I-05** Effects of land use and mineral characteristics on the organic carbon content, and the amount and composition of Na-pyrophosphate soluble organic matter in subsurface soils: R Ellerbrock, M Kaiser, K Walter, M Sommer

0915h **B31I-06** The response of amino acid cycling to global change across multiple biomes: Feedbacks on soil nitrogen availability: E R Brzostek, A C Finzi

0930h **B31I-07** Controls on the fate, structure and function of dissolved organic carbon and nitrogen in a California grassland, oak woodland and conifer ecosystem: S L Pittiglio, R Zasoski

0945h **B31I-08** Quantifying Natural Organic Matter with Calorimetry – assessing system complexity to build a central view C stability: G C Liles, J Bower, Y Henneberry, W R Horwath

B31J Moscone West: 2002 Wednesday 0800h
How Does Landscape Affect Solute Movement to Aquatic Ecosystems? I (joint with H)

Presiding: D A Burns, U.S. Geological Survey; S D Sebestyen, USDA Forest Service; J B Shanley, U. S. Geological Survey

0800h **B31J-01** Coupled ecosystem-geomorphic controls on the generation and transport of nitrogen through watersheds (*Invited*): L E Band, T Hwang, J M Duncan, C Tague

0815h **B31J-02** LiDAR-derived spatial models of hydrological and biogeochemical source areas to improve estimates of terrestrial-aquatic mercury export in northern forested landscapes: M C Richardson, C P Mitchell, B A Branfireun, R K Kolka, M Fortin

0830h **B31J-03** Searching for Similarity in Catchment Controls on Complex C, N, and P Export Patterns from Forests to Surface Waters across Continental Scale Gradients (*Invited*): I F Creed

0845h **B31J-04** Climatic Variations And Ecosystem Disturbances As Drivers Of Chemical Mass Fluxes From Forested Ecosystems To Surface Waters: K N Eshleman, K M Kline, B E McNeil, P A Townsend

0900h **B31J-05** Hydrological landscape analysis – quantifying topographic controls on riparian zone hydrology (*Invited*): J Seibert, T J Grabs, K H Bishop, H Laudon

0915h **B31J-06** Connecting the terrestrial and aquatic system across scales: Towards improved tools to assess the vulnerability of surface waters: H Laudon

0930h **B31J-07** Landscape structure controls on watershed DOC export (*Invited*): B L McGlynn, V J Pacific, K G Jencso

0945h **B31J-08** Use of regression-based models to map sensitivity of aquatic resources to atmospheric deposition in Yosemite National Park, USA: D W Clow, L Nanus, B W Huggett

Cryosphere

C31A Moscone South: Poster Hall Wednesday 0800h
The Legacy and Fate of Permafrost: Geochemical, Geophysical and Geomorphic Aspects I Posters (joint with EP, H, GC)

Presiding: S A Ewing, Montana State University; A K Liljedahl, University of Alaska, Fairbanks; J O'Donnell, UAF

0800h **C31A-0489 POSTER** Use of DC Resistivity Tomography to Investigate Thermokarst Features, Toolik Lake area, Alaska, USA: A G Lewkowicz, S Godsey, M N Gooseff

0800h **C31A-0490 POSTER** Distribution and local hydrographic impact of rapid permafrost degradation by thermo-erosion and gullying of ice-wedge polygons in glacier valley C-79 on Bylot Island, Nunavut, Canada: E Godin, D Fortier

0800h **C31A-0491 POSTER** Deployment of an Ecosystem Warming Prototype at the Fairbanks Permafrost Experiment Station: A M Wagner, J E Zufelt, S D Wullschlegler

0800h **C31A-0492 POSTER** Modeling of permafrost dynamics at two different biophysical settings near Dry Creek, Interior Alaska: S K Panda, S Marchenko, A Prakash, V E Romanovsky

0800h **C31A-0493 POSTER** Assessing differences in topographic form between arctic and temperate drainage basins: Possible implications for dominant erosion processes: J P Prancevic, J C Rowland, C J Wilson, P Marsh, H Wilson

0800h **C31A-0494 POSTER** Preliminary findings of the Government of Yukon Infrastructure Vulnerability to Permafrost Degradation Project: S C Laxton

0800h **C31A-0495 POSTER** Organic carbon and fine sediment production potential from decaying permafrost in a small watershed, Sheldrake River, Eastern coastal region of Hudson Bay: M Jolivel, M Allard

0800h **C31A-0496 POSTER** “What comes up ... must come down”: Peat carbon and mineral-interactions in Arctic Coastal tundra: T K Raab, D Lipson, N P Crook, K Miller, F Bozzolo

0800h **C31A-0497 POSTER** Periglacial Landscape Stabilization Following Rapid Permafrost Degradation by Thermo-erosion, Bylot Island, Nunavut, Canadian Arctic Archipelago: D Fortier, E Godin, N Perreault, E Levesque

0800h **C31A-0498 POSTER** Regional Permafrost Probability Modelling in the northwestern Cordillera, 59°N - 61°N, Canada: P P Bonnaventure, A G Lewkowicz

0800h **C31A-0499 POSTER** Investigation of the energy-based theory of runoff in arctic regions with a hydrological model that couples the heat and water balance: W L Quinton, S Endrizzi, P Marsh

0800h **C31A-0500 POSTER** Holocene thermokarst lake formation and development in areas of icy, organic rich permafrost: L M Farquharson, K Walter Anthony, N H Bigelow, G Grosse, M E Edwards

0800h **C31A-0501 POSTER** Thermokarst Associations with Landscape Characteristics in Arctic Alaska: Implications for Future Permafrost Degradation at Landscape to Regional Scales: A Balsler, J B Jones, T Jorgenson

0800h **C31A-0502 POSTER** Mapping Active-Layer Thickness in an Urban Area Using the Modified Berggren Solution: A Klene, F E Nelson

0800h **C31A-0503** POSTER Thermal-moisture dynamics in the active layer of central Qinghai-Tibetan plateau: **Z Wen**, T Zhang, W Ma, Q Wu, W Feng, C Zhou

0800h **C31A-0504** POSTER Soil responses to rapid warming events inside and outside of thermokarst features during the snow season in arctic Alaska: **M N Gooseff**, S Godsey, A G Lewkowicz, K Lanan

0800h **C31A-0505** POSTER Predicting permafrost stability in northern peatlands with climate change and disturbance: **C C Treat**, D Wisser, S Marchenko, E R Humphreys, S E Frolking, K F Huemrich

0800h **C31A-0506** POSTER Uranium isotopes in Pleistocene permafrost: evaluating the age of ancient ice: **S A Ewing**, J B Paces, J O'Donnell, M Z Kanevskiy, G Aiken, T Jorgenson, Y Shur, R G Striegl

0800h **C31A-0507** POSTER ESA Data User Element PERMAFROST: a spaceborne permafrost monitoring and information system: A Bartsch, **B Heim**, J Boike, K Elger, S Muster, M Langer, S Westermann, J Sobiech

0800h **C31A-0508** POSTER Constructing a Temporal and Spatial Record of Lightning Strikes in Arctic Alaska: Discerning between increased strike frequency and increased detection capability: **B T Crosby**

0800h **C31A-0509** POSTER Geotechnical investigations of the ice-rich syngenetic permafrost in Interior Alaska: **M Z Kanevskiy**, Y Shur, B Connor, M R Dillon, S Masterman, J A O'Donnell, J Rowland, E Stephani

0800h **C31A-0510** POSTER Impacts of wildfire on the permafrost soil in tundra area, Seward Peninsula, Alaska: **K Harada**, K Narita, K Saito, Y Sawada, M Fukuda

C31B Moscone West: 3011 Wednesday 0800h
Innovations in Observing and Modeling Components of the Cryosphere II (joint with EP, NG)

Presiding: **J N Bassis**, University of Michigan; **U C Herzfeld**, Univ Colorado Boulder; **M R Anderson**, University of Nebraska; **D R MacAyeal**, University of Chicago; **H Mayer**, University of Colorado; **O V Sergienko**, Princeton University

0800h **C31B-01** SeaRISE: Modelling the present-day state and future evolution of the Greenland Ice Sheet with the models SICOPOLIS and IclIES (Invited): **R Greve**, F SAITO, A Abe-Ouchi

0815h **C31B-02** Large scale inversion of basal stress in Greenland, using higher order and full-Stokes models: **E Y Larour**, E J Rignot, M Morlighem, H L Seroussi

0830h **C31B-03** A Glacier Bed DEM for Jakobshavns Trough as Input for Dynamic Ice Sheet Models: **B F Wallin**, U C Herzfeld, C Leuschen

0845h **C31B-04** Required Bedrock Accuracy to Model Antarctic Ice Dynamics: G Durand, **L Favier**, O Gagliardini, T Zwinger, E le Meur

0900h **C31B-05** A multi-dataset approach to developing time series of Arctic and sub-Arctic snow extent and snow water equivalent (Invited): **C Derksen**, R Brown, L Wang

0915h **C31B-06** Development of a Climate-Data Record of the Surface Temperature of the Greenland Ice Sheet (Invited): **D K Hall**, J C Comiso, N E DiGirolamo, C A Shuman

0930h **C31B-07** Development of passive microwave cryospheric climate data records (Invited): **W Meier**, J A Maslanik, C Fowler, R E Duerr, J C Stroeve, Title of Team: NOAA Product Development Team for Snow and Ice Climate Data Records

0945h **C31B-08** Streamflow Response to Snowcover Variation in the Large Northern Rivers (Invited): **D Yang**, D A Robinson, R L Armstrong

Education and Human Resources

ED31A Moscone South: Poster Hall Wednesday 0800h
Broader Impacts: Successful Models and Measuring Their Effectiveness I Posters (joint with OS, PA)

Presiding: **L A Hotaling**, Beacon Institute; **S M Buhr**, University of Colorado

0800h **ED31A-0605** POSTER Google Mercury: The Launch of a New Planet: **B Hirshon**, C R Chapman, J Edmonds, J Goldstein, K G Hallau, S C Solomon, H Vanhala, H M Weir, Title of Team: MESSENGER Education and Public Outreach (EPO) Team

0800h **ED31A-0606** POSTER How to use students to do the education & outreach you don't have time for: **S Renfrow**, E L Wood, R Christofferson

0800h **ED31A-0607** POSTER Canopy In The Clouds: Achieving Broader Impacts in Graduate Student Research: **G R Goldsmith**, A D Fulton, C D Witherill, E E Dukeshire, T E Dawson

0800h **ED31A-0608** POSTER Integrating Scientists into Teacher Professional Development—Strategies for Success: **S E Lynds**, S M Buhr, L K Smith

0800h **ED31A-0609** POSTER The age of citizen science: Stimulating future environmental research: **S N Burgess**

0800h **ED31A-0610** POSTER How Bigelow Laboratory Measured Broader Impacts: The Case Study of the Evaluation of the Keller BLOOM Program (Invited): **RA Fowler**, J Repa

0800h **ED31A-0611** POSTER COSEE NOW: An online community for scientists and educators: **C Ferraro**, C S Lichtenwalner, S M Glenn, J D McDonnell

0800h **ED31A-0612** POSTER Better Broader Impacts through National Science Foundation Centers: **K M Campbell**

0800h **ED31A-0613** POSTER Hurricanes: Science and Society – An Online Resource Collaboratively Developed By Scientists, Education and Outreach Professionals, and Educators: **G Scowcroft**, I Ginis, C W Knowlton, R M Yablonsky, H Morin

0800h **ED31A-0614** POSTER SENSE IT: Student Enabled Network of Sensors for the Environment using Innovative Technology: **L A Hotaling**, R Stolkin, W Kirkey, J S Bonner, S Lowes, P Lin, T Ojo

0800h **ED31A-0615** WITHDRAWN

ED31B Moscone South: Poster Hall Wednesday 0800h
Education and Human Resources General Contributions Posters

Presiding: **J R Brown**, Stanford University; **M C Brewer-LaPorta**, Pace University; **C L Williams**, University of Texas at Austin

0800h **ED31B-0616** POSTER International Observe the Moon Night: Providing Opportunities for the Public to Engage in Lunar Observation: **B C Hsu**, L Bleacher, B H Day, D Daou, A P Jones, B Mitchell, A J Shaner, S S Shipp

0800h **ED31B-0617** POSTER The Lunar Reconnaissance Orbiter Professional Development Workshop Series: Example of an Excellent Mechanism of Scientific Dissemination: **A P Jones**, B C Hsu, L Bleacher, R A Millham

0800h **ED31B-0618** POSTER MINI-RF EDUCATION AND OUTREACH AND THE LUNAR SCIENCE INSTITUTE - THE NEXT LEAP IN LUNAR EXPLORATION AND EDUCATION: **D Turney**, M Matiella Novak, L Butler

0800h **ED31B-0619** POSTER MoonKAM - Education and Public Outreach for NASA's GRAIL Mission: **K R Flammer**, S Ride

- 0800h **ED31B-0620** *POSTER* Next Generation Lunar Scientists and Engineers Group: EPO for the NextGen: **N E Petro**, L Bleacher, J E Bleacher, D Santiago, S K Noble
- 0800h **ED31B-0621** *POSTER* Moon Zoo: Educating side-by-side with Doing Science (*Invited*): **P L Gay**, Title of Team: Moon Zoo Team
- 0800h **ED31B-0622** *POSTER* The Lunar Science Education Vision: Bringing the Moon to All of Us! (*Invited*): **E A Cobabe-Ammann**, S S Shipp
- 0800h **ED31B-0623** *POSTER* The NASA Lunar Science Institute Education and Public Outreach Program: **D Daou**
- 0800h **ED31B-0624** *POSTER* Lunar Quest in Second Life, Lunar Exploration Island, Phase II: **F M Ireton**, B H Day, B Mitchell, B C Hsu
- 0800h **ED31B-0625** *POSTER* Educating the Next Generation of Lunar Scientists: **A J Shaner**, S S Shipp, J S Allen, D A Kring
- 0800h **ED31B-0626** *POSTER* Examining the Motivation and Learning Strategies Use of Different Populations in Introductory Geosciences: **K Van Der Hoeven Kraft**, J A Stempien, A Bykerk-Kauffman, M H Jones, R K Matheney, D McConnell, D Perkins, M J Wilson, K R Wirth
- 0800h **ED31B-0627** *POSTER* Community-Based Science: A Response to UCSD's Ongoing Racism Crisis: B werneR, **A Barraza**, R Macgurn
- 0800h **ED31B-0628** *POSTER* Every Student Counts: Broadening Participation in the Geosciences through a Multiyear Internship Program: **V Sloan**
- 0800h **ED31B-0629** *POSTER* Outreach to Inspire Girls in Geology: A Recipe for Success (*Invited*): **L Kekelis**
- 0800h **ED31B-0630** WITHDRAWN
- 0800h **ED31B-0631** *POSTER* The Ocean Carbon and Biogeochemistry (OCB) Program: **H M Benway**
- 0800h **ED31B-0632** *POSTER* Learning About Energy Resources Through Student Created Video Documentaries in the University Science Classroom: **P Wade**, A Courtney
- 0800h **ED31B-0633** *POSTER* Earthquake Precursors in Thermal Infrared Data: **S S Alqassim**, V C Vanderbilt
- 0800h **ED31B-0634** *POSTER* Korean Elementary School Students' Perceptions of Earth Scientists: **E Kim**, H Lee, P Oh
- 0800h **ED31B-0635** *POSTER* Dual US-Europe Graduate Degrees in Volcanology: **W I Rose**, B Van Wyk deVries, E S Calder, A Tibaldi
- 0800h **ED31B-0636** *POSTER* Retention of Information as a Function of Lesson Design for Middle School Studies of Wetlands in New Jersey: **A Parsekian**, C Cimiluca, A E Gates, I Calderon
- 0800h **ED31B-0637** *POSTER* The Capitol College Space Operations Institute: A Partnership with NASA: **M G Gibbs**
- 0800h **ED31B-0638** *POSTER* Introducing Pre-Service Teachers to Google Earth, Internet-Accessible Data, and Photochemical Smog: **M J Urban**
- 0800h **ED31B-0639** *POSTER* Clouds, weather, climate, and modeling for K-12 and public audiences from the Center for Multi-scale Modeling of Atmospheric Processes: **S Q Foster**, R M Johnson, D A Randall, A Denning, R M Russell, L S Gardiner, B Hatheway, B Jones, M A Burt, J Genyuk
- 0800h **ED31B-0640** *POSTER* Importance of Technical Writing in Engineering Education: **M Narayanan**
- 0800h **ED31B-0641** *POSTER* Virtual Workshop Experiences for Faculty: Lessons Learned from On the Cutting Edge: **J R McDaris**, K B Kirk, D W Mogk, M Z Bruckner
- 0800h **ED31B-0642** *POSTER* Tuned in to the Earth from the classroom with 'O3E' european project: **J BERENGUER**, F Courboulex, A Tocheport, C Eva, G Ferretti, S Solarino, D Giardini, A Sornette, M Ponzone, R Cremonini, J Virieux
- 0800h **ED31B-0643** *POSTER* The C-MORE Scholars Program: Engaging minority students in STEM through undergraduate research: **B A Gibson**, B C Bruno
- 0800h **ED31B-0644** *POSTER* Reasoning About Nature: Graduate students and teachers integrating historic and modern science in high school math and science classes: J B Davis, **C A Rigsby**, C Muston, Z Robinson, A Morehead, E J Stellwag, J Shinpaugh, A Thompson, J Teller
- 0800h **ED31B-0645** *POSTER* Teaching Sustainability and Resource Management Using NOAA's Voices Of The Bay Community Fisheries Education Curriculum: **J E Hams**, L Uttal, K Hunter-Thomson, S Nachbar
- 0800h **ED31B-0646** *POSTER* Sustainable Development of Research Capacity in West Africa: **J R Liebe**, A Rogmann, U Falk, B K Nyarko, B Amisigo, B Barry, P L Vlek
- 0800h **ED31B-0647** *POSTER* A Sense of Scale: Expanding Effective and Flexible Implementations of *The Math You Need*: **J M Wenner**, E M Baer, H Burn
- 0800h **ED31B-0648** *POSTER* How Global Science has yet to Bridge Global Differences - A Status Report of the IUGS Taskforce on Global Geoscience Workforce: **C M Keane**, L M Gonzales
- 0800h **ED31B-0649** *POSTER* The European Geoscience Union (EGU) Geoscience Information For Teachers (GIFT) Workshops: **S A Macko**, E M Arnold, F Barnikel, J BERENGUER, A Bokwa Bokwa, A Camerlenghi, F Cifelli, F Funicello, C Laj, A Schwarz, P Smith
- 0800h **ED31B-0650** *POSTER* Good Morning from Barrow, Alaska! Helping K-12 students understand the importance of research: **M Shelton**
- 0800h **ED31B-0651** *POSTER* Unlocking Resources: Self-Guided Student Explorations of Science Museum and Aquarium Exhibits: **K C Kirkby**, M Phipps, P Hamilton
- 0800h **ED31B-0652** *POSTER* Enhancing the Teaching of Digital Processing of Remote Sensing Image Course through Geospatial Web Processing Services: L Di, **M Deng**
- 0800h **ED31B-0653** *POSTER* *An Initial Inquiry into Meteorological Data Assimilation and Numerical Modeling Skills Within the Federal Government*: **M R McCalla**, M J Welshinger, F F Hauth
- 0800h **ED31B-0654** *POSTER* SedWorks: A 3-D visualisation software package to help students link surface processes with depositional product: **M A Jones**, A Edwards, P Boulton
- 0800h **ED31B-0655** *POSTER* The First Bachelor of Science Degree in Wind Energy in the US at Texas Tech University Authors: A. Ruiz Columbié, K. Rozsavolgyi, P. Hughes, D. Farris, A. Swift, R. Walker and M. Baker: **A Ruiz-Columbie**
- 0800h **ED31B-0656** *POSTER* Visualizing Space Plasmas and Particles: Extraordinary Matter: **B Barbier**, L M Bartolone, E R Christian, T E Eastman, E Lewis, J R Thieman
- 0800h **ED31B-0657** *POSTER* Enhancing Environmental Higher Education in Eastern Europe: E Palmisano, **E Caporali**, J Valdiserri
- 0800h **ED31B-0658** *POSTER* The City University of New York / NASA Goddard Institute for Space Studies Center for Global Climate Research - NSF REU: **P Marchese**, L P Johnson, B E Carlson, C Rosenzweig, S A Austin, D Peete, L Druyan, M Fulakeza, S Gaffin, F Scalzo, J Frost, F Moshary, S Greenbaum, T K Cheung, A Howard
- 0800h **ED31B-0659** *POSTER* GSA/ExxonMobil Bighorn Basin Field Award - getting students into the field each summer: **J Nocerino**

0800h **ED31B-0660** *POSTER* Climate Change at the Poles: Research Immersion Experience at Bellingshausen, Antarctica: **V A Alexeev**, I A Repina, J L Baeseman, F Fernandez, S Bart

0800h **ED31B-0661** *POSTER* Development of a ceramic membrane from a lithian spinel, $\text{Li}_{1+x}\text{Mn}_2\text{yO}_4$ (M=trivalent or tetravalent cations) for a Li ion-selective electrode: H Yoon, N Venugopal, T Rim, B Yang, K Chung, **T Ko**

0800h **ED31B-0662** *POSTER* Open Course Ware, Distance Education, and 21st Century Geoscience Education: **M G Connors**

0800h **ED31B-0663** *POSTER* An Inquiry-based Instruction Model Designed to Recruit and Retain 2-year and 4-year Early Underclassmen and Undeclared Students into Biogeoscience Majors: **S Hale**, B N Rock, L B Hayden, C Perry, L Barber

0800h **ED31B-0664** *POSTER* Integrating Quantitative Reasoning into STEM Courses Using an Energy and Environment Context: J D Myers, **M E Lyford**, R L Mayes

0800h **ED31B-0665** *POSTER* Radiation Storm vs. The Magnetic Shield: Superheroes of Magnetism & Space Weather Education - A Model for Teacher Professional Development Workshops: **R M Russell**, R M Johnson

0800h **ED31B-0666** *POSTER* Changes in the Demographic Characteristics of the American Geophysical Union Membership, 2006-2010: **D D Rhodes**

0800h **ED31B-0667** *POSTER* A Solid Earth educational module, cooperatively developed by scientists and high school teachers through the Scripps Classroom Connection GK12 Program: **L B Ziegler**, D Van Dusen, R Benedict, P R Chojnacki, C L Peach, H Staudigel, C Constable, G Laske

0800h **ED31B-0668** *POSTER* Fostering Scientific Literacy: Establishing Social Relevance via the Grand Challenges: **M E Lyford**, J D Myers, A Buss

0800h **ED31B-0669** *POSTER* Integration of Field Geophysics and Geology in an International Setting: Multidisciplinary Geoscience Field Experience at the University of Western Ontario: **A J Benders**, N Banerjee, R G Pratt

0800h **ED31B-0670** *POSTER* Science on a Sphere: Moon and Mercury Interactive Spherical Display using iclickers: S B Sherman, **J J Gillis-Davis**, E Pilger, C Au, N Platt

0800h **ED31B-0671** *POSTER* D.E.E.P. Learning: Promoting Informal STEM Learning through Ocean Research Simulation Games: **E Simms**, D Rohrluck, C Layman, C L Peach, J A Orcutt, C S Keen, J Matthews, Title of Team: NSF OOI-CI Education and Public Engagement Team

0800h **ED31B-0672** *POSTER* Building a physical "Earthquake Simulator" to explore the earthquake cycle in K12 outreach: **B Lipovsky**, M Rohrsen, M A Floyd, C Meyers, C Neighbors, J Lozos, K J Ryan, E S Cochran, G J Funning, M Droser

0800h **ED31B-0673** *POSTER* Encouraging and Attracting Underrepresented Racial Minorities to the Field of Geosciences-A Latin American Graduate Student Perspective: **R P Caballero Gill**, T Herbert

0800h **ED31B-0674** *POSTER* Earth and Space Science in the new NRC "Conceptual Framework for New Science Education Standards": **M E Wyssession**, D A Duggan-Haas, S R Linneman, E Pyle, D Schatz

0800h **ED31B-0675** *POSTER* Engaging secondary students in geoscience investigations through the use of low-cost instrumentation: **A L Dunn**, W Hansen, S Healy

0800h **ED31B-0676** *POSTER* Space Grant Undergraduate Remote Sensing Research in Urban Growth near Mobile Bay, Alabama: **M J Abolins**, J Keen, P Wilcox, A Sheehan, S Dial

0800h **ED31B-0677** *POSTER* Creating Interdisciplinary STEM Environments at the University of Nebraska at Omaha: **R D Shuster**, N F Grandgenett

ED31C Moscone South: Poster Hall Wednesday 0800h Traditional Knowledge and Geoscience Research and Education I Posters

Presiding: **P A Cooper**, University of Hawaii at Manoa; **A Coopersmith**, University of Hawai`i Maui College; **R Barnhardt**, University of Alaska Fairbanks

0800h **ED31C-0678** *POSTER* Archiving Local and Traditional Knowledge of the Arctic - Managing Data and Information in Partnership with Indigenous Communities and Earth Scientists: **C McNeave**, M A Parsons, S Gearheard, H Huntington, P L Pulsifer, H McCann

0800h **ED31C-0679** *POSTER* The First Hydrology (Geoscience) Degree at a Tribal College or University: Salish Kootenai College: **G Lesser**, A R Berthelote

0800h **ED31C-0680** WITHDRAWN

0800h **ED31C-0681** *POSTER* Adding Vectors across the North: Development of Laboratory Component of Distance Education Physics Course: **V K Spencer**, D J Solie

0800h **ED31C-0682** *POSTER* Bush Physics for the 21st Century, A Distance Delivery Physics Course Targeting Students in Rural Alaska and Across the North: **D J Solie**, V K Spencer

0800h **ED31C-0683** *POSTER* Fostering Earth Science Inquiry From Within a Native Hawaiian Cultural Framework In O`ahu (Hawai`i) Through A Multidisciplinary Place-Based High School Summer Enrichment Program: **L Moxey**, R Dias, E Legaspi

0800h **ED31C-0684** *POSTER* Manoomin: place-based research with Native American students on wild rice lakes on the Fond du Lac Band of Lake Superior Chippewa Reservation, northern Minnesota: **E Ito**, A Myrbo, D M Dalbotten, H Pellerin, L Greensky, T Howes, A Wold, M A McEathron, V Shanker

0800h **ED31C-0685** *POSTER* Remote Detection of Climate Change Indicators in the Mission Mountain Range: Tracking Ice Field Movement: **C N Sifford**, R Kenning, M Carlson, B N Rock

0800h **ED31C-0686** *POSTER* Remote Sensing and GIS Methods to Detect Uranium Contamination in Watersheds on the Navajo Nation: A NASA/AIHEC Summer Research Experience: **E Chaco**, D K Robinson, M Carlson, B N Rock

0800h **ED31C-0687** *POSTER* 2010 NASA-AIHEC Summer Research Experience: Students and Teachers from TCUs Engage in GIS/Remote Sensing with Researchers and Scientists—Lessons Learned: **B N Rock**, M Carlson, V Mell, N Maynard

0800h **ED31C-0688** *POSTER* How Instructional Strategies Impact Students' Learning, Motivation, and Learning Strategies in Introductory Geology Courses: **D Perkins**, D A Budd, J A Stempien, K Kraft, R K Matheney, D McConnell, K R Wirth, A Bykerk-Kauffman

0800h **ED31C-0689** *POSTER* Lessons Learned From Developing a Sustainable Arsenic-Safe Water Program in West Bengal, India Over a Period of Eight Years: **M M Smith**, J Liaw, A Hira, P Guha, S S Pal, T Hore, A H Smith

0800h **ED31C-0691** *POSTER* Lunar Rocks: Available for Year of the Solar System Events: **J S Allen**

0800h **ED31C-0692** *POSTER* On Minorities in Science: Examining the Role of Mentorship Programs in Earth Sciences: **M D Harrison**, L Birt, K Frink, A Johnson, V Williamson Whitney

ED31D Moscone South: I02 **Wednesday 0800h**
The Imperative of Climate Literacy I (*joint with A, C, IN, GC, PP, PA*)

Presiding: **S M Buhr**, University of Colorado; **T S Ledley**, TERC

0800h **ED31D-01** U.S. Federal Investments in Climate Change Education: They're Warming Up! (*Invited*): **J L Karsten**, F Niepold, M Wei, Title of Team: USGCRP Education Interagency Working Group

0815h **ED31D-02** The NASA Global Climate Change Education Project: An Integrated Effort to Improve the Teaching and Learning about Climate Change (*Invited*): **L H Chambers**, M R Pippin, S Welch, K Spruill, M J Matthews, C Person

0830h **ED31D-03** Aquariums Inspiring Hope and Action Against Climate Change (*Invited*): **C L Vernon**

0845h **ED31D-04** A Kaleidoscope of Understanding: Pre-service Elementary Teachers' Knowledge of Climate Change Concepts and Impacts: **D Hayhoe**, S Bullock, K Hayhoe

0900h **ED31D-05** Environmental literacy framework with a focus on climate change (ELF): a framework and resources for teaching climate change: **L T Huffman**, D Blythe, L E Dahlman, S Fischbein, K Johnson, Y Kontar, F R Rack, D K Kulhanek, J Pennycook, J Reed, B Youngman, M Reeves, R Thomas

0915h **ED31D-06** Climate Change Education Roundtable: A Coherent National Strategy: **M Storksdieck**, M Feder, Title of Team: Climate Change Education Roundtable

0930h **ED31D-07** Climate Information and Misinformation: Getting the Message Out: **M Carr**, M Rubenstein, K Brash, T E Hernandez, R F Anderson, M Fulton, B Kahn

0945h **ED31D-08** Bring Hidden Hazards to the Publics Attention, Understanding, and Informed Decision by Coordinating Federal Education Initiatives: **F Niepold**, J L Karsten, M Wei, J Jadin

Earth and Planetary Surface Processes

EP31A Moscone South: Poster Hall **Wednesday 0800h**
Earth and Planetary Surface Processes II: Sediment Transport and Flux Posters (*joint with H, NH, GC*)

Presiding: **M P Lamb**, Caltech; **L S Sklar**, San Francisco State University

0800h **EP31A-0719** *POSTER* Field measurement of critical shear stress for erosion and deposition of fine muddy sediments: **M Salehi**, K B Strom, Title of Team: Field study

0800h **EP31A-0720** *POSTER* Quantifying the influence of imbrication on forces required to initiate motion of coarse-grained sediment on natural river bars: **S Sanguinito**, J P Johnson

0800h **EP31A-0721** *POSTER* Determining the turnover time of mercury-contaminated fine-grained sediment in the gravel bed of the South River, Virginia using Pb-210, Be-7 and Cs-137: **S N Pomraning**, J E Pizzuto, D Jurk

0800h **EP31A-0722** *POSTER* The effects of cluster density and arrangement on flow resistance in gravel-bed streams: **M L Hendershot**, J G Venditti

0800h **EP31A-0723** *POSTER* Rates of Gravel Dispersion: **J K Haschenburger**

0800h **EP31A-0724** *POSTER* A Framework for Dynamic Modeling of Surface-Structure Patches on Bed Load Transport in Coarse Grained Reaches: **K B Strom**

0800h **EP31A-0725** *POSTER* Micro-topography controls on incipient motion in very steep, ephemeral streams: **J S Scheingross**, E W Winchell, M P Lamb, W E Dietrich

0800h **EP31A-0726** *POSTER* Bed-material, channel stability, and regional gravel production dynamics in Oregon coastal rivers: **K L Jones**, J E O'Connor, R Wallick, S Anderson, M K Keith, J F Mangano

0800h **EP31A-0727** *POSTER* Transient Responses of Gravel Bars to Increases in Sediment Supply - Field & Flume: **C Podolak**

0800h **EP31A-0728** *POSTER* Quantifying the coevolution of bedload transport rates and bed topography in mountain rivers: a field experiment in Reynolds Creek, ID: **L Olinde**, J Johnson, F B Pierson

0800h **EP31A-0729** *POSTER* Sand bar beach stability under river stage fluctuations, full-scale laboratory experiments: **L Alvarez**, M Schmeeckle

0800h **EP31A-0730** *POSTER* The effect of diffusive transport of bedload particles in selecting the wavelength of sand ripples during their initial growth: **B P Kahn**, D J Furbish

0800h **EP31A-0731** *POSTER* Characterization of near-bed sediment transport in air and water by high-speed video: C S Martin, **N T Hamm**, B Cushman-Roisin, W B Dade

0800h **EP31A-0732** *POSTER* Bed Sediment Grain Size Distribution and Flow Dynamics of Indianhead Reservoir, St. Croix River, MN/WI: **K J Jackson**, K R MacGregor, D J Hornbach

0800h **EP31A-0733** *POSTER* What controls sediment flux in dryland channels?: **K Michaelides**, M B Singer

0800h **EP31A-0734** *POSTER* Lateral bedrock erosion in an experimental channel: the influence of bed roughness on wear by bedload impacts: **T K Fuller**, L S Sklar, K Gran

0800h **EP31A-0735** *POSTER* Particle Scale Studies Experimental and Computational Studies on the Effects of Turbulence Statistics and Bed Variability on Particle Entrainment and Transport: **K M Hill**, K Templin, B Y Tewoldebrhan, F Porte-Agel

EP31B Moscone South: Poster Hall **Wednesday 0800h**
Geomorphological and Ecological Processes in Tidal Flats and Wetlands II Posters (*joint with B, OS*)

Presiding: **S Fagherazzi**, Boston University; **A S Ogston**, University of Washington

0800h **EP31B-0736** *POSTER* High-resolution scanning XRF as a tool for palaeoenvironmental analysis of intertidal sediment sequences: **C Barrett-mold**, H Burningham, J French

0800h **EP31B-0737** *POSTER* Mechanisms of erosion along salt marsh edges: the interplay of invertebrates, vegetation, and sediment properties: **S McLoughlin**, P L Wiberg, K McGlathery, S Fagherazzi, G Mariotti

0800h **EP31B-0738** *POSTER* Tidal Impacts on Sediment and Associated Mercury Storage in the Lower Connecticut River Floodplain: **T J Naughton**, J D Woodruff, D J Kekacs, E H Elzidani, A M Martini

0800h **EP31B-0739** *POSTER* Are expansive North American marshes a relict of historical land use change? (*Invited*): **M L Kirwan**, A B Murray, J P Donnelly, D R Corbett

0800h **EP31B-0740** *POSTER* Sensitivity analysis of the Wetland Accretion Rate Model for Ecosystem Resilience (WARMER): **K Swanson**, J Z Drexler, D H Schoellhamer, K Thorne, K Spragens, J Takekawa

0800h **EP31B-0741** *POSTER* The Effect of Rainfall on Biogeochemistry Characterization of Particulate Organic Matter in the Intertidal Zone: **S Chen**, R Torres, M A Goni

0800h **EP31B-0742** *POSTER* Prototype Application of NASA Missions to Identify Patterns of Wetland Vegetation Development within the South San Francisco Bay Salt Ponds: **W Hsu**, M E Newcomer, E Justice, L S Guild, J W Skiles

0800h **EP31B-0743** *POSTER* Geodynamics of Venice tidal marshes observed by radar interferometry: **L Tosi**, P Teatini, T Strozzi

0800h **EP31B-0744** *POSTER* Object-based analysis and change detection of the major wetland cover types during the low water period at Poyang Lake, PRC: **I Dronova**, L Wang, P Gong

0800h **EP31B-0745** *POSTER* Sediment dynamics over multiple time scales in Dyke Marsh Preserve (Potomac River, VA): **C M Palinkas**, D Walters

0800h **EP31B-0746** *POSTER* Groundwater-Mediated Feedbacks between Sea Level Rise and Marsh Productivity: **A M Wilson**, J T Morris

0800h **EP31B-0747** *POSTER* Characterizing the Impacts of the Deepwater Horizon Oil Spill on Marshland Vegetation, Gulf Coast Louisiana, Using Airborne Imaging Spectroscopy: **RF Kokaly**, D A Roberts, D Heckman, S Piazza, G Steyer, B Couvillion, J M Holloway, C T Mills, T M Hoefen

0800h **EP31B-0748** *POSTER* Changes in Marsh Vegetation, Stability and Dissolved Organic Carbon in Barataria Bay Marshes Following the Deepwater Horizon Oil Spill: **J M Holloway**, G Aiken, R F Kokaly, D Heckman, K Butler, C T Mills, T M Hoefen, S Piazza

EP31C Moscone South: Poster Hall Wednesday 0800h
The Morphodynamics of Big Rivers: What Do and Don't We Know? II Posters (*joint with H*)

Presiding: **P J Ashworth**, University of Brighton; **J Best**, University of Illinois; **D R Parsons**, University of Leeds

0800h **EP31C-0749** *POSTER* Braided River Evolution and Bifurcation Dynamics During Floods and Low Flow in the Jamuna River: **W A Marra**, **M G Kleinhans**, E Addink

0800h **EP31C-0750** *POSTER* Applying a Computational Fluid Dynamics model to understand flow structures in a large river: the Rio Paraná: **S D Sandbach**, R J Hardy, S N Lane, P J Ashworth, D R Parsons

0800h **EP31C-0751** *POSTER* Large rivers in sedimentary basins: Morphology and form observed from satellite imagery: **G S Weissmann**, A J Hartley, L A Scuderi, G J Nichols, S K Davidson

0800h **EP31C-0752** *POSTER* Pluriannual variability of sedimentation on mudflats in a macrotidal estuary: **A Cuvilliez**, R Lafite, J Deloffre, N Massei, E Langlois, I Sakho

0800h **EP31C-0753** *POSTER* Mobilization of Floodplain Sediments by Chute Cutoffs on a Large River: Lower Wabash River, Illinois-Indiana: **J A Zinger**, B L Rhoads, J Best, F Engel, K M Konsoer

0800h **EP31C-0754** *POSTER* The morphodynamics of bifurcation-expansion units in a large multi-thread river: **R Szupiany**, **D R Parsons**, M Amsler, J Best, J Hernandez

0800h **EP31C-0755** *POSTER* Development and Implementation of a Bayesian Model for Sediment Transport in Fluvial Systems: **M L Schmelter**, M Hooten

0800h **EP31C-0756** *POSTER* Topographic Analyses of Reaches of the Colorado River in Grand Canyon Reveal Focused Locations of Fine-Sediment Accumulation and Evacuation: **J C Schmidt**, P E Grams, J E Hazel, M A Kaplinski

EP31D Moscone South: 310 Wednesday 0800h
Coastal Geomorphology and Morphodynamics: Bridging Event and Long-Term Processes III (*joint with H, NH, OS*)

Presiding: **J E McNinch**, Field Research Facility; **C J Hapke**, U.S. Geological Survey

0800h **EP31D-01** Increasing Influence of Societal Response Variables in Coastal Evolution Projections (*Invited*): **P T Gayes**, C A McCoy, L J Pietrafesa

0815h **EP31D-02** Sub-weekly to interannual variability of a high-energy shoreline (*Invited*): **J E Hansen**, P Barnard

0830h **EP31D-03** Coastal foredune evolution: evidence for physical control: **P Ruggiero**, P L Zarnetske, J Mull, S Hacker, E Seabloom

0845h **EP31D-04** Assessing Long-Term Spatial and Temporal Change of the Dune-Beach System: Fire Island, New York: **E Lentz**, C J Hapke, R E Hehre

0900h **EP31D-05** Spatial patterns of wave energy delivery to coastal cliffs: **M E Dickson**, R Pentney, M Alvarez, P Malin

0915h **EP31D-06** Reconstructing Former Sea Cliff Chronologies using Cosmogenic ¹⁰Be Concentrations: **J Barlow**, **N J Rosser**, D N Petley, A Densmore, M Lim

0930h **EP31D-07** Southwest Washington Littoral Drift Restoration Project: Beach and Nearshore Morphological Monitoring: **G R Gelfenbaum**, A W Stevens, P Ruggiero, G M Kaminsky

0945h **EP31D-08** WITHDRAWN

EP31E Moscone South: 308 Wednesday 0800h
From Turbulence to Channel Pattern I (*joint with H*)

Presiding: **M G Kleinhans**, Universiteit Utrecht; **F Schuurman**, Universiteit Utrecht

0800h **EP31E-01** Interactions between bedforms, turbulence and pore flow: **G Blois**, J Best, G Sambrook Smith, R J Hardy, J Lead

0815h **EP31E-02** Coherent structure resolving simulation of turbulent flows in natural meander bends with pool-riffle sequences: **S Kang**, F Sotiropoulos

0830h **EP31E-03** Coriolis forces influence the secondary circulation of gravity currents flowing in large scale sinuous submarine channel systems: **R Cossu**, M G Wells

0845h **EP31E-04** Biotic drivers of anastomosing channel pattern in headwater streams of the Colorado Rocky Mountains: **E E Wohl**

0900h **EP31E-05** Meandering river patterns with spatial variations of channel width: revisiting bend stability: **G Zolezzi**, **R Luchi**, M Tubino

0915h **EP31E-06** Self-formed meandering river created in the laboratory using an upstream migrating boundary: **W M van Dijk**, W I van de Lageweg, M G Kleinhans

0930h **EP31E-07** Experimental Studies on Self-Formed 3D Fluvio-Deltaic Sand and Gravel Sorting Patterns: **W I van de Lageweg**, W M van Dijk, M G Kleinhans, G Postma

0945h **EP31E-08** The Meandering-Braided River Pattern Transition Explained Empirically and with a 2D Morphodynamics Model: **J H van den Berg**, **F Schuurman**, M G Kleinhans, H Lentink

Geodesy

G31A Moscone South: Poster Hall Wednesday 0800h **The GOCE Gravity Field Mission: Status and Results From the First Year of Science Operations I Posters** (*joint with C, NS, OS*)

Presiding: **R Floberghagen**, European Space Agency; **T Gruber**, Technical University Munich

0800h **G31A-0787 POSTER** GOCE: data quality analysis and scope for product evolution: **R Floberghagen**, M Fehringer, D Lamarre, D Muzi, B Frommknecht, M Meloni, A Bigazzi

0800h **G31A-0788 POSTER** GOCE PDGS L1b processing status and data access: **B Frommknecht**, R Floberghagen, P Gilles, A Bigazzi, M Meloni

0800h **G31A-0789 POSTER** In orbit performance of the accelerometer of the GOCE gravity mission: **P Touboul**, B Christophe, J Marque, B Foulon

0800h **G31A-0790 POSTER** Improved GOCE Gradiometer Processing – Wiener-Method for Angular Rate Determination: **C Stummer**, T Fecher, R Pail, R Rummel, T Gruber

0800h **G31A-0791 POSTER** GOCE SSTI performance: **H Bock**, A Jaeggi, U Meyer, P N Visser, J van den IJssel, T Van Helleputte, O Montenbruck

0800h **G31A-0792 POSTER** Monitoring and Validation of GOCE Gradiometer Calibration Parameters: **C Siemes**, R Haagmans, M Kern, G Plank, M R Drinkwater, R Floberghagen

0800h **G31A-0793 POSTER** GOCE Gravity Gradients in Local Frames: M J Fuchs, **J Bouman**

0800h **G31A-0794 POSTER** GOCE Level 2 Gravity Gradients: **J Bouman**, S Fiorot, M Fuchs, T Gruber, E J Schrama, C C Tscherning, M Veicherts, P N Visser

0800h **G31A-0795 POSTER** Assessment of GOCE gradiometer performance: **W Yi**, M Murböck, R F Rummel

0800h **G31A-0796 POSTER** Validation of GOCE Gravity Field Models by Means of Geoid Comparisons and Orbit Fits: **T Gruber**, C Ackermann, M Hosse, P N Visser

0800h **G31A-0797 POSTER** A new combined global gravity field model including GOCE data from the collaboration of GFZ Potsdam and GRGS Toulouse: **C Foerste**, R Shako, F Flechtner, C Dahle, O Abrikosov, H Neumayer, F Barthelmes, S L Bruinsma, J Marty, G Balmino, R Biancale, Title of Team: The EIGEN Team

0800h **G31A-0798 POSTER** Combining GRACE and GOCE for a new combined EIGEN model: **J Marty**, S L Bruinsma, G Balmino, R Biancale, C Foerste, F Flechtner, O Abrikosov, C Dahle, H Neumayer, R Koenig, J Raimondo

0800h **G31A-0799 POSTER** Gravity field recovery from in-situ GOCE high-low SST and SGG data: **B Zhong**, Z Luo, J Ning, H Wang

0800h **G31A-0800 POSTER** COMBINED GLOBAL GRAVITY FIELD MODELS FROM SPACE-BASED AND GROUND-BASED DATA: **H Goiginger**, D G Rieser, R Pail, T Gruber, T Fecher, W Schuh, J Kusche, J M Brockmann, T Mayer-Guerr, A Eicker, A Jaeggi, U Meyer, W Hausleitner, E Höck, S Krauss, A Maier, Title of Team: GOCO Consortium

0800h **G31A-0801 POSTER** EVALUATION OF GO_CONS_GCF_2_TIM AND GOCO01S GEOPOTENTIAL MODELS IN VENEZUELA AND CARIBBEAN REGION: **N D Orihuela**, A D Garcia, T Tabare, Title of Team: Scientific Team of Venezuelan and Caribbean crustal study from satellital data

0800h **G31A-0802 POSTER** Global Gravity Field Determination from terrestrial Data: **T Fecher**, R Pail, T Gruber

0800h **G31A-0803 POSTER** Gravity field modelling over France from GOCE and surface data: **I PANET**, J Van Santen, M Holschneider, M Diament

0800h **G31A-0804 POSTER** The fast analysis of gravity field recovery from the GOCE observations along 979/61 nearly repeated orbit based on the SA method: **X Xu**, J Li, Z Wang, X Zou, H Wu

0800h **G31A-0805 POSTER** Improving modeling of GOCE data using reduced point mass or multipole base functions: **M Herceg**, C C Tscherning, P Knudsen

0800h **G31A-0806 POSTER** Enhanced Mean Dynamic Topography and Ocean Circulation Estimation using GOCE Preliminary Models: **P Knudsen**, O B Andersen, R Bingham

0800h **G31A-0807 POSTER** Exploitation of the First Release of GOCE Data for Local Moho and Geoid Estimation: the Example of the Alpine Area: **D Sampietro**, M Reguzzoni

0800h **G31A-0808 POSTER** Combination of geodetic measurements by means of a multi-resolution representation: **G Goebel**, M G Schmidt, K Börger, H List, W Bosch

0800h **G31A-0809 POSTER** Fine orbit tuning to increase the accuracy of the gravity-field modelling: **A Bezdek**, J Klokocnik, J Kostelecky, R Floberghagen, J Sebera

0800h **G31A-0810 POSTER** Precise Solar Radiation Pressure Modeling for GRACE with Atmospheric Refraction: **R V Robertson**, J Flury

G31B Moscone West: 2008 Wednesday 0800h **The Magnitude 8.8 Chilean Earthquake of 27 February 2010 II** (*joint with S, T, NH*)

Presiding: **S E Barrientos**, Universidad de Chile; **B A Brooks**, University of Hawaii; **K Wang**, Geological Survey of Canada; **D Melnick**, University of Potsdam

0800h **G31B-01** Real Time Teleseismic Source Inversion of the Maule Earthquake (*Invited*): **G P Hayes**, P S Earle, D J Wald, H Benz, C Ji, G Shao

0815h **G31B-02** Seismic Moment and Slip Distribution of the 1960 and 2010 Chilean Earthquakes as Inferred from Tsunami Waveforms: **K Satake**, Y Fujii

0830h **G31B-03** OBSERVATIONS AND MODELING OF THE 27 FEBRUARY 2010 TSUNAMI IN CHILE: **C E Synolakis**, H M Fritz, C M Petroff, P A Catalan, R Cienfuegos, P Winckler, N Kalligeris, R Weiss, G Meneses, C Valderas-Bermejo, C W Ebeling, A Papadopoulos, M Contreras, R Almar, J C Dominguez, S E Barrientos

0845h **G31B-04** The Frequency Dependent Characteristics of the 2010 Chile Earthquake: **E Kiser**, M Ishii

0900h **G31B-05** The M 8.8 2010 Maule, Chile, Earthquake: GPS Seismology Comes of Age (*Invited*): **K M Larson**, D C Agnew, D Akos, P Axelrad, S E Barrientos, J A Campos, W L Ellsworth, H Hase, R I Madariaga, J Nocquet, M Ueno, C Vigny

0915h **G31B-06** Near Source Rupture Modeling of the February 27, 2010 Mw 8.8 Maule Earthquake using cGPS and Strong Motion Data: **M Lancieri**, C Vigny, S Ruiz, R I Madariaga, E Buforn

0930h **G31B-07** Low and High Frequency Characteristics of Maule 2010, Chilean Earthquake: **S Ruiz**, M Astroza, R I Madariaga, M Lancieri, J A Campos

0945h **G31B-08** Aftershock Seismicity of the 27 February 2010 Mw 8.8 Maule Earthquake Rupture Zone: **D Lange**, F J Tilmann, S E Barrientos, K Bataille, S L Beck, P Bernard, J A Campos, D Comte, C A Haberland, B Heit, P Methe, S Peyrat, A Rietbrock, S Roecker, B Schurr, J Vilotte

Global Environmental Change

GC31A Moscone South: Poster Hall Wednesday 0800h **Can We Counteract Global Warming? II Posters** (joint with A, PA)

Presiding: A Robock, Rutgers University; K Caldeira, Carnegie Institution

0800h **GC31A-0855** POSTER Effect of In-Plume Aerosol Processing on the Efficacy of Marine Cloud Albedo Enhancement from Controlled Sea-Spray Injections: R G Stevens, D Spracklen, H Korhonen, **J R Pierce**

0800h **GC31A-0856** POSTER Can we restore global phytoplankton, the westerly winds and other aspects of climate using geoengineering?: **O W Wingenter**, S M Elliott, D R Blake, N J Blake

0800h **GC31A-0857** POSTER Can we test geoengineering?: **D G MacMynowski**, H Shin, K Caldeira, D Keith

0800h **GC31A-0858** POSTER Climate Response to a Geo-Engineered Brightening of Subtropical Boundary Clouds: **S A Hill**, Y Ming

0800h **GC31A-0859** POSTER Detecting and isolating the forcing and response processes in the climate system using multiple pseudo-random perturbations of sea surface temperature patterns across worldwide ocean regions: **D Ganguly**, P J Rasch, S Salter

0800h **GC31A-0860** POSTER Arctic climate response to geoengineering with stratospheric sulfate aerosols: **K E McCusker**, D S Battisti, C M Bitz

0800h **GC31A-0861** POSTER Environmentally Safe SRM Strategies Using Liquefied Air: M Massmann, **K Layton**

GC31B Moscone South: Poster Hall Wednesday 0800h **Carbon Dioxide Sequestration via Mineral Carbonation: Insights From Field Observations, Experiments, and Modeling II Posters** (joint with A, V, NS)

Presiding: B Jamtveit, PGP; A Beinlich, University of Oslo; P B Kelemen, Columbia University

0800h **GC31B-0862** POSTER Carbonatisation of Weathered Peridotites in Laboratory Experiments: **J Hövelmann**, H Austrheim, A Beinlich, I A Munz

0800h **GC31B-0863** POSTER Experimental Study of CO₂ Sequestration in a Basalt-Olivine Matrix: Coupling and Feedback Effects of Transport, Hydration and Carbonation Processes: **M Godard**, S Peuble, L Luquot, P Gouze

0800h **GC31B-0864** POSTER Monitoring natural sequestration of carbon dioxide into chrysotile milling waste piles: **J Lemieux**, G Beaudoin, J Pronost, M Constantin, J Duchesne, R Hebert, F Larachi, X Maldague, J W Molson, J Tremblay

0800h **GC31B-0865** POSTER CO₂ Sequestration in Ultramafic Rocks: Insights from the Red Mountain Magnesite District, California: **P García del Real**, K Maher, D K Bird, G E Brown

0800h **GC31B-0866** POSTER Carbonatization of peridotite within a sedimentary environment (Invited): **H Austrheim**, A Beinlich, J Glodny, M M Erambert, T Andersen, O Pluemper, J Hövelmann

0800h **GC31B-0867** POSTER 14C Dating of Carbonate Alteration of Peridotite in the Samail Ophiolite, Oman: **E M Mervine**, P B Kelemen, K W Sims, S E Humphris, W J Jenkins, M Roberts

0800h **GC31B-0868** POSTER Modeling Enhanced *In Situ* CO₂ Mineralization in the Samail Ophiolite Aquifer: **A N Paukert**, J M Matter, P B Kelemen, E Shock, E Streit

0800h **GC31B-0869** POSTER Geologic Sequestration Studies with Hawaiian Picrites: **K T Johnson**, B P McGrail, H T Schaefer

0800h **GC31B-0870** POSTER Basalt CO₂ Sequestration: Using Wireline Logs to Identify Subsurface Continental Flood Basalt Lithofacies: **E C Sullivan**, S Finn, K N Davis, A I Segovia

0800h **GC31B-0871** POSTER Reactive transport models for mineral CO₂ storage in basaltic rocks: **E S Aradottir**, E L Sonnenthal, G Bjornsson, H Jonsson

0800h **GC31B-0872** POSTER Effects of CO₂-rich fluids on a redbed reservoir: outcrop analogue study from the Buntsandstein (Germany): **N Kasch**, J Kley, J Koester, R van Geldern, M Wehrer, J Wendler

0800h **GC31B-0873** POSTER Estimation of reactive surface area of the minerals during fluid-rock interaction in Galicia (Spain): Analog for artificial geological sequestration of CO₂: **J Rillard**, P Zuddas, Title of Team: Groundwater and Gas Emission Unit

0800h **GC31B-0874** POSTER Experimental Studies on the Interaction of scCO₂ and scCO₂-SO₂ With Rock Forming Minerals at Conditions of Geologic Carbon Storages - First Results: **J Erzinger**, F Wilke, T Wiersberg, M Vasquez Parra

0800h **GC31B-0875** WITHDRAWN

0800h **GC31B-0876** POSTER Both experimental study and numerical modelling of the effect of temperature gradient on CO₂ injection: **J Corvisier**, V Lagneau, E Jobard, J Sterpenich, J Pironon

0800h **GC31B-0877** POSTER Numerical Simulations Of Potential Mineral Trapping of CO₂ During Sequestration: **H P Menke**, J E McCray, A Sitchler, R M Maxwell

0800h **GC31B-0878** POSTER Reactive Transport Modeling of CO₂ Storage in a Saline Aquifer: **C Lu**, W W McNab, S A Carroll, Y Hao

0800h **GC31B-0879** POSTER Carbonation of Artificial Silicate Minerals in Soils: Passive Removal of Atmospheric CO₂: **C Washbourne**, P Renforth, D A Manning

0800h **GC31B-0880** POSTER Influence of organic ligands on the crystal growth of magnesite (MgCO₃): Mechanistic aspects and implications for the mineral sequestration of CO₂: **Q Gautier**, G Jordan, P Bénézeth, J Schott

0800h **GC31B-0881** POSTER Peptoid-enhanced Mineralization of CaCO₃ for CO₂ sequestration: C Chen, J Qi, **R N Zuckermann**, J J DeYoreo

0800h **GC31B-0882** POSTER Microbially mediated mineral carbonation: **I M Power**, S A Wilson, G M Dipple, G Southam

0800h **GC31B-0883** POSTER Reaction of CO₂ and Carbonate Mineral in Seawater for Mitigation of CO₂ and Ocean Acidity: **G H Rau**

0800h **GC31B-0884** POSTER A Numerical Study on Combining CO₂ Mineral Carbonation and Geothermal Energy Development: **Y Wan**, T Xu, K Pruess

0800h **GC31B-0885** POSTER Effects of Adsorbed Gases on the Physical and Transport Properties of Low-Rank Coal, PRB, WY: Implications for Carbon Sequestration and Enhanced Coalbed Methane Recovery: **Y Yang**, M D Zoback, P N Hagin

0800h **GC31B-0886** POSTER Carbon storage in Swedish bedrock - current status regarding potential storage areas and geophysical information: B Bergman, **N G Juhojuntti**

0800h **GC31B-0887** POSTER CO₂ SEQUESTRATION BY MINERAL CARBONATION OF CEMENT MATERIAL: **H Jo**, H Jo, Y Jang

0800h **GC31B-0888** POSTER Challenges and Opportunities for Biochar as Carbon Sequestration Regime: **J C Arnott**, M Williams

GC31C Moscone South: Poster Hall Wednesday 0800h
Promising Paths of Research in Geological Storage of Anthropogenic CO₂ II Posters (joint with A, H, NS, V, PA)

Presiding: **J M Matter**, Lamont-Doherty Earth Observatory;
K M Rosso, Pacific Northwest National Laboratory

0800h **GC31C-0889 POSTER** Basalt as a solid source of calcium and alkalinity for the sequestration of carbon dioxide in building materials: **N C Johnson**, I Westfield, P Lu, W L Bourcier, T Kendall, B R Constantz

0800h **GC31C-0890 POSTER** Metal Carbonation of Forsterite in Wet Supercritical CO₂: The Role of H₂O Studied by Solid State C-13 and Si-29 NMR Spectroscopy: **J Hu**, J Kwak, R V Turcu, K M Rosso, E S Ilton, C Wang, J A Sears, A R Felmy, D W Hoyt

0800h **GC31C-0891 POSTER** Reactivity of Forsterite, Lizardite, and Antigorite in Dry to Water-Saturated Supercritical CO₂ - An In Situ Infrared Spectroscopic Investigation: **J S Loring**, C J Thompson, Z Wang, H T Schaeff, A R Felmy, K M Rosso

0800h **GC31C-0892 POSTER** Characterization of Brucite and Portlandite Reactivity with Wet Supercritical CO₂ by In Situ High Pressure XRD: **H T Schaeff**, B P McGrail, K M Rosso

0800h **GC31C-0893 POSTER** Investigating the effect of potential additives and temperature on the dissolution kinetics of olivine (Mg₂SiO₄) in carbonation reactions: **O Sissmann**, D Daval, I Martinez, F Brunet, N Findling, F J Guyot

0800h **GC31C-0894 POSTER** Enabling the measurement of *in-situ*, atomic scale mineral transformation rates in supercritical CO₂ through development of a high pressure AFM: **S Lea**, S R Higgins, K G Knauss, K M Rosso

0800h **GC31C-0895 POSTER** CO₂ Percolation Experiment through Chlorite/Zelite-Rich Sandstone (Pretty Hill Formation - Otway Basin - Australia): **P Gouze**, L Luquot, M Andreani

0800h **GC31C-0896 POSTER** Physical and Chemical Effects of Two-Phase Brine/Supercritical-CO₂ Fluid Flow on Clastic Rocks: Real-Time Monitoring and NMR Imaging of Flow-Through Core Experiments: **C A Shaw**, S Vogt, J E Maneval, T Brox, M L Skidmore, S L Codd, J D Seymour

0800h **GC31C-0897 POSTER** Estimation of the reactive mineral surface area during CO₂-rich fluid-rock interaction: the influence of neogenic phases: **A Scislewski**, P Zuddas

0800h **GC31C-0898 POSTER** The CarbFix Pilot Project in Iceland - CO₂ capture and mineral storage in basaltic rocks: **H Sigurdardottir**, B Sigfusson, E S Aradottir, E Gunnlaugsson, S R Gislaon, H A Alfredsson, W S Broecker, J M Matter, M Stute, E Oelkers

0800h **GC31C-0899 POSTER** Laboratory experiments on CO₂ dissolution in water for carbon sequestration: D Fernandez de la Reguera, **M Stute**, J M Matter

0800h **GC31C-0900 POSTER** Characterization of the deep microbial life in the Altmark natural gas reservoir: **D Morozova**, M Alawi, A Vieth-Hillebrand, D Kock, M Krüger, H Wuerdemann

0800h **GC31C-0901 POSTER** Utility of Biofilms and Biologically-Induced Mineralization in Geologic Carbon Sequestration: **R Gerlach**, A C Mitchell, A B Cunningham, L Spangler

0800h **GC31C-0902 POSTER** Using a sharp interface to model the capillary fringe: a model comparison: **K Bandilla**, M A Celia, J M Nordbotten, B Court, T J Elliot

0800h **GC31C-0903 POSTER** Viscous and Capillary Effects on Immiscible Fluids Displacement: Pore-Scale Study in a Uniform Pore Network Micromodel: **C Zhang**, M Oostrom, T W Wietsma, J W Grate

0800h **GC31C-0904 POSTER** Injection of a reacting fluid into a fractured porous medium: **L Jasinski**, J Thovert, V Mourzenko, P M Adler

0800h **GC31C-0905 POSTER** Analytical and Numerical Models of Pressurization for CO₂ Storage in Deep Saline Formations: **N Wildgust**, A Cavanagh

0800h **GC31C-0906 POSTER** Simulations of Pressure Monitoring above a Fractured Caprock at a Brine CO₂ Sequestration Site:

K Gyovai, E J Boyle, N Sams, S King, G Bromhal, D Crandall
0800h **GC31C-0907 POSTER** Brine production strategy modeling for active and integrated management of water resources in CCS: **B Court**, M A Celia, J M Nordbotten, T A Buscheck, T J Elliot, K Bandilla, M Dobossy

0800h **GC31C-0908 POSTER** Multi-spectral imaging of vegetation for CO₂ leak detection: **J A Hogan**, J A Shaw, R L Lawrence, L Dobeck, L Spangler

0800h **GC31C-0909 POSTER** Changes of spectral and radiometric properties of vegetation and soil electric properties in response to simulated surface CO₂ leakage of geologically sequestered CO₂: **X Zhou**, V R Lakkaraju, M E Apple, L Dobeck, A B Cunningham, L Spangler

0800h **GC31C-0910 POSTER** Stomatal Conductance, Plant Species Distribution, and an Exploration of Rhizosphere Microbes and Mycorrhizae at a Deliberately Leaking Experimental Carbon Sequestration Field (ZERT): **B Sharma**, M E Apple, S Morales, X Zhou, B Holben, J Olson, J Prince, L Dobeck, A B Cunningham, L Spangler

0800h **GC31C-0911 POSTER** The Ketzin Project, Germany - Status and Future of the First European on-shore CO₂ Storage Site: M Kuehn, **S Martens**, F Moeller, S Lueth, A Liebscher, T Kempka, Title of Team: Ketzin Group

0800h **GC31C-0912 POSTER** Systematic Risk Reduction: Chances and Risks of Geological Storage of CO₂: **F R Schilling**, H Wuerdemann

0800h **GC31C-0913 POSTER** A Java and XML Application to Support Numerical Model Development within the Geologic Sequestration Software Suite (GS³): **M D Williams**, S K Wurstner, P D Thorne, V L Freedman, A Litofsky, S A Huda, V Gurumoorthi

GC31D Moscone South: I03 Wednesday 0800h
Bestsellers by AGU Authors on Global Environmental Change I (joint with A, B, H, OS, PA)

Presiding: **S A Lloyd**, NASA Goddard Space Flight Ctr; **B M Fagan**

0800h **GC31D-01** Hack the Planet: What we Talk About When we Talk About Geoengineering: **E Kintisch**

0820h **GC31D-02** How to Cool the Planet by Jeff Goodell: **J Goodell**

0840h **GC31D-03** Coming Climate Crisis? Consider the Past, Beware the Big Fix: **C L Parkinson**

0900h **GC31D-04** Fixing the Sky: Why the History of Climate Engineering Matters (*Invited*): **J R Fleming**

0920h **GC31D-05** The science and politics of global climate change: a guide to the debate: **E A Parson**, A E Dessler

0940h **GC31D-06** Are debatable scientific questions debatable? (*Invited*): **N Oreskes**

GC31E Moscone West: 3001 Wednesday 0800h
Climate Modeling in Support of Policy Decision Making: Needs and Limitations II (joint with A, PA)

Presiding: **I T Foster**, University of Chicago and Argonne National Laboratory; **E J Moyer**, University of Chicago; **L A Smith**, London School of Economics; **A H Sanstad**, Lawrence Berkeley National Laboratory

0800h **Introduction Ian Foster**

0805h **GC31E-01** An Overview of the Future Development of Climate and Earth System Models for Scientific and Policy Use (Invited): **W M Washington**

0825h **GC31E-02** Climate: Policy, Modeling, and Federal Priorities (Invited): **S Koonin**, Title of Team: Department of Energy Office of the Under Secretary for Science

0845h **GC31E-03** Delivering Climate Projections at Regional Scales to Support Decisionmakers: a new NOAA effort: **D E Anderson**, A J Ray, A E MacDonald, R B Rood, J P Schneider

0857h **GC31E-04** Defining climate modeling user needs: which data are actually required to support impact analysis and adaptation policy development?: R J Swart, **C Pagé**

0909h **GC31E-05** Some Do's and Dont's in Integrated Modelling for Climate Policy: **R F Warren**

0921h **GC31E-06** Climate Change Projections for the UK (UKCP09): J Murphy, D Sexton, G Jenkins, P Boorman, B Booth, K Brown, **R T Clark**, M Collins, G Harris, E Kendon

0933h **GC31E-07** Climate Modeling in Support of Policy Decisionmaking in Germany: **G P Brasseur**

0945h **Discussion, Moderated by Ian Foster**

Geomagnetism and Paleomagnetism

GP31A Moscone West: 2003 Wednesday 0800h
Planetary Magnetic Fields: Observations and Models II (joint with P, DI)

Presiding: **S Stanley**, University of Toronto; **J M Aurnou**, UCLA

0800h **GP31A-01** The mechanically forced Geodynamo (Invited): **A Tilgner**

0815h **GP31A-02** An Early Nutation-Driven Lunar Dynamo: **C A Dwyer**, D J Stevenson, F Nimmo

0830h **GP31A-03** Numerical Simulations of Core Convection with Boundary Topography (Invited): **M A Calkins**

0845h **GP31A-04** Cause of dipole breakdown and reversals in geodynamo models: **U R Christensen**, J Wicht

0900h **GP31A-05** Dynamo action with inhomogeneous magnetic diffusivity: **G Verhille**, N Plihon, M Bourgoin, P odier, J Pinton

0915h **GP31A-06** The Phoenix inner core - potential geomagnetic implications of an asymmetric buoyancy flux (Invited): **T Alboussiere**, R Deguen, M Melzani

0930h **GP31A-07** Spectral Properties of the Martian Crustal Magnetic Field: **K W Lewis**, F J Simons

0945h **GP31A-08** Saturn Dynamo Model (Invited): **G A Glatzmaier**

Hydrology

H31A Moscone South: Poster Hall Wednesday 0800h
Ecohydrology of Groundwater-Dependent Ecosystems I Posters

Presiding: **S P Loheide**, Univ of Wisconsin - Madison; **C Lowry**, University at Buffalo

0800h **H31A-0970 POSTER** An Investigation on Soil Chemical Composition and Shallow Groundwater Condition in a Saline Area in Nakhon Panom Province, Thailand: **U Seeboonruang**

0800h **H31A-0971 POSTER** Water Tables, Flooding, and Water Use by Riparian Phreatophyte Communities: **J R Thibault**, J R Cleverly, C Dahm

0800h **H31A-0972 POSTER** Modeling Alpine Meadow Restoration Techniques and their Effects on Stream Stage Regimes: **C E Moore**, J D Lundquist, S P Loheide

0800h **H31A-0973 POSTER** Spatial and Temporal Variability of Piezometric Head in a Montane Peatland: **W Christensen**, G E Fogg

0800h **H31A-0974 POSTER** River water temperature and fish growth forecasting models: **E Danner**, A Pike, S Lindley, R Mendelsohn, L Dewitt, F S Melton, R R Nemani, H Hashimoto

0800h **H31A-0975 POSTER** Ecohydrology of Wetlands Occurring on Perched Seasonally Saturated Water Tables in the Central Valley of California: **N F McCarten**, T Harter

0800h **H31A-0976 POSTER** Crocodiles count on it: Regulation of discharge to Lake St Lucia Estuary by a South African peatland: **J S Price**, P Grundling, A Grootjans

0800h **H31A-0977 POSTER** Devils Hole: A Window into the Carbonate Aquifer of the Death Valley Regional Flow System: **M Hausner**, S W Tyler, K P Wilson, D B Gaines

0800h **H31A-0978 WITHDRAWN**

0800h **H31A-0979 POSTER** Identification and Classification of Wetlands using Physics based Distributed Hydrologic Model: **G Bhatt**, M Kumar, C Duffy, K A Dressler, D H Wardrop

0800h **H31A-0980 POSTER** Hierarchical Modeling of Fen Hydrology across Multiple Scales: S Li, **H Abbas**, H Liao

H31B Moscone South: Poster Hall Wednesday 0800h
Evapotranspiration IV: Modeling and Applications From Local Coupling and Water Management to the Global Water Cycle Posters (joint with PA, A, B)

Presiding: **E F Wood**, Princeton University; **M C Anderson**, USDA-ARS; **M L Roderick**, The Australian National University; **M B Parlange**, EPFL - Lausanne; **E Bou-Zeid**, Princeton University; **M Chamecki**, Pennsylvania State University

0800h **H31B-0981 POSTER** Two Long-Term, Daily Datasets of Evaporative Demand for the Conterminous US: M Hobbins, **D P Streubel**, K Werner, D Brandon

0800h **H31B-0982 POSTER** Evidence for Decadal Variation in Global Terrestrial Evapotranspiration between 1982 and 2002: **K Wang**, R E Dickinson, M Wild, S Liang

0800h **H31B-0983 POSTER** Characterization of evapotranspiration in the riparian zone of the Lower Boise River, with implications for groundwater flow: **B A Johnson**, B Malama, W Barrash, A N Flores

0800h **H31B-0984 POSTER** Reflectance-Based Estimation of Soil Heat Fluxes in the Texas High Plains: **P H Gowda**, P D Colaizzi, S O'Shaughnessy, W Ha, T A Howell

0800h **H31B-0985 POSTER** Can complementary methods reliably estimate evapotranspiration in semi-arid regions?: **F M Anayah**, J J Kaluarachchi

0800h **H31B-0986** POSTER Characteristics of the complementary relationship-based evapotranspiration models: **T Moroizumi**, T Nakamichi, T Miura

0800h **H31B-0987** POSTER Fortuitous Evaporation Pan Observations on the Alaskan North Slope: **J P Mumm**, D L Kane

0800h **H31B-0988** POSTER Examining the sensitivity of modelled evapotranspiration to vegetation structural characteristics within boreal peatlands, riparian ecosystems and upland mixedwood forest: **R M Petrone**, L E Chasmer, S M Brown, C A Mendoza, J Diiwu, W L Quinton, C Hopkinson, K J Devito

0800h **H31B-0989** POSTER High Resolution Mapping of Reference ET for the State of Wyoming: **R W Rasmussen**, G Park

0800h **H31B-0990** POSTER Wet canopy evaporation from a Puerto Rican lower montane rain forest: the importance of aerodynamic conductance: **F Holwerda**, F N Scatena, L A Bruijnzeel, H Vugts, A Meesters

0800h **H31B-0991** POSTER The Effect of Groundwater Availability and Quality on Water Consumption of Tamarisk: **S Taghvaeian**, C M Neale, J Osterberg, C A Costa dos Santos, D R Watts, S I Sritharan

0800h **H31B-0992** POSTER Calibration of home-made heat dissipation probes for a full rotation of Eucalyptus grandis trees in Brazil: J S Delgado-Rojas, J Laclau, O Rouspard, J Stape, J Ranger, J Bouillet, **Y Nouvellon**

0800h **H31B-0993** POSTER Quantifying Evapotranspiration (ET) for Wetlands in South Florida Ranchlands: **A M Benitez**, L Merriman, S Shukla, A C Guzha

0800h **H31B-0994** POSTER Downscaling of Aircraft-, Landsat-, and MODIS-based Land Surface Temperature Images with Support Vector Machines: **W Ha**, P H Gowda, T Oommen, T A Howell, J E Hernandez

0800h **H31B-0995** POSTER Evaluation of SEBS for Deriving Land Surface Energy Fluxes with MODIS Data in a Semiarid Region: H Jayanthi, **P H Gowda**, B R Scanlon, T A Howell, G Paul

0800h **H31B-0996** POSTER Vegetation Cover and Evapotranspiration in the Arid Northwest China and Their Relationship with Groundwater Depth: **X Jin**, Y Zhang

0800h **H31B-0997** POSTER IS A SIMPLE, LEAF AREA INDEX BASED WATER BALANCE A REASONABLE WAY TO PREDICT CATCHMENT DISCHARGE IN MONTANE REGIONS OF AUSTRALIA?: **J D Henry**, F van Ogtrop, R W Vervoort, M Gharun

0800h **H31B-0998** POSTER Potential of the upcoming German EnMAP hyperspectral mission for the assimilation of agricultural remote sensing products into biophysical land surface models: **T Hank**, K Richter, T Frank, M Friese, H Bach, M Locherer, W Mauser

0800h **H31B-0999** POSTER Integrating Landsat7 ETM+ and MODIS Products for Improved Spatial and Temporal Evapotranspiration Estimates: **J Kim**, T S Hogue

0800h **H31B-1000** POSTER Estimating large-scale evapotranspiration in arid and semi-arid systems: A multi-site study linking MODIS and Ameriflux data: **D P Bunting**, E P Glenn, S A Kurc, R L Scott, P L Nagler

0800h **H31B-1001** POSTER Remote Sensing Evapotranspiration (ET) Estimation: Investigating Four Extrapolation Methods for Integrating Satellite-based Instantaneous ET to Daily ET over Wheat and Maize Fields: **H Chen**, D Yang, Y Hong

0800h **H31B-1002** WITHDRAWN

0800h **H31B-1003** POSTER Comparison of Methods for Estimating Evapotranspiration using Remote Sensing Data: **J P Beamer**, C Morton, J L Huntington, G Pohll

0800h **H31B-1004** POSTER Remote Sensing and In Situ-Based Estimates of Evapotranspiration for Subirrigated Meadow, Dry Valley, and Upland Dune Ecosystems in the Semi-Arid Sand Hills of Nebraska, USA: **N C Healey**, A Irmak, J D Lenters, T J Arkebauer, D P Billesbach, K G Hubbard

0800h **H31B-1005** POSTER Evapotranspiration and Water Use Efficiency of Terrestrial Ecosystems in the Great Plains: **R K Singh**, S Liu, L L Tieszen

0800h **H31B-1006** POSTER Dynamic evapotranspiration in tree-resolving LES - The ED2RAFLES model: **G Bohrer**, D Medvigy

0800h **H31B-1007** POSTER Evaporation measurements by eddy covariance from an urban tropical water reservoir: **E Velasco**, M Roth

0800h **H31B-1008** POSTER Interpretation of scintillometry measurements over heterogeneous landcovers using LES modeling and a virtual scintillometer: J Pianezze, **J COHARD**, S Anquetin, Y Gagne

0800h **H31B-1009** POSTER Modeling the Impact of Irrigation on Precipitation over the Great Plains: **K J Harding**, P K Snyder

0800h **H31B-1010** POSTER Role of Residual Layer in Controlling Diurnal ABL Evolution: **J Yin**, J D Albertson

0800h **H31B-1011** POSTER Comparing Evapotranspiration Estimates from Eddy Covariance Method to Weather Data Methods in South Florida: **L Zepeda**, K Migliaccio

0800h **H31B-1012** WITHDRAWN

0800h **H31B-1013** WITHDRAWN

0800h **H31B-1014** POSTER Understanding the coupled surface energy flux-valley wind system using observations in an alpine valley: **M H Daniels**, E Pardyjak, W H Brutsaert, R Mage, M B Parlange

0800h **H31B-1015** POSTER Understanding the Climate Consequences of Evapotranspiration Changes: A Theoretical Perspective: **G A Ban-Weiss**, G Bala, L Cao, K Caldeira

0800h **H31B-1016** POSTER Scintillometer-based estimates of sensible heat flux over row oriented vineyard trees: **J G Piqueras**, H M Geli, C M Neale, C Balbontin, I Campos, A Calera

H31C Moscone South: Poster Hall Wednesday 0800h **Groundwater Inputs to Rivers, Lakes, and Oceans I Posters** (joint with NH, NS, OS)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign;
W P Anderson, Appalachian State University

0800h **H31C-1017** POSTER Submarine groundwater discharge and associated nutrient fluxes into San Francisco Bay: **K A Null**, A Paytan, P W Swarzenski, N T Dimova, B Esser, M J Singleton

0800h **H31C-1018** POSTER Isotopic and Hydrogeochemical Studies on Abnormally High Ammonium of Natural Origin in A Coastal Aquifer-aquitard System: **Y Wang**, J J Jiao, J Cherry

0800h **H31C-1019** POSTER Submarine groundwater discharge and the coastal ocean extreme bloom incubator Monterey Bay, CA: **A Lecher**, K A Null, N T Dimova, C M Schmidt, P W Swarzenski, J P Ryan

0800h **H31C-1020** POSTER Linking Glaciation and Groundwater on Greenland: Implications for Subsurface Porefluid Chemistry and Sea-Level Rise: **W Defoor**, M A Person, H Larsen, D Lizarralde, D Cohen, B Dugan

0800h **H31C-1021** POSTER Lake salinity variations resulting from wind direction, Gobi Desert, China: **D C Bradley**, I Cartwright, M Currell

0800h **H31C-1022** POSTER Development of a process-oriented conceptual groundwater module for simulation of hydrological processes in meso-scale catchments with shallow aquifers: **D Varga**, M Fink, S Kralisch, P Krause, W Flügel

0800h **H31C-1023** POSTER Bank storage as a thermal sink of temperature surges in urbanized streams: **W P Anderson**, D G Evans, R E Storniolo

0800h **H31C-1024** POSTER Long term trend in groundwater levels and watershed condition in the Kurobe River alluvial fan in Japan: **T Tebakari**

0800h **H31C-1025** POSTER Detection of variable groundwater inflow in rivers with geochemical tracers: Using major ion chemistry and radiochemistry to evaluate radon ^{222}Rn as possible tracer, an example from the Avon and Mitchell rivers, southeast Australia: **H Hofmann**, I Cartwright

0800h **H31C-1026** POSTER In-Situ Pumping Test for Multilayer Hydrogeological Site in Taiwan: S Lin, **Y Tan**, I Lien, G Hsu, K Bao

H31D Moscone South: Poster Hall Wednesday 0800h
Groundwater/Surface Water Interactions: Stream Tracers and Techniques I Posters (joint with B)

Presiding: **B T Neilson**, Utah State University; **R Haggerty**, Oregon State University; **S Krause**, Keele University

0800h **H31D-1027** POSTER Effects of measurement resolution and random measurement error on temperature based estimates of vertical stream-aquifer flux: **C D Soto**, T Meixner, T A Ferre

0800h **H31D-1028** POSTER Simulating the effects of geologic heterogeneity and transient boundary conditions on streambed temperatures - implications for temperature-based water flux calculations: **J H Fleckenstein**, C Schornberg, C Schmidt, E Kalbus

0800h **H31D-1029** POSTER Multi-Scale Influences of Groundwater Discharge and Hyporheic Exchange on the Temperature of Two New England Streams: Experimental results using Fiber Optic Distributed Temperature Sensing: **J M Jacobs**, G S Lemay, D B Truslow

0800h **H31D-1030** POSTER A Translation of Metrics from Single Transient Storage Zone to Multiple-Transient Storage Zone Models of Solute Transport in Streams: **P C Kerr**, M N Gooseff

0800h **H31D-1031** POSTER A reach-scale study of dam-induced hyporheic exchange: controlling mechanisms and effects, Deerfield River, Massachusetts: **B Yellen**, D F Boutt

0800h **H31D-1032** POSTER Channel water balances in Arctic tundra streams: **A N Wlostowski**, M N Gooseff, W B Bowden, W M Wollheim, M Herstand, C C Treat, B L McGlynn

0800h **H31D-1033** POSTER Direct evidence of lateral hyporheic flows revealed through single well tracer dilution tests: **A Binley**, S Ullah, K Landsdown, L Heathwaite, D Kaeser, K Heppell, M Trimmer, H Zhang

0800h **H31D-1034** POSTER Investigating surface and groundwater mixing dynamics under varying antecedent moisture conditions in a karst aquifer, Central Texas: **C Wong**, J L Banner, M Musgrove, B J Mahler

0800h **H31D-1035** POSTER Colloid Transport and Surface-Subsurface Exchange in an Acid Mine Drainage-Impacted Stream: **A S Norvell**, J N Ryan, J Ren, D M McKnight

0800h **H31D-1036** POSTER USE OF ISOTOPIC AND GEOCHEMICAL TRACERS TO IDENTIFY SOURCE WATERS, FLOW PATHS, AND RESIDENCE TIMES OF HEADWATER CATCHMENTS IN BOULDER CREEK WATERSHED, COLORADO: **R M Cowie**, M W Williams

0800h **H31D-1037** POSTER Identifying groundwater-stream interaction in a karst region: Lower Flint River Basin, Georgia, USA: **K Rugel**, C R Jackson, S W Golladay, D W Hicks, J F Dowd

0800h **H31D-1038** POSTER Pioneering Techniques to Determine Wastewater and Urban Runoff Loads in Karst Spring Systems: **E A Hasenmueller**, R E Criss

0800h **H31D-1039** POSTER A New Method Using S-35 for Long-Term Monitoring of Groundwater Recharge in Alpine Basins: **S H Diaz**, B K Esser, J F Clark, S Earman

0800h **H31D-1040** POSTER Geochemical constraints on the origins of kilometer-deep groundwaters beneath Taipei metropolitan area: **M Cheng**, H Yang, C Wang, C You

0800h **H31D-1041** POSTER Predictive Analysis of Geochemical Controls in an Alpine Stream: **A P Jochems**, L R Sherson, L J Crosse, K E Karlstrom

0800h **H31D-1042** POSTER Hydrologic Perturbation as an Indicator of Metal Attenuation: **J E Burrows**, S C Peters

0800h **H31D-1043** POSTER Application of Groundwater Fluctuation Method for Estimating Recharge in the Choushui River Alluvial Fan: **Y Chen**, L Chang, C Jung, C Huang, J Chen

H31E Moscone South: Poster Hall Wednesday 0800h
Quantifying the Ecohydrological Effects of Dam Removal I Posters (joint with PA)

Presiding: **E M Douglas**, University of Massachusetts Boston; **B Lambert**, Commonwealth of Massachusetts

0800h **H31E-1044** POSTER A Comparison of Past Dam Removals in Highly Sediment Impacted Systems: **S R Sawaske**, D L Freyberg

0800h **H31E-1045** POSTER Sediment Transport and Deposition Resulting from a Dam-Removal Sediment Pulse: Milltown Dam, Clark Fork River, MT: **A C Wilcox**

0800h **H31E-1046** POSTER Effects of Large Dam Removal and Groundwater Pumping on Stream Temperature under Humid, Semiarid, and Arid Conditions: **J C Risley**, J E Constantz, H Essaid, S A Rounds

0800h **H31E-1047** POSTER Monitoring pool-tail fines: **K Bunte**, J P Potyondy, S R Abt, K W Swingle

0800h **H31E-1048** POSTER Bed Sediment Monitoring of Multiple Contiguous Small Dam Removals: **J C Galster**, J R Wyrick

0800h **H31E-1049** POSTER Sediment Transport during Drawdown of the Copco 1 Reservoir on the Klamath River under Dam Removal Scenarios: **Y Lai**, B P Greimann

0800h **H31E-1050** POSTER GUIDELINES FOR ASSESSING SEDIMENT-RELATED EFFECTS OF DAM REMOVAL: **B P Greimann**, T Randle, J Bountry

0800h **H31E-1051** POSTER Development of Metrics to Assess Effectiveness of Stream Restoration in Second-Growth Forests: **E Stockwell**, A C Johnson, R Edwards

0800h **H31E-1052** POSTER Spatial Variation of Fine Sediment Infiltration in a Gravel-Bedded River: **E G Evans**, A C Wilcox

0800h **H31E-1053** POSTER Klamath Reservoir Sediment Characterization and Drawdown Impacts for the Dam Removal Investigation: **K Russell**, B P Greimann, B Cluer, T Hepler, D King, S O'Meara, A Simon, J Godaire, D Salas

0800h **H31E-1054** POSTER Distributional Impacts of Large Dams in China: **X Bao**

0800h **H31E-1055** POSTER Hydro-geomorphic Modeling of the Impacts of Dam Removal on Ecosystem Services on the White Salmon River, WA: **J T Bunn**

H31F Moscone South: Poster Hall Wednesday 0800h
Surface Hydrology Posters

Presiding: **T S Hogue**, UCLA; **N K Ajami**, Berkeley economic consulting

0800h **H31F-1056** POSTER Wireless sap flow measurement system: **C Kuo**, T W Davis, C Tseng, C Cheng, X Liang, P Yu

0800h **H31F-1057** *POSTER* Effect of Sampling Period on Flood Frequency Distributions in the Susquehanna Basin: **M Kargar**, R E Beighley

0800h **H31F-1058** *POSTER* Estimating Discharge using Multi-level Velocity Data from Acoustic Doppler Instruments: **J Bang Poulsen**, K Rømer Rasmussen, N Bering Ovesen

0800h **H31F-1059** *POSTER* TOWARD THE VALIDATION OF DEPTH-AVERAGED, THREE DIMENSIONAL, RANS STEADY-STATE SIMULATIONS OF FLUVIAL FLOWS AT NATURAL SCALE: **P A Mateo Villanueva**, M Hradisky

0800h **H31F-1060** *POSTER* Predicting River Discharge Rates in California Watersheds of the Russian River and Other North Coast River Basins: **J Shupe**, C S Potter, P M Gross, V B Genovese, S A Klooster

0800h **H31F-1061** *POSTER* The Cumberland River Flood of 2010 and Corps Reservoir Operations: **W Charley**, F Hanbali, B Rohrbach

0800h **H31F-1062** *POSTER* Streamflow simulation in a snow affected basin: a case study of the Susquehanna River Basin, USA: **R L Ray**, R E Beighley

0800h **H31F-1063** *POSTER* Testing a Simplified/Multiscale Representation of Dynamics of River Flow Across Scales Using the Statistical Structure of Peak Flows: **L Cunha**, W F Krajewski, R Mantilla

0800h **H31F-1064** *POSTER* Study on 3-D simulation of flow and turbidity in an oxbow lake in tidal compartment: **H Yokoyama**, H Momonoe, S Hamamoto

0800h **H31F-1065** *POSTER* Factors affecting infiltration rate in steep hillslope conifer plantation: **M Hiraoka**, Y Onda

0800h **H31F-1066** *POSTER* Levee Breach Experiment by Overflow at the Full Scale Experimental Channel: **T Shimada**, H Yokoyama

0800h **H31F-1068** *POSTER* Hydrological Evaluation of the LPX Dynamic Global Vegetation Model for Small River Catchments in the UK: A M Ukkola, **S J Murray**

0800h **H31F-1069** *POSTER* Statistical Downscaling Method for Climate Data to preserve Statistical Properties: **G Park**, T Song

0800h **H31F-1070** *POSTER* Climate Change Impact on the Streamflow of the Upper Green River Basin using a Weighted Multi-model Ensemble Approach: **T Song**, G Park

0800h **H31F-1071** *POSTER* Land Use and Climate Change Impacts on Streamflow and Sediment Transport in a Groundwater-Dominated Watershed: **S L Martin**, A D Kendall, R L Van Dam, D W Hyndman

0800h **H31F-1072** WITHDRAWN

0800h **H31F-1073** *POSTER* Effect of climate change on water resources of the Upper Indus River: L C Bowling, **B S Naz**, M Ashfaq, N S Diffenbaugh

0800h **H31F-1074** *POSTER* Past and Future Climatic Conditions in the Hudson Bay Lowland near Churchill, Manitoba and Implications for the Fate of Shallow Water Bodies: M L Macrae, **C R Duguay**, L Brown, N A Svacina, J A Parrott

0800h **H31F-1075** *POSTER* Water Balance of One Control and One Snow-Manipulated Arctic Lake: **G Myerchin**, S Berezovskaya

0800h **H31F-1076** *POSTER* The effect of in-stream structures on flood wave attenuation in Western Carpathians of Slovakia: **M Majerova**

0800h **H31F-1077** *POSTER* Relationship of bed and bank resistance to total flow resistance in a high gradient stream, Fraser Experimental Forest, Colorado, USA: **G C David**, E E Wohl, S E Yochum

0800h **H31F-1078** *POSTER* MODEL FOR PREDICTING PASSAGE OF INVASIVE FISH SPECIES THROUGH CULVERTS: **V Neary**

0800h **H31F-1079** *POSTER* The Hack's law applied to young volcanic basin: the Tahiti case: F YE, L Sichoix, J Barriot, **J Serafini**

0800h **H31F-1080** *POSTER* Ranking the Potential Yield of Salinity and Selenium from Subbasins in the Lower Gunnison River Basin Using Seasonal, Multi-parameter Regression Models: **J Linard**, K Leib, Title of Team: Colorado Water Science Center

0800h **H31F-1081** *POSTER* The Role of Distributed Hydrologic Models in Salmonid Recovery, Russian River Watershed, California: M D O'Connor, **J S Kobor**

0800h **H31F-1082** *POSTER* Modeling Fate and Transport of Fecal Coliform Bacteria Using SWAT 2005 (Case Study: Jajrood River Watershed, Iran): **M Maghrebi**, M Tajrishy

0800h **H31F-1083** *POSTER* Trends and Controls on Summer Surface-Water Temperatures in Salmonid-Bearing Headwater Streams in Two Common Geomorphic Settings, Kenai Peninsula, Alaska: **M K Callahan**, J C Bellino, M C Rains

0800h **H31F-1084** *POSTER* Multilayer physical system and biological structure in the upper water of Lake Biwa during summer: **H Homma**, H Yamazaki, T Nagai, M Doubell, K Amakasu, M Kumagai, C Jiao, T Ishikawa

H31G Moscone South: Poster Hall Wednesday 0800h
Thermo-Hydro-Mechanical-Chemical Modeling of Enhanced Geothermal Systems Posters

Presiding: **S J Fowler**, ETH Zurich; **R K Podgorney**, Idaho National Laboratory

0800h **H31G-1085** *POSTER* Heat transfer in fractured geothermal reservoirs and continuous time random walks (*Invited*): **S Emmanuel**, S Geiger

0800h **H31G-1086** *POSTER* Thermal-Mechanical Modeling of Deep Borehole Disposal of High-Level Radioactive Waste: **B W Arnold**, D J Clayton, C G Herrick, T Hadgu

0800h **H31G-1087** *POSTER* Thermal Hydrology Modeling of Deep Borehole Disposal of High-Level Radioactive Waste: **T Hadgu**, B W Arnold

0800h **H31G-1088** *POSTER* Upscaling of Thermal Transport Properties in Enhanced Geothermal Systems: **S Johnson**, Y Hao, L Chiaramonte

0800h **H31G-1089** *POSTER* Modeling of Flow And Transport in Enhanced Geothermal Systems (*Invited*): **D Karvounis**, P Jenny

0800h **H31G-1090** *POSTER* Hydromechanical Behaviour of Unconsolidated Granular Materials under Proportional Triaxial Compression Tests: **V Nguyen**, N F Gland, J Dautriat, J Guelard, C David

0800h **H31G-1091** *POSTER* Estimation of Stratification and Mixing of a Closed River System Using FLOW-3D@: **G B Sahoo**, F Bombardelli, D Behrens, J L Largier

0800h **H31G-1092** *POSTER* Physics-based Modeling of Rock Deformation and Fracturing Induced by Hydraulic Stimulation of Enhanced Geothermal System Reservoirs (*Invited*): **H Huang**, R K Podgorney, S Deng

0800h **H31G-1093** *POSTER* Modeling Slip during Fluid Injection and Production using Rate/State Friction: **M McClure**, R Horne

0800h **H31G-1094** *POSTER* A coupled model of soil water-heat-solute movement under the mulched drip irrigation condition: **H Hu**, F Tian, L Gao, H Hu

0800h **H31G-1095** *POSTER* A novel reactive transport code for coupling of combined finite element - finite volume transport with Gibbs energy minimization: **S J Fowler**, T Driesner, D Kulik, T Wagner

0800h **H31G-1096** *POSTER* Modeling permeability enhancement due to coupled Thermal-Hydrological-Mechanical processes in Geothermal Reservoirs: **S Rapaka**, S Kelkar, G Zylowski, R J Pawar
0800h **H42A-04** *POSTER* The Coefficients of Dispersion and Dispersivity in Anisotropic Porous Media: **J Bear**, L Fel

H31H Moscone South: Poster Hall Wednesday 0800h
Understanding and Predicting Water and Energy Cycle Changes Using Multisensor Heterogeneous Data for Energy and Water Cycle Research I Posters (*joint with IN*)

Presiding: **D R Belvedere**, UMBC/GEST; **S J Kempler**, NASA/GSFC; **D Cripe**, Group on Earth Observations Secretariat; **P Houser**, George Mason University; **J K Entin**; **K S Fontaine**, NASA; **W L Teng**, NASA GES DISC (Wyle); **M G Bosilovich**, NASA GSFC

0800h **H31H-1097** *POSTER* GEWEX Water Cycle Contributions to GEOSS (*Invited*): **P J van Oevelen**

0800h **H31H-1098** *POSTER* Intercomparison of Water Vapor Transport Datasets: **K A Hilburn**, F J Wentz

0800h **H31H-1099** *POSTER* Africa-wide water balance estimation using remote sensing and global weather datasets: **G B Senay**, B Pengra, S Bohms, A Singh, J P Verdin

0800h **H31H-1100** *POSTER* New and Improved GLDAS and NLDAS data sets and data services at HDISC/NASA: **H Rui**, H K Beaudoin, D M Mocko, M Rodell, W L Teng, B Vollmer

0800h **H31H-1101** *POSTER* Trends and Inter-annual variations in Surface Temperature, Water Vapor and Precipitation and the Impact of ENSO and volcanoes: **R F Adler**, G Gu

0800h **H31H-1102** *POSTER* Lake level simulations using a land surface model and satellite altimetry data: **H Liu**, J S Famiglietti

0800h **H31H-1103** *POSTER* Development of a Terrestrial Modeling System: The China-wide Demonstration: **Q Duan**, Y Dai, X Zheng, A Ye, Z Chen, W Shanguang

0800h **H31H-1104** *POSTER* Sensitivity of WRF-Simulated Water and Energy Budget to Land-Surface Parameterization over a Heterogeneous Landscape in the Northeastern U.S.: **J K Yeung**, J A Smith, G Villarini, M L Baeck, E Bou-Zeid

0800h **H31H-1105** *POSTER* Issues and Solutions for Bringing Heterogeneous Water Cycle Data Sets Together: **J G Acker**, S J Kempler, W L Teng, D R Belvedere, Z Liu, G G Leptoukh

0800h **H31H-1106** *POSTER* Understanding Global Hydrological and Thermodynamical Processes Using Water Vapor and Temperature Retrievals from the Atmospheric Infrared Sounder (AIRS): **S Wong**, E Fetzer, B Tian, B Lambrigtsen, H Ye

0800h **H31H-1107** *POSTER* NEWS: Improving Water and Energy Prediction through Integration: **D R Belvedere**, J Entin, P Houser, R A Schiffer

0800h **H31H-1108** *POSTER* Comparing the ENSO and volcanic effects on the evolution of precipitation and temperature anomalies during the period of 1979-2008: **G Gu**, R F Adler

0800h **H31H-1109** *POSTER* Long-term global estimation of the terrestrial water cycle through modeling, remote sensing, and data assimilation: **A K Sahoo**, M Pan, R K Vinukollu, T J Troy, J Sheffield, E F Wood

0800h **H31H-1110** *POSTER* Impacts of Land Use and Land Cover Changes on Green and Blue Water Availability in a Karst Area of China: **Z Wen**, S Yang

0800h **H31H-1111** *POSTER* Characterization of Long-term Atmospheric and Terrestrial Hydrological Cycle Change Using Multiple Data Sources: **P J Yeh**, M Yuan, H Kim, S Koirala, Y Pokhrel, T Oki

0800h **H31H-1112** *POSTER* Improving the Estimation of Terrestrial Evapotranspiration by the Combination of Polar and Geostationary Satellite Observations: **H Su**, J Tian, S Chen, R Zhang, X Tang, X Sun, B Li, Y Rong

0800h **H31H-1113** *POSTER* A Newly Distributed Satellite-based Global Air-sea Surface Turbulent Fluxes Data Set – GSSTF2b: **C Shie**, E Nelkin, J Ardizzone, A Savtchenko, L S Chiu, R F Adler, I Lin, S Gao

0800h **H31H-1114** *POSTER* Atmospheric Diabatic Heating Distributions Derived from a Combination of Satellite Sensor Data: **W S Olson**, T S L'Ecuyer, G Gu, M Grecu, M G Bosilovich

0800h **H31H-1115** *POSTER* The NASA Energy and Water cycle Study: **P R Houser**, J K Entin, R A Schiffer, D R Belvedere

H31I Moscone West: 3018 Wednesday 0800h
Climate Change Impacts on Arid to Semiarid Mountain Ecohydrology I (*joint with B, GC*)

Presiding: **A White**, New Mexico Institute of Mining and Technology; **R G Allen**, University of Idaho; **L Saito**, University of Nevada Reno

0800h **H31I-01** The Nevada NSF EPSCoR infrastructure for climate change science, education, and outreach project: highlights and progress on investigations of ecological change and water resources along elevational gradients: **L Saito**, F Biondi, L F Fenstermaker, J Arnone, D Devitt, B Riddle, M Young

0815h **H31I-02** Application of a long-term water balance of a semi-arid mountainous catchment to understand potential impacts of climate change (*Invited*): **T E Link**, G N Flerchinger, G M Chauvin, D G Marks, A H Winstral, M S Seyfried, E Du

0830h **H31I-03** An approach for reconstructing past streamflows using a water balance model and tree-ring records in the upper West Walker River basin, California: **J C Vittori**, L Saito, F Biondi

0845h **H31I-04** Climate Change Impacts to Watershed Hydrology using an Integrated Hydrologic Model (*Invited*): **J L Huntington**, R G Niswonger

0900h **H31I-05** Hydrological Alterations Due to Climate-Induced Regional Vegetation Change: **A B White**, E R Vivoni, E P Springer

0915h **H31I-06** Diagnosing streamflow trends to understand ecohydrologic sensitivity and feedbacks to climate change in the mountain west: **C Luce**

0930h **H31I-07** Snowpack Controls On Forest Greening During The Growing Season in the Western United States: **E Trujillo**, N P Molotch

0945h **H31I-08** Trends in Snowpack Depths and the Timing of Snowmelt in the River Basins of the Intermountain West: **A A Harpold**, S Rajagopal, I Heidbuechel, C Stielstra, A B Jardine, P D Brooks

H31J Moscone West: 3014 Wednesday 0800h
Groundwater/Surface Water Interactions: Dynamics and Patterns Across Spatial and Temporal Scales II

Presiding: **C E Hatch**, University of Nevada Reno; **J H Fleckenstein**, Helmholtz Center for Environmental Research (UFZ); **D F Boutt**, Univ of Massachusetts; **S Ge**, University of Colorado

0800h **H31J-01** New insights from improved temporal resolution of groundwater-surface-water exchange (*Invited*): **D O Rosenberry**, D L Naftz, E A Kochevar

0815h **H31J-02** Resolution versus Relevance: Challenges in Field Investigations of Stream-Groundwater Interactions (*Invited*): **L K Lautz**, R M Fanelli, K A Hubbard, N T Kranes, D I Siegel

0830h **H31J-03** How do relative magnitudes of down- and cross-valley hydraulic gradients vary with flow dynamics? Analysis over daily, storm, and seasonal baseflow recession timescales: **T J Voltz**, A S Ward, M Fitzgerald, M N Gooseff, K Singha, T Wagener

0845h **H31J-04** How do storm dynamics change solute transport and transient storage in headwater streams?: **A S Ward**, T J Voltz, M N Gooseff, M Fitzgerald, K Singha

0900h **H31J-05** Streamflow Generation Processes and Structured Trends in Streamflow Chemistry in a Large, Alpine Watershed: Is Groundwater the Connection?: **M D Frisbee**, F M Phillips, A R Campbell, F Liu, S A Sanchez

0915h **H31J-06** The role of hyporheic reactivity hotspots for natural attenuation at the aquifer-river interface – a groundwater perspective of transient storage in streambeds: **S Krause**, T Blume, C Tecklenburg, M Munz, A Binley, L Heathwaite, D Kaeser

0930h **H31J-07** Effects of Flow Dynamics on Age Distributions: **J D Gomez**, J L Wilson

0945h **H31J-08** Radiogenic ⁴He as a tracer of regional groundwater discharge to the Fitzroy River, north Western Australia: **P Gardner**, G Harrington

H31K Moscone West: 3016 Wednesday 0800h
Remote Sensing of Hydrology and Its Applications II (*joint with G*)

Presiding: **M H Cosh**, USDA-ARS-HRSL; **D Ryu**, The University of Melbourne; **A K Sahoo**, Center for Research on Environment and Water; **J D Bolten**, NASA GSFC

0800h **H31K-01** Evaluation of the Soil Moisture Active Passive Mission (SMAP) merged radar-radiometer soil moisture algorithm: **N Das**, D Entekhabi, E G Njoku

0815h **H31K-02** The Soil Moisture Active Passive Experiments (SMAPEx) for SMAP Algorithm Development (*Invited*): **R Panciera**, J P Walker, D Ryu, D Gray, T J Jackson, H Yardley

0830h **H31K-03** Calibration of soil moisture-monitoring networks for use as validation targets for passive microwave soil moisture products: **A A Berg**, J Belanger, B M Toth

0845h **H31K-04** Spatial and temporal stability of soil moisture fields within a satellite pixel during the Canadian Soil Moisture Experiment (CanEx) 2010: **J Belanger**, A A Berg, B M Toth, D Bilodeau

0900h **H31K-05** Evaluating soil moisture variability using synthetic aperture radar and terrain indices: **K A Powell**, A A Berg

0915h **H31K-06** Towards an Efficient and Global Downscaling Methodology Based on Multifractal Models for Satellite-Based Soil Moisture Estimates: **G Mascaro**, E R Vivoni, R Deidda

0930h **H31K-07** Land Surface Emissivity as a Surrogate of Soil Moisture: **H Norouzi**, M Temimi, R Khanbilvardi

0945h **H31K-08** Restricted use of ET as an indicator of soil moisture: Limitation of Observation Scale or Process Scale?: **N Gaur**, B P Mohanty

H31L Moscone West: 3020 Wednesday 0800h
Using Data to Detect and Resolve Model Structural Errors I

Presiding: **H V Gupta**, University of Arizona; **M Clark**, National Center for Atmospheric Research; **J A Vrugt**, University of California, Irvine

0800h **Gupta** *Welcome to the Session*

0800h **H31L-01** Understanding The Approaches Used by Different Communities To Model the Terrestrial Hydrosphere: **H V Gupta**, M Clark, J A Vrugt

0808h **H31L-02** Watersheds “marching to a different drummer”: Diagnostic analyses in search of appropriate model structures (*Invited*): **M Sivapalan**

0822h **H31L-03** Limits of acceptability: A framework for combining data errors and modelling uncertainty to benchmark our predictive capability: **J E Freer**, T Krueger, K Beven

0836h **H31L-04** Bayesian analysis of structural uncertainty in hydrologic modeling: **G Schoups**, J A Vrugt

0850h **H31L-05** On the value local knowledge in conceptualizing physically-based models (*Invited*): **J P McNamara**, T E Link, D G Marks, M S Seyfried, M Kumar, P R Kormos

0904h **H31L-06** Bayesian Synthesis of Multiple Data Sources to Test Specific Structural Hypotheses Within an Integrated Model of Water and Carbon Flow: **D S Mackay**, A R Desai, B N Sulman, S Samanta, B E Ewers

0918h **H31L-07** Multimodel Bayesian Analysis of the Worth of Data (*Invited*): **S P Neuman**, M Ye, L Xue, D Lu

0932h **H31L-08** Identification of bedrock infiltration areas from Kalman Filter state updates: **J H Spaaks**, W Bouten, J A Vrugt

0946h **H31L-09** Using data to assess model dependence in ensemble prediction (*Invited*): **G Abramowitz**, C H Bishop

Earth and Space Science Informatics

IN31A Moscone South: Poster Hall Wednesday 0800h
Current Capabilities and Future Needs of Near-Real-Time Data: Perspectives From Users and Producers I Posters (*joint with A, B, C, NH, OS*)

Presiding: **K J Murphy**, NASA/GSFC; **H M Goodman**, NASA Marshall Space Flight Ctr; **J T Morissette**, USGS

0800h **IN31A-1251 POSTER** Needs of Near Real-Time Data: Perspectives for Supporting Disaster Observations – Wildfires: **V G Ambrosia**, S Buechel, D V Sullivan, F Y Enomoto, E Hinkley

0800h **IN31A-1252 POSTER** Applications of Near Real-Time Image and Fire Products from MODIS: **J E Schmaltz**, S Ilavajhala, M Teague, G Ye, E Masuoka, D Davies, K J Murphy, K Michael

0800h **IN31A-1253 POSTER** Geostationary Fire Detection with the Wildfire Automated Biomass Burning Algorithm: **J Hoffman**, C C Schmidt, J C Brunner, E M Prins

0800h **IN31A-1254 POSTER** An improved algorithm for wildfire detection: **K Nakau**

0800h **IN31A-1255 POSTER** Evaluation of eMODIS Expedited and Historical Data for Near real-time Monitoring Applications in Support of Famine Early Warning Early Warning: **M E Budde**, J Rowland

0800h **IN31A-1256 POSTER** Near Real-time Operational Use of eMODIS Expedited NDVI for Monitoring Applications and Famine Early Warning: **J Rowland**, M E Budde

0800h **IN31A-1257 POSTER** Use of Current 2010 Forest Disturbance Monitoring Products for the Conterminous United States in Aiding a National Forest Threat Early Warning System: **J Spruce**, W W Hargrove, J Gasser, J Smoot, P Kuper

0800h **IN31A-1258 POSTER** eMODIS Expedited: Overview of a Near Real Time MODIS Production System for Operational Vegetation Monitoring: **C Jenkinson**, D J Meyer, J Werpy, K Evenson, M Merritt

0800h **IN31A-1259 POSTER** Products derived from near-real-time satellite marine surface winds: **J Patoux**

0800h **IN31A-1260** *POSTER* The JPL GRIP Portal – Serving Near Real-time Observation and Model Forecast for Hurricane Study: **P Li**, S M Hristova-Veleva, F J Turk, Q Vu, B W Knosp, B Lambrigtsen, W L Poulsen, T J Shen, S J Licata

0800h **IN31A-1261** *POSTER* DISCOVER Near Real-Time Ocean Data Products: Examples of Uses and Limitations: **D K Smith**, F J Wentz, C L Gentemann

0800h **IN31A-1262** *POSTER* Introducing LANCE, NASA's Near-real Time Processing Capability for Aqua AMSR-E: K Regner, H Conover, B Beaumont, S Harrison, S Jones, S J Graves, **A Leon**, L Booker

0800h **IN31A-1263** *POSTER* Near Real-Time Capabilities for Ozone Monitoring Instrument (OMI): **C Tilmes**, P Durbin, B Duggan, B Das

0800h **IN31A-1264** *POSTER* Implementing Land and Atmosphere Near Real-Time Capability for EOS (LANCE): **V Thanvi**, K Michael, K J Murphy, E Masuoka, B Vollmer, C Tilmes, H Conover, M Teague, P Durbin, K Regner

0800h **IN31A-1265** *POSTER* Utilization of near real-time satellite data in atmospheric transport and dispersion modeling applications: **U S Nair**, S A Christopher, Y Wu, E Yang, K Keiser

0800h **IN31A-1266** *POSTER* Near Real-time Data Assimilation for the HYSPLIT Aerosol Dispersion Model: **K Kalpakis**, S Yang, Y Yesha

0800h **IN31A-1267** *POSTER* Rapid Assimilation Platform for Insight and Discovery (RAPID) with Application to Space Weather Research: **I A Galkin**, D Bilitza, B W Reinisch, G Grinstein, X Huang

0800h **IN31A-1268** WITHDRAWN

0800h **IN31A-1269** WITHDRAWN

0800h **IN31A-1270** *POSTER* Global, real-time ionosphere specification for end-user communication and navigation products: **W Tobiska**, H C Carlson, R W Schunk, D C Thompson, J J Sojka, L Scherliess, L Zhu, L C Gardner

0800h **IN31A-1271** *POSTER* The Future of Space Environment Monitoring in Low Earth Orbit: **W F Denig**, M Bonadonna, K D Scro, J C Green

0800h **IN31A-1272** *POSTER* Uniform Data Management and Access to Near Real-Time Seismic Data (*Invited*): R Casey, **T K Ahern**, R B Benson, R Karstens, S Stromme, C M Trabant, B R Weertman

0800h **IN31A-1273** *POSTER* NPOESS Preparatory Project (NPP) Environmental Products: **K D Grant**, R Hughes, N S Andreas

0800h **IN31A-1274** *POSTER* The Unidata LDM Data Distribution System: **S Emmerson**, T C Yoksas, W J Weber, M Schmidt

0800h **IN31A-1275** *POSTER* ASTER Expedited Data Services: **K A Duda**

0800h **IN31A-1276** *POSTER* An Integrated Modeling and Observing System with Near Real-Time Applications: **M Kafatos**, H M El-Askary, G Galanis, N Hatzopoulos, X Liu, D P Ouzounov, A K Prasad, C Tremback

0800h **IN31A-1277** *POSTER* Preparing for the Next Generation of Direct Broadcast: **H Shin**, K Friedman Dubey, E Baptiste, K Prasad, D Lawrence

0800h **IN31A-1278** *POSTER* Near Real Time Surface Solar Radiation and Meteorological Parameters From the CERES FLASHFlux Project: Examples of Usage for Energy-Related Applications: **J M Hoell**, P Stockhouse, W Chandler, T Zhang, D P Kratz, S K Gupta, A C Wilber, P Sawaengphokhai, A C Edwards, D Westberg, E Zell, G Leng

0800h **IN31A-1279** *POSTER* The Waypoint Planning Tool: Real Time Flight Planning for Airborne Science: M He, **H M Goodman**, R Blakeslee, J M Hall

IN31B Moscone South: Poster Hall Wednesday 0800h
Sensor Networks: From Sensors to the Web I Posters (*joint with NH, A, H, PP, V*)

Presiding: **J K Hart**, University of Southampton; **K Martinez**, University of Southampton; **K Moe**, NASA

0800h **IN31B-1280** *POSTER* Web-based access to near real-time and archived high-density time-series data: cyber infrastructure challenges & developments in the open-source Waveform Server: **J C Reyes**, F L Vernon, R L Newman, J H Steidl

0800h **IN31B-1281** *POSTER* A Low-Power Sensor Network for Long Duration Monitoring in Deep Caves: A Silva, I Johnson, T Bick, C Winclechter, **A M Jorgensen**, S W Teare, R O Arechiga

0800h **IN31B-1282** *POSTER* A configurable information display environment for airborne science: **D P Van Gilst**

0800h **IN31B-1283** *POSTER* Monitoring the Environment in a Lava Tube with a Wireless Sensor Network: Y Li, **A M Jorgensen**, J L Wilson, N M Rendon

0800h **IN31B-1284** *POSTER* Creating Actionable Data from an Optical Depth Measurement Network using RDF: **J R Freemantle**, N T O'Neill, L I Lumb, I Abboud, B Mearthur

0800h **IN31B-1285** *POSTER* NASA Airborne Science Network Communications Infrastructure for the Global Hawk UAS: **C E Sorenson**, D Sullivan, D P Van Gilst

0800h **IN31B-1286** *POSTER* Real-Time Field Data Acquisition and Remote Sensor Reconfiguration Using Scientific Workflows: **F Silva**, G Mehta, K Vahi, E Deelman

0800h **IN31B-1287** *POSTER* Integration of sensor networks and linked data in a coastal flooding scenario: **K Martinez**, K Page, J Sadler, C Hutton, O Corcho, R Garcia, M Koubarakis, K Kyzirakos

0800h **IN31B-1288** *POSTER* WegenerNet climate station network region Feldbach/Austria: From local measurements to weather and climate data products at 1 km-scale resolution: **T Kabas**, A Leuprecht, C Bichler, G Kirchengast

0800h **IN31B-1289** *POSTER* Development of an integrated information system for Critical Zone Observatory data: **T Whitenack**, M W Williams, D G Tarboton, I Zaslavsky, M Durcik, R G Lucas, C Dow, X Meng, B Bills, M Leon, C Yang, M Arnold, A K Aufdenkampe, K Schreuders, O Alvarez

0800h **IN31B-1290** *POSTER* GeoCENS: Geospatial Cyberinfrastructure for Environment Sensing: **S Liang**, E A Johnson, C Valeo, J W Pomeroy, Title of Team: The GeoCENS Development Team

0800h **IN31B-1291** *POSTER* OGC standards for end-to-end sensor network integration: **K L Headley**, A Broering, T C O'Reilly, D Toma, J del Rio, L E Bermudez, J Zedlitz, G Johnson, D Edgington

0800h **IN31B-1292** *POSTER* Using Schema-less Database Technology to Develop a Web Application for Sea Ice Monitoring: **P L Pulsifer**, M Kaufman, D Young, J A Collins, H Eicken, S Gearheard

IN31C Moscone South: 302 Wednesday 0800h
Earth and Space Science Informatics General Contributions I

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **K Moe**, NASA

0800h **IN31C-01** Overview of Recent Developments on EOSDIS: **J Behnke**, H K Ramapriyan, M E Maiden, D Lowe

0815h **IN31C-02** The GEOSS Clearinghouse based on the GeoNetwork opensource: **K Liu**, C Yang, H Wu, Q Huang

0830h **IN31C-03** The NPOESS to JPSS Transition and the NPOESS Preparatory Project: **K St.Germain**, G Davis, M Haas

0845h **IN31C-04** Web-enabled Landsat Data (WELD): Demonstration of MODIS-Landsat Data Fusion to Provide a Consistent, Long-term, Large-area Data Record for the Terrestrial User Community: **D Roy**, J Ju, I Kommadreddy
 0900h **IN31C-05** Landsat-based monitoring of crop water demand in the San Joaquin Valley: **L Johnson**, T Trout, D Wang, F S Melton
 0915h **IN31C-06** OpenStereo: Open Source, Cross-Platform Software for Structural Geology Analysis: **C H Grohmann**, G A Campanha
 0930h **IN31C-07** Visualisation of very high resolution Martian topographic data and its application on landing site selection and rover route navigation: **J Kim**, S Lin, J Hong, D Park, S Yoon, Y Kim
 0945h **IN31C-08** Multigraph: Reusable Interactive Data Graphs: **M B Phillips**

Nonlinear Geophysics

NG31A Moscone South: Poster Hall Wednesday 0800h
Non-Gaussian and Nonlinear Aspects of Data Assimilation and Predictability in the Geosciences II Posters (joint with A, H)

Presiding: **S J Fletcher**, Cooperative Institute for Research in the Atmosphere; **B Ancell**, Texas Tech University

0800h **NG31A-1315** *POSTER* An implicit particle filter for large dimensional data assimilation problems: **M Morzfeld**, A J Chorin, X Tu
 0800h **NG31A-1316** *POSTER* Ensemble Dynamics and Bred Vectors: **J M Restrepo**, N Balci, G R Sell, A Mazzucato
 0800h **NG31A-1317** *POSTER* Variational assimilation in the coastal ocean model off Oregon: the role of dynamics: **A L Kurapov**, G D Egbert, J S Allen, P Yu
 0800h **NG31A-1318** *POSTER* Adjoint Observation Impact System for COAMPS/NAVDAS: **C M Amerault**
 0800h **NG31A-1319** *POSTER* Estimating Uncertainty in Atmospheric Models - Application and new Approaches of Lyapunov Vector Estimations: **J D Keller**, A Hense, A Rhodin
 0800h **NG31A-1320** WITHDRAWN
 0800h **NG31A-1321** *POSTER* Potential predictability associated with nonlinear regimes in an atmospheric model N. Schwartz, S. Kravtsov, and J. M. Peters: **J M Peters**, N Schwartz, S Kravtsov
 0800h **NG31A-1322** *POSTER* Sensitivity Analysis of Nonlinear Models for Small Ensembles of Model Outputs: **L Ivanov**, C A Collins, R T Tokmakian
 0800h **NG31A-1323** *POSTER* Maximum likelihood estimation of error covariances in ensemble-based filters: **G Ueno**

NG31B Moscone South: Poster Hall Wednesday 0800h
Predictive Modeling and Uncertainty Quantification for Systematic Evaluation of Climate Models and Data-Guided Enhancements of Regional Climate Projections II Posters (joint with A, GC, H)

Presiding: **A R Ganguly**, Oak Ridge National Laboratory; **D N Williams**, Lawrence Livermore National Laboratory; **C Doutriaux**; **H Najm**, Sandia National Laboratories

0800h **NG31B-1324** *POSTER* Advanced Methods for Uncertainty Quantification in Tail Regions of Climate Model Predictions: **C Safta**, K Sargsyan, B Debusschere, H Najm
 0800h **NG31B-1325** *POSTER* Evaluating predictability in nonlinear climate systems using the Mount Pinatubo eruption: **A Gaddis**, J Drake, K J Evans, R W Gentry

0800h **NG31B-1326** *POSTER* Uncertainty and extremes analysis to evaluate dynamical downscaling of climate models: D Das, **E Kodra**, K Steinhäuser, S Kao, A R Ganguly, M L Branstetter, D J Erickson, R Flanery, M M Gonzalez, C Hays, A W King, W Lenhardt, R Oglesby, R M Patton, C M Rowe, A Sorokine, C Steed
 0800h **NG31B-1327** *POSTER* Statistical Methods for Evaluating Uncertainty Reduction Achieved by Increasing the Spatial Resolution of CCSM Simulations: **M D Reno**, J D Roach, T S Lowry

Natural Hazards

NH31A Moscone South: Poster Hall Wednesday 0800h
Multidisciplinary Research for Validation of Earthquake Precursors: Case Studies and Statistics II Posters (joint with A, NH, S, SM, T, G)

Presiding: **D P Ouzounov**, NASA/GSFC; **S A Pulinets**, Institute of Applied Geophysics; **M Parrot**, LPC2E/CNRS; **J G Liu**, National Central University; **K Hattori**, Chiba University

0800h **NH31A-1328** *POSTER* Localized Changes in Geomagnetic Total Intensity Values prior to the 1995 Hyogo-ken Nanbu(Kobe) Earthquake: **K Yamazaki**, S Sakanaka
 0800h **NH31A-1329** *POSTER* Pulse Azimuth Clusters Preceding Earthquakes in California, 2005-2010: **C Dunson**, T E Bleier
 0800h **NH31A-1330** *POSTER* Simultaneous observation of VHF radio wave transmission anomaly propagated beyond line of site prior to earthquakes in multiple sites: **H Yamashita**, T Mogi, T Moriya, M Takada, M Morisada
 0800h **NH31A-1331** *POSTER* Statistical Analysis Of Mass Movements Triggered By Kashmir Earthquake 2005 And Their Run-Out Distance: **M Basharat**, J Rohn, M R Moser
 0800h **NH31A-1332** *POSTER* Possible Thermal Infrared Spectral Signature of an Impending Earthquake: **V C Vanderbilt**, S S Alqassim, S C Roth, S Oliver, F T Freund, R P Dahlgren
 0800h **NH31A-1333** *POSTER* TEC variations over the near-epicentral region before the Haiti earthquake of Jan. 12, 2010: **A A Namgaladze**, O Zolotov, B E Prokhorov
 0800h **NH31A-1334** *POSTER* Validation of Atmospheric Signals Associated with Major Seismicity: P T Taylor, **D P Ouzounov**, S W Fisher
 0800h **NH31A-1335** *POSTER* Stress-Activated Electromagnetic Emission and Reflection from Gabbro and Gabbro-Diorite: **A Cherukupally**, F T Freund, V C Vanderbilt, G P Tsoflias, R Dahlgren
 0800h **NH31A-1336** *POSTER* Earthquake Studies In Oaxaca Province, Mexico: **I Hrvoic**, M Wilson, F G Lopez, G Cifuentes-Nava, E Hernandez, E Cabral
 0800h **NH31A-1337** *POSTER* Effect of significant data loss on identifying Seismic Electric Signals by using detrended fluctuation analysis in natural time: **N V Sarlis**, E S Skordas, P Varotsos
 0800h **NH31A-1338** *POSTER* Stanford - USGS Ultra-Low Frequency Electromagnetic Network: Hardware Developments in Magnetometer Calibration and Data Recording: **D C Bowden**, H Engelland-gay, A Enright, J Gardner, S L Klemperer, D K McPhee, J M Glen
 0800h **NH31A-1339** *POSTER* Ionospheric disturbances possibly associated with $M \geq 6.0$ Earthquakes in Japan area : Statistical analysis during 1998–2010 and recent case studies: **K Hattori**, S Kon, M Nishihashi
 0800h **NH31A-1340** *POSTER* Study in the natural time domain of the entropy of dichotomic geoelectrical and chaotic time series: **A Ramirez-Rojas**, L Telesca, F Angulo-Brown
 0800h **NH31A-1341** WITHDRAWN

0800h **NH31A-1342** POSTER On the reported ionospheric precursor of the 1999 Hector Mine, CA earthquake: **J N Thomas**, J J Love, A Komjathy, O P Verkhoglyadova

0800h **NH31A-1343** POSTER Seismo-ionospheric GPS total electron content anomalies observed before the 12 January 2010 M7.0 Haiti Earthquake: **J Y Liu**, H Le, Y Chen

0800h **NH31A-1344** POSTER Development of a software for monitoring of seismic activity through the analysis of satellite images: C Soto-Pinto, A Poblete, **A A Arellano-Baeza**, G Sanchez

0800h **NH31A-1345** POSTER Cross-correlation analysis for geoelectric time series associated with a M7.4 earthquake occurred in Mexico by means of the mutual information theory: **L E Flores-Marquez**, A Ramirez-Rojas, R Luevano

NH31B Moscone South: Poster Hall Wednesday 0800h Strategies for Earthquakes and Natural Hazard Mitigation II Posters (joint with PA, S)

Presiding: **J H Venus**, School of Earth and Environmen; **W Meng**, China University of Geosciences

0800h **NH31B-1346** POSTER Strategies for 2nd Grade zonation on susceptibility to seismic-induced landslides in Southern Apennines, Italy: **D Tarallo**, A Rapolla, V Paoletti, S Di Nocera, F Matano

0800h **NH31B-1347** POSTER Searching for Buried Fault under Chengdu Plain Using Gravity Anomaly Survey: **X Yang**, S Tung, L Chan

0800h **NH31B-1348** POSTER Enhancing Public Outreach Using A Web-Based Expert System: **M Greenway**, D M Thomas, K Edwards, K Miyagi

0800h **NH31B-1349** POSTER The defectiveness of measurement data in the inclinometer measurement in the insertion-type aperture and an introduction about the correction: **H Homma**, K Fujisawa, S Chiba, Y Ootsuka, K Higuchi, T Sukanuma

0800h **NH31B-1350** POSTER Use of Bedrock and Geomorphic Mapping Compilations in Assessing Geologic Hazards at Recreation Sites on National Forests in NW California: **J A De La Fuente**, A Bell, D Elder, R Mowery, R Mikulovsky, H Klingel, M Stevens

0800h **NH31B-1351** POSTER Assessing the Stability of Precariously Balanced Rocks and their Geomorphic Setting: **D E Haddad**, R Arrowsmith

0800h **NH31B-1352** POSTER Earthquake Model of the Middle East (EMME) Project: Active Fault Database for the Middle East Region: **L Gülen**, Title of Team: WP2 Team

0800h **NH31B-1353** POSTER Probabilistic Seismic Hazard Disaggregation Analysis for the South of Portugal: **I Rodrigues**, M Sousa, P Teves-Costa

0800h **NH31B-1354** WITHDRAWN

0800h **NH31B-1355** POSTER Physical Exposure to Seismic Hazards of Health Facilities in Mexico City, Mexico: S M Rodriguez, **D Novelo Casanova**

0800h **NH31B-1356** POSTER Surface Displacements Determined From Offset Features And Landform-Restoration Along Faults Associated With 14 APRIL, 2010 Yushu Earthquakes, Eastern Tibetan Plateau, Qinhai Province, China: **M J Bartholomew**, D Li, W Luo, C Feng

0800h **NH31B-1357** POSTER Magnitude determination using initial P waves for Cascadia Subduction Zone in Canada's west coast: **A Eshaghi**, K F Tiampo

0800h **NH31B-1358** POSTER METHODOLOGIES FOR VS30 ESTIMATION - APPLICATION TO LISBON AND LOWER TAGUS VALLEY REGION: **P Teves-Costa**, I M Almeida, R Matildes, I Rodrigues

0800h **NH31B-1359** POSTER Testing the ability of a proposed geotechnical based method to evaluate the liquefaction potential analysis subjected to earthquake vibrations: **A Abbaszadeh Shahri**, K Behzadafshar, B Esfandiyari, R Rajablou

0800h **NH31B-1360** POSTER Evaluation of maximum expected magnitude of induced seismic events resulting from CO2 injection for geologic carbon sequestration: **A Mazzoldi**, J Rutqvist

NH31C Moscone West: 3010 Wednesday 0800h Remote Sensing and Modeling of Landslides: Detection, Monitoring, and Risk Evaluation II (joint with NH, EP, PA)

Presiding: **N Lu**, Colorado School of Mines; **D B Kirschbaum**, NASA Goddard Space Flight Center

0800h **NH31C-01** Rainfall-induced landslides in Europe: hotspots and thresholds (Invited): **J Cepeda**, C Jaedicke, F Nadim, B Kalsnes

0815h **NH31C-02** A national early warning system for rainfall-induced landslides in Italy: **F Guzzetti**, M Rossi, S Peruccacci, M Brunetti, I Marchesini, F Ardizzone, V Balducci, C Bianchi, M Cardinali, F Fiorucci, A Mondini, P Reichenbach, P Salvati, G Tonelli, D Dello Buono, F Izzi, L Amato, G La Scaleia, D Maio, P Pagliara, B De Bernardinis

0830h **NH31C-03** Catchment Scale Landslide Hazard Assessment In The Siwaliks Of Nepal: **R K Dahal**, P P Paudel, S Hasegawa, N P Bhandary, R Yatabe

0845h **NH31C-04** Development of community hazard map for landslide risk reduction at the village level in Java, Indonesia: **D Karnawati**

0900h **NH31C-05** Application of remote sensed precipitation for landslide hazard assessment models: **D B Kirschbaum**, C D Peters-Lidard, R F Adler, S Kumar, K Harrison

0915h **NH31C-06** Tertiary creep test by ring shear apparatus in predicting initiation time of rainfall-induced-shallow landslide: **A Dok**, H Fukuoka

0930h **NH31C-07** Estimating the failure potential of a partially saturated slope from combined continuum and limit equilibrium modeling (Invited): **R I Borja**, J A White, X Liu, W Wu

0945h **NH31C-08** Mechanism of shallow disrupted slide induced by extreme rainfall: O Igwe, **H Fukuoka**

Near Surface Geophysics

NS31A Moscone South: Poster Hall Wednesday 0800h Airborne Geophysics for Geohazards and Environmental Problems I Posters (joint with G, GP, H, NH, S, V)

Presiding: **S Okuma**, Geological Survey Japan, AIST; **M Deszcz-Pan**, USGS

0800h **NS31A-1380** POSTER Nature and Geometry of tectonic elements associated with Bhuj Earthquake from High resolution Aeromagnetic data: **M Rajaram**, A S. Prasanna

0800h **NS31A-1381** POSTER Geophysical investigation of the fault architecture of the San Andreas - Calaveras Fault junction in central California: **J T Watt**, R C Jachens, R W Graymer, D A Ponce, R W Simpson

0800h **NS31A-1382** POSTER Aeromagnetic Constraints on the Subsurface Structure of Usu Volcano, Hokkaido Japan: T Nakatsuka, **S Okuma**, Y Ishizuka

0800h **NS31A-1383** POSTER Potential-field inversion from uneven tracks with application to the Brothers volcano AUV magnetic data (Kermadec Arc, New Zealand): **F Caratori Tontini**, B W Davy, C E de Ronde, R W Embley, M Tivey

0800h **NS31A-1384** *POSTER* Applicability of 'GREATEM' system in mapping geothermal regions in volcanic areas: **S K Verma**, T Mogi, S Abd Allah

0800h **NS31A-1385** *POSTER* AIRBORNE GEOPHYSICAL MAPPING OF GROUNDWATER MINERALISATION IN THE STASSFURT POTASH MINING DISTRICT, GERMANY: **U Meyer**, T Kerner, B Siemon

0800h **NS31A-1386** *POSTER* COMPARISON OF TWO AEM GROUNDWATER MINERALISATION SURVEYS IN THE WERRA RIVER VALLEY, GERMANY: B Siemon, A Ullmann, M Vasterling, U Meyer, **A Steuer**, W W Beer, J Pluemacher

0800h **NS31A-1387** *POSTER* Airborne Electromagnetic Surveys for Baseline Permafrost Mapping and Potential Long-Term Monitoring: **B D Smith**, M A Walvoord, J C Cannia, C I Voss

0800h **NS31A-1388** *POSTER* Application of Helicopter Electromagnetics as Part of an Integrated Program to Map Permafrost, Fairbanks, Alaska: **B N Astley**, B D Smith, G Hodges, C Snyder, J D Abraham

0800h **NS31A-1389** *POSTER* Quasi-3D resistivity gridding from large AEM datasets of 1D geophysical models: a step toward enhanced geological interpretation: **A Pryet**, J Ramm, E Auken, J Chilès, S Violette, N D'Ozouville, B Deffontaines

0800h **NS31A-1390** *POSTER* INFLUENCE OF THE HELICOPTER TIME DOMAIN ELECTROMAGNETIC SYSTEM OFF-TIME RESPONSE BY THE TRANSMITTER ASSEMBLY: **A Vetrov**, I Mejzr

0800h **NS31A-1391** *POSTER* A case study of acquisition of geological information by the helicopter-borne geophysical exploration for the tunnel construction and design: **K Okazaki**, Y Ito, S Anan

0800h **NS31A-1392** *POSTER* A case study of the road slope investigation by the helicopter-borne geophysical exploration for engineering geology: **Y Ito**, S Anan, K Okazaki

0800h **NS31A-1393** *POSTER* Improvement of Short-Wave InfraRed Hyperspectral Imaging by Direct Polarization Measurements: **G E Leblanc**, S Allux

NS31B Moscone South: Poster Hall Wednesday 0800h
Biogeophysics: Toward Modeling of Geophysical Signatures of Microbial Processes in the Earth I Posters (*joint with B, H, C, S, GP, MR, GC*)

Presiding: **L D Slater**, Rutgers-Newark; **E A Atekwana**, Oklahoma State University

0800h **NS31B-1394** *POSTER* Responses of mcrA and pmoA Gene Copies and Methane Fluxes to Soil Temperature Changes in Rice Microcosms: **A Sithole**, G E Flores, A L Reysenbach, M J Shearer, C L Butenhoff, A M Khalil

0800h **NS31B-1395** *POSTER* Study of Large Scale Electromagnetic Field with "Earth-Ionosphere" Mode: **L D Quan**, Q Di, W M Yue, Title of Team: SEP

0800h **NS31B-1396** *POSTER* Mapping degrading organic contaminant plumes with spontaneous potential: Why does it not always work?: **S Forté**, L R Bentley

0800h **NS31B-1397** *POSTER* Investigation of biogeophysical signatures at a mature crude-oil contaminated site, Bemidji, Minnesota: **L D Slater**, E A Atekwana, A Revil, M Skold, D Ntarlagiannis, Y Gorby, F Mewafy, F D Day-Lewis, D D Werkema, J Trost, G N Delin, W N Herkelrath

0800h **NS31B-1398** *POSTER* Spectral induced polarization signatures of hydroxyl adsorption in porous media: **C Zhang**, T C Johnson, L D Slater, G D Redden

0800h **NS31B-1399** *POSTER* Spectral Induced Polarization (SIP) measurements for monitoring toluene contamination in clayey soils: A Ustra, L D Slater, **D Ntarlagiannis**

0800h **NS31B-1400** *POSTER* Spectral Induced Polarization (SIP) monitoring during Microbial Enhanced Oil Recovery (MEOR): **J W Heenan**, D Ntarlagiannis, L D Slater

0800h **NS31B-1401** *POSTER* Investigating the effect of electro-active ion concentration on spectral induced polarization signatures arising from biomineralization pathways: **D Ntarlagiannis**, L D Slater, K H Williams, S S Hubbard, Y Wu

0800h **NS31B-1402** *POSTER* Spectral induced polarization signatures from a crude-oil contaminated site undergoing biodegradation, Bemidji, MN: **F Mewafy**, E A Atekwana, D Ntarlagiannis, L D Slater, A Revil, M Skold, Y Gorby, D Werkema

0800h **NS31B-1403** *POSTER* A tank experiment with self-potential signals produced by a subsurface bioelectrochemical system: **S D Fachin**, S Vasconcelos, C Mendonça

Ocean Sciences

OS31A Moscone South: Poster Hall Wednesday 0800h
Carbon System Dynamics in Large River-Dominated Coastal Margins II Posters (*joint with H, B*)

Presiding: **S E Lohrenz**, Univ Southern Mississippi; **S E Lohrenz**, Univ Southern Mississippi; **W Cai**, University of Georgia; **W Cai**, University of Georgia

0800h **OS31A-1404** *POSTER* Barium and Carbon fluxes in the Canadian Arctic Archipelago: **H Thomas**, E H Shadwick, V Woule Ebongue, B Lansard, J Navez, Y Gratton, F Prowe, A Mucci, M Chierici, A Fransson, T N Papakyriakou, E Sternberg, L A Miller

0800h **OS31A-1405** *POSTER* Terrestrial Carbon Inputs from the Colville River to Simpson Lagoon, Alaska: **K M Schreiner**, T S Bianchi, M A Allison

0800h **OS31A-1406** *POSTER* Biogeochemical controls on carbonate saturation and pH in coastal oceans influenced by large rivers: W Huang, **X Hu**, W Cai

0800h **OS31A-1407** *POSTER* A Novel Method For Predicting Carbon Monoxide Apparent Quantum Yield Spectra in Coastal Water Using Remote Sensing Reflectance Data: **H E Reader**, W L Miller

0800h **OS31A-1408** *POSTER* Phytoplankton community structure and dynamics in the river influenced margin of the Northern Gulf of Mexico: S Chakraborty, **S E Lohrenz**

0800h **OS31A-1409** *POSTER* Air-water CO₂ Fluxes and Inorganic Carbon Dynamics in a Microtidal, Eutrophic Estuary: **J Crosswell**, B R Hales, H W Paerl

0800h **OS31A-1410** *POSTER* Oxygen Dynamics and Net Community Productivity During a Lagrangian Cruise in the Western Gulf of Maine: **O De Meo**, J Salisbury

0800h **OS31A-1411** *POSTER* Comparison of community respiration between summer and winter in the East China Sea: **C Chen**, G Gong

OS31B Moscone South: Poster Hall Wednesday 0800h
Estuarine Sediment Dynamics and Fate of Particles, Contaminants, and Carbon at the Land-Ocean Interface I Posters (*joint with H, EP*)

Presiding: **J Zhu**, Univ. of Massachusetts Boston; **C M Palinkas**, University of Maryland Center for Environmental Science

0800h **OS31B-1412** *POSTER* Modelling larval transport in a axial convergence front: **P Robins**

0800h **OS31B-1413** *POSTER* Coastal Marsh Sediments from Bodega Harbor: Archives of Environmental Changes at the Terrestrial-Marine Interface: L K Rademacher, **Y Rong**, T M Hill, C Hiromoto, A Fisher

0800h **OS31B-1414** *POSTER* Substrate Variations and its Relationship and Impact on the Distribution of Eelgrass Beds in Griffin Bay, Washington: **A Sopha**, H Greene, S Wyllie-Echeverria, F J Harmsen

0800h **OS31B-1416** *POSTER* Determining the Sediment Budget of the Lower Hudson River: **R Prugue**, F O Nitsche, T C Kenna

0800h **OS31B-1417** *POSTER* Shipboard magnetic field data trace magnetic sources in marine sediments: Geophysical studies of the Stono and North Edisto Inlets near Charleston, South Carolina: **A K Shah**, S Harris

0800h **OS31B-1418** *POSTER* Shallow Sediment Trace Metal Concentrations and Short-Term Accumulation Rates in the Neponset River Estuary, Massachusetts, USA: **J R Spencer**, J Zhu, C R Olsen

0800h **OS31B-1419** *POSTER* Using gamma ray spectrometry for fingerprinting sources of estuarine and coastal sediment in Mukawa coast, Hokkaido, northern Japan: **S Mizugaki**, J Ohtsuka, Y Murakami, T Ishiya, S Hamamoto

0800h **OS31B-1421** *POSTER* Influence of Compositional Variations on Floc Size and Strength: **H Yin**, X Tan, A H Reed, Y Furukawa, G Zhang

0800h **OS31B-1422** *POSTER* ANTHROPOGENIC INFLUENCES ON ESTUARINE SEDIMENTATION IN SALEM SOUND, MA: **E R Kristiansen**, J B Hubeny, J Zhu, C R Olsen, B Warren

0800h **OS31B-1423** *POSTER* An Evaluation of Vessel Based LiDAR Surveying as a Tool for Monitoring Short Term Change in Coastal Wetlands: **C Mueller**

0800h **OS31B-1424** *POSTER* Long-Term Survival of Fecal Indicator Bacteria in Estuarine Sediment: **A S Ferguson**, A Layton, P J Culligan, T C Kenna, B J Mailloux

0800h **OS31B-1425** *POSTER* Flocculation of Clay and Organic Matter in Turbid Salt Water: **A H Reed**, H Yin, G Zhang, X Tan, Y Furukawa

0800h **OS31B-1426** *POSTER* A Bay/Estuary Model to Simulated Hydrodynamics and Biogeochemical Cycles: **G Yeh**

0800h **OS31B-1427** *POSTER* Assessing sediment dynamics of the Middle St. Johns River Basin, Lake Jesup, Florida, USA: W T Anderson, **S M Nielsen**, L J Scinto, S Thomas, D C Fugate, D R Corbett, S Brandt-Williams

0800h **OS31B-1428** *POSTER* The Vinylguaiacol/Indole or VGI ("Veggie") Ratio: A Novel Molecular Parameter to Evaluate the Relative Contributions of Terrestrial and Aquatic Organic Matter to Sediments: **M A Kruge**, K K Olsen, J Slusarczyk, E Gomez

OS31C Moscone South: Poster Hall Wednesday 0800h
Tidal Flats: Hydrodynamics and Sedimentary Processes I
Posters (joint with EP)

Presiding: **D K Ralston**, Woods Hole Oceanographic Institution; **J M Thomson**, University of Washington

0800h **OS31C-1429** *POSTER* Observations and Predictions of Winds on the Skagit River Tidal Flats: **B Raubenheimer**, D K Ralston, R P Signell, D L Giffen, S Elgar

0800h **OS31C-1430** *POSTER* Modeling the effect of Wind-Waves and Tidal Flows on sediment resuspension in Shallow Microtidal Basins: **L Carniello**, A D'Alpaos, A Defina

0800h **OS31C-1431** *POSTER* Bottom Shear Stresses in Runnels Flanking a Mudflat Channel: **S Fagherazzi**, G Mariotti

0800h **OS31C-1432** *POSTER* Seasonal sediment transfer and net accumulation on an accommodation-space-limited muddy tidal flat: Willapa Bay, Washington: **K V Boldt**, C A Nittrouer, A S Ogston

0800h **OS31C-1433** *POSTER* Modeling the formation and evolution of deposition system for accreting tidal flat composed of mud and sand: a case study of the central Jiangsu coast: **X Liu**, S Gao

0800h **OS31C-1434** *POSTER* Currents in a Small Channel on a Sandy Tidal Flat: **S Elgar**, B Raubenheimer

0800h **OS31C-1435** *POSTER* Analyzing the role of topography and sediment disturbances on the initial formation of sorted bedforms: **T Van Oyen**, H E De Swart, P Blondeaux

0800h **OS31C-1436** *POSTER* Quantifying Tidal Flat Areal Change of Yellow River (Huang He) Delta in China using SAR Intensity Data: **A Tanaka**

0800h **OS31C-1437** *POSTER* Impact of boat-generated waves on intertidal estuarine sediments: **O Blanpain**, J Deloffre, R Lafite, G Gomit, D Calluau, L David

0800h **OS31C-1438** *POSTER* Simulating 90 Days of Wind and Tidally Driven Hydrodynamics from the Deep Ocean into the South Atlantic Bight Estuaries: **P Bacopoulos**, S C Hagen

0800h **OS31C-1439** *POSTER* Modeling Sediment Deposition for Predicting Marsh Habitat Development: **M E Newcomer**, A M Kuss, T Ketron, A Remar, V Choski, K Grove, J W Skiles

0800h **OS31C-1440** *POSTER* Export and Retention of Fine-Grained Sediment on the Skagit Tidal Flats: Implications for the Fate of Fluvial Particulate Discharge: **K M Lee**, A S Ogston, C Nittrouer

0800h **OS31C-1441** *POSTER* A numerical investigation of fine sediment transport at intertidal flat: **T Hsu**, S Chen, A S Ogston

0800h **OS31C-1442** *POSTER* Seasonal and Interannual Variations in the Hydrodynamics of the Skagit River Tidal Flats: **J A Lerczak**, D K Ralston, G W Cowles

0800h **OS31C-1443** *POSTER* Use of thermal infrared pictures for retrieving intertidal DEM by the waterline method: advantages and limitations: **D Gaudin**, C Delacourt, P Allemand

0800h **OS31C-1444** WITHDRAWN

0800h **OS31C-1445** *POSTER* Seasonal Variations in Sediment Transport Potential in a Tidal Channel-Flat Complex in Willapa Bay, WA: **P L Wiberg**, B Law, R A Wheatcroft, T Milligan, P S Hill

0800h **OS31C-1446** *POSTER* Propagation of Shallow Fresh Surface Plumes Over Vertically-Sheared Currents: **S M Henderson**, J C Mullarney

0800h **OS31C-1447** *POSTER* A Coupled Wave-Current-Sediment model for Skagit Bay: **G W Cowles**, E M Holmes, D K Ralston

OS31D Moscone South: Poster Hall Wednesday 0800h
Tsunami and Storm Deposits Onshore and Offshore:
Processes and Products I Posters (joint with NH)

Presiding: **H Bahlburg**, Universitaet Muenster; **R Weiss**, Texas A&M University

0800h **OS31D-1448** *POSTER* Currents Produced by the February 27, 2010 Chilean Tsunami in Humboldt Bay California: **A Admire**, L A Dengler, G B Crawford, B U Uslu, J Montoya

0800h **OS31D-1449** *POSTER* Tsunami Inversion on 2010 Chile Earthquake with the Small Unit Tsunami Inverse Method: **T Wu**, D He

0800h **OS31D-1450** *POSTER* Boulder transport by the 2010 Chile tsunami (Bucalemu, Central Chile): A quasi-experimental setting in a natural environment: **M Spiske**, H Bahlburg

0800h **OS31D-1451** *POSTER* The preservation potential of tsunami and post-tsunami sedimentation - Chile 2010: **E Watcham**, I Shennan, S Woodroffe, E Garrett

0800h **OS31D-1452 POSTER** Palaeo-tsunami in the southern Caribbean: clarity through new geological archives?: **M Engel**, H Brückner, K Messenzehl, P Frenzel, V Wennrich, S M May, G Daut, T Willershäuser, A Scheffers, S Scheffers, A Vött, D Kelletat

0800h **OS31D-1453 POSTER** Spatial Heterogeneity of Holocene Tsunami Deposits As Preserved on Koh Phra Thong Island, Thailand: **ME Kirby**, B P Rhodes, M Choowong, W Frady, R Leeper

0800h **OS31D-1454 POSTER** Radiocarbon dating of *Porites* coral boulders cast ashore by paleo-tsunamis at southern Ryukyu Islands, Japan: **D Araoka**, Y Yokoyama, A Suzuki, K Goto, T Kawana, K Miyagi, K Miyazawa, T Yoshimura, H Matsuzaki, H Kawahata

0800h **OS31D-1455 POSTER** Integrated Historical Tsunami Event and Deposit Database: P K Dunbar, **H L McCullough**

0800h **OS31D-1456 POSTER** Description of extreme-wave deposits on the northern coast of Bonaire, Netherlands Antilles: **S G Watt**, B E Jaffe, R A Morton, B M Richmond, G R Gelfenbaum, Title of Team: Coastal and Marine Geology Program

0800h **OS31D-1457 POSTER** Numerical Experiment of Sediment Transport and a Case Study of Sediment Transport Simulation of the 2004 Indian Ocean Tsunami in Lhoknga, Banda Aceh, Indonesia: **A R Gusman**, Y Tanioka, T Takahashi

0800h **OS31D-1458 POSTER** Constraining hurricane-induced flooding over the last 2000 years using preserved overwash deposits from a Florida sinkhole: **C M Brandon**, J D Woodruff, J P Donnelly

0800h **OS31D-1459 POSTER** Identification of tsunami-induced deposits using numerical modeling and rock magnetism techniques: A study case of the 1755 Lisbon tsunami in Algarve, Portugal: E Font, C Nascimento, **R Omira**, M Baptista, P F Silva

0800h **OS31D-1460 POSTER** Understanding the Formation Mechanism of the 2010 Chile Tsunami: **Y Song**

0800h **OS31D-1461 POSTER** Sedimentary Record of the February 27, 2010, Chile Tsunami: **B M Richmond**, R A Morton, G R Gelfenbaum, M L Buckley

0800h **OS31D-1462 POSTER** Tsunami deposits at MIS Stages 5e and 9 on Oahu, Hawaii: implications for sea level at interglacial stages: **G M McMurtry**, J F Campbell, G J Fryer, D R Tappin, J Fietzke

OS31E Moscone West: 3009 Wednesday 0800h
Ocean Acidification: Observation and Prediction of Biogeochemical and Ecosystem-Scale Responses II (*joint with B, GC*)

Presiding: **A J Sutton**, NOAA Pacific Marine Environmental Laboratory; **L W Juranek**, UW JISAO /NOAA; **A D Russell**, University of California, Davis; **D K Gledhill**, NOAA AOML

0800h **OS31E-01** Ocean Acidification of the North Pacific Ocean: **RA Feely**, C L Sabine, R H Byrne, D Greeley

0815h **OS31E-02** An assessment of continental shelf anaerobic processes on oceanic alkalinity budget: **X Hu**, W Cai

0830h **OS31E-03** The Influence of Land - Ocean Exchange on the Carbonate Mineral Saturation State Over the Continental Shelves (*Invited*): **J Salisbury**, C Hunt, D C Vandemark, D K Gledhill, M Green

0845h **OS31E-04** Decay of terrestrial and marine organic matter in Siberian Shelf Seas - its impact on ocean acidification and carbon pump: **L G Anderson**, S Jutterstrom, I Wohlstrom

0900h **OS31E-05** Diurnal and seasonal variation of coastal carbonate system parameters in South Florida and the Caribbean: **K Yates**, N A Smiley

0915h **OS31E-06** The effect of CO₂-induced ocean acidification on calcification rates and shell properties of two species of bimineralic marine calcifiers: **J B Ries**

0930h **OS31E-07** Inorganic carbon dynamics in the upwelling system off the Oregon coast and implications for commercial shellfish hatcheries: **J M Vance**, B R Hales

0945h **OS31E-08** Coral growth with thermal stress and ocean acidification: lessons from the eastern tropical Pacific (*Invited*): **D Manzello**

Planetary Sciences

P31A Moscone South: Poster Hall Wednesday 0800h
Giant Planets Posters

Presiding: **L B Jaffel**, Institut Astrophysique Paris; **D L Huestis**, SRI International

0800h **P31A-1514 POSTER** Trace Molecules in Giant Planet Atmospheres: **D L Huestis**, G P Smith

0800h **P31A-1515 POSTER** Helium Abundance in the Atmosphere of Jupiter and Saturn: **L B Jaffel**, F Herbert

0800h **P31A-1516 POSTER** Updated Saturn Interior Models: Implications for Its Rotation Period: **R Helled**, T Guillot, Y Kaspi

0800h **P31A-1517 POSTER** Stability of the Ice-Hydrogen Interface at Giant Planet Core Boundary Conditions: **H F Wilson**, B Militzer

0800h **P31A-1518 POSTER** Scattering Properties of Jovian Tropospheric Cloud Particles Inferred from Cassini/ISS: Mie Scattering Phase Function and Particle Size in South Tropical Zone III: **T Sato**, T Satoh, Y Kasaba

0800h **P31A-1519 POSTER** The effect of precipitation on the cloud concentration at Jupiter: **K Mihalka**, S K Atreya

0800h **P31A-1520 POSTER** Tidal Torques and Long-Term Orbital Evolution of Planets in Locally Isothermal Disks: **SH Lubow**, G D'Angelo

0800h **P31A-1521 POSTER** A Possible Correlation Between the Mass of a Giant Planet and the Mass of its Host Star: **G D'Angelo**, J J Lissauer

0800h **P31A-1522 POSTER** Simplified Model of PV Mixing in Thick and Thin Shells: **LA Allen**, J M Aurnou, J Wicht

P31B Moscone South: Poster Hall Wednesday 0800h
The Amazing Nature, Origin, and Evolution of Outer Planet Satellites II Posters (*joint with SM, C*)

Presiding: **B J Buratti**, JPL; **C J Hansen**, JPL; **A R Hendrix**, JPL/ Caltech; **K K Khurana**, University of California at Los Angeles

0800h **P31B-1523 POSTER** The Ganymede Interior, Surface, and Magnetosphere Observer (GISMO) Mission Concept: **G A DiBraccio**, M F Vogt, D Blackburn, M Chaffin, M Choukroun, N Ehsan, A A Le Gall, L Gibbons, D Gleeson, B Jones, K Lynch, T McEnulty, E B Rampe, C Schrader, L M Seward, K N Singer, I B Smith, C Tsang, P Williamson, J C Castillo, C J Budney

0800h **P31B-1524 POSTER** The Heidelberg Dust Accelerator: Investigating Hypervelocity Particle Impacts: **A Mocker**, S Armes, S Bugiel, K Fiege, E Gruen, B Heines, J Hillier, S Kempf, R Srama

0800h **P31B-1525 POSTER** Onset of convection in a fluid with anisotropic viscosity and thermal conductivity: implications for the dynamics of the lithosphere and icy satellites: **LS Pouilloux**, S Labrosse, E Kaminski

0800h **P31B-1526** POSTER LABORATORY MEASUREMENTS AND MODELING OF MOLECULAR PHOTOABSORPTION CROSS SECTIONS FOR PLANETARY APPLICATIONS: **G Stark**, P L Smith, B R Lewis, A Heays, D Blackie, J Pickering

0800h **P31B-1527** POSTER New Horizons Alice Observations of Io's UV Atmospheric Emissions: **K D Retherford**, A J Steffl, S A Stern, J Parker, R Gladstone, M Versteeg, N Cunningham, D Slater, M Davis

0800h **P31B-1528** POSTER Does Titan's Slightly Oblate Shape suggest a Capture Origin?: **A J Prentice**

0800h **P31B-1529** POSTER Mimas at Many Wavelengths and Many Angles: **BJ Buratti**, R H Brown, R N Clark, J Mosher, D P Cruikshank, G Filacchione, K H Baines, P D Nicholson

0800h **P31B-1530** POSTER A Satellite Formation Due to A Giant Impact: The Effect of the Protoplanet Mass and Its Composition on the Disk Gas Fraction: **M Nakajima**, H Genda, E I Asphaug, S Ida

0800h **P31B-1531** POSTER Unexpected and Unexplained Surface Temperature Variations on Mimas: **C Howett**, J R Spencer, J C Pearl, T A Hurford, M Segura, Title of Team: The Cassini CIRS Team

0800h **P31B-1532** POSTER Radiation Environment and Surface Radiolytic Interactions at Mimas: **J F Cooper**, E C Sittler, A S Lipatov, S J Sturmer, C Paranicas, P D Cooper

0800h **P31B-1533** POSTER The Surface Composition of Mimas: Ultraviolet Constraints: **A R Hendrix**, C J Hansen, T A Cassidy, G M Holsclaw

0800h **P31B-1534** POSTER Why Can't Mimas Be More Like Enceladus?: **W B McKinnon**

0800h **P31B-1535** POSTER WISE Comets and the Outer Solar System: **J M Bauer**, A K Mainzer, T Grav, J R Masiero, R M Cutri, R S McMillan, R G Walker, E L Wright, Title of Team: The WISE Team

0800h **P31B-1536** POSTER A High-Pressure Study of the NH₃-H₂ System: **B Chidester**, T A Strobel

0800h **P31B-1537** POSTER New Operational Mode of Space-borne Quadrupole Mass Spectrometers: **D J Gershman**, B Block, M Rubin, P R Mahaffy, T Zurbuchen

0800h **P31B-1538** POSTER Upper Atmosphere of Titan from UVIS Stellar Occultations: J A Kammer, D E Shemansky, X Zhang, **Y L Yung**

0800h **P31B-1539** POSTER The Saturnian Dust Streams: Sources, Sinks and Formation Conditions: **A L Graps**

0800h **P31B-1540** POSTER 3D MODELING OF PLANETOIDS: **G Machtoub**

0800h **P31B-1541** POSTER A laboratory study of the effects of roughness on the mid-infrared spectra of rock surfaces: **M M Osterloo**, V E Hamilton, F S Anderson

P31C Moscone South: Poster Hall Wednesday 0800h
Titan: The Methane Cycle and Potential for Watery Warm Spots II Posters

Presiding: **C J Alexander**, Jet Propulsion Laboratory; **R Nelson**, Jet Propulsion Laboratory

0800h **P31C-1542** POSTER Following cloud activity in Titan's atmosphere around the equinox with VIMS/Cassini: **S Rodriguez**, C Sotin, P Rannou, S Le Mouélic, C A Griffith, J W Barnes, G Tobie, R H Brown, K H Baines, B J Buratti, R N Clark, P D Nicholson

0800h **P31C-1543** POSTER Cassini/VIMS Discovery of Organic Evaporite Deposits in Titan's Dry Lakebeds: **J W Barnes**, J Bow, J Schwartz, R H Brown, J M Soderblom, A G Hayes, S Le Mouélic, S Rodriguez, C Sotin, R Jaumann, K Stephan, L A Soderblom, R N Clark, B J Buratti, K H Baines, P D Nicholson

0800h **P31C-1544** POSTER Temporal and seasonal changes in Titan's stratosphere over a Titanian year: **A Coustenis**, G Bampasidis, R K Achterberg, S Vinatier, D E Jennings, C A Nixon, R C Carlson, N A Teanby, F M Flasar, G L Bjoraker, P N Romani, X Moussas

0800h **P31C-1545** POSTER Geological mapping and temporal survey of Ontario Lacus on Titan from 2005 to 2009, using VIMS, ISS and Radar data: **T Cornet**, O Bourgeois, S Le Mouélic, S Rodriguez, G Tobie, C Sotin, J W Barnes, R H Brown, K H Baines, B J Buratti, R N Clark, P D Nicholson

0800h **P31C-1546** POSTER Empirical Approaches To Reduce The Atmospheric Component In VIMS Surface Images Of Titan: **S Le Mouélic**, T Cornet, S Rodriguez, C Sotin, J W Barnes, R H Brown, K H Baines, B J Buratti, R N Clark, P D Nicholson

0800h **P31C-1547** POSTER Seasonal Changes in Titan's Meteorology Documented by Cassini's Imaging Science Subsystem (ISS): **E P Turtle**, A D Del Genio, J Barbara, J E Perry, R A West, A S McEwen, E L Schaller, T L Ray

0800h **P31C-1548** POSTER Titan's methane cycle and its effect on surface geology: **R M Lopes**, R S Peckyno, A A Le Gall, L Wye, E R Stofan, J Radebaugh, A G Hayes, O Aharonson, S D Wall, M A Janssen, Title of Team: Cassini RADAR Team

0800h **P31C-1549** POSTER Causes of Titan's Lake and Cloud Distributions and Predictions of Future Changes: **S Graves**, T Schneider, E L Schaller, M E Brown

0800h **P31C-1550** POSTER Chemistry in the Dunes of Titan: Tribochemical Reactions of Complex Organics and Water Ice: J L Beauchamp, **D A Thomas**

0800h **P31C-1551** POSTER Prebiotic chemistry on Titan ? The nature of Titan's aerosols and their potential evolution at the satellite surface: **P J Coll**, O Poch, S I Ramirez, A Buch, C Brassé, F Raulin

0800h **P31C-1552** POSTER Constraining Depths and Wave Heights for Titan's lakes with Cassini RADAR Data: **L Wye**, H A Zebker, A G Hayes, R D Lorenz, C Notarnicola, B Ventura, D Casarano, Title of Team: Cassini RADAR Team

0800h **P31C-1553** POSTER Spectrally Dominant Aromatic Hydrocarbon Compounds on Titan (*Invited*): **R N Clark**, N Pearson, R H Brown, D P Cruikshank, J W Barnes, R Jaumann, L A Soderblom, S Rodriguez, S Le Mouélic, J I Lunine, C Sotin, K H Baines, B J Buratti, P D Nicholson, R Nelson, K Stephan

0800h **P31C-1554** POSTER The influence of impurities in Titan ice bedrock on tensile strength and resistance to fluvial erosion: experimental results: **K L Litwin**, P Polito, B Zygielbaum, L S Sklar, G C Collins

0800h **P31C-1555** POSTER Influence of Titan's climate-driven surface mass redistribution on spin pole precession: **B G Bills**, F Nimmo, O Aharonson

P31D Moscone South: 306 Wednesday 0800h
The Shape of Things to Come: Using Topography to Investigate the Evolution of Outer Solar System Satellites II

Presiding: **L M Prockter**, Applied Physics Lab; **G Patterson**, Johns Hopkins University Applied Physics Laboratory

0800h **P31D-01** The Weirdest Topography in the Outer Solar System: The Ridge on Iapetus and its Possible Formation via Giant Impact (*Invited*): **A J Dombard**, A F Cheng, W B McKinnon, J P Kay

0815h **P31D-02** "Ah . . . not so flat as we were led to believe." Global and Regional Topography Characteristics of Europa (*Invited*): **P Schenk**

0830h **P31D-03** Generating topography through tectonic deformation of ice lithospheres: Simulating the formation of Ganymede's grooves: **M T Bland**, W B McKinnon

0845h **P31D-04** Erosion, Transportation, and Deposition on Outer Solar System Satellites: Landform Evolution Modeling Studies (*Invited*): **J M Moore**, A D Howard, P Schenk, S E Wood

P31E Moscone South: 306 Wednesday 0900h
Interiors of Terrestrial Planets and Super-Earth Exoplanets II
(*joint with DI*)

Presiding: **J H Roberts**, Johns Hopkins University Applied Physics Laboratory; **S Zhong**, University of Colorado at Boulder

0900h **P31E-01** Disequilibrium by Planetary Collision: **E I Asphaug**, M Jutzi

0915h **P31E-02** Condensates from stellar protoplanetary nebulae: Implications for heavy element and volatile enrichment in extrasolar planets: **T V Johnson**, J I Lunine, O Mousis

0930h **P31E-03** Effects of initial conditions and impacts on the mantle dynamics and dynamo activity on early Mars: **J H Roberts**, J Arkani-Hamed

0945h **P31E-04** Constraints on Lunar Heat Flow Rates from Diviner Lunar Radiometer Polar Observations: **D A Paige**, M A Siegler, A R Vasavada

Public Affairs

PA31E Moscone South: Poster Hall Wednesday 0800h
Challenges of River Restoration Using Dam Removals and Other Tools Posters (*joint with H*)

Presiding: **J E Evans**, Bowling Green State University; **J V De Graff**, USDA—Forest Service

0800h **PA31E-1586** *POSTER* The Importance of Paleohydrologic Analysis to Guide River Restoration After Dam Removal, Ottawa River, NW Ohio: **J E Evans**, N Harris, L D Webb

0800h **PA31E-1587** *POSTER* Geriatric infrastructure, BRAC, and ecosystem service markets? End-of-life decisions for dams, roads, and offshore platforms (*Invited*): **M W Doyle**

0800h **PA31E-1588** *POSTER* What Should a Restored River Look Like? (*Invited*): **J L Florsheim**, A Chin

0800h **PA31E-1589** *POSTER* Do post-glacial river valleys in northern New England store mill-dam legacy sediments?: **S Strouse**, N P Snyder

0800h **PA31E-1590** *POSTER* Assessing Stream Restoration Potential of Recreational Enhancements on an Urban Stream, Springfield, OH: **J B Ritter**, A Evelsizer, K Minter, C Rigsby, K Shaw, K Shearer

0800h **PA31E-1591** *POSTER* Removing Dams: Project-Level Policy and Scientific Research Needs (*Invited*): **B Graber**

0800h **PA31E-1592** *POSTER* Estimating Economic Value of Stream Restoration for Urban Watershed Using Choice Experiments: **J Oh**, K S Lee, J Yoo, K Kong, Title of Team: Seoul National University & Chungbuk National University

0800h **PA31E-1593** *POSTER* Multi-year Assessment of the Removal of the Munroe Falls Dam on the Middle Cuyahoga River, Ohio: **J A Peck**, N R Kasper

Paleoceanography and Paleoclimatology

PP31A Moscone South: Poster Hall Wednesday 0800h
Nitrogen Cycle in the Oceans, Past and Present I Posters (*joint with B, OS, V*)

Presiding: **A Schmittner**, Oregon State University; **R De Pol-Holz**, University of California, Irvine; **M Kienast**, Dalhousie University

0800h **PP31A-1608** *POSTER* NICOPP: Nitrogen Cycle in the Ocean, Past and Present: **M Kienast**, E D Galbraith, T Kiefer, A Schmittner, R De Pol-Holz, Title of Team: NICOPP working group members

0800h **PP31A-1609** *POSTER* Reconstruction of the oceanic nitrate inventory in the Pliocene Caribbean Sea: Foraminifera-bound $\delta^{15}\text{N}$ – A new approach: **M Straub**, G H Haug, D M Sigman, H Ren

0800h **PP31A-1610** *POSTER* What can we learn by comparing bulk and diatom-bound nitrogen isotopes in downcore profiles?: **M G Horn**, R S Robinson, P Bedsole

0800h **PP31A-1611** *POSTER* A holistic approach to understanding the N isotopic composition ($\delta^{15}\text{N}$) of deep-sea sediments: diatom-bound, foraminifera-bound, whole sediment and modern nitrate $\delta^{15}\text{N}$ from the equatorial Pacific: **P A Rafter**, C D Charles, D M Sigman, G H Haug

0800h **PP31A-1612** *POSTER* Enriched Nitrate and Depleted Nitrite Isotopic Signatures in the OMZ off Northern Chile: **L A Bristow**, M A Altabet, F Stewart, E DeLong, O Ulloa

0800h **PP31A-1613** *POSTER* Eukaryotes dominate new production in the Sargasso Sea: **S E Fawcett**, M W Lomas, B B Ward, J R Casey, D M Sigman

0800h **PP31A-1614** *POSTER* Dynamics of the marine N-cycle over glacial-deglacial transitions: **O Eugster**, N Gruber

0800h **PP31A-1615** *POSTER* Nitrogen Cycling in the Black Sea on Glacial-Interglacial Time Scales: **T M Quan**, J D Wright, P G Falkowski

0800h **PP31A-1616** *POSTER* Who stole my $\delta^{14}\text{N}$? Local vs. remote drivers of the South Pacific Oxygen Minimum Zone during the Holocene: **C Chazen**, T Herbert, M A Altabet

0800h **PP31A-1617** *POSTER* Diverging Glacial-Interglacial Nutrient Regimes in the Eastern Tropical Pacific During the Last 150 kyr: **N Dubois**, M Kienast, S Kienast, S E Calvert

0800h **PP31A-1618** *POSTER* The Role of Eolian Dust Fertilization in Biogeochemical Cycles in The sub-Arctic Northwest Pacific During the Late Pliocene Intensification of Northern Hemisphere Glaciation: **I Bailey**, Q Liu, G Swann, Z Jiang, Y Sun, X Zhao, A Roberts

0800h **PP31A-1619** *POSTER* Linking Biogeochemical Cycles of Nitrogen and Oxygen in Euxinic Devonian Basins: **M L Tuite**, S A Macko

PP31B Moscone South: Poster Hall Wednesday 0800h
Southern Connections: An Intrahemispheric Paleoclimate Comparison I Posters (*joint with GC*)

Presiding: **T Cohen**, Macquarie University; **J May**, University of Wollongong

0800h **PP31B-1620** *POSTER* 25,000-yr diatom-based precipitation record for lowland, southern hemisphere tropical South America: **K A Fitzpatrick**, F Mayle, B Whitney, S E Metcalfe

0800h **PP31B-1621** *POSTER* Mid-Holocene variability of the East Asian monsoon based on bulk organic $\delta^{13}\text{C}$ and C/N records from the Pearl River estuary, southern China: F Yu, J M Lloyd, Y Zong, M J Leng, **A D Switzer**, W W Yim, G Huang

0800h **PP31B-1622** *POSTER* Combination of Silicon and Neodymium Isotopes for a better understanding of past changes in bioproductivity and water mass mixing in the upwelling area off Peru: **P Grasse**, C Ehlert, M Frank, L Stramma

0800h **PP31B-1623** *POSTER* Holocene changes of the Southern Westerlies on centennial to multi-millennial timescales inferred from high resolution southern Chilean fjord sediment records: **S Serno**, H W Arz, F Lamy, M Caniupan, R Kilian

0800h **PP31B-1624** *POSTER* Late Quaternary mega-lakes of central Australia: varying moisture sources and increased continental aridity: **T J Cohen**, G Nanson, J D Jansen, B Jones, Z Jacobs, J May, J Larsen, P Treble, A Smith

0800h **PP31B-1625** *POSTER* Vegetation and Climate Changes in Patagonia (46°S) during the Last 20 kyr cal. BP from South East Pacific MD 07 3088 Core: **V Montade**, N Combourieu Nebout, G Siani, E Michel, C Kissel, M Carel, S Mulsow

0800h **PP31B-1626** *POSTER* Alluvial records of late Quaternary environmental change along the eastern Andes: **J May**, F Preusser, H Veit

0800h **PP31B-1627** *POSTER* The Southern Ocean component of the “bipolar seesaw” ²³¹Pa/²³⁰Th and εNd evidence from the Argentine Basin: **B J Hickey**, G M Henderson, A L Thomas, J Rae, P Carter, D Vance, C Chiessi, S Mulitza

0800h **PP31B-1628** *POSTER* How did atmospheric circulation in the Equatorial Pacific Ocean respond to rapid climate changes during the last glacial period? Preliminary results from a speleothem from Niue: **D J Sinclair**, R M Sherrell, J D Wright, J Hellstrom

0800h **PP31B-1629** *POSTER* ¹⁰BE SURFACE-EXPOSURE CHRONOLOGY OF THE LEFT-LATERAL MORAINES OF THE FORMER PUKAKI GLACIER LOBE IN THE MACKENZIE REGION, SOUTH ISLAND, NEW ZEALAND: **S E Kelley**, G Denton, M R Kaplan, A E Putnam, J M Schaefer, R Schwartz, D Barrell, B Andersen

0800h **PP31B-1630** *POSTER* New insights into deglacial climate variability in tropical South America from molecular fossil and isotopic indicators in Lake Titicaca: **T M Shanahan**, K A Hughen, K Fornace, P A Baker, S C Fritz

PP31C Moscone South: Poster Hall Wednesday 0800h Dynamics of Glacial Cycles I Posters

Presiding: **S A Marcott**, Oregon State University; **J D Shakun**, Oregon State University

0800h **PP31C-1631** *POSTER* Sea surface temperature changes over the past 3 Terminations at the Southern Margin of the Western Pacific Warm Pool: **S Chang**, C Shen, L Lo, K Wei, M Lee, H Mii

0800h **PP31C-1632** *POSTER* Tropical Pacific SST Patterns, Controls and Effects (past 1.5 Ma): **K A Dyck**, A C Ravelo, A C Mix

0800h **PP31C-1633** *POSTER* Phytoplankton Productivity and Community Structure Changes in the Northern South China Sea during the Last 260 Ka: **J He**, M Zhao, L Li, P Wang

0800h **PP31C-1634** *POSTER* The permafrost glacial hypothesis – how permafrost carbon dynamics controlled atmospheric CO₂ and Pleistocene climate: R Zech, **Y Huang**, M Zech, R Tarozo

0800h **PP31C-1635** *POSTER* The deep ocean carbonate over glacial CO₂ cycles and the glacial-interglacial CCD seasaw: **H Elderfield**, R E Rickaby

0800h **PP31C-1636** *POSTER* Wavelet Analysis of the Periodicity and Correlation of the 420-ka Temperature, Carbon Dioxide, and Methane Time Series from the Vostok Ice Core: **J Zhang**, S Huang

0800h **PP31C-1637** WITHDRAWN

0800h **PP31C-1638** *POSTER* A Detection of Milankovitch Periodicity in Records of Global Arc Volcanism: **M D Jegen**, S Kutterolf, J X Mitrovica, T Kwasnitschka, A Freundt, P Huybers

0800h **PP31C-1639** *POSTER* Carbon Cycle Dynamics through the Early Eocene Climatic Optimum: Orbital Couplings to Lacustrine Cycling: **S Z Rosengard**, D S Grogan, J H Whiteside, M Van Keuren, D Musher

0800h **PP31C-1640** *POSTER* Monsoon Rectification of Orbital Forcing near Pangean Equator: **R Y Anderson**

0800h **PP31C-1641** *POSTER* A Southern Ocean Diatom Record of the Mid-Pleistocene Transition from the Amundsen Sea, Antarctica: **M A Konfirst**, R P Scherer

0800h **PP31C-1642** *POSTER* Constraining Ice Sheet Histories with the Devil’s Hole Isotopic Record: **A Rhines**, P Huybers

0800h **PP31C-1643** *POSTER* Milankovitch-paced Termination II in a Nevada speleothem: **J D Shakun**, S J Burns, P U Clark, H Cheng, R Edwards

0800h **PP31C-1644** *POSTER* A Phase-Space Model for Pleistocene Ice Volume: **J Z Imbrie**, A Imbrie-Moore, L E Lisiecki

0800h **PP31C-1645** *POSTER* Does the climate jump between several attracting trajectories phase-locked onto the astronomical forcing?: **B De Saedeleer**, M Crucifix, S M Wiczeorek

0800h **PP31C-1646** *POSTER* Transient simulations of the last Glacial Cycle with an AOGCM: **R S Smith**, J M Gregory

0800h **PP31C-1647** *POSTER* The Astronomical Forcing of Climate Change: Forcings and Feedbacks: **M P Erb**, A J Broccoli, A C Clement

PP31D Moscone West: 3005 Wednesday 0800h Reconstruction and Modeling of Global Climate Evolution of the Past 21,000 Years I

Presiding: **B L Otto-Bliesner**, NCAR; **Z Liu**, University of Wisconsin-Madison

0800h **PP31D-01** The Proxy Record of Global Surface Temperature Variations during the Last Deglaciation and Implications for Climate Change Mechanisms (*Invited*): A C Mix, **J D Shakun**, P U Clark

0815h **PP31D-02** WITHDRAWN

0830h **PP31D-03** Northern Hemisphere Meltwater Discharge and the Last Ice-Age Termination (*Invited*): **F He**, Z Liu, B L Otto-Bliesner, P U Clark, A E Carlson, E C Brady, E Brook, J M Lynch-Stieglitz, J E Kutzbach, N A Rosenbloom

0845h **PP31D-04** Arctic Freshwater Forcing of the Younger-Dryas Climate Reversal: **W R Peltier**, V Mariotti

0900h **PP31D-05** New Insights into Antarctic Ice-Sheet Retreat During the Last Sea-Level Rise: **M E Weber**, G Kuhn, P U Clark, D Sprenk

0915h **PP31D-06** Could Subantarctic Mode Water and Antarctic Intermediate Water play a role in the glacial interglacial variations in atmospheric CO₂? A modeling study using NCAR CCSM3 simulations: **C A Hartin**, R A Fine, A C Clement, L C Peterson, I V Kamenkovich

0930h **PP31D-07** High-resolution deep Northeast Pacific radiocarbon record shows little change in ventilation rate during the last deglaciation: **D C Lund**, A C Mix

0945h **PP31D-08** Modeling Northern Peatland dynamics and global land carbon inventories since the Last Glacial Maximum: **R Spahni**, M Steinacher, F Joos

SPA-Aeronomy

SA31A Moscone South: Poster Hall Wednesday 0800h **Connections Between the Lower and Upper Atmosphere and Ionosphere II Posters** (*joint with A*)

Presiding: **RA Akmaev**, NOAA SWPC; **RS Lieberman**, NorthWest Research Associates; **LP Goncharenko**, MIT

0800h **SA31A-1701 POSTER** Study of auroral-zone MSTIDs using 630nm airglow images at Tromsø, Norway and Athabasca, Canada: **M Mori**, K Shiokawa, S Oyama, Y Otsuka, S Nozawa, M G Connors

0800h **SA31A-1702 POSTER** Statistical analysis of nighttime MSTIDs based on airglow imaging observations in the equatorial thermosphere: **D Fukushima**, K Shiokawa, Y Otsuka, T Ogawa

0800h **SA31A-1703 POSTER** VARIATIONS OF THE LEVELS OF THE VLF/LF RADIO SIGNALS ON THE MIDDLE-LATITUDE TRACES DURING THE DEEP SOLAR MINIMUM: **J I Zetzer**, A Lyakhov

0800h **SA31A-1704 POSTER** Propagation direction of the nighttime mesospheric gravity waves in the OH airglow images at Tromsø, Norway in winter 2009: **S Oyama**, K Shiokawa, S Suzuki, S Nozawa, Y Otsuka, M Tsutsumi, C M Hall, C Meek, A H Manson

0800h **SA31A-1705 POSTER** Wave Activity in the Thermosphere from Solar Maximum through Minimum: **E K Sutton**, F A Marcos, C S Lin

0800h **SA31A-1706 POSTER** Longitudinal and seasonal variations of the equatorial ionospheric density and drift velocities during solar minimum : **S Mohapatra**, G D Earle

0800h **SA31A-1707 POSTER** Seasonal, diurnal, and solar cycle variations of the longitudinal wave structure in the low-latitude thermosphere: **Y Kwak**, H Kil, W Lee, K Cho

0800h **SA31A-1708 POSTER** Global signatures and seasonal variations of 630.0 nm nightglow: **J C Chiang**, T Chang, S W Tam, T Huang, C Lin, A B Chen, R Hsu

0800h **SA31A-1709 POSTER** Long-term Observations of Winds and Waves over Bear Lake Observatory: **C S Fish**, J J Sojka, N J Mitchell, M J Taylor, F T Berkey

0800h **SA31A-1710 POSTER** Thermospheric longitudinal structures simulated by the Whole Atmosphere Model (WAM): **RA Akmaev**, F Wu, T J Fuller-Rowell

0800h **SA31A-1711 POSTER** Generating QBO in WACCM using the parameterized inertial gravity waves: **X Xue**, H Liu

0800h **SA31A-1712 POSTER** IS DE2 THE SOURCE OF THE IONOSPHERIC WAVE NUMBER 3 LONGITUDINAL STRUCTURE?: **H Kil**, L J Paxton, W Lee, Z Ren, S Oh, Y Kwak

0800h **SA31A-1713 POSTER** Dynamics of atmospheric gravity waves and ripples in OH airglow images at Maui, HI: **L J Gelinas**, J H Hecht, R L Walterscheid

0800h **SA31A-1714 POSTER** Gravity waves and instabilities in the ionosphere imaged by the Optical Mesosphere Thermosphere Imagers (OMTIs): **K Shiokawa**, M Mori, D Fukushima, Y Otsuka, S Oyama, S Nozawa, M G Connors

0800h **SA31A-1715 POSTER** Effects of convection driven gravity waves on equatorial electrojet plasma irregularities: **E Shume**, E R de Paula, J V Bageston, A Kherani, M M Saba

0800h **SA31A-1716 POSTER** Interannual Comparison of Mesospheric Responses to Stratospheric Sudden Warmings, as Seen in SABER Data, 2002-2010: R H Picard, **P P Wintersteiner**, J R Winick, M G Mlynarczyk, J Russell, T Marshall

0800h **SA31A-1717 POSTER** Investigation of major stratospheric warming effects on atmospheric coupling at high latitudes using the Canadian Middle Atmosphere Model: **M G Shepherd**, S R Beagley, Y Cho, V Fomichev, G G Shepherd

0800h **SA31A-1718** WITHDRAWN

0800h **SA31A-1719 POSTER** The Tropospheric Influence on the Upper Thermospheric Zonal Wind as Observed by CHAMP: **K Haeusler**, H Luhr, J Oberheide

0800h **SA31A-1720 POSTER** Upper Mesospheric Temperatures at Resolute (75 N) in the Context of the QBO, Solar Flux and the Polar Vortex: **G G Shepherd**, Y Cho

0800h **SA31A-1721 POSTER** Mid-latitude Ion Temperature during a Sudden Stratospheric Warming Event: **V W Hsu**, L P Goncharenko, S Zhang, A J Coster, J P Thayer

0800h **SA31A-1722 POSTER** Effects of January 2010 stratospheric sudden warming in the low-latitude ionosphere: **LP Goncharenko**, A J Coster, J L Chau, C E Valladares

0800h **SA31A-1723 POSTER** LONGITUDINAL SIGNATURES IN GLOBAL ELECTRON CONTENT ASSOCIATED WITH SUDDEN STRATOSPHERIC WARMING: **A J Coster**, L P Goncharenko, C E Valladares

SA31B Moscone South: Poster Hall Wednesday 0800h **Heliosphere-Atmosphere Coupling and Climate II Posters** (*joint with A, GC, SM, SH*)

Presiding: **X Fang**, University of Colorado

0800h **SA31B-1724 POSTER** Joint Investigation of Mesospheric Gravity Wave Characteristics and Dynamics over South Pole Station (90°S) during the Austral Winter 2010: **P Pautet**, M J Taylor, B P Williams, S E Palo

0800h **SA31B-1725 POSTER** Comparative study of stratopause at the South Pole and Rothera: **B Tan**, X Chu, H Liu, C Yamashita, V Harvey, C S Gardner, P J Espy

0800h **SA31B-1726 POSTER** Gravity Wave Source Variations and Their Impacts during the 2009 Stratospheric Sudden Warming: **C Yamashita**, H Liu, X Chu

0800h **SA31B-1727 POSTER** Climatology of Upper Stratospheric Lower Mesospheric Disturbances in the Polar Winter: **K Greer**, J P Thayer, V Harvey

0800h **SA31B-1728 POSTER** Stratospheric Sudden Warmings & elevated stratopauses as generated in the Whole Atmosphere Community Climate model: **A Chandran**, R L Collins, R R Garcia, D R Marsh

0800h **SA31B-1729 POSTER** Effect of energetic particle precipitation on the atmosphere as simulated by WACCM: **E D Peck**, C E Randall, X Fang, D R Marsh, V Harvey, M J Mills, C H Jackman

0800h **SA31B-1730 POSTER** Atmospheric Coupling via Energetic Particle Precipitation: **C E Randall**, E D Peck, L A Holt, V Harvey, D R Marsh, X Fang, C H Jackman, M J Mills, S M Bailey

0800h **SA31B-1731 POSTER** Aura Microwave Limb Sounder Upper Stratospheric/Lower Mesospheric (USLM) Carbon Monoxide Observations in Arctic Winter 2009-2010: Analysis of An Anomalous Mixing Event: **G L Manney**, K R Minschwaner, H C Pumphrey, R S Harwood

0800h **SA31B-1732 POSTER** Observation of the Descent of Mesospheric Air above the Arctic during the Northern Winter 2009/2010 using the Tracer CO: **C Hoffmann**, U Raffalski, M Palm, S Golchert, G Hochschild, J Notholt

0800h **SA31B-1733 POSTER** The effect of precipitating particles on middle atmospheric night time ozone during enhanced geomagnetic activity: **M Daae**, P J Espy, D Newnham, N Kleinknecht, M Clilverd

0800h **SA31B-1734** POSTER Satellite and ground based observations of a large-scale electron precipitation event: **R J Gamble**, C J Rodger, M Clilverd, N R Thomson, T Ulich, M Parrot, J Sauvaud, J Berthelier

0800h **SA31B-1735** POSTER Measurement of cosmogenic radionuclide ³⁵S in sulfate aerosol in Antarctica: **A Pandey**, J P Savarino, M H Thiemens

0800h **SA31B-1736** POSTER Sensitivity of magnetospheric energy input into the upper atmosphere from different models to the solar wind speed: **Y Huang**, Y Deng, J Lei, A J Ridley, R E Lopez

0800h **SA31B-1737** POSTER Is the Stratospheric QBO affected by Solar Wind Dynamic Pressure via an Annual Cycle Modulation?: **H Lu**, M J Jarvis

0800h **SA31B-1738** POSTER Inter-annual variability of the middle atmospheric temperature observed by Rayleigh lidars and comparisons with ECMWF and TIMED/SABER results: **T Li**, T Leblanc, I S McDerimid, P Keckhut, K Pérot, M G Mlynczak, J Russell

0800h **SA31B-1739** POSTER Relaxation of vibrationally excited NO by collisions with O₂: **R D Sharma**, J Welsh

0800h **SA31B-1740** POSTER An Empirical Correction for Nitric Oxide Measurements Made by the SOFIE Instrument on the AIM Satellite: **D Gomez Ramirez**, J W McNabb, J M Russell, M E Hervig, L L Gordley, L E Deaver, G Paxton

SA31C Moscone South: 301 Wednesday 0800h
Ionospheric Modification Using High-Power Radio Waves and Atmospheric Processes Studied Using Space Shuttle and Rocket Exhaust I (*joint with SM*)

Presiding: **M Golkowski**, University of Colorado Denver; **M H Stevens**, Naval Research Laboratory; **G Crowley**, ASTRA; **M P Sulzer**, Arecibo Observatory

0800h **SA31C-01** Space Plasma Exploration by Active Radar (SPEAR) induced modifications of the high latitude (78°N) ionosphere observed by both coherent and incoherent radars (*Invited*):

L J Baddeley, I Haggstrom, D M Wright, B Isham, P Gallop

0815h **SA31C-02** Ground Detection of Gyro Resonant Plasma Waves During High Power Radio Waves Experiments at HAARP (*Invited*): **P A Bernhardt**, T R Pedersen, E A Kendall

0830h **SA31C-03** Artificial Ionospheric Layer Production at Higher Gyroharmonics (*Invited*): **T R Pedersen**, M McCarrick, J M Holmes

0845h **SA31C-04** D-Region Modification at HAARP: An Overview of Recent Experimental Results Obtained by the University of Florida (*Invited*): **R C Moore**

0900h **SA31C-05** Spatial Power Distribution of ELF Radiation Induced by HF Heating of the Ionosphere: **D Piddychiy**, T F Bell, U S Inan, M Cohen, N G Lehtinen, M Parrot

0915h **SA31C-06** L-Band Ionosphere Scintillations Observed by A Spaced GPS Receiver Array during Recent Active Experiments at HAARP: **Y Morton**, W Pelgrum, F van Graas, S Gunawardena, D Charney, S Peng, J Triplett, P Vikram, A Vemuru

0930h **SA31C-07** First joint measurements of the overshoot effect of Polar Mesospheric Summer Echoes (PMSE) at 54 and 224 MHz excited by artificial electron heating: **C La Hoz**, O Havnes, M Rietveld

0945h **SA31C-08** EXPLORING THE BEHAVIOR OF THE O AND X-MODE ARTIFICIAL FIELD ALIGNED IRREGULARITIES AT THE E REGION UPPER HYBRID HEIGHT: **E Nossa**, D L Hysell

SPA-Solar and Heliospheric Physics

SH31A Moscone South: Poster Hall Wednesday 0800h
Comparing MHD Models to Observations in the Sun: From the Interior to the Heliosphere I Posters

Presiding: **P G Judge**, NCAR

0800h **SH31A-1781** POSTER Simulation of Flux Emergence in Solar Active Regions: **F Fang**, W B Manchester, W P Abbett, B van der Holst, C J Schrijver

0800h **SH31A-1782** POSTER Realistic MHD Simulations of Formation of Sunspot-like Structures and Comparison with Observations: **I N Kitiashvili**, A G Kosovichev, N N Mansour, A A Wray

0800h **SH31A-1783** POSTER Magnetic Field Measurements at the Photosphere and Coronal Base: **P G Judge**, R Centeno, A Tritschler, H Uitenbroek, S Jaeggli, H Lin

0800h **SH31A-1784** POSTER Line profile asymmetries in the transition region: models and observations: **J Martinez-Sykora**, B De Pontieu, V H Hansteen, S W McIntosh

0800h **SH31A-1785** POSTER Twistness and Connectivity of Magnetic Field Line in the Solar Active Region NOAA 10930: **S Inoue**, K Kusano, T Magara

0800h **SH31A-1786** POSTER Creating synthetic coronal observational data from MHD models: the forward technique: **L A Rachmeler**, S E Gibson, J Dove, T A Kucera

0800h **SH31A-1787** POSTER The 2009 Heliosphere Campaign: MESSENGER Data Analysis and Preliminary Results: **E A Jensen**, M M Bisi, A Breen, I V Chashei, M Tokumaru, F Vilas

0800h **SH31A-1788** POSTER Ionization non-equilibrium plasma during magnetic reconnection in solar corona: **S Imada**, I Murakami, T Watanabe, H Hara, T Shimizu

0800h **SH31A-1789** POSTER Testing the vector tomography method for 3D reconstruction of the coronal magnetic field for different coronal field models: **M Kramar**, H Lin, B Inhester

0800h **SH31A-1790** WITHDRAWN

0800h **SH31A-1791** POSTER On tether-cutting reconnection in sheared coronal arcades: **B J Lynch**, Y Li, S K Antiochos, C R DeVore, G H Fisher

0800h **SH31A-1792** POSTER Modelling the coronal helium abundance with low helium heating rates: **H Byhring**, R Esser, O Lie-Svendsen

0800h **SH31A-1793** POSTER Cross-helicity turbulence model: Application to MHD phenomena from solar convection zone to heliosphere: **N YOKOI**, I N Kitiashvili, A G Kosovichev

0800h **SH31A-1794** POSTER Solar Moss Patterns: MHD Turbulence, Reconnection Heating in Coronal Loops, and Magnetic Connection to the Footpoints: R Kittinaradorn, **D J Ruffolo**, W H Matthaeus

0800h **SH31A-1795** POSTER Self-Consistent Solar Wind Model Driven by a Turbulent Spectrum of Alfvén Waves: **R Oran**, I Sokolov, B van der Holst, T I Gombosi

SH31B Moscone South: Poster Hall Wednesday 0800h
Global Solar Magnetic Data as Drivers of Coronal Models I Posters

Presiding: **C J Henney**, AFRL; **C N Arge**, Air Force Research Laboratory

0800h **SH31B-1796** POSTER The Impact of Different Global Photospheric Magnetic Field Maps on Coronal Models: **L Bertello**, G J Petrie, T Tran

0800h **SH31B-1797** POSTER Ensemble Solar Global Magnetic Field Modeling: **C J Henney**, C N Arge, J Koller, W A Toussaint, S L Young, J W Harvey

0800h **SH31B-1798** POSTER Photospheric synoptic magnetograms, potential-field models and observed global coronal structure:

G J Petrie, L Bertello, T Tran

0800h **SH31B-1799** POSTER A Parametric Study to Constrain Empirically-based Models of the Ambient Solar Wind: **P Riley**, J A Linker, Z Mikic

0800h **SH31B-1800** POSTER Testing the PFSS Model Using Coronal Streamer Locations Derived From LASCO, STEREO, EIT, and AIA Imagery: **G L Slater**, N V Nitta

0800h **SH31B-1801** POSTER Comparative Analyses of Productive and Non-productive Active Regions based on SDO/HMI Observations using a Three-dimensional Magnetohydrodynamic Data-driven Active Region Evolution Model (DDAREM): **A Wang**, S Wu, Y Liu

**SH31C Moscone South: Poster Hall Wednesday 0800h
Multispacecraft Observations of Coronal Heating During the Rise of Solar Cycle 24 I Posters**

0800h **SH31C-1802** POSTER A Unified Model for Chromospheric and Coronal Heating Driven by Small-Scale Random Footpoint Motions: **A A Van Ballegooijen**, S R Cranmer, M Asgari-Targhi, E E DeLuca

0800h **SH31C-1803** POSTER Center-to-Limb Variation in the Solar HeII 30.4 nm Emission Line from STEREO EUVI: **L E Floyd**, D R McMullin, F Auchere

0800h **SH31C-1804** POSTER Testing Nonuniform Heating RTV-Type Models of Coronal Loops with 3D Differential Emission Measure Tomography: **Z Huang**, R A Frazin, W B Manchester

0800h **SH31C-1805** POSTER An Investigation of Solar Coronal Bright Points Based on EUV Spectra Obtained with EUNIS-07: **R Schaefer**, J W Brosius, F Bruhweiler, D M Rabin, R Thomas, T Wang

0800h **SH31C-1806** POSTER SIZE AND LIFE TIME DISTRIBUTIONS OF BRIGHT POINTS IN THE QUIET SUN PHOTOSPHERE: **V Abramenko**, V Yurchyshyn, P R Goode

0800h **SH31C-1807** POSTER PHOTOSPHERE-CHROMOSPHERE CONNECTION AS DERIVED FROM NST OBSERVATIONS: **V Yurchyshyn**, V Abramenko, P R Goode

0800h **SH31C-1808** POSTER Heating of the solar atmosphere by strong damping of Alfvén waves: **P Song**, V M Vasyliunas

0800h **SH31C-1809** POSTER High-Lundquist Number Scaling Analysis on the Parker's Model of Solar Coronal Heating due to Random Photospheric Footpoint Motion: **C Ng**, L Lin, A Bhattacharjee

0800h **SH31C-1810** POSTER Generation of electric currents in the chromosphere via neutral-ion drag: **V Krasnoselskikh**, G Vekstein, H S Hudson, S Bale, W P Abbett

0800h **SH31C-1811** POSTER Thermal Nonequilibrium Revisited: a Heating Model for Coronal Loops: **R Lionello**, A R Winebarger, J A Linker, Z Mikic, Y Mok

**SH31D Moscone South: 309 Wednesday 0800h
Initiation, Evolution, and Interaction of Coronal Mass Ejections, Corotating Interaction Regions, and Interplanetary Shocks From the Sun to 1 AU II (joint with SM)**

Presiding: **S P Plunkett**, Naval Research Laboratory; **S Wu**, Univ Alabama Huntsville

0800h **SH31D-01** Hinode, STEREO and SOHO observations of a CME event: **E Landi**, J C Raymond, M P Miralles, H Hara

0814h **SH31D-02** On the Causes of Plasmoid Acceleration and the Change of Magnetic Reconnection Rate in a Resistive MHD Simulation: **H Yu**, L Lyu, S Wu

0828h **SH31D-03** Space Weather Conditions at the Time of the Galaxy 15 Spacecraft Anomaly (*Invited*): **W F Denig**, J C Green, D C Wilkinson, J V Rodriguez, H J Singer, P T Loto'aniu, D A Biesecker, W Murtagh

0846h **SH31D-04** Inferring Magnetic Field Structure of Flux Rope CMEs from STEREO Imaging and In Situ Observations: **B E Wood**, R A Howard, D G Socker

0900h **SH31D-05** Solar Mass Ejection Imager (SMEI) 3-D Reconstructions of CMEs, CIRs and Interplanetary Shocks, and Comparison with In-situ Data: **B V Jackson**, J M Clover, P P Hick, A Buffington, M M Bisi

0914h **SH31D-06** The Orientation of Coronal Mass Ejections (*Invited*): **R A Howard**

0932h **SH31D-07** EXPLORING WITH MULTIPLE SPACECRAFT THE SCENE OF THE TRAVELING STRONG SHOCK AND ITS DRIVER: **D B Berdichevsky**, C Wu, D V Reames, R J MacDowall, C J Farrugia

0946h **SH31D-08** STEREO observations of waves associated to interplanetary shocks driven by stream interactions: **X Blanco-Cano**, E Aguilar-Rodriguez, J Ramirez Velez, C T Russell, L Jian, J G Luhmann

SPA-Magnetospheric Physics

**SM31A Moscone South: Poster Hall Wednesday 0800h
Heliophysics Data Environment: Success Stories and Lessons Learned I Posters (joint with SH, SA)**

Presiding: **T A King**, UCLA; **J R Thieman**, NASA

0800h **SM31A-1848** POSTER Geotail EPIC – The New Data Services and Future Plan: **S W Hsieh**, A Lui, S R Nylund, J D Vandegriff, S P Christon

0800h **SM31A-1849** POSTER Multi-Spacecraft Analysis with Generic Visualization Tools: **J Mukherjee**, L Vela, C Gonzalez, S Jeffers

0800h **SM31A-1850** POSTER Uniform Access to Heliophysics Time Series Data: **J D Vandegriff**, L E Brown, M Johnson, D De Zeeuw

0800h **SM31A-1851** POSTER Making Science Data Available While Building an Instrument: A Heliolib Uniform Data Model Example: **L E Brown**, J D Vandegriff, D K Haggerty, M E Hill, B H Mauk

0800h **SM31A-1852** POSTER RST: The software framework behind the SuperDARN, SuperMAG and AMPERE data centers: **M Potter**, R J Barnes, E R Talaat, E S Miller

0800h **SM31A-1853** POSTER Demonstration of NICT Space Weather Cloud –Integration of Supercomputer into Analysis and Visualization Environment–: S Watari, **Y Morikawa**, K Yamamoto, S Inoue, K Tsubouchi, K Fukazawa, E Kimura, O Tatebe, H Kato, S Shimojo, K T Murata

0800h **SM31A-1854** *POSTER* Inter-university Upper atmosphere Global Observation NETwork (IUGONET): **H Hayashi**, Y Tanaka, T Hori, Y Koyama, M Kagitani, A Shinbori, S Abe, T Kouno, D Yoshida, S UeNo, N Kaneda, Title of Team: IUGONET project team

0800h **SM31A-1855** *POSTER* Electric-Magnetic-Waves Resident Archive for Polar (EMWRAP): **R Hart**, P J Chi, J Faden, L J Granroth, J D Menietti, F S Mozer, C T Russell, J Vernetti

0800h **SM31A-1856** *POSTER* RESTful Access to NOAA's Space Weather Data and Metadata: **E A Kihn**, P R Elespuru, M Zhizhin

0800h **SM31A-1857** *POSTER* Things That Work: Roles and Services of SPDF: **R E McGuire**, D Bilitza, R M Candey, R A Chimiak, J F Cooper, L N Garcia, D B Han, B T Harris, R C Johnson, J H King, T J Kovalick, N Lal, H A Leckner, M H Liu, N E Papatashvili, D Roberts

0800h **SM31A-1858** *POSTER* The Virtual Model Repository: Data/Model Visualization Benefits of Collaboration: **D De Zeeuw**, A J Ridley, L Rastaetter, J D Vandegriff, R S Weigel

0800h **SM31A-1859** *POSTER* Searching Across Multiple Datasets with the Virtual ITM Observatory: **D Morrison**, M Weiss, E A Immer, D Patrone, M Potter, R J Barnes, C Colclough, R Holder, R E McGuire, R M Candey, D Bilitza, B Harris

0800h **SM31A-1860** *POSTER* Interplanetary Magnetic Field Power Spectrum Variations: A VHO Enabled Study: **A Szabo**, A Koval, J Merka, T W Narock

0800h **SM31A-1861** *POSTER* Successful Approaches for Data Discovery: Illustrated with the Virtual Magnetospheric Observatory: **T A King**, R J Walker, J Merka, L F Bargatze, J M Weygand

0800h **SM31A-1862** *POSTER* SPASE 2010 - Providing Access to the Heliophysics Data Environment: **J R Thieman**, T A King, D Roberts, Title of Team: SPASE Consortium

0800h **SM31A-1863** *POSTER* The VHO, VMO, and VEPO: What do we offer and how are we being used?: **M A Alaimo**, T W Narock, J Merka, A Szabo, R J Walker, T A King, J F Cooper

0800h **SM31A-1864** *POSTER* Using Autoplot in the Heliophysics Data Environment: **J B Faden**, R S Weigel, R H Friedel

0800h **SM31A-1865** *POSTER* The Virtual Radiation Belt Observatory: **R S Weigel**, T P O'Brien, R H Friedel, J C Green, M Zhizhin, D Y Mishin

SM31B Moscone South: Poster Hall Wednesday 0800h
Progress in Modeling Kinetic-Global Coupling in Space Weather I Posters (*joint with SH*)

Presiding: **P H Yoon**, University of Maryland

0800h **SM31B-1866** *POSTER* Analyses of the Recent Space Weather Events Using a Suite of Models and Observations: **Y Zheng**, A Pulkkinen, A Taktakishvili, M Hesse, M M Kuznetsova, L Rastaetter, Q Zheng, M H Fok

0800h **SM31B-1867** *POSTER* The role of small-scale features in the magnetotail in substorm development: **E M Harnett**, M D Cash, R Winglee

0800h **SM31B-1868** *POSTER* Multi-Scale Modeling of Global Magnetosphere Structure and Dynamics: **M M Kuznetsova**, M Hesse, L Rastaetter, G Toth, D De Zeeuw, T I Gombosi

0800h **SM31B-1869** *POSTER* OpenGGCM-CRCM simulation results of the 22 July 2009 storm compared with TWINS and THEMIS observations: **A Vapirev**, J Raeder, M H Fok, J Goldstein, V Angelopoulos, A Glocer, D J McComas, J A Redfern

0800h **SM31B-1870** *POSTER* A statistical model of magnetic islands in a large current layer: validation from Hall MHD simulations and Cluster FTE observations: **R L Fermo**, J F Drake, M M Swisdak, K Hwang, Y Wang

0800h **SM31B-1871** *POSTER* The effect of the magnetic field stretching on the development of the ring current: **R Ilie**, G Toth, M W Liemohn, R M Skoug

0800h **SM31B-1872** *POSTER* Hall Magnetohydrodynamics Simulations of Separator Collapse: **J Dorelli**

0800h **SM31B-1873** *POSTER* Multiscale Modeling of Solar Coronal Magnetic Reconnection: **S K Antiochos**, J T Karpen, C R DeVore

0800h **SM31B-1874** *POSTER* Coupling global and kinetic scales with the implicit Particle-in-Cell methods: S Markidis, **G Lapenta**

0800h **SM31B-1875** *POSTER* High-Resolution Numerical Simulations of Breakout Coronal Mass Ejections: **C R DeVore**, J T Karpen, S K Antiochos

0800h **SM31B-1876** *POSTER* Ion foreshock and magnetosheath properties in global hybrid simulations: **D Hercik**, P M Travnicek, D Schriver, P Hellinger

0800h **SM31B-1877** *POSTER* Low-Dimensional Dynamical Model of the Solar Wind Driven Magnetopause: **C E Correa**, M L Mays, W Horton, S Patra

0800h **SM31B-1878** *POSTER* Multi-Scale Observations of Magnetic Reconnection at the Subsolar Magnetopause: **A Retinò**, A Vaivads, Y V Khotyaintsev, R Nakamura, F Sahraoui, W Baumjohann, M Fujimoto

0800h **SM31B-1879** *POSTER* Dynamics of particle entries within the cusp boundary deformed during the IMF rotation from Northward to Dawn-Dusk : 3-D PIC large scale simulation: **D Cai**, B Lembege, K Nishikawa, A Esmaeili

SM31C Moscone South: 307 Wednesday 0800h
Dynamics in the Saturnian Magnetosphere II (*joint with P*)

Presiding: **J S Leisner**, University of Iowa; **A Masters**, Mullard Space Science Laboratory

0800h **SM31C-01** Global MHD simulations of the interaction between Saturn's magnetosphere and the solar wind (*Invited*): **X Jia**, K C Hansen, T I Gombosi, M G Kivelson, G Toth, D De Zeeuw, A J Ridley

0821h **SM31C-02** Three Dimensional Bow Shock Structure and Dynamics: **M K Dougherty**, D R Went, G B Hospodarsky, K C Hansen, A Masters

0836h **SM31C-03** Comparisons of the Suprathermal He⁺ Spectrum in Saturn's Magnetosphere with the Pickup He⁺ Spectrum Upstream of Saturn's Bow Shock: **D C Hamilton**, R D DiFabio, S P Christon, S M Krimigis, D G Mitchell

0851h **SM31C-04** Periodicities in Saturn's Magnetosphere: A Riddle Wrapped in a Mystery, Inside an Enigma (*Invited*): **M G Kivelson**

0912h **SM31C-05** Modeling a Rotating Partial Ring Current in the Saturn's Magnetosphere as a Source of B-field Periodicities: A Progress Report: N A Tsyganenko, **P C Brandt**, K K Khurana, M K Dougherty

0927h **SM31C-06** Variations in the Rotational Modulation of Saturn Kilometric Radiation and Their Relationship to Magnetic Periodicities Observed Before and Near Equinox: **D A Gurnett**, J B Groene, A M Person, W S Kurth, M G Kivelson, K K Khurana, D J Southwood, M K Dougherty

0942h **SM31C-07** Intrinsic wave properties of Saturn Kilometric Radiation and evolution with propagation: **L Lamy**, B Cecconi, P M Zarka, Title of Team: and Cassini/RPWS, MAG and CAPS teams

SM31D Moscone South: 305 Wednesday 0800h
Magnetospheric and Auroral Acceleration: Cause and Effect II

Presiding: C Watt, University of Alberta; R Rankin, University of Alberta; DJ Knudsen, University of Calgary

0800h **SM31D-01** Auroral Acceleration, Solar Wind Driving, and Substorm Triggering (*Invited*): P T Newell, K Liou

0820h **SM31D-02** Identification of Quasi-Static Potential Structure (Inverted-V) and Aflvenic Auroral Acceleration and the Ambiguity of "Broadband Acceleration" (*Invited*): J P Dombek, C A Cattell, J R Wygant, J P McFadden, R J Strangeway

0840h **SM31D-03** Necessary Conditions For Establishing Quasi-Stable Double Layers in Earth's Auroral Upward Current Region: D S Main, D Newman, R E Ergun

0853h **SM31D-04** What Supports the Parallel Electric Field in the Turbulent Birkeland Current Regions of the Earth's Magnetosphere? A New Paradigm: J R Jasperse, B Basu, E J Lund

0906h **SM31D-05** The Evolution of Auroral Forms and Vorticity on Small-Scales (*Invited*): C C Chaston, K Seki, T Sakanoi, K Asamura, M Hirahara

0926h **SM31D-06** Observational Tests of Auroral Theories: D J Knudsen, E F Donovan, E L Spanswick, R Kabirzadeh

0939h **SM31D-07** Diffuse Shock-Aurora: the Characteristics, Evolution and Cause (*Invited*): X Zhou

Study of Earth's Deep Interior

DI31A Moscone South: Poster Hall Wednesday 0800h
Observations and Dynamics of Subducted Slabs I Posters (*joint with S, T, MR*)

Presiding: D R Stegman, UC San Diego; E M Syracuse, University of Wisconsin-Madison

0800h **DI31A-1930** POSTER On the Cause of Shallow Subducting Slabs: S Skinner, R W Clayton

0800h **DI31A-1931** POSTER Effects of trench migration on fall of stagnant slabs into the lower mantle: S Yoshioka, A Naganoda

0800h **DI31A-1932** POSTER 2D numerical modelling of intra-oceanic arc extension and trench migration: B Baitsch Ghirardello, T Gerya

0800h **DI31A-1933** POSTER Distribution of hydrous minerals in the Cocos oceanic crust inferred from receiver function analysis: Y Kim, R W Clayton, J M Jackson

0800h **DI31A-1934** POSTER Thermomechanical models for dynamics and magma generation in the Mariana subduction system: S Lin, B Kuo, S Chung

0800h **DI31A-1935** POSTER The effect of a realistic thermal diffusivity on numerical model of a subducting slab: P Maierova, G Steinle-Neumann, O Cadek

0800h **DI31A-1936** POSTER Development of common conversion point stacking of receiver functions for detecting subducted slabs: Y Abe, T Ohkura, K Hirahara, T Shibusaki

0800h **DI31A-1937** POSTER Influence of the thermal state of the overriding plate on subduction dynamics and slab geometry: J Rodriguez-Gonzalez, A M Negredo, M I Billen

0800h **DI31A-1938** POSTER Sensitivity of the short-to-intermediate wavelength geoid to rheologic structure in subduction zones: J M Hines, M I Billen

0800h **DI31A-1939** POSTER Modelling lithospheric ageing during subduction: Implications for the Izu-Bonin-Mariana trench migration: E Di Giuseppe, C Faccenna, F Funicello, J Van Hunen, S Lallemand

0800h **DI31A-1940** POSTER Preliminary models of normal fault development in subduction zones: lithospheric strength and outer rise deformation: J B Naliboff, M I Billen

0800h **DI31A-1941** POSTER Decoupling of Pacific subduction zone guided waves: T Garth, A Rietbrock

0800h **DI31A-1942** POSTER Dynamics of retreating subduction: insights from numerical models: V Magni, J Van Hunen, F Funicello, C Faccenna

0800h **DI31A-1943** POSTER Three-dimensional attenuation and velocity structure of the Cocos subduction zone in Mexico: T Chen, R W Clayton

0800h **DI31A-1944** POSTER Improving Slab 1.0 Subduction Zone Models Using Regional Constraints from the Eastern Pacific: F A Martinez-Torres, G P Hayes

0800h **DI31A-1945** POSTER Testing the Trench Parallel Flow Hypothesis with 3D Dynamic Calculations: T Maiti, S D King

0800h **DI31A-1946** POSTER A dominant shear zone and other modes of deformation in the deep Tonga slab: R Gesserman, D A Wiens

0800h **DI31A-1947** POSTER Deformation and Geometry of Subducted Lithosphere from an Analysis of Global Centroid Moment Tensor Data: L A Alpert, I W Bailey, T W Becker

0800h **DI31A-1948** POSTER Non-elastic Plate Weakening at Tonga, Costa Rica and Japanese Subduction Zones: K Arredondo, M I Billen

0800h **DI31A-1949** POSTER The Slab Induced Waveform Effects as Revealed by the TAIGER Seismic Array: P Chen, H Kuo-Chen, C Wang, B Huang, C Chen, W Liang

0800h **DI31A-1950** POSTER Receiver function images beneath Kii Peninsula, southwest Japan with an improved procedure: Y Nakagawa, T Shibusaki, Y Abe, H Kawakata, I Doi

0800h **DI31A-1951** POSTER Numerical Experiments on the Thermal Structure of Deep Subducted Lithosphere: Deformation Regimes, Associated Thermal Anomalies and Comparison with Present-Day Seismic Imprints: L Guillou-Frottier, C Loiselet

0800h **DI31A-1952** POSTER SUBDUCTING SLABS: JELLYFISHES IN THE EARTH'S MANTLE: C Loiselet, J Braun, L Husson, C Le Carlier de Veslud, C Thieulot, P Yamato, D Grujic

0800h **DI31A-1953** POSTER Imaging subducted slabs using seismic arrays in the Western Pacific: H L Bentham, S Rost

0800h **DI31A-1954** POSTER Modeling the migration of fluids in subduction zones: M Spiegelman, C R Wilson, P E Van Keken, B R Hacker

0800h **DI31A-1955** POSTER Modeling of Mantle Convection in 3D Subduction Zones: A K Bengtson, P E Van Keken, S Lin, E A Kneller

0800h **DI31A-1956** POSTER A slab tear between the Hellenic and Cyprus arcs : toward a better understanding of the contribution of mantle flow to regional surface dynamics: G Salaun, A Paul, H Pedersen, H Karabulut, A K Mutlu, Title of Team: SIMBAAD team

0800h **DI31A-1957** POSTER A Comparison of Regional 3-D Subduction Models in the Western Pacific to Subduction Models from Slab1.0: A Lopez, G P Hayes

0800h **DI31A-1958** POSTER Fine-scale structure along the transition from flat to normal subduction in central Mexico: S L Dougherty, R W Clayton, D V Helmlinger, V M Andrews

DI31B Moscone West: 3022 Wednesday 0800h
Imaging and Understanding the Electrical Conductivity of Earth's Mantle: Lab Measurements, Regional and Global Studies, and Physical Interpretations II (joint with GP, MR, SM, T, S)

Presiding: A Kelbert, Oregon State University; J A Tyburczy, Arizona State University

0800h **DI31B-01** Water Distribution Around the Mantle Transition Zone Constrained by Electrical Conductivity Observations and Its Implications for the Global Material Circulation (*Invited*): **S Karato**

0815h **DI31B-02** Deep dehydration and physical and chemical nature of the mantle above the stagnant slab (*Invited*): **E Ohtani**, D Zhao, T Kuritani, F C Tajima

0830h **DI31B-03** Hydrous Silicate Melts in the Earth's Asthenosphere: Evidence from Electrical Conductivity Measurements: **H Ni**, H Keppler, H Behrens

0845h **DI31B-04** Laboratory-based conductivity structure in the mantle transition zone: **T Yoshino**, T Katsura, A Shimokuni

0900h **DI31B-05** WITHDRAWN

0915h **DI31B-06** Electrical conductivity at around 400 km depth in the western Pacific subduction region (*Invited*): **K Baba**, H Utada, H Shimizu

0930h **DI31B-07** Effects of Composition, Melt, and Fluids on Electrical Resistivity With Application to Magnetotelluric Investigations: **D P Hasterok**, P A Bedrosian, S Constable, P E Wannamaker

0945h **DI31B-08** Comparative study on water content in the asthenosphere and the transition zone beneath the Northwest Pacific Ocean: **H Toh**, Y Hamano

Mineral and Rock Physics

MR31A Moscone South: Poster Hall Wednesday 0800h
Stability, Elasticity, and Rheology of Hydrous Phases: Geodynamical Implications III Posters (joint with S, DI, T, V)

Presiding: B Reynard, CNRS

0800h **MR31A-1974** POSTER Elasticity of Single-Crystal Quartz to 10 GPa: **J Wang**, Z Mao, F Jiang, T S Duffy

0800h **MR31A-1975** POSTER Compressibility of vitreous silica by high pressure X-ray microtomography: **A N Clark**, C E Leshner, S Sen, S J Gaudio, Y Wang

0800h **MR31A-1976** POSTER Equation of State of Antigorite at High Pressure and Temperature: **T Watanabe**, S Urakawa, T Kikegawa

0800h **MR31A-1977** POSTER Permeability anisotropy of serpentinite and fluid migration in subduction zones: **S Kawano**, I Katayama, K Okazaki

0800h **MR31A-1978** POSTER Deformation experiments of serpentinite under high pore pressure and hydrothermal conditions: **K Okazaki**, I Katayama, M Takahashi, K Masuda

0800h **MR31A-1979** POSTER Elastic wave velocity and acoustic emission monitoring during Gypsum dehydration under triaxial stress conditions: **N Brantut**, E C David, E Héripré, A J Schubnel, R W Zimmerman, Y Gueguen

0800h **MR31A-1980** POSTER Interaction of CO₂ and brines with montmorillonite to 400 bars and 45°C: A F Koster van Groos, **P A Giesting**, S Guggenheim, A Busch

0800h **MR31A-1981** POSTER Water Solubility Studies in Lower Mantle Perovskite by Fourier Transform Infrared Spectroscopy:

G Amulele, K Otsuka, C Sanchez, K K Lee, S Karato, Z Liu, Z Chen

0800h **MR31A-1982** POSTER Thermal conductivity of serpentinite in subducting slabs: Measurements at high pressure and temperature: **M Mookherjee**, G M Manthilake, N de Koker, D J Frost

0800h **MR31A-1983** POSTER High pressure synchrotron x-ray powder diffraction and infrared spectroscopy study on brucite: M Ma, **W Liu**, Z Chen, Z Liu, B Li

0800h **MR31A-1984** POSTER Crystallographic preferred orientation (CPO) of antigorite from the Motagua fault zone, Guatemala: Implications for subduction zone seismic anisotropy: **S J Brownlee**, G Seward, B R Hacker, G E Harlow

0800h **MR31A-1985** POSTER In situ observation of the pressure-induced phase transitions of portlandite and influential factors on the pressure response: **R Iizuka**, K Komatsu, H Kagi, S Nakano

0800h **MR31A-1986** POSTER Hydrometer in the mantle: $\ln(V_s)/\ln(V_p)$: **L Li**, D J Weidner

0800h **MR31A-1987** POSTER Hydrogen bond symmetrization and equation of state of phase D: **A Hushur**, M H Manghnani, D Lonappan, J R Smyth, Y Ye, P K Dera, D J Frost, E Hellebrand

0800h **MR31A-1988** POSTER Effect of water on high pressure and high temperature deformation of olivine single crystal [110]c and [011]c and quantification of activation volumes: **J GIRARD**, J Chen, P C Raterron, C W Holyoke

0800h **MR31A-1989** POSTER Dehydration softening of serpentine and its roles in the intermediate-depth earthquakes: **I Shimizu**, Y Watanabe, K Michibayashi

MR31B Moscone West: 3024 Wednesday 0800h
Planetary Ices: From Deep Interiors to Astrobiology II (joint with P)

Presiding: I Daniel, Universite de Lyon; **B Militzer**, Univ of CA-Berkeley; **R M Mastrapa**, SETI Institute/NASA Ames

0800h **MR31B-01** Phase behavior and thermodynamic modeling of ices – implications for the geophysics of icy satellites. (*Invited*): **M Choukroun**

0815h **MR31B-02** Simultaneous Measurements of Sound Velocity and X-ray Diffraction of Ice VII to 19 GPa and 873 K: **L Sang**, D Farber, C Aracne, J D Bass

0830h **MR31B-03** Ab Initio Simulations of Water Ice at Megabar Pressures: **B Militzer**, H F Wilson

0845h **MR31B-04** Reactivity of Xe with ice at extreme P-T conditions: **C Sanloup**, M Hochlaf, H Maynard-Casely, E Gregoryanz, M Mezouar

0900h **MR31B-05** Molecular H₂O in Microporous Silicates: Thermodynamically Ice-Like?: **C A Geiger**, E Dachs, M Dalconi, G Artilo

0915h **MR31B-06** EXPERIMENTAL SHOCK SYNTHESIS OF PRE-BIOTIC COMPOUNDS FROM OUTER SOLAR SYSTEM SURFACE ICE ANALOGUES (*Invited*): **M C Price**, Z Martins, K Miljkovic, M Burchell, A T Kearsley, M J Cole

0930h **MR31B-07** Strain history effects on the plastic and anelastic properties of planetary ice: **C McCarthy**, J C Castillo, R F Cooper

0945h **MR31B-08** Intragranular strain field in columnar ice during elasto-viscoplastic transient creep regime: F Grennerat, M Montagnat, **O Castelnau**, P Duval, P Vacher

Seismology

S31A Moscone South: Poster Hall Wednesday 0800h **Advances in Inverse Problems and Seismic Tomography I** **Posters** (joint with T, DI, NS, NG)

Presiding: **A Pica**, CGGVeritas

0800h **S31A-1998** POSTER Hunting for plumes in the mantle using whole seismograms: **F Rickers**, A Fichtner, J Trampert

0800h **S31A-1999** POSTER Measurements of translation, rotation and strain: New approaches to seismic processing and inversion: M Bernauer, A Fichtner, **H Igel**

0800h **S31A-2000** POSTER Overcoming uneven ray coverage in crustal seismic tomography of the Three Gorges Reservoir, China: **H Zhou**, Z Zou

0800h **S31A-2001** POSTER Toward a Joint Inversion for Global Mantle Shear Velocity and Discontinuity Topography by Incorporating SS Precursor Waveforms into NACT: **Z Zheng**, B A Romanowicz

0800h **S31A-2002** POSTER Toward global waveform tomography of the whole mantle using SEM: Efficient simulation of the global wavefield using a homogenized crust: **S W French**, V Lekic, B A Romanowicz

0800h **S31A-2003** POSTER RegSEM, a flexible regional Spectral Element code: application to continental scale problems: **P Cupillard**, H Yuan, B A Romanowicz, Y Capdeville, J Montagner, G Festa

0800h **S31A-2004** POSTER Seismic Tomography of the South Carpathian System: **G W Stuart**, Y Ren, B D Dando, G Houseman, C Ionescu, E Hegedus, S Radovanovic, Title of Team: South Carpathian Project Working Group

0800h **S31A-2005** POSTER Towards Multi-resolution Adjoint Tomography of the European Crust and Upper Mantle: **P Basini**, T Nissen-Meyer, L Boschi, O Schenk, J Verbeke, S Hanasoge, D Giardini

0800h **S31A-2006** POSTER P-wave Local Earthquake Tomography in the Central Alborz Mountains, Iran: **A Mostafanejad**, Z Hosein Shomali

0800h **S31A-2007** POSTER Impact of deep mantle structural heterogeneities on core-diffracted traveltimes: constraints on full-wave Born sensitivity kernel tomography: **E Beucler**, Y Capdeville, A Fournier, T Nissen-Meyer

0800h **S31A-2008** POSTER SORD as a Computational Platform for Earthquake Simulation, Source Imaging, and Full 3D Tomography: **F Wang**, G P Ely, T H Jordan

0800h **S31A-2009** POSTER Seismic Velocity Structure of the San Jacinto Fault Zone from Double-Difference Tomography and Expected Distribution of Head Waves: **A A Allam**, Y Ben-Zion

0800h **S31A-2010** POSTER Validation of 3D Southern California Velocity model CVM-H6.2 Based on Ambient Seismic Noise: **Q Liu**, C Tape, Y Luo, J Tromp, Y Yang

0800h **S31A-2011** POSTER Adjoint tomography of Europe: **H Zhu**, E Bozdag, D B Peter, J Tromp

0800h **S31A-2012** POSTER Towards Global Adjoint Tomography: **E Bozdag**, H Zhu, D B Peter, J Tromp

0800h **S31A-2013** POSTER Tomographic data selection as wave-based optimization problem: **T Nissen-Meyer**, A Fournier

0800h **S31A-2014** POSTER The scale dependence of finite-frequency effects in traveltimes and amplitudes: **Y Zhou**

0800h **S31A-2015** POSTER Teleseismic Migration Velocity Analysis Using an Image Cross-Correlation Criterion: **S A Burdick**, M V de Hoop, R D van der Hilst

0800h **S31A-2016** POSTER Imaging the slab beneath central Chile using the Spectral Elements Method and adjoint techniques: **E D Mercerat**, G Nolet, M Marot, P Deshayes, T Monfret

0800h **S31A-2017** POSTER Evaluation of Tomographic Inverse Models Resolved from Various Travel-time Theories and Parameterizations: **Y Chang**, S Hung, L Chiao, H Yang

0800h **S31A-2018** POSTER Crustal nature along the African - Anatolian collision Zone: **M Kahraman**, N Turkelli, U M Teoman, S Sahin, E A Sandvol, R Gok

0800h **S31A-2019** POSTER Ultrasonic survey and monitoring of the excavation damaged zone in callovo-oxfordian argillaceous rock: **C Balland**, J Morel

0800h **S31A-2020** POSTER Low-Q structure beneath The Geysers area in the northern California: **M Matsubara**

0800h **S31A-2021** POSTER Sensitivities Kernels of Seismic Traveletimes and Amplitudes for Quality Factor and Boundary Topography: **M Hsieh**, L Zhao, K Ma

0800h **S31A-2022** POSTER Radial Anisotropy from Regional Surface Wave Tomography with the Presence of Multipathing Interference: **A Li**

0800h **S31A-2023** POSTER MODELING THE EFFECTS OF CRUSTAL STRUCTURE ON SURFACE-WAVE PHASE DELAYS: **K Liu**, Y Zhou

0800h **S31A-2024** POSTER Determination of Earth structure using waveform inversion and Spectral-Element Method: **M Obayashi**, S Tsuboi, Y Tono, D Suetsugu

0800h **S31A-2025** POSTER Simultaneous Absolute and Relative Traveltime Inversion Technique to Combine Independent Arrays in southeastern Australia: **E A Vanacore**, N Rawlinson, M Sambridge, H Tkalcic

0800h **S31A-2026** POSTER Adaptively parameterized surface wave tomography: Methodology and a global model of the upper mantle: **J Schäfer**, L Boschi, E H Kissling

0800h **S31A-2027** POSTER Source Size Seismic Tomography (3STomo): A novel method to image the subsurface structure beneath seismically active regions: **T Yang**, K Le

0800h **S31A-2028** POSTER Seismic Tomographic Imaging of an Upper Mantle Anomaly beneath the Rio Grande Rift: **C V Rockett**, J Pulliam, S P Grand

0800h **S31A-2029** POSTER Surface-Wave Tomography of Ireland: **G Polat**, S Lebedev, P W Readman, B M O'Reilly, F Hauser

0800h **S31A-2030** POSTER Three dimensional Rayleigh wave velocity model using multimode surface wave tomography of Eastern Asia: **S Pandey**, X Yuan, E Debayle, K F Priestley, R Kind, X Li

0800h **S31A-2031** POSTER Attenuation structure beneath the source area of the Columbia River Flood Basalts: **A P Darold**, E Humphreys

0800h **S31A-2032** POSTER Regional difference in small-scale heterogeneities in the crust and upper mantle in Japan derived by the analysis of high-frequency P-wave: **S Takemura**, T Furumura

0800h **S31A-2033** POSTER Revealing the architecture of the upper boundary of the Philippine Sea Plate beneath the northern tip of the Izu-Tanzawa Collision Zone, Central Japan, using later-phase of P waves: **Y Shuri**, N Tsumura

0800h **S31A-2034** POSTER SURFACE WAVE TOMOGRAPHY OF THE REGION BETWEEN KOREA AND TAIWAN: **K Cho**, S Lee

0800h **S31A-2035** POSTER Multi Scale Imaging of Seismic Structure beneath the Western Branch of the East-African Rift: A Jakovlev, G Rumpker, **I Koulakov**

0800h **S31A-2036** POSTER Lithospheric imaging from teleseismic data by frequency-domain elastic full-waveform tomography: **D Pageot**, S Operto, M Vallée, R Brossier, J Virieux, Title of Team: SEISCOPE

0800h **S31A-2037** POSTER Simultaneous inversion for 3D crustal and lithospheric structure and regional hypocenters beneath Germany in the presence of an anisotropic upper mantle: **M Koch**, T Muench

0800h **S31A-2038** POSTER P-wave tomography of the Chile Triple Junction region: **M R Miller**, K F Priestley, F J Tilmann, H Iwamori, K Bataille

0800h **S31A-2039** POSTER Crustal Structure Beneath Western Spitsbergen Inferred Through Joint Inversion of Teleseismic Receiver Functions and Regional Surface Wave Dispersion: **W N Junek**, J Roman-Nieves, M T Woods

0800h **S31A-2040** POSTER Investigation of surface wave amplitudes in 3-D velocity and 3-D Q models: **Y Ruan**, Y Zhou

0800h **S31A-2041** POSTER The characteristics of Pn wave velocity beneath the offshore of eastern Taiwan and the West Philippine Basin: **Y Huang**, B Huang, C Lee

0800h **S31A-2042** POSTER Intrinsic absorption structure of S-wave in the northeastern Japan and northern Izu-Bonin arc: **T Takahashi**

0800h **S31A-2043** POSTER Application of 2.5D Finite Difference Tomographic Waveform Imaging to the Cascadia 1993 data set: S W Roecker, **B I Baker**

0800h **S31A-2044** POSTER P-wave attenuation tomography of Mount St. Helens: preliminary results from coda-normalized spectra: **L De Siena**, S Hicks, G P Waite, S C Moran

0800h **S31A-2045** POSTER Anisotropy effects on 3D waveform inversion: **I Stekl**, M Warner, A Umpleby

0800h **S31A-2046** POSTER 3D full wavefield inversions of seismic data from the Blanco Transform Fault: **G L Christeson**, J V Morgan, M Warner

0800h **S31A-2047** POSTER Seismic imaging by double beamforming full waveform inversion: **R Brossier**, P Roux, E Tudisco, S Hall

0800h **S31A-2048** POSTER Waveform Tomography - a case study of the Messum intrusive complex in Namibia using synthetic and real data: **M Paschke**, K Bauer, R G Pratt, R Kamei, R B Trumbull, M H Weber

0800h **S31A-2049** POSTER Computational and methodological developments towards 3D full waveform inversion: **V Etienne**, J Virieux, G Hu, Y Jia, S Operto

0800h **S31A-2050** POSTER Transmission imaging in heterogeneous media: **E L Bongajum**, Y Meng, B Milkereit

0800h **S31A-2051** POSTER Low Cost Stochastic Estimation of Optimal Regularization Parameter and Model Resolution Matrix Diagonal in Large Geophysical Inverse Problems: B Borchers, **J K MacCarthy**, R C Aster

0800h **S31A-2052** POSTER Blind deconvolution of seismograms regularized via minimum support: **A Royer**, M G Bostock, E Haber

0800h **S31A-2053** POSTER WAVELET REGULARIZATION PER NULLSPACE SHUTTLE: **J Charléty**, G Nolet, K Sigloch, S Voronin, I Loris, F J Simons, I Daubechies, S Judd

0800h **ED31C-0690** POSTER CRUSTAL VELOCITY STRUCTURE OF EASTERN MARMARA REGION FROM LOCAL EARTHQUAKE TOMOGRAPHY: **A Denli**, C Gürbüz, E H Kissling

S31B Moscone West: 2009 **Wednesday 0800h**
Ambient Noise Imaging in Seismology and Helioseismology I
(joint with OS, SH)

Presiding: **A G Kosovichev**, Stanford University; **J F Claerbout**, **J F Lawrence**, Stanford University

0800h **S31B-01** Ambient Noise Tomography Across Large Continental Seismic Arrays (*Invited*): **M H Ritzwoller**, F Lin, Y Yang, W Shen

0815h **S31B-02** Ambient Noise Tomography of Yellowstone: **J F Lawrence**, K Seats, N P Crook

0830h **S31B-03** Analysis of fundamental and higher mode surface waves from noise correlation near Eastern Pacific Rise: **H Yao**, P Gouedard, P Gerstoft, J J McGuire, J A Collins, R D van der Hilst

0845h **S31B-04** Imaging Earth Structure and Microseism Sources Using Seismic Array Observations of Oceanic Storms: **J Zhang**, P Gerstoft, P M Shearer, P D Bromirski, H Yao

0900h **S31B-05** Global oceanic microseism sources as seen by seismic arrays and predicted by wave action models: **G Hillers**, N Graham, M LANDES, F HUBANS, M Campillo, N M Shapiro, A Paul, S Kedar, R W Clayton

0915h **S31B-06** Noise Cross-correlation Sensitivity Kernels: **Y Luo**, S Hanasoge, D B Peter, J Tromp

0930h **S31B-07** Adjoint tomography using Green's functions from ambient noise: **M Chen**, H Huang, H Yao, R D van der Hilst

0945h **S31B-08** Towards more stable time varying ambient noise empirical Green's functions: **K Seats**, J F Lawrence, G Prieto

S31C Moscone West: 2007 **Wednesday 0800h**
Earthquake Relocations: What Do They Tell Us About Tectonics? II
(joint with T)

Presiding: **G Lin**, University of Miami; **T Lecocq**, Royal Observatory of Belgium

0800h **S31C-01** An Improved Source-Scanning Algorithm for Locating Earthquake Clusters or Aftershock Sequences: **Y Liao**, H Kao, S Hsu

0815h **S31C-02** Three-dimensional velocity structure and high-precision earthquake relocations at Augustine, Akutan, and Makushin Volcanoes, Alaska: **E M Syracuse**, C H Thurber, J A Power, S G Prejean

0830h **S31C-03** Complex Faulting within the New Madrid Seismic Zone: **H R DeShon**, C A Powell, M Magnani, S T Bisrat

0845h **S31C-04** Fault depth and seismic moment rate estimates of the San Andreas Fault System: Observations from seismology and geodesy: **B R Smith-Konter**, D T Sandwell, P M Shearer

0900h **S31C-05** Lessons learned from high-resolution earthquake locations in southern California (*Invited*): **P M Shearer**, G Lin, E Hauksson

0915h **S31C-06** Tectonic, magmatic, and hydrothermal processes imaged by high-resolution seismicity beneath the fast-spreading East Pacific Rise (*Invited*): **F Waldhauser**, M Tolstoy

0930h **S31C-07** Identifying active faults in Switzerland using relocated earthquake catalogs and optimal anisotropic dynamic clustering: **M Wagner**, Y Wang, S Husen, J Woessner, E H Kissling, G Ouillon, D Giardini, D Sornette

0945h **S31C-08** A new method to determine accurate hypocentral parameters in the media with a 3-D descending slab using a genetic algorithm: **W Kim**, Y Kang, M Matsubara

Tectonophysics

T31A Moscone South: Poster Hall Wednesday 0800h **Evolution of the Amerasia Basin of the Arctic and Its Continental Margins Posters** (*joint with GP, OS, V*)

Presiding: **B Coakley**, Geophysical Institute; **D R Hutchinson**, USGS; **C Marcussen**, Geologic Survey of Denmark and Greenland; **D C Mosher**; **C Marcussen**, Geologic Survey of Denmark and Greenland; **E L Miller**, Stanford University; **V Pease**, Stockholm University; **R Stephenson**, University of Aberdeen

0800h **T31A-2120** *POSTER* NORTHERN BARENTS SEA EVOLUTION LINKED TO THE ARCTIC OCEAN: **A Minakov**, R Mjelde, J I Faleide, R S Huismans, A Dannowski, E R Flueh, V Glebovsky, H Keers, Y Y Podladchikov

0800h **T31A-2121** *POSTER* The crustal structure of the Alpha Ridge, Arctic Ocean (*Invited*): **T Funck**, H R Jackson, J Shimeld

0800h **T31A-2122** WITHDRAWN

0800h **T31A-2123** *POSTER* Discussion of the East-Siberian margin, Podvodnikov and Makarov basins and the Mendeleev Ridge origin based on geophysical data. (*Invited*): **N N Lebedeva-Ivanova**

0800h **T31A-2124** *POSTER* Gravity and magnetic anomalies of the western Arctic ocean and its margins provide an imperfect window to a complex, multi-stage tectonic history (*Invited*): **R W Saltus**, E L Miller, C Gaina

0800h **T31A-2125** *POSTER* New aerogravity and aeromagnetic anomaly data over Lomonosov Ridge and adjacent areas for bathymetric and tectonic mapping: **A Dossing**, A V Olesen, R Forsberg

0800h **T31A-2126** *POSTER* Sedimentation in Canada Basin, Western Arctic: **D C Mosher**, J Shimeld, R Jackson, D R Hutchinson, B Chapman, D Chian, J R Childs, L A Mayer, B D Edwards, J Verhoef

0800h **T31A-2127** *POSTER* Evidence for an important tectonostratigraphic seismic marker across Canada Basin and southern Alpha Ridge of the Arctic Ocean: **J Shimeld**, D Chian, R Jackson, D R Hutchinson, D C Mosher, J Wade, B Chapman

0800h **T31A-2128** *POSTER* A new look at Northwind Ridge: implications for the history of the Canada Basin: **D R Hutchinson**, D C Mosher, J Shimeld, R Jackson, D Chian, B D Edwards, P E Hart, L A Mayer

0800h **T31A-2129** *POSTER* Lomonosov Ridge as a Natural Component of Continental Margin: **V Poselov**, V D Kaminsky, V V Butsenko, G E Grikurov

0800h **T31A-2130** *POSTER* Structural Geology and Microstructures of Wrangel Island, Arctic Russia: **E L Miller**, T A Dumitru, G Seward

0800h **T31A-2131** *POSTER* Preliminary Apatite Fission Track Thermochronology of Wrangel Island, Arctic Russia: **T A Dumitru**, E L Miller

0800h **T31A-2132** *POSTER* Mesozoic deformation, Taimyr & the development of the Amerasia Basin: **V Pease**, R A Scott, A Gubanov, E Axelsson

0800h **T31A-2133** *POSTER* STATISTICAL COMPARISON OF DETRITAL ZIRCON SUITES FROM THE ARCTIC AND THEIR BEARING ON PLATE RECONSTRUCTIONS: **A V Soloviev**, E L Miller

0800h **T31A-2134** *POSTER* Magmatic source rocks for late Neoproterozoic - early Cambrian sediments of the Enganepe Uplift, western Polar Urals: **A A Soboleva**, O V Udoratina, E L Miller, N B Kuznetsov, M Grove, G E Gehrels

0800h **T31A-2135** *POSTER* Tracing trends in erosion and exhumation during the Middle-Late Paleozoic tectonic evolution of the Farewell terrane, SW Alaska: **B A Hampton**, M A Malkowski, D C Bradley, K Fujita, P B O'Sullivan

0800h **T31A-2136** *POSTER* Relative sea-level variations in the Amerasia Basin since the Lower Cretaceous (*Invited*): **W Jokat**, **A Hegewald**

0800h **T31A-2137** *POSTER* Evidence of oceanic crust in the southern Baffin Bay from a seismic refraction experiment: **K Gohl**, **S Suckro**, T Funck, A Ehrhardt, I Heyde, B Schreckenberger, V Damm

0800h **T31A-2138** *POSTER* Crustal structures across Canada Basin and southern Alpha Ridge of the Arctic Ocean from P- and S-wave sonobuoy wide-angle studies: **D Chian**, J Shimeld, R Jackson, D R Hutchinson, D C Mosher

0800h **T31A-2139** *POSTER* Cretaceous Arctic magmatism: Slab vs. plume? Or slab and plume?: **E S Gottlieb**, E L Miller, A V Andronikov, K Brumley, L A Mayer, S B Mukasa

0800h **T31A-2140** *POSTER* Arctic Ocean gravity anomalies measured from the icebreaker USCGC Healy; Issues and Opportunities: **B Coakley**, S C Kenyon

0800h **T31A-2141** *POSTER* We are in need of sampling the sedimentary cover and bedrock in the Amerasia Basin. (Suggested site locations in the Makarov Basin, the Mendeleev and Lomonosov ridges and adjacent areas.): **N N Lebedeva-Ivanova**

0800h **T31A-2142** *POSTER* The Mesozoic and Cenozoic Motion of Greenland and its Importance for Understanding Arctic Plate Tectonics: **J R Hopper**, C Marcussen, T Funck, U Gregersen, P C Knutz

0800h **T31A-2143** *POSTER* Cretaceous tectonic and magmatic evolution of the Kular gneiss dome, northeast Russia: **D B Harris**, J Toro, A Prokopiev, E L Miller

0800h **T31A-2144** *POSTER* Petrography and U-Pb detrital zircon geochronology of metasedimentary strata dredged from the Chukchi Borderland, Amerasia Basin, Arctic Ocean: **K Brumley**, E L Miller, L A Mayer, A Andronikov, J L Wooden, T A Dumitru, B Elliott, G E Gehrels, S B Mukasa

0800h **T31A-2145** *POSTER* Reconstructing conjugate margins of the Canada-Amerasian basin: New tectonic constraints from deep seismic data and gravity profiles: **J Helwig**, B Ady, N Kumar, J W Granath, M G Dinkelman, D E Bird, P A Emmet

0800h **T31A-2146** *POSTER* Detrital Zircon U-Pb Age Populations in Time and Space in the Arctic Alaska Terrane: **T E Moore**

0800h **T31A-2147** *POSTER* Opening of the Amerasian Basin: A model based on sea-floor morphology, magnetic anomalies and paleomagnetic data: **D B Stone**, K Brumley

0800h **T31A-2148** *POSTER* New constraints on the crustal structure in the eastern part of northern Baffin Bay: **C J Reichert**, V Damm, T Altenbernd, K Berglar, M Block, A Ehrhardt, M Schnabel

0800h **T31A-2149** *POSTER* Alpha Ridge: Oceanic or Continental Crust? Constraints from Crustal Thickness Mapping using Gravity Inversion: **N J Kusznir**, A Alvey

0800h **T31A-2150** *POSTER* ZIRCON U/PB GEOCHRONOLOGY OF THE PRECAMBRIAN BASEMENT, PEARYA TERRANE, NORTHERNMOST ELLESMERE ISLAND: **S J Malone**, W McClelland

T31B Moscone South: Poster Hall Wednesday 0800h
Interaction Between Magmatic and Tectonic Processes in
Continental and Incipient Oceanic Rifts III Posters (joint with G,
S, V, GP)

Presiding: **D Keir**, University of Leeds; **C Pagli**, U. Leeds; **J Biggs**,
University of Bristol; **E Rivalta**, University of Leeds

0800h **T31B-2151 POSTER** Afar-wide Crustal Strain Field from
Multiple InSAR Tracks: **C Pagli**, T J Wright, H Wang, E Calais,
L S BENNATI RASSION, C J Ebinger, E Lewi

0800h **T31B-2152 POSTER** Comparisons of seismic and geodetic
strain across the East African rift: Implications for magmatism
during rifting: N Lindsey, **C J Ebinger**, M E Pritchard, D M Cote

0800h **T31B-2153 POSTER** GPS constrained finite element models
of inter-rifting deformation: A case study from the Main Ethiopian
Rift: **H Dickinson**, E Calais, A M Freed

0800h **T31B-2154 POSTER** The magma-assisted removal of Arabia
in Afar: evidence from dike injection in the Afar depression: **D Keir**,
C Pagli, I D Bastow, A Ayele

0800h **T31B-2155 POSTER** Magma storage depths beneath an
active rift volcano in Afar (Dabbahu), constrained by melt inclusion
analyses, seismicity and Interferometric Synthetic Aperture Radar
(INSAR): **L Field**, J Blundy, T J Wright, G Yirgu, Title of Team: The
Afar Consortium

0800h **T31B-2156 POSTER** Analysing fault growth at the
continental break up zone in Afar, Ethiopia: **B Hofmann**, T J Wright,
J V Rowland, D A Paton, B Abebe

0800h **T31B-2157 POSTER** Mass and density time evolution
in the Asal rift from repeated microgravity surveys: **H LeMevel**,
M Diament, C Doubre, K Mohamed, S Dérroussi, C Cadio, V Ballu,
V O Mikhailov, J Hinderer, B Luck, F Masson

0800h **T31B-2158 POSTER** Insights into initial stages of rifting
from seismotectonics and SKS splitting in the North Tanzanian
Divergence: **J Albaric**, G Barruol, J Deverchère, A Deschamps,
J Perrot, C Tiberi, R W Ferdinand, C Sue, B Le Gall, C Petit

0800h **T31B-2159 POSTER** Fracture Systems of the Northern
Volcanic Rift Zone of Iceland: **ÁSTA R Hjartardóttir**, P Einarsson

0800h **T31B-2160 POSTER** Subsidence and basaltic caldera
formation during crustal construction in Iceland: **D L Siler**,
R J Varga, A J Horst, J A Karson

0800h **T31B-2161 POSTER** Tectonic, volcanic and human activity
ground deformation signals detected by multitemporal InSAR
techniques in the Colima Volcanic Complex (Mexico) rift: **C Brunori**,
G Norini, C Bignami, G GropPELLI, F Zucca, S Stramondo, L Capra,
E Cabral-Cano

0800h **T31B-2162 POSTER** Comparative Study of Pull-Apart
Basins: The Salton Trough and Death Valley, California Regions:
M J Hussein, A A Velasco, L F Serpa

0800h **T31B-2163 POSTER** Role of synextensional magmatism in
evolution of Death Valley, California: **I O Norton**

0800h **T31B-2164 POSTER** Earthquake Hazard and Segmented
Fault Evolution, Hat Creek Fault, Northern California:
M W Blakeslee, S A Kattenhorn

0800h **T31B-2165 POSTER** Characterizing Deformation
at Kettleman Hills North Dome, Central California Using
Paleomagnetism and Structural Analysis: **A R Yourd**, A Newman,
S J Titus, B A Housen

0800h **T31B-2166 POSTER** Viscous dissipation as a regional
thermal anomaly-generator process: implications on the evolution
of Baja California post-subduction volcanism: **R Negrete-Aranda**,
J Contreras

0800h **T31B-2167 POSTER** 20 - 10 MA RAPID EXHUMATION
AND DUCTILE LOW ANGLE NORMAL FAULTING IN THE RIO
GRANDE RIFT, RECORDED AT LADRON PEAK, CENTRAL NEW
MEXICO: **J W Ricketts**, S Kelley, A S Read, K E Karlstrom

0800h **T31B-2168 POSTER** Seismic Evidence for an Active Southern
Rio Grande Rift: **L E Thompson**, A A Velasco

0800h **T31B-2169 POSTER** Continental rifting and upper mantle
strength: **K Petersen**, S B Nielsen, R Stephenson, T Gerya

0800h **T31B-2170 POSTER** Ocean-continent-transition at magma
poor rifted margins, the magnetic signature of a magmatic breakup?:
A Bronner, D Sauter, G Manatschal, G Peron-Pinvidic, M Munsch

0800h **T31B-2171 POSTER** The Ratio Between Magma Supply
and Lithospheric Stretching Rates Controls the Architecture of
Continental and Oceanic Rifts: **O Bourgeois**, O Dauteuil

0800h **T31B-2172 POSTER** Numerical modelling of the evolution of
Baikal Rift Zone: **Y Elesin**, I M Artemieva, H Thybo

0800h **T31B-2173 POSTER** Along-strike variations of geometry
and kinematics on the border fault of Nanpu sag, Bohai Bay Basin:
C Zhang, J Ren, X Liu, Z Sun, M Su

0800h **T31B-2174 WITHDRAWN**

0800h **T31B-2175 POSTER** Tectonics of the Ninetyeast Ridge
derived from the spreading records of the contiguous oceanic
basins and age constraints of the ridge: **K S Krishna**, H Abraham,
W W Sager, D Gopala Rao, O V Levchenko

0800h **T31B-2176 POSTER** Crustal evolution derived from the
Izu-Bonin-Mariana arc velocity images: **N Takahashi**, S Kodaira,
Y Tatsumi, S Miura, T Sato, M Yamashita, T No, T Takahashi,
N Noguchi, K Takizawa, Y Kaiho, Y Kaneda

0800h **T31B-2177 POSTER** Seismic reflection study in the South
Korea Plateau, the Ulleung Interplain Gap, and the northern Ulleung
Basin: volcano-tectonic implications for Tertiary back-arc evolution
in the southern East Sea: **G Kim**, S Yoon, S Chough, Y Kwon, B Ryu

0800h **T31B-2178 POSTER** Lead and Sulfur isotopic constraints
on the origin of Pb-Zn ore deposits and tectonic evolution of the
Central Tauride Belt, Turkey: **N Ghosh**, E Ciftci, A R Basu

T31C Moscone South: Poster Hall Wednesday 0800h
Structure, Dynamics, and Evolution of the African-Arabian Rift
Systems III Posters (joint with S, V)

Presiding: **D Keir**, University of Leeds; **I D Bastow**, University of
Bristol; **C Tiberi**, CNRS; **C Doubre**, EOST-IPGS

0800h **T31C-2179 POSTER** Rayleigh wave tomography in the Main
Ethiopian Rift using ambient noise: **S Kim**, A Nyblade, T Kang,
J Rhie, C Baag

0800h **T31C-2180 POSTER** Upper Mantle Structure of Eastern
Africa from Body Wave Tomography: **G Mulibo**, A Nyblade,
R Fredinand

0800h **T31C-2181 POSTER** Mantle Flow beneath Arabia Offset from
the Opening Red Sea: S A Stein, **S Chang**, M Merino, S van der Lee,
C A Stein

0800h **T31C-2182 POSTER** Continental breakup in Africa: From
superplume to rifting: **J O Hammond**, J M Kendall, I D Bastow,
G W Stuart, D Keir, A Ayele, C J Ebinger

0800h **T31C-2183 POSTER** Upper mantle structure in East
Africa from Rayleigh Wave Tomography using AfricaArray data:
A N Adams, A Nyblade, D S Weeraratne

0800h **T31C-2184 POSTER** Variations in the mantle transition zone
beneath the Ethiopian Rift and Afar: D G Cornwell, **G Hetenyi**,
T Blanchard, G W Stuart

0800h **T31C-2185** POSTER Pn Tomography of Ethiopia: Implications for the Structure of the Southern Main Ethiopian Rift: **S D Rouse**, R A Brazier, A Nyblade

0800h **T31C-2186** POSTER Characteristics of Pn and Sn wave propagation in the Afar region, Ethiopia: **A Stork**, J O Hammond, G W Stuart, A Ayele

0800h **T31C-2187** POSTER Frequency dependent Lg-Wave Q in Northern Ethiopia: **A L Jemberie**

0800h **T31C-2188** POSTER Crustal modeling in Africa; towards high resolution models using GOCE satellite gravity data: **G E Tedla**, M van der Meijde, A Nyblade

0800h **T31C-2189** POSTER Northern Red Sea Crustal Thickness and Oceanic Lithosphere Distribution from Satellite Gravity Anomaly Inversion: **T Y AlYousuf**, N J Kusznir

0800h **T31C-2190** POSTER Emplacement of the middle Miocene Yatta lava flow, Kenya: implications for modeling long channelled lava flows: **H Wichura**, R Bousquet, R Oberhansli, M R Strecker

0800h **T31C-2191** POSTER The crustal structure of East Africa: **F Tugume**, A Nyblade, J Julia, G Mulibo

0800h **T31C-2192** POSTER Seismicity Patterns and Magmatic Processes in the Rwenzori Region, East-African Rift: M Lindenfeld, **G Rumpker**, H Schmeling, H Wallner

0800h **T31C-2193** POSTER Petrological Constraints on Melt Generation Beneath the Asal Rift (Djibouti): **P Pinzuti**, E Humler, I Manighetti, Y Gaudemer, A Bézos

0800h **T31C-2194** POSTER Initiation and evolution processes of submarine instabilities and canyons: Insights from the Northern margin of the Gulf of Aden: B Céline, **G Christian**, S Leroy, L Francis, B François, K I Al-Toubi

0800h **T31C-2195** POSTER Geometry of the Arabia-Somalia Plate Boundary into Afar: Preliminary Results from the Seismic Profile Across the Asal Rift (Djibouti): J Vergne, **C Doubre**, K Mohamed, C Tiberi, S Leroy, A Maggi

0800h **T31C-2196** WITHDRAWN

0800h **T31C-2197** POSTER Break-up processes for the Red Sea and the Gulf of Aden from a receiver function analysis: A A Ahmed, **C Tiberi**, S Leroy, G W Stuart, D Keir, J Sholan, K Kanbari, I Al-Ganad, F Rolandone

0800h **T31C-2198** POSTER Imaging the triple junction Red Sea-Gulf of Aden-East African Rift with temporary seismological networks: **C Tiberi**, A Ahmed, S Leroy, G W Stuart, D Keir, K Kanbari, J Sholan, I Al-Ganad

0800h **T31C-2199** POSTER Localised and distributed deformation in the lithosphere: the example of the Dead Sea valleys: **G C King**, M Deves, A Agnon, Y Klinger

0800h **T31C-2200** POSTER Crustal structure of the Dead Sea Basin (DSB) from a receiver function analysis: **A Mohsen**, G Asch, J Mechie, R Hofstetter, R Kind, M H Weber, M Stiller, K Abu-Ayyash

T31D Moscone West: 2011 Wednesday 0800h
Lithological Controls on the Mechanics and Evolution of Lithospheric Deformation I: Experimental and Theoretical Analysis of Seismic Processes (joint with MR, S)

Presiding: **T M Mitchell**, Ruhr-University Bochum; **D J Prior**, University of Liverpool; **S Grigull**, Ruhr-Universität Bochum

0800h **T31D-01** EVIDENCE OF THERMAL PRESSURIZATION IN HIGH VELOCITY FRICTION EXPERIMENTS ON SMECTITE-RICH GOUGES: **F Ferri**, G Di Toro, T Hirose, T Shimamoto

0815h **T31D-02** Frictional behaviour of subduction zone fault rocks at low to high sliding velocities: **S A Den Hartog**, C J Peach, C Spiers, T Hirose, W Tanikawa, T Shimamoto

0830h **T31D-03** Strain localization within a fluid-saturated fault gouge layer during seismic shear: **J D Platt**, J R Rice, J W Rudnicki

0845h **T31D-04** EXPERIMENTAL INVESTIGATION OF FLASH WEAKENING IN LIMESTONES: **G Di Toro**, N Tisato, M Quaresimin, N De Rossi

0900h **T31D-05** Fault Wear During Earthquake-Like Slip-Events in Laboratory Experiments: Z Reches, **J C Chang**, Y Boneh, D A Lockner

0915h **T31D-06** Nucleation and Arrest of Dynamic Fault Rupture on a Pressurized Fault: **D Garagash**, L N Germanovich

0930h **T31D-07** Dynamics of pseudotachylytes in volcanic structures: **Y Lavallee**, T M Mitchell, M J Heap, T Hirose, D B Dingwell

0945h **T31D-08** Nanometric Gouge in High-Speed Shearing Experiments: Superplasticity?: **H W Green**, D A Lockner, K N Bozhilov, A Maddon, N M Beeler, Z Reches

T31E Moscone West: 2018 Wednesday 0800h
New Advances in Studies of the Tibetan Plateau and the Himalayas I (joint with V, S)

Presiding: **X Mo**, China University of Geosciences, Beijing; **J F Ni**, New Mexico State University

0800h **T31E-01** State of the Tibetan upper mantle: **K F Priestley**, J A Barron, D P McKenzie, E Debayle, C Acton

0815h **T31E-02** Crustal and lithospheric studies of INDEPTH IV using S receiver functions and P multiples: **R Kind**, P Kumar, J Mechie, R Meissner, W Zhao, Z Wu, D Shi, H Su, M Karplus, F Tilmann

0830h **T31E-03** The thermal structure of Tibetan crust and upper mantle (*Invited*): **D P McKenzie**, K F Priestley

0845h **T31E-04** Structure of crust and uppermost mantle at northern margin of Tibetan Plateau: **J Zhao**, W D Mooney, S Pei, H Liu, H Cheng, Q Xu, W Wang, H Zhang

0900h **T31E-05** S-N profile of Receive function image across Qiangtang, Northern Tibet: R He, **R Gao**, G Deng, W Li, H Hou, Z Lu, X Xiong

0915h **T31E-06** 3D structures of crust and uppermost mantle and azimuthal anisotropy in Tibet and surrounding regions from ambient noise tomography: **Y Yang**, Y Zheng, M H Ritzwoller

0930h **T31E-07** Significant Seismic Anisotropy Beneath Northeastern Tibet: Implications for Continuous Deformation processes of eastern Tibet: **G Leon Soto**, E A Sandvol, L M Flesch, J F Ni, T M Hearn, F J Tilmann, Y J Chen, L D Brown

0945h **T31E-08** Blocks or Continuous Deformation in Large-Scale Continental Geodynamics: Ptolemy Versus Copernicus, Kepler, and Newton (*Invited*): **P H Molnar**

T31F Moscone West: 2016 Wednesday 0800h
What Lies Beneath "Stable" Eastern North America I (joint with DI, S)

Presiding: **F A Darbyshire**, GEOTOP UQAM-McGill; **A M Forte**, Univ Quebec Montreal; **V L Levin**, Rutgers University

0800h **T31F-01** Accretion, modification and erosion of Archean lithosphere: evidence from the Superior Province and adjacent regions (*Invited*): **A W Frederiksen**, M Olaleye, D A Toni, F A Darbyshire, D W Eaton

0815h **T31F-02** The lithosphere-asthenosphere boundary and cratonic lithospheric layering beneath stable North America (*Invited*): **K M Fischer**, H A Ford, D Abt, H Yuan, B Romanowicz

0830h **T31F-03** Stratification of Azimuthal Anisotropy in the North American Craton (*Invited*): **B A Romanowicz**, H Yuan, H A Ford, K M Fischer, D Abt

0845h **T31F-04** Precambrian Plate Tectonics and the Formation of the Canadian Shield: Seismic Evidence from Hudson Bay: **I D Bastow**, D A Thompson, J M Kendall, G R Helffrich, J Wookey, D B Snyder, D W Eaton, F A Darbyshire

0900h **T31F-05** Thermal structure of the lithosphere in eastern North America from surface heat flux measurements and shear wave velocity profiles: **J Mareschal**, C P Jaupart, F Levy

0915h **T31F-06** On the Elastic Strength (and Its Anisotropy) of the North American Continental Lithosphere (in a Global Perspective): D V Wang, **F J Simons**

0930h **T31F-07** Unsteady rock uplift and erosion in a decaying orogen in response to surface and dynamic mantle processes (*Invited*): **F J Pazzaglia**, P K Zeitler, R E McKeon, B D Idleman, C Berti

0945h **T31F-08** Geological Evidence for Dynamic Topographic Differential Uplift and Subsidence Along the US Coastal Plain and Atlantic Margin: **D B Rowley**, A M Forte, R Moucha, J X Mitrovica, N A Simmons, S P Grand

Volcanology, Geochemistry, and Petrology

V31A Moscone South: Poster Hall Wednesday 0800h
EARTHTIME Geochronology II Posters (*joint with B, EP, GP, OS, T*)

Presiding: **P R Renne**, Berkeley Geochronology Ctr; **S A Bowring**, MIT; **L E Morgan**, Vrije Universiteit Amsterdam; **J Hiess**, British Geological Survey

0800h **V31A-2296** *POSTER* Chronological Precision vs Petrological Accuracy – the B4M “Age Standard”: **I M Villa**, A R Heri

0800h **V31A-2297** *POSTER* GTSnext and Earthtime-EU a progress report: **J R Wijbrans**, H Pälike, K Kuiper, F Hilgen, Title of Team: GTSnext and Earthtime-EU

0800h **V31A-2298** *POSTER* New gas standard for calibration of Nu-instruments Noblesse multi-collector mass spectrometers for argon-isotopic measurements: **M A Coble**, M Grove, A T Calvert

0800h **V31A-2299** *POSTER* The UW-Madison 5-collector mass spectrometer for high-precision $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology: **B Jicha**, P Sobol, B S Singer

0800h **V31A-2300** *POSTER* A Deuteron-Deuteron Neutron Generator for $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology: **P R Renne**, K Leung, T Becker, W S Cassata, A X Chen, G Jones

0800h **V31A-2301** *POSTER* Nonlinearity of Argon Isotope Measurements for Samples of Different Sizes: **S E Cox**, S R Hemming, B D Turrin, C C Swisher

0800h **V31A-2302** *POSTER* Reducing Error Bars through the Intercalibration of Radioisotopic and Astrochronologic Time Scales for the Cenomanian/Turonian Boundary Interval, Western Interior Basin, USA: **S R Meyers**, S E Siewert, B S Singer, B B Sageman, D J Condon, J D Obradovich, B Jicha, D A Sawyer

0800h **V31A-2303** *POSTER* Reconciling astrochronological and $^{40}\text{Ar}/^{39}\text{Ar}$ ages for the Matuyama-Brunhes boundary and late Matuyama Chron: **J E Channell**, D A Hodell, B S Singer, C Xuan

0800h **V31A-2304** *POSTER* Supporting Evidence for the Astronomically Calibrated Age of Fish Canyon Sanidine: **T A Rivera**, M Storey, C Zeeden, K Kuiper, F Hilgen

0800h **V31A-2305** *POSTER* $^{40}\text{Ar}/^{39}\text{Ar}$ dating of the Honghuaqiao Formation in SE China: **S Chang**, H Zhang, S R Hemming, G T Mesko, Y Fang

0800h **V31A-2306** *POSTER* Toward a high-resolution $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of the Tatun Volcano Group, Taiwan: **G T Mesko**, S Song, S Chang, S R Hemming, B D Turrin

0800h **V31A-2307** *POSTER* Precision and Accuracy of Garnet Sm-Nd Geochronology: **E F Baxter**, J D Inglis

0800h **V31A-2308** *POSTER* Lu-Hf and Re-Os systematics of peridotite xenoliths from Spitsbergen, western Svalbard: Implications for mantle-crust coupling: **S Choi**, K Suzuki, S B Mukasa, J Lee, H Jung

0800h **V31A-2309** *POSTER* Baddeleyite-Zircon Relationships in Cumulates of the Archean Stillwater Complex: Evidence from U-Pb Geochronology and Hf Isotope Systematics: **C J Wall**, J S Scoates, R M Friedman, D A Weis, W Meurer

0800h **V31A-2310** *POSTER* The resolving power of U-Pb zircon geochronology in magmatic systems: an example from the Southern Adamello Batholith, N. Italy: **C A Broderick**, U Schaltegger, D Guenther, P Brack

0800h **V31A-2311** *POSTER* Evolution Of An Upper Crustal Plutonic-Volcanic Plumbing System: Insights From High Precision U-Pb Zircon Geochronology Of Intracaldera Tuff And Intrusions In Silver Creek Caldera, Arizona, USA: **T ZHANG**, R Mundil, C F Miller, J S Miller, S R Paterson

0800h **V31A-2312** *POSTER* Deriving accurate eruption ages from complex zircon populations: insights from zircon trace element chemistry and intercalibration with astronomical time: **J Wotzlaw**, U Schaltegger, K Kuiper, D Guenther

0800h **V31A-2313** *POSTER* Depositional history of the Late Triassic Chinle fluvial system at the Petrified Forest National Park: U-Pb geochronology, regional correlation and insights into early dinosaur evolution: **J Ramezani**, D E Fastovsky, S A Bowring, G D Hoke

0800h **V31A-2314** *POSTER* U-series constraints on the Holocene human presence in the Cuatro Ciénegas basin, Mexico: **S R Noble**, N Felstead, S Gonzalez, M J Leng, S E Metcalfe, P J Patchett

0800h **V31A-2315** *POSTER* Reaching Part-Per-Quadrillion: Detect Ar-39 in Atmospheric Samples Using ATTA: **Z Lu**, K Bailey, A M Davis, S Hu, W Jiang, P Mueller, T P O'Connor, R Purtschert, N C Sturchio, Y R Sun, W Williams

V31B Moscone South: Poster Hall Wednesday 0800h
Mass Independent Isotope Fractionations: Empirical, Experimental, and Theoretical Perspectives Posters (*joint with A, B, P, MR*)

Presiding: **J Eiler**, Caltech; **P Cartigny**, IGP-Paris; **E Schauble**, UCLA

0800h **V31B-2316** *POSTER* The Oxygen Isotopic Composition of the Sun: **K D McKeegan**, A Kallio, V S Heber, G Jarzebinski, P Mao, C Coath, T Kunihiro, R C Wiens, A Judith, D S Burnett

0800h **V31B-2317** *POSTER* A Heterogeneous Chemical Origin for the Mass-Independent Distribution of Oxygen Isotopes in the Solar System?: **G Dominguez**, S Chakraborty, T L Jackson, M H Thiemens

0800h **V31B-2318** *POSTER* Gas-phase photolysis as a source of mass-independent fractionation: **J R Lyons**, G Stark, D Blackie, J Pickering

0800h **V31B-2319** *POSTER* The non-mass-dependent oxygen isotopic composition of CO_2 in the stratosphere and laboratory: Evidence for another anomalous kinetic isotope effect beyond ozone formation?: **A A Wiegel**, K J Hoag, A S Cole, E L Atlas, S Schauffler, K A Boering

0800h **V31B-2320** *POSTER* Non-Mass Dependent Isotope Fractionations of Rarefied Gases (O_2 , SF_6) Under a Thermal Gradient: **T Sun**, H Bao, Title of Team: Oxy-Anion Stable Isotope Consortium

0800h **V31B-2321** POSTER An experimental investigation of multiple sulfur isotope fractionations during heterogenous reactions between SO₂ and activated carbon: **H Hamasaki**, Y Watanabe, H Ohmoto

0800h **V31B-2322** POSTER Mass dependent isotope fractionation during impacts induced the Archaean mass-independent fractionation of sulphur: Evidence against Great Oxidation Event: **H Huang**

0800h **V31B-2323** POSTER ISOTOPIC VARIATIONS OF MERCURY EMITTED BY COAL FIRED POWER PLANT GASES: **S N Khawaja**, L Odom, W Landing

0800h **V31B-2324** POSTER The exploration of mechanisms of mass-independent fractionation of mercury (*Invited*): **B A Bergquist**, S Ghosh, C H Rose, J D Blum

0800h **V31B-2325** POSTER Mass-independent fractionation of mercury isotopes in compact fluorescent light bulbs: **C Mead**, A D Anbar, J R Lyons, T M Johnson

0800h **V31B-2326** POSTER Can the evaporation process alone produce isotope mass-independent fractionations?: **J Zhang**, Y Liu

0800h **V31B-2327** POSTER ON THE MASS INDEPENDANT FRACTIONATIONS OF O, Hg, Si, Mg AND Cd DURING OPEN-SYSTEM EVAPORATION OR THERMAL DECOMPOSITION: **P Cartigny**, J Eiler, P Agrinier, N Assayag

0800h **V31B-2328** POSTER Understanding the triple-isotopic mass dependence of equilibrium oxygen solvation: **L Y Yeung**, E A Schauble, J Fleming, M G Prokopenko, W Berelson, E D Young

0800h **V31B-2329** POSTER Theoretical estimation of mass-dependent fractionation line positions of oxygen isotope and the implication to water evaporation and precipitation processes: **X Cao**, Y Liu

0800h **V31B-2330** POSTER Fractionation of ²³⁸U/²³⁵U in rivers and hydrothermal systems: Constraints for the oceanic U isotope cycle: **J Noordmann**, S Weyer, M Sharma, R Georg, S Rausch, W Bach

0800h **V31B-2331** POSTER Mechanisms and geologic distribution of mass independent ²³⁸U/²³⁵U fractionation: **C J Placzek**, B S Linhoff, L R Riciputi, J M Heikoop

0800h **V21B-2335** POSTER The Effect of Redox Mechanisms on the Fractionation of Uranium 'Stable' Isotopes: **A Kaltenbach**, C H Stirling, D Porcelli, D R Hilton, J T Kulongoski

V31C Moscone South: Poster Hall Wednesday 0800h
VGP General Contributions III Posters

Presiding: **M J Kohn**, Boise State University; **A Grunder**, Oregon State University

0800h **V31C-2332** POSTER Retrograde P-T Path for Triassic very low-grade metapelite from Hongcan Deep Well in Songpan-Aba area: **Y Tang**

0800h **V31C-2333** POSTER Flux rates for water and carbon during greenschist facies metamorphism: implications for the role of orogenic belts as a source/sink for atmospheric CO₂: **A Skelton**

0800h **V31C-2334** POSTER Constraining P-T-t-D Histories with the TitaniQ Thermobarometer: Preliminary Findings from the Strafford Dome, Vermont: **K T Ashley**, L E Webb, F S Spear, J B Thomas

0800h **V31C-2335** POSTER Alteration minerals on the Santiaguito lava dome complex, Santa María volcano, Guatemala: **J L Ball**, E S Calder, R Giese

0800h **V31C-2336** POSTER Pressure-Induced Change in the Orientation of Carbonate Ions in Apatite: **M E Fleet**, X Liu, X Liu

0800h **V31C-2337** POSTER Geochemistry and Mineralogy of Wine: **C Oze**, T W Horton, M Beaman

0800h **V31C-2338** POSTER Electrospray Charging of Minerals: Surface Chemistry and Applications to High-Velocity Microparticle Impacts: **T Daly**, S Call, D E Austin

0800h **V31C-2339** POSTER Nature and Origin of Volcanogenic Salts Deposits around the Crater of Erebus volcano, Antarctica: **M M Kammerer**, P R Kyle, N W Dunbar

V31D Moscone West: 2020 Wednesday 0800h
Metamorphic Perspectives of Subduction Zone Evolution I
(joint with DI, T, MR)

Presiding: **B R Hacker**, University of California; **G E Bebout**, Lehigh University

0800h **V31D-01** Microfabrics and deformation mechanisms in a jadeite-blueschist from the Franciscan melange, California: **S Wassmann**, A Krohe, B Stoeckhert, C Trepmann

0815h **V31D-02** Serpentinite channel and the role of buoyancy in exhumation: the case-study of the HP-Voltri Massif (Western Alps, Italy): **C Malatesta**, T Gerya, L Federico, M Scambelluri, L CRISPINI, G Capponi

0830h **V31D-03** The metamorphic and kinematic history of a subduction channel analogue - the subgreenschist Chrystalls Beach Complex, New Zealand - and effects of metamorphic fluid pressure generation on dominant deformation style: **A Fagereng**

0845h **V31D-04** Pulse-like channelled long-distance fluid flow in subducting slabs (*Invited*): **T John**, N C Gussone, A Beinlich, R Halama, G E Bebout, Y Y Podladchikov, T Magna

0900h **V31D-05** Experimental Deformation of Dehydrating Antigorite: Challenging Models of Dehydration Embrittlement: **L J Chernak**, G Hirth

0915h **V31D-06** Trace element mobility during rutile replacement by titanite: Open vs. closed system examples from the Franciscan Complex, CA: **A M Cruz-Uribe**, T Zack, M D Feineman, M G Barth

0930h **V31D-07** Water release and rock volume change associated with smectite dehydration in the < 30 km depth seismicity of subduction zones: **O Vidal**, B Dubacq

0945h **V31D-08** Variability in P-T paths in subducting mantle and crust, and its control on the locations of intraslab earthquakes (*Invited*): **G A Abers**, J Nakajima, P E Van Keken

V31E Moscone West: 2022 Wednesday 0800h
Tracking Magma Through the Crust to Eruption II (joint with G, S)

Presiding: **T Arnadottir**, Inst. of Earth Sciences; **O Sigmarsson**, CNRS

0800h **V31E-01** A cinder cone perspective on magma ascent and eruption (*Invited*): **K V Cashman**, D Ruscitto, D McKay, P J Wallace, E R Johnson

0815h **V31E-02** MULTI-YEAR PERIODICITY OF SOUFRIÈRE HILLS VOLCANO, MONTSERRAT, REPLICATED BY CONDUIT PLUG FORMATION AND FLOW DYNAMICS (*Invited*): **R Foroosan**, D Elsworth, B Voight, G S Mattioli

0830h **V31E-03** Multiparameter Observations of Cyclic Eruptive Activity on Montserrat, 2009-2010: **H M Odbert**, R C Stewart, V Bass, P D Cole, A J Stinton, T E Christopher, M Ripepe

0845h **V31E-04** Dynamic map of an evolving plumbing system: Combining geochemical modeling and volcano monitoring at Mt. Etna, Sicily: **M Kahl**, S Chakraborty, F Costa Rodriguez, M Pompilio

0900h **V31E-05** The Role of Magma Buoyancy in Determining the Amount of Volatile-Saturated Silicic Magma that is Eruptible from a Crustal Reservoir: **S Tait**, J E Gardner

0915h **V31E-06** Investigating the pre- and post-eruptive stress regime at Redoubt volcano, Alaska, from 2008-1010 using seismic anisotropy and stress-tensor inversions: **M Gardine**, D C Roman
0930h **V31E-07** Experimental constraints on the P/T conditions of high silica andesite storage preceding the 2006 eruption of Augustine Volcano, Alaska: **S Henton**, J F Larsen, N Traxler
0945h **V31E-08** Time-dependent Imaging of Dike Propagation From Deformation and Seismicity Data: Application to the 2007 Kilauea Intrusion: **A L Llenos**, P Segall, C H Thurber, E M Syracuse

Union

U32A Moscone South: 104 Wednesday 1020h
Earth Sheds Her Archean Coat: 200 Million Years of Rapid Transition in Earth Systems I

Presiding: **K C Condie**, New Mexico Tech; **L Kump**, Pennsylvania State Univ

1020h **U32A-01** How Widespread is 2.4-2.2 Ga Continental Crust?: **K C Condie**, E Belousova

1035h **U32A-02** Stopping the Palaeoproterozoic plate tectonic machine: effects on melt production from 3D mantle convection simulations (*Invited*): **C O'Neill**, A Lenardic

1054h **U32A-03** When continents were flat and flooded: **N Coltice**, P F Rey, N Flament

1109h **U32A-04** Supercratons before supercontinents? (*Invited*): **D A Evans**, R N Mitchell, W Bleeker, O van Breemen, A N Lecheminant, K L Buchan, P Peng

1127h **U32A-05** The early Paleoproterozoic rock record: links between tectonics, glaciation and the rise of oxygen (*Invited*): **M E Barley**

1145h **U32A-06** Fixing the correlation among Paleoproterozoic glaciations and their relationship with the rise of atmospheric oxygen (*Invited*): **A Bekker**, B Rasmussen, I R Fletcher

1203h **U32A-07** Oxygen Overshoot and Recovery during the Paleoproterozoic: **H D Holland**, A Bekker

Atmospheric Sciences

A32A Moscone West: 3002 Wednesday 1020h
Atmospheric Circulations and Climate Change II (joint with GC)

Presiding: **S M Davis**, NOAA Earth System Research Laboratory (ESRL), Chemical Sciences Division/Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado at Boulder; **K H Rosenlof**, NOAA ESRL CSD

1020h **A32A-01** Recent widening of the tropical belt: Overview of observational evidence and model simulations (*Invited*): **D J Seidel**

1035h **A32A-02** Hadley Cell Widening: Model Simulations versus Observations (*Invited*): **Q Fu**, C Johanson

1050h **A32A-03** Observed Latitudinal Shift in Storm Track Cloudiness During Recent Decades: **J R Norris**, A T Evan

1105h **A32A-04** Differentiate the causes for the widening of the Hadley circulation through the regime change and seasonal cycle of mean circulation (*Invited*): **J Lu**, C Deser, G Chen, D M Frierson, T Reichler

1120h **A32A-05** POLAR STRATOSPHERIC OZONE: A MAJOR DRIVER OF CIRCULATION CHANGES IN THE SOUTHERN HEMISPHERE (*Invited*): **L M Polvani**

1135h **A32A-06** Connections between Antarctic Ozone Depletion and tropospheric Rossby wave breaking and cut-off lows:

D W Waugh, T Ndarana, L M Polvani, G J Correa, E P Gerber

1150h **A32A-07** The Hadley Circulation under Climate Change in a Hierarchy of Idealized Models: **X J Levine**, T Schneider

1205h **A32A-08** Descriptions of the sensitivity of zonal jets and Hadley circulations in Aqua Planet Experiments Project: **W Ohfuchi**, Y Yamada, Y O Takahashi, T Sampe, M K Yoshioka, K Nakajima, M Ishiwatari, Y Hayashi

A32B Moscone West: 3006 Wednesday 1020h
Atmospheric Sciences General Contributions: Dynamics I

Presiding: **N G Andronova**, University of Michigan; **W A Robinson**, North Carolina State University

1020h **A32B-01** Existence and importance of the edge region of the Antarctic stratospheric vortex: E Shuckburgh, **H K Roscoe**, M Trainic, W Feng, M Chipperfield

1035h **A32B-02** Cluster Analysis of Southern Hemisphere Tropical Cyclone Tracks: **H A Ramsay**, S J Camargo

1050h **A32B-03** Chasing air masses in the Arctic vortex: An evaluation of trajectory calculations using an active Match: **T Wegner**, J Grooss, R Mueller, F Stroh, R Lehmann, C Volk, E Hösen, M vom Scheidt, J Wintel, O Riediger, H Schlager, M Scheibe, P Stock, F Ravegnani, A Ulanovsky, V A Yushkov, M von Hobe

1105h **A32B-04** Predictability of stratospheric warming events: more from the troposphere or the stratosphere?: **W A Robinson**, L Sun, G Chen

1120h **A32B-05** North American Monsoon Onset In California As Indicated by GPS Precipitable Water: **J D Means**

1135h **A32B-06** Case Study of Hurricane Felix (2007) Rapid Intensification: **I C Colon-Pagan**, C A Davis, G J Holland

1150h **A32B-07** On the occurrence, the characterization and the dynamical processes associated with FrIAC's (Frozen In Anticyclones) events: **R Thiéblemont**, N Huret, Y Orsolini, A Hauchecorne, M Drouin

1205h **A32B-08** Phase Delays in the Seasonal Cycle: **J G Dwyer**, S Berthou, M Biasutti, A H Sobel

A32C Moscone West: 3008 Wednesday 1020h
Black Carbon's Role in Global to Local Air Quality and Climate Change I (joint with GC, PA)

Presiding: **D L Mauzerall**, Princeton Univ; **M Kopacz**, Princeton University; **D M Koch**, Columbia University

1020h **A32C-01** Black Carbon : Impacts on Local, Regional and Global Environment and Climate (*Invited*): **V Ramanathan**

1040h **A32C-02** A reflection on the nature of combustion and the search for short-lived climate warmers (*Invited*): **T C Bond**, D M Koch, P Forster, D W Fahey, S J Doherty, M G Flanner

1100h **A32C-03** On the black carbon problem and its solutions: **M Z Jacobson**

1115h **A32C-04** Assessing the Climatic Benefits of Black Carbon Mitigation: **D L Mauzerall**, R E Kopp

1130h **A32C-05** Source Attribution of Light-absorbing Aerosols in Arctic Snow (*Invited*): **D Hegg**, S G Warren, T C Grenfell, S J Doherty, T V Larson, A D Clarke

1150h **A32C-06** Pole-to-Pole Observations of Long-Range Transport of Black Carbon Aerosol: **J R Spackman**, J P Schwarz, R Gao, A Perring, L Watts, D W Fahey, S C Wofsy

1205h **A32C-07** Sensitivity of Surface Air Quality and Global Mortality to Global, Regional, and Sectoral Black Carbon Emission Reductions: **S Anenberg**, K Talgo, P Dolwick, C Jang, S Arunachalam, J West

A32D Moscone West: 3004 Wednesday 1020h
Nucleation and Growth of Atmospheric Aerosols I

Presiding: **J N Smith**, NCAR; **L Wang**, Texas A&M University

1020h **A32D-01** Evidence for the role of organics in aerosol particle formation under atmospheric conditions (*Invited*): **U Baltensperger**, Title of Team: The PSI-UHEL-UFrankfurt nucleation consortium

1035h **A32D-02** Contributions of Organic Vapours to Atmospheric Nanoparticle Growth: **L Wang**, W Xu, A F Khalizov, R Zhang

1047h **A32D-03** Aerosol nucleation measurements from the CLOUD experiment at CERN: **J Curtius**, J Kirkby, Title of Team: CLOUD Cooperation

1059h **A32D-04** Atmospheric Measurements of Neutral Nucleating Clusters (*Invited*): **J Zhao**, F L Eisele, J N Smith, M Chen, J Jiang, C Kuang, P H McMurry

1114h **A32D-05** Mass Spectrometry of Atmospheric Aerosol: 1 nanometer to 1 micron: **D R Worsnop**, M Ehn, H Junninen, M T Kulmala

1126h **A32D-06** Organic condensation: A vital link connecting aerosol formation to climate forcing (*Invited*): **I Riipinen**, J R Pierce, T Yli-Juuti, T Nieminen, S Häkkinen, M Ehn, H Junninen, K Lehtipalo, T T Petdjd, J G Slowik, R Y Chang, N C Shantz, J Abbatt, W R Leitch, V Kerminen, D R Worsnop, S N Pandis, N M Donahue, M T Kulmala

1141h **A32D-07** The Impact of Nucleation on Global Aerosol and Climate (*Invited*): **K Carslaw**, D V Spracklen, J Merikanto, M T Kulmala

1156h **A32D-08** Model-measurement Comparison of New Particle Formation Events in a Global Aerosol Microphysics Model: D M Westervelt, I Riipinen, J R Pierce, W Trivittayanurak, **P J Adams**

1208h **A32D-09** Nucleation and growth of atmospheric particles: Contribution of ion-mediated nucleation and role of low volatile organics condensation: **F Yu**, G Luo

Biogeosciences

B32A Moscone West: 2006 Wednesday 1020h
Detecting Thresholds of Ecosystem Resilience in a Changing Climate II (*joint with GC, H*)

Presiding: **A White**, New Mexico Institute of Mining and Technology; **L Dong**, New Mexico University; **R Heine**, University of Idaho; **C M Steele**, New Mexico State University

1020h **B32A-01** Ecosystem thresholds: Interrelated tipping points in broad-scale tree mortality, fire regimes, and ecohydrological dynamics (*Invited*): **C D Allen**

1050h **B32A-02** Patterns of abrupt ecosystem change through the Holocene: **C Morrill**, R W Katz, D E Atkinson

1105h **B32A-03** Has the Alaskan climate crossed a threshold? Satellite and tree-ring data indicate biome shift: **P S Beck**, G P Juday, S J Goetz, C Alix, V A Barber, S E Winslow, E E Sousa, P Heiser, J D Herriges

1120h **B32A-04** Thresholds for Coral Bleaching: Are Synergistic Factors and Shifting Thresholds Changing the Landscape for Management? (*Invited*): **C Eakin**, S D Donner, C A Logan, D K Gledhill, G Liu, S F Heron, T Christensen, J Rauenzahn, J Morgan, B A Parker, O Hoegh-Guldberg, W J Skirving, A E Strong

1150h **B32A-05** Quantifying ecological thresholds in a complex world: **H E Lintz**, B McCune, A N Gray, K A McCulloh

1205h **B32A-06** Macroecological patterns as indicators of when ecosystems are dynamically balanced or are close to rapid change: G Rowlands, **S C Chapman**, A Clarke, E J Murphy, N W Watkins

B32B Moscone West: 2004 Wednesday 1020h
Global Soil Change: Mechanisms of Carbon Stabilization and Response II (*joint with GC, EP*)

Presiding: **K Lajtha**, Oregon State University; **N Cavallaro**, USDA/CSREES

1020h **B32B-01** Nitrogen deposition and soil carbon sequestration: enzymes, experiments, and model estimates (*Invited*): **C L Goodale**, M Weiss, C Tonitto, M Stone

1035h **B32B-02** Biologically Driven Differences in Decomposition Dynamics Under Changing Ecosystems (*Invited*): **S Grandy**

1050h **B32B-03** Soil Carbon Change During Fifty Years of Old-Field Forest Development: **M L Mobley**, P R Heine, S A Billings, K Lajtha, M G Kramer, D D Richter

1105h **B32B-04** Minerals Masquerading As Enzymes: Abiotic Oxidation Of Soil Organic Matter In An Iron-Rich Humid Tropical Forest Soil: **S J Hall**, W L Silver

1120h **B32B-05** Mechanisms Controlling Carbon Turnover from Diverse Microbial Groups in Temperate and Tropical Forest Soils: **H Throckmorton**, L Dane, J A Bird, M K Firestone, W R Horwath

1135h **B32B-06** INCOMPLETE RECOVERY OF MINERAL-BOUND LIGNIN-DERIVED PHENOLS BY CUO OXIDATION: **P J Hernes**, K Kaiser, R Y Dyda, C Cerli

1150h **B32B-07** Stability of soil organic matter is a non-linear function of soil age: **B Sullivan**, S Hart

1205h **B32B-08** Root-Soil Interactions as Input-Driven Feedbacks in Regulating Soil Carbon Cycle: **W Cheng**

B32C Moscone West: 2002 Wednesday 1020h
Linking Dissolved Organic Matter Quality With Biogeochemical Cycles II (*joint with V, H*)

Presiding: **E R Hotchkiss**, University of Wyoming; **K J Goodman**, NEON, Inc.; **W H McDowell**, University of New Hampshire; **J B Fellman**, University of Western Australia

1020h **B32C-01** Character, quality and bioavailability of Dissolved Organic Carbon (DOC) in a boreal stream network (*Invited*): **H Laudon**, M Berggren, A Agren, M Jansson

1035h **B32C-02** Dissolved organic matter and stream biogeochemistry in watersheds underlain with discontinuous permafrost in subarctic Alaska (*Invited*): **J B Jones**, K L Balcarczyk, E F Betts, A Rinehart, T Harms, R Jaffe

1050h **B32C-03** Dissolved Organic Matter (DOM) Bioavailability among Aquatic Ecosystems in Russia's Kolyma River Watershed During Summer Baseflow (*Invited*): **W V Sobczak**, A Crowley, Title of Team: Polaris Project Research Team

1105h **B32C-04** DOM composition and lability during the Arctic spring freshet on the River Kolyma, Northeast Siberia: **P J Mann**, A I Davydova, N Zimov, E B Bulygina, S Davydov, L Russell-Roy, S A Zimov, R M Holmes

1120h **B32C-05** Compound-specific Sorption of Dissolved Organic Carbon on Soil Minerals: **S Jagadamma**, K Heal, M A Mayes, J Phillips, P Jardine

1135h **B32C-06** The Relationship Between Dissolved Organic Matter Composition and Organic Matter Optical Properties in Freshwaters: **G Aiken**, R G Spencer, K Butler

1150h **B32C-07** Optical properties of DOM and their relationships with dissolved trace metals in shallow lakes of southern Ontario, Canada: **A M Morales**, P C Frost

1205h **B32C-08** Organic carbon input from atmospheric deposition: a potential driver of nitrogen export from barren alpine ecosystems (*Invited*): **N Mladenov**, M W Williams, S K Schmidt

Cryosphere

C32A Moscone West: 301 I Wednesday 1020h
Innovations in Observing and Modeling Components of the Cryosphere III (*joint with EP, NG*)

Presiding: **J N Bassis**, University of Michigan; **M R Anderson**, University of Nebraska; **D R MacAyeal**, University of Chicago; **O V Sergienko**, Princeton University

1020h **C32A-01** Initialization of ice-sheet forecasts viewed as an inverse Robin problem: **R Arthern**, G H Gudmundsson

1035h **C32A-02** Glacier melting in a stratified ocean: Observations from outlet glaciers in Greenland (*Invited*): **F Straneo**, D A Sutherland, G S Hamilton, C Cenedese, L A Stearns

1050h **C32A-03** Capturing the effects of subglacial flooding and seasonal transitions in a flowband model of ice dynamics (*Invited*): **G E Flowers**, S Pimentel

1105h **C32A-04** Modelling a coupled distributed-channelized drainage system: the spacing of channels: **I Hewitt**

1120h **C32A-05** Stick-slip Motion of Whillans Ice Stream: Experimental Constraints on Till Frictional Behavior (*Invited*): **N R Iverson**

1135h **C32A-06** Improving degree-day melt modeling of the Greenland ice sheet in the Parallel Ice Sheet Model (PISM): **R M Hock**, A Aschwanden, J Ettema, E Bueler, C Khroulev, M R van den Broeke

1150h **C32A-07** A numerically optimized, computationally efficient method to couple Full-Stokes and simpler models of ice sheet flow: **H L Seroussi**, E J Rignot, M Morlighem, E Y Larour, H Ben Dhia, D Aubry

1205h **C32A-08** The Response Time of Surface Elevation of Polar Ice Sheets to Fluctuations of the Accumulation Rates: **J Li**, H J Zwally

Education and Human Resources

ED32A Moscone South: 102 Wednesday 1020h
The Imperative of Climate Literacy II (*joint with A, C, IN, GC, PP, PA*)

Presiding: **L T Huffman**, University of Nebraska-Lincoln; **J L Baeseman**, Association of Polar Early Career Scientists

1020h **ED32A-01** Science Communication during the International Polar Year 2007-2008: Successes and Recommendations (*Invited*): **D J Carlson**, Title of Team: IPY Education, Outreach and Communication Committee

1035h **ED32A-02** APECS: A Model Organization for Bridging Past to Present and Developing a New Generation of Polar Scientists (*Invited*): **K Timm**, J L Baeseman, Title of Team: Membership, Association of Polar Early Career Scientists

1050h **ED32A-03** Where do we go from here?: Science Communications Post-IPY Lessons Learned from Canada (*Invited*): **J Bellman**

1105h **ED32A-04** "POLAR-PALOOZA" and "International POLAR-PALOOZA": Taking Researchers on the Road to Engage Public Audiences across America, and Around the World: **G Haines-stiles**, E Akuginow

1120h **ED32A-05** Multimedia storytelling: **C A Linder**, M Wilbert, R M Holmes

1135h **ED32A-06** Girls on Ice: Using Immersion to Teach Fluency in Science: **E C Pettit**, C Mortenson, K Stiles, M Coryell-Martin, L Long

1150h **ED32A-07** Extending IPY Data to a Wider Audience: **M Turrin**, R E Bell, S L Pfirman

1205h **ED32A-08** THE CLIMATE LITERACY AND ENERGY AWARENESS NETWORK (CLEAN) PATHWAY: INTEGRATING SCIENCE AND SOLUTIONS: **T S Ledley**, M S McCaffrey, S Buhr, C A Manduca, S Fox, F Niepold, A U Gold

Earth and Planetary Surface Processes

EP32A Moscone South: 308 Wednesday 1020h
Advances in the Systematics of Terrestrial Cosmogenic Nuclides I (*joint with V, C, B, GC*)

Presiding: **F M Phillips**, New Mexico Inst Mining & Tech; **M Caffee**, Purdue University

1020h **EP32A-01** CRONUS-Earth: The Wrap-Up: **F M Phillips**

1035h **EP32A-02** A Step Toward Physics-Based Cosmogenic Nuclide Production Rates: Measurements of High-Energy Neutron Cross Sections: **M W Caffee**, K C Welten, K Ninomiya, T Omoto, R Nakagaki, N Takahashi, Y Kasamatsu, T Shima, S Sekimoto, H Yashima, S Shibata, H Matsumura, K Bajo, K Nagao, D Satoh, Y Iwamoto, M Hagiwara, A Shinohara, M Imamura, K Nishiizumi

1050h **EP32A-03** Potential resolution of discrepancies between scaling models for in situ cosmogenic nuclide production rates: **N A Lifton**

1105h **EP32A-04** RESULTS OF INTERLABORATORY COMPARISON STUDIES CONDUCTED AS PART OF THE CRONUS-EARTH PROGRAM: A T Jull, **M Scott**

1120h **EP32A-05** Timing of Expansions of the Quelccaya Ice Cap, Peru, and Implications for Cosmogenic Nuclide Production Rate Calibration: **T V Lowell**, M A Kelly, P J Applegate, C A Smith, F M Phillips, A M Hudson

1135h **EP32A-06** Cosmogenic Chlorine-36 Global Production Rate Parameter Calibration: **S Marrero**, B Borchers, F M Phillips, R Aumer, J Stone

1150h **EP32A-07** Transformative progress in glacial chronology by systematic advances in cosmogenic nuclide dating: **J M Schaefer**, R C Finkel, G Denton, M R Kaplan, A Putnam, R Schwartz, D Barrell

1205h **EP32A-08** Inter-comparison of cosmogenic in-situ ³He, ²¹Ne and ³⁶Cl at low latitude along an altitude transect on the SE slope of the Kilimanjaro volcano (3°S, Tanzania): **I Schimmelpfennig**, A Williams, R Pik, P Burnard, S Niedermann, R C Finkel, L Benedetti, B Schneider

EP32B Moscone South: 310 Wednesday 1020h
Physical and Chemical Consequences of Extreme Events at the Earth Surface I (*joint with A, H, NH, S, T*)

Presiding: **L H MacDonald**, Colorado State University; **C P Stark**, Columbia University

1020h **EP32B-01** Giant Landslides in the Earth System: Noise or Benchmarks? (*Invited*): **O Korup**

- 1035h **EP32B-02** The consequences of the 1999 Chi-Chi earthquake on bedrock river processes in central Taiwan (*Invited*): **B J Yanites**, G E Tucker, K J Mueller, Y Chen
- 1050h **EP32B-03** Landslides, Erosion and Landscape Evolution along the Eastern Margin of the Tibetan Plateau. (*Invited*): **W B Ouimet**, K X Whipple
- 1105h **EP32B-04** Effects of the 2008 Wenchuan Earthquake on the Min River, Sichuan, China: **A West**, Z Jin, R Hetzel, A Densmore, F Zhang, R G Hilton
- 1120h **EP32B-05** Short and Long-term Effects of High-severity Fires: **L H MacDonald**, I J Larsen, K R Schaffrath, D Eccleston, M J Welsh
- 1135h **EP32B-06** The effects of fire-flood events on the sediment yield of a coastal California watershed: **J A Warrick**, J A Hatten, A B Gray, E B Watson, G B Pasternack, M A Goni, R A Wheatcroft
- 1150h **EP32B-07** Vegetation Dynamics in the Watershed of Salt Pond, Falmouth, Massachusetts in the Aftermath of a Large Paleostorm and Subsequent Wildfire Inferred from Lignin Oxidation Products: **M L Gomes**, N E Blair, J P Donnelly, A D Hawkes, J Cederberg
- 1205h **EP32B-08** Harvesting organic carbon by landslides in mountain forest: Establishing decadal rates of carbon transfer and the role of extreme events (*Invited*): **R G Hilton**, P Meunier, N Hovius, P Bellingham, A Galy

Geodesy

G32A Moscone West: 2008 **Wednesday 1020h** **The Magnitude 8.8 Chilean Earthquake of 27 February 2010** **III** (*joint with S, T, NH*)

Presiding: **S E Barrientos**, Universidad de Chile; **B A Brooks**, University of Hawaii; **K Wang**, Geological Survey of Canada; **D Melnick**, University of Potsdam

- 1020h **G32A-01** Slip distribution of the February 27, 2010 Mw=8.8 Maule Earthquake, central Chile, from static and high-rate GPS, InSAR, and broadband teleseismic data: B Delouis, **J Nocquet**, M Vallée
- 1035h **G32A-02** Coseismic slip distribution of the February 27, 2010 Mw 8.9 Maule, Chile earthquake: **F F Pollitz**, B A Brooks, X Tong, M G Bevis, R Smalley, J H Foster, M Blanco, S Cimbaro, H Parra, J Baez, R Burgmann
- 1050h **G32A-03** On the similarity between pre-seismic locking and coseismic slip during the 2010 Maule earthquake (*Invited*): **M Moreno**, M Rosenau, D Melnick, O Oncken, M Keiding, J C Baez, M G Bevis, J Chen, A Tassara, M Motagh, A Socquet, M Cisternas, K Bataille, H Hase
- 1105h **G32A-04** Anatomy of the central Chile forearc and influence on megathrust seismogenic behavior (*Invited*): **A Tassara**, R I Hackney, D Legrand, A Echaurren, M Moreno, E Contreras Reyes, C F Braitenberg, D Lange
- 1120h **G32A-05** Geological Evidence of Predecessors to the 2010 Earthquake and Tsunami in South-Central Chile: **L L Ely**, M Cisternas, R L Wesson, M Lagos
- 1135h **G32A-06** REPEATED SURVEYS AND HISTORICAL NAUTICAL CHARTS SUPPORT ELASTIC REBOUND MODEL ON MEGATHRUST AT SANTA MARÍA ISLAND, CHILE, (37°S) THROUGH ONE AND ONE-HALF SEISMIC CYCLES: **R L Wesson**, D Melnick, M Cisternas, L L Ely, M Moreno
- 1150h **G32A-07** Strong static stress interaction of the 1960 M=9.5 and 2010 M=8.8 Chile earthquakes and their aftershocks: **R S Stein**, J Lin, S Toda, S E Barrientos

- 1205h **G32A-08** Spherical-earth Finite Element Models of Coseismic and Postseismic Deformation of the M 8.8 Maule Earthquake of 27 February 2010: **K Wang**, Y Hu, J He, B A Brooks, M G Bevis, G P Hayes

Global Environmental Change

GC32A Moscone South: 103 **Wednesday 1020h** **Bestsellers by AGU Authors on Global Environmental Change** **II** (*joint with A, B, H, OS, PA*)

Presiding: **S A Lloyd**, NASA Goddard Space Flight Ctr; **D J Wuebbles**, Univ Illinois

- 1020h **GC32A-01** The Great Ocean Conveyor (*Invited*): **W S Broecker**
- 1040h **GC32A-02** The Great Warming Brian Fagan: **B M Fagan**
- 1100h **GC32A-03** Seeing Through Smoke: Sorting through the Science and Politics in the Making of the 1956 British Clean Air Act (*Invited*): **D A Kenny**
- 1120h **GC32A-04** Storms of My Grandchildren: The Truth about the Coming Climate Catastrophe and Our Last Chance to Save Humanity (*Invited*): **J E Hansen**
- 1140h **GC32A-05** The Weather of the Future: Heat Waves, Extreme Storms, and Other Scenes from a Climate-Changed Planet: **H M Cullen**
- 1200h **GC32A-06** What's the Worst that Could Happen: A Veteran of the Climate Change Culture Wars Explains Why America Isn't Listening, and What to Do About It: **G A Craven**

GC32B Moscone West: 2005 **Wednesday 1020h** **Tropical Cyclones in the Global Climate System I** (*joint with A, OS, PP, NH, H*)

Presiding: **C M Brierley**, Yale University; **R L Sriver**, Penn State University

- 1020h **GC32B-01** Tropical cyclone activity and western North Atlantic stratification over the last millennia and potential connections (*Invited*): **J D Woodruff**, R L Sriver, D C Lund
- 1035h **GC32B-02** Development and applications of a new Genesis Potential Index: M K Tippett, **A H Sobel**, S J Camargo, G A Vecchi, M Zhao
- 1045h **GC32B-03** Increased SST and Frequent Occurrence of Rough Sea Events in the Bay of Bengal: Implications for livelihoods of Coastal Populace in Bangladesh (*Invited*): **A U Ahmed**
- 1100h **GC32B-04** On the role of tropical cyclones in ocean heat transport (*Invited*): **M F Jansen**, R M Ferrari
- 1115h **GC32B-05** Global impacts of intermittent mixing induced by tropical cyclones: **G E Manucharyan**, C M Brierley, A V Fedorov
- 1125h **GC32B-06** Tropical cyclogenesis indices: a focus in the South Pacific Convergence Zone: **C Menkes**, M Lengaigne, F Chauvin, J Royer, P Marchesiello, N C Jourdain, E M Vincent, J Lefevre, Title of Team: The equipe cyclone team
- 1135h **GC32B-07** Evaluating the favorability of present and future climates for tropical cyclogenesis using the point-downscaling technique: **D S Nolan**, E Rappin, M McGauley
- 1145h **GC32B-08** An analysis of the effect of global warming on the intensity of Atlantic hurricanes using a GCM with statistical refinement (*Invited*): **M Zhao**, I Held
- 1200h **GC32B-09** Dynamical simulation of tropical cyclones in high-resolution GCMs (*Invited*): **J Strachan**, P Vidale, K Hodges, M Roberts

Geomagnetism and Paleomagnetism

GP32A Moscone West: 2003 **Wednesday 1020h** **Geomagnetic Secular Variation Determined From Paleomagnetic Observations I** (*joint with DI*)

Presiding: **C G Harrison**, University of Miami; **C L Johnson**, University of British Columbia, Vancouver

1020h **Christopher Harrison** *Session Introduction*

1026h **GP32A-01** Paleosecular variation from the standpoints of paleomagnetism and numerical geodynamo modelling. (*Invited*): **J Aubert**

1040h **GP32A-02** Paleomagnetism of Sao Tome Lavas and Paleosecular Variation at the Equator (*Invited*): **N D Opdyke**, D V Kent, D A Foster

1054h **GP32A-03** Equatorial Paleosecular Variation of the Geomagnetic Field From 0-3 Ma Lavas From the Galapagos Islands: **D V Kent**, H Wang, P Rochette

1108h **GP32A-04** Dispersion of the Geomagnetic Field Caused by Secular Variation: Constraints From Sediment Cores From Around Antarctica: **G Acton**, L Jovane, K L Verosub, L Sagnotti, C Ohneiser, E Strada, F Florindo, G S Wilson

1122h **GP32A-05** Unbiased mean direction of paleomagnetic data and better estimate of paleolatitude: **T Hatakeyama**, H Shibuya

1136h **GP32A-06** 0-2 Ma Paleomagnetic Field Behavior from Lava Flow Data Sets: **C L Johnson**, C Constable, L Tauxe, G Cromwell

1150h **GP32A-07** The Relationship between Secular Variation and Reversal Frequency in the Phanerozoic (*Invited*): **A J Biggin**, C G Langereis, M Haldan

1204h **GP32A-08** Onset of inner core growth before 2.2 billion years ago: Insight from secular variation and paleointensity analyses: **A V Smirnov**, J A Tarduno, D A Evans

Hydrology

H32A Moscone West: 3020 **Wednesday 1020h** **Applying River and Watershed Research to Facilitate Management and Guide Policy I** (*joint with PA*)

Presiding: **A C Johnson**, USDA Forest Service/ Portland State University; **S M Reaney**, Durham University; **P Jordan**, Teagasc; **J A Yeakley**, Portland State University

1020h **Session Introduction** *Sim Reaney & Phil Jordan*

1020h **H32A-01** The Demonstration Test Catchment Approach to Land and Water Management in the river Eden Watershed, UK. (*Invited*): **J Jonczyk**, P F Quinn, P Haygarth, S Reaney, M Wilkinson, S Burke, D McGonigle, B Harris

1040h **H32A-02** Evaluating mitigation measures for diffuse pollution across time and space (*Invited*): **J Quinton**, C Deasy

1100h **H32A-03** Catchment-scale evaluation of environmental regulations in the agricultural sector in Ireland (*Invited*):

A R Melland, P Jordan, P Mellander, D J Wall, C Buckley, S Mehan, G Shortle

1120h **H32A-04** Science Roles and Interactions in Adaptive Management of Large River Restoration Projects, Midwest United States: **R B Jacobson**, D L Galat, C B Smith

1135h **H32A-05** Belford proactive flood solutions: scientific evidence to influence local and national policy by multi-purpose runoff management: **M Wilkinson**, P F Quinn, J Jonczyk

1150h **H32A-06** Linking large scale landscape change to water quality and quantity response in the lower Athabasca River, Canada: toward Cumulative Effects Assessment: **N E Seitz**, C J Westbrook, M Dubé, A Squires

1205h **H32A-07** The Emergence Of Urban Hydrologic Outcomes From Inter-Related Social And Physical Dynamics: **F A Montalto**, A Waldman, K Travaline

H32B Moscone West: 3018 **Wednesday 1020h** **Changing Dynamics of Complex Ecohydrological Systems I** (*joint with B, EP*)

Presiding: **J Zhu**, Desert Research Institute; **R S Teegavarapu**, Florida Atlantic University; **D S Mackay**, State University of New York - Buffalo; **D Sun**, University of Houston, Clear Lake; **M Young**

1020h **H32B-01** Environmental Energy and Mass Transfer: Key to Understanding Catchment Evolution (*Invited*): **P A Troch**, C Rasmussen, P D Broxton, I Heidbuechel

1035h **H32B-02** Climatic and landscape controls on inter-annual variability of water balance and vegetation water use: a stochastic approach: **S Zanardo**, C J Harman, P A Troch, P C Rao, M Sivapalan, A Rinaldo

1050h **H32B-03** Does vegetation buffer hydrological response? (*Invited*): **V Y Ivanov**, S Fatichi, E Caporali

1105h **H32B-04** Using observed climate-landscape-vegetation patterns across a regional gradient to predict potential response to climate change: **V B Smith**, B Cardenas, C H David

1120h **H32B-05** Vegetation optimality during drought in a Mediterranean catchment in Spain (*Invited*): **C Van der Tol**, L Reyes, A Pascal, M Lubczynski

1135h **H32B-06** Land use alterations, hydrology and climate alterations analysis approach for water supply guarantee: **V Pereira**, M T Walter, J Teixeira Filho

1150h **H32B-07** Tree-grass co-existence in savanna: Interactions of rain and fire: **F Accatino**, C De Michele, R Vezzoli, D Donzelli, R J Scholes

1205h **H32B-08** Ecohydrological Consequences of Grasses Invading Shrublands: A Comparison of Cold and Warm Deserts: **B P Wilcox**, L Turnbull, M Young, C J Williams, S Ravi, M S Seyfried, D R Bowling, R L Scott, T G Caldwell, J Wainwright, M J Germino

H32C Moscone West: 3014 **Wednesday 1020h** **Groundwater/Surface Water Interactions: Dynamics and Patterns Across Spatial and Temporal Scales III**

Presiding: **C E Hatch**, University of Nevada Reno; **J H Fleckenstein**, Helmholtz Center for Environmental Research (UFZ); **S Ge**, University of Colorado

1020h **H32C-01** Assessing the Roles of Karst Conduit Versus Matrix Flow in the Santa Fe River Basin: **S B Meyerhoff**, R M Maxwell, W D Graham

1035h **H32C-02** Implications of Stream Gains and Losses for Hydrologic Turnover and Solute Retention/Transport at the Stream Network Scale: **T P Covino**, B L McGlynn, J Mallard

1050h **H32C-03** Spatial and temporal variations of evapotranspiration signals in Long Meadow, Sequoia National Park, California: **M H Conklin**, R G Lucas

1105h **H32C-04** Spatial heterogeneity in isotopic signatures of baseflow in small watersheds: implications for understanding watershed hydrology: **A J Jefferson**

1120h **H32C-05** Recharge Along a Steep Hillslope: **R Salve**, W E Dietrich, D M Rempe, J Oshun, I Fung

1135h **H32C-06** Groundwater-surface water interaction along the Upper Biebrza River, Poland: a spatial-temporal approach with temperature, head and seepage measurements: C Anibas, **O Batelaan**, B Verbeiren, K Buis, J Chormanski, L De Doncker

1150h **H32C-07** Using Measurements of Heat and Pressure to Characterize Hyporheic Exchange through a Riffle-Pool Sequence in the Truckee River, NV: **R C Naranjo**, R G Niswonger, M Stone, C Davis, W A McKay

1205h **H32C-08** Distributed Temperature Sensing of hyporheic flux patterns in varied space and time around beaver dams: **M Briggs**, L K Lautz, J M McKenzie

H32D Moscone West: 3016 Wednesday 1020h
New and Emerging Satellite Missions for Remote Sensing Hydrology I

Presiding: **D E Alsdorf**, Ohio State University; **C Rudiger**, The University of Melbourne

1020h **H32D-01** ESA's Cold Regions Hydrology High-resolution Observatory (CoReH2O): Overview and Progress (*Invited*): **C R Duguay**, H Rott, D W Cline, R Essery, P Etchevers, I Hajsek, M Kern, G Macelloni, E Malnes, J T Pulliainen, S H Yueh, F Hélière, A Lecuyot

1035h **H32D-02** Using high-resolution satellite rainfall products to nowcast major flash-flood inducing storms (*Invited*): **E N Anagnostou**, E I Nikolopoulos, A Papadopoulos, A C Bagtzoglou

1050h **H32D-03** First in flight results from the SMOS 2-D interferometer (*Invited*): **Y H Kerr**, M Drusch, J Wigneron, S Mecklenburg, A Mahmoodi

1105h **H32D-04** The Soil Moisture Active Passive Mission (SMAP) Science Data Products: Results of Testing With Field Experiment and Algorithm Testbed Simulation Environment Data: **D Entekhabi**, E G Njoku, P E O'Neill, K H Kellogg, J K Entin, Title of Team: SMAP Science Definition Team

1120h **H32D-05** On the implications of the Surface Water and Ocean Topography (SWOT) mission for hydrologic science and applications (*Invited*): **D P Lettenmaier**

1135h **H32D-06** AirSWOT: An Airborne Platform for Surface Water Monitoring: **E Rodriguez**, D Moller, L C Smith, T M Pavelsky, D E Alsdorf

1150h **H32D-07** Increased Spatial and Temporal Resolution in Recovering Hydrology Using Two Pairs of GRACE-like Satellites: **D N Wiese**, R Nerem

1205h **H32D-08** Water consumption information and other hydrologic retrievals from the proposed NASA HyspIRI mission: **R G Allen**, M C Anderson, S J Hook

Earth and Space Science Informatics

IN32A Moscone South: 302 Wednesday 1020h
GIScience I (joint with H, ED)

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **O Wilhelmi**, NCAR; **B D Branch**, Elizabeth City State University

1020h **IN32A-01** Review of GI Science Trends and Grand Challenges (*Invited*): **M Gould**, Title of Team: Esri Education team

1035h **IN32A-02** Advancing GIS for Geospatial Dynamics (*Invited*): **M Yuan**

1050h **IN32A-03** Increasing the availability and usability of terrestrial ecology data through geospatial Web services and visualization tools (*Invited*): **S Santhana Vannan**, R B Cook, B E Wilson, Y Wei

1105h **IN32A-04** Environmental Model Interoperability Enabled by Open Geospatial Standards - Results of a Feasibility Study (*Invited*): **K K Benedict**, C Yang, Q Huang

1120h **IN32A-05** A Scalable Infrastructure for Lidar Topography Data Distribution, Processing, and Discovery: **C J Crosby**, V Nandigam, S Krishnan, M Phan, C A Cowart, R Arrowsmith, C Baru

1135h **IN32A-06** THE WEATHER AND CLIMATE TOOLKIT: **S Ansari**, S Del Greco, B Hankins

1150h **IN32A-07** Documentation of Cultural Heritages Using a GIS Based Information and Management System; Case Study of Safranbolu: **D Z Seker**, M Alkan, S S Kutoglu, H Akcin

1205h **IN32A-08** Collaborative Planetary GIS with JMARS: **S Dickenshied**, P R Christensen, C S Edwards, L C Prasad, S Anwar, E Engle, D Noss, Title of Team: JMARS Development Team

Nonlinear Geophysics

NG32A Moscone West: 3001 Wednesday 1020h
Nonlinear Geophysics: Horizons

Presiding: **A S Sharma**, University of Maryland; **U C Herzfeld**, Univ Colorado Boulder; **Y Wang**

1020h **Turcotte Award Presentation**

1030h **NG32A-01** Long-term Memory in Climate Records and the Detection Problem (*Invited*): **S Lennartz**

1050h **NG32A-02** Singularity, generalized self-similarity and self-organized criticality of Geochemical Landscapes from Mineral Districts (*Invited*): **Q Cheng**

1105h **NG32A-03** Singular measures versus nondifferentiability: from the solid earth to the atmosphere and their interface (*Invited*): **S Lovejoy**, D J Schertzer

1120h **NG32A-04** Pattern formation in an early diagenetic system: Liesegang pyrite bands in sapropels (*Invited*): **I L'Heureux**, R Bektursunova

1135h **NG32A-05** Spatio-Temporal Self-Organization in Mudstones (*Invited*): **T A Dewers**

NG32B Moscone West: 3001 Wednesday 1150h
Statistical Structure of the Atmosphere in the Horizontal and Vertical: Theory and Observation I (joint with A)

Presiding: **A Tuck**, Imperial College London; **S Lovejoy**, McGill University

1150h **NG32B-01** Signatures of upscale and downscale energy cascades in QuikSCAT winds over the equatorial Pacific (*Invited*): **G P King**

1205h **NG32B-02** Temperature and velocity structure functions in the upper troposphere and lower stratosphere from aircraft measurements (*Invited*): **D E Wroblewski**, J Werne, O Cote, J Hacker, R Dobosy

Natural Hazards

NH32A Moscone West: 3010 **Wednesday 1020h** **Remote Sensing and Modeling of Landslides: Detection, Monitoring, and Risk Evaluation III** (*joint with NH, EP, PA*)

Presiding: **H Fukuoka**, Kyoto University; **D B Kirschbaum**, NASA Goddard Space Flight Center

1020h **NH32A-01** Semi-automatic mapping of rainfall-induced landslides exploiting VHR optical images: the Messina, Sicily, 1 October 2009 landslide event (*Invited*): **P Reichenbach**, A Mondini, F Ardizzone, M Cardinali, F Fiorucci, F Guzzetti, M Rossi

1035h **NH32A-02** Landslide Monitoring with Multi-Temporal Airborne LiDAR: **N F Glenn**, L Spaete, R Shrestha, P O'Leary, G Thackray, D J Chadwick

1050h **NH32A-03** InSAR applications for the detection and monitoring of landslides (*Invited*): **F Catani**, N Casagli

1105h **NH32A-04** Investigation of a slowly deforming, glacially debuttressed rock slope in the Alaska Range using InSAR, LiDAR and two-dimensional numerical modeling: **S D Newman**, J J Clague, B Rabus, D H Shugar

1120h **NH32A-05** A multi-modal geological investigation framework for subsurface modeling and kinematic monitoring of a slow-moving landslide complex in Colorado, United States: **B W Lowry**, W Zhou, Title of Team: SmartGeo

1135h **NH32A-06** Establishing Near-Real-Time Monitoring of Landslides and Mud/Debris Flows (LMDF) for West Canada: **H Kao**, A Rosengerger

1150h **NH32A-07** The seismic signature of rockslides: a review of events in the Central Alps: **F Dammeier**, J R Moore, F Haslinger, S Loew

1205h **NH32A-08** Slopes instabilities in Dolomieu crater, la Réunion Island, from seismological observations and numerical modeling: **C Hibert**, A Mangueney, G Grandjean, N M Shapiro

Ocean Sciences

OS32A Moscone West: 3007 **Wednesday 1020h** **"Organic Geotraces": Toward an Understanding of the Distribution of Organic Matter in the Oceans I** (*joint with B*)

Presiding: **T I Eglinton**, Woods Hole Oceanographic Institution; **E B Kujawinski**, WHOI; **C A Carlson**, University of California Santa Barbara

1020h **OS32A-01** GEOTRACES: An international program studying micronutrient cycles, contaminants and paleoproxy calibration (*Invited*): **R F Anderson**, G M Henderson

1035h **OS32A-02** Isotopic analysis of bulk, LMW, and HMW DON d15N indicates recycled nitrogen release from marine DON: **A N Knapp**, D M Sigman, F Lipschultz, A Kustka, D G Capone

1050h **OS32A-03** A Global Radiocarbon Mixing Line For Marine Dissolved Organic Carbon (DOC): **S R Beaupre**, E R Druffel

1105h **OS32A-04** Mapping the Origins of Chromophoric Dissolved Organic Matter in the North Atlantic Subtropical Gyre: **N McDonald**, V Logendran, D G Evans, A Peters, N B Nelson

1120h **OS32A-05** Predictable variability in the neutral sugar composition of DOM in the North Atlantic and South Pacific Ocean: **S J Goldberg**, C A Carlson, M A Brzezinski, N B Nelson, D A Siegel

1135h **OS32A-06** Understanding the Biogeochemical Significance of Hopanoids in the Marine Geologic Record Through a Study of Their Distribution in the Modern Oceans: **J P Saenz**, R E Summons, T I Eglinton, S G Wakeham

1150h **OS32A-07** Molecular biogeochemical provinces in the Atlantic Surface Ocean: **B P Koch**, R Flerus, P Schmitt-Kopplin, O J Lechtenfeld, A Bracher, W Cooper, S Frka, B Gašparović, M Gonsior, N Hertkorn, R Jaffe, A Jenkins, J Kuss, R J Lara, M Lucio, S L McCallister, S B Neogi, C Pohl, R Roettgers, G Rohardt, B B Schmitt, A Stuart, A Theis, W Ying, M Witt, Z Xie, Y Yamashita, L Zhang, Z Y Zhu, G Kattner

1205h **OS32A-08** Challenges and opportunities for organic GEOTRACES (*Invited*): **A Pearson**, D Repeta

OS32B Moscone West: 3009 **Wednesday 1020h** **Eastern Boundary Ocean Margin Carbon Cycles II** (*joint with B, H*)

Presiding: **B R Hales**, COAS; **F Chavez**, MBARI; **M A Goni**, Oregon State University; **S A Siedlecki**, University of Chicago

1020h **OS32B-01** Freshwater influences on productivity, retention, and export in the northern California Current System (*Invited*): **N S Banas**, B M Hickey

1035h **OS32B-02** Coupling Physics, Biology and Terrestrial Runoff to Ocean Acidification and Carbonate Mineral Suppression in the Pacific-Arctic Region (*Invited*): **J T Mathis**, J N Cross, K L Shake

1050h **OS32B-03** Inorganic Carbon Dynamics during Northern California Coastal Upwelling: **A Fassbender**, C L Sabine, R A Feely, C Langdon, C W Mordy

1105h **OS32B-04** Gross and Net Production Estimates in the California Current System from Oxygen Triple Isotopes and the O₂/Ar Ratio: **D R Munro**, P Quay

1120h **OS32B-05** Speciation and export of particulate iron from the Northwest African continental margin into the water column: **P J Lam**, D Ohnemus, M A Marcus, S Fakra

1135h **OS32B-06** A Model for Export of Particulate Organic Carbon in Eastern Boundary Upwelling Systems: **S A Siedlecki**, D E Archer, B R Hales, M Segura-Noguera, A Mahadevan

1150h **OS32B-07** Particulate Organic Carbon Burial in Ocean Margin Sediments in the Oregon Upwelling Margin: Terrestrial vs. Marine Sources: **R H Hastings**, M A Goni, R A Wheatcroft

1205h **OS32B-08** pCO₂ Dynamics on the Western Canadian Coastal Margin: **W Evans**, B R Hales, D C Ianson, P G Strutton

Planetary Sciences

P32A Moscone South: 306 **Wednesday 1020h** **Interiors of Terrestrial Planets and Super-Earth Exoplanets III** (*joint with DI*)

Presiding: **S Shim**, Massachusetts Inst Tech; **S Stanley**, University of Toronto

1020h **P32A-01** A Review of Super-Earth Exoplanets Observations (*Invited*): **B Demory**

1035h **P32A-02** Stability of Post-Perovskite in MgSiO₃ analogy NaMgF₃ and its Implication for the Mantle Dynamics of Super-Earths: **B Grocholski**, S Shim, V Prakapenka

1050h **P32A-03** A Novel Dense Phase of Silica Initiating Silicates Breakdown in Giant Terrestrial Planets (*Invited*): **T Tsuchiya**, J Tsuchiya

1105h **P32A-04** Some Mineral Physics Observations Pertinent to the Rheological Properties of Super-Earths: **S Karato**

- 1120h **P32A-05** Super-Earths Interior Structure and Dynamics (*Invited*): **D C Valencia**
- 1135h **P32A-06** On the Modes of Mantle Convection in Super-Earths (*Invited*): **D Bercovici**
- 1150h **P32A-07** Convective Structure and Tectonic Setting for Synchronously Rotating Super-Earth Exoplanets: **J van Summeren**, C P Conrad, E Gaidos
- 1205h **P32A-08** Thermal Structure and Lithospheric Mobility of Super-Earths: **U Hansen**, C Stein, J P Lowman

Paleoceanography and Paleoclimatology

PP32A Moscone West: 3005 **Wednesday 1020h** **Reconstruction and Modeling of Global Climate Evolution of the Past 21,000 Years II**

Presiding: **P U Clark**, Oregon State Univ.; **P J Bartlein**, University of Oregon

- 1020h **PP32A-01** Model and proxy isotopic insights on the evolution of southern tropical African hydrology from 21 ka to present (*Invited*): **J E Tierney**, S C Lewis, B I Cook, A N LeGrande, G A Schmidt
- 1035h **PP32A-02** CCSM3 transient simulations of the deglacial evolution of precipitation in Africa: **B L Otto-Bliesner**, Z Liu, F He, P U Clark, J M Russell, P B DeMenocal, S E Nicholson, J T Overpeck, T C Johnson, A E Carlson, E C Brady, M Wehrenberg
- 1050h **PP32A-03** Evolution of tropical Atlantic Sea Surface Temperature Gradients since the LGM and associated shifts of the marine Atlantic Intertropical Convergence Zone: **J A Arbuszewski**, P B DeMenocal, C Cleroux, L I Bradtmiller, A C Mix
- 1105h **PP32A-04** Contrasting Modes of El Niño dynamics in the Holocene and Last Glacial Maximum: **A Koutavas**
- 1120h **PP32A-05** Chinese stalagmites: proxies for the Indian Summer Monsoon response to an archetypal abrupt climate change: **F Pausata**, D S Battisti, K H Nisancioglu
- 1135h **PP32A-06** Absolute-dated lake and cave records of the glacial highstand and deglacial regression of Lake Bonneville, Utah, USA: **D McGee**, R Edwards, J Quade, W S Broecker
- 1150h **PP32A-07** Millennial-Scale Hydroclimate Variation in North America during the Late-Quaternary: Evidence from a Network of Lake-Level Reconstructions: **B N Shuman**
- 1205h **PP32A-08** Ice-Age Termination I from the northern Indian Ocean: **R Saraswat**, D W Lea, R Nigam, A Mackensen

SPA-Aeronomy

SA32A Moscone South: 301 **Wednesday 1020h** **Ionospheric Modification Using High-Power Radio Waves and Atmospheric Processes Studied Using Space Shuttle and Rocket Exhaust II** (*joint with SM*)

Presiding: **M Golkowski**, University of Colorado Denver; **M H Stevens**, Naval Research Laboratory; **G Crowley**, ASTRA; **M P Sulzer**, Arecibo Observatory

- 1020h **SA32A-01** Review of the Design, Construction, and Coming Scientific Capabilities of the New Arecibo HF Facility: **M P Sulzer**
- 1032h **SA32A-02** Optimal Geophysical Conditions for ELF/VLF Generation in Modulated Heating Experiments: **G Jin**, M Spasojevic, M Cohen, N G Lehtinen, U S Inan

- 1044h **SA32A-03** CORRELATIVE OBSERVATIONS WITH SPACE-BORNE DIRECT DOPPLER WIND INSTRUMENTS OF THE RAPID TRANSPORT OF SHUTTLE EXHAUST PLUMES (*Invited*): **R Niciejewski**, R R Meier, M H Stevens, W R Skinner, M Cooper, A Marshall, D A Ortland, Q Wu
- 1059h **SA32A-04** Meridional transport in the lower thermosphere (*Invited*): **H Liu**
- 1114h **SA32A-05** Evidence for 2-D Turbulence in the Lower Thermosphere (*Invited*): **M C Kelley**, R H Varney, C E Seyler
- 1129h **SA32A-06** Dynamical Properties of Shuttle Plumes in the Lower Thermosphere: **R R Meier**, M H Stevens, J M Plane, J T Emmert, G Crowley, L J Paxton, A B Christensen, S I Azeem
- 1141h **SA32A-07** Direct observation of Space Shuttle water vapour exhaust plumes by Odin/SMR: **S Lossow**, J Urban, D P Murtagh, P Eriksson
- 1153h **SA32A-08** Effects of the Shuttle Plumes on the Chemistry and Energetics of the Lower Thermosphere (*Invited*): **S I Azeem**, G Crowley, M H Stevens, R R Meier
- 1208h **SA32A-09** Anchoring Atmospheric Density Models Using Observed Shuttle Plume Emissions: **W L Dimpfl**, L S Bernstein

SPA-Solar and Heliospheric Physics

SH32A Moscone South: 309 **Wednesday 1020h** **Initiation, Evolution, and Interaction of Coronal Mass Ejections, Corotating Interaction Regions, and Interplanetary Shocks From the Sun to 1 AU III** (*joint with SM*)

Presiding: **S Wu**, Univ Alabama Huntsville; **N U Crooker**, Boston University; **RA Howard**, Naval Research Lab

- 1020h **SH32A-01** Initiation and Evolution of Corotating Interaction Regions: **L Jian**, C T Russell, J G Luhmann, P J MacNeice, D Odstrcil, P Riley, K D Simunac, A B Galvin, T Zhang
- 1035h **SH32A-02** Numerical Simulation of Earth Directed CMEs with an Advanced Two-Temperature Coronal Model (*Invited*): **W B Manchester**, B van der Holst, R A Frazin, A M Vasquez, G Toth, T I Gombosi
- 1050h **SH32A-03** Charge-State and Plasma Properties Across Trailing Boundaries of Slow Solar Wind: **N U Crooker**, M Neugebauer, Y Wang, R L McPherron
- 1105h **SH32A-04** Three-Dimensional Global Simulation of Coronal Mass Ejections with Flux-Rope Structures: **C Wu**, A Wang, S Wu, C D Fry, S P Plunkett, K Liou
- 1120h **SH32A-05** Investigating Magnetic Field Line Lengths in Interplanetary Coronal Mass Ejections Using Energetic Electron Events: **S W Kahler**, D K Haggerty, I G Richardson
- 1135h **SH32A-06** Three-Dimensional CME Reconstruction Using Geometric and Polarimetric Localization: **C A de Koning**, V J Pizzo
- 1150h **SH32A-07** Radio-Loud Coronal Mass Ejections without Shocks near Earth: S Akiyama, **N Gopalswamy**, H Xie, S Yashiro, P A Makela, O C St Cyr, R J MacDowall, M L Kaiser
- 1205h **SH32A-08** The First Results of Solar Wind Background Study by 3D SIP-AMR-CESE MHD Model (*Invited*): **X Feng**, L Yang, C Jiang, S Wu, Title of Team: Solar-Interplanetary-Geomagnetic Weather Group (SIGMA Weather Group)

SPA-Magnetospheric Physics

SM32A Moscone South: 307 **Wednesday 1020h**
Dynamics in the Saturnian Magnetosphere III (*joint with P*)

Presiding: **A Masters**, Mullard Space Science Laboratory;
G B Hospodarsky, University of Iowa

1020h **SM32A-01** Saturn's neutral clouds: A current perspective on structure and dynamics (*Invited*): **H T Smith**, R E Johnson, D G Mitchell

1041h **SM32A-02** Models of Electron Energetics in the Enceladus Torus: **T E Cravens**, N Ozak, M S Richard, I P Robertson, M E Perry, M E Campbell

1056h **SM32A-03** Radial plasma transport in Saturn's magnetosphere (*Invited*): **T W Hill**

1117h **SM32A-04** Saturn's Ionospheric Clock(s): A Concept for Generating and Maintaining Saturn's Observed Magnetospheric Periodicities: **D G Mitchell**, P C Brandt, A Y Ukhorskiy

1132h **SM32A-06** Location of Saturn's Northern Infrared Aurora Determined from Cassini VIMS Images: **S V Badman**, N A Achilleos, K H Baines, R H Brown, E J Bunce, M K Dougherty, H Melin, J D Nichols, T Stallard

1147h **SM32A-07** Saturn aurora movies in visible and near-IR observed by Cassini ISS: **U Dyudina**, D Wellington, S P Ewald, A P Ingersoll, C Porco

SM32B Moscone South: 305 **Wednesday 1020h**
Origins of Near-Earth Plasma I (*joint with SA*)

Presiding: **L M Kistler**, University of New Hampshire;
R J Strangeway, UCLA

1020h **SM32B-01** Thermosphere-Ionosphere-Magnetosphere Coupling and Mass Outflow - the Thermosphere/Ionosphere Perspective (*Invited*): **R W Schunk**

1035h **SM32B-02** I-T influences on ionospheric outflow during magnetic storms. (*Invited*): **T J Immel**, A J Ridley, M W Liemohn, A J Mannucci

1050h **SM32B-03** The occurrence and characteristics of high-latitude ion outflows observed with the EISCAT incoherent scatter radars and the FAST spacecraft: **D M Wright**, J A Davies, R J Strangeway, S V Badman, I McCrea, P Gallop

1105h **SM32B-04** Thermosphere-Ionosphere-Magnetosphere Coupling and Mass Outflow - the Magnetosphere/Ionosphere Perspective (*Invited*): **M J Wiltberger**

1120h **SM32B-05** Access of ionospheric oxygen to the near-Earth plasmasheet during geomagnetically-quiet conditions: **S R Elkington**, W K Peterson, J P McCollough

1135h **SM32B-06** How do heavy ions affect plasma entry and transport processes?: S A Lazerson, **J Johnson**, P A Delamere, A Otto, Y Lin, S Wing, E Kim

1150h **SM32B-07** Exploring the influence of ionospheric O⁺ outflow on magnetospheric dynamics: **Y Yu**, A J Ridley

1205h **SM32B-08** Understanding Meso- and Micro-scale Coupling of Near Earth Plasmas (*Invited*): **T E Moore**, G V Khazanov

Study of Earth's Deep Interior

DI32A Moscone West: 3022 **Wednesday 1020h**
New Views on the Lithosphere-Asthenosphere Boundary II (*joint with MR, S, T, V*)

Presiding: **M M Hirschmann**, University of Minnesota;
H Kawakatsu, Earthquake Research Institute; **C A Rychert**, University of Bristol; **J B Gaherty**, Columbia University

1020h **DI32A-01** Imaging the Lithosphere-Asthenosphere Boundary beneath the Pacific using SS Waveform Modeling: **C A Rychert**, P M Shearer

1035h **DI32A-02** Electrical conductivity of oceanic lithosphere and asthenosphere: constraints from modern seafloor magnetotelluric data: **K Baba**, H Utada

1050h **DI32A-03** Accumulation of melt and volatiles at the base of the lithosphere: Implications for the origin of the EMORB geochemical reservoir and seismic G-discontinuity: **G Hirth**, E Parmentier, A E Saal

1105h **DI32A-04** Small-scale convection and the seismic structure of the base of the lithosphere (*Invited*): **N H Sleep**

1120h **DI32A-05** How is the seismic LAB observed? (*Invited*): **R Kind**, P Kumar, B Heit, X Yuan

1135h **DI32A-06** The lithosphere-asthenosphere boundary beneath North America and Australia (*Invited*): **K M Fischer**, H A Ford, V Lekic, D L Abt

1150h **DI32A-07** Imaging continental lithospheric structure from S receiver functions: evidence of arc accretion for formation of cratonic keels: **M S Miller**, D W Eaton, Y Rong

1205h **DI32A-08** Lithosphere-Asthenosphere boundary from a petrological perspective: Results from the Basin and Range, Western USA (*Invited*): **E Gazel**, T Plank, C J Rau, D W Forsyth

Mineral and Rock Physics

MR32A Moscone West: 3024 **Wednesday 1020h**
The Post-Perovskite Transition and the D" Layer II (*joint with S, DI, V*)

Presiding: **R Caracas**, Ecole Normale Supérieure; **H Liu**, Harbin Institute of Technology

1020h **MR32A-01** High-pressure polymorphs of iron-rich (Mg, Fe)SiO₃ and FeGeO₃ perovskite and post-perovskite. Takamitsu Yamanaka¹, Wendy L. Mao², P. Ganesh¹, Luke Shulenburg¹, Ho-kwang Mao¹ and Russell J. Hemley¹ ¹Geophysical Laboratory, Carnegie Institute of Washington, Washington, D.C. 20015 ² Department of Geological and Environmental Sciences, Stanford University, Stanford, CA 94305: **T Yamanaka**, W L Mao, L Shulenburg, P Ganesh, H Mao, R J Hemley

1035h **MR32A-02** Chemical Exchange Between Metals and Oxides at the Conditions of the Core-Mantle Boundary (*Invited*): **A J Campbell**, G A Shofner, R A Fischer

1050h **MR32A-03** Laboratory measurements of electrical conductivity up to the lowermost mantle conditions (*Invited*): **K Hirose**, K Ohta

1105h **MR32A-04** Detection of present-day slab-driven mantle flow (*Invited*): **M S Thorne**, E J Garnero, A K McNamara, H Igel

1120h **MR32A-05** Iron Spin Transitions in High Pressure Minerals (*Invited*): **D Morgan**, S Saha, A K Bengtson, U Becker

1135h **MR32A-06** Depth and Thickness of the Post-Perovskite Boundary in a MORB Composition: **K Catalli**, S Shim, V Prakapenka

1150h **MR32A-07** Polymorphism in silicate-postperovskite reviewed (*Invited*): **O D Tschauner**

1205h **MR32A-08** Depth and Thickness of the Post-Perovskite Boundary in Pyroclitic and San Carlos Olivine Compositions: **S Shim, B Grocholski, V Prakapenka**

Seismology

S32A Moscone West: 2009 Wednesday 1020h
Ambient Noise Imaging in Seismology and Helioseismology II
(joint with OS, SH)

Presiding: **A G Kosovichev**, Stanford University; **J F Claerbout**,
T L Duvall, NASA Goddard Space Flight Center

1020h **S32A-01** Time-Distance Helioseismology (*Invited*):
T L Duvall

1035h **S32A-02** Initial study of stereo-helioseismology: **T Sekii**,
T Hartlep, **J Zhao**, **K Nagashima**, **A G Kosovichev**

1050h **S32A-03** Helioseismology Study of Subsurface Dynamics in
the Polar Regions of the Sun: **K Nagashima**, **J Zhao**, **A G Kosovichev**,
T Sekii

1105h **S32A-04** Helioseismic Fréchet Traveltime Sensitivity
Kernels in Spherical Coordinates: **R Schlottmann**, **A G Kosovichev**

1120h **S32A-05** Validating Helioseismic Imaging Techniques using
3D Global-Sun Simulations of Helioseismic Wave Propagation:
T Hartlep, **J Zhao**, **A G Kosovichev**, **N N Mansour**

1135h **S32A-06** Solar Subsurface Flows derived with Ring-
Diagram Analysis: **R Komm**, **R Howe**, **I Gonzalez Hernandez**, **F Hill**,
D A Haber

1150h **S32A-07** Interaction of MHD Waves with Sunspots:
K Parchevsky, **J Zhao**, **A G Kosovichev**, **M Rempel**

1205h **S32A-08** Mathematical methods of ambient noise imaging
and localization using cross correlations (*Invited*): **T Callaghan**,
N Czink, **A Paulraj**, **G Papanicolaou**

S32B Moscone West: 2007 Wednesday 1020h
Earthquake Relocations: What Do They Tell Us About
Tectonics? III (joint with T)

Presiding: **G Lin**, University of Miami; **T Lecocq**, Royal Observatory
of Belgium

1020h **S32B-01** Using earthquake clusters to identify fracture
zones at Puna geothermal field, Hawaii: **A Lucas**, **E Shalev**, **P Malin**,
C L Kenedi

1035h **S32B-02** Location of and repeating intermediate depth
earthquakes in the Bucaramanga Nest: **G Prieto**, **V Dionicio**,
G C Beroza, **J R Brown**

1050h **S32B-03** Relocating small earthquakes with reverse time
modeling: Examples in the Three Gorges Reservoir region, China:
Z Zou, **H Zhou**

1105h **S32B-04** WITHDRAWN

S32C Moscone West: 2007 Wednesday 1120h
Recent Advances in Broadband Array Seismic Investigation in
China I (joint with T)

Presiding: **Y Ai**, Inst Gology & Geophysics; **Z Ding**, Institute of
Geophysics, CEA; **J Ning**, Institute of Theoretical and Applied
Geophysics; **F Niu**, Rice University

1120h **S32C-01** Large-Scale, Virtual Seismic Profiles: New
Technique and Results from Tibet and Northern China (*Invited*):
W Chen, **C YU**, **J Ning**, **T Tseng**

1135h **S32C-02** New Insights Into Decratonization Beneath
Northeastern China From the Joint Inversion of Body and Surface
Waves (*Invited*): **F Zhang**, **M J Obrebski**, **J Pan**, **Q Wu**, **R M Allen**

1150h **S32C-03** Crustal structure in the eastern Tibetan Plateau
from teleseismic receiver functions: **C Wang**, **L Zhu**, **B Huang**, **H Lou**,
Z Yao, **X Luo**

1205h **S32C-04** Variations of shear wave splitting in the 2010 Yushu
Ms7.1 earthquake region: **L Chang**, **Z Ding**, **C Wang**

Tectonophysics

T32A Moscone West: 2011 Wednesday 1020h
Lithological Controls on the Mechanics and Evolution of
Lithospheric Deformation II: Mechanics of Fluids and Faulting
(joint with MR, S)

Presiding: **V G Toy**, University of Otago; **T M Mitchell**, Ruhr-
University Bochum; **D J Prior**, University of Liverpool

1020h **T32A-01** A quantitative comparison of experimentally
produced pseudotachylytes with natural examples. (*Invited*):
A R Niemeijer, **G Di Toro**, **S B Nielsen**

1035h **T32A-02** Fluids, fault zone permeability and two distinct
types of pseudotachylyte: **M Bjornerud**

1050h **T32A-03** Off-fault injections as constraints on the rheology
and pressure of fault rocks during deformation: **C D Rowe**,
E E Brodsky, **J D Kirkpatrick**

1105h **T32A-04** Quantifying pressure solution and lithification:
tying elastic moduli measurements to changes in porosity and
deformation style in sheared granular aggregates: **B M Kaproth**,
C Marone

1120h **T32A-05** Micromechanics of brittle faulting and cataclastic
flow in Alban Hills tuff: **P Baud**, **W Zhu**, **S Vinciguerra**, **T Wong**

1135h **T32A-06** Frictional properties of low-angle normal fault
gouges and implications for low-angle normal fault slip: **S H Haines**,
C Marone, **D M Saffer**

1150h **T32A-07** Temperature - Fluid Pressure controls on
the mechanical evolution of shale-carbonate composite gouge:
Implications for natural faults: **J C Haywood**, **L Kennedy**,
D R Faulkner

1205h **T32A-08** Microstructure and rheology of limestone-shale
fault rocks: **R K Wells**, **J Newman**, **S F Wojtal**

T32B Moscone West: 2018 Wednesday 1020h
New Advances in Studies of the Tibetan Plateau and the
Himalayas II (joint with V, S)

Presiding: **X Zhao**, University of California; **Y J Chen**, Peking
University

1020h **T32B-01** Cretaceous-Cenozoic Geological Evolution of
Tibet: Tectonic Interpretations and Outstanding Questions (*Invited*):
P A Kapp, **P G DeCelles**, **L Ding**, **D J Van Hinsbergen**

1035h **T32B-02** New constraints on timing of India-Asia collision
from plate kinematic and seismic observations in the Equatorial
Indian Ocean: **J M Bull**, **C DeMets**, **K S Krishna**, **D J Sanderson**,
S Merkouriev

1050h **T32B-03** Cenozoic magmatism in Gangdese, southern Tibet:
Records of collision and subduction between India and Asia: **X Mo**,
Z Zhao, **Y Niu**, **D Zhu**, **Y Dilek**

1105h **T32B-04** Os-Hf isotopes of the ultrapotassic rocks in
southern Tibet: Significant crustal input into the mantle source
region: **Z Zhao**, **E Widom**, **Q Meng**, **Y Niu**, **D Zhu**, **X Mo**, **T Barry**

1120h **T32B-05** Structures and processes in the Himalayan-Tibetan lithosphere: an overview of Hi-CLIMB results: **G Hetenyi**, J Vergne, J Nabelek

1135h **T32B-06** DYNAMICS OF THE SEISMOGENIC LAYER FOR DEFORMING ZONES IN CENTRAL AND EAST ASIA: **E C Klein**, L M Flesch, W E Holt

1150h **T32B-07** Crustal deformation of the Eastern Tibetan Plateau revealed by magnetotelluric imaging: **M J Unsworth**, D Bai, M Meju

1205h **T32B-08** Continental Crust Growth as a Result of Continental Collision: Ocean Crust Melting and Melt Preservation: **Y Niu**, Z Zhao, S Zhou, D Zhu, G Dong, X Mo, G Xie, X Dong

T32C Moscone West: 2016 Wednesday 1020h
Rifting to Rupture to Drift: Linking Lessons From Active Rifts to the Evolution of Passive Margins I (*joint with GP, V, S*)

Presiding: **M E Oskin**, University of California, Davis;
R Arrowsmith, Arizona State Univ; **J Collier**, Imperial College London

1020h **T32C-01** Fault Growth and Propagation and its Effect on Surficial Processes within the Incipient Okavango Rift Zone, Northwest Botswana, Africa (*Invited*): **E A Atekwana**

1035h **T32C-02** New Age Estimates for the Lake Malawi Rift, East Africa, Using Deep Scientific Drill Cores and Seismic Reflection Data: **C A Scholz**, R P Lyons

1050h **T32C-03** Continental Rupture Controlled by Low-Angle Normal Faults in the Northern Gulf of California: Analysis of Seismic Reflection Profiles: **A Martin-Barajas**, M González-Escobar, J M Fletcher, M Pacheco, E Mar-Hernández

1105h **T32C-04** Constraints on the Strength of Faults from Rider Blocks on Oceanic and Continental Core Complexes: **W R Buck**, E Choi

1120h **T32C-05** Simple Andersonian faulting explains extension paradox and formation of asymmetry of conjugate non-volcanic margins (*Invited*): **C R Ranero**, M Perez-Gussinye

1135h **T32C-06** Rifted Continental Margins: The Case for Depth-Dependent Extension (*Invited*): **R S Huismans**, C Beaumont

1150h **T32C-07** Crustal-scale Structure of the Eurasian Continental Margin in the Northern South China Sea, Offshore Taiwan from Seismic Reflection and Wide-angle OBS Data: **W R Lester**, K D McIntosh, H J Van Avendonk

1205h **T32C-08** New interpretations based on seismic and modelled well data and their implications for the tectonic evolution of the west Greenland continental margin: **E Mcgregor**, S B Nielsen, R Stephenson, O R Clausen, K D Petersen, D Macdonald

Volcanology, Geochemistry, and Petrology

V32A Moscone West: 2020 Wednesday 1020h
Metamorphic Perspectives of Subduction Zone Evolution II (*joint with DI, T, MR*)

Presiding: **G E Bebout**, Lehigh University

1020h **V32A-01** Seawater-Derived Noble Gases and Halogens Preserved in Peridotite and Eclogite from the Subduction-Type Sanbagawa Metamorphic Belt: **H Sumino**, S Endo, S Wallis, T Mizukami, R Burgess, G Holland, C J Ballentine

1035h **V32A-02** Lithium as a tracer of fluid and metasomatic processes in subduction zone mélanges: Evidence from the Catalina Schist (*Invited*): **S C Penniston-Dorland**, G E Bebout, P Pogge von Strandmann, T Elliott, S S Sorensen

1050h **V32A-03** *In situ* oxygen isotope analysis of garnet from high pressure metamorphic veins of the Italian Western Alps and New Caledonia: Resolving fluid flow regimes in subducted crust: **S A Grofelin**, C Spandler, J Cliff

1105h **V32A-04** Thermal and trace-element evolution of subducted sediments: insight from Pamir eclogitic and granulitic xenoliths (*Invited*): **S M Gordon**, P I Luffi, B R Hacker, P B Kelemen, J W Valley, M Spicuzza, R Kozdon, L Ratschbacher

1120h **V32A-05** WITHDRAWN

1135h **V32A-06** High temperature deformation and fluid enhanced zircon modification along an exhumed subduction megathrust: **A D Chapman**, J Saleeby

1150h **V32A-07** Jurassic Eclogites from South Australian kimberlite: Relicts of Late Cambrian lithosphere delamination?: **J Foden**, D Segui, D Kelsey, M Hand

1205h **V32A-08** CONSTRAINTS ON AMOUNT AND COMPOSITION OF SUBDUCTION ZONE FLUIDS FROM PARTIALLY OVERPRINTED HIGH-PRESSURE METAMORPHIC ROCKS AND MINERALS: **M Konrad-Schmolke**, T Zack, P J O'Brien

V32B Moscone West: 2022 Wednesday 1020h
Tracking Magma Through the Crust to Eruption III (*joint with G, S*)

Presiding: **T Arnadottir**, Inst. of Earth Sciences; **K S Vogfjord**, Icelandic Meteorological Office

1020h **V32B-01** Long Period (LP) seismic events without conduit resonance: Implications for near surface fluid transport models on volcanoes: **C J Bean**, L De Barros, I Lokmer, G S O'Brien

1035h **V32B-02** Flow of Compressible Fluids Through Cracks in Elastic Bodies and Excitation of Volcanic Tremor: **E M Dunham**, D E Ogdén

1050h **V32B-03** How do volcanoes deform immediately prior to an eruption: Observations of deformation inside a vent and on an active dome: **M K Hort**, L Scharff, A Gerst, K Meier, M Ripepe, J B Johnson

1105h **V32B-04** INSAR DISPLACEMENTS ASSOCIATED WITH THE NOVEMBER 2006 AND JANUARY 2010 NYAMULAGIRA ERUPTIONS: **V Cayol**, C Wauthier, N D'Oreye, F Kervyn, G Team

1120h **V32B-05** Lower crustal earthquake swarms beneath Mammoth Mountain, California - evidence for the magmatic roots to the Mammoth Mountain mafic volcanic field?: **D P Hill**, D R Shelly

1135h **V32B-06** Processes of volcanic unrest inferred from 10 years of micro-seismicity at Piton de la Fournaise volcano: **E Rivemale**, F Brenguier, V Ferrazzini, J Battaglia, J Got, P Kowalski, A Nercessian, B Taisne

1150h **V32B-07** Global Observation of Vertical-CLVD Earthquakes Associated with Active Volcanoes: **A E Shuler**, G Ekstrom, M Nettles

1205h **V32B-08** Using Acoustic Emission Monitoring in the Laboratory to Help Understand Volcano Seismicity: **R Smith**, P M Benson, Y Lavallee, B Scheu, P G Meredith, P Sammonds, S Karl, D B Dingwell

Union

U33A Moscone South: Poster Hall Wednesday 1340h
Earth Sheds Her Archean Coat: 200 Million Years of Rapid
Transition in Earth Systems II Posters

Presiding: **P Eriksson**, University of Pretoria; **T W Lyons**, University of California Riverside

1340h **U33A-0001** POSTER Paleomagnetic Constraints on the Plate Tectonics Regimes in Early Paleoproterozoic: **S A Pisarevsky**

1340h **U33A-0002** POSTER U-Pb geochronology on detrital zircons from FAR-DEEP cores, Fennoscandian Shield – age constraints for events of the Archean-Palaeoproterozoic transition and provenance: **C Gaertner**, A Martin, H Bahlburg, A Lepland, V Melezhik, A R Prave, D J Condon, J Berndt, E Kooijman, Title of Team: the FAR-DEEP scientists

1340h **U33A-0003** POSTER The Large Igneous Province (LIP) Record during the Archean-Proterozoic Transition Between 2.5 Ga and 2.0 Ga: **R E Ernst**, W Bleeker

1340h **U33A-0004** WITHDRAWN

1340h **U33A-0005** POSTER Was the Archean mantle thermal regime special? Constraints from residual peridotites: **G Pearson**, S W Parman

1340h **U33A-0006** POSTER Early Paleoproterozoic (2.5-2.0 Ga) A-type granite associations: **O T Ramo**

1340h **U33A-0007** POSTER The Hf isotope ratios of new continental crust and Hf model ages: **C J Hawkesworth**, B Dhuime, A Pietranik, P Cawood

1340h **U33A-0008** POSTER The evolution of oceanic ⁸⁷Sr/⁸⁶Sr does not rule out early continental growth: N Flament, **N Coltice**, P F Rey

1340h **U33A-0009** POSTER Secular Changes in Lithospheric Diamonds from the Archean to the Proterozoic: **S B Shirey**, S H Richardson, S Aulbach, G Pearson

1340h **U33A-0010** POSTER Constraining the termination of the Lomagundi-Jatuli positive isotope excursion in the Imandra-Varzuga segment (Kola Peninsula, Russia) of the North Transfennoscandian Greenstone Belt by high-precision ID-TIMS: A P Martin, **D J Condon**, A R Prave, V Melezhik, A E Fallick

1340h **U33A-0011** WITHDRAWN

1340h **U33A-0012** POSTER Paleoproterozoic pyrobitumen: Re-Os geochemistry reveals the fate of giant carbon accumulations in Russian Karelia: **J L Hannah**, H J Stein, G Yang, A Zimmerman

1340h **U33A-0013** POSTER Evolution of Early Paleoproterozoic Ocean Chemistry as Recorded by Black Shales: **C Scott**, A Bekker, T W Lyons, N J Planavsky, B A Wing

1340h **U33A-0014** WITHDRAWN

U33B Moscone South: I04 Wednesday 1340h
Regional Biosphere-Atmosphere Interactions in Complex
Terrain: Processes and Feedbacks Among Nutrients, Water,
and Climate II (*joint with H, GC, A*)

Presiding: **J Hu**, NCAR; **D Riveros-Iregui**, University of Nebraska; **A R Desai**, University of Wisconsin - Madison

1340h **U33B-01** Atmospheric Carbon Dioxide Transport over Mountain Terrain (*Invited*): **J Sun**

1400h **U33B-02** Terrestrial ecosystem dynamics over complex terrain: challenges for measurements and models (*Invited*): **G C Hurtt**, R Dubayah, J Fisk, R Q Thomas, K A Dolan, H H Shugart

1420h **U33B-03** Does complex terrain matter for global terrestrial ecosystem models? Forest ecosystem dynamics in the White Mountains, NH. (*Invited*): **M C Dietze**, A D Richardson, P R Moorcroft

1340h **U33B-04** WITHDRAWN

1440h **B31E-0348** Quantifying the effects of mountain pine beetle infestation on water and biogeochemical cycles at multiple spatial and temporal scales: **P D Brooks**, A A Harpold, A J Somor, P A Troch, D J Gochis, B E Ewers, E Pendall, J A Biederman, D Reed, H R Barnard, F Whitehouse, T Aston, B Borkhuu

1500h **U33B-05** Transpiration and Evaporation measurements in a Mountain Ecosystem using Real-Time Field-Based Water Vapor Isotopes (*Invited*): **F Dominguez**, D J Gochis, P C Harley, A Turnipseed, J Hu

1520h **U33B-06** Landscape structure controls on biogeochemical fluxes in complex terrain (*Invited*): **B L McGlynn**, D Riveros-Iregui, R E Emanuel, V J Pacific, H E Epstein, D L Welsch

Atmospheric Sciences

A33A Moscone South: Poster Hall Wednesday 1340h
Atmospheric Circulations and Climate Change IV Posters
(joint with GC)

Presiding: **P A O’Gorman**, MIT; **T M Merlis**, Caltech

1340h **A33A-0093** POSTER Recent Changes in the Summer Precipitation Pattern in East China and the Background Circulation: **Y Zhu**, H Wang, W Zhou, J Ma

1340h **A33A-0094** POSTER Interannual variations in seasonal march of polar frontal zone around Japan: **N Takahashi**

1340h **A33A-0095** POSTER Further insight into the summertime temperature variations in the middle and lower reaches of Yangtze River on inter-annual timescale: **J Cai**, Z Guan

1340h **A33A-0096** POSTER Interannual Variability of the Baiu Season Estimated from the Equivalent Potential Temperature: **T Tomita**, T Yamaura, T Hashimoto

1340h **A33A-0097** POSTER Bimodal Variability of East Asian Summer Monsoon Viewed as Atmospheric Hydrological Cycle: **J Chen**, Title of Team: Center for Monsoon System Research, Institute of Atmospheric Physics

1340h **A33A-0098** POSTER The Response of Extratropical Westerlies to Climate Change (31.9-11.3 ka) Revealed by a Speleothem from DeSoto Caverns, Alabama (USA): **W J Lambert**, P Aharon, J Hellstrom

1340h **A33A-0099** POSTER Climate Change in the Eastern Himalayas: Observed Trends and Model Projections: **L P Devkota**, F Zhang

1340h **A33A-0100** WITHDRAWN

1340h **A33A-0101** POSTER The influence of regional SSTs on interdecadal shift of East Asian summer monsoon: S Li, **J Fu**, J Bian

1340h **A33A-0102** WITHDRAWN

1340h **A33A-0103** POSTER Impact of East Asian Winter Monsoon on Rainfall over Southeastern China and its Dynamical Process: **Z Lian-Tong**, Title of Team: Center for Monsoon System Research, Institute of Atmospheric Physics, Chinese Academy of Sciences

1340h **A33A-0104** POSTER The sensitivity of MBL clouds to ENSO and global warming – A regional model study: **A Lauer**, K P Hamilton, Y Wang, V Phillips, R Bennartz

- 1340h **A33A-0105** *POSTER* Simulation of Regional Climate Change Impacted by Urbanization and Anthropogenic Heat Release in China: **J Feng**, Y Wang
- 1340h **A33A-0106** *POSTER* Extratropical Influences on the Inter-Annual Variability of South-Asian Monsoon: **F S Syed**, J Yoo, H Körnich, F Kucharski
- 1340h **A33A-0107** *POSTER* Future change of western North Pacific typhoons: Projections by a 20-km-mesh global atmospheric model: **H Murakami**, B Wang, A Kitoh
- 1340h **A33A-0108** *POSTER* The different impacts of two kinds of Pacific Ocean warming on tropical cyclone frequency over the western North Pacific: **G Chen**
- 1340h **A33A-0109** *POSTER* The effect of ENSO on East Asian Summer Monsoon under the global warming: **J Yoon**, S Yeh
- 1340h **A33A-0110** *POSTER* Changes in the Tropical Cyclone Genesis Potential Index over the Western North Pacific in the SRES A2 Scenario: **Y Zhang**, H Wang, J Sun, H Drange
- 1340h **A33A-0111** *POSTER* A prediction model for Atlantic named storm frequency using a year-by-year increment approach: **K Fan**
- 1340h **A33A-0112** *POSTER* A Global Unified View of ENSO Modulation of Tropical Cyclones: **M Hung**, J Lin
- 1340h **A33A-0113** *POSTER* Asymmetric modulation of the Western North Pacific cyclogenesis by the Madden-Julian Oscillation under ENSO conditions: **C Li**
- 1340h **A33A-0114** *POSTER* Dynamics of the North Pacific Oscillation and Connections to Tropical Pacific Variability: **J C Furtado**, E Di Lorenzo, B T Anderson, N Schneider
- 1340h **A33A-0115** WITHDRAWN
- 1340h **A33A-0116** *POSTER* The MJO-ENSO relationship and its interdecadal variation: **S Lee**, J Son, K Seo
- 1340h **A33A-0117** *POSTER* Investigating the land-sea surface warming contrast in simulations of climate change with an idealized GCM: **M P Byrne**, P A O’Gorman
- 1340h **A33A-0118** *POSTER* Response of tropical precipitation and circulations to precession of the perihelion: **T M Merlis**, T Schneider
- 1340h **A33A-0119** *POSTER* Understanding the East Coast Super Snowstorms of 2010: **Y Chang**, S D Schubert, M Suarez
- 1340h **A33A-0120** *POSTER* A new effective static stability for moist eddy circulations, with climate-change applications: **P A O’Gorman**
- 1340h **A33A-0121** *POSTER* Tropical Broadening in ERA Climatologies: **L J Wilcox**, B J Hoskins, K P Shine
- 1340h **A33A-0122** *POSTER* Width of the tropics: analysis of MOZAIC aircraft observations over Africa from 1994 to 2008: **J Cammas**, V Thouret, T Noiret, A Berger, B Sauvage, P Nedelec, J Cousin, G Athier, H M Smit, A Volz-Thomas
- 1340h **A33A-0123** *POSTER* An multi-diagnostic intercomparison of tropical width timeseries using meteorological reanalyses and satellite observations: **S M Davis**
- 1340h **A33A-0124** *POSTER* Analysing the tropical widening of the TTL with a Lagrangian approach using CCM and ERA-Interim data: **V Mohr**, S Tegtmeier, R Schofield, M Rex, M Neish, D Smale, A Gettelman, H Garny, K Krueger
- 1340h **A33A-0125** *POSTER* Mechanisms for Poleward Expansion of the Hadley Circulation: Observations and Simulations: **Y Hu**, Z Chen
- 1340h **A33A-0126** *POSTER* Movement of the Sub-tropical and polar jet streams derived from total ozone data: **R D Hudson**
- 1340h **A33A-0127** *POSTER* Recent widening of the tropical belt from global tropopause statistics: Sensitivities: **T Birner**
- 1340h **A33A-0128** WITHDRAWN
- 1340h **A33A-0129** *POSTER* Narrowing of the Brewer-Dobson Circulation in the Tropical Lower Stratosphere in CCMVal-2 Simulations of the 21st Century: **F Li**, A R Douglass, S Pawson, P A Newman, D Waugh
- 1340h **A33A-0130** *POSTER* Meaningful Trends in Wave Activity: **A Solomon**, N Nakamura
- 1340h **A33A-0131** *POSTER* Understanding the strengthening of the Brewer-Dobson circulation in SH spring season: **P Lin**, Q Fu
- 1340h **A33A-0132** *POSTER* Variability and Extreme Variability of the Stratospheric Polar Vortices Using 2D Moments: **D M Mitchell**, L Gray, A Charlton Perez
- 1340h **A33A-0133** *POSTER* Future change in the quasi-biennial oscillation influence on the northern polar vortex simulated with an MRI chemistry climate model: **H Naoe**, K Shibata
- 1340h **A33A-0134** *POSTER* Predictability of the stratospheric sudden warming and its impact on the tropospheric climate in January 2009 -Comparison with the warmings of 2004 and 2006-: **Y Kuroda**
- 1340h **A33A-0135** *POSTER* Interannual Variations of MISR Cloud and Aerosol: Responses to ENSO: **J N Lee**, D L Wu, O V Kalashnikov
- 1340h **A33A-0136** *POSTER* Eddy-Equilibration of the Mid-Latitude Atmosphere and Southern Ocean: **M F Jansen**, R M Ferrari
- 1340h **A33A-0137** *POSTER* the position of the midlatitude storm track and eddy-driven westerlies in aquaplanet agcms (*Invited*): **J Lu**, G Chen, D M Frierson
- 1340h **A33A-0138** *POSTER* The Response of the General Circulation to Climate Change as a Vertical Rescaling: **M S Singh**, P A O’Gorman
- 1340h **A33A-0139** *POSTER* Controls by the Zonal Mean Circulation on the Stationary Wave Response to Climate Change: **L Wang**, P J Kushner
- 1340h **A33A-0140** *POSTER* Abrupt Atmospheric Torque Changes and Their Role in the 1976-77 Climate Regime Shift: **S L Marcus**, O de Viron, J O Dickey
- 1340h **A33A-0141** *POSTER* Ozone recovery may enhance global warming in the 21st century: **Y Xia**, Y Hu
- 1340h **A33A-0142** *POSTER* Northern Hemisphere Meridional and Zonal Temperature Gradients and their Relation to Hydrologic Extremes at Mid-latitudes: Trends, Variability and Link to Climate Modes in Observations and Simulations: **C Karamperidou**, U Lall, F Cioffi
- 1340h **A33A-0143** *POSTER* Solar Impacts on SST, Atmospheric Circulations and Extreme Climate Background in Boreal Winter: **H Weng**
- 1340h **A33A-0144** WITHDRAWN
- 1340h **A33A-0145** *POSTER* Weakened atmospheric heat transport sensitivity in cold glacial climates: **I Cvijanovic**, E Kaas, P L Langen, P Wang
- 1340h **A33A-0146** *POSTER* Processes Governing the Static Stability in Simulations of the Last Glacial Maximum: **L Dong**, J Galewsky
- 1340h **A33A-0147** *POSTER* Energetics responses to different atmospheric warming patterns: **D Hernandez-Deckers**, J Von Storch
- 1340h **A33A-0148** *POSTER* Annular-mode-like Variation in a Multi-layer QG Model: **Y Zhang**, X Yang, Y Nie
- 1340h **A33A-0149** *POSTER* Understanding the Direct and Indirect Circulation Response to Radiative Forcings: **P Staten**, T Reichler, J Lu
- 1340h **A33A-0150** *POSTER* Large-Scale Circulation Trends coupled to Tropical Deep Convection and the Consequences for Climate Change: **M J Foster**, J Nielsen, A K Heidinger

1340h **A33A-0151** POSTER Temporal change of the sources of aeolian dust delivered to East Asia revealed by electron spin resonance signals in quartz: **Y Yamamoto**, S Toyoda, K Nagashima, Y Isozaki, Y Sun, R Tada, Y Igarashi

1340h **A33A-0152** POSTER Jerks as Guiding Influences on the Global Environment: Effects on the Solid Earth, Its Angular Momentum and Lithospheric Plate Motions, the Atmosphere, Weather, and Climate: **J M Quinn**, **B A Leybourne**

1340h **A33A-0153** POSTER Polar Vortices Temporal Evolution Represented by the Atmospheric Reanalysis Systems: **N G Andronova**, S Boland

1340h **A33A-0154** POSTER Downward influence from the stratospheric final warming: L Sun, **W A Robinson**, G Chen

A33B Moscone South: Poster Hall Wednesday 1340h Atmospheric Sciences General Contributions: Dynamics II Posters

Presiding: **N G Andronova**, University of Michigan; **W A Robinson**, North Carolina State University

1340h **A33B-0155** POSTER Multi Model Ensemble Forecasting using Neural Network: **S Cakir**, M Kadioglu

1340h **A33B-0156** POSTER The climatology of air stagnation conditions over U.S. as derived from the NARR data: **R X Bian**, J J Charney, W Heilman, A M Pollyea, J A Andresen, S Zhong

1340h **A33B-0157** POSTER Impact of data assimilation on Chukchi/Beaufort Seas mesoscale modeling: **F Liu**, J Krieger, J Zhang

1340h **A33B-0158** POSTER Some Studies in Large-Scale Surface Fluxes and Vertical Motions Associated with Land falling Hurricane Katrina over the Gulf of Mexico: **S R Reddy**

1340h **A33B-0159** POSTER Middle atmosphere responses in the southern hemisphere to ENSO for a multi-model ensemble for twentieth-century simulation to year 2000: **K Shibata**

1340h **A33B-0160** POSTER Moist Effects on Orographically Forced Stationary Waves: **M Löfverström**, H Körnich

1340h **A33B-0161** POSTER SIMULATION FOR THE SOUTH CHINA SEA MONSOON ONSET BASE ON GRAPES MODEL AND EXPERIMENT FOR THE MODEL INITIAL FIELDS: **H Zhou**

1340h **A33B-0162** POSTER Simulation of the trajectory of microwaves during passage of Meso-scale Convective System over Southern Brazil: **F L Diniz**, G B Munchow, D L Herdies, P R Foster

1340h **A33B-0163** WITHDRAWN

1340h **A33B-0164** POSTER The Surface Drag and the Vertical Momentum Fluxes Produced by Mountain Waves in Flows with Directional Shear: **M Teixeira**, P M Miranda, J P Martins

1340h **A33B-0165** POSTER The meso-scale characteristics of Typhoon Morakot(2009) revealed from polarimetric radar analyses: **T C Wang**, Y Tang, Title of Team: Radar Meteorology Lab.

1340h **A33B-0166** POSTER Lorenz energy cycle of the global atmosphere based on reanalysis Datasets and GDAPS: **M Kim**, Y Kim, W Lee, S Kim, K Kim

1340h **A33B-0167** POSTER A study on the uncertainty based on Meteorological fields on Source-receptor Relationships for Total Nitrate in the Northeast Asia: **Y Sunwoo**, J Park, S Kim, Y Ma, I Chang

A33C Moscone South: Poster Hall Wednesday 1340h Atmospheric Sciences General Contributions:Tropospheric and Stratospheric Ozone II Posters

1340h **A33C-0168** POSTER A Comparison of SBUV and TOMS Version 8.6 Total Column Ozone Data with Data from Groundstations: **G J Labow**, D Haffner, R D McPeters, P K Bhartia, S Taylor

1340h **A33C-0169** POSTER Stratospheric ClO at Scott Base, Antarctica, March-November 2009: **BJ Connor**, T Mooney, J W Barrett, A Parrish, I S Boyd, G E Nedoluha, M L Santee

1340h **A33C-0170** POSTER Preliminary Results from the Measurement of Ozone(O₃) and Carbon monoxide(CO) at Gosan, Jeju, South Korea for understanding emissions in Northeast Asia: **K Ahn**, J Kim, M Park, S Li, K Kim

1340h **A33C-0171** POSTER Measurements of Diurnal Variations of Upper Stratospheric ClO with a Ground-based Millimeter-wave Radiometer at Atacama, Chile: **T Kuwahara**, A Mizuno, T Nagahama, H Maezawa, N Toriyama, Y Kojima

1340h **A33C-0172** POSTER Balloon-borne observations of HO₂ in the lower stratosphere: Comparison with photochemical model: **RA Stachnik**, G C Toon, J J Margitan, J Blavier, H M Pickett, S Wang

1340h **A33C-0173** POSTER Preliminary results from SPIRALE balloon-borne in situ stratospheric measurements during 2009 polar summer: V Catoire, **N Huret**, G Berthet, G Krysztofciak, R Thiéblemont, C Robert

1340h **A33C-0174** POSTER Summertime ozone and airborne particle concentrations measured on the Juneau Icefield (58°N): **J Fry**, J D Katz, K Redell, T Dittrich

1340h **A33C-0175** POSTER Cross-evaluation of OMI Ozone Profiles and GMI Chemical Transport Model Simulations: **X Liu**, B N Duncan, K Yang, K Chance, P K Bhartia

1340h **A33C-0176** POSTER Polar ClO Photochemistry: The Impact of Recent Laboratory Measurements: **T P Canty**, R J Salawitch, M L Santee, R M Stimpfle, D M Wilmouth, J Anderson

A33D Moscone South: Poster Hall Wednesday 1340h Black Carbon's Role in Global to Local Air Quality and Climate Change III Posters (joint with GC, PA)

Presiding: **D L Mauzerall**, Princeton Univ; **M Kopacz**, Princeton University; **D M Koch**, Columbia University

1340h **A33D-0177** POSTER Evaluation of Factors Controlling Long-Range Transport of Black Carbon to the Arctic: **J Liu**, S Fan, L W Horowitz, H Levy

1340h **A33D-0178** POSTER Modern biofuels life-cycle effects on black carbon emissions and impacts: J Campbell, **S Spak**, M Mena-Carrasco, G R Carmichael, Y Chen, C Tsao

1340h **A33D-0179** POSTER Impact of California's Air Pollution Laws on Black Carbon and their Implications for Direct Radiative Forcing: **R Bahadur**, Y Feng, L M Russell, V Ramanathan

1340h **A33D-0180** POSTER Aircraft Measurements of Upward Transport of Black Carbon Over East Asia in Spring 2009: **N Oshima**, Y Kondo, N Moteki, N Takegawa, M Koike, K Kita

1340h **A33D-0181** POSTER Measurements of black carbon aerosol in a rural temperate forest in northern Michigan: **F Santos**, M P Fraser, J A Bird

1340h **A33D-0182** POSTER Coatings of black carbon in Tijuana, Mexico, during the CalMex Campaign: **S Takahama**, L M Russell, R Duran, R Subramanian, G Kok

1340h **A33D-0183** *POSTER* Light-Absorbing Aerosol during NASA GRIP: Overview of Observations in the Free Troposphere and Associated with Tropical Storm Systems: **L D Ziemba**, A J Beyersdorf, G Chen, C A Corr, L Craig, S Dhaniyala, J E Dibb, C H Hudgins, S Ismail, T Latham, A Nenes, K L Thornhill, E Winstead, B E Anderson

1340h **A33D-0184** *POSTER* Direct Measurement of the Absorption Cross-Section of Uncoated and Coated Soot by Photoacoustic Spectroscopy: **M R Zachariah**, P A Bueno, D K Havey, J T Hodges, K Gillis, G Mulholland, R R Dickerson

1340h **A33D-0185** *POSTER* Dependency of black-carbon-induced atmospheric warming on the concentration of sulphate and organic aerosols: **S Kim**, S Yoon, C In-Jin, V Ramanathan, M Ramana

1340h **A33D-0186** *POSTER* Effect of aerosol mixing state on BC scavenging --- Insights based on particle-resolved aerosol model simulations: **J Ching**, N Riemer, M West, R A Zaveri, R C Easter

1340h **A33D-0187** *POSTER* Modeling Aerosol Microphysical and Radiative Effects on Clouds and Implications for the Effects of Black and Brown Carbon on Clouds: **J E Ten Hoeve**, M Z Jacobson

1340h **A33D-0188** *POSTER* Light absorption-related optical properties of aerosol observed during episodic periods at Conghua, Guangdong Province, China during the 2008 PRD Campaign: M G Cayetano, J Jung, D Mueller, **Y J Kim**, Y Zhang, X Liu

1340h **A33D-0189** *POSTER* Role of Black Carbon and Absorbing Organic Carbon Aerosols in Surface Dimming Trends: **Y Feng**, V Ramanathan, V R Kotamarthi

1340h **A33D-0190** *POSTER* The effects of hygroscopicity of fossil fuel BC on mixed-phase and cirrus ice clouds: **Y Yun**, J E Penner

1340h **A33D-0191** *POSTER* New snow albedo scheme with the influence of black carbon and dust in the NASA catchment-based land surface model: **T J Yasunari**, R D Koster, W K Lau, T Aoki, Y Sud, T Yamazaki, H Motoyoshi, Y Kodama

1340h **A33D-0192** *POSTER* Aerosol Mixture State Simulated with a Physically-based Three-moment Multi-modal Aerosol Parameterization Scheme: **J Chen**, I Tsai

1340h **A33D-0193** *POSTER* Transformation from hydrophobic to hygroscopic diesel soot particles by photochemical aging: **T Tritscher**, Z Juranyi, M Martin, R Chirico, M Heringa, M Gysel, B Sierau, P F DeCarlo, J Dommen, A S Prevot, E Weingartner, U Baltensperger

1340h **A33D-0194** *POSTER* The "Micro" Aethalometer - an enabling technology for new applications in the measurement of Aerosol Black Carbon: **A D Hansen**, G Močnik

1340h **A33D-0195** *POSTER* A Novel Algorithm Applied to Common Thermal-Optical Transmission Data for Determining Mass Absorption Cross Sections of Atmospheric Black Carbon: Applications to the Indian Outflow: **A Andersson**, R J Sheesley, E Kirillova, O Gustafsson

1340h **A33D-0196** *POSTER* Using Thermal-Optical Analysis to Examine the OC-EC Split that Characterizes Ambient and Source Emissions Aerosols: **B Khan**, M D Hays, C Geron, J Jetter

1340h **A33D-0197** *POSTER* Best Practices for Accurate Characterization of Morphological and Optical Properties of Fractal-Like Black Carbon Aggregates: **R K Chakrabarty**, H Moosmuller, M A Garro, B A Garro, S Chancellor, C M Herald

1340h **A33D-0198** *POSTER* Annual trends in source contribution of black carbon at a European regional background site using radiocarbon source apportionment: **R J Sheesley**, E Kirillova, A Andersson, O Gustafsson

1340h **A33D-0199** *POSTER* Black carbon and its correlation with trace gases at a rural site in Beijing: Implications for Regional Emissions: **Y Wang**, X Wang, Y Kondo, M Kajino, J Hao

1340h **A33D-0200** *POSTER* Exhaust Fine Particle and Nitrogen Oxide Emissions from Individual Heavy-Duty Trucks at the Port of Oakland: **T R Dallmann**, R A Harley, T Kirchstetter

1340h **A33D-0201** *POSTER* Vis-NIR characterization of particulate matter in urban and industrial sites in the Mediterranean area: **R Salzano**, M Montagnoli, R Salvatori, C Perrino

1340h **A33D-0202** *POSTER* An observation-based estimate of global black carbon and brown carbon AODs and radiative forcings: **C E Chung**, V Ramanathan

1340h **A33D-0203** *POSTER* Measurements and Analysis of Black Carbon Aerosols in the Eastern Mediterranean Megacity: **A Unal**, H Ozdemir, T Kindap, G Demir, M Karaca, M N Khan

1340h **A33D-0204** *POSTER* Exploring the sensitivity of black carbon aging time scales with particle-resolved aerosol model simulation: **L M Fierce**, N Riemer, T C Bond

1340h **A33D-0205** *POSTER* Addressing inconsistencies in black carbon literature: **S B Shonkoff**, Z Chafe, K R Smith

1340h **A33D-0206** *POSTER* TWO WAY INTERACTIONS BETWEEN CRITERIA AIR POLLUTANTS AND METEOROLOGY OVER DELHI: **P Marrapu**, Y Cheng, G R Carmichael, G Beig, S Spak, S K Sahu, M Decker, M G Schultz

1340h **A33D-0207** *POSTER* Public Health Hotspots Of Exposure To Air Pollution From Biomass Burning In Southeast Asia: **M E Marlier**, R S DeFries, P S Kasibhatla, D T Shindell, A Voulgarakis, P L Kinney, J T Randerson

1340h **A33D-0208** *POSTER* Understanding Black Carbon Transport to the Arctic from Locations of Controlled Burning in the United States: **J L DeWinter**, N K Larkin, T Strand, S M Raffuse, S G Brown, K J Craig, D Pryden

1340h **A33D-0209** *POSTER* Black Carbon Radiative Effects on the Cryosphere: Snow-Albedo Reduction and Transport through a Melting Snowpack: **O L Hadley**, T Kirchstetter

1340h **A33D-0210** *POSTER* Effect of Carbonaceous Aerosols on Clouds and Precipitation in Asia: **V V**, H Wang, D Ganguly, W Minghui, P J Rasch

A33E Moscone South: Poster Hall Wednesday 1340h Local-Scale Atmospheric Monitoring and Modeling for Exposure Assessment II Posters

Presiding: **L D Lemke**, Wayne State University; **X Xu**, University of Windsor; **R Cook**, US Environmental Protection Agency

1340h **A33E-0211** *POSTER* Characterization of Highway Traffic Plumes in New York City with a High-Resolution Time-of-Flight Aerosol Mass Spectrometer: **Y Sun**, Q Zhang, J J Schwab, K Demerjian, W Chen, M Bae, Y Lin, H Hung, N L Ng, J Jayne, L R Williams, P Massoli, E Fortner, A Trimborn, D R Worsnop, O Hogrefe, B Frank

1340h **A33E-0212** *POSTER* Characterization of offshore/onshore Lake Michigan air quality at shoreline in southeastern Wisconsin: **P A Cleary**, L Schultz

1340h **A33E-0213** *POSTER* Assessment of Pollutant Outflow by Beach Front Measurements and Modeling of Nonmethane Hydrocarbons: **W Liu**, J Wang

1340h **A33E-0214** *POSTER* Method optimization for non-equilibrium solid phase microextraction sampling of HAPs for GC/MS analysis: **MA Zawadowicz**, L A Del Negro

1340h **A33E-0215** *POSTER* Characterizing the air quality in the vicinity of a fast-growing Asian airport: **C Wang**, J Juang

1340h **A33E-0216** *POSTER* Monitoring of Emissions from Natural Gas Production Facilities in Barnett Shale Area for Population Exposure Assessment: **B Zielinska**, E Fujita, D Campbell, V Samburova, E Hendler, C S Beskid

1340h **A33E-0217** *POSTER* Methods used to detect additional sources using Toluene/Benzene ratios in Windsor, Ontario (2004-2006): **X Xu**, M Pereira, L J Miller, A Grgicak-Mannion, A Wheeler

1340h **A33E-0218** *POSTER* PM_{2.5} Indoor Air Quality at Two Sites in London Ontario – A Case Study: **A V Mates**, X Xu, J Gilliland, M J Maltby

1340h **A33E-0219** *POSTER* Development and evaluation of a high-resolution aerosol optical depth product for the southern California region during the October 2007 wildfires: M C McCarthy, **S M Raffuse**, J L DeWinter, F Lurmann, K J Craig, S Fruin

1340h **A33E-0220** *POSTER* Modelling PM_{2.5}, ozone and precursors in New England. Comparison with inferred data retrieved from satellite AOD and surface observations: **R Ramarosan**, A Chudnovsky, C Kang, C Wiedinmyer, L Zhang, P Koutrakis, D J Jacob

1340h **A33E-0221** *POSTER* Comparison of the Simulated Aerosol Vertical Profiles by GEOS-Chem and CMAQ in the United States: **Y Liu**, X Hu, S Li

1340h **A33E-0222** *POSTER* Impact on surface ozone by fugitive emissions of ethylene and propylene from a petrochemical plant cluster: **H Hsieh**, J Chang, S Chen, J Wang

1340h **A33E-0223** *POSTER* Simulating Emission Control Impacts on Summertime Ozone and PM in California: **P L Livingstone**, K Gurer, N Motallebi, D Luo, R Propper

1340h **A33E-0224** *POSTER* Numerical Study on the Impact of SST Initialization on Regional Circulation and Air Pollution at Southern Korean Peninsula: **W Jeon**, H Lee, S Lee

1340h **A33E-0225** *POSTER* Estimating Ground Level PM_{2.5} Concentrations in Atlanta Metro Area using Geographically Weighted Regression: **X Hu**, L Waller, Y Liu

1340h **A33E-0226** *POSTER* Using GIS and NOAA HYPLIT trajectories to create meaningful airsheds in Pennsylvania: J A Snow, **J Livingston**, P S Weiss-Penzias

1340h **A33E-0227** *POSTER* Street Canyon Atmospheric Composition: Coupling Dynamics and Chemistry: **V Bright**, W J Bloss, X Cai

1340h **A33E-0228** *POSTER* The prominent role of urban confluences in the local and regional transport of atmospheric pollutants in the Valley of Mexico: **A D Jazcilevich**, E N Díaz, J Tatarko, A R Garcia

A33F Moscone South: Poster Hall Wednesday 1340h Nucleation and Growth of Atmospheric Aerosols II Posters

Presiding: **J N Smith**, NCAR; **L Wang**, Texas A&M University; **F Yu**, SUNY Albany

1340h **A33F-0229** *POSTER* Intramolecular and intermolecular hydrogen bonding in molecular complexes formed from dicarboxylic acid and common aerosol nucleation precursors: W Xu, **L Wang**, R Zhang

1340h **A33F-0230** *POSTER* Molecular Dynamics of Hydrated Clusters as Atmospheric Aerosol Formation Precursors: **A Kawano**, Y Kawamura, K Kusano

1340h **A33F-0231** *POSTER* Observation of different core water cluster ions $Y(H_2O)_n$ ($Y = O_2, HCN, HO_x, NO_x, CO_x$) and magic number in atmospheric pressure negative corona discharge mass spectrometry: **K Sekimoto**, M Takayama

1340h **A33F-0232** *POSTER* Aerosol nucleation induced by a high energy particle beam: **M B Enghoff**, J O Pedersen, U I Uggerhøj, S Paling, H Svensmark

1340h **A33F-0233** *POSTER* Nucleation in an Ultra Low Ionization Environment: **J O Pedersen**, M B Enghoff, S Paling, H Svensmark

1340h **A33F-0234** WITHDRAWN

1340h **A33F-0235** *POSTER* New Particle Formation from Methanesulfonic Acid in Air: **M Dawson**, V M PERRAUD, M J Ezell, L M Wingen, B J Finlayson-Pitts

1340h **A33F-0236** *POSTER* AmpPMS: Detection of Ammonia and Amines in Particle Formation and Growth Experiments: **D R Hanson**, P H McMurry, J Jiang, L G Huey, D Tanner

1340h **A33F-0237** *POSTER* Chemical Nucleation of Sulfuric Acid and Reduced Organic Species: **M E Titcombe**, M Chen, J Zhao, D R Hanson, P H McMurry

1340h **A33F-0238** *POSTER* The chemical composition of nanoparticles formed from the oxidation of real plant emissions: **P M Winkler**, J Ortega, K C Barsanti, H R Friedli, J N Smith

1340h **A33F-0239** *POSTER* New Particle Formation Events at Duke Forest, North Carolina: Relation to Meteorological and Chemical Conditions: **P R Pillai**, H N Yoo, J T Walker, A Khlystov, V P Aneja

1340h **A33F-0240** *POSTER* Sulfate formation in atmospheric ultrafine particles at inland and coastal rural environments in Canada: **L Zhang**, X Yao

1340h **A33F-0241** WITHDRAWN

1340h **A33F-0242** *POSTER* Investigation of the vertical extension of nucleation events: **J Boulon**, K Sellegri, H Venzac, V Giraud, M Hervo, P Laj

1340h **A33F-0243** *POSTER* Observations of ultrafine particles at Owens (dry) Lake: **E Fitzgerald**, M J Moore, K A Prather

1340h **A33F-0244** *POSTER* Evaluation of the UHMA model during the NIFTy experiment: **P Crippa**, R J Barthelmie, T T Petdjd, S C Pryor

1340h **A33F-0245** *POSTER* Introduction of a new cloud droplet nucleation scheme in a convective cloud model with bin microphysics: **H Lee**, S S Yum

1340h **A33F-0246** *POSTER* Laboratory Studies of the Role of Organic Coatings in Affecting the Reactivity of Gas-Phase Ozone with Particle-Borne PAHs: **S Zhou**, A Lee, R D McWhinney, J Abbatt

1340h **A33F-0247** *POSTER* Comparison of ambient aerosol extinction coefficients obtained from in-situ, MAX-DOAS and LIDAR measurements at a continental site (Cabauw): **P Zieger**, E Weingartner, B Henzing, M Moerman, G De Leeuw, J Mikkilä, K Clémer, M Van Roozendaal, S Yilmaz, U Friess, H Irie, T Wagner, R Shaiganfar, S Beirle, A Apituley, K Wilson, U Baltensperger

1340h **A33F-0248** *POSTER* Using stable water isotopes to distinguish aerosol chemistry from transport: **A Raudzens Bailey**, D C Noone, D W Toohey

1340h **A33F-0249** *POSTER* Inter-annual Comparison of New Particle Formation Chemistry and Cloud Condensation Nuclei Measurements at a Remote Rural Mountain Site: **J Creamean**, A P Ault, E Fitzgerald, D B Collins, G C Roberts, K A Prather

1340h **A33F-0250** *POSTER* Photochemical Formation of Water-Aerosol/Droplet in Air: Optical Manipulation and Reaction Mechanism: **K Yoshihara**, S Kato, K Miyazaki, Y Takatori, Y J Kajii

A33G Moscone West: 3004 Wednesday 1340h
Aerosol Observability and Predictability: From Research to Operations for Chemical Weather Forecasting II

Presiding: **P R Colarco**, NASA GSFC; **J S Reid**, Naval Research Laboratory; **G R Carmichael**, University of Iowa

1340h **A33G-01** Outcomes of an International Coordination Workshop to Understand Aerosol Observability Capabilities and Requirements for the Next Decade: **J S Reid**, A Benedetti, P R Colarco, G R Carmichael, Title of Team: ICAP Team

1355h **A33G-02** Fulfilling Operational Requirements for Operational Aerosol Data Assimilation (*Invited*): **D L Westphal**, J Campbell, J S Reid, E Hyer, J Zhang, D M Winker

1410h **A33G-03** Re-analyses, analyses and forecasts of European Air Quality : building operational GMES services within the MACC project (*Invited*): **V Peuch**, L Rouil, H Elbern, Title of Team: The Regional Air Quality teams of MACC

1425h **A33G-04** Lagrangian Displacement Ensembles for Aerosol Data Assimilation (*Invited*): **A da Silva**, P R Colarco, R C Govindaraju

1440h **A33G-05** Using Testbeds to Evaluate Aerosol Simulations over Multiple Spatial Scales (*Invited*): **J D Fast**, W I Gustafson, B Singh, R C Easter, P J Rasch

1455h **A33G-06** Performance of the MACC/ECMWF aerosol assimilation and forecasting system: general overview and interesting case studies: A Benedetti, J Morcrette, L Jones, J Kaiser, **J Thepaut**

1510h **A33G-07** Evaluation of the Global Aerosol Distribution Simulated in the NASA GEOS-5 Near-realtime Forecasting System: **P R Colarco**, A da Silva, E J Welton

1525h **A33G-08** The GAW Aerosol Lidar Observation Network (GALION) as a source of near-real time aerosol profile data for model evaluation and assimilation: **R M Hoff**, G Pappalardo

A33H Moscone West: 3002 Wednesday 1340h
Atmospheric Circulations and Climate Change III (joint with GC)

Presiding: **P A O’Gorman**, MIT; **T M Merlis**, Caltech

1340h **A33H-01** Projected future changes in tropical summer climate: **A H Sobel**, S J Camargo

1355h **A33H-02** The Attribution of Tropical Precipitation Change in the 20th Century: **S Kang**, D M Frierson, Y Hwang

1410h **A33H-03** Response of tropical precipitation to global warming: **D M Romps**

1425h **A33H-04** The response of the hydrological cycle to climate change: **C J muller**, P A O’Gorman, L E Back

1440h **A33H-05** Atmospheric Stability and weakening of tropical circulation: **C Chou**, C Chen, T Wu

1455h **A33H-06** The Matsuno-Gill Model and Equatorial Superrotation: **A P Showman**, L M Polvani

1510h **A33H-07** Evolution of environmental factors affecting tropical cyclones from the LGM through the Holocene: **R Korty**

1525h **A33H-08** Variations in North American Summer Precipitation Driven by the Atlantic Multidecadal Oscillation: **Q S Hu**, S Feng, R J Oglesby

A33I Moscone West: 3008 Wednesday 1340h
Black Carbon’s Role in Global to Local Air Quality and Climate Change II (joint with GC, PA)

Presiding: **D L Mauzerall**, Princeton Univ; **M Kopacz**, Princeton University; **D M Koch**, Columbia University

1340h **A33I-01** Biomass burning aerosol effects on clouds and precipitation: a numerical study in the dry season of South America: **L Wu**, H Su, J H Jiang

1355h **A33I-02** Soot effects on clouds and solar absorption: Understanding the differences in recently published soot mitigation experiments. (*Invited*): **S E Bauer**, S Menon

1415h **A33I-03** Atmospheric absorption: Can observations constrain the direct and indirect effect of organic and BC aerosols on climate: **J E Penner**, L Xu, C Liou, E Assamoi, M G Flanner, R Edwards, J McConnell

1430h **A33I-04** Linking BC direct radiative forcing to source regions and sectors as a constraint on future emissions mitigations strategies: **D K Henze**, F Akhtar, R W Pinder, D Loughlin, R Spurr

1444h **A33I-05** Estimation of the black carbon (BC) emissions from East Asia based on accurate BC measurements in the Asian outflow: **Y Kondo**, N Oshima, M Kajino, R Mikami, R Verma, Y J Kajii, S Kato, A Takami, N Takegawa, K Kawana

1458h **A33I-06** Origin and radiative forcing of black carbon transported to the Himalayas and Tibetan Plateau: **M Kopacz**, D L Mauzerall, J Wang, E M Leibensperger, D K Henze, K Singh

1512h **A33I-07** Impacts of Tibetan Plateau snowpack pollution on the Asian hydrological cycle and monsoon climate: **Y Qian**, M G Flanner, L Leung, W Wang

1526h **A33I-08** WITHDRAWN

A33J Moscone West: 3006 Wednesday 1340h
Understanding Drought Variability, Forcing, and Feedbacks II (joint with PA)

Presiding: **B I Cook**, NASA-GISS; **R Seager**, Lamont Doherty Earth Obs; **R Touchan**, The University of Arizona; **D M Meko**, University of Arizona

1340h **A33J-01** The Paleoclimatological Power of Biodiversity: 500 yrs of New York City Watershed Drought: **N Pederson**, E Cook, K Vranes

1355h **A33J-02** Expansion of the world’s deserts due to vegetation-albedo feedback under global warming: J Yoon, **N Zeng**

1410h **A33J-03** North American Drought: Red, White, or Blue?: **T R Ault**, G T Pederson, J E Cole, J T Overpeck, D M Meko

1425h **A33J-04** Atlantic and Pacific Influences on Mesoamerican Climate Over the Past Millennium (*Invited*): **D W Stahle**, D J Burnette, J Villanueva, M K Cleaveland

1440h **A33J-05** Drought History from tree rings in the Mediterranean Region: **R Touchan**, K J Anchukaitis, D M Meko

1455h **A33J-06** North American Drought Dipole and its Influence on Colorado River Flow (*Invited*): **C A Woodhouse**, J L Russell, E Cook

1510h **A33J-07** Role of Atlantic sea surface temperatures on persistent drought in North America—A synthesis: **S Feng**, Q S Hu, R J Oglesby

1525h **A33J-08** A mechanisms based approach for distinguishing between naturally-occurring extratropical drought and anthropogenic-driven subtropical drying and expansion: **R Seager**, N H Naik

Atmospheric and Space Electricity

AE33A Moscone South: Poster Hall Wednesday 1340h **Electricity and Lightning in Thunderstorms III Posters** (*joint with A*)

Presiding: **T Marshall**, University of Mississippi; **W P Winn**, New Mexico Tech; **M Stolzenburg**, University of Mississippi

1340h **AE33A-0251 POSTER** Electric Field Measurements during the Genesis and Rapid Intensification Processes (GRIP) Field Program: **M G Bateman**, R Blakeslee, D M Mach

1340h **AE33A-0252 POSTER** Global Electric Circuit Implications of Combined Aircraft Storm Electric Current Measurements and Satellite-Based Diurnal Lightning Statistics: **D M Mach**, R Blakeslee, M G Bateman

1340h **AE33A-0253 POSTER** Estimations of Thunderstorm Generator Currents and Their Effect on the Global Electric Circuit: **T Marshall**, B Ray, M Stolzenburg

1340h **AE33A-0254 POSTER** On Planning and Exploiting Schumann Resonance Measurements for Monitoring the Electrical Productivity of Global Lightning Activity: **V C Mushtak**, E Williams

1340h **AE33A-0255 POSTER** Initial Performance Estimates of the GLD360 Lightning Detection Network: **R Said**, M J Murphy, N Demetriades

1340h **AE33A-0256 POSTER** LONG-RANGE LIGHTNING PRODUCTS FOR SHORT TERM FORECASTING OF TROPICAL CYCLOGENESIS: **S Businger**, A Pessi, T Robinson, D Stolz

1340h **AE33A-0257 POSTER** A comparison study of convective and microphysical parameterization schemes associated with lightning occurrence in southeastern Brazil using the WRF model: **G D Zepka**, O Pinto

1340h **AE33A-0258 POSTER** LIGHTNING ACTIVITY IN THE CITY OF SÃO PAULO IN THE LAST 50 YEARS: A CASE STUDY FOR THE RELATION BETWEEN LIGHTNING AND GLOBAL WARMING: **I R Pinto**

1340h **AE33A-0259 POSTER** Land-ocean contrast on electrical characteristics of lightning discharge derived from satellite optical measurements: **T Adachi**, R Said, S A Cummer, J Li, Y Takahashi, R Hsu, H Su, A B Chen, S B Mende, H U Frey

1340h **AE33A-0260 POSTER** INTRACLOUD FLASH ANOMALY OVER LARGE URBAN AREAS: **K Naccarato**, O Pinto, I R Pinto, D R Campos

1340h **AE33A-0261 POSTER** ON THE SPATIAL AND TEMPORAL VARIATIONS OF URBAN HEAT ISLANDS AND THEIR EFFECT ON THUNDERSTORM FORMATION: **V Bourscheidt**, K L Cummins, O Pinto, K Naccarato

1340h **AE33A-0262 POSTER** NBE, CG, and IC climatology: **S Heckman**, E Novakovskaia

1340h **AE33A-0263 POSTER** Total Lightning Characteristics in Mesoscale Convective Systems in Oklahoma: **J A Makowski**, D R MacGorman

1340h **AE33A-0264 POSTER** Comparison of VHF Source Characteristics for a Single-Stroke, Negative CG Flash with Continuing Current to Those of Nearby IC and CG Flashes: **S A Weiss**, W H Beasley, D M Jordan

1340h **AE33A-0265 POSTER** Lightning Magnetic Field Measurements around Langmuir Laboratory: **M Stock**, P R Krehbiel, W Rison, G D Aulich, H E Edens, R G Sonnenfeld

1340h **AE33A-0266 POSTER** Acoustic Manifestations of Natural versus Triggered Lightning: **R O Arechiga**, J B Johnson, H E Edens, W Rison, R J Thomas, K Eack, E M Eastvedt, G D Aulich, J Trueblood

1340h **AE33A-0267 POSTER** Measurement of the electric field intensity and space charge density with height prior to triggered lightning: **C J Biagi**, J Gopalakrishnan, M A Uman, J D Hill, D M Jordan

1340h **AE33A-0268 POSTER** An Analysis of the Distance Dependence of Measured Peak Electric Fields from Cloud-to-Ground Lightning Return Strokes: **J C Burchfield**, P M Bitzer, V Franklin, H Christian

1340h **AE33A-0269 POSTER** Lightning Location Using Electric Field Change Meters: **P M Bitzer**, H Christian, J Burchfield

1340h **AE33A-0270 POSTER** Locating Initial Breakdown Pulses of Lightning Flashes: **S Karunarathne**, T Marshall, M Stolzenburg, H Betz, G Wiczorek

1340h **AE33A-0271 POSTER** Correlated High-speed Video and Multi-frequency Electromagnetic Observations of Lightning: **M Stolzenburg**, T C Marshall, T A Warner, R E Orville, H Betz, R Gebauer, S Karunarathne, L Vickers

1340h **AE33A-0272 POSTER** Further characterization of the luminous variation events that occurred during the initial stage of upward positive leaders: **D Wang**, T Watanabe, N Takagi

1340h **AE33A-0273 POSTER** Observations of the Behavior of Multiple Channel Branches in Triggered Lightning: **E M Eastvedt**, G D Aulich, K Eack, H E Edens, S J Hunyady, C Murray, R G Sonnenfeld, J Trueblood, W P Winn

1340h **AE33A-0274 POSTER** Development of a High Speed Camera Network to Monitor and Study Lightning (Project RAMMER): **A V Saraiva**, O Pinto, H H Santos, M M Saba

1340h **AE33A-0275 POSTER** Lightning Leader Stepping: **W P Winn**

1340h **AE33A-0276 POSTER** Preliminary Observations of Lightning-Generated Microwave Radiation: **D Petersen**, W H Beasley

1340h **AE33A-0277 POSTER** Possible Catalytic Effects of Ice Particles on the Production of NO_x by Lightning Discharges: **H S Peterson**, W H Beasley

AE33B Moscone South: Poster Hall Wednesday 1340h **Volcano Lightning II Posters** (*joint with V, A*)

Presiding: **A A Few**, Rice University

1340h **AE33B-0278 POSTER** Charge mechanism of volcanic lightning revealed during the Eyjafjallajökull 2010 eruption: **P Arason**, A J Bennett

1340h **AE33B-0279 POSTER** Photographic and Lightning Mapping Observations of the 2010 Eruption of Eyjafjallajökull: **R J Thomas**, **H E Edens**, S A Behnke, P R Krehbiel, W Rison

1340h **AE33B-0280 POSTER** Contact Electrification and Charge Separation in Volcanic Plumes: **M E Lindle**, J Dufek

1340h **AE33B-0281 POSTER** The life cycle of Redoubt's volcanic lightning storms: **S A Behnke**, R J Thomas, P R Krehbiel, W Rison, H E Edens, S R McNutt

1340h **AE33B-0282 POSTER** Ice in Volcanic Clouds: **A A Few**

Biogeosciences

B33A Moscone South: Poster Hall Wednesday 1340h **Active Remote Sensing Measurements of Vegetation 3-D Structure and Biomass: Assessing Accuracy and Sources of Uncertainty I Posters** (*joint with G*)

Presiding: **M Simard**, Jet Propulsion Laboratory; **B D Cook**, NASA Goddard Space Flight Center

1340h **B33A-0380** *POSTER* Estimation of the vertical distribution of tree biomass using last significant return laser altimetry returns from Eucalypt trees in New South Wales, Australia: **I J Davenport**, J Walker, R J Gurney

1340h **B33A-0381** *POSTER* Sensitivity of LIDAR Canopy Height Estimate to Geolocation Error: **H Tang**, R Dubayah

1340h **B33A-0382** *POSTER* Vegetation structure estimation from SRTM coherence data: correction of systematic artifacts: **B D Chapman**, R N Treuhaft, S Hensley

1340h **B33A-0383** *POSTER* Forest Biomass Mapping Using Lidar-derived Canopy Height Metrics at Maine in USA: **W Huang**, G Sun

1340h **B33A-0384** *POSTER* Estimating Vegetation Height and Bare-Earth Topography from SRTM Data using Fourier Spectral Decomposition: **C Gangodagamage**, D Liu, D Alsdorf

1340h **B33A-0385** *POSTER* Validating LiDAR Derived Estimates of Canopy Height, Structure and Fractional Cover in Riparian Areas: A Comparison of Leaf-on and Leaf-off LiDAR Data: **L A Wasser**, L E Chasmer, A Taylor, R Day

1340h **B33A-0386** *POSTER* Effect of Ground Surface Reflectance on LiDAR Waveforms, Height Metrics and Biomass Estimation: **B D Cook**, J Rosette, P R North, J Rubio, J Suárez

1340h **B33A-0387** *POSTER* Modelling Sensor and Target effects on LiDAR Waveforms: **J Rosette**, P R North, J Rubio, B D Cook, J Suárez

1340h **B33A-0388** *POSTER* Measuring Above Ground Biomass and Vegetation Structure in the South Florida Everglades Wetland Ecosystem with X-, C-, and L-band SAR data and Ground-based LiDAR: **E A Feliciano**, S Wdowski, M Potts, S Chin, D A Phillips

1340h **B33A-0389** *POSTER* Forest Biomass Retrieval from Digital Beamforming SAR (DBSAR): R Rincon, **T E Fatoyinbo**, G Sun, J Ranson

1340h **B33A-0390** *POSTER* Estimating semiarid vegetation height from GLAS Data: **L P Spaete**, N F Glenn, R Shrestha, J Mitchell

1340h **B33A-0391** *POSTER* Radiometric Calibration of High Resolution UAVSAR Data Using Low Resolution SRTM DEMs: **B V Riel**, M Simard

1340h **B33A-0392** *POSTER* Applying the Moment Distance Framework to LiDAR Waveforms: **E L Salas**, N Aguilar-Amuchastegui, G M Henebry

1340h **B33A-0393** *POSTER* Reducing Uncertainty In Ecosystem Structure Inventories From Spaceborne Lidar Using Alternate Spatial Sampling Approaches: **M A Lefsky**, T Ramond, C S Weimer

1340h **B33A-0394** *POSTER* Two-color, Polarimetric Laser Altimeter Measurements of Forest Canopy Structure and Composition: **P Dabney**, A W Yu, D J Harding, S R Valett, E Hicks, C A Shuman, A A Vasilyev

1340h **B33A-0395** *POSTER* Estimating Above Ground Biomass using LiDAR in the Northcoast Redwood Forests: **M Rao**, E Stewart

1340h **B33A-0396** *POSTER* Revising vegetation scattering theories: Adding a rotated dihedral double bounce scattering to explain cross-polarimetric SAR observations over wetlands: S Hong, **S Wdowski**

B33B Moscone South: Poster Hall Wednesday 1340h **Eolian Processes: Biophysical Drivers and Biogeochemical Implications II Posters** (*joint with EP, H*)

Presiding: **S Ravi**, University of Arizona; **J Li**, UCLA; **T M Zobeck**, USDA, Agricultural Research Service

1340h WITHDRAWN

1340h **B33B-0397** WITHDRAWN

1340h **B33B-0398** *POSTER* Microtopography-Induced Lag Formation on Bedforms and Biogenic Structures in Aeolian Settings: **I V Buynevich**

1340h **B33B-0399** *POSTER* Beach-dune dynamics: Spatio-temporal patterns of aeolian sediment transport under complex offshore airflow: **K Lynch**, D Jackson, I Delgado-Fernandez, J A Cooper, A C Baas, M Beyers

1340h **B33B-0400** *POSTER* Reattachment Zone Characterisation Under Offshore Winds With Flow Separation On The Lee Side Of Coastal Dunes: **I Delgado-Fernandez**, D Jackson, J A Cooper, A C Baas, K Lynch, M Beyers

1340h **B33B-0401** *POSTER* The vertical structure of airflow turbulence characteristics within a boundary layer during wind blown sand transport over a beach: **Z S Lee**, A C Baas, D Jackson, J A Cooper, K Lynch, I Delgado-Fernandez, M Beyers

1340h **B33B-0402** *POSTER* Surface Shear Stress Around a Single Flexible Live Plant and a Rigid Cylinder: B A Walter, C Gromke, **K C Leonard**, A Clifton, M Lehning

1340h **B33B-0403** *POSTER* Characterizing effects of wind erosion on soil microtopography in a semiarid grassland using terrestrial laser scanning: **J Li**, R A Washington-Allen, G S Okin

1340h **B33B-0404** WITHDRAWN

1340h **B33B-0405** *POSTER* Impact of atmospheric deposition on algal growth in Lake Tahoe, CA: A Paytan, **K R Mackey**, Y Jiang, A Liston, B Allen, S G Schladow

1340h **B33B-0406** *POSTER* Soil-litter Mixing Accelerates Decomposition and May Promote Soil Aggregate Formation in the Chihuahuan Desert: **D B Hewins**, H L Throop, S R Archer, G S Okin

1340h **B33B-0407** *POSTER* Rates of soil-litter mixing beneath and between shrub canopies in a semiarid shrubland: Combined effects of aeolian/fluvial redistribution: **R Power**, T H Melhem, J P Field, D D Breshears, S R Archer

1340h **B33B-0408** *POSTER* Responses of wind erosion to disturbance in a desert scrub grassland: grass vs. bush cover, and a snapshot into recovery: **M Baddock**, T M Zobeck, P D'Odorico, S Van Pelt, S Ravi, T M Over, A Bhattachan

1340h **B33B-0409** *POSTER* Effect of vegetation type on post-fire enhancement of wind erosion in semi-arid landscapes: **S Ravi**, T M Zobeck, P D'Odorico, M Baddock

1340h **B33B-0410** WITHDRAWN

1340h **B33B-0411** *POSTER* The effects of simulated fire events on the creation and destruction of soil water repellency using vegetation and soil samples from a desert shrub grassland: **T M Over**, S Pratte, B Frost, J Blitz

B33C Moscone South: Poster Hall Wednesday 1340h **Applications of Remote Sensing and GIS for Agricultural Mapping, Monitoring, and Data Visualization Posters**

Presiding: **J L McCarty**; **R Mueller**, USDA NASS Spatial Analysis Research Section

1340h **B33C-0412** *POSTER* Exploring U.S Cropland - A Web Service based Cropland Data Layer Visualization, Dissemination and Querying System (*Invited*): **Z Yang**, W Han, L Di

1340h **B33C-0413** POSTER A 5-year analysis of crop phenologies from the United States Heartland (*Invited*): **D M Johnson**

1340h **B33C-0414** POSTER Improving Crop Classification Techniques Using Optical Remote Sensing Imagery, High-Resolution Agriculture Resource Inventory Shapefiles and Decision Trees: **A L Melnychuk**, A A Berg, S Sweeney

1340h **B33C-0415** POSTER An Assessment of Agriculture Land Classification in the Platte River Basin, USA: **D M Howard**, B K Wylie, Z Tan

1340h **B33C-0416** POSTER A Remote Sensing-based Global Agricultural Drought Monitoring and Forecasting System for Supporting GEOSS (*Invited*): **L Di**, G Yu, W Han, M Deng

1340h **B33C-0417** POSTER Retrospective Analog Year Analyses Using NASA Satellite Precipitation and Soil Moisture Data to Improve USDA's World Agricultural Supply and Demand Estimates: **W L Teng**, H Shannon

1340h **B33C-0418** POSTER Detection of irrigation timing using MODIS and SAR: Effect of land cover heterogeneity: **J Seungtaek**, J Keunchang, H Lee, H Seokyeong, S Kang

1340h **B33C-0419** POSTER The Potential for Global Energy Crop Production from Intensification and Extensification Under Current and Global Climate Change Scenarios: **D K Ray**, J S Gerber, N D Mueller, N Ramankutty, J A Foley

1340h **B33C-0420** POSTER Assessing the Potential to Intensify Pastureland Use: **A E Morishige**, J A Foley, J Sheehan, N D Mueller, J S Gerber, M S Laser, L R Lynd

1340h **B33C-0421** POSTER Using Multispectral Analysis in GIS to Model the Potential for Urban Agriculture in Philadelphia: J E Dmochowski, **W P Cooper**

1340h **B33C-0422** POSTER AgLite: A 3-wavelength lidar system for Assessment of Agricultural Air Quality, Whole Facility Emission Rates and Fluxes: **M Wojcik**, J Hatfield, J Preuger, R Pfeiffer, K Moore, R Martin

1340h **B33C-0423** POSTER ASSESSMENT OF VEGETATION PHOTOSYNTHESIS MODEL (VPM) IN A TEMPERATE CLIMATE CONDITION USING MODIS DATA: **S Ramu**, J Jin

B33D Moscone South: Poster Hall Wednesday 1340h
Biogeodynamics and Earth System Sciences I Posters

Presiding: **M Marani**, University of Padova; **J D Albertson**, Duke University; **D Rothman**, MIT

1340h **B33D-0424** POSTER In Search of the Factors Driving the Relationship Between Canopy Nitrogen and Shortwave Surface Albedo: **F B Sullivan**, S V Ollinger, M M Martin, L Lepine

1340h **B33D-0425** POSTER Mesoscale modeling of the effect of woody plant encroachment on vegetation-atmosphere interactions in drylands: **Y He**, S De Wekker, P D'Odorico

1340h **B33D-0426** POSTER Exotic Earthworm Influence on Nitrogen Cycling in FACE Forest Soils: **S M Top**, T R Filley

1340h **B33D-0427** POSTER Toward a model framework for sedimentary delta growth that accounts for biological processes: **J Lorenzo-Trueba**, V R Voller, C Paola

B33E Moscone South: Poster Hall Wednesday 1340h
Carbon Dynamics in Fire-Prone Forests II Posters (*joint with GC*)

Presiding: **M Hurteau**, Northern Arizona University; **H Zald**, Oregon State University

1340h **B33E-0428** POSTER Recovery of Above Ground Biomass and Foliar Nitrogen in Yellowstone National Park after the 1988 Fire: **D M Haddad**, C J Tucker, S V Ollinger

1340h **B33E-0429** POSTER Forest-climate feedbacks mediated through fire in the Eastern boreal forests of Canada: **P Y Bernier**, M P Girardin, R L Desjardins, S Gauthier, Y Karimi-Zindashty, D Worth, A Beaudoin, Y Luo, S Wang

1340h **B33E-0430** POSTER Changes in microbial communities and soil carbon dynamics across a fire chronosequence in an Alaskan boreal forest: **S R Dooley**, K K Treseder

1340h **B33E-0431** WITHDRAWN

1340h **B33E-0432** POSTER Multiyear analysis of the effects of wildfire and thinning on ecosystem carbon fluxes of ponderosa pine forests: **S Dore**, T E Kolb, M C Montes-Helu

1340h **B33E-0433** POSTER Drivers of Vulnerability of Carbon Stocks to Variations in the Fire Regime In Alaskan Boreal Forests: **E Hoy**, E S Kasischke, M R Turetsky, E S Kane, K M Barrett, A D McGuire

1340h **B33E-0434** POSTER Watershed Fire Regime Effects On Particulate Organic Carbon Composition in Oregon and California Coast Range Rivers: **J A Hatten**, M A Goni, R A Wheatcroft, J C Borgeld, J S Padgett, G B Pasternack, A B Gray, E B Watson, J A Warrick

1340h **B33E-0435** POSTER Modeled Climate and Disturbance Impacts to Carbon Sequestration of Recent Interior Boreal Alaska Ecosystem Productivity Declines: **C S Neigh**, N Carvalhais, G J Collatz, C J Tucker

1340h **B33E-0436** POSTER Parameterizing fire effects on the carbon balance of western United States (U.S.) forests: Accounting for variation across forest types, fire severity, and carbon pools: **B Ghimire**, C A Williams, G J Collatz

B33F Moscone South: Poster Hall Wednesday 1340h
Ecological Migration and Dispersal From a Geophysical Perspective II Posters

Presiding: **J M Ramirez**, Universidad Nacional Colombia; **M E Power**, Univ. California Berkeley; **E C Waymire**, Oregon State University; **J A Jones**, Oregon State University

1340h **B33F-0437** POSTER Conceptual approach for examining effects of network structure on dispersal and migration in aquatic communities and insights gained from mathematical modeling: **J A Jones**, J M Ramirez, S Moore

1340h **B33F-0438** WITHDRAWN

1340h **B33F-0439** POSTER The influence of population dynamics and environmental conditions on salmon re-colonization after large-scale disturbance: **G R Pess**, R Hilborn, K Kloehn, T Quinn

1340h **B33F-0440** POSTER Optimum Pathways of Fish Spawning Migrations in Rivers: **B J McElroy**, R B Jacobson, A DeLonay

1340h **B33F-0441** POSTER Drivers and Controls of the Zebra Mussel Invasion of the Mississippi-Missouri River System: R Casagrandi, **L Mari**, E Bertuzzo, M Gatto, S A Levin, I Rodriguez-Iturbe, A Rinaldo

1340h **B33F-0442** POSTER A Model for Population Persistence of Certain Insects in Stream Networks: **T Johnson**

1340h **B33F-0443** POSTER Interfacial Effects In Fragmented Domains: An Example from Breakthrough Curves: **T Appuhamillage**, V A Bokil, E Thomann, E C Waymire, B D Wood

1340h **B33F-0444** POSTER A Spatial Model of Barley Yellow Dwarf Virus in Competing Plant Species with Seasonality and Age Structure: **C A Manore**, S Moore, V A Bokil, E Borer, P Hosseini

1340h **B33F-0445** POSTER A Stream Morphology Classification for Eco-hydraulic Purposes Based on Geospatial Data: a Solute Transport Application Case: **M A Jiménez Jaramillo**, L A Camacho Botero, J I Vélez Upegui

1340h **B33F-0446** POSTER Noah, Joseph and Convex Hulls: **N W Watkins**, Y Chau, S C Chapman

1340h **B33F-0447** POSTER Coupled solar-magnetic orientation during leatherback turtle (*Dermochelys coriacea*), great white shark (*Carcharodon carcharias*), arctic tern (*Sterna paradisaea*), and humpback whale (*Megaptera novaeangliae*) long-distance migration: **T W Horton**, R N Holdaway, A Zerbini, A Andriolo, P J Clapham

1340h **B33F-0448** POSTER Reconstructing Indian Ocean Paleobathymetry in search of biogeographic connections: **J M Whittaker**, A Gibbons, M Seton, D Müller

1340h **B33F-0449** POSTER Mechanistic models of plant seed dispersal by wind in heterogeneous landscapes: **A Trakhtenbrot**, G G Katul, R Nathan

1340h **B33F-0450** POSTER Phylogeography, cave invasion and diversification of the Philippine Sundathelphusa (Decapoda: Brachyura: Parathelphusidae): **D Husana**, T Haga, T Kase, M Yamamuro

1340h **B33F-0451** POSTER World-Wide and Regional Examination of Substrates Facilitating Timberline Expansion: **A C Johnson**, J A Yeakley

1340h **B33F-0452** POSTER Electrical conductivity sensors as a means to quantify hydrologic connectivity of desert riverscapes: **K L Jaeger**, J D Olden

B33G Moscone South: Poster Hall Wednesday 1340h Seeing REDD: Application of Remote Sensing in Terrestrial Carbon Management I Posters (joint with GC, H, PA)

Presiding: **R Dubayah**, University of Maryland; **S J Goetz**, Woods Hole Research Center

1340h **B33G-0453** POSTER Satellite Monitoring for REDD: Radar vs. Optical: **E T Mitchard**, S S Saatchi, C Ryan, E Woollen, L E Goodman, M Williams, F Gerard, M Starkey, P Meir

1340h **B33G-0454** POSTER Conterminous U.S. Forest Disturbance Dynamics Evaluated from Landsat Time Series Stacks: **N Thomas**, S N Goward, R E Kennedy, C Huang, K Schleeeweis, J G Masek, W B Cohen, G Moisen

1340h **B33G-0455** POSTER Evaluating Greenhouse Gas Emissions Reporting Systems for Agricultural Waste Burning Using MODIS Active Fires: **H Lin**, Y Jin, L Giglio, J A Foley, J T Randerson

1340h **B33G-0456** POSTER Monitoring Forest Carbon Dynamics for REDD: A Landsat-Lidar Fusion Approach: **C Huang**, R Dubayah, G C Hurtt, S N Goward, J G Masek, Z Zhu

1340h **B33G-0457** POSTER Achieving improved understanding of global forest distribution: a synthesis of global and regional land cover products: **X Song**, C Huang, M Feng, R Narasimhan, J O Sexton, J R Townshend

1340h **B33G-0458** POSTER Quantification of Carbon Flux (2000-2007) in Northeastern U.S. Forests using the NBCD 2000 biomass map and ALOS PALSAR data: **O Cartus**, W S Walker, J M Kellndorfer, J B Bishop, T Cormier

1340h **B33G-0459** POSTER Building capacity for national level carbon Measurement, Reporting, and Verification (MRV) systems for a "Reduction of Emissions from Deforestation and Degradation" (REDD): **N Laporte**, S J Goetz, A Baccini, W S Walker, P Ndunda, P Mekui, J M Kellndorfer, D Knight

1340h **B33G-0460** POSTER Analysis And Assessment Of Forest Cover Change For The State Of Wisconsin: **C H Perry**, M D Nelson, K Stueve, D Gormanson

1340h **B33G-0461** POSTER Mapping aboveground biomass for interior Alaska using Landsat data and field measurements: **L Ji**, B K Wylie, D Nossov, B Peterson, M P Waldrop, T N Hollingworth, J A Rover

1340h **B33G-0462** WITHDRAWN

1340h **B33G-0463** POSTER Tropical Forest Backscatter Anomaly Evident in SeaWinds Scatterometer Morning Overpass Data During 2005 Drought in Amazonia: **S E Frolking**, T Milliman, M W Palace, D Wisser, R B Lammers, M A Fahnestock

1340h **B33G-0464** POSTER Woodland Composition Inertia Affected by Disturbance and Climate Assessed by Dimensional Analysis of Historical Landcover Change Data: **M Sides**, J D White, D B Murray

B33H Moscone South: Poster Hall Wednesday 1340h Ecological Significance of Forest Structure From Remote Sensing, Modeling, and Field Measurements I Posters (joint with GC)

Presiding: **R N Treuhaft**, Jet Propulsion Laboratory, California Institute of Technology; **P Dubois-Fernandez**, ONERA; **S Baidya Roy**, University of Illinois

1340h **B33H-0465** POSTER Tropical Forest Biomass Estimation from Vertical Fourier Transforms of Lidar and InSAR Profiles: **R N Treuhaft**, F Goncalves, J Drake, S Hensley, B D Chapman, T Michel, J R dos Santos, L Dutra, P A Graca

1340h **B33H-0466** POSTER Forest height estimation in a tropical forest context from PolInSAR measurements: Illustration from the TropiSAR campaign in French Guyana: **P Dubois-Fernandez**, T Le Toan, J Chave, L Blanc, S Daniel, M Davidson

1340h **B33H-0467** POSTER Classifying Multiple Stages of Mountain Pine Beetle Disturbance Using Multispectral Aerial Imagery in North-Central Colorado: **A J Meddens**, J A Hicke, L A Vierling

1340h **B33H-0468** POSTER VERTICAL FOREST STRUCTURE ESTIMATION FOR GLOBAL BIOMASS MAPPING BY MEANS OF MULTI-BASELINE POL-INSAR TECHNIQUES: **K Papathanassiou**, F Kugler, S Lee, A Torano Caicoya, I Hajnsek

1340h **B33H-0469** POSTER Constructing seasonal LAI trajectory by data-model fusion for global evergreen needle-leaf forests: **R Wang**, J Chen, G Mo

1340h **B33H-0470** POSTER Linking Remote Sensing with a State-of-the-Art Terrestrial Biosphere Model to Better Predict Ecosystem Dynamics: **A S Antonarakis**, S S Saatchi, B Blair, P R Moorcroft

1340h **B33H-0471** POSTER DESDynI Lidar Measurements of Forest Structure: **J Ranson**, B D Cook, B Blair, R Dubayah

1340h **B33H-0472** WITHDRAWN

1340h **B33H-0473** POSTER Boreal Forest Biomass Estimation using Radar Derived Vertical and Morphological Forest Structure Indicators: **M Neumann**, S S Saatchi

1340h **B33H-0474** POSTER Producing Science-Ready radar datasets for the retrieval of forest 3D structure: Correcting for terrain topography and temporal changes: **M Simard**, M Laval, B V Riel, N Pinto, R Dubayah, S Hensley, A I Calderhead

1340h **B33H-0475** POSTER Retrieval of Vegetation Structural Parameters and 3-D Reconstruction of Forest Canopies Using Ground-Based Echnidna® Lidar: **A H Strahler**, T Yao, F Zhao, X Yang, C Schaaf, C E Woodcock, D L Jupp, D Culvenor, G Newnham, J Lovell

1340h **B33H-0476** POSTER MODELING RECOLLISION AND ESCAPE PROBABILITIES USING THE STOCHASTIC RADIATIVE TRANSFER EQUATION: **L Xu**, M A Schull, A Samanta, R B Myneni, Y Knyazikhin

1340h **B33H-0477** POSTER Regional estimation of litterfall in a subtropical forest: **H Wang**, C Huang

1340h **B33H-0478** POSTER Scaling Issues and Spatio-Temporal Variability in Ecohydrological Modeling on Mountain Topography: Methods and Future of the VELMA Model: **K Peterson**, B J Bond, R Mckane, A G Abdelnour, M Stieglitz

1340h **B33H-0479** POSTER Investigating tree mortality at multiple spatial and temporal scales in the Bishop pine forest on Santa Cruz Island, California: **S A Baguskas**, B Bookhagen, S H Peterson, G P Asner

1340h **B33H-0480** POSTER The Electronically Steerable Flash Lidar Adaptability for Characterizing Forest Structure: **T Ramond**, C S Weimer, M A Lefsky, L Ruppert, B Donley, T Delker, J Applegate

1340h **B33H-0481** POSTER Photosynthetic recovery of foliage after wind disturbance activates ecosystem CO₂ uptake in cool-temperate forests in northern Japan: **M Toda**, P Kolari, T Nakai, T Hara

1340h **B33H-0482** POSTER Effect of different spatial resolution of satellite image to observe the forest condition using satellite image and National Forest Inventory data: **T Kajisa**, N Mizoue, S Yoshida

1340h **B33H-0483** WITHDRAWN

1340h **B33H-0484** POSTER The effects of deforestation on local temperature change based on MODIS satellite observations: A K Jones, **A Montenegro**, H Beltrami

1340h **B33H-0485** POSTER Woodland Patch Dynamics Affected by Oak Growth: Fire, Climate, and Human Influences: **D B Murray**, J D White

1340h **B33H-0486** WITHDRAWN

1340h **B33H-0487** POSTER Impacts of land use change on atmospheric circulation and ecosystem dynamics in the Amazon from a coupled atmosphere-ecosystem model: **M Longo**, N M Levine, R G Knox, R I Albrecht, M N Hayek, Y Kim, D Medvigy, M A Silva Dias, S C Wofsy, R L Bras, P R Moorcroft

1340h **B33H-0488** POSTER Fire risk due to convective drying at forest edges in Rondonia: **S Baidya Roy**, D Rastogi

B33I Moscone West: 2004 Wednesday 1340h
Global Soil Change: New Frontiers for the Biogeosciences I

Presiding: **M G Kramer**, University of California, Santa Cruz;
D D Richter, Duke University

1340h **B33I-01** The fate of carbon in a thawing world (*Invited*): **J W Harden**, T Jorgenson, C C Fuller, K P Wickland, J A O'Donnell, S A Ewing, M Kanevskiy, Q Zhuang

1400h **B33I-02** The Effects of Elevated CO₂ on Soil Respiration, Cation Exchange, and Mineral Dissolution (*Invited*): **N Oh**, D D Richter

1420h **B33I-03** US stream CO₂ evasion: What spatial and temporal patterns can tell us about soil processes. (*Invited*): **P Raymond**, D E Butman

1440h **B33I-04** National-Scale Changes in Soil Profile C and N in New Zealand Pastures are Determined by Land Use: **L A Schipper**, R Parfitt, C Ross, W T Baisden, J Claydon, S Fraser

1455h **B33I-05** On the sensitivity of the terrestrial biosphere to human-induced soil degradation over the Holocene, with implications for earth system modeling: **J O Kaplan**, P M Collins, K M Krumhardt

1510h **B33I-06** Big Data for Big Questions: Global Soil Change and the National Soil Carbon Network: **L E Nave**, C Swanston

1525h **B33I-07** Probing soil C metabolism in response to temperature: results from experiments and modeling: **P Dijkstra**, J Dalder, J Blankinship, P C Selmants, E Schwartz, G W Koch, S Hart, B A Hungate

B33J Moscone West: 2006 Wednesday 1340h
Linkages in Biogeochemical Cycles Between the Surface Ocean and Lower Atmosphere Over the Pacific Ocean II (*joint with A, GC, OS, V*)

Presiding: **M Levasseur**; **W L Miller**, University of Georgia

1340h **B33J-01** Western Pacific Air-Sea Interaction Study (W-PASS), Introduction and Highlights (*Invited*): **A Tsuda**

1355h **B33J-02** Asian dust transportation and fertilizing the coastal and open ocean in the Northern Pacific (*Invited*): **H Gao**, Title of Team: Xiaohong Yao, Jinhui Shi, Jianhua Qi

1410h **B33J-03** The Marine Biogeochemical Exchange of Sulfur (*Invited*): **B J Huebert**

1425h **B33J-04** Observation of natural phytoplankton blooms in the western subarctic North Pacific: Is there relation to atmospheric iron supply?: **S Takeda**, A Okubo, I Tanita, H Obata, T Kodama, K Suzuki

1440h **B33J-05** Subsurface new production in the northwestern subtropical North Pacific fueled by nutrients from the Subtropical Mode Water: **T Suga**, C Sukigara, T Saino, K Toyama, D Yanagimoto, K Hanawa, N Shikama, K Tsubono, T Kobayashi, S Hosoda, T Hibiya, N Furuichi

1455h **B33J-06** Molecular compositions and decadal trends of dicarboxylic acids, ketoacids, α -dicarbonyls in the marine aerosols from Chichi-Jima Island in the western North Pacific: **K Kawamura**, E Tachibana

1510h **B33J-07** Physical and chemical characterization of marine atmospheric aerosols over the North and South Pacific Oceans using single particle mass spectrometry: **H Furutani**, J Jung, K Miura, M Uematsu

1525h **B51E-0396** Microbial Carbon Pump --A New Mechanism for Long-Term Carbon Storage in the Global Ocean (*Invited*): **N Jiao**, F Azam, Title of Team: MCP working group (on behalf of SCOR WG134)

B33K Moscone West: 2002 Wednesday 1340h
Phosphorus: From Geochemistry to Genomes to Global Sustainability II (*joint with GC, OS, PP, V*)

Presiding: **A Poret-Peterson**, Arizona State University; **J R Corman**, Arizona State University; **J J Elser**, Arizona State University

1340h **B33K-01** New Insights into an Old Cycle: The Marine Phosphorus Cycle and the Formation of Critical Phosphate Rock Resources (*Invited*): **G M Filippelli**

1355h **B33K-02** Ocean's 16: Optimal protein:RNA ratio has near Redfield nitrogen:phosphorus ratio: **J J Elser**, I Loladze

1410h **B33K-03** The role of food, sex and travel in the diversity of our planet. (*Invited*): **V Souza**, L E Eguarte, J J Elser, M Travisano

1425h **B33K-04** Calculus of P-Acquisition versus P-Sparing by Plankton in the Oligotrophic Ocean (*Invited*): **B Van Mooy**, S T Dyhrman, M W Lomas

1440h **B33K-05** Nitrogen Inputs Stimulate Phosphorus Mineralizing Enzymes across a Wide Variety of Terrestrial Ecosystems: **A Marklein**, B Z Houlton

1455h **B33K-06** Influence of Hydrologic Regime and Biogeochemistry on Sediment Phosphorus Retention and Release Processes in Shallow Freshwater Ecosystems: **L E Kinsman**, J O'Brien, S Robbins, S K Hamilton

1510h **B33K-07** Phosphorus forms and pools in high-elevation soils of the Sierra Nevada: Sensitivity to climate change: **J O Sickman**, P M Homyak, J M Melack

1525h **B33K-08** Mapping Phosphorus Imbalances in Croplands Globally: Too Much or Too Little of a Good Thing?: **G K MacDonald**, E M Bennett, P Potter, N Ramankutty

Cryosphere

C33A Moscone South: Poster Hall Wednesday 1340h **Characterization of Grain Size and Other Snowpack Properties II Posters** (*joint with H, GC*)

Presiding: **N Rutter**, Northumbria University; **M Sandells**, NCEO, University of Reading; **R J Gurney**, nerc-essc

1340h **C33A-0511** *POSTER* Anisotropy evolution of thermal conductivity in natural snow evaluated with X-ray tomography and computer simulations: **F Riche**, M Schneebeli

1340h **C33A-0512** *POSTER* A comparison of field methods for grain size characterization in the context of passive microwave modeling of snow: **M T Durand**, N P Molotch, E J Kim, S A Margulis, Z Courville, M Schneebeli, T H Painter, D F Berisford

1340h **C33A-0513** *POSTER* Observations of snowpack properties to evaluate ground-based microwave remote sensing: **N Rutter**, H Marshall, K D Tape, R Essery

1340h **C33A-0514** *POSTER* Snow Micro Penetrometer for classifying grain types in the alpine and arctic environment: **S Havens**, H Marshall, K Elder, N Rutter, K D Tape

1340h **C33A-0515** *POSTER* Impact of the seasonal evolution of snow properties on microwave emission model performance: **M Fuller**, C Derksen, J Lemmetyinen, J Yackel

1340h **C33A-0516** *POSTER* From Colorado to Greenland: the 2010 Ground Passive and Active Snow (GAPS) Experiment: **M Tedesco**, H Marshall, N Steiner

1340h **C33A-0518** *POSTER* Field measurements of snow grain specific surface area (SSA) using near-infrared photography and laser reflectometry in Northern Canadian tundra: A Roy, **A Langlois**, B Montpetit, A Royer, N Champolion, G Picard, F Domine, M Fily

1340h **C33A-0519** *POSTER* Snow Grain Size Retrieval From Ground-based Spectroradiometer Measurements and Model Comparison: S Lazzaro, **M Sandells**, R J Gurney, T L Quaipe

C33B Moscone South: Poster Hall Wednesday 1340h **Innovative Modeling and Snowmelt Partitioning in Mountain Environments II Posters**

Presiding: **S Boon**, University of Lethbridge; **M L Reba**, USDA-ARS-NWRC; **C Duffy**, Penn State University

1340h **C33B-0520** *POSTER* Estimating Daily and Monthly Streamflow Using Near Real Time and Retrospective Spatial Estimates of Snow Water Equivalent in the Sierra Nevada: **K E Rittger**, C Tague, J Dozier

1340h **C33B-0521** *POSTER* Hydrologic monitoring in 1-km² headwater catchments in Sierra Nevada forests for predictive modeling of hydrologic response to forest treatments across 140-km² fireheds: **P C Saksa**, R C Bales, M H Conklin, S E Martin, R Rice

C33C Moscone South: Poster Hall Wednesday 1340h **Monitoring, Measuring, and Modeling Snow Processes Posters** (*joint with B, GC, H*)

Presiding: **D G Marks**, USDA ARS NWRC

1340h **C33C-0522** *POSTER* Northern Sierra Nevada Snowfall Accumulation: Comparing SWE Reconstruction and PRISM: **M S Raleigh**, J D Lundquist

1340h **C33C-0523** *POSTER* Arctic and Antarctic Diurnal and Seasonal Variations of Snow Albedo from Multi-year BSRN Measurements: **X Wang**, C S Zender

1340h **C33C-0524** *POSTER* Continuous alpine snow depth mapping by laser rangefinder through a winter season: **E D Gutmann**

1340h **C33C-0525** *POSTER* Early snow melt anomalies: their influence on peak discharge timing and use as an indicator of climate change in high latitude freshwater systems: **K A Semmens**, J M Ramage

1340h **C33C-0526** *POSTER* Assessing Solid-State SWE Sensors in Windy Arctic Conditions: **C A Hiemstra**, A Gelvin, M Sturm, S Berezovskaya, S Saari

1340h **C33C-0527** *POSTER* Quantifying Snow Transport Using Snow Fences and Sonic Sensors: M Sturm, **S Berezovskaya**, C Hiemstra, A Gelvin

1340h **C33C-0528** *POSTER* USING SNOW FENCES TO AUGMENT FRESH WATER SUPPLIES IN THE ARCTIC LAKES: **S Berezovskaya**, J Bailey

1340h **C33C-0529** *POSTER* Winter Evaluation of the Canadian Land Surface Scheme in the Canadian Regional Climate Model over a Western Canada Domain: **E Chan**, Q Teng, M Mackay

1340h **C33C-0531** *POSTER* Factors controlling the spatial variability in end of winter snowcover and spring melt at an arctic tundra site: **P Marsh**, S Endrizzi, C Derksen, M Russell, C Onclin, H Wilson, J W Pomeroy, C Marsh

1340h **C33C-0532** *POSTER* Modelling the impact of climate and landscape changes on snow distribution and melt in regions with limited data: **L E Comeau**, R Essery, A Dugmore

1340h **C33C-0533** *POSTER* Determination of Anisotropic Thermal Conductivity with Thermal Needle Probe Measurements: **J F Holbrook**, R Peterson, J Johnson

1340h **C33C-0534** *POSTER* Variation of Energy Balance Terms within and between Different Coniferous Forests in Southern Boreal Finland: **S S Rasmus**, D Gustafsson, R Lundell, T Saarinen

1340h **C33C-0535** *POSTER* The influences of modeled snow cover heterogeneity on the timing and intensity of melt water generation within an alpine catchment. (*Invited*): **M Bernhardt**, K Schulz, G E Liston

1340h **C33C-0536** *POSTER* Implementing an exposed vegetation parameterisation to investigate the effect of shrub-tundra expansion on snowmelt energetics (*Invited*): **C Menard**, R Essery, D Clark, J W Pomeroy

1340h **C33C-0537** *POSTER* Estimating Basin Snow Volume Using Aerial LiDAR and Binary Regression Trees (*Invited*): **A T Shallcross**, J P McNamara, A N Flores, H Marshall, D G Marks, N F Glenn

1340h **C33C-0538** *POSTER* Comparison of image derived, measured and modeled SWE in relation to snow-melt runoff for the Senator Beck basin, CO during the spring of 2010: **S Frankenstein**, E J Deeb, G G Koenig

1340h **C33C-0539** *POSTER* Performance of the Snowmelt Runoff Model when remotely-sensed estimates of snow covered area are not available: **C M Steele**, A Rango

1340h **C33C-0540** *POSTER* One-dimensional land surface model coupled with a blowing snow model and its application to the snowy region: **K Sugiura**, T Yamazaki, Y Kodama, T Aoki, L D Hinzman

1340h **C33C-0541** *POSTER* Subgrid variability of snow water equivalent at operational snow stations in the western United States: **L Meromy**, N P Molotch, T E Link, S R Fassnacht, E Herchmer, S Roberts, R Rice

1340h **C33C-0542** *POSTER* Snow Dynamics in a Polar Desert, McMurdo Dry Valleys, Antarctica: J W Eveland, **M N Gooseff**, D J Lampkin, J E Barrett, C D Takacs-Vesbach

1340h **C33C-0543** *POSTER* Developing Hourly Radiation, Wind and Precipitation Surfaces for Hydrologic Modeling in Mountain Basins: **D G Marks**, A H Winstral, M L Reba, M Kumar

1340h **C33C-0544** *POSTER* Climate change effects on snow melt and discharge of a partly glacierized watershed in Central Switzerland (*Invited*): **T Jonas**, J Magnusson, F Kobierska, D Farinotti, M Zappa, M Bavay

1340h **C33C-0545** *POSTER* What is the role of wind pumping on heat and mass transfer rates at the air-snow interface?: **W Helgason**, J W Pomeroy

1340h **C33C-0546** *POSTER* Experiments for testing the success of simulating snow and soil processes with GEOTop in the Swiss Alps: **S Endrizzi**, S Gruber, S Gubler

1340h **C33C-0547** *POSTER* Quantification of snowpack mass and energy dynamics in across a canopy discontinuity: T E Link, **D Carson**, D G Marks

1340h **C33C-0548** *POSTER* Trends and sensitivities in late-season snowpack in the Pacific Northwest: **G S Mauger**, N J Mantua

1340h **C33C-0549** *POSTER* Use of Fiber Optic, Distributed Temperature Sensing to Describe Snow Cover Dynamics in Complex Terrain: M S Seyfried, **C Mendoza**, T E Link

1340h **C33C-0550** *POSTER* Global snow cover: comparison of modeling results with satellite-derived snow cover maps: E Bartolini, **J C Adam**, P Claps

1340h **C33C-0551** *POSTER* 1996-2007 Interannual Spatio-Temporal Variability in Snowmelt in Two Montane Watersheds: **S M Jepsen**, N P Molotch, M W Williams, K E Rittger, J O Sickman

1340h **C33C-0552** *POSTER* High frequency baseflow sampling of stream and snowmelt isotopic composition: Bridging the plot to catchment scale divide: **T R Roth**, M Gupta, E Berman, J J McDonnell

1340h **C33C-0553** *POSTER* Application of a New Temperature-Index Model to Glaciers of the Bow River Basin, Eastern Canadian Rockies: **E A Bash**, S J Marshall, E White

1340h **C33C-0554** *POSTER* Characterizing bare-earth elevations from airborne LiDAR data in a shrub-dominated mountain environment (*Invited*): **R Shrestha**, N F Glenn, A T Hudak, L Spaete

1340h **C33C-0555** *POSTER* Spatial Assessment of Snow Volume Using Lidar and Field Measurements: **W T Tinkham**, A M Smith, T E Link, A T Hudak, M J Falkowski, D G Marks

1340h **C33C-0556** *POSTER* Analysis of land and lake surface temperature patterns during the open water and ice growth seasons in the Great Slave Lake region, Canada, from MODIS (2002-2009): **H Kheyrollah Pour**, C R Duguay

1340h **C33C-0557** *POSTER* Developing a snow modeling approach for flood forecasting at the Iowa Flood Center: K J Franz, **J HAN**

1340h **C33C-0558** *POSTER* Comparison of CICE/CCSM simulated snow cover overlying the Arctic sea ice to in situ measurements: **B Blazey**, E C Hunke, J A Maslanik

C33D Moscone South: Poster Hall Wednesday 1340h Polar Snow and Firn and Innovative Data Acquisition Methods for Snow Science II Posters

Presiding: **R L Hawley**, Dartmouth College; **Z Courville**, CRREL; **J F Burkhardt**, Norwegian Institute for Air Research; **M S Seyfried**, USDA-ARS

1340h **C33D-0559** *POSTER* Enhanced Snow Sublimation by Wind-induced Pressure Changes: **A W Nolin**, H Huwald, C W Higgins, S Drake, M B Parlange

1340h **C33D-0560** *POSTER* Turbulence-induced pressure fluctuations in snow and their effect on heat and moisture transport: **H Huwald**, C W Higgins, S Drake, A W Nolin, M B Parlange

1340h **C33D-0561** *POSTER* A Field Comparison of Laser Hygrometers Over Snow: **S Drake**, H Huwald, C W Higgins, A W Nolin, M B Parlange

1340h **C33D-0562** *POSTER* A comparison of Ground-Based LiDAR, contact spectroscopy, FMCW radar, and manual snow pit profiles of a mountain snowpack: **J S Deems**, D C Finnegan, E J Deeb, H Marshall, A C Bryant, S Skiles, C Landry, T H Painter

1340h **C33D-0563** *POSTER* Observation and simulation of the vertical profile of specific surface area throughout the snow season 2009-2010 in a French alpine site: S Morin, C M Carmagnola, F Domine, Y Lejeune, B Lesaffre, A Dufour, J Willemet, **A Hasan**

1340h **C33D-0564** *POSTER* Field Collection Efforts of Snowpack Properties in Support of Remote Sensing Applications: **E J Deeb**, H Marshall, J S Deems, D C Finnegan, T H Painter, C Landry, A C Bryant, S Skiles

1340h **C33D-0565** *POSTER* Microtomography of macroscopic snow samples: **M Matzl**, M Schneebeili, D Steinfeld, S Steiner, M Heggli

1340h **C33D-0566** *POSTER* Microtomography-based Discrete Element Modeling to Simulate Snow Microstructure Deformation: **A Hasan**, B Chareyre, J Kozicki, F Flin, F Darve, J Meyssonier

1340h **C33D-0567** *POSTER* Thin blade penetration resistance as a proxy for the strength and elastic modulus of snow: **C P Borstad**, D M McClung

1340h **C33D-0568** *POSTER* Remotely Measuring Snow Depth in Inaccessible Terrain: **D Dixon**, S Boon

1340h **C33D-0569** *POSTER* Comparison between the Structural Evolution of Dry Snow under Quasi-isothermal Conditions and in a Temperature Gradient: **I Baker**, S Chen

1340h **C33D-0570** *POSTER* A quantitative record of seasonally-varying densification rates at Summit, Greenland, from 2004-2008, using Borehole Optical Stratigraphy: **L M Kehrl**, R L Hawley

1340h **C33D-0571** *POSTER* Firn characteristics of megadune accumulation areas and impact on radar return: **Z Courville**, M A Fahnestock, M R Albert

1340h **C33D-0572** *POSTER* A Model of Grain Growth and Crystal Fabric in Polar Snow and Firn: **R Carns**, E D Waddington, E C Pettit, S G Warren

1340h **C33D-0573** *POSTER* A New Data-Based Grain Growth Model for Microwave Remote Sensing Applications: **S Linow**, M Hörhold, W Dierking

1340h **C33D-0574** *POSTER* The relationship between melt, refreezing and runoff across a transect on the Greenland ice sheet: **R M Morris**, D Mair, V Parry, P W Nienow

1340h **C33D-0575** *POSTER* Artificially induced melt in firn at Summit, Greenland: G J Wong, **E C Osterberg**, R L Hawley, Z Courville

1340h **C33D-0576** *POSTER* Photochemical Production of HOOH from Frozen Solutions of Model Compounds and Authentic Polar Snow: **T Hullar**, K Patten, C Anastasio

1340h **C33D-0577** *POSTER* NO_x emission from snowpack at the WAIS-Divide site and its impact on local tropospheric photochemistry: **S Masclin**, M M Frey, W F Rogge, R C Bales

1340h **C33D-0578** *POSTER* Singlet molecular oxygen on natural snow and ice: **J P Bower**, C Anastasio

1340h **C33D-0579** *POSTER* Bromine and heavy halide chemistry at the air/water and air/ice interfaces: a computational approach: **I Gladich**, P B Shepson, I Szeifer, M Carignano

1340h **C33D-0580** *POSTER* Elemental concentrations and Sr-Nd isotopic ratio of surface snow near Dome Fuji, Antarctica: **M Hirabayashi**, T Kuramoto, H Motoyama, S Nakai, A Tanaka

C33E Moscone South: Poster Hall Wednesday 1340h
Quantifying and Modeling Spatial Variability and Wind Redistribution of Snow II Posters (*joint with B, H, NH*)

Presiding: **H Marshall**, Boise State University; **S J Dery**, UNBC; **M Lehning**, SLF Davos; **J S Deems**, National Snow and Ice Data Center

1340h **C33E-0581** *POSTER* Including snowdrift in a regional climate model of Antarctica: preliminary results: **J Lenaerts**, M R van den Broeke, E van Meijgaard, W van de Berg, S J Dery

1340h **C33E-0582** *POSTER* Modeling Intense Blowing Snow Events in the Cariboo Mountains of British Columbia, Canada: **S J Dery**, B Ainslie, P L Jackson

1340h **C33E-0583** *POSTER* Development of an Automatic Blowing Snow station: **K Nishimura**

1340h **C33E-0584** *POSTER* Large Eddy Simulation and Snow Transport over three-dimensional topography: **M Diebold**, C W Higgins, M Lehning, M B Parlange

1340h **C33E-0585** *POSTER* An electrostatic charge measurement of blowing snow particles focusing on collision frequency to the snow surface: **S Omiya**, A Sato

1340h **C33E-0586** *POSTER* Narrowing uncertainty of model estimates for drifting snow sublimation (*Invited*): **M Lehning**, C Groot-Zwaafink, H Loewe, M Bavay

1340h **C33E-0587** *POSTER* The Influence of Spring Snowmelt on the Radiation Balance of Central Eurasia: **J Mioduszewski**, A K Rennermalm, D A Robinson

1340h **C33E-0588** *POSTER* Scale Effects in a Physically Based Distributed Snow Model: **A H Winstral**, D G Marks, R J Gurney

1340h **C33E-0589** *POSTER* A Comparison of the Fractional MODIS and LANDSAT Thematic Mapper with Ground-Based Snow Surveys in the Sierra Nevada: **R Rice**, R C Bales, P B Kirchner, P C Saksa, K E Rittger, T H Painter, J Dozier

1340h **C33E-0590** *POSTER* Simulating plot-scale variability of snowpack states in conifer forests using hemispherical photography and a process based one-dimensional snow model: **K N Musselman**, N P Molotch, S A Margulis, M Lehning, P B Kirchner, R C Bales

1340h **C33E-0591** *POSTER* Using Terrain Analysis and Remote Sensing to Improve Snow Mass Balance and Runoff Prediction: **E R Venteris**, A M Coleman, M S Wigmosta

1340h **C33E-0592** *POSTER* Spatial distribution of snow water equivalent across the central and southern Sierra Nevada: **R C Bales**, R Rice, X Meng

1340h **C33E-0593** *POSTER* Spatiotemporal Distribution of Snow in Eastern Tibet and The Response to Climate Change: **J Gao**, M W Williams, X Fu, G Wang, T Gong, H Wang

1340h **C33E-0594** *POSTER* Estimating under-canopy ablation in a subalpine red-fir forest, southern Sierra Nevada, California: **P B Kirchner**, R C Bales, R Rice, K N Musselman, N P Molotch

C33F Moscone South: Poster Hall Wednesday 1340h
Seasonal Snow Covers in a Changing Climate: Implications for Hydrological, Biogeochemical, and Ecological Processes II Posters (*joint with B, GC, H*)

Presiding: **T E Link**, University of Idaho; **G Greenwood**, University of Bern

1340h **C33F-0595** *POSTER* Interannual Variability of Snowpack and Spring Season Hydroclimatology in the Southwestern United States: **S Keller**, D S Gutzler

1340h **C33F-0596** *POSTER* Impact of climate change on snow distribution in Japan estimated using data from the remote weather stations (AMeDAS) and Spot VGT: **Y Kominami**, Y Asaoka, I Tsuyama, N Tanaka

1340h **C33F-0597** *POSTER* Relationship between MODIS-Derived Snow Cover and Snowmelt Timing in the Wind River Range, Wyoming, 2000 to 2010: **D K Hall**, J L Foster, N E DiGirolamo, G A Riggs

1340h **C33F-0598** *POSTER* Interannual Variability in Radiative Forcing and Snowmelt Rates by Desert Dust in Snowcover in the Colorado River Basin: **S Skiles**, T H Painter, A P Barrett, C Landry, J S Deems, A H Winstral

1340h **C33F-0599** *POSTER* Modeling snowmelt runoff response to forest disturbance in the Okanagan basin, British Columbia, Canada: **R Davis**, S Boon, R Winkler, J W Pomeroy, Title of Team: Mountain Hydrology Lab

1340h **C33F-0600** *POSTER* Variability in snowpack accumulation and ablation associated with mountain pine beetle infestation in western forests: **J A Biederman**, A A Harpold, D J Gochis, D Reed, P D Brooks

1340h **C33F-0601** *POSTER* The Effects of the Mountain Pine Beetle on Snow Accumulation and Melt Timing in the Headwaters of the Colorado River: **E T Pugh**, E E Small

1340h **C33F-0602** *POSTER* Modeling the effects of the mountain pine beetle on snowmelt rates in a subalpine forest: **D O Perrot**, N P Molotch, K N Musselman, E T Pugh

1340h **C33F-0603** *POSTER* The Effect of Soil Freezing on Nitrogen and Carbon in Soil Leachate during Snowmelt: **J L Campbell**, P H Templer, A Reinmann

1340h **C33F-0604** *POSTER* Continuous monitoring of surface CO₂ flux and soil gas concentrations in an agricultural soil under the snow cover manipulation experiment in Hokkaido, northern Japan: **S Ohkubo**, Y Yanai, O Nagata, Y Iwata, T Hirota

C33G Moscone West: 3011 Wednesday 1340h
Assessing Past and Future Mass Changes of Earth's Mountain Glaciers and Ice Caps II (*joint with EP, GC, NH, H*)

Presiding: **R M Hock**, University of Alaska; **J M Hagen**, Department of Geosciences; **S O'Neel**, USGS

1340h **C33G-01** Recent mass balance of Arctic glaciers derived from repeat-track ICESat altimetry (*Invited*): **G Moholdt**, C Nuth, J M Hagen, G J Wolken, A Gardner

1355h **C33G-02** Conceptual melt models: the past or valuable tools for future scenarios? (*Invited*): **F Pellicciotti**, M Konz, M Carenzo

1410h **C33G-03** Simplistic models of a tidewater glacier, with application to Columbia Glacier, Alaska: **R W McNabb**, R M Hock

1425h **C33G-04** Assessment of dynamic and surface-forced mass losses at Columbia Glacier Alaska USA: **S O'Neel**, W T Pfeffer, Y Ahn, I M Howat, H Conway, B E Smith, K Matsuoka

1440h **C33G-05** Can we derive ice flow from surface mass balance and surface elevation change?: **M H Kuhn**, M Olefs

- 1455h **C33G-06** Reanalysis of the USGS Alaskan benchmark glacier dataset: **A E Van Beusekom**, S O'Neel, R S March, L C Sass
- 1510h **C33G-07** Thinning of the Khumbu Glacier, Nepal from 1955 to 2008 and Implications for Ice and Debris Fluxes: **A D Barker**, B Hallet
- 1525h **C33G-08** Himalayan glacier retreat delayed by debris cover: **D Scherler**, B Bookhagen, M R Strecker

Education and Human Resources

ED33A Moscone South: Poster Hall Wednesday 1340h **The Imperative of Climate Literacy III Posters** (*joint with A, C, IN, GC, PP, PA*)

Presiding: **L T Huffman**, University of Nebraska-Lincoln; **M S McCaffrey**, University of Colorado at Boulder; **J L Baeseman**, Association of Polar Early Career Scientists; **S M Buhr**, University of Colorado; **S A Ackerman**, University of Wisconsin - Madison; **T S Ledley**, TERC

1340h **ED33A-0693** *POSTER* Improving Climate Literacy of NOAA Staff and Users: **M M Timofeyeva**, A Bair, M Staudenmaier, J C Meyers, B Mayes, J Zdrojewski

1340h **ED33A-0694** *POSTER* Climate Literacy Ambassadors: **M E Mooney**, S A Ackerman

1340h **ED33A-0695** *POSTER* Lessons learned from a rigorous peer-review process for building the Climate Literacy and Energy Awareness (CLEAN) collection of high-quality digital teaching materials: **A U Gold**, T S Ledley, M S McCaffrey, S M Buhr, C A Manduca, F Niepold, S Fox, C D Howell, S E Lynds

1340h **ED33A-0696** *POSTER* EDUCATIONAL AND COMMUNITY OUTREACH EFFORTS BY THE UNITED STATES POLAR ROCK REPOSITORY DURING THE INTERNATIONAL POLAR YEAR: A Grunow, **J E Codispoti**

1340h **ED33A-0697** *POSTER* Climate Literacy Initiatives as part of the TXESS (TeXas Earth and Space Science) Revolution Program: **H C Olson**, K K Ellins, E Snow, S L Bryant, J E Olson, C A Castillo Comer, M Willis, M Odell, E Stocks

1340h **ED33A-0698** *POSTER* Teaching About CO₂ as a Climate Regulator During the Phanerozoic and Today: **K K St John**, L A Krissek, M H Jones, R M Leckie, K S Pound

1340h **ED33A-0699** *POSTER* Inspiring climate change literacy through popular culture: The Green Ninja: **E C Cordero**, B Sarrafan, B Dallas, D Chai

1340h **ED33A-0700** *POSTER* Climate literacy, paving the road to a listening ear: **R W Vachon**

1340h **ED33A-0701** *POSTER* Literacy in Action: A Carbon-Neutral Field Program at Cornell University: **A Moore**, L Derry

1340h **ED33A-0702** *POSTER* A Thematic Approach to Increasing Climate Literacy: **R J Myers**, T G Schwerin, M R Witiw

1340h **ED33A-0703** *POSTER* Inspiring Climate Education Excellence (ICEE): Developing self-directed professional development modules for secondary science teachers: **S M Buhr**, S E Lynds, M S McCaffrey, E Morton

1340h **ED33A-0704** *POSTER* 'Our Changing Climate' - A new interactive game about weather, climate, the Earth's energy budget and the impacts caused by climate change: **M Colon-Robles**, K Lorentz, K Ruhlman, I Gilman, L H Chambers

1340h **ED33A-0705** *POSTER* Impact of unseen assumptions on communication of atmospheric carbon mitigation options: **T R Elliot**, M A Celia, B Court

1340h **ED33A-0706** *POSTER* NASA's Global Climate Change Education (GCCE) Program: New modules: **M R Witiw**, R J Myers, T G Schwerin

1340h **ED33A-0707** *POSTER* A Curriculum Experiment in Climate Change Education Using an Integrated Approach of Content Knowledge Instruction and Student-Driven Research, Year 2: **P E Adams**, J F Heinrichs

1340h **ED33A-0708** *POSTER* Creative Climate: A global ten-year communications, research and learning project about environmental change: **M A Brandon**, J Smith

1340h **ED33A-0709** *POSTER* TXESS Revolution: Utilizing TERC's EarthLabs Cryosphere Module to Support Professional Development of Texas Teachers: **M Odell**, K K Ellins, E J Polito, C A Castillo Comer, E Stocks, K Manganello, T S Ledley

1340h **ED33A-0710** *POSTER* An Analog Earth Climate Model: **J C Varekamp**

1340h **ED33A-0711** *POSTER* Notes from the field: Educating, inspiring and activating the next generation of climate leaders: **R Anderson**

1340h **ED33A-0712** *POSTER* Discover Earth: An earth system science program for libraries and their communities: L Curtis, **P Dusenbery**

1340h **ED33A-0713** WITHDRAWN

1340h **ED33A-0714** *POSTER* Development of public education model for life protection from rain and earthquake induced landslides in Pariaman Regency, West Sumatera, Indonesia: **D Karnawati**

1340h **ED33A-0715** WITHDRAWN

1340h **ED33A-0716** *POSTER* Tips 'n' Tricks for Teachers: Using the latest interactive multimedia from NASA's Climate Change website in the classroom: **L F Tenenbaum**, R Jackson, M Greene, Title of Team: Climate Communication Team

1340h **ED33A-0717** *POSTER* Bringing a Realistic Global Climate Modeling Experience to a Broader Audience: **L E Sohl**, M A Chandler, J Zhou

1340h **ED33A-0718** *POSTER* New Community Education Program on Oceans and Global Climate Change: Results from Our Pilot Year: **B C Bruno**, C Wiener

ED33B Moscone South: 102 Wednesday 1340h **Traditional Knowledge and Geoscience Research and Education II**

Presiding: **P A Cooper**, University of Hawaii at Manoa; **A Coopersmith**, University of Hawai'i Maui College; **R Barnhardt**, University of Alaska Fairbanks

1340h **ED33B-01** Getting Traditional Practitioner Informants to Cooperate with Researchers: **C Kaaia**, S M Spalding

1352h **ED33B-02** NASA and the Navajo Nation: A Collaborative Partnership Bringing Science and Cultural Knowledge Together: **A Carron**, D Scalice

1404h **ED33B-03** Indigenous Knowledge and Sea Ice Science: What Can We Learn from Indigenous Ice Users?: **H Eicken**

1416h **ED33B-04** Indigenous Contributions to Sustainability: **R Barnhardt**

1428h **ED33B-05** Native Geosciences: Pathways to Traditional Knowledge in Modern Research and Education: **J R Bolman**

1440h **ED33B-06** Integrating Native knowledge and community perspectives in geoscience research and education: **E B Sparrow**, S Stephens, W Schneider

1452h **ED33B-07** Developing a Literacy Guide to Perpetuate Traditional Knowledge: **S M Spalding**, C Kaaia

1504h **ED33B-08** Language of Science as a Bridge to Native American Educators and Students: **C J Alexander**, A Angrum, M Martin, N Ali, J Kingfisher, A Treuer, G Grant, J Ciotti
1516h **ED33B-09** Traditional Knowledge Strengthens NOAA's Environmental Education: **W K Stovall**, M A McBride, S Lewinski, S Bennett
1528h **ED33B-10** Lessons Learned from Cosmic Serpent, a professional development project for informal educators on science and native ways of knowing: **L M Peticolas**, N Maryboy, D Begay, R Paglierani

Earth and Planetary Surface Processes

EP33A Moscone South: Poster Hall Wednesday 1340h **Advances in the Systematics of Terrestrial Cosmogenic Nuclides II Posters** (joint with V, C, B, GC)

Presiding: **F M Phillips**, New Mexico Inst Mining & Tech; **M Caffee**, Purdue University

1340h **EP33A-0757** *POSTER* A note of caution on the use of boulders for exposure dating of depositional surfaces: **S Schmidt**, R Hetzel, J Kuhlmann, V A Ramos

1340h **EP33A-0758** *POSTER* Estimating the soil erosion on hill slopes in Korea using radionuclide ¹³⁷Cs: **O Aleksandr**, K Kashiwaya, Y Kim

1340h **EP33A-0759** *POSTER* Quantifying Site Specific Holocene Soil Erosional Events Using Depth-Profiles of Cosmogenic In-Situ C-14 and Be-10: **R H Fulop**, P Bishop, D Fabel, G T Cook, P Naysmith, C Schnabel, S Xu, J Everest

1340h **EP33A-0760** *POSTER* Utilizing Monte-Carlo radiation transport and spallation cross sections to estimate nuclide dependent scaling with altitude: **D Argento**, R C Reedy, J Stone

EP33B Moscone South: Poster Hall Wednesday 1340h **Coastal Geomorphology and Morphodynamics: Bridging Event and Long-Term Processes IV Posters** (joint with H, NH, OS)

Presiding: **J E McNinch**, Field Research Facility; **C J Hapke**, U.S. Geological Survey

1340h **EP33B-0761** *POSTER* DOES REACTIVATION OF LOUISIANA'S CHENIER PLAIN LEAD TO THE DEVELOPMENT OF INTERIOR COASTAL WETLANDS? ASSESSING THE RELATIVE ROLES OF STORM IMPACTS AND RIVERINE DEPOSITS: **C G Ramatchandirane**, A Kolker, A D Ameen, K Williams, J P Donnelly, L Giosan

1340h **EP33B-0762** *POSTER* Geologic Framework and Morphology of Diamond Shoals, Cape Hatteras, North Carolina: **E R Thielier**, D S Foster, E A Himmelstoss

1340h **EP33B-0763** *POSTER* Observations of inner shelf convergence processes at Diamond Shoals, NC: **A Sanchez**, J C Warner, J H List, G Voulgaris

1340h **EP33B-0764** *POSTER* Observations of near-bed sediment convergence processes at Diamond Shoals, NC: **J C Warner**, J H List, G Voulgaris, A Sanchez

1340h **EP33B-0765** *POSTER* Sensitivity Analysis of Dune Height Measurements Along Cross-shore Profiles Using a Novel Method for Dune Ridge Extraction: **E Hardin**, H Mitsova, M Overton

1340h **EP33B-0766** *POSTER* Uncertainty Assessment for Numerical Modeling of Dune and Backshore Evolution Under Sea-Level Rise Scenarios: **H Dai**, M Ye, A W Nedoroda, S Kish, J F Donoghue, B Saha

1340h **EP33B-0767** *POSTER* A large-scale laboratory evaluation of dune erosion models: **M L Palmsten**, R A Holman

1340h **EP33B-0768** *POSTER* Using Ground Penetrating Radar (GPR) to Investigate Beach-Dune Interaction at North Padre Island, Texas: **B A Weymer**, J R Giardino, C Houser, T M Dellapenna

1340h **EP33B-0769** *POSTER* Historical Bathymetry and Bathymetric Change: Mississippi-Alabama Coastal Region 1847-2009: **N A Buster**, R A Morton

1340h **EP33B-0770** *POSTER* Quantifying overwash flux in barrier systems: An example from Martha's Vineyard, MA: **E A Carruthers**, J P Donnelly, A D Ashton, R L Evans

1340h **EP33B-0771** *POSTER* The influence of the "maintainer" feedback on overwash persistence in the Virginia Coast Reserve: **C V Wolner**, L J Moore, D R Young, S T Brantley, S N Bissett

1340h **EP33B-0772** *POSTER* A Temporal Assessment of Barrier Island Vulnerability to Extreme Wave Events, Virginia Coast Reserve: **D J Oster**, L J Moore, K J Doran, H F Stockdon

1340h **EP33B-0773** *POSTER* The Impacts of Back-Beach Barriers on Sandy Beach Morphology Along the California Coast and Implications for Coastal Change with Future Sea-Level Rise: **E L Harden**

1340h **EP33B-0774** *POSTER* Exploring the Importance of Back-barrier Marsh Deposits in Barrier Island Response to Sea Level Rise, Virginia Coast Reserve, U.S.A: **O T Brenner**, L J Moore

1340h **EP33B-0775** *POSTER* Morphodynamic Modeling of Coastal Barrier Response to Sea-Level Rise Scenarios: A W Nedoroda, H Dai, **M Ye**, B Saha, J F Donoghue, S Kish

1340h **EP33B-0776** *POSTER* Variations in barrier-island evolution at millennial and decadal time scales related to underlying geology, Onslow Beach, NC USA: **W Yu**, D Hood, R Browne, A B Rodriguez

1340h **EP33B-0777** *POSTER* Advection and diffusion in shoreline change prediction: **T R Anderson**, L N Frazer

1340h **EP33B-0778** *POSTER* Model Improvement by Assimilating Observations of Storm-Induced Coastal Change: **J W Long**, N G Plant, K Sopkin

1340h **EP33B-0779** *POSTER* Patterns and Rates of Historical Shoreline Change along the New England and Mid-Atlantic Coasts: **M G Kratzmann**, C J Hapke, E A Himmelstoss, J H List, E R Thielier

1340h **EP33B-0780** *POSTER* Shoreline Change in the Hawaiian Islands: **B M Romine**, C H Fletcher, M Barbee, L Frazer, T R Anderson

EP33C Moscone South: Poster Hall Wednesday 1340h **Physical and Chemical Consequences of Extreme Events at the Earth Surface II Posters** (joint with A, H, NH, S, T)

Presiding: **A West**, University of Southern California; **C P Stark**, Columbia University

1340h **EP33C-0781** *POSTER* Freeze-Thaw Cycle Test on Basalt, Diorite and Tuff Specimens with the Simulated Ground Temperature of Antarctica: **J Park**, C Hyun, H Cho, H Park

1340h **EP33C-0782** *POSTER* Spatial and Temporal Frequency of Shallow Landsliding Across a Steep Precipitation Gradient in the Hanalei River Basin: **K L Huppert**, K Ferrier, T Perron

1340h **EP33C-0783** *POSTER* Estimating the impact of extreme climatic events on riverine sediment transport: new tools and methods: **E Lajeunesse**, C Delacourt, P Allemand, A Limare, C Dessert, J Ammann, P Grandjean

1340h **EP33C-0784** *POSTER* The Influence of Climate Change and Fire on Sediment Transport and Aquatic Habitat: a Case Study of the South Fork of Salmon River Basin, Idaho: **S Neupane**, E M Yager

1340h **EP33C-0785 POSTER** The role of episodic fire-related debris flows on long-term (10^3 - 10^4) sediment yields in the Middle Fork Salmon River Watershed, in central Idaho: **K E Riley**, J L Pierce, A Hopkins

1340h **EP33C-0786 POSTER** Determining controls on sediment storage volumes and residence times on valley bottoms in steepplands: debris flow and fluvial evacuation of tributaries and their respective confluence deposits: **W T Frueh**, S T Lancaster

EP33D Moscone South: 310 Wednesday 1340h
Quantifying Present and Ancient Rates of Earth Surface Processes II (*joint with H, PP, V*)

Presiding: **A Dosseto**, University of Wollongong; **E J Rhodes**, UCLA; **A M Heimsath**, Arizona State University

1340h **EP33D-01** Using OSL dating to quantify rates of Earth surface processes: **E J Rhodes**, T M Rittenour

1355h **EP33D-02** Towards OSL-thermochronology, a new thermochronometer of very low closure temperature (*Invited*): **F Herman**, B Guralnik, E J Rhodes, M Jaiswal

1410h **EP33D-03** ASSESSING PAST SURFACE PROCESSES RATES USING FELDSPAR LUMINESCENCE: **M Lamothe**

1425h **EP33D-04** Soil Production from Above and Below: Implications for Cosmogenic Nuclide Denudation Rate Estimates: **J Willenbring**

1440h **EP33D-05** Dual ^{10}Be isotope systems constrain the source of sediment and rate of erosion for the tropical Barron River catchment, Queensland, Australia: **K K Nichols**, P R Bierman, L J Reusser, E Portenga, A Matmon, D H Rood

1455h **EP33D-06** Basin scale denudation rates in the active mountain belt of Taiwan: The in situ produced ^{10}Be cosmogenic point of view: **L L Siame**, F Derriex, D L Bourles, R Braucher, R Chen

1510h **EP33D-07** Eroding and Inflating the Atacama Desert, Chile: Insights Through Cosmogenic ^{10}Be , ^{26}Al and ^{21}Ne : **A M Heimsath**, M C Jungers, R Amundson, G Balco, D L Shuster

1525h **EP33D-08** Paleo-erosion rates from an isochron cosmogenic nuclide method: A 4 My erosion chronosequence from South Africa (*Invited*): **D E Granger**, E Erlanger, R J Gibbon

Geodesy

G33A Moscone South: Poster Hall Wednesday 1340h
The Magnitude 8.8 Chilean Earthquake of 27 February 2010 IV Posters (*joint with S, T, NH*)

Presiding: **S E Barrientos**, Universidad de Chile; **B A Brooks**, University of Hawaii; **K Wang**, Geological Survey of Canada; **D Melnick**, University of Potsdam

1340h **G33A-0811 POSTER** IRIS Community Response to the Great Chile Earthquake of 2010: **A Meltzer**, S L Beck, S Roecker, R M Russo, D W Simpson, S E Barrientos, D Comte, M H Pardo, J Ruiz, C Aranda, G Slad, B Greschke, N Barstow, B Bonnet, A M Reusch, K Bataille, O Cabello, A A Velasco, C W Ebeling, F Tilmann, J Vilotte, A Rietbrock, B Heit, B Schurr, D Lange

1340h **G33A-0812 POSTER** Results from the Quake-Catcher Network Rapid Aftershock Mobilization Program (QCN-RAMP) Following the M8.8 Maule, Chile Earthquake: **A I Chung**, C Neighbors, A Belmonte-Pool, M R Miller, H H Sepulveda, C M Christensen, E Liao, E S Cochran, J F Lawrence

1340h **G33A-0813 POSTER** Velocity Structure and Seismotectonics prior to the 2010 Chile Earthquake (Mw 8.8) in the Maule Region from an Amphibious Seismological Network: **I G Arroyo**, I Grevemeyer, E R Flueh, H A Kraft, D Comte, M M Thorwart, Y Dzierma, M R Lefeldt, W Rabbel

1340h **G33A-0814 POSTER** Imaging the rupture of the 27 February 2010 Chile (Mw 8.8) earthquake via backprojection of P, PP, and PKP waves: **O Sufri**, K Koper, A Hutko, T Lay, C J Ammon, H Kanamori

1340h **G33A-0815 POSTER** Crustal thickness estimation in the Maule Region (Chile) from P-wave receiver function analysis:

A Dannowski, I Grevemeyer, M M Thorwart, W Rabbel, E R Flueh

1340h **G33A-0816 POSTER** Crustal Normal Faulting Triggered by the Mw=8.8 Maule Megathrust Subduction Earthquake in Central Chile: **D Comte**, M Farías, S Roecker, D Carrizo, M H Pardo

1340h **G33A-0817 POSTER** Rupture imaging of the 27 February 2010 Mw 8.8 Chilean earthquake from back projection of teleseismic body waves: **C Satriano**, J Vilotte, P Bernard, N M Shapiro

1340h **G33A-0818 POSTER** Source process of the 2010 Chilean earthquake using strong-motion and geodetic data: **S Peyrat**, A Socquet, C Vigny, S Ruiz, C Aranda

1340h **G33A-0819 POSTER** Aftershock Seismicity of the Mw 8.8 Maule Earthquake of 27 February 2010 Using a 2D Velocity Model:

A Rietbrock, I M Ryder, C A Haberland, S Nippres, H Agurto, S E Barrientos, K Bataille, S L Beck, P Bernard, J A Campos, D Comte, B Heit, D Lange, M R Miller, S Peyrat, S Roecker, B Schurr, F J Tilmann, J Vilotte

1340h **G33A-0820 POSTER** Near Field data analysis of the Maule event by comparison between tide gauges, long base tiltmeters and broad band seismometers: R I Madariaga, **F Boudin**, S Allgeyer, H Hebert, M Olcay, P Bernard, M Esnault

1340h **G33A-0821 POSTER** Postseismic investigation of the February 2010 Chile earthquake: relaxation processes and the relationship of seismic and aseismic activity: **I M Ryder**, A Rietbrock, M G Bevis, J Baez, S E Barrientos, K Bataille, H Parra, B A Brooks

1340h **G33A-0822 POSTER** Investigation of the 27 February 2010 Mw 8.8 Chilean earthquake integrating aftershock analysis, back-projection imaging and cGPS results: E Clévéde, **C Satriano**, B Bukchin, M Lancieri, A Fuenzalida, J Vilotte, H Lyon-Caen, C Vigny, A Socquet, C Aranda, J A Campos, Title of Team: Scientific Team of the LIA Montessus de Ballore (CNRS-INSU, U. Chile)

1340h **G33A-0823 POSTER** Wave Gradiometry Applied to Phase Match Filtered 1Hz GPS timeseries for the February 27, 2010, Maule Mw=8.8 Earthquake: **J P Davis**, R Smalley, S Cimbaro

1340h **G33A-0824 POSTER** Source Process of the 2010 Great Chile Earthquake (Mw8.8) Estimated Using Observed Tsunami Waveforms: **Y Tanioka**, A R Gusman

1340h **G33A-0825 POSTER** Modeling the 27 February 2010 Chilean Tsunami Using Sources Inferred from Different Data: **E Gica**, M C Spillane, V V Titov

1340h **G33A-0826 POSTER** Source process of 2010 Chilean earthquake inferred from waveform modeling using the Earth Simulator: **S Tsuboi**, T Nakamura

1340h **G33A-0827 POSTER** Tsunami records due to the 2010 Chile Earthquake observed by GPS buoys established along the Pacific coast of Japan: **T Kato**, Y Terada, T Nagai, S Koshimura

1340h **G33A-0828 POSTER** Deep-ocean Assessment and Reporting of Tsunami (DART) Data available from the 27 February 2010 Chilean Earthquake: **G Mungov**, K J Stroker

1340h **G33A-0829 POSTER** Assessing the source of the 2010 Chilean tsunami using DART data: C W Moore, C Sen, B Aydin, L Tang, V V Titov, **U Kanoglu**

- 1340h **G33A-0830** POSTER Modeling influence of tide stages on forecasts of the 2010 Chilean tsunami: **B U Uslu**, C Chamberlin, D Walsh, M C Eble
- 1340h **G33A-0831** POSTER Forecasting the Chilean Tsunami, February 27 2010: **K Sterling**, W Knight, P Whitmore
- 1340h **G33A-0832** POSTER Comparison of Tsunami height Distributions of the 1960 and the 2010 Chilean Earthquakes on the Coasts of the Japanese Islands: **Y Tsuji**, T Takahashi, K Imai
- 1340h **G33A-0833** POSTER Tsunami forecasting and warning in the Australian region for the Magnitude 8.8 Chilean Earthquake of 27 February 2010: **S C Allen**, A Simanjuntak, D J Greenslade
- 1340h **G33A-0834** POSTER Field survey, modeling and free oscillations of the 2010 Chilean tsunami in the Marquesas Islands, French Polynesia: **S Allgeyer**, D Reymond, O Hyvernaud, A Jamelot, E Okal, H Hebert, R I Madariaga
- 1340h **G33A-0835** POSTER Tsunami focusing: M C Spillane, V V Titov, C W Moore, **B Aydin**, U Kanoglu, C E Synolakis
- 1340h **G33A-0836** POSTER Investigation of tsunami signal isolation techniques: **M C Eble**, D Walsh, D W Denbo, G Mungov, K J Stroker
- 1340h **G33A-0837** POSTER Rapid GNSS and Data Communication System Deployments In Chile and Argentina Following the M8.8 Maule Earthquake: **F Blume**, C M Meertens, B A Brooks, M G Bevis, R Smalley, H Parra, J Baez
- 1340h **G33A-0838** POSTER CO- AND POST-SEISMIC SURFACE DEFORMATION PRODUCED BY THE MAULE EARTHQUAKE AS OBSERVED BY A DENSE NETWORK OF CONTINUOUS GPS STATIONS: **J Baez**, K Bataille, A Tassara, M G Bevis, E C Kendrick, C Vigny, B A Brooks, R Smalley, I M Ryder, H Parra, M Moreno, D Melnick, S E Barrientos, F Blume
- 1340h **G33A-0839** POSTER The Mw8.8 2010 Maule, Chile Earthquake: Significant slip occurred only above the continental Moho: **X Tong**, D T Sandwell, K M Luttrell, B A Brooks, M G Bevis, M Shimada, J H Foster, R Smalley, H Parra, J I Soto, M Blanco, E C Kendrick, J F Genrich, D Caccamise II
- 1340h **G33A-0840** POSTER Estimates of stress drop from the 27 February 2010 Chile earthquake and tectonic stress in the crust: Implications for fault strength: **K M Luttrell**, X Tong, D T Sandwell, B A Brooks
- 1340h **G33A-0841** POSTER Did 2010 Mw 8.8 Chile earthquake fill the seismic gap? Insight by tsunami and InSAR data: **S Lorito**, F Romano, S Atzori, X Tong, M Cocco, E Boschi, A Piatanesi
- 1340h **G33A-0842** POSTER Interseismic and Coseismic Deformation and the role of the Upper Plate in the Maule Segment: **R W Allmendinger**, G Gonzalez, G A Yanez, J M Cembrano
- 1340h **G33A-0843** POSTER Splay fault surface rupture triggered by the 2010 Chile earthquake: **D Melnick**, M Moreno, M Motagh, M Cisternas
- 1340h **G33A-0844** POSTER The Effect of Megathrust Earthquakes on the Southern Andean Backarc: **B A Brooks**, M G Bevis, J H Foster, R Smalley, M Blanco, F F Pollitz, A Folguera, V A Ramos, S Cimbarro, K Wang, H Parra, J Baez, M Simons, A Sladen, P M Alvarado, S Anci, E C Kendrick, D Caccamise II, J F Genrich
- 1340h **G33A-0845** POSTER Seismicity at Uturuncu Volcano, Bolivia: Volcano-Tectonic Earthquake Swarms Triggered by the 2010 Maule, Chile Earthquake and Non-Triggered Background Activity: D H Christensen, **Z A Chartrand**, J Jay, M E Pritchard, M E West, S R McNutt
- 1340h **G33A-0846** POSTER Coseismic gravity changes of the 2010 earthquake in Central Chile from satellite gravimetry: **K Heki**, K Matsuo
- 1340h **G33A-0847** POSTER Regional gravity decrease after the 2010 Chile earthquake indicates large-scale internal mass re-distribution: **S Han**, J M Sauber, S B Luthcke
- 1340h **G33A-0848** POSTER Results from the Geodetic Observatory TIGO due to the Mw 8.8 Earthquake: **H Hase**, A Böer, B Sierk, J Ihde, G Weber, H Wilmes, R Falk, U Hessels, P Neumaier, W Söhne, H Wziontek, G Engelhard, S Sobarzo, O Cifuentes, C Guaitiao, I Cona, M Avendaño, C Herrera, V Mora, A Fernandez, E Oñate, P Zaror, F Pedreros, O Zapata
- 1340h **G33A-0849** POSTER VLBI Observations of the 2010 Chilean Earthquake: **D Behrend**, J M Gipson, D Gordon, D MacMillan, H Hase, J Lovell, M Poirier, R Curtis, M Evangelista
- 1340h **G33A-0850** POSTER EARTHQUAKE COSEISMIC DEFORMATION FROM SPACEBORNE GRAVIMETRY: **L Wang**, C Shum, C Dai, K Erkan, F J Simons, A Tassara
- 1340h **G33A-0851** POSTER An examination of “before” and “after” bathymetry for uplift of the sea floor following the Feb. 27, 2010 Maule, Chile Earthquake: **C D Chadwell**, P Lonsdale, J W Kluesner, A D Sweeney, W Weinrebe, J H Behrmann, J L Diaz-Naveas, E Contreras Reyes
- 1340h **G33A-0852** POSTER High-Resolution Seafloor Bathymetry of the Rupture Area “Before” and “After” the Magnitude 8.8 Chilean Earthquake of 2010: **W Weinrebe**, J H Behrmann, C D Chadwell, P Lonsdale, A D Sweeney, J L Diaz-Naveas, E Contreras Reyes
- 1340h **G33A-0853** POSTER Sediment signatures of the 2010 Chile Mw 8.8 earthquake: **S Woodroffe**, E Watcham, I Shennan, E Garrett
- 1340h **G33A-0854** POSTER HYDROLOGICAL RESPONSE TO THE EARTHQUAKE OF 27 FEBRUARY 2010 IN EXPERIMENTAL CATCHMENTS OF THE CORDILLERA DE LA COSTA, BIO-BIO REGION, CHILE: **C Mohr**, A Huber, A Bronstert, A IROUME

G33B Moscone West: 2008 **Wednesday 1340h**
The GOCE Gravity Field Mission: Status and Results From the First Year of Science Operations II (*joint with C, NS, OS*)

Presiding: **R Floberghagen**, European Space Agency; **T Gruber**, Technical University Munich

- 1340h **G33B-01** GOCE Satellite and Mission Performance: **M Fehringer**, R Floberghagen, D Muzi, C Steiger, J Pineiro
- 1355h **G33B-02** A gravity field model inferred from 6 months of GOCE data using the direct numerical method (*Invited*): **S L Bruinsma**, J Marty, G Balmino, R Biancale, C Foerste, O Abrikosov, H Neumayer, F Flechtner
- 1410h **G33B-03** Global gravity field models from GOCE applying the time-wise method (*Invited*): **R Pail**, H Goiginger, W Schuh, E Höck, J M Brockmann, R Mayrhofer, T Fecher, I Krasbutter
- 1425h **G33B-04** The Space-wise Approach for the Computation of a GOCE-only Gravity Field Solution (*Invited*): **M Reguzzoni**, A Gatti, F Migliaccio, M Veicherts
- 1440h **G33B-05** GOCE Science Orbits and their Application to Gravity Field Recovery: **A Jaeggi**, H Bock, U Meyer, G Beutler, P N Visser, J van den IJssel, T Van Helleputte, M Heinze
- 1455h **G33B-06** GOCE Products for Earth Science Community: **R F Rummel**, T Gruber, Title of Team: European GOCE Gravity Consortium
- 1510h **G33B-07** Assessments of GOCE satellite tracking and gravity gradiometry data: **S V Bettadpur**, Z Kang, J C Ries, P B Nagel, B D Tapley
- 1525h **G33B-08** Using GOCE to estimate the mean North Atlantic circulation (*Invited*): **R J Bingham**, P Knudsen, O B Andersen, R Pail

Global Environmental Change

GC33A Moscone South: Poster Hall Wednesday 1340h **Bringing Together Environmental, Socioeconomic, and** **Climatic Change Studies in Northern Eurasia I Posters** (joint with A, B, C, H, NH, PP, PA)

Presiding: **IN Sokolik**, Georgia Inst Tech; **SJ Goetz**, Woods Hole Research Center

1340h **GC33A-0914** *POSTER* Statistical peculiarities of climatic characteristics behavior of Siberia in the second half of 20th century: Reanalysis and in-situ data: **T M Shulgina**, E P Gordov, E Y Genina

1340h **GC33A-0915** *POSTER* VEGETATION STRUCTURE CHANGES IN THE SOUTH PART OF WESTERN SIBERIA AT THE END OF XX CENTURY: E Dyukarev, N N Pologova, E A Golovatskaya, A G Dyukarev, **E P Gordov**, I G Okladnikov, A G Titov

1340h **GC33A-0916** *POSTER* Regional atmospheric and surface layer data as a result of use of WRF and WRF- FDDA based on ERA-40 reanalysis and observation data: **V Y Bogomolov**, E P Gordov, V Krupchatnikoff, R Zaripov

1340h **GC33A-0917** *POSTER* 21st century climate change projections for Northern Eurasia: **A P Sokolov**

1340h **GC33A-0918** *POSTER* Relationships between recent snow cover extent and hydroclimatic changes over the pan-Arctic: **X Shi**, P Y Groisman, S J Dery, D P Lettenmaier

1340h **GC33A-0919** *POSTER* Evaluating CEOP model performance with the observational data from Tongyu reference site, semi-arid region of China: **W Guo**, Y Yao

1340h **GC33A-0920** *POSTER* Estimation of Surface Air Temperature from MODIS High Resolution Land Surface Temperature over Northern China: **S Shen**, G G Leptoukh, I V Gerasimov

1340h **GC33A-0921** *POSTER* Automatic chamber observations of methane and carbon dioxide fluxes at West Siberian wetland: **O Krasnov**, S Maksyutov, K Shimoyama, H Suto, A Nadeev, V Shelevoi, M Glagolev, N Kosykh, T Machida, G Inoue

1340h **GC33A-0922** *POSTER* Post-Soviet farmland abandonment, forest recovery, and carbon storage potential in Ukraine: **P Olofsson**, T Kuemmerle, M Baumann, V C Radeloff, C E Woodcock, P Hostert

1340h **GC33A-0923** *POSTER* Land Change in Russia since 2000: **K de Beurs**, G Ioffe, T Nefedova

1340h **GC33A-0924** *POSTER* Regional changes of precipitation and runoff in Eastern Europe: **J Palamarchuk**, S Ivanov, P Y Groisman, G Ivus

1340h **GC33A-0925** *POSTER* Northern Eurasia Earth Science Partnership Initiative (NEESPI): Focus on Dry Lands: **P Y Groisman**, S Ivanov, S Mátyás, A Meshcherskaya, V Razuvaev

1340h **GC33A-0926** *POSTER* Extreme Heat Wave over European Russia in Summer 2010: Anomaly or a Manifestation of Climatic Trend?: **V Razuvaev**, P Y Groisman, O Bulygina, I Borzenkova

1340h **GC33A-0927** *POSTER* Assessing Hydroclimatological Sensitivity to Climate Change Across Northern Eurasia: **L E Penwell**, R B Lammers, A I Shiklomanov

1340h **GC33A-0928** *POSTER* Very High Spatial Resolution Permafrost Dynamics Modeling in the European Russian North: **S S Marchenko**, V E Romanovsky, M Stendel, J H Christensen, P Kuhry

1340h **GC33A-0929** *POSTER* Evaluation of GCM-based climatic projections for Northern-Eurasia permafrost regions: implication for predictive impact modeling: **V A Kokorev**, O A Anisimov

1340h **GC33A-0930** *POSTER* ROLE OF REGIONAL GEOPHYSICAL CHARACTERISTICS IN CLIMATE CHANGE: **O Alexander**, M Korets, A Musokhranova, T Burenina, Title of Team: "Scientific Team of V.N. Sukachev IF Climatic changes of Northern Asia."

1340h **GC33A-0931** *POSTER* Catastrophic Fires in Russian Forests: **A I Sukhinin**, D J McRae, B J Stocks, S G Conard, W Hao, A J Soja, D Cahoon

1340h **GC33A-0932** *POSTER* Estimating Scots Pine Tree Mortality Using High Resolution Multispectral Images: L Buriak, **A I Sukhinin**, S G Conard, G A Ivanova, D J McRae, A J Soja, E Okhotkina

1340h **GC33A-0933** *POSTER* Climate-induced change in fire regimes in Tyva: **E Kukavskaya**, A J Soja, L V Buryak, N Tchebakova, E Parfenova, V Kanzai, G A Ivanova, A I Sukhinin, P Stockhouse, D Westberg

1340h **GC33A-0934** *POSTER* The Effect of Fire Intensity on Soil Respiration in Siberia Boreal Forest: **S Baker**, A V Bogorodskaya

1340h **GC33A-0935** WITHDRAWN

1340h **GC33A-0936** *POSTER* Examining the Impact of Smoke on Clouds and Precipitation during the 2002 Yakutsk Wildfire Season with the WRF-Chem-SMOKE Model and Satellite Data: **Z Lu**, I N Sokolik, A J Soja

1340h **GC33A-0937** *POSTER* The Impacts of Black Carbon on the Radiative Balance of the East Rongbuk Glacier: **M Jing**, C Xiao, D Qin

1340h **GC33A-0938** *POSTER* Carbon Emission from Forest Fires on Scots Pine Logging Sites in the Angara Region of Central Siberia: **G A Ivanova**, S G Conard, D J McRae, E A Kukavskaya, A V Bogorodskaya, N M Kovaleva

GC33B Moscone West: 3001 Wednesday 1340h **Climate Modeling in Support of Policy Decision Making:** **Needs and Limitations III**

Presiding: **I T Foster**, University of Chicago and Argonne National Laboratory; **E J Moyer**, University of Chicago; **L A Smith**, London School of Economics; **A H Sanstad**, Lawrence Berkeley National Laboratory

1340h **GC33B-01** Revisiting the generation and interpretation of climate models experiments for adaptation decision-making (*Invited*): **N Ranger**, A Millner, F Niehoerster

1400h **GC33B-02** Uncertainty Assessment in Climate Science and Impacts (*Invited*): **M G Morgan**

1420h **GC33B-03** Physical processes and adaptation practices: how a better understanding of the sources of uncertainty in climate projections can help decision makers: **C Buontempo**

1435h **GC33B-04** Uncertainty quantification in downscaling procedures for effective decisions in energy systems: **E M Constantinescu**

1450h **GC33B-05** Climate Projections: From Useful to Usability: **R B Rood**, M Lemos, D E Anderson Jr.

1505h **GC33B-06** The Challenges of Producing Societally-useful Projections of Future Changes in Extreme Precipitation Events: **K Kunkel**, K T Redmond, T R Karl, D R Easterling, X Liang

1520h **Discussion, Moderated by Nicola Ranger**

GC33C Moscone West: 3005 **Wednesday 1340h**
Solar Irradiance Calibrations, Observations, and Implications II (joint with A, SH)

Presiding: G Kopp, CU / LASP; R C Willson, ACRIM; RA Viereck, NOAA; E C Richard, University of Colorado

1340h **GC33C-01** Validation of the Glory TIM and a Ground-Based SORCE TIM (Invited): **D Harber**, K Heuerman, G Kopp

1355h **GC33C-02** First results from PREMOS PMO6 - the first SI traceable TSI measurements from space (Invited): **W Finsterle**, Title of Team: The PREMOS Team

1410h **GC33C-03** Comparisons of ACRIM3 and the LASP/TRF (Invited): **R Helizon**, S Kwan, R C Willson

1425h **GC33C-04** Component Level Tests of the ACRIM III Radiometer (Invited): **J S Morrill**, A F Thernisien, D R McMullin, S R Lorentz, D G Socker, C E Brown, C M Korendyke

1440h **GC33C-05** SOHO/CELIAS Solar EUV Monitor (SEM) Absolute Solar EUV Irradiance Measurements Spanning Two Solar Minima (Invited): **S R Wieman**, L V Didkovsky, D Judge

1455h **GC33C-06** Global Change in the Thermosphere: The Interaction of Solar EUV with Carbon Dioxide Cooling (Invited): **L Qian**, S C Solomon

1510h **GC33C-07** Observing Atmospheric OH Response to the Solar Cycle - Over 5-year Aura MLS OH Measurements in Combination With the 13-year Ground-based FTUVS OH Measurements (Invited): **S Wang**, S P Sander, T J Pongetti, K Li, Y L Yung

1525h **GC33C-08** Spectral Solar Irradiance over Solar Cycle 23 from Sunphotometers of VIRGO on SOHO (Invited): **C Frohlich**

GC33D Moscone South: 103 **Wednesday 1340h**
The 2010 Stephen Schneider Global Environmental Change Lecture (Webcast)

Presiding: S A Lloyd, NASA Goddard Space Flight Ctr; D J Wuebbles, Univ Illinois

1340h **Introduction Donald Wuebbles**

1345h **GC33D-01** Scientists, Expert Judgment, and Public Policy: What is Our Proper Role? (Invited): **M Oppenheimer**

GC33E Moscone South: 103 **Wednesday 1440h**
Panel Discussion With Bestselling AGU Authors and 2010 Stephen Schneider Global Environmental Change Lecturer Michael Oppenheimer (joint with A, B, H, OS, PA)

Presiding: S A Lloyd, NASA Goddard Space Flight Ctr; D J Wuebbles, Univ Illinois; B M Fagan

1440h **Introduction Donald Wuebbles**

1445h **Panel Discussion**

Geomagnetism and Paleomagnetism

GP33A Moscone South: Poster Hall **Wednesday 1340h**
Frames of Reference for Plate Motion II Posters (joint with DI, T, V, G)

Presiding: T H Torsvik, NGU

1340h **GP33A-0939** POSTER TESTING ABSOLUTE PLATE REFERENCE FRAMES AND THE IMPLICATIONS FOR THE GENERATION OF GEODYNAMIC MANTLE HETEROGENEITY STRUCTURE: **G E Shephard**, H Bunge, B S Schuberth, D Müller, A Talsma, C Moder

1340h **GP33A-0940** POSTER Paleo movement of continents, mantle dynamics and large wander of the rotational pole: M Greff-Lefftz, **J Besse**

1340h **GP33A-0941** POSTER Reconciling Meso-Cenozoic deformation of Eurasia and reference APWP's from Europe and East Asia: **J Cogné**, J Besse, F Hankard, Y Chen

1340h **GP33A-0942** POSTER Supercontinent Succession and the Calculation of Absolute Paleolongitude: **R N Mitchell**, T Kilian, D A Evans

1340h **GP33A-0943** POSTER Toward Quantifying the Spreading-Rate Dependence of Anomalous Skewness of Marine Magnetic Anomalies due to Seafloor Spreading: **S M Boswell**, L Zheng, R G Gordon, J Dymant

GP33B Moscone South: Poster Hall **Wednesday 1340h**
Geomagnetic Secular Variation Determined From Paleomagnetic Observations II Posters (joint with DI)

Presiding: C G Harrison, University of Miami

1340h **GP33B-0944** POSTER Geomagnetic Field Intensity Behavior in South America Between 400 AD and 1800 AD: **C Greco**, A Goguitchaichrili

1340h **GP33B-0945** POSTER Archeointensity variations in India from 1400 BC to 1200 AD: **R Mitra**, L Tauxe, V Tripathy, E Ben-Yosef

1340h **GP33B-0946** POSTER Geomagnetic Secular Variation Determined From Paleomagnetic Observations In Late Quaternary (8-16,000 YBP) Carbonates From The South Pacific Ocean: **E S Platzman**, S Lund, G Camoin, N Thouveny, Title of Team: Scientific Team IODP Expedition 310

1340h **GP33B-0947** POSTER Holocene Paleomagnetic Secular Variation from the Gulf of Alaska: **M H Davies**, J S Stoner, A C Mix, J M Jaeger, G P Rosen, J E Channell, J R Southon

1340h **GP33B-0948** POSTER A New High-Resolution Record of the Blake Geomagnetic Excursion from ODP Site 1062: **M D Bourne**, C Mac Niocail, G M Henderson, A L Thomas, M Faurschou Knudsen

1340h **GP33B-0949** POSTER The geodynamo at ~200 Ma: paleosecular variation and paleointensity recorded by Central Atlantic Magmatic Province mafic rocks of Mauritania: **Y Usui**, J A Tarduno, K Lô, R A Duncan, S N Mason, R D Cottrell, J Voronov

1340h **GP33B-0950** POSTER Variation of paleosecular variation: calculating a S-value from the geomagnetic equator: **J M Linder**, S A Gilder

GP33C Moscone South: Poster Hall **Wednesday 1340h**
Geomagnetism and Paleomagnetism General Contributions II Posters (joint with T, DI)

Presiding: E Herrero-Bervera, University of Hawaii at Manoa

1340h **GP33C-0951** POSTER Proterozoic GAD Hypothesis: Reliability Test Using Dyke Swarms: **J E Panzik**, D A Evans

1340h **GP33C-0952** POSTER Paleomagnetic investigation of sedimentary units from Jack Hills, Western Australia, containing Archean-Hadean minerals: **J M Nelson**, J A Tarduno, R D Cottrell, J W Valley

1340h **GP33C-0953** POSTER Dating of Mesoproterozoic metamorphism in the Mount Isa and George Fisher Zn-Pb-Cu-Ag deposits, Australia, by paleomagnetism: **K Kawasaki**, D T Symons

1340h **GP33C-0954** POSTER Paleomagnetism of the Wyoming Craton: A Pre-Laurentian Puzzle: **T Kilian**, K Chamberlain, R N Mitchell, D A Evans, W Bleeker, A N Lecheminant

1340h **GP33C-0955** *POSTER* Paleomagnetism of Proterozoic Mafic Dikes of the South Pass Area, Southern Wind River Mountains, Wyoming: **S S Harlan**, J W Geissman, L W Snee

1340h **GP33C-0956** *POSTER* The puzzling late Precambrian paleoposition of Laurentia: new insights from preliminary paleomagnetism of the Sainte-Sophie diabase dyke swarm, Quebec: **F Hankard**, M Higgins, R Van Der Voo, C Verdel

1340h **GP33C-0957** *POSTER* Does the Permo-Triassic Geomagnetic Dipole Low Exist?: **D Blanco**, V A Kravchinsky, J M Valet

1340h **GP33C-0958** *POSTER* Tectonic implications of a paleomagnetic study of mesozoic magmatic arc rocks in northwest Antarctic Peninsula: **N J Cosentino**, A A Tassone, J F Vilas

1340h **GP33C-0959** *POSTER* Oman's low latitude "Snowball Earth" pole revisited: Late Cretaceous remagnetisation of Late Neoproterozoic carbonates in Northern Oman: **C J Rowan**, J Tait

1340h **GP33C-0960** *POSTER* Paleomagnetic dating of the Cu-Zn-Pb Kupferschiefer deposit at Sangerhausen, Germany: **D T Symons**, K Kawasaki, S Walther, G Borg

1340h **GP33C-0961** *POSTER* An oceanic core complex (OCC) in the Albanian Dinarides? Preliminary paleomagnetic and structural results from the Mirdita Ophiolite (northern Albania): **M Maffione**, A Morris, M Anderson

1340h **GP33C-0962** *POSTER* Paleomagnetism and rock magnetism of remagnetized carbonate rocks from the Helena Salient, western Montana: **B Baugh**, B A Housen, R F Burmester

1340h **GP33C-0963** *POSTER* PALEOMAGNETISM OF GABBROIC SILLS FORMING THE FLOOR OF THE EARLY JURASSIC KAROO LARGE IGNEOUS PROVINCE, SOUTH AFRICA: **J W Geissman**, E C Ferre, S M Maes, J Marsh

1340h **GP33C-0964** *POSTER* Updated Paleomagnetic Pole from Cretaceous Plutonic Rocks of the Sierra Nevada, California: **J W Hillhouse**, C S Gromme

1340h **GP33C-0965** *POSTER* Inclination Correction for the Moenave Formation and Wingate Sandstone: Implications for North America's Apparent Polar Wander Path and Colorado Plateau Rotation: A M McCall, **K P Kodama**

1340h **GP33C-0966** *POSTER* Paleoposition of the Seychelles microcontinent in relation to the Deccan Traps and the Plume Generation Zone in Late Cretaceous-Early Palaeogene time: **M Ganerod**, T H Torsvik, D J Van Hinsbergen, C Gaina, S Werner, T Owen-Smith, L D Ashwal, S J Webb, B W Hendriks

1340h **GP33C-0967** *POSTER* Paleomagnetic data from Oligocene ash-flow tuffs of the eastern San Juan Volcanic field and the kinematic development of the Rio Grande rift: Complexities associated with PSV: **S N Mason**, J W Geissman, A J Sussman

1340h **GP33C-0968** *POSTER* Paleomagnetic Analysis of the Auberry Formation, California, to determine the source and age: **J F Muniz**, C J Pluhar, N Masutsubo, R E Holcomb, W Nick, J Lessel, J L Jackson, B A Jackson

1340h **GP33C-0969** *POSTER* North Pole, South Pole: the quest to understand the mystery of Earth's magnetism: **G M Turner**

GP33D Moscone West: 2003 **Wednesday 1340h**
Rock Magnetic Data and Methods Applied to Paleomagnetic and Paleoenvironmental Studies Integrated With Other Proxies II (*joint with PP, GC*)

Presiding: **D Bilardello**, Ludwig Maximilians University;
K J Mohamed-Falcon, Woods Hole Oceanographic Institution

1340h **GP33D-01** Magnetic Properties of Lake Sediments as a Possible Tool to Improve Estimates of Prehistoric Fluctuations in Fish Population: **C E Geiss**, M Oleskewicz, D West, D M Post

1355h **GP33D-02** Integrated Mineralogic, Magnetic, Geochemical, and Isotopic Tracers of Sediment Provenance for the Circum-Antarctic Margin (*Invited*): **S A Brachfeld**, D M Cuomo, T van de Flierdt, S R Hemming, C L Dale, S L Goldstein, E L Pierce, T Williams

1410h **GP33D-03** Rock Magnetic Perspective on the end-Triassic Mass Extinction: a Study of the Inuyama Chert Sequence, Japan: **A Abrajevitch**, R S Hori, K Kodama

1425h **GP33D-04** Assessing the use of magnetic methods to monitor vertical migration of metal pollutants in soil: **B Sapkota**, M T Cioppa

1440h **GP33D-05** Origin of Lamellar Magnetism (*Invited*): **S A McEnroe**, P Robinson, K Fabian, R J Harrison

1455h **GP33D-06** Micromagnetic calculation of the critical single domain threshold sizes for greigite: Implications for magnetosomes and sedimentary magnetism: **L Chang**, A R Muxworthy, W Williams, A Roberts

1510h **GP33D-07** New developments in magneto-optical imaging applied to rock magnetism: a case study on meteorites (*Invited*): **M Uehara**, J Gattaccca, C J Van der Beek, H Leroux, D Jacob

1525h **GP33D-08** Interpretation of three-Component Borehole Magnetic Data, measured with the "Göttinger Bohrloch Magnetometer" in the Outokumpu Deep Drill Hole: **C Virgil**, S Ehmann, A Hoerd, M Leven, E Steveling

Hydrology

H33A Moscone South: Poster Hall **Wednesday 1340h**
Applying River and Watershed Research to Facilitate Management and Guide Policy II Posters (*joint with PA*)

Presiding: **A C Johnson**, USDA Forest Service/ Portland State University; **S M Reaney**, Durham University; **P Jordan**, Teagasc; **L H MacDonald**, Colorado State University; **J A Yeakley**, Portland State University

1340h **H33A-1116** *POSTER* A global review of large-scale experimental manipulations of streamflow: **C P Konrad**, J D Olden

1340h **H33A-1117** *POSTER* Can hydrologic models change water-related risk perceptions? Results of a participatory modeling workshop in the Sonora River Basin, Mexico: **K E Halvorsen**, **A Robles-Morua**, A S Mayer, M M Ballard, K A Watson, E R Vivoni

1340h **H33A-1118** *POSTER* Modeling the Impact of Landscape Variability on Nutrient and Pesticide Dynamics in CEAP Watersheds: **S M Saia**, T S Steenhuis, Z M Easton, J Boll, E S Brooks

1340h **H33A-1119** *POSTER* Two-dimensional hydrodynamic modeling to quantify effects of peak-flow management on channel morphology and salmon-spawning habitat in the Cedar River, Washington: **C R Barnas**, J A Czuba, A S Gendaszek, C S Magirl

1340h **H33A-1120** *POSTER* Water Balance Change in Xia Ying River Basin, Qinghai Province, China: **L Cuo**, B Zhou, J Li

1340h **H33A-1121** *POSTER* Pollutant Flushing Characterizations from Urban Storm Runoff at Rapid Urbanizing Area: **Y Huang**, L Wang, G Wang, H Qing

1340h **H33A-1122** *POSTER* Evaluating River Restoration Objectives As Research Hypotheses: A Case Study Of Engineered Log Jams: **T P Hanrahan**, C R Vernon

1340h **H33A-1123** *POSTER* Synthetic Streams Constructed for Multi-policy Framework, Marin County, CA, Reveal Right-lateral Offset Drainages 5.5 km Offshore of San Andreas Fault: **B B Quinn**, Title of Team: Marin Map - Matrix Team (data development)

1340h **H33A-1124** *POSTER* A pilot Virtual Observatory (pVO) for integrated catchment science – Demonstration of national scale modelling of hydrology and biogeochemistry (*Invited*): **J E Freer**, J P Bloomfield, P J Johnes, C Macleod, S Reaney

1340h **H33A-1125** *POSTER* Interdisciplinary approach to the ecological status assessment of Rio Quequén Grande watershed in Argentina: **L B Teruggi**, **E Caporali**, S Sala, M J Kristensen

1340h **H33A-1126** WITHDRAWN

1340h **H33A-1127** *POSTER* CREATING A FOREST-WIDE CONTEXT FOR ADAPTIVE MANAGEMENT AT JACKSON DEMONSTRATION STATE FOREST: **M Liquori**, J Helms, D Porter

H33B Moscone South: Poster Hall Wednesday 1340h
Changing Dynamics of Complex Ecohydrological Systems II
Posters (*joint with B, EP*)

Presiding: **T Hwang**, University of North Carolina at Chapel Hill; **L E Band**, University of North Carolina; **L Ormsbee**, University of Kentucky; **F Chang**, National Taiwan University; **K Hsu**, UC Irvine; **W Chu**, University of California, Irvine

1340h **H33B-1128** *POSTER* Role of vegetation and edaphic factors in controlling diversity and use of different carbon sources in semi-arid ecosystems: **K A Lohse**, J E McLain, C J Harman, M Sivapalan, P A Troch

1340h **H33B-1129** *POSTER* Physiographic position modulates the influence of temperature and precipitation as controls over leaf and ecosystem level CO₂ flux in shrubland ecosystems: **G A Barron-Gafford**, R L Scott, G D Jenerette, E P Hamerlynck, T E Huxman

1340h **H33B-1130** WITHDRAWN

1340h **H33B-1131** *POSTER* Development of Groundwater Management Model for Sustainable Groundwater Use in the Agricultural Region: **D Park**, G Bae, K Lee

1340h **H33B-1132** *POSTER* Microclimatological and Physiological Controls of Stomatal Conductance and Transpiration of Co-Occurring Seedlings with Varying Shade Tolerance: **C M Siegert**, D F Levia

1340h **H33B-1133** *POSTER* An investigation on the estimation of evaporation by combining artificial neural network and dynamic factor analysis: **W Sun**, Y Chiang, F Chang

1340h **H33B-1134** *POSTER* Batch-mode Reinforcement Learning for improved hydro-environmental systems management: **A Castelletti**, S Galelli, M Restelli, R Soncini-Sessa

1340h **H33B-1135** *POSTER* Estimating Riparian Zone Evapotranspiration from Groundwater Level Fluctuations: Implication of River Stage: **J Zhu**, M Young, J M Healey, R L Jasoni, J Osterberg

1340h **H33B-1136** *POSTER* Comparison of different climate change scenario effects in climatological variables and water availability in the city of Lima, Perú: **A Chamorro**, A Bardossy, J Seidel

1340h **H33B-1137** *POSTER* A New Evolutionary Search Strategy for Global Optimization of High-Dimensional Problems: **W Chu**, X Gao, S Sorooshian

1340h **H33B-1138** *POSTER* Variation of Retention Curves in the Past 70 years in the Tatsunokuchi-yama Forested Experimental Watershed: **I Hosoda**

1340h **H33B-1139** *POSTER* Interactions of evapotranspiration between two parallel columns: **D Sun**, J Zhu

1340h **H33B-1140** *POSTER* Multiple-try differential evolution adaptive Metropolis for efficient solution of highly parameterized models: **L Eric**, J A Vrugt

1340h **H33B-1141** *POSTER* Severe Storm Nowcasting Using Cloud Advection Field: **K Hsu**, **A Zahraei**, S Sorooshian

1340h **H33B-1142** *POSTER* Hydrological Response to Climate Change over the Blue Nile Basin Distributed hydrological modeling based on surrogate climate change scenarios: **F G Berhane**, R O Anyah

H33C Moscone South: Poster Hall Wednesday 1340h
Climate Change Impacts on Arid to Semiarid Mountain
Ecohydrology II Posters (*joint with B, GC*)

Presiding: **A White**, New Mexico Institute of Mining and Technology; **R G Allen**, University of Idaho; **L Saito**, University of Nevada Reno

1340h **H33C-1143** *POSTER* Can Landscape Heterogeneity Buffer or Exacerbate Changes in Mountain Hydrology under Different Climatic Conditions?: **P D Broxton**, P A Troch, P D Brooks

1340h **H33C-1144** *POSTER* Deriving the relationship between land cover types and surface exchange coefficients for effective land-atmosphere coupling: **V R Sridhar**, K Nuss, T Jaks, W Zhao, M J Germino, R G Allen

1340h **H33C-1145** *POSTER* Assessing the effects of changing climate on the transformation and vulnerability of coupled hydrologic, ecologic, and human systems using an interdisciplinary spatiotemporal methodology: **P Z Klos**, K B Kemp, J J Blades, T E Link, P Morgan, P E Higuera, T E Hall, Title of Team: Northern Rockies Team, University of Idaho Integrative Graduate Education and Research Traineeship (IGERT) Program

1340h **H33C-1146** *POSTER* Identifying Hydrologically Sensitive Watersheds in the Pacific Northwest U.S. under Future Climates: **A T Edstrom**, J Boll, E S Brooks, J T Abatzoglou

1340h **H33C-1147** *POSTER* Nevada Monitoring System to Assess Climate Variability and Change: **D A Devitt**, J Arnone, F Biondi, L F Fenstermaker, L Saito, M Young, B Riddle, S D Strachan, B Bird, G McCurdy, B F Lyles

1340h **H33C-1148** *POSTER* Forecasting of Annual Streamflow Using Data-Driven Modeling Approach: **A Kalra**, W P Miller, S Ahmad, K W Lamb

1340h **H33C-1149** *POSTER* How Important is Vegetation Drought Stress Response when Predicting Streamflow within the Semi-Arid Santa Fe Municipal Watershed?: **A L Dugger**, C Tague, C D Allen, T Ringle

1340h **H33C-1150** *POSTER* Changes in Eastern Sierra Nevada precipitation related to climate change: **H E Voepel**, R Schumer, D P Boyle, A Knust, J Ashby, H Klieforth

1340h **H33C-1151** *POSTER* Modeling Impacts of Climate Change on Stream Temperature: **T K Tesfa**, M S Wigmosta, A M Coleman, M C Richmond, W A Perkins

1340h **H33C-1152** *POSTER* How will a warmer climate affect water quality in the Sierra Nevada, California?: **D L Ficklin**, I T Stewart-Frey, E P Maurer

1340h **H33C-1153** *POSTER* Evaluating Effects of Climate Change and Variability on Snowmelt Runoff Timing and Magnitude in Northern New Mexico: **K A Hafich**, L R Sherson, L J Crosse, C Dahm

1340h **H33C-1154** *POSTER* Investigating the impact of temporal and spatial variation in spring snow melt on summer soil respiration: **G P John**, S A Papuga, C L Wright, K Nelson, G A Barron-Gafford

1340h **H33C-1155** *POSTER* Assessment of Climate Change Impacts on Water Resources in the Semi-arid Eastern Mediterranean, Turkey: C Donmez, E Thomas, D Pedreros, G J Husak, P Krause, A Kunz, S Berberoglu, **J Helmschrot**

1340h **H33C-1156** *POSTER* System Dynamics to Climate-Driven Water Budget Analysis in the Eastern Snake Plains Aquifer: **J Ryu**, B Contor, A Wylie, G Johnson, R G Allen

1340h **H33C-1157** POSTER Integrated Modeling Analysis on Surface-Subsurface Water Interaction and Impact on Riparian Vegetation under Climate Change Scenarios: **M P Bhattarai**, K Acharya, L Chen

1340h **H33C-1158** WITHDRAWN

H33D Moscone South: Poster Hall Wednesday 1340h Enhanced Geothermal Systems: Characterization, Integration, Stimulation, and Induced Seismicity II Posters (joint with NG, S, V, NS)

Presiding: **S M Ezzedine**, LLNL; **G A Ferguson**, St. Francis Xavier University; **P Blum**

1340h **H33D-1159** POSTER Depth- and Pressure dependent Permeability in the Upper Continental Crust - data from the Urach 3 geothermal well - **I Stoiber**

1340h **H33D-1160** POSTER Estimation of EGS reservoir structure at Cooper Basin, Australia by integrated analysis of microseismic multiplet and source parameter: **H Asanuma**, Y Kawamura, H Niitsuma, D Wyborn

1340h **H33D-1161** POSTER A Numerical Analysis on Pneumatic Fracturing for in-situ Remediation: **M Gwon**, E Park, C Lee

1340h **H33D-1162** POSTER Modeling geothermal systems: A systematic investigation of permeability reduction under hydrothermal conditions: **J Palguta**, C Williams, S Ingebritsen, S Hickman, E L Sonnenthal

1340h **H33D-1163** POSTER Micro-seismicity, fault structure, and hydrologic compartmentalization within the Coso Geothermal Field, California, from 1996 until present: **J O Kaven**, S Hickman, N C Davatzes

1340h **H33D-1164** POSTER Outstanding Issues in the Assessment of Enhanced Geothermal Systems Resources: **C Williams**, J DeAngelo

1340h **H33D-1165** POSTER Micromechanical modeling of the normal deformation of rough-walled fractures: The influence of local damage events on macroscopic properties: **P Ameli**, R L Detwiler

1340h **H33D-1166** POSTER Development of Exploration Methods for Engineered Geothermal Systems: **J L Iovenitti**, I M Tibuleac, D Hopkins, T Cladouhos, R E Karlin, P E Wannamaker, B M Kennedy, D D Blackwell, M Clyné

1340h **H33D-1167** POSTER INVESTIGATION OF GEOTHERMAL ENERGY AS A HEAT SOURCE FOR OILSANDS EXTRACTION IN NORTHERN ALBERTA: **J A Majorowicz**, M J Unsworth, B Tayfun, T Chacko, C A Currie, A Gray, M Grobe, L M Heaman, E Huenges, I Moeck, O Ritter, B J Rostron, D Schmitt, M VanderBaan, S Weides

1340h **H33D-1168** POSTER Source Characteristics of Small Earthquakes at the Northwest Geysers Geothermal Field, California: **G Viegas**, L J Hutchings

1340h **H33D-1169** POSTER Microseismic Activity in Low-Hazard Geothermal Settings in Southern Germany: **T Megies**, J M Wassermann

1340h **H33D-1170** POSTER Guided Geothermal Exploration in Hot Sedimentary Aquifers: **J Wellmann**, F G Horowitz, L Ricard, K Regenauer-Lieb

1340h **H33D-1171** POSTER Modeling Single Well Injection-Withdrawal (SWIW) Tests for Characterization of Complex Fracture-Matrix Systems: **F Cotte**, C Dougherty, J T Birkholzer

1340h **H33D-1172** POSTER Geophysical Delineation of Geothermal Resources in Southern Utah using High-Precision Gravity: **C Hardwick**, P Gettings, D S Chapman

1340h **H33D-1173** POSTER AN ASSESSMENT OF THE TECTONIC CONTROL IN DEFINING THE GEOTHERMAL SYSTEM(S) OF THE SOUTHERN CHILEAN ANDES: **P Sánchez**, M Alam, M Parada, A Lahsen

1340h **H33D-1174** POSTER Analysis of microseismicity using fuzzy logic and fractals for fracture network characterization: **F Aminzadeh**, T Ayatollahy Tafti, D Maity, K Boyle, M Sahimi, C G Sammis

1340h **H33D-1175** POSTER NEW TECHNIQUES FOR HEAT FLOW CALCULATIONS AND MAPPING TEMPERATURE-AT-DEPTH: **Z Frone**, D D Blackwell, J Batir, J Park, M Richards

1340h **H33D-1176** POSTER Conceptual models for the hydrothermal environment of Seokmo Island geothermal field, Korea: **J Shin**, Y LEE, K Kim, Y Hyun, K Lee, T Lee

1340h **H33D-1177** POSTER Accuracy and Resolution in Micro-earthquake Tomographic Inversion Studies: **L J Hutchings**, J Ryan

1340h **H33D-1178** POSTER A Comprehensive Flow, Heat and Mass Transport Uncertainty Quantification in Discrete Fracture Network Systems: **S M Ezzedine**

H33E Moscone South: Poster Hall Wednesday 1340h Environmental Vadose Zone Hydrology Posters

Presiding: **R W Fedors**, U.S. NRC; **R L Detwiler**, University of California, Irvine

1340h **H33E-1179** POSTER Unified Measurement System with Suction Control for Gas Transport Parameters in Porous Media: **K Kawamoto**, M A Rouf, S Hamamoto, T Sakaki, T Komatsu, P Moldrup

1340h **H33E-1180** POSTER Soil Moisture Measurement by TDR Coil Probe in the Surface Thin Soil Layer in the Cold Steppe of Mongolia: **I Kaihotsu**, P Moldrup, H H Nissen, T Yamanaka

1340h **H33E-1181** POSTER Evaluation of Robust Heat Pulse Probes for Water Content Measurement: **T Kamai**, A Ngo, G J Kluitenberg, J W Hopmans

1340h **H33E-1182** POSTER Water flow and retention in coarse soil pockets in the shallow subsurface: **T Sakaki**, A Limsuwat, T H Illangasekare

1340h **H33E-1183** POSTER Influence of pedogenic carbonate on hydrologic properties of semi-arid soils: **V Nenuji**, B Harrison, P Mozley

1340h **H33E-1184** POSTER In-Situ Hydraulic Conductivities of Soils and Anomalies at a Future Biofuel Production Site: **M F Williamson**, C R Jackson, J C Hale, H R Sletten

1340h **H33E-1185** POSTER Optimal sampling of soil depth variability for the prediction of hydrological response: **S M Reaney**, L Hopp

1340h **H33E-1186** POSTER Tomographic Characterization of Residual NAPL in Porous Media Systems: **C Gordon**, R I Al-Raoush

1340h **H33E-1187** POSTER Evaluating Recovery of Hydrologic Function Following Road Restoration Treatments: **R Lloyd**, K A Lohse, T A Ferre

1340h **H33E-1188** POSTER Characterizing Water Flux at Till/Bedrock Interfaces in the Glaciated Northeastern US: **L B Bevan**, D F Boutt, S B Mabee

1340h **H33E-1189** POSTER Water Infiltration into Arid Soils – First Results from a Lysimeter Study: **K Chief**, M Young, M Berli

1340h **H33E-1190** POSTER Controls on preferential flow in the vadose zone: **C B Graham**, H Lin

1340h **H33E-1191** *POSTER* Vegetation controls on soil hydraulic properties and implications for the hydrologic variability of soils: observations and modeling: **C J Harman**, K A Lohse, P A Troch, M Sivapalan

1340h **H33E-1192** *POSTER* Numerical Modeling of Water Fluxes in the Root Zone of Irrigated Pecan: **M K Shukla**, S Deb

1340h **H33E-1193** *POSTER* Wildfire Impacts on Infiltration and Hillslope-Scale Hydrologic Response: **B A Ebel**, D A Martin, J A Moody

1340h **H33E-1194** WITHDRAWN

1340h **H33E-1195** *POSTER* Evaporation from porous media in the presence of a water table: **N Shokri**, G Salvucci

1340h **H33E-1196** *POSTER* Saline Evaporation from Porous Media: Characteristics of Salt Precipitation and Its Effect on Evaporation: **U Nachshon**, N Weisbrod, M I Dragila, A S Grader

1340h **H33E-1197** *POSTER* Does thermal convection occur in mammalian burrows during the night?: **Y Ganot**, N Weisbrod, M I Dragila, U Nachshon

1340h **H33E-1198** *POSTER* EVAPORATION FROM SOILS UNDER THERMAL BOUNDARY CONDITIONS: EXPERIMENTAL AND MODELING INVESTIGATION TO COMPARE EQUILIBRIUM AND NON-EQUILIBRIUM BASED APPROACHES: **K M Smits**, A Cihan, T Sakaki, T H Illangasekare

1340h **H33E-1199** *POSTER* Analysis of Models for Induced Gas Flow in the Unsaturated Zone: **K You**, H Zhan, J Li

1340h **H33E-1200** *POSTER* Numerical Modeling of Surfactant-Induced Flow During Laboratory Measurement of Air-Water Interfacial Area: **E J Henry**, M S Costanza-Robinson

1340h **H33E-1201** *POSTER* Air Flow Path Dynamics In The Vadose Zone Under Various Land Surface Climate Boundary Conditions: **T H Illangasekare**, T Sakaki, P E Schulte, A Cihan, J Christ

1340h **H33E-1202** *POSTER* Monitoring and Modeling CO₂ Dynamics in the Vadose Zone near an Abandoned Historic Oil Well: Implications for Detecting CO₂ Leakage at Geological CO₂ Sequestration Sites: **C Yang**, K Romanak, S Hovorka, R C Reedy, R Trevino, B R Scanlon

1340h **H33E-1203** *POSTER* Consolidation of an unsaturated porous medium with different pore fluid mixtures: **Y Huang**, W Lo, C Chen

1340h **H33E-1204** *POSTER* Unsaturated-Zone Dynamics in a Volcanogenic CO₂ Emission Zone: **D A Stonestrom**, C D Farrar

1340h **H33E-1205** *POSTER* A Combined Power-Averaging and Tensorial Connectivity-Tortuosity Approach for Simulating Field-Scale Moisture Flow: G V Last, **Z F Zhang**, R Khaleel

1340h **H33E-1206** *POSTER* A hydrologic analysis for the infiltration basins planned on Jeju Island, Korea: **S Lee**, T Kang, J Lee, S Kang

1340h **H33E-1207** *POSTER* Water Flow and Solute Transport Processes in Deep Sandy Vadose Zone: Y Rimon, **O Dahan**

1340h **H33E-1208** *POSTER* Numerical Model for Predicting Two Dimensional Infiltrations and Solute Travel Time in Heterogeneous Layered Soil: **Y S Song**, G Kachanoski, M F Dyck

1340h **H33E-1209** *POSTER* Modeling Hydrologic and Geochemical Aspects of Rapid Infiltration Basins: **M Akhavan**, P T Imhoff, S Andres, S Finsterle, C Gu, F Maggi

1340h **H33E-1210** *POSTER* Modeling the fate of radionuclides in the unsaturated zone at the Nevada Test Site: Examples from Yucca Flat and Rainier Mesa: **E M Kwicklis**, Z V Dash, H S Viswanathan, D G Levitt, Z Lu, Z Dai, G Zvoloski, C W Gable, T A Miller

1340h **H33E-1211** *POSTER* Solute breakthrough during repeated ponded infiltration into columns of repacked sand and heterogeneous soil: **M Sobotkova**, M Snehota, M Cislrova

1340h **H33E-1212** *POSTER* Establishing a Geochemical Heterogeneity Model for a Contaminated Vadose Zone-Aquifer System: **C J Murray**, J M Zachara, J P McKinley, Y Bott

1340h **H33E-1213** *POSTER* Alternative Methods for Assessing Contaminant Transport from the Vadose Zone to Indoor Air: **K J Baylor**, A Lee, P Reddy, M Plate

1340h **H33E-1214** *POSTER* Importance of unsaturated zone parameters for contaminant transport: **G Eggen**, H K French, E Bloem

1340h **H33E-1215** *POSTER* Dissolution of Unfired and Fired Propellants and Transport of Released Nitroglycerine, 2,4-Dinitrotoluene, and Nitroguanidine in Soils: **K Dontsova**, E Hunt, D L Gosch, S Taylor, J Simunek, J Chorover, T E Huxman

1340h **H33E-1216** *POSTER* Determining fate and transport parameters for nitroglycerine, 2,4-dinitrotoluene, and nitroguanidine in soils: **D L Gosch**, K Dontsova, J Chorover, T Ferré, S Taylor

H33F Moscone South: Poster Hall Wednesday 1340h
New and Emerging Satellite Missions for Remote Sensing Hydrology II Posters

Presiding: **D E Alsdorf**, Ohio State University; **C Rudiger**, The University of Melbourne

1340h **H33F-1217** *POSTER* Evaluation of temporal and spatial patterns of SMOS soil moisture retrievals using in situ soil observations over the central United States: **T W Collow**, A Robock

1340h **H33F-1218** *POSTER* Comparison of SMOS and AMSR-E retrieved soil moisture with the field measured soil moisture data in South India: **S K Tomer**, A A Bitar, M Sekhar, Y H Kerr, O Merlin, S Bandyopadhyay, S Mohan

1340h **H33F-1219** *POSTER* The Soil Moisture Active/Passive (SMAP) Freeze/Thaw Product: Providing a Crucial Linkage between Earth's Water and Carbon Cycles: **K C McDonald**, J S Kimball, Y Kim

1340h **H33F-1220** *POSTER* Overview and first results from the Canadian Experiment for Soil Moisture 2010 (CanEx-SM10): **A E Walker**, R Magagi, A A Berg, S Belair, B M Toth, T J Jackson

1340h **H33F-1221** *POSTER* Can SMAP radar observations be used to determine vegetation moisture status and root zone soil moisture?: **S C Steele-Dunne**, J Friesen, N Van De Giesen

1340h **H33F-1222** *POSTER* SMOS ground validation in Australia : results from summer and winter campaigns: **C Rudiger**, J P Walker, Y H Kerr, E J Kim

1340h **H33F-1223** WITHDRAWN

1340h **H33F-1224** *POSTER* DOMEX-2 GROUND-BASED ANTARCTIC L-BAND EMISSION MEASUREMENTS: A CONTRIBUTION TO SMOS CALIBRATION: **M R Drinkwater**, G Macelloni, M Brogioni, S Pettinato

1340h **H33F-1225** *POSTER* Sun Glitter Measurements for Monitoring Global Surface Waters: **A T Apperson**, V C Vanderbilt

1340h **H33F-1226** *POSTER* Monitoring river water levels in the Amazon Basin using ICESat GLAS: **A C Hall**, G Schumann, J L Bamber, P D Bates

1340h **H33F-1227** *POSTER* Understanding the Value of Satellite Altimetry for Monitoring Water Level Dynamics of Large Rivers in Bangladesh Delta: **F Hossain**, S Akbor, Title of Team: Sustainability, Satellites, Water and Environment (SASWE) Research Group

1340h **H33F-1228** *POSTER* Estimating River Baseflow Depth from Swath Altimetry: Initial Results: **M K Mersel**, M T Durand, K Andreadis, L C Smith

1340h **H33F-1229** *POSTER* Stream Gauges and Satellite Measurements: **D E Alsdorf**

1340h **H33F-1230** *POSTER* Simulation of SWOT measurements over the Amazon delta: **C Lion**, F Lyard, S Calmant, J Crétaux, Y Le Bars, R Fjortoft

1340h **H33F-1231** *POSTER* Advanced Component Development to Enable Low-Mass, Low-Power High-Frequency Microwave Radiometers for Coastal Wet-Tropospheric Correction on SWOT: **S C Reising**, S Brown, P Kangaslahti, D Hoppe, D Dawson, A Lee, D Albers, O Montes, T Gaier, B Khayatian

1340h **H33F-1232** *POSTER* Constraining hydrological parameters using GRACE “water-mass observations” over large river basins of Southern Africa: P E Krogh, **O B Andersen**, D D Rowlands, S B Luthcke, P Bauer-Gottwein, C Milzow

1340h **H33F-1233** *POSTER* A Multi-Satellite GRACE-like Mission Using Small Satellites: **M Stephens**, P L Bender, R Nerem, R Pierce, D N Wiese

1340h **H33F-1234** *POSTER* Validation of GOES-R Rainfall Rate Algorithm through TRMM PR and NIMROD radars: **Y Li**, R J Kuligowski

1340h **H33F-1235** *POSTER* Coupling Tritium Release Data with Remotely Sensed Precipitation Data to Assess Model Uncertainties: **B K Avant**, A R Ignatius, T C Rasmussen, A Grundstein, T L Mote, J M Shepherd

1340h **H33F-1236** *POSTER* Utilizing Satellite-based and Reanalysis Precipitation Data in Hydrological Modeling: **A R Ignatius**, A Grundstein, T C Rasmussen, T L Mote, J M Shepherd

1340h **H33F-1237** *POSTER* Vegetation Fraction Mapping with High Resolution Multispectral Data in the Texas High Plains: S A OShaughnessy, **P H Gowda**, S Basu, P D Colaizzi, T A Howell, U Schulthess

H33G Moscone South: Poster Hall Wednesday 1340h **Using Data to Detect and Resolve Model Structural Errors II** **Posters**

Presiding: **H V Gupta**, University of Arizona; **M Clark**, National Center for Atmospheric Research; **J A Vrugt**, University of California, Irvine

1340h **H33G-1238** *POSTER* Resolving the Individual Contributors to Total Modeling Error in Conceptual Hydrology: Data, Structural and Numerical Errors: **D Kavetski**, B Renard, M Clark, M A Thyer, G A Kuczera

1340h **H33G-1239** *POSTER* An Improved Hybrid Information Measure Based on Decomposition of Mean Square Error: **W Gong**, D Yang, H V Gupta

1340h **H33G-1240** WITHDRAWN

1340h **H33G-1241** *POSTER* Effect of Temporal Residual Correlation on Estimation of Model Averaging Weights: **M Ye**, D Lu, G P Curtis, P D Meyer, S Yabusaki

1340h **H33G-1242** *POSTER* Use of data depth function for diagnosis of hydrological model: **S Singh**, A Bárdossy, R A Woods

1340h **H33G-1243** *POSTER* A Hypothesis-based Approach to Hydrological Model Development: The Case for Flexible Model Structures: **M P Clark**, D Kavetski, F Fenicia

1340h **H33G-1244** *POSTER* On Correct Likelihoods and Model Combinations: A Bayesian Multi-Model Conceptual Framework for Structural Uncertainty Assessment: R Mehrotra, **T J Smith**, A Sharma, L A Marshall

1340h **H33G-1245** *POSTER* Subsurface Flow Model Identification under Uncertain Geologic Continuity: A Sparse Model Representation and Detection Approach: **B Jafarpour**, M M Khaninezhad

1340h **H33G-1246** *POSTER* Optimized Numerical Modeling to Estimate Runoff and Infiltration in Ephemeral Stream Channels, Southeast Arizona: **A M Stewart**, H V Gupta, D C Goodrich, J B Callegary, E Montenegro

1340h **H33G-1247** *POSTER* Hydrological Model Output Space and Prediction Uncertainty: **L A Bastidas**, S PANDE, G Schoups, N Van De Giesen

1340h **H33G-1248** *POSTER* Mapping model structure to catchment structure: Complex observational data synthesis for model assessment: **L A Marshall**, B L McGlynn, T J Smith, K G Jencso

1340h **H33G-1249** *POSTER* Grid-based disaggregation algorithm with a new simulation-optimization scheme for remotely sensed soil moisture: **Y Shin**, B P Mohanty

1340h **H33G-1250** *POSTER* Bayesian Model Averaging Using Ensemble Particle Filtering: **J Rings**, J A Vrugt, J A Huisman, G Schoups, H Vereecken

H33H Moscone West: 3018 Wednesday 1340h **Ecohydrology of Groundwater-Dependent Ecosystems II**

Presiding: **S P Loheide**, Univ of Wisconsin - Madison; **C Lowry**, University at Buffalo

1340h **H33H-01** Groundwater dependent ecohydrology in a semi-arid oak savanna (*Invited*): **G R Miller**, Y Rubin, D D Baldocchi, X Chen, S Ma

1355h **H33H-02** Precipitation and groundwater evapotranspiration as hydraulic drivers of nutrient and ion accumulation in Everglades' tree islands, Florida: **P L Sullivan**, R M Price, F R Miralles-Wilhelm, M S Ross, L J Scinto, E Cline, T W Dreschel, F H Sklar

1410h **H33H-03** Shallow groundwater subsidies to terrestrial ecosystems (*Invited*): **R B Jackson**, D Jayawickreme, M Noretto, E G Jobbagy

1425h **H33H-04** Groundwater Subsidy: Quantifying the additional water available for root water uptake: **C Lowry**, S P Loheide

1440h **H33H-05** Ecohydrology of Groundwater Dependent Ecosystems: A Critical Determinant for Water Availability: **R J Hunt**, R A Sheets

1455h **H33H-06** Climate change hampers endangered species through intensified moisture-related plant stresses (*Invited*): **R Bartholomeus**, J Witte, P van Bodegom, J V Dam, R Aerts

1510h **H33H-07** Ecohydrological Characterization of a Floodplain Mire by Hyperspectral Remote Sensing: **O Batelaan**, B Verbeiren, L Q Hung

1525h **H33H-08** From leaf to basin: evaluating the impacts of introduced plant species on evapotranspiration fluxes from riparian ecosystems in the southwestern U.S.: **K R Hultine**, S Bush, P L Nagler, K morino, K Burtch, P E Dennison, E P Glenn, J Ehleringer

H33I Moscone West: 3020 Wednesday 1340h **Groundwater Inputs to Rivers, Lakes, and Oceans II** (*joint with NH, NS, OS*)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign; **W P Anderson**, Appalachian State University

1340h **H33I-01** Groundwater contaminants in the deep benthic zone of urban streams in Canada (*Invited*): **J W Roy**, G Bickerton

1355h **H33I-02** Urbanization Effects on Low-Order Riparian Groundwater in the Coastal Plain of North Carolina (*Invited*): **M A O'Driscoll**, J DeLoatch, M Brinson

1410h **H33I-03** Heat and geochemical tracing of contaminated groundwater discharge to streams at various spatial and temporal scales (*Invited*): **L K Lautz**, M Briggs, R E Ribauda

1425h **H33I-04** Detection and characterization of local to regional groundwater inputs to rivers, lakes and oceans with electrical imaging (*Invited*): **M B Cardenas**, K M Befus, M Markowski, J Ong, P B Zamora, F P Siringan, V A Zlotnik

1440h **H33I-05** Exchange processes across sandy beach barriers: Examples from Malibu and Younger Lagoons, California: **P W Swarzenski**, N T Dimova, J A Izbicki

1455h **H33I-06** NITRATE DISCHARGE TO COASTAL WATERS IN RESPONSE TO VARIABLE-DENSITY GROUNDWATER FLOW: **D Murgulet**, G R Tick

1510h **H33I-07** Investigation of Carbon, Nutrients, and Groundwater Inputs in Coastal Florida Using Colored Dissolved Organic Matter: A R Arellano, **P G Coble**, R N Conmy, Title of Team: Marine Spectrochemistry Group

1525h **H33I-08** Application of multivariate statistics and ionic ratio to evaluate seawater and freshwater interaction in small coral island aquifer: **P Banerjee**, V S Singh, Title of Team: Yes

H33J Moscone West: 3014 Wednesday 1340h
Groundwater/Surface Water Interactions: Dynamics and Patterns Across Spatial and Temporal Scales IV

Presiding: **C E Hatch**, University of Nevada Reno; **J H Fleckenstein**, Helmholtz Center for Environmental Research (UFZ); **J D Gomez**, New Mexico Tech; **D F Boutt**, Univ of Massachusetts; **S Ge**, University of Colorado

1340h **H33J-01** Context Conundrums: Observations and Conceptual Models are Primary Controls on Interpretations of Temporal and Spatial Scales of Stream-Groundwater Interactions (*Invited*): **M N Gooseff**, K E Bencala, W B Bowden, B L McGlynn, R A Payn, K Singha, A S Ward, A N Wlostowski, W M Wollheim

1355h **H33J-02** WITHDRAWN

1410h **H33J-03** Quantifying hyporheic zones formed by large woody debris: Synthesis of numerical, laboratory flume, and field experiments: **A H Sawyer**, M B Cardenas, J L Buttles

1425h **H33J-04** From pore-scale flow measurements towards a Computational Fluid Dynamics prediction of momentum exchange across river bed interface: G Sambrook Smith, **R J Hardy**, J Best, G Blois, J Lead

1440h **H33J-05** Diel Discharge Cycles as Indicators of Evapotranspiration Rates, with Implications for Groundwater Dynamics: **D D Cadol**, S K Kampf, E E Wohl

1455h **H33J-06** Heat Transport upon River-Water Infiltration investigated by Fiber-Optic High-Resolution Temperature Profiling: **T Vogt**, M Schirmer, O A Cirpka

1510h **H33J-07** Spatial and temporal dynamics of infiltration and hydraulic conductivity during managed aquifer recharge: **A J Racz**, A T Fisher, C M Schmidt, B S Lockwood, M Los Huertos

1525h **H33J-08** Dynamics of groundwater-surface water interactions in urban streams: **A Musolff**, C Schmidt, J H Fleckenstein

H33K Moscone West: 3016 Wednesday 1340h
Remote Sensing of Hydrology and Its Applications III (*joint with G*)

Presiding: **M H Cosh**, USDA-ARS-HRSL; **D Ryu**, The University of Melbourne; **A K Sahoo**, Center for Research on Environment and Water; **J D Bolten**, NASA GSFC

1340h **H33K-01** Hydrologic Science and Satellite Measurements of Surface Water (*Invited*): **D E Alsdorf**, N M Mognard, D P Lettenmaier

1355h **H33K-02** Evaluation of Satellite-based Real-time Global Flood Detection and Prediction System with an Improved Hydrological Model: **H Wu**, R F Adler, Y Hong, Y Tian, F Policelli

1410h **H33K-03** Hydrogeomorphic Flood Classification and Hydrodynamic Modeling of the Congo Interfluvial Wetlands: **H Jung**, D E Alsdorf, H Lee, M Trig, T Fewtrell

1425h **H33K-04** Historical Reconstruction of Regime Shifts in Amazon Oxbow Lakes – A Remote Sensing Approach: **A U Belcon**, P A Baker, S C Fritz, L Davenport, J W Terborgh

1440h **H33K-05** Use of Airborne LiDAR and Satellite Remote Sensing Data to Parameterize Surface Roughness for Hydrodynamic Modeling: **S C Medeiros**, J J Angelo, S C Hagen, J Weishampel

1455h **H33K-06** A Backscattering Enhanced Microwave Canopy Scattering Model Based On MIMICS: **X Shen**, Y Hong, Q Qin, S Chen, T Grout

1510h **H33K-07** Developing fracture density models using terrestrial laser scan data: **R Pollyea**, J P Fairley, R K Podgorney, T L McLing

1525h **H33K-08** Remote sensing analysis of foliar water and nutrient content in subtropical wetland tree islands: **X Wang**, D O Fuller, L O Sternberg, F R Miralles-Wilhelm

Earth and Space Science Informatics

IN33A Moscone South: Poster Hall Wednesday 1340h
GIScience II Posters (*joint with H, ED*)

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **B D Branch**, Elizabeth City State University

1340h **IN33A-1293** POSTER Development of the Seamless Digital Geological Map of Japan: Application of Google Maps API: **Y A Masaka**, Y Nishioka

1340h **IN33A-1294** POSTER A national environmental monitoring system to support the Moroccan sustainable development strategy: **A Mourhir**, T Rachidi

1340h **IN33A-1295** POSTER Building a GIS database in the Eastern Tennessee Seismic Zone: **M O Akinpelu**, G Vlahovic, P Arroucau, R Malhotra, C A Powell

1340h **IN33A-1296** POSTER Development of GIS Database for New Madrid Seismic Zone: **Y T Birhanemeskel**, G Vlahovic, P Arroucau, R Malhotra, C A Powell

1340h **IN33A-1297** POSTER Spatiotemporal analysis of Quaternary normal faults in the Northern Rocky Mountains, USA: **A Davarpanah**, H A Babaie, P Reed

1340h **IN33A-1298** POSTER EVALUATION OF THE 3D URBAN MODELLING CAPABILITIES IN GEOGRAPHICAL INFORMATION SYSTEMS: **A O Dogru**, D Z Seker

1340h **IN33A-1299** POSTER Adapting JMARS for Earth: Blogging brings a new user community from the CAP LTER urban ecology research project: **J Webber**, L C Prasad, S Dickenshied, A Guha, E Burgess, G Metson, P R Christensen

1340h **IN33A-1300** POSTER Adapting the CUAHSI Hydrologic Information System to OGC standards: **D W Valentine**, T Whitenack, I Zaslavsky

1340h **IN33A-1301** POSTER Application of Artificial Neural Networks (ANNs) for the evaluation of gold potential in the Zaamar, Mongolia, using GIS: **J Choi**, L Mounq Jin, J Won, N C Woo, C Shim

1340h **IN33A-1302** POSTER Using Python Scripting and Web Frameworks to Access Spatial and Temporal Data via KML: **T A Erickson**, B W Koziol

IN33B Moscone South: Poster Hall Wednesday 1340h
Photography as Data: Applications to the Earth Sciences
Posters (joint with A, OS, NH, PA, ED, V, C, EP, P, B)

Presiding: E Welty, University of Colorado; Y Ahn, The Ohio State University

1340h **IN33B-1303 POSTER** Collecting field data from Mars Exploration Rover Spirit and Opportunity Images: Development of 3-D Visualization and Data-Mining Software: **M C Eppes**, A Willis, B Zhou

1340h **IN33B-1304 POSTER** Enhancing Natural Hazards Data with Photographs: **H L McCullough**, J D Varner, R J Redmon

1340h **IN33B-1305 POSTER** Determining the rheology of active lava flows from photogrammetric image sequence processing: **M R James**, S Robson, H Pinkerton

1340h **IN33B-1306 POSTER** Unravelling complex processes during effusive volcanic eruptions using high resolution time-lapse imagery: H Pinkerton, **M R James**, L J Applegarth

1340h **IN33B-1307 POSTER** Collecting Inexpensive High Resolution Aerial and Stereo Images of Small- to Mid-Scale Geomorphic and Tectonic Features: **R J Wheelwright**, W S White, J B Willis

1340h **IN33B-1308 POSTER** Monitoring surface geothermal features using time series of aerial and ground-based photographs: C Bromley, **S M van Manen**, D Graham

1340h **IN33B-1309 POSTER** Oblique Time-lapse Photography in the Study of Oceanic Stratified Flows. (Invited): **R A Pawlowicz**

1340h **IN33B-1310 POSTER** Change Detection using 75-year Aerial Photo and Satellite Data Sets, Inexpensive Means to Obtain 6 cm Resolution Data, and Developing Opportunities for Community-oriented Remote Sensing through Photography: **A Rango**, A Laliberte, C Winters, C M Steele, D M Browning

1340h **IN33B-1311 POSTER** Of Images, Archives, and Anonymity: Glacier Photographs from Louise Arner Boyd's East Greenland Expeditions, 1933, 1937, and 1938: **F E Nelson**, S M Peschel, D K Hall

1340h **IN33B-1312 POSTER** The Extreme Ice Survey: Capturing and Conveying Glacial Processes Through Time-Lapse Imagery and Narration: **J D Balog**, J E Box, W T Pfeffer, E W Hood, D B Fagre, C Anker, S O'Neil

1340h **IN33B-1313 POSTER** Time-lapse photography yields new insights into Greenland outlet glacier dynamics (Invited): **G S Hamilton**, K M Schild, L A Stearns, J de Juan, P Elosegui, M Nettles

1340h **IN33B-1314 POSTER** Something for Everyone: Quantifying Evolving (Glacial) Landscapes with Your Camera: **E Welty**, W T Pfeffer, Y Ahn

IN33C Moscone South: 302 Wednesday 1340h
Current Capabilities and Future Needs of Near-Real-Time Data: Perspectives From Users and Producers II (joint with A, B, C, NH, OS)

Presiding: K J Murphy, NASA/GSFC; H M Goodman, NASA Marshall Space Flight Ctr; J T Morissette, USGS

1340h **IN33C-01** Real-Time data for Societal Benefits (Invited): **P Coronado**

1355h **IN33C-02** The Generation of Near-Real Time Data Products for MODIS: **M Teague**, J E Schmaltz, S Ilavajhala, G Ye, E Masuoka, K J Murphy, K Michael

1410h **IN33C-03** Monitoring Albedo and Vegetation Phenology with the MODIS Daily Direct Broadcast Reflectance Anisotropy Algorithm: **C Schaaf**, Y Shuai, Z Wang, A H Strahler, X Zhang, D P Roy, R E Wolfe, K Strabala, L Gumley

1425h **IN33C-04** The Group for High Resolution SST: Perspectives from Users and Producers on a Globally-Distributed Near-Real Time Data Production and Distribution System (Invited): **K S Casey**, E M Armstrong

1440h **IN33C-05** Near-real Time Monitoring of Global Biomass Burning Emissions from Multiple Geostationary Instruments: **X Zhang**, S Kondragunta, J Ram, C C Schmidt

1455h **IN33C-06** Volcanic eruptions, hazardous ash clouds and visualization tools for accessing real-time infrared remote sensing data: **P Webley**, J Dehn, K G Dean, S MacFarlane

1510h **IN33C-07** Real-Time Data Use for Operational Space Weather Products: **S Quigley**, T E Nobis

1525h **IN33C-08** Utilizing real-time and near real-time data in the iNtegrated Space Weather Analysis System: **M M Maddox**, R E Mullinix, L Rastaetter, A Pulkkinen, Y Zheng, D Berrios, M Hesse, M M Kuznetsova, A Taktakishvili, A Chulaki, J Shim, S S Bakshi, K D Patel, P Jain

Nonlinear Geophysics

NG33A Moscone South: 308 Wednesday 1340h
Scaling Functions and Forecasting Extremes in Natural Hazards, Meteorology, and Space Physics I (joint with NH, S)

Presiding: C C Barton, Wright State Univ; A Bunde, Univ. of Giessen; S Lennartz, Univ. of Giessen; S F Tebbens, Wright State University

1340h **NG33A-01** A Composite Model for the Simulation of Seismicity (Invited): **D L Turcotte**, M B Yikilmaz, J B Rundle, E Heien, L H Kellogg

1355h **NG33A-02** Stationarity Evaluation in a Multifractal Generator for Hydrometeorological Events in Mexico City (Invited): **A A Carsteanu**

1410h **NG33A-03** Universal Scaling Features in Precipitation and River Flows: **A Bunde**, M Bogachev, S Lennartz

1425h **NG33A-04** Power Law and Scaling in the Energy of Tropical Cyclones (Invited): **A Corral**, A Osso, J LLebot

1440h **NG33A-05** Forecasting Shoreline Position: A Method Based on Nonlinear Shoreline Dynamics: **C C Barton**, S F Tebbens

NG33B Moscone South: 308 Wednesday 1455h
Multiplicity of Scales, Dynamics, and Extremes in Geophysics: Theory, Validation, and Applications I (joint with NH, S)

Presiding: V G Kossobokov, Intl Inst Earthquake Prediction Theory & Math Geoph, RAS; D P Ouzounov, NASA/GSFC; M Parrot, LPC2E/CNRS; J G Liu, National Central University; I G Main, University of Edinburgh

1455h **NG33B-01** Multiplicative Cascade Processes and Asymmetry of Multifractal Singularity Spectra (Invited): **Q Cheng**

1510h **NG33B-02** Multiple-Time Scaling and deviation from universality of the Earthquake Interevent Time Distribution: **E Lippiello**, C Godano, L de Arcangelis, M Bottiglieri

1525h **NG33B-03** Extreme events in total ozone on global scale: F Holawe, **H E Rieder**, L Frossard, M Ribatet, S Di Rocco, J A Maeder, J Staehelin, T Peter, A C Davison, P Weihs

Natural Hazards

NH33A Moscone South: Poster Hall Wednesday 1340h **Transmitting Hazard Science to End Users: What Works, What Doesn't, and What's Needed? I Posters** (joint with G, PA)

Presiding: S C Perry, U.S. Geological Survey; T Owen, NOAA/NCDC

1340h **NH33A-1361** POSTER Utilizing climate research to inform the insurance industry: Can we use dynamically simulated storms for risk assessment?: J Strachan, P Vidale, K Hodges, R Vitolo, D B Stephenson

1340h **NH33A-1362** POSTER The Role of Federal Government for Climate Adaptation in the Urban Context: Results of a workshop (Invited): J Buizer, N Chhetri, M Roy

1340h **NH33A-1363** POSTER Information Needs While A Disaster Is Occurring: S C Perry

1340h **NH33A-1364** POSTER Disseminating Landslide Hazard Information for California Local Government: C J Wills

1340h **NH33A-1365** POSTER The Determining and Communicating the Role of Urban Fuels in Structure Loss During Large California Fire Events: C J Fotheringham, J E Keeley

1340h **NH33A-1366** POSTER Moving beyond traditional fire management practices to better minimize community vulnerability to wildfire in southern California: A D Syphard, J E Keeley, T J Brennan

1340h **NH33A-1367** POSTER Sensitivity analysis of the FEMA HAZUS-MH MR4 Earthquake Model using seismic events affecting King County Washington: C Neighbors, G R Noriega, Y Caras, E S Cochran

1340h **NH33A-1368** POSTER CISN ShakeAlert: Progress Toward Using Early Warnings for Earthquakes in California: M Hellweg, R M Allen, H Brown, D S Neuhauser, O Khainovsky, Title of Team: CISN Earthquake Early Warning Team

1340h **NH33A-1369** POSTER CISN ShakeAlert: Development of a Prototype User Display for Providing Earthquake Alerts to End Users: M Böse, K Solanki, R M Allen, H Brown, G B Cua, D Given, E Hauksson, T H Heaton, Title of Team: The CISN Earthquake Early Warning Project Team

1340h **NH33A-1370** POSTER CISN ShakeAlert: The Decision Module for Earthquake Alerts: D S Neuhauser, O Khainovsky, M Böse, K Solanki, G B Cua, T H Heaton, R M Allen, Title of Team: CISN Earthquake Early Warning Team

1340h **NH33A-1371** POSTER CISN ShakeAlert: Faster Warning Information Through Multiple Threshold Event Detection in the Virtual Seismologist (VS) Early Warning Algorithm: G B Cua, M Fischer, M Caprio, T H Heaton, Title of Team: The CISN Earthquake Early Warning Project Team

1340h **NH33A-1372** POSTER CISN Earthquake Early Warning: ShakeAlert Hybrid Branch: H Brown, I Lim, R M Allen, M Böse, G B Cua, T H Heaton, Title of Team: The CISN Earthquake Early Warning Project Team

1340h **NH33A-1373** POSTER Earthquake Early Warning: Tools for System Assessment: I Lim, R M Allen, H Brown, M Hellweg, D S Neuhauser, O Khainovsky

1340h **NH33A-1374** POSTER Assessing Lay Understanding of Common Presentations of Earthquake Hazard Information: K J Thompson, D H Krantz

1340h **NH33A-1375** POSTER Transient Aseismic Slip in the Cascadia Subduction Zone: From Monitoring to Useful Real-time Hazards Information: E A Roeloffs, N M Beeler

1340h **NH33A-1376** POSTER USGS Multi-hazard Demonstration Project tsunami scenario: Selecting a scientifically defensible Aleutian megathrust earthquake source: H F Ryan, R J Blakely, S H Kirby, D W Scholl, R von Huene

1340h **NH33A-1377** POSTER Geographic Variation in Tsunami Warning Center Response Time: Identifying Areas of Greatest Concern: N C Becker, V Sardiña, R K Cessaro, G J Fryer, S Weinstein

1340h **NH33A-1378** POSTER Improving tsunami warning with a rapid linear model: G J Fryer, N D Holschuh, D Wang, N C Becker

1340h **NH33A-1379** POSTER Public Perceptions of Tsunamis and the NOAA TsunamiReady Program in Los Angeles: A Rosati

NH33B Moscone West: 3010 Wednesday 1340h **Wildfires on Landscapes: Theory, Models, and Management I** (joint with GC, PA)

Presiding: D McKenzie, US Forest Service; P F Hessburg, USDA Forest Service; R E Keane, USDA Forest Service Rocky Mountain Research Station

1340h **NH33B-01** Scaling laws and dominant controls of low-severity fire regimes: M C Kennedy, D McKenzie

1355h **NH33B-02** A forest-fire model with natural fire resistance: M R Yoder, D L Turcotte, J B Rundle, M T Glassco, A Donnellan

1410h **NH33B-03** Fire, Land Use and Climate Change in Central Mongolia: A E Hessel, P M Brown, B Nachin, R S Maxwell, N Pederson

1425h **NH33B-04** Bottom-up factors influential on fire regime in northeastern Mexico: L Yocom, P Z Fule, D A Falk, E Cornejo-Oviedo

1440h **NH33B-05** Future climate and wildfire: ecosystem projections of area burned in the western US: J S Littell, P Duffy, D S Battisti, D McKenzie, D L Peterson

1455h **NH33B-06** Understanding the role of wildland fire, insects, and disease in predicting climate change effects on whitebark pine: Simulating vegetation, disturbance, and climate dynamics in a northern Rocky Mountain landscape: R E Keane, R Loehman

1510h **NH33B-07** The Effects of Climate-Driven Changes in Fire Regimes on Carbon Dynamics of Forests Ecosystems: C L Raymond, D McKenzie

1525h **NH33B-08** Fire, Vegetation, Climate Interactions in the Greater Yellowstone Ecosystem: Tipping Points and Landscape Vulnerability: E A Smithwick, A L Westerling, M G Turner, W H Romme, M G Ryan

Near Surface Geophysics

NS33A Moscone West: 3022 Wednesday 1340h **Biogeophysics: Toward Modeling of Geophysical Signatures of Microbial Processes in the Earth II** (joint with B, H, C, S, GP, MR, GC)

Presiding: L D Slater, Rutgers-Newark; E A Atekwana, Oklahoma State University

1340h **NS33A-01** Intraterrestrial life in igneous ocean crust: advances, technologies, and the future (Invited): K J Edwards, C G Wheat

1400h **NS33A-02** Evidence for Hydrothermal Vents as "Biogeobatteries" (Invited): M E Nielsen, P R Girguis

1420h **NS33A-03** In situ imaging of biofilm within opaque porous media (Invited): G Iltis, Y Davit, B D Wood, D Wildenschild

- 1440h **NS33A-04** Elucidating GPR Response to Biological Activity: Field and Laboratory Experiments: **G P Tsoflias**, P C Schillig, M A McGlashan, J A Roberts, J F Devlin
- 1455h **NS33A-05** "Recycling" Geophysics: Monitoring and Isotopic Analysis of Engineered Biological Systems: **R Doherty**, K P SINGH, N Ogle, D Ntarlagiannis
- 1510h **NS33A-06** Pore fluid chemistry and spectral induced polarization signatures of calcium carbonate: **Y Wu**, S S Hubbard, J B Ajo Franklin, K H Williams
- 1525h **NS33A-07** Monitoring biogenic gas dynamics in peat soils using constant offset ground penetrating radar and deformation rods: **X Comas**, L D Slater, A S Reeve

Ocean Sciences

OS33A Moscone South: Poster Hall Wednesday 1340h "Organic Geotraces": Toward an Understanding of the Distribution of Organic Matter in the Oceans II Posters (joint with B)

Presiding: **T I Eglinton**, Woods Hole Oceanographic Institution; **E B Kujawinski**, WHOI; **C A Carlson**, University of California Santa Barbara

1340h **OS33A-1463 POSTER** Radiocarbon Signature and Cycling of Dissolved Organic Carbon in the South Pacific: **E R Druffel**, S Griffin

1340h **OS33A-1464 POSTER** Dissolved Organic Carbon Distribution, Export and Subsequent Remineralization in the Mesopelagic and Bathypelagic Realms of the North Atlantic Basin: **C A Carlson**, D A Hansell, N B Nelson, D A Siegel, W M Smethie, S Khatiwala

1340h **OS33A-1465 POSTER** Moving Towards a Technical Specification for Fluorescence Excitation-Emission Mapping and Absorbance Analysis of Colored Dissolved Organic Matter: **A M Gilmore**

1340h **OS33A-1466 POSTER** Spatial variability in the abundance and composition of organic matter in surficial sediments of the East China Sea: **Y Wu**, T I Eglinton, Y L Yang, B Deng, D Montluçon, J Zhang

1340h **OS33A-1467 POSTER** LIPID BIOMARKERS IN PARTICULATES FROM THE SOUTH CHINA SEA: PRODUCTIVITY AND COMMUNITY STRUCTURE INDICATORS: **M Zhao**, Y Li, L Ding, M Dai, H Zhang, H Yang

1340h **OS33A-1468 POSTER** Multiyear Survey of the Distribution and Fate of Biomarkers in the Atlantic Arctic Ocean: **S Fietz**, A Rosell Mele, G Rueda, A Martinez Garcia, B Hambach, N Viladrich, A Barrera Sansón, S Rossi, P Ziveri

1340h **OS33A-1469 POSTER** Black Carbon in Sedimentary Organic Carbon in the Northeast Pacific using the Benzene Polycarboxylic Acid Method: **A I Coppola**, L A Ziolkowski, E R Druffel

1340h **OS33A-1470 POSTER** Inorganics in Organics: Tracking down the Intrinsic Equilibria between Organic Molecules and Trace Elements in Oceanic Waters: **O J Lechtenfeld**, B P Koch, G Kattner

OS33B Moscone South: Poster Hall Wednesday 1340h Lessons Learned From the Deepwater Horizon Oil Spill: Biological and Chemical Oceanography III Posters (joint with B, PA)

Presiding: **R C Highsmith**, University of Mississippi; **S B Joye**, University of Georgia

1340h **OS33B-1471 POSTER** Optical Characterization of Crude Oils and Dispersant Used in the Northern Gulf of Mexico by Fluorescence EEM Techniques: **L Guo**, Z Zhuo, A M Shiller, S E Lohrenz

1340h **OS33B-1472 POSTER** On the Use of Excitation-Emission Matrix Spectroscopy (EEMs) to Detect Dissolved/Dispersed Oil in the Nearshore and Offshore Waters of the Louisiana Coast: **E J D'Sa**, E Overton, A M Freeman

1340h **OS33B-1473 POSTER** Mass Spectral Analysis of Water Column Samples from a Single Depth Profile Near the Deepwater Horizon Oil Spill: **A K Boysen**, E B Kujawinski

1340h **OS33B-1474 POSTER** Biodegradation of Deep-Sea Oil Spill at the Gulf of Mexico: an Estimate of Half Life Time: **J Vilcaez**, L Li, S S Hubbard, T Hazen

1340h **OS33B-1475 POSTER** Effects of COREXIT EC9500A on bacterial communities influenced by the Deepwater Horizon oil spill: **P A Fulmer**, **L J Hamdan**

1340h **OS33B-1476 POSTER** Microbial Consumption of Natural Gases Released from the BP Deepwater Horizon Oil Spill: **S D Mendes**, D L Valentine, C Farwell

1340h **OS33B-1477 POSTER** Tracking responses to the 2010 Deepwater Horizon oil spill using trace elements in molluscan shells and tissues: **P D Roopnarine**, L Anderson, D Roopnarine, D P Gillikin, D Goodwin

OS33C Moscone South: Poster Hall Wednesday 1340h Lessons Learned From the Deepwater Horizon Oil Spill: Physical Oceanography I Posters (joint with B, NH, SH, PA)

Presiding: **Y Liu**, University of South Florida; **A MacFadyen**, NOAA

1340h **OS33C-1478 POSTER** Ocean modelling aspects for drift applications: **L Stephane**, D Pierre, D Pierre

1340h **OS33C-1479 POSTER** Multiscale plume modeling of the Deepwater Horizon oil-well blowout for environmental impact assessment and mitigation: **S A Socolofsky**, M Rezvani

1340h **OS33C-1480 POSTER** Trajectory Forecasts Based on Numerical Ocean Circulation Models and Satellite Observations: A Rapid Response to Deepwater Horizon Oil Spill: **Y Liu**, R H Weisberg, C Hu, L Zheng

1340h **OS33C-1481 POSTER** Mississippi River and sea surface height drive migration of surface oil slick: **F Falcini**, D J Jerolmack

1340h **OS33C-1482 POSTER** Absolute Thermal SST Measurements over the Deepwater Horizon Oil Spill: **W S Good**, R Warden, P F Kaptchen, T Finch, W J Emery

1340h **OS33C-1483 POSTER** Subsurface Trapping of Multiphase Plumes in Stratification: Laboratory Investigations: **B L White**, **R Camassa**, R McLaughlin

1340h **OS33C-1484 POSTER** OIL SPILL DISASTERS DETECTION AND MONITORING BY RST ANALYSIS OF OPTICAL SATELLITE RADIANCES: THE CASE OF DEEPWATER HORIZON PLATFORM IN THE GULF OF MEXICO: **N Pergola**, S C Grimaldi, I Coviello, M Faruolo, T Lacava, V Tramutoli

1340h **OS33C-1485 POSTER** Surface Drift Predictions of the Deepwater Horizon Spill: The Lagrangian Perspective: **H S Huntley**, B L Lipphardt, A D Kirwan, P J Hogan

OS33D Moscone South: Poster Hall Wednesday 1340h
Ocean Sciences General Contributions: Chemical
Oceanography Posters

Presiding: E A Canuel, Virginia Inst Marine Sciences

1340h **OS33D-1486** *POSTER* Determination of Natural ¹⁴C Abundances in Dissolved Organic Carbon in Organic-Rich Marine Sediment Porewaters by Thermal Sulfate Reduction: **L Johnson**, T Komada

1340h **OS33D-1487** *POSTER* A comparison of particulate organic carbon (POC) from in situ and satellite ocean color data off the coast of Antarctica: **A Hyde**, A Mannino

1340h **OS33D-1488** *POSTER* The spatial and temporal variability of particulate organic carbon in the tropical Pacific: a data-model synthesis study: **J Wang**, X Wang, D Yuan, T Westberry

1340h **OS33D-1489** *POSTER* Sections of Intact Polar Diacylglycerolipids in the South Atlantic Reflect Dissolved Phosphorus and Nitrogen Distributions: **P Martin**, C Moore, S Torres-Valdes, G Rocap, R D Pancost, M Hernandez Sanchez, B Van Mooy

1340h **OS33D-1490** *POSTER* Biogeochemistry and lower trophic level trends in Lake Superior: A modeling study: **K Matsumoto**, B A White

1340h **OS33D-1491** *POSTER* Distribution and Characterizations of Short-chain Organic Acids in the Seawater of the Jiaozhao Bay, China: **H Ding**, Z Liu, M Wu, B He, G Yang

1340h **OS33D-1492** *POSTER* How big is the Ocean Dead Zone off the Coast of California?: **A F Hofmann**, E T Peltzer, P M Walz, P G Brewer

1340h **OS33D-1493** *POSTER* Continuous measurements of dissolved oxygen isotopes in the California coastal ocean: **L E Rafelski**, R F Keeling, B Paplawsky, A C Cox

1340h **OS33D-1494** *POSTER* Overestimation of O₂ in Natural Water in Winkler's method: H₂O₂ Effect and Oceanographic Implications: **G T Wong**

1340h **OS33D-1495** *POSTER* Brominated VSLs in and over the East Pacific During the Halocarbon Air-Sea Transect - Pacific Cruise (HalocAST-P): **Y Liu**, S A Yvon-Lewis, L Hu, R W Smith, L Shen, T S Bianchi, L Campbell

1340h **OS33D-1496** *POSTER* Quality Control and Application of Oxygen Data from Profiling Floats: **Y Takeshita**, T R Martz, K S Johnson, J Plant, S Riser, D Gilbert

1340h **OS33D-1497** *POSTER* Co-Precipitation of Double Carbonates of Yttrium and the Rare Earth Elements, Na_{2x}M₂(CO₃)_{3+x}, from Seawater-Like Electrolyte Solutions: **J Schijf**, R H Byrne

1340h **OS33D-1498** *POSTER* Isotopic Composition of Cadmium across the Subtropical Convergence in the Southern Ocean: **M Gault-Ringold**, C H Stirling, R Frew, K A Hunter

1340h **OS33D-1499** *POSTER* High sensitivity measurement of osmium based on UV Induced Advanced Oxidation Process by ICP-TOF-MS: **Z Zhu**

1340h **OS33D-1500** *POSTER* Distribution and isotopic signature of Thorium and REE-bearing phases in marine particles and sediments: **S Marchandise**, M Roy-Barman, S Ayrault, C C Colin

1340h **OS33D-1501** *POSTER* Iodine-129 time series records from the Pacific Ocean as recorded in modern corals: **C Chang**, G S Burr, A T Jull, D L Biddulph

1340h **OS33D-1502** *POSTER* Tracing Cd, Zn and Pb pollution sources in bivalves using isotopes: **A E Shiel**, D A Weis, K J Orians

1340h **OS33D-1503** *POSTER* Dissolved and Colloidal Trace Elements in the Mississippi River Delta Outflow after Hurricanes Katrina and Rita: **M Shim**, P W Swarzenski, A M Shiller

1340h **OS33D-1504** WITHDRAWN

1340h **OS33D-1505** *POSTER* Dissolved Trace metal distribution in the water column of the shelf sea of the northern South China Sea: **C Chien**, R Chen, T Ho

1340h **OS33D-1506** WITHDRAWN

1340h **OS33D-1507** *POSTER* Cadmium and barium distributions in Baffin Bay and Nares Strait summer 2003: **D J Janssen**, J Lee, E A Boyle, P Yeats, K K Falkner

1340h **OS33D-1508** *POSTER* Stability of the Cadmium Complex with the Bacterial Trihydroxamate Siderophore Desferrioxamine B at Seawater Ionic Strength: **E A Christenson**, J Schijf

OS33E Moscone South: Poster Hall Wednesday 1340h
Trace Metals in Sulfidic Environments Posters (*joint with B, V*)

Presiding: A Chappaz, Univ. of California Riverside; **T W Lyons**, University of California Riverside; **B Kendall**, Arizona State University

1340h **OS33E-1509** *POSTER* An examination of the factors controlling mercury methylation in sulfidic coastal marine sediments: **R P Mason**, T A Hollweg, A Schartup, C C Gilmour

1340h **OS33E-1510** *POSTER* Tracking Zn bioavailability through time: New insights from sulfidic black shales: **N Planavsky**, C Scott, B C Gill, A Bekker, T W Lyons

1340h **OS33E-1511** *POSTER* Mo enrichment in black shale and reduction of molybdate by sulfate-reducing bacteria (SRB) (*Invited*): **H Xu**, L L Barton

1340h **OS33E-1512** *POSTER* General Model of Mo Scavenging in Euxinic Waters Based on Seasonal Observations in Rogoznica Lake: **G R Helz**, N Mikac, E Bura-Nakic, I Ciglenecki

1340h **OS33E-1513** *POSTER* Molybdenum Isotope Constraints on the Extent of Late Paleoproterozoic Ocean Euxinia: **B Kendall**, G W Gordon, S Poulton, A D Anbar

OS33F Moscone West: 3007 Wednesday 1340h
Deep-Sea Hydrothermal Systems: New Knowledge From New Discoveries and New Technology II (*joint with B, V*)

Presiding: **R Pedersen**, University of Bergen; **D S Kelley**, University of Washington; **T M Shank**, Woods Hole Oceanographic Institution

1340h **OS33F-01** Generation of Volatiles at Erupting Arc Volcanoes: NW Rota (Marianas) and NE Mata (NE Lau) (*Invited*): **M D Lilley**, E J Olson, J E Lupton, D A Butterfield

1355h **OS33F-02** Loki's Castle: Discovery and geology of a black smoker vent field at the Arctic Mid-Ocean Ridge: **R Pedersen**, I H Thorseth, M D Lilley, F J Barriga, G Früh-Green, K Nakamura

1410h **OS33F-03** Investigations of a novel fauna from hydrothermal vents along the Arctic Mid-Ocean Ridge (AMOR) (*Invited*): **H Rapp**, C Schander, K M Halanych, L A Levin, A Sweetman, J Tverberg, S Hoem, I Steen, I H Thorseth, R Pedersen

1425h **OS33F-04** Diverse styles of submarine venting on the ultra-slow spreading Mid-Cayman Rise (*Invited*): **C R German**, A Bowen, M L Coleman, D L Honig, J A Huber, M Jakuba, J C Kinsey, M D Kurz, S Leroy, J McDermott, B F Mercier De Lepinay, K Nakamura, J Seewald, J Smith, S Sylva, C L Van Dover, L L Whitcomb, D R Yoerger

1440h **OS33F-05** Hydrothermal Vents at 5000m on the Mid-Cayman Rise: The Deepest and Hottest Hydrothermal Systems Yet Discovered!: **B J Murton**, D P Connelly, J T Copley, K L Stansfield, P A Tyler, Title of Team: Cruise JC044 Scientific Party

1455h **OS33F-06** Macrofaunal communities at newly discovered hydrothermal fields in Central Indian Ridge: **J Miyazaki**, K Takai, K Nakamura, H Watanabe, T Noguchi, T Matsuzaki, T Watsuji, S Nemoto, S Kawagucci, T Shibuya, K Okamura, M Mochizuki, Y Orihashi, D Marie, M Koonjul, M Singh, G Beedesse, M Bhikajee, K Tamaki

1510h **OS33F-07** Two hydrothermal active vents were found at 13.2°S and 14°S of South Mid-Atlantic Ridge: **C Tao**, H Li, Y Yang, J Ni, R Cui, Y J Chen, J Li, Y He, W Huang, Y Gai, Y Wang, Y Su, Z Cheng, Y Lu, Z Wu, J Li, R Zhang, L He, S Chen, D Zhang, J Lei, Y Wang, Title of Team: DY115-21 Leg 4 Scientific Party

1525h **OS33F-08** Diffuse versus discrete venting at the Tour Eiffel vent site, Lucky Strike hydrothermal field: **E L Mittelstaedt**, J Escartin, N Gracias, J L Olive, T Barreyre, A B Davaille, M Cannat

OS33G Moscone West: 3009 Wednesday 1340h
Estuarine Sediment Dynamics and Fate of Particles, Contaminants, and Carbon at the Land-Ocean Interface II
(joint with H, EP)

Presiding: J Zhu, Univ. of Massachusetts Boston; **C M Palinkas**, University of Maryland Center for Environmental Science

1340h **OS33G-01** Spatial variation of sediment deposition in the Hudson River – a detailed inventory and potential causes (*Invited*): **F O Nitsche**, T C Kenna

1355h **OS33G-02** Sediment Dynamics and Fate of Heavy Metals, Carbon, and Inorganic Matter in the Hudson Estuary, New York: **S Sritrairat**, T C Kenna, D M Peteet, K Nguyen, M Perez, Z Huang, A Miller

1410h **OS33G-03** Strata Development and Morphologic Evolution of the Waipaoa River Margin: Insights from Sedimentological, Radiochemical and Geophysical Data: **D R Corbett**, J P Walsh, A R Orpin, J Kiker

1425h **OS33G-04** Trace Element Signatures of Particles in the Fraser River Estuary: **A M Snauffer**, O Menard, B Kieffer, R H Francois, D A Weis, Title of Team: PCIGR

1440h **OS33G-05** A characterization of the lability of particulate organic matter in the lower Mississippi-Atchafalaya River System: An application of a programmed temperature pyrolysis/combustion system: **K M Roe**, B E Rosenheim, B J Roberts, A S Kolker, M A Allison

1455h **OS33G-06** Wind wave effects on sediment transport in the Yellow River mouth: **H Zong**, P Ding, F Shi

1510h **OS33G-07** A numerical investigation of the dynamics of hyperpycnal river plume on a sloping continental shelf: **S Chen**, W R Geyer, T Hsu

1525h **OS33G-08** SANDS - Sediment Analysis Network for Decision Support: **D M Hardin**, L Hawkins, M He, S Ebersole

Planetary Sciences

P33A Moscone South: Poster Hall Wednesday 1340h
Eyes on Enceladus II Posters (joint with B)

Presiding: C McKay, Ames Research Center; **C Porco**, CICLOPS/SSI; **C McKay**, Ames Research Center; **C Porco**, CICLOPS/SSI

1340h **P33A-1557 POSTER** The Relationship Between Fracture Sets and the South-Polar Terrain Dichotomy on Enceladus: **D A Patthoff**, S A Kattenhorn

1340h **P33A-1558 POSTER** Spectrophotometric Modeling of Enceladus Surface Properties and Composition from Vims Data: **M Ciarniello**, F Capaccioni, G Filacchione, R N Clark, D P Cruikshank, P Cerroni, A Coradini, R H Brown, B J Buratti, F Tosi, K Stephan

1340h **P33A-1559 POSTER** Morphology of Enceladus's craters by photometric studies with ISS/Cassini: **K Degiorgio**, S Rodriguez, C C Ferrari, A Brahic

1340h **P33A-1560 POSTER** Ice Chemistry and Sea Floor Dynamics on the Earth: Possibilities for a Comparative Planetology Study of Enceladus: **C C Walker**, M W Liemohn, C D Parkinson

1340h **P33A-1561 POSTER ON LOW ENERGY ELECTRON SPIKES ASSOCIATED WITH SATURN'S MOON ENCELADUS:** **S J Kanani**, G H Jones, G R Lewis, D T Young, C S Arridge, A J Coates, A N Fazakerley

1340h **P33A-1562 POSTER** Enceladus Dust Production - New Insights from Cassini: **S Kempf**, J Schmidt, R Srama, F Postberg, F Spahn, M Horanyi

1340h **P33A-1563 POSTER** Chemical Disequilibria and Sources of Gibbs Free Energy Inside Enceladus: **M Y Zolotov**

1340h **P33A-1564 POSTER** Neutral H₂O density and the jet features in the Enceladus plume: **Y Dong**, T W Hill, B D Teolis

1340h **P33A-1565 POSTER** Compositional profile of the Enceladus ice plume from in situ measurements: J Schmidt, F Postberg, **S Kempf**, J Hillier, R Srama

1340h **P33A-1566 POSTER** The mass-loading from Enceladus' plume: **H Wei**, C T Russell, M Cowee, J S Leisner, Y Jia, M K Dougherty

1340h **P33A-1567 POSTER** Ion Composition Measurements in the Enceladus Plumes: **R Goldstein**, D C Boice, H T Smith, F J Crary, D T Young

1340h **P33A-1568 POSTER** The Nature of the Enceladus Plasma Cloud From the Cassini Plume Radio Occultation: **A J Kliore**, A F Nagy, E A Marouf

1340h **P33A-1569 POSTER** Suprathermal Minor Heavy Ions In Saturn's Magnetosphere: **S P Christon**, R D DiFabio, D C Hamilton, S M Krimigis, D G Mitchell

1340h **P33A-1570 POSTER** JET: a Journey to Enceladus and Titan: **C Sotin**, K Altwegg, R H Brown, K Hand, J M Soderblom, P Tortora

P33B Moscone South: Poster Hall Wednesday 1340h
Icy Ocean Worlds II Posters (joint with OS, C)

Presiding: S Vance, Jet Propulsion Laboratory / Caltech

1340h **P33B-1571 POSTER** To determine ice layer thickness of Europa by high energy neutrino: **D Shoji**, K Kurita, H K Tanaka

1340h **P33B-1572 POSTER** CUMULATIVE OCEAN VOLUME ESTIMATES OF THE SOLAR SYSTEM: **E A Frank**, S J Mojszsis

1340h **P33B-1573 POSTER** Putting the Biology Back in Astrobiology: Defining Key Habitat Parameters with EJSM: **J S Bowman**, B E Schmidt

1340h **P33B-1574 POSTER** Tidal Response of Europa's Subsurface Ocean: **O Karatekin**, R Comblen, E Deleersnijder, V M Dehant

1340h **P33B-1575 POSTER** Comparison of numerical and analytical models of obliquity-driven flows in icy satellite oceans: **E M Chen**, G A Glatzmaier, F Nimmo

1340h **P33B-1576 POSTER** Shell tectonics: A mechanical model for strike-slip displacement on Europa: **A Rhoden**, G Wurman, M Manga, T A Hurford

1340h **P33B-1577 POSTER** Origin of Europa's Ridges by Incremental Ice-Wedging: **L Han**, H J Melosh

1340h **P33B-1578** POSTER Tidally driven Coulomb failure of faults on Enceladus and Europa: **J G Olgin**, B R Smith-Konter, R T Pappalardo, Title of Team: Icy Moons Tectonics team

P33C Moscone South: Poster Hall Wednesday 1340h
Missions and Instruments Posters

Presiding: **S Hosseini**, University of California; **A J Shu**, University of Colorado, Boulder

1340h **P33C-1579** POSTER Dust Telescopes and Active Dust Collectors: Linking Dust to Their Sources: **K J Drake**, Z Sternovsky, E Gruen, R Srama, S Auer, M Horanyi, S Kempf, H Krueger, F Postberg

1340h **P33C-1580** POSTER The Electrostatic Lunar Dust Analyzer (ELDA) for the detection and trajectory measurement of slow dust particles: **J Xie**, N A Duncan, Z Sternovsky, E Gruen, S Auer, M Horanyi, K Drake

1340h **P33C-1581** POSTER The Dust Accelerator Facility at CCLDAS: **A J Shu**, A Collette, K Drake, E Gruen, M Horanyi, S LeBlanc, T Munsat, P Northway, S H Robertson, R Srama, Z Sternovsky, E Thomas, M Wagner, Title of Team: Colorado Center for Lunar Dust and Atmospheric Studies

1340h **P33C-1582** POSTER Development of tunable spatial heterodyne spectroscopy (TSHS) for interferometry of extended targets: **S Hosseini**, W Harris

1340h **P33C-1583** POSTER Multivariate Methods for Predicting Geologic Sample Composition with Laser-Induced Breakdown Spectroscopy: **R B Anderson**, R V Morris, S M Clegg, J F Bell

1340h **P33C-1584** POSTER New generation of micro-scale sample-processing instruments for future exploration of Mars and Near Earth Objects (NEO): **X Amashukeli**, G Chattopadhyay, A Fisher, J Frank, R Lin, A Peralta, P Siegel

1340h **P33C-1585** POSTER The DSLP Langmuir Probe experiment on-board Proba 2: first in-flight operations and future outlook: **R Pavelka**, P M Travnicek, S Stverak, D Hercik, P Hellinger, J Lebreton, K Zdenek, J Brinek

P33D Moscone South: 306 Wednesday 1340h
Planetary Rings: Theory and Observation II

Presiding: **L W Esposito**; **L J Spilker**, JPL

1340h **P33D-01** The changing orbits of “propeller” moons in Saturn’s rings (*Invited*): **M S Tiscareno**

1355h **P33D-02** Detection of Free Unstable Modes and Massive Bodies in Saturn’s Outer B Ring (*Invited*): **J N Spitale**, C Porco

1410h **P33D-03** Evidence of Accretion in Saturn’s F Ring (*Invited*): **C B Agnor**, K Buerle, C D Murray, M W Evans, N J Cooper, G W Williams

1425h **P33D-04** Albedo, thermal inertia and rotation of ring particles (*Invited*): **R Morishima**, L J Spilker, K Ohtsuki, Title of Team: The Cassini CIRS ring team

P33E Moscone South: 306 Wednesday 1440h
Planetary Radar Investigations: Observations, Theory, Lab Measurements, Field Analogues, and Future Opportunities II
(*joint with C, NS*)

Presiding: **S M Clifford**, LPI/USRA; **V Ciarletti**, LATMOS; **E Heggy**, Jet Propulsion Laboratory

1440h **P33E-01** Radargrammetry on three planets: Mapping the Solar System’s hidden corners: **R L Kirk**, E Howington-Kraus

1455h **P33E-02** Visualization of planetary subsurface radar sounder data in three dimensions using stereoscopy: **A Frigeri**, C Federico, C Pauselli, M Ercoli, A Coradini, R Orosei

1510h **P33E-03** Global mapping of Titan at 2-cm wavelength: **M A Janssen**, A A Le Gall, S Chaudhuri

1525h **P33E-04** ASSERT for Mascot / Hayabusa 2 mission: A radar tomography of 1999 JU3: **A Herique**, W W Kofman, A Barucci, P Beck, J Biele, S M Clifford, J Goutail, E Heggy, T Ho, A Kumamoto, J Lasue, A Levasseur-Regourd, P Michel, E Nielsen, T Ono, P Pujet, D Plettemeier, S Ulamec, S Zine

Public Affairs

PA33A Moscone South: Poster Hall Wednesday 1340h
Geosciences, Risks, Economics, and Public Interest I Posters
(*joint with A, GC, H, NH, OS, ED*)

Presiding: **L Rowan**; **J Trapani**, Bipartisan Policy Center; **M L Zoback**, RMS

1340h **PA33A-1594** POSTER Update of the volcanic risk map of Colima volcano, Mexico: **C Suarez-Plascencia**, F J Nuñez Cornu, B Marquez-Azua

1340h **PA33A-1595** POSTER Natural Hazards and Vulnerability in Valle de Chalco Solidaridad Estado de Mexico, Mexico. Case studies: El Triunfo, Avandaro and San Isidro: **A B Ponce-pacheco**, D A Novelo-Casanova, O Espinosa-Campos, F Rodriguez, M Huerta-Parra, T Reyes-Pimentel, I Benitez-Olivares

1340h **PA33A-1596** POSTER Physical, Structural and Operational Vulnerability of Critical Facilities in Valle de Chalco Solidaridad, Estado de Mexico, Mexico. Case of study: Avándaro, San Isidro and El Triunfo: **D G Garcia Payne**, D A Novelo-Casanova, A B Ponce-pacheco, O Espinosa-Campos, M Huerta-Parra, T Reyes-Pimentel, F Rodriguez, I Benitez-Olivares

1340h **PA33A-1597** POSTER Tsunami preparedness at the resort facilities along the coast of the Ryukyu Islands – their actions against the 27 February 2010 Okinawan and Chilean tsunami warning: **T Matsumoto**

1340h **PA33A-1598** POSTER Communicating landslide hazard and risk through global catalogs and a forecasting framework: **D B Kirschbaum**, D Adler, R F Adler

1340h **PA33A-1599** WITHDRAWN

1340h **PA33A-1600** POSTER Future Oil Spills and Possibilities for Intervention: A Model for the Coupled Human-Environmental Resource Extraction System: **C M Shughrue**, B Werner, P T Nugnug

1340h **PA33A-1601** POSTER An observational urban heat island study: A primary step in heat event mitigation planning in Detroit, MI: **E Oswald**, R B Rood, M O’Neill, K Zhang

1340h **PA33A-1602** POSTER GAIA: A Project for Exploring Risks and Policy Implications of Climate Change: **S Simpkins**, L J Paxton, S M Babin, C K Pikas, R K Schaefer, W H Swartz, M Weiss, A Darrin

1340h **PA33A-1603** POSTER Some Good Practices for Integration and Outreach and their Implementation in the Community Integrated Assessment System (CIAS) and its associated web portal CLIMASCOPE: **R F Warren**, J T Price, S Goswami

1340h **PA33A-1604** POSTER Post-Detonation Nuclear Forensics: What will we do “... when the explosions come ...”? **A J Fahey**

1340h **PA33A-1605** POSTER Volcanic Risk Perception in Five Communities Located near the Chichón Volcano, Northern Chiapas, Mexico: **F Rodriguez**, D A Novelo-Casanova

1340h **PA33A-1606** POSTER Precious metal (Pt, Pd and Au) abundances in Fengshan porphyry Cu-Mo deposits of Hubei Province in China: **M Wang**

1340h **PA33A-1607** POSTER Air Quality measurements near the Gulf of Mexico Deep Water Horizon Oil Spill site in July 2010: **G W Schade**, R Rasmussen, D Conlee, G Seroka, D Delao

Paleoceanography and Paleoclimatology

PP33A Moscone South: Poster Hall Wednesday 1340h
Advances in the Use of Biomarkers I Posters (joint with B, OS)

Presiding: **N Dubois**, Dalhousie University; **S A Macko**, Univ Virginia; **M Kienast**, Dalhousie University

1340h **PP33A-1648** POSTER A High-Resolution Porphyrin Nitrogen Isotope Record of an Oceanic Anoxic Event: A Pearson, **M B Higgins**, R S Robinson, S J Carter

1340h **PP33A-1649** POSTER Compound-specific nitrogen isotope analysis of amino acids: a possible new tool for reconstruction of paleo-nitrogen sources and cycling: **F C Batista**, A C Ravelo, M D McCarthy

1340h **PP33A-1650** POSTER The Importance of *Zostera marina* to a Local Food Web Based on the Analysis of Compound Specific Isotopes in Maquoit Bay, Gulf of Maine: **H A Doolittle**, B J Johnson, W G Ambrose, W Locke, C M Harris

1340h **PP33A-1651** POSTER Pushing open-ocean organic paleo-environmental proxies to the margin: Narragansett Bay, RI: **J M Salacup**, T Herbert, W L Prell

1340h **PP33A-1652** POSTER Exploring the provenance of vegetation and environmental signatures encoded in vascular plant biomarkers carried by the Ganges-Brahmaputra rivers: **V Galy**, T I Eglinton, C France-Lanord, S Sylva

1340h **PP33A-1653** POSTER Biomarker evidence for river discharge and vegetation feedbacks as a direct result of monsoon intensity changes in East Asia: **D Strong**, R Flecker, R D Pancost, P J Valdes, I P Wilkinson, J Rees

1340h **PP33A-1654** POSTER BIOMARKER RECORDS OF PHYTOPLANKTON COMMUNITY STRUCTURE CHANGES IN THE YELLOW SEA AND EAST CHINA SEA DURING THE HOLOCENE: **L Xing**, R Zhang, H Zhang, Z Yang, X Feng, M Zhao

1340h **PP33A-1655** POSTER Iberian Margin Sea Surface Temperature during MIS 15 to 9 (580-300 ka): Glacial suborbital variability vs interglacial stability: **T Rodrigues**, A H Voelker, J O Grimalt, F F Abrantes, F Naughton

1340h **PP33A-1656** POSTER Alkenone paleothermometry: New insights from culture studies and eastern tropical Pacific surface sediments: **C D Normandeau**, G MacIntyre, A Hill, N Dubois, M Kienast

1340h **PP33A-1657** POSTER Environmental Controls on Alkenone U^K₃₇ Temperature Reconstructions: **M L Hardee**, E L Sikes, B N Popp, L Oswald, K Arthur, E J Gier

1340h **PP33A-1658** POSTER A lithology effect on the TEX₈₆ palaeotemperature proxy: **K Littler**, S A Robinson, P R Bown

1340h **PP33A-1659** POSTER Chemostratigraphic Constraints on Late Jurassic Paleoclimatology of the East Texas Basin, Southern Margin of North America: **P Mainali**, H D Rowe

1340h **PP33A-1660** POSTER Influence of preparation methods on C and N concentrations and $\delta^{13}\text{C}$ composition of terrestrial and aquatic organic materials: **C R Brodie**, M J Leng, C Kendrick, J Casford, J M Lloyd, Y Zong, M I Bird

PP33B Moscone South: Poster Hall Wednesday 1340h
Reconstruction and Modeling of Global Climate Evolution of the Past 21,000 Years III Posters

Presiding: **Z Liu**, University of Wisconsin-Madison; **B L Otto-Bliesner**, NCAR; **P U Clark**, Oregon State Univ.; **P J Bartlein**, University of Oregon

1340h **PP33B-1661** POSTER Paleoclimate of the Neoglacial and Roman Warm Period Reconstructed from Oxygen Isotope Ratios of Limpet Shells (*Patella vulgata*), Northwest Scotland: **T Wang**, D M Surge, S Mithen

1340h **PP33B-1662** POSTER Late-glacial to Holocene climate variability and drought in the mid-Hudson Valley region of New York state: **K M Menking**, D M Peteet, R Y Anderson

1340h **PP33B-1663** POSTER Reconstruction of ocean circulation from sparse data using the adjoint method: LGM and the present: **T Kurahashi-Nakamura**, M J Losch, A Paul, S Mulitza, M Schulz

1340h **PP33B-1664** WITHDRAWN

1340h **PP33B-1665** POSTER Abrupt Nonlinear Shifts in Arctic Climate since the Holocene Thermal Maximum Recorded in Otter Lake, South-Central Alaska: **C J Bochicchio**, Z Yu

1340h **PP33B-1666** POSTER Isotopic and geochemical signatures of Late Quaternary sediments in the Fram Strait area: **J Maccali**, C Hillaire-Marcel, J Carignan, L C Reisberg

1340h **PP33B-1667** POSTER Abrupt Climate Change & Paleoindian Environments in western Colorado from 17-9 ka yr BP: **C L Whitlock**, C Briles, D J Meltzer

1340h **PP33B-1668** POSTER Initial deglaciation of the Laurentide ice sheet based on Gulf of Mexico Sediments: **E A Brown**, B P Flower, C Williams

1340h **PP33B-1669** POSTER Constraining the vertical movement of OMZ waters in Santa Barbara Basin for the past 15 ky: **S Myhre**, T M Hill, J Kennett, R J Behl, K Ohkushi

1340h **PP33B-1670** POSTER Abrupt Changes in Seawater Nd Isotopic Composition in the South China Sea since the Last Glacial Maximum: **C You**, K Huang, C Chung

1340h **PP33B-1671** POSTER Extracting paleo-climate signals from sediment laminae: A new, automated image processing method: **S Q Gan**, C A Scholz

1340h **PP33B-1672** POSTER The Last Deglaciation of Ireland: **J Clark**, M McCabe, D Q Bowen, P U Clark

1340h **PP33B-1673** POSTER Sources of Sea-Level Rise and Freshwater Discharge during the Last Deglaciation: **P U Clark**, A E Carlson

1340h **PP33B-1674** POSTER Late Pleistocene and Holocene hydrological change in central Indonesia from Lake Towuti, Sulawesi: **J M Russell**, S Bijaksana, N J Wattrus, A J Noren, B Konecky, S A Wicaksono

1340h **PP33B-1675** POSTER Initial Results from a New Lake Elsinore Sediment Core Reveal Evidence for Hydrologic Change During the Late-Glacial/Holocene Transition: **J M Fantozzi**, M E Kirby, S Lund, C Hiner

1340h **PP33B-1676** POSTER Sea surface and subsurface temperature changes in the Okhotsk Sea and adjacent North Pacific during the Last Glacial Maximum and deglaciation: **N Harada**, M Sato, O Seki, A Timmermann, H Moossen, J A Bendle, Y Nakamura, K Kimoto, Y Okazaki, K Nagashima, S A Gorbarenko, A Ijiri, T Nakatsuka, L Menviel, M O Chikamoto, A Abe-Ouchi, S Schouten

1340h **PP33B-1677** POSTER A Multi-proxy Approach to Deglacial Paleo-Salinity Reconstructions Based on Gulf of Mexico Sediments: **C Williams**, B P Flower, D W Hastings, A M Shiller, E A Goddard

1340h **PP33B-1678** POSTER The Effects of the 8.2 ka Event on the ITCZ in the Tropical Atlantic: **M A Burger**, A J Wagner, C Morrill, B L Otto-Bliesner

1340h **PP33B-1679** POSTER Did the Lake Agassiz flood cause the 8.2 ka event? Evidence from CCSM3 model simulations and paleo-proxy records: **A J Wagner**, C Morrill, B L Otto-Bliesner, N A Rosenbloom

1340h **PP33B-1680** POSTER Resolving the cause of large differences between deglacial benthic foraminifera radiocarbon measurements in Santa Barbara Basin: **A L Magana**, J R Southon, J Kennett, E Roark, M Sarnthein, L D Stott

1340h **PP33B-1681** POSTER Deep ocean carbonate ion and loss of carbon from the deep sea since the last glacial maximum: **J Yu**, W S Broecker, H Elderfield, Z Jin, J F McManus, F Zhang

1340h **PP33B-1682** POSTER Hydrological control of the Atlantic overturning circulation and associated climate changes during the last 21,000 years: **R Marsh**, J D Stanford, E J Rohling

1340h **PP33B-1683** POSTER The natural carbon cycle for the Holocene according to the UVic ESCM 2.9 : the role of Southern Ocean ventilation: **C T Simmons**, L A Mysak, D Matthews

1340h **PP33B-1684** POSTER Deglacial Subsurface Temperature Change in the Tropical North Atlantic Linked to Atlantic Meridional Overturning Circulation Variability: **M W Schmidt**, P Chang, B L Otto-Bliesner

1340h **PP33B-1685** POSTER Biomarker reconstructions of marine and terrestrial climate signals from marginal marine environments: new results from high-resolution archives: **J A Bendle**, H Moossen, R Jamieson, S K Das, U Quillmann, A E Jennings, J T Andrews, J Howe, A Cage, W E Austin

1340h **PP33B-1686** POSTER Paleoclimatic implications of fossil shoreline deposits in the southern basin and range province during the Pleistocene-Holocene transition: **A L Kowler**

1340h **PP33B-1687** POSTER No evidence for a deglacial intermediate water $\Delta 14C$ anomaly in the SW Atlantic: **R N Sortor**, D C Lund

1340h **PP33B-1688** POSTER Speleothem $\delta^{18}O$ and $\delta^{13}C$ records from Fengyu Cave in south Guilin of China: Climate and environmental changes during the past 65 Ka: **H Li**, M Bar-Matthews, N Wan, Y Dao-xian, H Cheng, A Ayalon, M Zhang

1340h **PP33B-1689** POSTER East Asian monsoon evolution and reconciliation of climate records from Japan and Greenland during the last deglaciation: **C Shen**, A Kano, M Hori, K lin, T Chiu, G S Burr

1340h **PP33B-1690** POSTER Modelling the impacts of abrupt AMOC changes on terrestrial methane emissions: **P O Hopcroft**, P J Valdes, D J Beerling

1340h **PP33B-1691** POSTER The role of winter temperatures and polar amplification during peak Interglacial warming: **B A Davis**, A Mauri, J O Kaplan, S Brewer, K J Gajewski, A E Viau, H Wu

1340h **PP33B-1692** POSTER Dynamic and thermodynamic controls on the hydrological cycle of the Last Glacial Maximum: **W R Boos**

1340h **PP33B-1693** POSTER Centennial scale climate variations since Deglaciation in the southern New England: **L Gao**, Y Huang, B N Shuman, W Oswald, D Foster

1340h **PP33B-1694** POSTER Tree rings and environmental change during deglaciation in the N. American Great Lakes area: S W Leavitt, **I P Panyushkina**

1340h **PP33B-1695** POSTER A Complete Holocene High-resolution Multiproxy Climate Record from the Northern Great Plains: **E C Grimm**, J J Donovan, K J Brown

1340h **PP33B-1696** POSTER Patterns of LGM precipitation in the U.S. Rocky Mountains: results from regional application of a glacier mass/energy balance and flow model: **E M Leonard**, B J Laabs, K A Refsnider, M A Plummer, R E Jacobsen, J A Wollenberg

1340h **PP33B-1697** POSTER Mid-Holocene ENSO Variability Revisited: **A J Broccoli**, M P Erb, A T Wittenberg, D Oppo, M Khodri

1340h **PP33B-1698** POSTER Testing the Mass Balance of the Laurentide Ice Sheet During the Last Glacial Maximum: **D J Ullman**, A E Carlson, A N LeGrande, F S Anslow, J M Licciardi, M W Caffee

1340h **PP33B-1699** POSTER Laurentide Ice Sheet meltwater and the Atlantic meridional overturning circulation since the last glacial maximum: A view from the Gulf of Mexico: **B P Flower**, C Williams, E A Brown, D W Hastings, J Hendricks, E A Goddard

1340h **PP33B-1700** POSTER Role of Biomass Burning in the Atmospheric Methane Concentration Increase at the end of the Younger Dryas: J R Melton, H Schaefer, **M J Whiticar**

SPA-Aeronomy

SA33A Moscone South: Poster Hall Wednesday 1340h Ionospheric Modification Using High-Power Radio Waves and Atmospheric Processes Studied Using Space Shuttle and Rocket Exhaust III Posters (joint with SM)

Presiding: **M Golkowski**, University of Colorado Denver; **M H Stevens**, Naval Research Laboratory; **G Crowley**, ASTRA; **M P Sulzer**, Arecibo Observatory

1340h **SA33A-1741** POSTER Fast meridional transport in the lower thermosphere by planetary-scale waves: **J Yue**, H Liu

1340h **SA33A-1742** POSTER Potential Atmospheric Impact Generated by Space Launches Worldwide: **B B Brady**, J D DeSain, T J Curtiss

1340h **SA33A-1743** POSTER Significant Climate Changes Caused by Soot Emitted From Rockets in the Stratosphere: **M J Mills**, M Ross, D W Toohey

1340h **SA33A-1744** POSTER Satellite Observations of Space Shuttle Main Engine Exhaust: Vertical Diffusion and Meridional Transport: **M H Stevens**, R R Meier, J M Plane, J T Emmert, J Russell

1340h **SA33A-1745** POSTER Polar Mesospheric Clouds and Rocket Exhaust in the Arctic Middle Atmosphere: Lidar Observations and Analysis: **R L Collins**, M T DeLand, R S Lieberman, G W Walker

1340h **SA33A-1746** POSTER Comparison of incoherent scatter radar observations of SIMPLEX electron density depletion with SAMI2 and SAMI3 model results: **A Bhatt**, J D Huba, P A Bernhardt, P J Erickson

1340h **SA33A-1747** POSTER Theory and Observations of Plasma Waves Excited Space Shuttle OMS Burns in the Ionosphere: **P A Bernhardt**, R F Pfaff, P W Schuck, D E Hunton, M R Hairston

1340h **SA33A-1748** POSTER Direct Radiative Effects of Particulate Aerosols Emitted by the Space Transport Sector: **M Ross**, P Zittel, D W Toohey, M J Mills

1340h **SA33A-1749** POSTER Electron transport across magnetic field in ExB radio blackout communication system: **V I Sotnikov**, M Keidar, S Mudaliar

1340h **SA33A-1750** POSTER Determination of the excitation threshold for Magnetized Stimulated Brillouin Scatter (MSBS) using HAARP facilities: **A Mahmoudian**, P A Bernhardt, W A Scales, C Selcher, S J Brizinski, G San Antonio

1340h **SA33A-1751** POSTER Heater Beam Angle Effect on Simulated Brillouin Scatter in Magnetized Ionospheric Plasma: **H Fu**, P A Bernhardt, W A Scales, S J Briczinski, G San Antonio, C A Selcher

1340h **SA33A-1752** POSTER Investigation of Ion Gyroharmonic Structuring in the Simulated Electromagnetic Emission Spectra: **M R Bordikar**, P A Bernhardt, W A Scales, S J Briczinski, G San Antonio, C A Selcher

1340h **SA33A-1753** POSTER Studies of Aspect Angle Dependence of Plasma Turbulence at HAARP: **N Adham**, J P Sheerin, M R Wood, R G Roe, J M Gerres, B J Watkins, W A Bristow, P A Bernhardt, C A Selcher

1340h **SA33A-1754** POSTER Damping of Whistler Waves through Mode Conversion to Lower Hybrid Wave in the Ionosphere: **B Eliasson**, X Shao, A S Sharma, G M Milikh, K Papadopoulos

1340h **SA33A-1755** POSTER Weddel Sea Anomaly Observed by ESEMS/Tatiana2 and DEMETER: **F Chang**

1340h **SA33A-1756** POSTER High Time-resolution Studies of RF Interaction Experiments at HAARP: **J P Sheerin**, M R Wood, N Adham, R G Roe, J M Gerres, B J Watkins, W A Bristow, J Spaleta, P A Bernhardt, C A Selcher

1340h **SA33A-1757** POSTER VLF Transmitter Signal Power Loss to Quasi-Electrostatic Whistler Mode Waves in Regions Containing Plasma Density Irregularities: T F Bell, **F Foust**, U S Inan, N G Lehtinen

1340h **SA33A-1758** POSTER DEMETER Observations of Ionospheric Heating by Powerful VLF Transmitters: **K L Graf**, T F Bell, D Piddyachiy, U S Inan, M Parrot

1340h **SA33A-1759** POSTER Artificial Ducts and Ion Outflows in the Topside Ionosphere at HAARP: **A Vartanyan**, G M Milikh, E V Mishin, K Papadopoulos, M Parrot

1340h **SA33A-1760** POSTER Modeling Generation of ULF Electromagnetic Waves by Modulated Heating of the Ionospheric F2 Region: G M Milikh, K Papadopoulos, B Eliasson, N Gumerov, A Vartanyan, A S Sharma, **X Shao**

1340h **SA33A-1761** POSTER Time-of-Arrival Analysis Applied to ELF/VLF Wave Generation Experiments at HAARP: **S Fujimaru**, R C Moore

1340h **SA33A-1762** POSTER Dual-Beam ELF/VLF Wave Generation at HAARP: **D Agrawal**, R C Moore

1340h **SA33A-1763** POSTER On the effective altitude of the HAARP induced ionospheric ELF/VLF current modulation and multi-beam vertical ELF/VLF interference: **M Golkowski**, M Cohen, R C Moore, U S Inan

1340h **SA33A-1764** POSTER Analysis of D-Region Absorption via HF Cross-Modulation Experiments at HAARP: E M Braun, **R C Moore**

SA33B Moscone South: Poster Hall Wednesday 1340h
Response of the Atmosphere and Ionosphere to Solar Extreme Ultraviolet Variability II Posters (*joint with SH*)

Presiding: **L Qian**, National Center for Atmospheric Research;
P G Richards, George Mason university

1340h **SA33B-1765** POSTER Response of redline dayglow emission under varying solar activity conditions: **V Singh**, M Sunil Krishna

1340h **SA33B-1766** POSTER Photoelectrons as a tool to evaluate spectral and temporal variations of solar EUV and XUV irradiance models over solar rotation and solar cycle time scales: **W K Peterson**, T N Woods, J M Fontenla, P G Richards, W Tobiska, S C Solomon, H P Warren

1340h **SA33B-1767** POSTER Using FUV remote-sensing methods to investigate solar EUV variability with the aid of TIMED/GUVI observations: **J Correira**, D J Strickland, J S Evans, H K Knight

1340h **SA33B-1768** POSTER Solar Radiation Output Indices of Importance for Exospheric Properties: **J J Bailey**, M Gruntman, W Tobiska

1340h **SA33B-1769** WITHDRAWN

1340h **SA33B-1770** POSTER Ionospheric Currents Flowing along the Terminator during Solar Flares: **Y Yamazaki**, K Yumoto, T Uozumi, S Abe, Title of Team: The CPMN Group

1340h **SA33B-1771** POSTER Exospheric temperature variability and the solar EUV control: **S Zhang**, J M Holt, P J Erickson, T N Woods

1340h **SA33B-1772** POSTER A new proton auroral extrapolation method applied in the estimation of FUV emission yields: **H K Knight**, D J Strickland, J Correira, J S Evans, J H Hecht

1340h **SA33B-1773** POSTER Characteristics of the global ionospheric electron density during the extreme solar minimum condition: **G Jee**

1340h **SA33B-1774** POSTER Correlation between solar activity and Earth's ionospheric electron content during the 23rd solar cycle: **N Bergeot**, J Legrand, R Burston, C Bruyninx, P Defraigne, J Chevalier, F Clette, C Marque, L Lefevre

1340h **SA33B-1775** WITHDRAWN

1340h **SA33B-1776** POSTER Total Electron Content Variation during Low Solar Activity Periods in Brazil: **F Becker-Guedes**, E R de Paula, P M de Siqueira, L F Rezende, C M Candido, A P Dutra

1340h **SA33B-1777** POSTER Solar and season variability of the nighttime transition height over Arecibo based on Incoherent Scatter Radar data and EUV-UV fluxes: **C G Brum**, D G Alcántara, J Vargas, S A Gonzalez

1340h **SA33B-1778** POSTER Determining the Most Appropriate Solar Inputs for Upper Atmospheric Density Models: **S L Bruinsma**, T Dudok de Wit

1340h **SA33B-1779** POSTER Spatial and temporal variation of total electron content as revealed by principal component analysis: **X Zhu**, E R Talaat

1340h **SA33B-1780** POSTER Spread-Spectrum VLF Observations at Arrival Heights, Antarctica During Solar X-Ray Flares: **T Wang**, R C Moore, A C Fraser-Smith

SA33C Moscone South: 301 Wednesday 1340h
Advances in Understanding Magnetosphere-Ionosphere Dynamics and Coupling I (*joint with SM*)

Presiding: **J F Spann**, NASA MSFC; **D L Gallagher**, NASA Marshall Space Flight Center

1340h **SA33C-01** Modeling Ionospheric Outflows In Global Models (*Invited*): **A Glocer**, G Toth, M H Fok, T I Gombosi, D T Welling

1358h **SA33C-02** Low-Altitude Emission of Energetic Neutral Atoms: A New Diagnostic of the Energetics of Ion Precipitation: **E C Roelof**, H Nair

1410h **SA33C-03** Causes of variability in plasmasphere rotation rate: IMAGE EUV observations (*Invited*): **D A Galvan**, M Moldwin, B R Sandel, G Crowley

1428h **SA33C-04** SAID: A turbulent plasmaspheric boundary layer (*Invited*): **E V Mishin**

1446h **SA33C-05** Electric field variability and Joule heating (*Invited*): **R B Cosgrove**

1504h **SA33C-06** On the Ionospheric Application of Poynting's Theorem: **A D Richmond**

1516h **SA33C-07** Penetration of the convection and overshielding electric fields to low latitude ionosphere during the main phase of geomagnetic storms: **T Kikuchi**, K Hashimoto, Y Ebihara, T Nagatsuma

1528h **SA33C-08** Understanding the Global Response of Large-Scale Ionospheric Convection to Storms and Substorms: **RA Greenwald**, J M Ruohoniemi, G J Sofko, M Lester

SPA-Solar and Heliospheric Physics

SH33A Moscone South: Poster Hall Wednesday 1340h Acceleration and Transport of Solar Energetic Particles I Posters (joint with SM)

Presiding: **G Qin**, State Key Laboratory of Space Weather, Center for Space Science and Applied Research, Chinese Academy of Sciences

1340h **SH33A-1812 POSTER** Electron Acceleration by Multi-Island Coalescence: **M Oka**, T Phan, S Krucker, M Fujimoto, I Shinohara

1340h **SH33A-1813 POSTER** Particle acceleration during low- β , multi-island reconnection: **J F Drake**, M M Swisdak

1340h **SH33A-1814 POSTER** On the Particle Acceleration at Parallel Shocks: **F Guo**, J Giacalone

1340h **SH33A-1815 POSTER** An analytical method to Determine Solar Energetic Particles' Mean Free Path: H He, **G Qin**

1340h **SH33A-1816 POSTER** Study of CME-driven shock acceleration of solar energetic particles with numerical simulations and data analysis: Y Wang, **G Qin**

1340h **SH33A-1817 POSTER** Drift of Charged Particles in a solar wind background magnetic field: **G Qin**, G Li

1340h **SH33A-1818 POSTER** Relativistic Electrons in Ground-Level Enhanced (GLE) Solar Particle Events: **W F Dietrich**, A J Tylka, E I Novikova

1340h **SH33A-1819 POSTER** Magnetic moment conservation and particles acceleration in turbulence: **S Dalena**, A Greco, W H Matthaeus

1340h **SH33A-1820 POSTER** Non-Linear Guiding Theory and particle acceleration at a quasi-perpendicular shock: **L Zhao**, G Li

1340h **SH33A-1821 POSTER** Universal power-law index of energy spectrum in downstream region of quasi-parallel shocks: **T Sugiyama**

1340h **SH33A-1822 POSTER** Separation of Charged Particles from Magnetic Field Lines in Two-Component Magnetic Turbulence: **P Chuychai**, D J Ruffolo, W H Matthaeus

1340h **SH33A-1823 POSTER** Heating of ions by low-frequency Alfvén waves in partially ionized chromosphere: **C Dong**, C S Paty

1340h **SH33A-1824 POSTER** 0.5 - 165 MeV proton and 102 - 312 keV electron injections during the 2006 December 13 SEP event: **A Aran**, N Agueda, C Jacobs, D Lario, B Sanahuja, S Poedts, R G Marsden

1340h **SH33A-1825 POSTER** THE EFFECTS OF ELECTRIC FIELD INDUCED BY BEAM ELECTRONS ON HARD X-RAY AND MICROWAVE EMISSION AND PARTICLE NUMBER PROBLEM IN FLARES: **V V Zharkova**

1340h **SH33A-1826 POSTER** Measurements of the 2005 January 20 GLE with the Milagro Water Čerenkov Detector: J M Ryan, T Morgan, C Lopate

1340h **SH33A-1827 POSTER** The Connection between Small Gamma-ray Flares and SEPs with COMPTEL/CGRO: **G A de Nolfo**, C Young

1340h **SH33A-1828 POSTER** Pitch angle distributions and temporal variations of 0.3-300 keV solar impulsive electron events: **L Wang**, R P Lin, S Krucker

1340h **SH33A-1829 POSTER** Implementing the Second-Order Fermi Process in a Kinetic Monte-Carlo Simulation: **E J Summerlin**

1340h **SH33A-1830 POSTER** Solar Energetic Particles in Ground Level Events: Correlation of Fe/O with CME Speed: **T T von Rosenvinge**, I G Richardson, H V Cane

1340h **SH33A-1831 POSTER** Characteristics of Hot Spots for Solar Activity: **T A Bai**

1340h **SH33A-1832 POSTER** Energetic protons accelerated by a model Coronal Mass Ejection and associated shock in the solar corona: **K A Kozarev**, R M Evans, M A Dayeh, N A Schwadron, M Opher, K E Korreck, T I Gombosi

SH33B Moscone South: Poster Hall Wednesday 1340h New Views of Solar Energetic Particles I Posters

Presiding: **D K Haggerty**, JHUAPL; **RA Mewaldt**, Caltech; **G M Mason**, JHU/Applied Physics Lab

1340h **SH33B-1833 POSTER** Solar energetic particle events early in solar cycle 24: **D K Haggerty**, E C Roelof, G M Mason

1340h **SH33B-1834 POSTER** Longitudinal Spread of Protons from the Decay of Solar Flare Neutrons: **N Agueda**, S Krucker, R P Lin

1340h **SH33B-1835 POSTER** SOURCE ENERGY SPECTRUM OF RELATIVISTIC SOLAR PROTONS: **J A Perez-Peraza**

1340h **SH33B-1836 POSTER** Collimation of Particle Beams by the Structure of Two-Dimensional Magnetic Turbulence: **P Tooprakai**, A Seripienlert, D J Ruffolo, P Chuychai, W H Matthaeus

1340h **SH33B-1837 POSTER** Spatially dependent turbulence and particle diffusion in an interplanetary magnetic flux rope: **W Krittinatham**, D J Ruffolo, J W Bieber

1340h **SH33B-1838 POSTER** Identification of backside events from the NOAA solar proton event list: **J Park**, Y Moon, D Lee

1340h **SH33B-1839 POSTER** Validating Models of the Magnetic Connection Between the Sun and Earth: **P J MacNeice**

1340h **SH33B-1840 POSTER** Multi-spacecraft observations of the 2010 Jan 17 SEP event: **N Dresing**, R Gómez-Herrero, A Klassen, B Heber, Y Kartavykh, W Droege

1340h **SH33B-1841 POSTER** Multi-point Connectivity Analysis of the May 2007 Solar Energetic Particle Events: **E E Chollet**, R A Mewaldt, A C Cummings, J T Gosling, D K Haggerty, Q Hu, D E Larson, B Lavraud, R A Leske, A Opitz, E C Roelof, C T Russell, J Sauvaud

1340h **SH33B-1842 POSTER** Effects of Interplanetary Transport on SEPs with Differing Charge-to-Mass ratios: **G M Mason**, G Li, R A Mewaldt, C M Cohen, R A Leske, M I Desai, M A Dayeh, D K Haggerty, O P Verkhoglyadova, G P Zank

1340h **SH33B-1843 POSTER** Source Region of the Interplanetary Magnetic Field and Variability in Heavy-Ion Composition in Gradual Solar Energetic Particle Events: **Y Ko**, A J Tylka, C K Ng, Y Wang

1340h **SH33B-1844 POSTER** Multi-spacecraft Observations of Solar Cycle 24 Solar Energetic Particle Events: **C M Cohen**, G M Mason, D K Haggerty, R Gómez-Herrero, T T von Rosenvinge, R A Mewaldt, E E Chollet, R A Leske, M E Wiedenbeck, E C Stone

1340h **SH33B-1845 POSTER** Acceleration of charged particles by reconnection by small solar flares in twisted loops: **P Browning**, M Gordovskyy

1340h **SH33B-1846 POSTER** Statistical Study on the Decay Phase of Solar Near-Relativistic Electron Events at ACE and Ulysses:

D Lario

1340h **SH33B-1847** POSTER Large-scale coronal disturbances and angular spread of SEP events: **N V Nitta**, G M Mason, D K Haggerty, C M Cohen, M E Wiedenbeck, R Gómez-Herrero

SH33C Moscone South: 309 **Wednesday 1340h**
Solar and Heliospheric Physics General Contributions II: Solar Wind

Presiding: **M Maksimovic**, LESIA & CNRS; **M A Coplan**, University of Maryland

1340h **SH33C-01** Oxygen Flux in the Solar Wind: Ulysses Observations: **R von Steiger**, T Zurbuchen, D J McComas

1355h **SH33C-02** A Torsional Alfvén Wave Embedded Within a Small Magnetic Flux Rope in the Solar Wind: **J T Gosling**, W Teh, S Eriksson

1410h **SH33C-03** The Role of Reconnection in Controlling Interplanetary Magnetic Flux Depletion in Forming the Heliospheric Solar Cycle: D Connick, **C W Smith**, N A Schwadron

1425h **SH33C-04** Variability in the slow solar wind at solar minimum: A Breen, R Fallows, G Dorrian, **M M Bisi**, D Jackie, M Owens

1440h **SH33C-05** Heliospheric current sheet and plasma sheet crossings associated with heatflux dropouts: A statistical survey using STEREO observations: **Y Liu**, A B Galvin, M Popecki, K Simunac, L M Kistler, C J Farrugia, E Moebius, L Jian, A Opitz, J G Luhmann, Title of Team: javascript:setNextPage('KEYWORD');

1455h **SH33C-06** Kinetic processes in the CIR evolution with magnetic decreases: Hybrid simulations: **K Tsubouchi**, Y Kubo

1510h **SH33C-07** Temporal evolution and spatial variation of the solar wind from multi-spacecraft measurements: **A Opitz**, P Wurz, A Fedorov, J Sauvaud, J G Luhmann, P Riley, K Szego, C T Russell, A B Galvin, A P Rouillard, A Vourlidas, L van Driel - Gesztelyi

1525h **SH33C-08** Understanding heliospheric origins with Solar Probe Plus: **M M Velli**

SPA-Magnetospheric Physics

SM33A Moscone South: Poster Hall **Wednesday 1340h**
Multiscale Wave/Plasma Interactions Between the Magnetosphere and Ionosphere at High Latitudes II Posters
(joint with NG, SA)

Presiding: **A V Streltsov**, Dartmouth College; **J L Semeter**, Boston University

1340h **SM33A-1880** POSTER Effect of heavy ions on nonlinear coupling between the magnetosphere and the ionosphere in the auroral zone: **A V Streltsov**

1340h **SM33A-1881** POSTER Ionospheric feedback instability inside density cavities: **N Jia**, A V Streltsov

1340h **SM33A-1882** POSTER Two-dimensional Model of the Ionospheric Alfvén Resonator With Active Ionosphere: **D Sydorenko**, R Rankin

1340h **SM33A-1883** POSTER Correlation Between Pi1B pulsations and Poleward Boundary Intensifications: **M Lessard**, C Weaver, Y Ge, M J Engebretson

1340h **SM33A-1884** WITHDRAWN

1340h **SM33A-1885** POSTER Coordinated observations of Pc5 pulsations in a field line; ground, SuperDARN, and a satellite: **K Sakaguchi**, T Nagatsuma, T Obara, O A Troshichev

1340h **SM33A-1886** POSTER Estimating the Circulation and Net Plasma Loss from Ionospheric Outflow: **S Haaland**, E Engwall, A I Eriksson, H Nilsson, M Foerster, B Lybekk, K Svenes, A Pedersen

1340h **SM33A-1887** POSTER Effect of ionospheric depth on the ionospheric feedback instability: Cutoff and subsequent E_∥ modes: **R B Cosgrove**, R A Doe

1340h **SM33A-1888** POSTER Satellite observations of banded VLF emissions in conjunction with energy-banded ions during very large geomagnetic storms: **C A Colpitts**, C A Cattell, J U Kozyra, M Parrot

1340h **SM33A-1889** POSTER Implementation of Inductive Magnetosphere-Ionosphere Coupling and its Effects on Global MHD Magnetospheric Simulations: **S Xi**, W Lotko, B Zhang, O Brambles, M J Wiltberger, J Lyon, V G Merkin

1340h **SM33A-1890** POSTER Polarization of Pc1/EMIC waves and related proton auroras observed at Athabasca: **R Nomura**, K Shiokawa, K Sakaguchi, Y Otsuka, M G Connors

1340h **SM33A-1891** POSTER Dispersive Alfvén waves and Ion-acoustic Turbulence: M-I coupling at the Smallest Scales: **J L Semeter**, M D Zettergren, M Diaz, A Stromme, M J Nicolls, C J Heinselman

1340h **SM33A-1892** POSTER Cluster Observations of Band-Limited Pc 1 Waves Associated with Streaming H⁺ and O⁺ ions in the High-Latitude Flank Plasma Mantle: **M J Engebretson**, C Kahlstorff, D Murr, J L Posch, A Keiling, H Reme, K Glassmeier

SM33B Moscone South: Poster Hall **Wednesday 1340h**
Origins of Near-Earth Plasma II Posters (joint with SA)

Presiding: **L M Kistler**, University of New Hampshire; **R J Strangeway**, UCLA

1340h **SM33B-1893** POSTER Does a Planetary-Scale Magnetic Field Enhance or Inhibit Ionospheric Plasma Outflows?: **R J Strangeway**, C T Russell, J G Luhmann, T E Moore, J C Foster, S V Barabash, H Nilsson

1340h **SM33B-1894** POSTER A global view of O⁺ upwelling and outflow rates between DMSP and POLAR: **R J Redmon**, W K Peterson, L Andersson, E A Kihn, W F Denig

1340h **SM33B-1895** POSTER Solar zenith angle dependence of the plasma density and temperature in the polar ionosphere and magnetosphere during geomagnetically quiet periods at solar maximum: **N Kitamura**, N Terada, Y Ogawa, T Ono, Y Nishimura, A Shinbori, A Kumamoto

1340h **SM33B-1896** POSTER Influence of Ionospheric Plasma on Substorm Activity: M D Cash, **R Winglee**, E M Harnett

1340h **SM33B-1897** POSTER Acceleration of O⁺ from the cusp to the lobe: **J Liao**, L M Kistler, C Mouikis, B Klecker, I S Dandouras

1340h **SM33B-1898** POSTER The Ion Composition of the Plasma Sheet at 15-19 Re as a function of the IMF and the Solar Wind conditions: **C Mouikis**, L M Kistler, Y Liu, B Klecker, A Korth, I S Dandouras

1340h **SM33B-1899** POSTER Mapping of the O⁺/H⁺ density ratio in the magnetospheric equatorial plane using Cluster data: **R Maggiolo**, L M Kistler

1340h **SM33B-1900** POSTER Escape of O⁺ Through the Distant Tail Plasma Sheet: **L M Kistler**, A B Galvin, M Popecki, K D Simunac, C J Farrugia, E Moebius, M A Lee, L M Blush, P A Bochsler, P Wurz, B Klecker, R F Wimmer-Schweingruber, A Opitz, J Sauvaud, C T Russell

1340h **SM33B-1901** POSTER Lobe Reconnection as a Source for the Cold Dense Plasma Sheet, Results from FAST and Cluster: **M Wilber**, J P McFadden, A J Hull, K Brown, A F TESTE

1340h **SM33B-1902** POSTER DAYSIDE MAGNETIC RECONNECTION AND PRECIPITATING CUSP IONS DURING A SOUTHWARD INTERPLANETARY MAGNETIC FIELD (IMF) AND FINITE IMF BY COMPONENT: **B Tan**, Y Lin, J D Perez, X Wang

1340h **SM33B-1903** POSTER Detection of the oxygen torus in the inner magnetosphere using toroidal Alfvén waves: **M Nose**, K Takahashi, R R Anderson, H J Singer
1340h **SM33B-1904** POSTER Plasmaspheric outflows contribution to the magnetospheric populations: **IS Dandouras**
1340h **SM33B-1905** POSTER THE FATE OF THE HELIUM POLAR WIND IN THE MAGNETOSPHERE AND ITS IMPLICATIONS ON THE TERRESTRIAL HELIUM BUDGET: **A W Yau**, J Kashyap, A Howarth
1340h **SM33B-1906** POSTER The Next Generation of Space Plasma Analyzer - Deployable Radial Imaging for Velocity, Energy, and Density (DRIVEN): **G A Collinson**, T E Moore, D Durachka, D K Olson, D J Knudsen, P Rozmarynowski, A A Beamer, J H Klenzing

**SM33C Moscone South: Poster Hall Wednesday 1340h
Radiation Belt Physics: Mysteries and Solutions II Posters**

Presiding: **A Y Ukhorskiy**, JHU/APL; **N J Fox**, Johns Hopkins University/Applied Phy

1340h **SM33C-1907** POSTER Nonlinear Wave-Particle Interactions in Radiation Belt Physics: **D Summers**, R Tang, Y Omura, Y Miyashita
1340h **SM33C-1908** POSTER An Abrupt Ending of Long Dormant Outer Radiation Belt Electrons: The External and Internal Conditions That Made This Possible: **X Li**, J T Gosling
1340h **SM33C-1909** POSTER Stormtime Energetic Electron Responses for $L \leq 4$: **J Fennell**, S G Kanekal, J L Roeder
1340h **SM33C-1910** POSTER Observation of relativistic electron microbursts in conjunction with intense radiation belt whistlers: **K Kersten**, C A Cattell, A W Breneman, K Goetz, P J Kellogg, L B Wilson, J R Wygant, J Blake, M D Looper, I Roth
1340h **SM33C-1911** POSTER Implications of the Drift Orbit Bifurcations to Variability of the Outer Electron Belt: **A Y Ukhorskiy**, M I Sitnov, R M Millan, B T Kress
1340h **SM33C-1912** POSTER Using the RBSP Science Data Portal to unlock Mysteries in the Radiation Belts: **M Weiss**, N J Fox, R J Barnes, B H Mauk
1340h **SM33C-1913** POSTER Evidence for Duskside Relativistic Electron Precipitation in the SAMPEX data set in the bounce loss cone: **M D Comess**, D M Smith, J G Sample, R M Millan, R S Selesnick
1340h **SM33C-1914** POSTER A role of magnetopause shadowing on relativistic electron loss of the outer radiation belt: **C Matsumura**, Y Miyoshi, K Seki, S Saito, V Angelopoulos, J McFadden, D E Larson
1340h **SM33C-1915** POSTER Probing the microburst source region using low energy electron measurements made in low-Earth orbit: **A B Crew**, J H Clemmons, H E Spence
1340h **SM33C-1916** POSTER Update for the Balloon Array for Radiation-belt Relativistic Electron Losses (BARREL) Mission: **B R Anderson**, R M Millan, M McCarthy, J G Sample, D M Smith, K B Yando, L A Woodger, M D Comess, A X Liang, A Baker, J G Hewitt, R P Lin, M K Hudson
1340h **SM33C-1917** POSTER Multi-Satellite Observations of Transient Proton Belts Near $L = 3$: **S G Claudepierre**, J L Roeder, J B Blake, J Fennell
1340h **SM33C-1918** POSTER Reanalysis of Radiation Belt Electron Phase Space Density using the UCLA 1-D VERB code and Kalman filtering: Correlation between the inner edge of the outer radiation belt phase space density and the plasmopause location: P J Espy, **M Daae**, Y Shprits

1340h **SM33C-1919** POSTER Bounce-averaged diffusion coefficients in a realistic field model for oblique chorus waves: K Orlova, **Y Shprits**, B Ni
1340h **SM33C-1920** POSTER On The Role of Transition Region in Controlling the Outer Radiation Belt Dynamics: A Survey of in-situ Observations: **Y Chen**, G D Reeves, R H Friedel
1340h **SM33C-1921** POSTER Empirical Cross-satellite Calibration of THEMIS SST Measurements Based on Electron Phase Space Density Conjunctions: **B Ni**, Y Shprits, M Hartinger, V Angelopoulos, D Larson
1340h **SM33C-1922** POSTER The GEMISIS-Magnetosphere project: New models of the inner magnetosphere to investigate high-energy particle variation and the ERG science center: **K Seki**, Y Miyoshi, T Amano, S Saito, Y Miyashita, Y Matsumoto, T Umeda, Y Ebihara
1340h **SM33C-1923** POSTER The Mission for Geospace Exploration: ERG: T Ono, **Y Miyoshi**, T Takashima, M Hirahara, K Asamura, K Seki, Y Kasaba, A Kumamoto, A Matsuoka, H Kojima, M Fujimoto, K Shiokawa, T Nagatsuma, Title of Team: ERG Working Group
1340h **SM33C-1924** POSTER Response of Jupiter's Electron Belt to a Comet-like Impact: **D Santos-Costa**, S J Bolton, R J Sault, R M Thorne, S Levin
1340h **SM33C-1925** POSTER Characterization of radiation belt electron energy spectra from CRRES observations: **W R Johnston**, C D Lindstrom, G P Ginet
1340h **SM33C-1926** POSTER Response of the POES MEPED telescope instruments to relativistic electron precipitation: **K B Yando**, R M Millan, J C Green
1340h **SM33C-1927** POSTER Inner Radiation Belt Data Assimilation: **T B Guild**, T P O'Brien, J E Mazur
1340h **SM33C-1928** POSTER Planetary Space Radiation Environments: **H B Garrett**, M Kokorowski, R W Evans
1340h **SM33C-1929** POSTER Comparisons between the diverse electron radiation belts of the solar system; Implications for radiation belt studies at Earth: **B H Mauk**, N J Fox

**SM33D Moscone South: 307 Wednesday 1340h
Momentum and Energy Transfer and Atmospheric Escape in Weakly Magnetized Objects I (joint with P)**

Presiding: **C Bertucci**, Institute for Astronomy and Space Physics; **R Modolo**, UVSQ / LATMOS-IPSL/CNRS-INSU

1340h **SM33D-01** Hall MHD Study of the Solar wind Interaction with Venus: A F Nagy, **Y Ma**, C T Russell, T Zhang, H Wei, R J Strangeway, G Toth
1355h **SM33D-02** Asymmetries of the Venus plasma interaction in a global hybrid simulation (*Invited*): **R Jarvinen**, E J Kallio, T Zhang, S Barabash, S Dyadechkin, P Janhunen, I Sillanpaa
1410h **SM33D-03** Comparison of Hybrid Particle Code Simulations Of Venus and Mars: **S H Brecht**, S A Ledvina
1425h **SM33D-04** Processes of the momentum transfer and solar wind induced escape on Mars and Venus. Mutual lessons from different space missions (*Invited*): **E Dubinin**
1440h **SM33D-05** Boundary layer processes in the Martian magnetosphere: **J S Halekas**, D A Brain, J P Eastwood
1455h **SM33D-06** Nightside Ionosphere of Mars from Local Electron Plasma Oscillations: A General Overview and Electron Density Holes & Gaps (*Invited*): **F Duru**, D A Gurnett, D Winningham, R A Frahm, D D Morgan
1510h **SM33D-07** Hybrid Simulations of Ion Pickup and Ion Cyclotron Wave Generation at Mars and Titan (*Invited*): **M Cowee**, H Wei, S P Gary

1525h **SM33D-08** Plasma structure over dayside lunar magnetic anomalies: **Y Saito**, M N Nishino, T Yamamoto, K Uemura, S Yokota, K Asamura, H Tsunakawa, Title of Team: KAGUYA MAP Team

SM33E Moscone South: 305 Wednesday 1340h
Progress in Modeling Kinetic-Global Coupling in Space Weather II (*joint with SH*)

Presiding: **S K Antiochos**, NASA/GSFC; **J Johnson**, Princeton Univ

1340h **SM33E-01** Space Weather Priorities for Kinetic-Global Modeling (*Invited*): **T G Onsager**

1358h **SM33E-02** Incorporating Kinetic Effects into Global Models of the Solar Wind (*Invited*): **S R Cranmer**

1416h **SM33E-03** Three-Dimensional Hybrid Simulation of Mode Conversion at the Magnetopause: **Y Lin**, J Johnson, X Wang

1428h **SM33E-04** Hybrid MHD-kinetic electron simulations of global standing modes (*Invited*): **P A Damiano**, J Johnson, E Kim

1446h **SM33E-05** Multi-Scale Physics in the Magnetosphere: the Role of Magnetic Reconnection (*Invited*): **M Hesse**, S Zenitani, M M Kuznetsova, J Birn

1504h **SM33E-06** Theory and simulations of a multi-scale magnetotail current sheet model: **M I Sitnov**, M M Swisdak, P N Guzdar

1516h **SM33E-07** Comparison of High Lundquist Number Scaling of Dayside Magnetospheric Reconnection in BATSRUS and OpenGGCM with the Hall term: **B P Sullivan**, A Bhattacharjee, J Dorelli, K Germaschewski, M M Kuznetsova, J Raeder

1528h **SM33E-08** Anomalous resistivity from Buneman instability: Theory and simulation: **P H Yoon**, T Umeda, J Pavan, N Jain

Study of Earth's Deep Interior

DI33A Moscone South: Poster Hall Wednesday 1340h
Earth's Lower Mantle: New Insights From Geophysics, Mineral Physics, Geodynamics, and Geochemistry II Posters (*joint with MR, S, GP*)

Presiding: **M Murakami**, Tohoku University; **S D King**, Virginia Tech; **C J Weiss**, Virginia Tech

1340h **DI33A-1959** POSTER Geoid anomaly and dynamic topography of spherical shell convection: A comparison between incompressible and compressible convection: **M Shahraki**, H Schmeling

1340h **DI33A-1960** POSTER Constraining Three-dimensional Anelastic Structure of the Lower Mantle from Earth's Free Oscillation: **S Dou**, B A Romanowicz

1340h **DI33A-1961** POSTER Silicon diffusion in MgSiO₃ perovskite under lower mantle conditions: **J Xu**, D Yamazaki, T Katsura, X Wu, P Remmert, H Yurimoto, S Chakraborty

1340h **DI33A-1962** POSTER Does Spherically Symmetric Seismic Structure Correspond to the Mantle's Average Thermo-Chemical State?: E E Styles, **D Davies**, S D Goes

1340h **DI33A-1963** POSTER Travel time and amplitude measurements of core diffracted body waves: the first step to high-resolution tomography of the lowermost mantle: L Schardong, **R F Garcia**, S Chevrot, M Calvet

1340h **DI33A-1964** POSTER Thermochemical piles or a hot mantle? Constraints from global electromagnetic sounding: **C J Weiss**, S D King

1340h **DI33A-1965** POSTER Direct Observations of Lateral Variation at the Core-Mantle Boundary: **D Sun**, D V Helmberger, J M Jackson

1340h **DI33A-1966** POSTER Investigating the nature of the lowermost mantle through analysis of the frequency decay of P and S-waves diffracted at Earth's core mantle boundary: **J S Woo**, E J Garnero, P Lin

1340h **DI33A-1967** POSTER Velocity Structure of the Lowermost Mantle Beneath the Northeast Pacific From Core-Diffracted P and S Waves: **M E Wyession**, G G Euler

1340h **DI33A-1968** POSTER The different velocity structure of mid-mantle beneath Izu-Bonin and Tonga: **Y Zhou**, Y Sui

1340h **DI33A-1969** POSTER Imaging the Lowermost Mantle in Large Scale Beneath East Asia With ScS and SKKS Data: **X Shang**, P Wang, R D van der Hilst, M V de Hoop, S Shim

1340h **DI33A-1970** POSTER Towards absolute plate motions constrained by lower-mantle slab remnants: D G van der Meer, W Spakman, **D J Van Hinsbergen**, M L Amaru, T H Torsvik

1340h **DI33A-1971** POSTER Pacific geoid anomalies revisited in light of thermochemical oscillating domes in the lower mantle: **C Cadio**, I PANET, A B Davaille, M Diament, L Metivier, O de Viron

1340h **DI33A-1972** POSTER Observation of a mid-mantle discontinuity beneath northeast China from S to P converted waves recorded by the USArray stations: **F Niu**

1340h **DI33A-1973** POSTER Temperature-Dependence Cancels the Effects of Depth-Dependence of Thermal Expansion in Mantle Convection: **G T Jarvis**, S R Ghias, J P Lowman

DI33B Moscone West: 2005 Wednesday 1340h
Interior Structure and Evolution of the Terrestrial Planets I (*joint with P, S, T, GP, MR*)

Presiding: **P Lognonne**, Inst Physique Globe Paris; **W S Kiefer**

1340h **DI33B-01** Interiors of Mercury and the Moon: Current Status and Anticipated Progress (*Invited*): **M T Zuber**

1354h **DI33B-02** Lunar Internal Structure Estimated From Local Admittance Between Gravity and Topography (*Invited*): **N Namiki**

1408h **DI33B-03** Seismic detection of the layers of the lunar core (*Invited*): **R C Weber**, P Lin, E J Garnero, Q Williams, P Lognonne

1422h **DI33B-04** The lunar core revealed by reflected seismic waves: constraints on the deep Moon seismic structure: **R F Garcia**, J Gagnepain-Beyneix, S Chevrot, P Lognonne

1434h **DI33B-05** The Importance of Mantle Composition in Controlling Magma Production Rates on Mars and Venus: **W S Kiefer**, Q Li, J Filiberto, C Sandu

1446h **DI33B-06** Thermo-chemical Evolution and Global Contraction of Mercury: **M Grott**, D Breuer, M Laneuville

1458h **DI33B-07** Magnetic fields and dynamos in terrestrial planets (*Invited*): **U R Christensen**, W Dietrich, K Hori, J Wicht, H Amit, B Langlais

1512h **DI33B-08** A lunar core dynamo at 3.7 Ga?: **E K Shea**, B P Weiss, S M Tikoo, J Gattacceca, D L Shuster, T L Grove, M Fuller

1524h **DI33B-09** Core and early crust formation on Mars: G J Golabek, T Keller, **T Gerya**, P J Tackley, J Connolly, G Zhu

DI33C Moscone West: 3024 Wednesday 1340h
Seismic Anisotropy in the Mantle: Progress, Prospects, and Pitfalls II (*joint with MR, S*)

Presiding: **C Beghein**, UCLA; **S Merkel**, CNRS - Universite Lille 1; **T W Becker**, USC

1340h **DI33C-01** Deformation and Anisotropy in 4D: the Lithosphere-Asthenosphere System (*Invited*): **S Lebedev**

1355h **DI33C-02** The stratification of seismic azimuthal anisotropy in the western US: M H Ritzwoller, **F Lin**, Y Yang, M P Moschetti, M J Fouch

1410h **DI33C-03** Constraining Poiseuille Flow in the Asthenosphere Using the Depth-Dependence of Azimuthal Seismic Anisotropy: **S Natarov**, C P Conrad

1425h **DI33C-04** High pressure and temperature fabric transitions in olivine and variations in upper mantle seismic anisotropy: **T Ohuchi**, T Kawazoe, Y Nishihara, N Nishiyama, T Irifune

1440h **DI33C-05** Serpentine preferred orientation and variation in subduction zone anisotropy: **I Katayama**, K Hirauchi, K Michibayashi, J Ando

1455h **DI33C-06** Seismic properties of the sub-arc mantle: **V Soustelle**, A Tommasi, S Demouchy

1510h **DI33C-07** Mid-mantle Anisotropy Near Regions of Subduction: J Wookey, A Pemberton, A J Nowacki, **J M Kendall**

1525h **DI33C-08** On the origin of seismic anisotropy at the base of the mantle (*Invited*): **S Cottaar**, A K McNamara, B A Romanowicz, H Wenk

Mineral and Rock Physics

MR33A Moscone South: Poster Hall Wednesday 1340h Superhard Materials: Synthesis and Systematics II Posters (joint with DI)

Presiding: **K K Lee**, Yale University

1340h **MR33A-1990** *POSTER* Modifications to the Paterson triaxial rock deformation apparatus to allow combined stress testing: S May, **J Mecklenburgh**, W F Xiao, S J Covey-crumpp, E H Rutter

1340h **MR33A-1991** *POSTER* High-pressure and high temperature deformation studies of polycrystalline diamond: **X Yu**, J Zhang, H Xu, L Wang, Y Zhao

1340h **MR33A-1992** *POSTER* Strength of diamond at high pressure from shock wave experiments: **R S McWilliams**, D K Spaulding, J Eggert, D Hicks, R Jeanloz, G Collins, P Celliers

1340h **MR33A-1993** *POSTER* Mechanical strength of zirconia and hafnia phases: **Y Al-Khatatbeh**, K K Lee, B Kiefer

1340h **MR33A-1994** *POSTER* Elasticity of cubic boron nitride under ambient condition: **J S Zhang**, J D Bass, T Taniguchi, A F Goncharov

1340h **MR33A-1995** *POSTER* Synthesis of Dense BC3 Phases under High-Pressure and High-Temperature: **P Zinin**, L Ming, T Acosta, R Jia, E Hellebrand, H Ishii

1340h **MR33A-1996** *POSTER* Tuning the structure and properties of glasses using pressure quenching routes: **L Huang**, J B Thomas, Q Zhao, F Yuan

1340h **MR33A-1997** *POSTER* Synthesis and mechanical properties of nano-polycrystalline diamond: **H Couvy**, J Chen

Seismology

S33A Moscone South: Poster Hall Wednesday 1340h Ambient Noise Imaging in Seismology and Helioseismology III Posters (joint with OS, SH)

Presiding: **A G Kosovichev**, Stanford University; **J F Claerbout**

1340h **S33A-2054** *POSTER* Crustal and lithosphere structure of the Northwestern U.S. with ambient noise tomography: Terrane accretion and Cascade arc development: **H Gao**, E Humphreys, H Yao, R D van der Hilst

1340h **S33A-2055** *POSTER* Crustal and uppermost mantle velocity structure beneath northwestern China revealed by ambient noise tomography: H Li, S Li, **X Song**, M Gong, X Li, J Jia

1340h **S33A-2056** *POSTER* A Synthesis of Local, Teleseismic, and Ambient Noise Data for High-Resolution Models of Seismic Structure in Western and Southeast Australia: **M K Young**, H Tkalcic, N Rawlinson, P Arroucau, A M Reading

1340h **S33A-2057** *POSTER* Radial anisotropy in the crust of SE Tibet and SW China from ambient noise interferometry: **H Huang**, Y Li, H Yao, R D van der Hilst, Q Liu, J Chen

1340h **S33A-2058** *POSTER* Distinct differences in crustal structure and radial anisotropy along two seismic profiles in the North China Craton by ambient noise analysis: **C Cheng**, L Chen, H Yao

1340h **S33A-2059** *POSTER* The ambient noise and earthquake surface wave tomography of the North China Craton: **J Pan**, M J Obrebski, Q Wu, Y Li

1340h **S33A-2060** *POSTER* Ambient Noise and Teleseismic Signals Recorded by Ocean-Bottom Seismometers Offshore Eastern Taiwan: **C Lin**, B Kou, W Liang, Y Huang, J A Collins, C Wang

1340h **S33A-2061** *POSTER* Detecting Subsurface Reflectors in the Shikoku District, Southwestern Japan, Using Ambient Seismic Noise: **S Ohmi**, K Hirahara

1340h **S33A-2062** *POSTER* Crustal structure of the Pannonian-Carpathian region, Central Europe, from ambient noise tomography: **Y Ren**, G W Stuart, G A Houseman, Title of Team: Carpathian Basins Project Working Group

1340h **S33A-2063** *POSTER* Short-Period Rayleigh Wave Dispersion Measurements across the Cape Verde Archipelago using Ambient Noise: **M M Silveira**, L M Matias, J Nunes, P Teves-Costa

1340h **S33A-2064** *POSTER* Pseudo-3D shear velocity structure of the central North Island, New Zealand, determined from ambient noise analysis of temporary and permanent seismograph data: Y Behr, J Townend, **M K Savage**, S C Bannister

1340h **S33A-2065** *POSTER* Ambient Noise Tomography of central Europe: **J Verbeke**, L Boschi, E H Kissling, A Michelini, B Fry

1340h **S33A-2066** *POSTER* Crust and upper-mantle imaging with noise: **E N Ruigrok**, X Campman, C A Wapenaar

1340h **S33A-2067** *POSTER* Using simultaneously curvelet filters and SEM simulation of seismic ambient noise : a possible way to improve ambient noise tomography: **L Stehly**, P Cupillard, B Romanowicz

1340h **S33A-2068** *POSTER* High-resolution linear Radon transform and its applications in surface waves from ambient seismic noise data: **Y Luo**, Y Xu, Y Yang

1340h **S33A-2069** *POSTER* Ambient noise cross-correlations applied to reservoir scale OBS-recordings: **C Weemstra**, A Goertz, B Artman, L Boschi

1340h **S33A-2070** *POSTER* Origin of microseisms in equatorial and southern Africa from analysis of broadband arrays: **G G Euler**, D A Wiens, A Nyblade

1340h **S33A-2071** *POSTER* Retrieval of Earth's reflection response from ambient seismic noise - a Nevada experiment: **I M Tibuleac**, S Pullammanappallil, D H von Seggern, A Pancha, J N Louie

1340h **S33A-2072** *POSTER* Seismic Emission Tomography (SET): numerical modeling study: **P Shkarin**, I G Dricker, S B Hellman, P A Friberg

1340h **S33A-2073** *POSTER* QUAKE DETECTION USING MDI AND GONG DATA: **S Zharkov**, V V Zharkova, S A Matthews

1340h **S33A-2074** *POSTER* Some Connections Between the Solar Wind, Barometric Pressure, Geomagnetism, and Seismic Background Noise: J A Eakins, F L Vernon, **D J Thomson**

S33B Moscone South: Poster Hall Wednesday 1340h
Developments in Statistical Seismology: Research and Education I Posters (joint with ED, T)

Presiding: **A J Michael**, USGS; **M J Werner**, Princeton University;
J Woessner, ETH Zurich

1340h **S33B-2075** POSTER Estimation of the maximum magnitude in the framework of a doubly-truncated Gutenberg-Richter model: Limits of statistical inference from earthquake catalogs: **G Zoeller**, M Holschneider, S Hainzl

1340h **S33B-2076** POSTER Estimating Variance of Seismicity Rate by Data Resampling: **M Kato**

1340h **S33B-2077** POSTER SEISMIC HAZARD ASSESSMENT: AN ARTIFICIAL NEURAL NETWORK ESTIMATION: **C S Herrera Oliva**, F A Nava Pichardo

1340h **S33B-2078** POSTER Magnitude Problems in Historical Earthquake Catalogs and Their Impact on Seismic Hazard Assessment: **Y Rong**, M Mahdyiar, B Shen-Tu, K Shabestari, J Guin

1340h **S33B-2079** WITHDRAWN

1340h **S33B-2080** POSTER A Preliminary Seismic Hazard Study in Northern Arizona: Another Look at the b-Value: **D S Brumbaugh**, **D A Evanzia**

1340h **S33B-2081** POSTER Accounting for Uncertainties in Earthquake Time Dependent probabilities: Case Studies from Japan and Turkey: **M Mahdyiar**, B Shen-Tu, Y Rong

1340h **S33B-2082** POSTER Except in Highly Idealized Cases, Repeating Earthquakes and Laboratory Earthquakes are Neither Time- nor Slip-Predictable: **J L Rubinstein**, W L Ellsworth, N M Beeler, K H Chen, D A Lockner, N Uchida

1340h **S33B-2083** POSTER Spatial and temporal evolution of b-values before recent $M \geq 6$ earthquakes in Taiwan: **C Chan**, Y Wu, T Lin, C Chen

1340h **S33B-2084** POSTER Seismicity activation before the mega-earthquake of 26 December 2004 based on Epidemic type aftershock sequence (ETAS) model: **A R Bansal**, Y Ogata

1340h **S33B-2085** POSTER Evidence of solar induced cycles of high seismic activity: **G Duma**

1340h **S33B-2086** POSTER Application of an analytical testing method to improving the RI model: **S Yokoi**, K Nanjo, H Tsuruoka, N Hirata

1340h **S33B-2087** POSTER Retrospective Evaluation of the Long-Term CSEP-Italy Earthquake Forecasts: **M J Werner**, J D Zechar, W Marzocchi, S Wiemer

1340h **S33B-2088** POSTER Operational foreshock forecasting: Fifteen years after: **Y Ogata**

1340h **S33B-2089** POSTER Purposes and methods of scoring earthquake forecasts: **J Zhuang**

1340h **S33B-2090** POSTER Retrospective Tests of an Earthquake Forecasting Model in Japan Based on P-Wave Velocity Anomalies: **M Imoto**, M Matsubara, N Yamamoto

1340h **S33B-2091** POSTER Is the rate of global tsunami occurrence increasing?: **E L Geist**, T Parsons

1340h **S33B-2092** POSTER Sequence Catalogues: A new tool for statistical analysis of earthquake behavior: **K M Jacobs**, M K Savage, E G Smith

1340h **S33B-2093** POSTER On the c-values of the off-fault aftershocks triggered by the 1995 Kobe earthquake, Japan: **K Sugaya**, Y Hiramatsu, M Furumoto, H Katao, Y Ogata

1340h **S33B-2094** POSTER Delay and Migration of the 2008 Iwate-Miyagi Early Aftershocks, Observed Using High-Resolution Waveform Data: **B Enescu**, Z Peng, K Obara, T Takeda

1340h **S33B-2095** POSTER An application of rate- and state-friction model to observed aftershock sequences with logarithmical stress evolution in time: **T Iwata**

1340h **S33B-2096** POSTER A Case Study of Multifractal Omori Law on the Earthquake Catalog of Taiwan: **C Tsai**, G Ouillon, D Sornette

1340h **S33B-2097** POSTER Investigation of Large Event Clusters and Aftershock Statistics in Simulated Catalogs: **J J Gilchrist**, J H Dieterich, K B Richards-Dinger

1340h **S33B-2098** POSTER Searching for earthquake swarms and aseismic deformation in the Western U.S.: E Richardson, **M Newton**, E Rubio, J J McGuire

1340h **S33B-2099** POSTER Scaling Relations Between Mainshock Source Parameters and Aftershock Distributions for Use in Aftershock Forecasting: **J Donovan**, T H Jordan

1340h **S33B-2100** POSTER EARTHQUAKE CLUSTERS - SLOW DECAY WHEN HOT AND SLIPPERY AT DEPTH?: **J Woessner**, S A Miller

1340h **S33B-2101** POSTER Earthquake source parameters and swarm migration behavior in the Salton Trough: **X Chen**, P M Shearer

1340h **S33B-2102** POSTER Background and triggered microseismicity in the Alpine Fault zone, central Southern Alps, New Zealand: **C M Boese**, T A Stern, E G Smith, J Townend, M Henderson

1340h **S33B-2103** POSTER Dynamic triggering of microearthquakes in the Long Valley Caldera and Coso Geothermal Field: **C Aiken**, Z Peng, C Wu

1340h **S33B-2104** POSTER Dynamic Triggering of Earthquakes in the Salton Sea Region of Southern California from Large Regional and Teleseismic Earthquakes: **A Doran**, X Meng, Z Peng, C Wu, D L Kilb

1340h **S33B-2105** POSTER A Strong Stress Shadow Effect of the 2004 $M=9.2$ Sumatra-Andaman Earthquake on the Andaman Sea Transform-Rift System 250 km Away: **V Sevilgen**, R S Stein

1340h **S33B-2106** POSTER A Strong Stress Shadow Effect from the 1992 $M=7.3$ Landers, California, Earthquake: **S Toda**, R S Stein, G C Beroza

1340h **S33B-2107** POSTER Coulomb static stress interactions between simulated $M > 7$ earthquakes and major faults in Southern California: **J C Rollins**, G P Ely, T H Jordan

1340h **S33B-2108** POSTER Stress Evolution on the Sunda Megathrust since 1797: **S S Nalbant**, J McCloskey

1340h **S33B-2109** POSTER Stress Relaxation due to Slip on Geometrically Complex Faults: Fault Earthquake Simulations and Off-Fault Moment Release: **D E Smith**, J H Dieterich

S33C Moscone South: Poster Hall Wednesday 1340h
Recent Advances in Broadband Array Seismic Investigation in China II Posters (joint with T)

Presiding: **Y Ai**, Inst Geology & Geophysics; **Z Ding**, Institute of Geophysics, CEA; **J Ning**, Institute of Theoretical and Applied Geophysics; **F Niu**, Rice University

1340h **S33C-2110** POSTER A Quantitative Study of the Separation of intrinsic and scattering seismic attenuation in Southeastern South Korea: **T Chung**, K Yoshimoto

1340h **S33C-2111** POSTER Crustal Lg-wave attenuation within the North China Craton and its surrounding regions: **L Zhao**, X Xie, W Wang, J Zhang, Z Yao

1340h **S33C-2112** POSTER A stagnant slab in a water-bearing mantle transition zone beneath northeast China: Implications from regional SH waveform modeling: **L Ye**, J Li, T Tseng, Z Yao

1340h **S33C-2113** POSTER Mantle transition zone beneath eastern China and its tectonic implication (*Invited*): **X Wang**, F Niu
 1340h **S33C-2114** POSTER Remote Triggering in Continental China: **C Wu**, Z Peng, W Wang, Q Chen, L Chen
 1340h **S33C-2115** POSTER Lithosphere structure beneath the North China craton from Rayleigh wave tomography with a 2-D seismic array: **M Jiang**, Y Ai
 1340h **S33C-2116** POSTER Surface wave dispersion across Tibet: Direct evidence for radial anisotropy in the crust: **F Duret**, N M Shapiro, Z Cao, V L Levin, P H Molnar, S Roecker
 1340h **S33C-2117** POSTER Application of Stacking Technique in ANA: Method and Practice with PKU Seismological Array: **J Liu**, Y Tang, J Ning, Y J Chen
 1340h **S33C-2118** POSTER Mantle transition zone structure around Hainan by receiver function analysis: **C Wang**, J Huang
 1340h **S33C-2119** POSTER Coulomb stress variation produced by reservoir loading and seepage: a case study: **J Chen**, K TAO, J Ning

S33D Moscone West: 2009 Wednesday 1340h
Collaboration Among Science, Engineering, and Social Science: Earthquake Risk Mitigation in Urban Areas I (*joint with NH, PA, T*)

Presiding: **N Hirata**, University of Tokyo; **M C Gerstenberger**, GNS Science; **K Nanjo**, Earthquake Research Institute; **M W Stirling**, GNS Science

1340h **Introduction** *Naoshi Hirata*

1342h **S33D-01** Operational Earthquake Forecasting: Proposed Guidelines for Implementation (*Invited*): **T H Jordan**

1357h **S33D-02** RiskScape: a new tool for comparing risk from natural hazards (*Invited*): **M W Stirling**, A King

1412h **S33D-03** Earthquake Monitoring and Early Warning Systems in Taiwan (*Invited*): **Y Wu**

1427h **S33D-04** Building the European Seismological Research Infrastructure: results from 4 years NERIES EC project: **T Van Eck**, D Giardini

1442h **S33D-05** A Collaborative Program for Earthquake Fault Hazard Characterization and Community Outreach for the Reno, Nevada Area: **R Frary**, J N Louie, W J Stephenson, J K Odum, L M Liberty, S Pullammanappallil, A M Kell, J Michaels, N Prina, M S Dhar, P H Cashman, J H Trexler, R Kent, C Hoffpauir

1457h **S33D-06** Earthquake Risk Mitigation in the Tokyo Metropolitan area: **N Hirata**, S Sakai, K Kasahara, S Nakagawa, K Nanjo, Y Panayotopoulos, H Tsuruoka

1510h **S33D-07** The quest for better quality-of-life – learning from large-scale shaking table tests: **M Nakashima**, E Sato, T Nagae, F Kunio, I Takahito

1525h **S33D-08** Tokyo Metropolitan Earthquake Preparedness Project – A Progress Report: **H Hayashi**

S33E Moscone West: 2007 Wednesday 1340h
Earthquake Source Studies II

Presiding: **J E Elkhoury**, California Institute of Technology; **O Zielke**, School of Earth and Space Exploration

1340h **S33E-01** Experimental Investigation of Thrust Faults in Homalite: **V Gabuchian**, A Rosakis, N Lapusta, D D Oglesby

1355h **S33E-02** Evidence for Coseismic Rupture Beyond the Base of the Seismogenic Layer: **O Zielke**, S Wesnousky

1410h **S33E-03** Nucleation by Dynamic Triggering on a Multi-Segment Fault: **Q Liu**, R J Archuleta, R B Smith

1425h **S33E-04** Transition Of Dynamic Rupture Modes And Macroscopic Source Properties In Elastic And Plastic Media:

A A Gabriel, J P Ampuero, P M Mai, L A Dalguer Gudiel

1440h **S33E-05** Dynamic rupture on faults with heterogeneous strength due to non-uniform normal stress: The effect of stress redistribution by prior events: **J Jiang**, N Lapusta

1455h **S33E-06** Energy Change due to Off-Fault Damage Evolution associated with Dynamic Fault Tip Growth: **T Suzuki**

1510h **S33E-07** Up scaling of Fracture Energy in Heterogeneous Media: O Lengline, **J E Elkhoury**, J Schmittbuhl, J P Ampuero

1525h **S33E-08** Dependence of earthquake stress drop on critical slip-weakening distance: **N Kato**

Tectonophysics

T33A Moscone South: Poster Hall Wednesday 1340h
Exploring the Temporal and Spatial Variability in Fault Slip Rates I Posters (*joint with G, NS, S*)

Presiding: **R J Phillips**, University of Leeds; **N Houlie**, School of Earth and Environment; **T J Wright**, University of Leeds

1340h **T33A-2201** POSTER Slip variability along the Karakoram Fault during last 110kyr: **N Houlie**, R J Phillips

1340h **T33A-2202** POSTER Quaternary Slip on the Southern Segment of the Karakorum Fault and Pulan Graben, Western Tibet: **M Chevalier**, P tapponnier, J van der Woerd, F J Ryerson, R C Finkel, H Li

1340h **T33A-2203** POSTER Deriving Fault Slip Histories From Cosmogenic Exposure Ages Along Bedrock Fault Scarps Using Synthetic And Natural Data: **R J Phillips**, P A Cowie, M J Walker, G Roberts, T J Dunai, L Zijerveld, M W Wilkinson, K J McCaffrey, A A Bubeck

1340h **T33A-2204** POSTER Late Quaternary slip rates of two active thrust faults at the front of the Andean Precordillera, Mendoza, Argentina: R Hetzel, **S Schmidt**, V A Ramos, F Mingorance

1340h **T33A-2205** POSTER Extensional faulting in the Taupo Volcanic Zone, New Zealand: stress/strain cycling and deformation partitioning from numerical models: **D E Dempsey**, S M Ellis, R Archer, J V Rowland

1340h **T33A-2206** POSTER Discrepancy between GPS (5 yrs) and archaeoseismic (3 kyr) slip rate across the Ateret site (Dead Sea fault): Secular variations versus distributed slip: **A Agnon**, S Marco, A Sagy, R Ellenblum

1340h **T33A-2207** POSTER Intraplate Deformation of the Anatolian Micro Plate on the Amasya Branch Fault in Central Anatolia, Turkey: **K Okumura**

1340h **T33A-2208** POSTER The North Anatolian Fault in the Sea of Marmara: Constraints on the Age, Offset and Geometry of Faulting: **G Ucarkus**, Z Cakir, R Armijo

1340h **T33A-2209** POSTER Spatiotemporal evolution of surface creep in the Parkfield region of the San Andreas Fault (1993-2004) from Synthetic Aperture Radar: **M de Michele**, D Raucoules, F Rolandone, P Briole, J Salichon, A Lemoine, H Aochi

1340h **T33A-2210** POSTER Towards an understanding of the constancy of fault slip rate at multiple time scales along the central Garlock fault: **P Ganey**, J F Dolan, S F McGill, K L Frankel

1340h **T33A-2211** POSTER Temporal variations in extension rate on the Lone Mountain fault and strain distribution in the eastern California shear zone-Walker Lane: **J S Hoefft**, K L Frankel

1340h **T33A-2212** *POSTER* Late Quaternary faulting in Clayton Valley, Nevada: Implications for distributed deformation in the eastern California shear zone-Walker Lane: **T A Foy**, Z M Lifton, K L Frankel, C Johnson

1340h **T33A-2213** *POSTER* Present-Day Rates of Deformation Across the Southern Walker Lane From a Densified Regional GPS Network: **Z M Lifton**, K L Frankel, A V Newman, T A Foy, L Feng, C Johnson, T H Dixon

1340h **T33A-2214** *POSTER* Crustal Deformation of the Central Walker Lane from GPS velocities: Block Rotations and Slip Rates: **J M Bormann**, W C Hammond, C W Kreemer, G Blewitt, S G Wesnousky

1340h **T33A-2215** *POSTER* Quantifying and modeling Quaternary surface deformation in the New Madrid seismic zone, Central U.S.: **M Magnani**, O S Boyd

1340h **T33A-2216** *POSTER* Recurrence, Rates, and Paleogeodetic Implications: Southern Cascadia Subduction Zone, Northern California: T H Leroy, **J R Patton**

1340h **T33A-2217** *POSTER* Paleoseismic study of the Cathedral Rapids fault in the northern Alaska Range near Tok, Alaska: **R D Koehler**, R Farrell, G A CARVER

1340h **T33A-2218** *POSTER* Spatial heterogeneity of hydraulic diffusivity as a mechanism for low frequency earthquakes: **J Chen**, P Segall, A M Bradley

1340h **T33A-2219** *POSTER* Spatial Variations in Slip on Corrugated Reverse Fault Surfaces: A C Morris, **S T Marshall**

1340h **T33A-2220** *POSTER* Simultaneous measurement of real contact area and fault normal stiffness during frictional sliding: **N M Beeler**, K Nagata, B D Kilgore, M Nakatani

T33B Moscone South: Poster Hall Wednesday 1340h
Fault Behavior Models: Improved Understanding Using Long Paleoseismic Records I Posters (joint with S, G)

Presiding: **K M Scharer**, Appalachian State University; **K Clark**, GNS Science; **K R Berryman**, GNS Science

1340h **T33B-2221** *POSTER* PALEOSEISMOLOGY OF UPPER PLATE FAULTS IN THE CHILEAN COVERGENT MARGIN: INSIGHTS FROM 10BE AND OSL DATING: **G Gonzalez**, J A Cortes, S Binnie, R Robinson, C Toledo

1340h **T33B-2222** *POSTER* Dissipation and Transformation of Slip Displacement along the large Strike-Slip Fault, Northern Margin of the Tibetan Plateau: Evidence from Decadal GPS Measurement and Late Quaternary Geologic Rates: **W Zheng**, P Zhang, D Yuan, D Zheng, W Ge

1340h **T33B-2223** *POSTER* Active Fault Topography and Fault Outcrops in the Central Part of the Nukumi fault, the 1891 Nobi Earthquake Fault System, Central Japan: **T Sasaki**, K Ueta, D Inoue, Y Aoyagi, M Yanagida, K Ichikawa, N Goto

1340h **T33B-2224** *POSTER* A summary of the active fault investigation in the extension sea area of Kikugawa fault and the Nishiyama fault, N-S direction fault in south west Japan: **S Abe**

1340h **T33B-2225** *POSTER* Chronology of Deformation Near the Iditarod-Nixon Fork Fault, West-Central Alaska: **B K Perttu**, W K Wallace, R J Newberry, P W Layer

1340h **T33B-2226** *POSTER* Geophysical evidence for Quaternary deformation within the offshore San Andreas Fault System, Point Reyes Peninsula, California: **B Stozek**

1340h **T33B-2227** *POSTER* Paleoseismologic evidence for late Holocene earthquakes on the Southern Panamint Valley fault zone: Implications for earthquake clustering in the Eastern California Shear Zone north of the Garlock fault: **L J McAuliffe**, J F Dolan, E Kirby, B Haravitch, S Alm

1340h **T33B-2228** *POSTER* Fault zone structure of the Wildcat fault in Berkeley, California – Field survey and fault model test –: **K Ueta**, C T Onishi, K Karasaki, S Tanaka, T Hamada, T Sasaki, H Ito, K Tsukuda, K Ichikawa, J Goto, T Moriya

1340h **T33B-2229** *POSTER* Dual-system Tectonics of the San Luis Range and Vicinity, Coastal Central California: **D H Hamilton**

1340h **T33B-2230** *POSTER* Geologic character of fault geometry and deformation of the Wildcat Fault, Berkeley, California: **C T Onishi**, K Karasaki, J Goto, T Moriya, K Ueta, S Tanaka, T Hamada, H Ito, K Tsukuda

1340h **T33B-2231** *POSTER* Determination of slip rates for offshore fault zones: An example from the Palos Verdes fault zone, southern California: **J E Conrad**, C K Paull, M L McGann, B D Edwards, H F Ryan, D W Caress, W Ussler, E Lundsten

1340h **T33B-2232** *POSTER* Late Cenozoic N-S shortening across the central Garlock fault in Pilot Knob Valley, California – Implications for structural and kinematic relations with the Panamint Valley fault system: **W M Rittase**, J D Walker, E Kirby, E McDonald, J Gosse, J Q Spencer, Title of Team: Mojave Red IWBC

1340h **T33B-2233** *POSTER* Structure and Earthquakes at the Frazier Mountain Paleoseismic Site on the San Andreas Fault since A.D. 1000: **B C Gibson**, K M Scharer, R J Weldon, J A Zachariasen, A R Streig, T Terrell, B L Bailey, S R Castonguay, J Prince

1340h **T33B-2234** *POSTER* Repeated fault rupture recorded by paleoenvironmental changes in a wetland sedimentary sequence ponded against the Alpine Fault, New Zealand: **K Clark**, K R Berryman, U A Cochran, T Bartholomew, G M Turner

1340h **T33B-2235** *POSTER* Holocene ruptures along the North Anatolia Fault in the Marmara Sea, Turkey: Sedimentary processes, spatial extent and age: N Braudy, **C M McHugh**, M Cagatay, L Seeber, P Henry, L Geli

1340h **T33B-2236** *POSTER* A Late Holocene Slip Rate Of The North Anatolian Fault, Hersek Peninsula, Izmit Bay, Turkey: **O Kozaci**, E Altunel, K Clahan, O Yonlu, S T Sundermann, W R Lettis, J Turner, J Altekruise, I Gumus, S C Lindvall

1340h **T33B-2237** *POSTER* Tri-Millennial History of Earthquake Offsets of Tell Ateret on the Dead Sea Fault: a perfect time-predictable behavior?: S Marco, **A Agnon**, R Ellenblum

1340h **T33B-2238** *POSTER* An integrated approach to constraining three-dimensional mechanical models of the M7.3, multi-fault Landers earthquake using surface rupture data and aftershock locations and orientations: **E H Madden**, D D Pollard

1340h **T33B-2239** *POSTER* Interseismic interactions in geometrically complex fault systems: Implications for San Francisco Bay Area fault creep and tectonics: **E L Evans**, B J Meade, J P Loveless

1340h **T33B-2240** *POSTER* Long-Term Slip History Discriminates Among Occurrence Models for Seismic Hazard Assessment: D D Fitzenz, **M A Ferry**, A Jalobeanu

1340h **T33B-2241** *POSTER* An Experimental and Theoretical Study of Asymmetric Earthquake Rupture Propagation Caused by Off-Fault Fracture Damage: **H Bhat**, C G Sammis, A Rosakis

1340h **T33B-2242** *POSTER* Implications of Fault Curvature for Slip Distributions, Opening, and Damage: **E Ritz**, D D Pollard, W A Griffith

1340h **T33B-2243** POSTER Roughness of fault surface: evidence of self-affine morphology from the submillimetric scale to large earthquake surface rupture: **F Renard**, T Candela, Y Klinger, M P Bouchon, J Schmittbuhl, K Mair, E E Brodsky

1340h **T33B-2244** POSTER Effects of time-dependent fluid pressure, off-fault damage, and compliant fault zones on dynamics of parallel strike-slip faults: **Z Liu**, B Duan

1340h **T33B-2245** POSTER Complex earthquake cycle simulations using a two-degree-of-freedom spring-block model: **Y Abe**, N Kato

1340h **T33B-2246** POSTER Granular controls on periodicity of stick-slip events: kinematics and force-chains in an experimental fault: **K E Daniels**, N W Hayman, L Ducloue, K L Foco

1340h **T33B-2247** POSTER Frictional Behavior of Oceanic Transform Faults and Influence on Earthquake Characteristics: **Y Liu**, M D Behn, J J McGuire

1340h **T33B-2248** POSTER Modeling shallow slip deficit in large strike-slip earthquakes using simulations of spontaneous earthquake sequences in elasto-plastic media: **Y Kaneko**, Y Fialko

1340h **T33B-2249** POSTER Numerical Simulations of Lithospheric Shear Zones Associated with Strike-Slip Faults: **C S Takeuchi**, Y Fialko, J G Sclater

1340h **T33B-2250** POSTER Depth Extent of Low-Velocity Fault Zones: **H Yang**, L Zhu

1340h **T33B-2251** POSTER Subsurface structure around the Nobi fault system, central Japan, by seismic reflection survey using artificial sources: **K Omura**, Y Asano, T Takeda, K Obara, N Komada, N Tsumura, T Ito, S Kojima, S Mizohata, S Kikuchi, S Abe, S Suda, A Takahashi

1340h **T33B-2252** POSTER Seismic Constraints on Fault-Zone Rheology from Repeating Earthquakes at Parkfield, California: **T Taira**, R M Nadeau, D S Dreger

1340h **T33B-2253** POSTER The May 29 2008 earthquake aftershock sequence within the South Iceland Seismic Zone: Fault locations and source parameters of aftershocks: **B Brandsdottir**, M Parsons, R S White, O Gudmundsson, J Drew

1340h **T33B-2254** POSTER The May 26, 2006 Yogyakarta Earthquake Fault Model Based on Aftershocks and InSAR Data: **A Anggraini**, M Shirzaei, M Sobiesiak, T R Walter, B G Luehr

1340h **T33B-2255** POSTER Interaction of small repeating earthquakes in a rate and state fault model: N Lapusta, **T Chen**

1340h **T33B-2256** POSTER Micro-earthquake observation around the 1891 Nobi earthquake fault system to evaluate simultaneous rupture: **Y Aoyagi**, M Kuriyama, K Ueta, T Sasaki, H Sato, S Higashi, S Abe

1340h **T33B-2257** POSTER Migrating Seismicity in South Iceland: K Feigl, **T Ali**, H F Wang, C H Thurber, T Arnadottir, K S Vogfjord, F Sigmundsson

1340h **T33B-2258** POSTER 3-D cell model simulation of the inland earthquake generation pattern in Southwest Japan during the Nankai earthquake cycles in a layered viscoelastic medium: **Y Shikakura**, Y Fukahata, N Mitsui, K Hirahara

T33C Moscone South: Poster Hall Wednesday 1340h Rifting to Rupture to Drift: Linking Lessons From Active Rifts to the Evolution of Passive Margins II Posters (joint with GP, V, S)

Presiding: **M E Oskin**, University of California, Davis; **A Schettino**, University of Camerino; **R Arrowsmith**, Arizona State Univ; **E Bonatti**; **J Collier**, Imperial College London

1340h **T33C-2259** POSTER A new plate motions model for the central Atlantic region: **L Tassi**, A Schettino

1340h **T33C-2260** POSTER Tectonic Implications of the Coupled Motions of India and Africa in the Late Cretaceous and Early Cenozoic: **S C Cande**, D R Stegman

1340h **T33C-2261** POSTER Insights on the deep structure of the Central Atlantic Ocean conjugate margins: **C Labails**, M Brønner, L Gernigon

1340h **T33C-2262** POSTER Tectonic evolution at rift zones: Geodynamics and Numerical Modeling: **M Cuffaro**, E Miglio, C Doglioni

1340h **T33C-2263** POSTER Reconstructing the Strain History of the Northern Gulf of California-Salton Trough Oblique Rift: **S E Bennett**, M E Oskin, R J Dorsey, L A Skinner, P J Umhoefer, M H Darin

1340h **T33C-2264** POSTER Reconstructing the Strain History of the Southern Gulf of California Oblique Rift: **P J Umhoefer**, L A Skinner, M E Oskin, R J Dorsey, S E Bennett

1340h **T33C-2265** POSTER Routing of terrigenous clastics to oceanic basins in the southern Gulf of California, inherited from features of the pre-spreading protogulf: **P Lonsdale**, J W Kluesner

1340h **T33C-2266** POSTER Influence of Sediment Input and Plate-Motion Obliquity on Basin Development in the Gulf of California and Salton Trough: **R J Dorsey**, P J Umhoefer

1340h **T33C-2267** POSTER Lithosphere and asthenosphere structure beneath the Gulf of California from SCOOBA and NARS-Baja surface wave data: **N Carriero**, D W Forsyth, J B Gaherty, Y Wang

1340h **T33C-2268** POSTER The Mechanisms of Earthquakes and Faulting within the Southern Gulf of California: **D F Sumy**, J B Gaherty, T Diehl, W Kim, F Waldhauser, J A Collins

1340h **T33C-2269** POSTER Heat flow in the Gulf of California: effects of recent magmatism and hydrothermal circulation: **J G Sclater**, D P Hasterok, J Kluesner, P Lonsdale

1340h **T33C-2270** POSTER Along-strike variations in extension from the Woodlark spreading center to mainland Papua New Guinea: New constraints from offshore seismic reflection and well data: **G G Fitz**, P Mann, B K Horton

1340h **T33C-2271** POSTER Calculating lithosphere thickness from the subsidence record of an extensional sedimentary basin, Western Australia: **K Czarnota**, N White

1340h **T33C-2272** POSTER Evolution of Rift Fault Populations in 2- and 3-Dimensions: **E Choi**, W R Buck

1340h **T33C-2273** POSTER Full crustal 40 km PSDM seismic profiling ("BightSPAN™") of the Ceduna subbasin, Great Australian Bight margin of South Australia: **J W Granath**, J M Christ, M G Dinkelman, P A Emmet, D E Bird

1340h **T33C-2274** POSTER Crustal Configuration of the Terrace off Trivandrum, Southwestern Continental Margin of India: **J Kurian**, Y Vadakkeyakath, G C Bhattacharya, R Sivaramkrishnan, Title of Team: SK221 Scientific Team*

1340h **T33C-2275** POSTER A tectonic model for sequential faulting, crustal thinning, and the development of asymmetric rifted margins: **M Perez-Gussinye**, C R Ranero

1340h **T33C-2276** POSTER Crustal structure of the inner mid-Norwegian continental margin - Trøndelag Platform, from wide-angle seismic and potential field data: **A J Breivik**, R Mjelde, T Raum, J I Faleide, Y Murai, E R Flueh

1340h **T33C-2277** POSTER Salt as a 3D element in structural modelling - example from the Central European Basin System: **Y P Maystrenko**, M Scheck-Wenderoth, U Bayer

1340h **T33C-2278** *POSTER* Investigations into early rift development and geothermal resources in the Pyramid Lake fault zone, Western Nevada: **A K Eisses**, A M Kell, G Kent, N W Driscoll, R E Karlin, R L Baskin, J N Louie, S Pullammanappallil

1340h **T33C-2279** *POSTER* Genetic types and exploration significance of slope break belt in Paleogene in Qikou sag, Huanghua depression, Bohai Bay Basin, Eastern China: **H Chuanyan**, W Hua

1340h **T33C-2280** *POSTER* Pb-isotope evidence for crustal interactions with primitive magmas during the rift-to-drift transition at the Vøring Plateau, N.E. Atlantic: **R Meyer**, R Pedersen, J Hertogen

1340h **T33C-2281** *POSTER* Modelling continental deformation within global plate tectonic reconstructions: **S Williams**, J Whittaker, C Heine, P Müller

1340h **T33C-2282** *POSTER* Lithospheric delamination during rifting: **J C Epps**, J W van Wijk, J Van Hunen

1340h **T33C-2283** *POSTER* How does the continental crust thin during rifting in magma-poor rifted margins: evidence from the Bernina/Campo/Grosina units in the Central Alps (SE-Switzerland and N-Italy): **G Mohn**, G Manatschal, E Masini, M Beltrando, O Muntener, N J Kuszniir

T33D Moscone South: Poster Hall Wednesday 1340h
What Lies Beneath "Stable" Eastern North America II
Posters (joint with DI, S)

Presiding: **F A Darbyshire**, GEOTOP UQAM-McGill; **A M Forte**, Univ Quebec Montreal; **V L Levin**, Rutgers University

1340h **T33D-2284** *POSTER* Signatures of the lithosphere-asthenosphere boundary in different tectonic domains of stable North America: **W H Menke**, C G Hruska, V L Levin, F A Darbyshire

1340h **T33D-2285** *POSTER* Crustal Thickness Variations Across Eastern Canada and Maine From Receiver Function Analysis: **T Hobbs**, **F A Darbyshire**

1340h **T33D-2286** *POSTER* 3D P-wave Velocity Structure Beneath the Eastern Canadian Shield and Northern Appalachian Region: **M Villemare**, **F A Darbyshire**, I D Bastow

1340h **T33D-2287** *POSTER* Shear Wave Velocity Structure and Azimuthal Anisotropy of Hudson Bay: **F A Darbyshire**, D W Eaton, I D Bastow, J M Kendall, G R Helffrich, J Wookey, D B Snyder

1340h **T33D-2288** *POSTER* Mantle Provinces under Eastern North America: **K Sigloch**

1340h **T33D-2289** *POSTER* Cratons' birth, quiescence, and demise over Earth's history: **C M Cooper**, A Lenardic, L N Moresi

1340h **T33D-2290** *POSTER* Upper mantle anisotropy and transition zone thickness beneath southeastern North America and implications for mantle dynamics: **M H Benoit**, **M D Long**, **S D King**, **M C Chapman**

1340h **T33D-2291** *POSTER* Upper mantle *P* velocities beneath the North America craton: **R Chu**, D V Helmberger

1340h **T33D-2292** *POSTER* From the Rockies to the Alberta Basin: A Tale of Two Stories in the Crust and Lithosphere: **Y J Gu**, A Okeler

1340h **T33D-2293** *POSTER* New Geophysical Results About the Relationship Between the Reelfoot Rift and the Rifted Margin of Laurentia: **L Guo**, G R Keller

1340h **T33D-2294** *POSTER* Evidence for Mesozoic Reactivation of Faults in the Northern Appalachians: K/Ar Dating of Fault Gouge from the Champlain Thrust, Vermont: **E E Meyer**, D D Eberl, P C Ryan

1340h **T33D-2295** *POSTER* Structural and Hydrologic Implications of Joint Orientations in the Warner Creek and Stony Clove Drainage Basins, Catskill Mountains, Eastern New York: **M N Haskins**, F W Vollmer, J A Rayburn, J J Gurdak

T33E Moscone West: 2011 Wednesday 1340h
Lithological Controls on the Mechanics and Evolution of Lithospheric Deformation III: Lower Crust and Mantle Rheology by Means of Field Observations, Experiments, and Modeling (joint with MR, S)

Presiding: **S Grigull**, Ruhr-Universität Bochum; **V G Toy**, University of Otago; **D J Prior**, University of Liverpool

1340h **T33E-01** Deformation of Marble, Quartzite, and Metabasalt during Subduction and its Aftermath (*Invited*): **D L Whitney**, C Teyssier, N C Seaton, E Toraman

1355h **T33E-02** Metamorphic Controls on Relative Strength of Mafic and Felsic Rocks: **D J Prior**, **M A Pearce**, J Wheeler

1410h **T33E-03** Tracking fabric development with increasing finite strain in a deformed polyimictic conglomerate: **D M Czeck**, T N Anderson, E Horsman, B Tikoff

1425h **T33E-04** Evidence for a strong felsic lower crust during melt-assisted deformation (*Invited*): **L Menegon**, P Nasipuri, H Stünitz, H Behrens, E J Ravna

1440h **T33E-05** Viscous shear heating instabilities in a 1-D viscoelastic shear zone: **J M Homburg**, E T Coon, M Spiegelman, P B Kelemen, G Hirth

1455h **T33E-06** Influence of water content on the strength of gabbroic rocks and insights into using empirical flow laws for determining lower crustal rheology: **E T Goergen**, G Hirth

1510h **T33E-07** Differing effects of water fugacity deformation of quartzites and milky quartz single crystals: **C W Holyoke**, A K Kronenberg

1525h **T33E-08** Rheology of Impure Quartzite under Geologic Conditions: **S B Kidder**, J Avouac, Y Chan, C Chen

T33F Moscone West: 2018 Wednesday 1340h
New Advances in Studies of the Tibetan Plateau and the Himalayas III (joint with V, S)

Presiding: **Y Niu**, Durham University; **T M Hearn**, New Mexico State University

1340h **T33F-01** Tectonics of the India / Asia Collision: **Z Xu**, J Yang, H Li, Z Zhang, Y Liu, S Ji

1355h **T33F-02** Comparative analysis of the collision-driven tectonic evolution of the Tibetan and Turkish-Iranian Plateaus: **Y Dilek**, Z Zhao, D Zhu

1410h **T33F-03** Consensus on the Eocene Latitude of Lhasa and the Age of the Tethyan Himalaya-Asia Collision?: **P C Lippert**, D J Van Hinsbergen, G Dupont-Nivet, P A Kapp

1425h **T33F-04** Monsoon speeds up Indian plate motion: **G Iaffaldano**, L Husson, H Bunge

1440h **T33F-05** Long-term landscape stability in southern Tibet inferred from the preservation of a large-scale bedrock peneplain: **M Strobl**, R Hetzel, L Ding, L Zhang

1455h **T33F-06** The Large Scale Tectonic Framework of SE Asia and the Deformation of the lithosphere Beneath Tibet and SW China (*Invited*): **R D van der Hilst**, H Huang, H Yao

1510h **T33F-07** Using geodetic, geologic, and seismic data to constrain asthenospheric flow beneath Tibet and SE Asia: **L M Flesch**, W E Holt

1525h **T33F-08** Strain localization versus distributed deformation along strike-slip faults in eastern Tibet (*Invited*): **E Kirby**, N W Harkins

Volcanology, Geochemistry, and Petrology

V33A Moscone South: Poster Hall Wednesday 1340h **Metamorphic Perspectives of Subduction Zone Evolution III** **Posters** (*joint with DI, T, MR*)

Presiding: **G E Bebout**, Lehigh University; **B R Hacker**, University of California

1340h **V33A-2340** *POSTER P-T Evolution of Contemporary High-T Eclogite and High-P Omphacite Granulite from the Breaksea Orthogneiss, Fiordland, New Zealand: **M C De Paoli**, G L Clarke*

1340h **V33A-2341** *POSTER Phase Equilibrium and Raman Spectroscopic Constraints on the P-T Evolution of Lawsonite Eclogites from the Southern Motagua Fault Zone, Guatemala: **S Endo**, S Wallis, M Tsuboi, R Torres De Leon, L Solari*

1340h **V33A-2342** WITHDRAWN

1340h **V33A-2343** *POSTER Pressure-Temperature paths in the metapelite of the Tseel metamorphic terrane, SW Mongolia:* **U Burenjargal**, A Okamoto, N Tsuchiya, Title of Team: Geothermal & Energy Lab

1340h **V33A-2344** *POSTER EBSD analysis of eclogitized rocks from the Marun-Keu complex, Polar Urals, Russia:* **P Hosseini**, M L Leech

1340h **V33A-2345** *POSTER Fluid Overpressure and Connections to Seismicity, Cascadia Tertiary Accretionary Prism, Olympic Peninsula:* **H Rotman**, C G Mattinson

1340h **V33A-2346** *POSTER Block-in-Matrix Structures in High-Pressure Metamorphic Terrains - Implications for Kinematics and Material Properties in Subduction Zones:* **A Krohe**, S Wassmann, C Trepmann, S Grigull, B Stoeckert

1340h **V33A-2347** *POSTER Lawsonite Pseudomorphs: a strain-free gauge in exhuming blueschists:* P Mélody, **F Gueydan**, J Brun

1340h **V33A-2348** *POSTER Subduction-zone cycling of nitrogen in serpentinized mantle rocks:* **R Halama**, G E Bebout, T John, M Scambelluri

1340h **V33A-2349** *POSTER Quartz Solubility and Thermodynamics Above the Upper Critical End Point:* **J D Hunt**, C E Manning

1340h **V33A-2350** *POSTER Quantitative analysis of material transfer during the ascent of garnet-amphibolite mass in the Sambagawa metamorphic belt, Japan:* **M Uno**, M Toriumi

1340h **V33A-2351** *POSTER Metamorphic veining and mass transfer in a chemically-closed system: a case study in Alpine metabauxites (Western Vanoise):* **A Verlague**, B Goffe, F Brunet, C Poinssot, O Vidal, N Findling, D Menut

1340h **V33A-2352** *POSTER Chlorine Stable Isotope Composition of Altered Oceanic Crust: Empirical and Experimental Results:* **J Barnes**, J E Gardner

1340h **V33A-2353** *POSTER Carbonate dissolution through the subduction gauntlet and its impact on the marine Sr isotope composition:* **M Sharma**, C Oze

1340h **V33A-2354** *POSTER Intermediate-depth Earthquakes and Mantle Re-gassing Induced by Fluid Trapping During Slab Unbending:* **M Faccenda**, T Gerya, N Mancktelow, L N Moresi

1340h **V33A-2355** *POSTER A close link between serpentinization and seismogenesis in the Philippine Sea slab beneath Kanto, Japan:* **J Nakajima**, A Hasegawa, N Umino, T Demachi

1340h **V33A-2356** *POSTER Physico-Chemical Transport And Differentiation Processes In Subduction Zones: Mixing At The Slab-Mantle Interface And Melting Of Mélange Rocks In Mantle-Wedge Plumes?:* **J C Schumacher**, H R Marschall

V33B Moscone South: Poster Hall Wednesday 1340h **The Subduction Filter: Effects on the Mantle, Arcs, and** **Continents V Posters** (*joint with DI*)

Presiding: **C Chauvel**, University of Grenoble; **T Plank**, Columbia University

1340h **V33B-2357** *POSTER In situ Raman Spectroscopy Investigation of Siderite Dissolution in Aqueous Fluids up to 400°C:* **M Marocchi**, H Bureau, G Fiquet, F J Guyot

1340h **V33B-2358** *POSTER ANOMALOUS GOLD DEPOSIT ALONG SE EUROPE TETHYSIAN MARGIN: A SIGNATURE OF RETURN-INDUCED UPPER MANTLE FLOW AROUND HELLENIC SLAB EDGES:* **G Bertrand**, C Loiselet, L Guillou-Frotier, M Billa, E Pelleter, F Maldan, D Cassard

1340h **V33B-2359** *POSTER Olivine-bearing Websterite Mantle formed by recycled continental lithosphere: Mineralogical and Oxygen isotope evidence from Early Cretaceous Feixian basalts in the Eastern North China Craton:* **W Xu**, Q Zhou

1340h **V33B-2360** *POSTER Geochemical systematics of Arc - Back-arc basalt association in NeoArchean (?) Gadwal greenstone belt, eastern Dharwar craton, India:* **T Khanna**, G M Yogodzinski, M Bizimis, M Chakravadhanula, B Vysetti, R Kanaparthi, P Kanakdande

1340h **V33B-2361** WITHDRAWN

1340h **V33B-2362** *POSTER Origin of the Vanda Dike Swarm, Dry Valleys, Antarctica:* **B Bray**, K S Harpp, D Geist, M O Garcia, G J Swarr

1340h **V33B-2363** *POSTER Refertilization of deep continental arc lithosphere: constraints from major element and trace element systematics in mantle xenoliths from the Sierra Nevada, California:* **E J Chin**, C Lee, P I Luffi

1340h **V33B-2364** *POSTER What do Nd and Hf isotopes tell us about the sediment input into the Northern Cascades Arc system?:* **M Carpentier**, D A Weis, C Chauvel

1340h **V33B-2365** *POSTER Geochemical characteristics of off-axis lavas from the Chile Rise:* **S Park**, K W Sims, P J Michael, Y Orihashi, T Plank, N Abe

1340h **V33B-2366** *POSTER Spatial and Temporal Geochemical Variation in Basalt from the northern Andean Southern Volcanic Zone:* **S Drew**, A E Saal, F A Frey, J Blusztajn, S R Hart

1340h **V33B-2367** *POSTER Evidence for a deep crustal hot zone beneath the Diamante Caldera-Maipo volcanic complex, Southern Volcanic Zone:* **D Drew**, T Murray, P Sruoga, M D Feineman

1340h **V33B-2368** *POSTER A review of petrological characteristics of mantle xenoliths from Japan arcs: Implications for the structure of the sub-arc lithospheric mantle:* **N Abe**, S Arai

1340h **V33B-2369** *POSTER Nature of the basaltic material subducting in the Nankai Trough, results from IODP expedition 322:* **C Chauvel**, S Labanieh, A Fourny, Title of Team: Scientific Team of IODP Drilling Expedition 322

1340h **V33B-2370** *POSTER Middle Crustal Rocks from the Southern Mariana Trench - Relationship to Boninite and Tholeiitic Magma:* **J A Johnson**, R Hickey-Vargas, P Fryer

1340h **V33B-2371** WITHDRAWN

1340h **V33B-2372** POSTER Composition and spatial evolution of mantle and fluids released beneath the active Southeast Mariana Forearc Rift: do they have arc or backarc basin signatures?:

J M Ribeiro, R J Stern, K A Kelley, O Ishizuka, E Y Anthony, M Ren, W I Manton, Y Ohara, M K Reagan, S H Bloomer

1340h **V33B-2373** POSTER The Same Variably Enriched Mantle Wedge in the SW Pacific from Arc Birth to Death: **E Todd**, J B Gill

1340h **V33B-2374** POSTER Origin of Primitive Silica-Undersaturated Arc Magmas: Evidence from Olivine-Hosted Melt Inclusions from Aoba Volcano (Vanuatu Arc): F Sorbadere, P Schiano, **N Metrich**

1340h **V33B-2375** POSTER Fijian Tonalites: Enriched mantle to continental crust in an oceanic arc setting: **E Drewes**, J B Gill

1340h **V33B-2376** POSTER Steady-state behavior of the Soufrière Hills volcano, Montserrat: **C P Mann**, J Stix

1340h **V33B-2377** POSTER Kinematic setting and structural control of arc volcanism: **V Acocella**, F Funicello

1340h **V33B-2378** POSTER Contrasting lithium and magnesium isotope fractionation during continental weathering: **F Teng**, W Li, R L Rudnick, R L Gardner

1340h **V33B-2379** POSTER Magnesium isotopic composition of continental basalts: **W Yang**, F Teng, H Zhang

1340h **V33B-2380** POSTER Magma genesis of the acidic volcanism in the intra-arc rift zone of the Izu volcanic arc, Japan: **S Haraguchi**, H Tokuyama, T Ishii

1340h **V33B-2381** POSTER Sub-arc Mantle Reservoirs Through Time in Cascadia: **S Bromley**, A Grunder, R W Carlson, D G Pyle

1340h **V33B-2382** POSTER Petrogenesis of primitive basalts formed at an early stage of subduction zone evolution: Geochemical characteristics and the origin of high-Mg basalts from the Hahajima Island Group, the Ogasawara (Bonin) Islands: **K Kanayama**, S Umino, O Ishizuka

V33C Moscone South: Poster Hall Wednesday 1340h
Tracking Magma Through the Crust to Eruption IV Posters
(joint with G, S)

Presiding: **K S Vogfjord**, Icelandic Meteorological Office; **C J Bean**, University College Dublin

1340h **V33C-2383** POSTER Constraints on the Geometries and Compositions of Subvolcanic Conduits from Intrusions of the San Rafael Swell, Utah: P H Wetmore, **C Connor**, J Wilson

1340h **V33C-2384** POSTER Stopping and restarting eruptions - Controls on Periodicity Revealed through Geodetic Imaging (*Invited*): **R Foroozan**, D Elsworth, R Foroozan, G S Mattioli

1340h **V33C-2385** POSTER Assessing the relevance of rock model complexity on ground deformation inversion: **M Vassalli**, G S O'Brien, C J Bean

1340h **V33C-2386** POSTER Numerical simulation of magma plumbing system associated with the eruption at the Showa crater of Sakurajima inferred from ground deformation: **S Minami**, M Iguchi, H Mikada, T Goto, J Takekawa

1340h **V33C-2387** POSTER Estimated magma intrusion model in Mayon volcano, Philippine by GPS measurements in 2004-2006: **Y Matsumura**, F Kimata, T Bacolcol, A Pelicano, E Laguerta, R U Solidum

1340h **V33C-2388** POSTER POST-ERUPTIVE INSAR DISPLACEMENT ASSOCIATED WITH THE APRIL 2007 PITON DE LA FOURNAISE ERUPTION, REUNION ISLAND: A Augier, **V Cayol**, J Froger, T Staudacher, T Souriot

1340h **V33C-2389** POSTER Recent results from the UnderVolc project: from the detection of long-term volcanic unrest processes to the imaging of dike propagation: **F Brenguier**, E Rivemale, D S Clarke, B Taisne, N M Shapiro, J Battaglia, J Got, V Ferrazzini, S Tait

1340h **V33C-2390** POSTER Testing a New Method for Imaging Crustal Magma Bodies: A Pilot Study at Newberry Volcano, Central OR: **M W Beachly**, E E Hooft, D R Toomey, G P Waite, D T Durant

1340h **V33C-2391** POSTER Mechanical Evolution of the 2004-2008 Mount St Helens Lava Dome Mechanics with Time and Temperature: P Sammonds, **R Smith**, H Tuffen, P G Meredith

1340h **V33C-2392** POSTER Testing the sensitivity of precursory changes in multiplets to surficial phenomenon at Mount St. Helens (2004-2008): **W A Thelen**

1340h **V33C-2393** POSTER The Magmatic Origin and Evolution of the Oxnadalur Volcanic Complex in Northern Iceland: **J F Kaiser**, S J Seaman

1340h **V33C-2394** POSTER Volatile characterisations of Eyjafjallajökull volcano (Iceland): from the magmatic source at depth to the surface: **S Moune**, O Sigmarsson, T Thordarson

1340h **V33C-2395** POSTER Pressure and temperature estimates of the 2010 Eyjafjallajökull eruption, Iceland: J K Keiding, **O Sigmarsson**

1340h **V33C-2396** POSTER Tracking Magma Movements Within Eyjafjallajökull from Spatial and Temporal Variations in GPS Time Series: **T Arnadottir**, S Hreinsdottir, A J Hooper, M J Roberts, H Geirsson, F Sigmundsson

1340h **V33C-2397** POSTER Tracking the seismicity preceding and during the March 2010 Fimmvörduháls fissure eruption and April 2010 summit eruption of Eyjafjallajökull, Iceland: **J Tarasewicz**, B Brandsdottir, M Hensch, R S White

1340h **V33C-2398** POSTER Monitoring the structure of Hekla Volcano, Iceland, with a temporary seismic network: **A P Nies**, M M Haney, T Masterlark, S K Needy, R Pedersen

1340h **V33C-2399** POSTER Volcanic inflation of Axial Seamount since the 1998 eruption: **S L Nooner**, W Chadwick

1340h **V33C-2400** POSTER Modeling magma flow in the plume source beneath Hawai'i: **H M Gonnermann**, J H Foster, B A Brooks, M P Poland, C J Wolfe

1340h **V33C-2401** POSTER Analysis of Micro-Seismic Signals and Source Parameters of Eruptions Generated by Rapid Decompression of Volcanic Rocks: **A Arciniega-Ceballos**, M A Alatorre-Ibarguengoitia, B Scheu, D B Dingwell, H Delgado Granados

1340h **V33C-2402** POSTER Locating sources of explosion quakes and long-period events at Yasur volcano, Vanuatu: **L Perrier**, J Metaxian, J Battaglia, E Garaebiti

1340h **V33C-2403** POSTER San Miguel Volcanic Seismic and Structure in Central America: Insight into the Physical Processes of Volcanoes: **E Patlan**, A Velasco, J G Konter

1340h **V33C-2404** POSTER Velocity Structure and 2008 Eruptive Seismicity at Okmok Volcano, Alaska: **S J Ohlendorf**, C H Thurber, S G Prejean

1340h **V33C-2405** POSTER Improved tremor and LP event locations using station-corrected waveforms: applications to data recorded with a small aperture array at Fuego volcano, Guatemala: **G P Waite**, J J Lyons

1340h **V33C-2406** POSTER Seismic damage before eruptions as a tool to map pre-eruptive mechanics: worldwide average patterns: **A Schmid**, J R Grasso

V33D Moscone West: 2020 Wednesday 1340h
Life After Collapse: Five Decades of Edifice Reconstruction at
Bezmyianny Volcano, Kamchatka II (*joint with S*)

Presiding: P E Izbekov, Geophysical Institute; J T Freymueller, University of Alaska Fairbanks; E I Gordeev, Institute of Volcanology and Seismology; J S Pallister, USGS

1340h **Introduction** By John Eichelberger, Volcano Hazards Program, USGS

1355h **V33D-01** Silicic Enclaves in Products of 2009-2010 Eruptions of Bezmyianny Volcano, Kamchatka: Implications for Magma Processes: P E Izbekov, O K Neill, J S Shipman, S J Turner, V D Shcherbakov, P Plechov

1410h **V33D-02** A seismic perspective on eruptions at Bezmyianny Volcano (*Invited*): M E West, S Senyukov, W A Thelen, O George

1425h **V33D-03** Rebuilding Kamchatka Volcanoes: A Decade Of Ground, Air And Spaceborne Observations Of Lava Dome Growth: A J Carter, M S Ramsey

1440h **V33D-04** The December 2009 and May 2010 eruptions of Bezmyianny volcano, Kamchatka: Interpretation of the GPS Record: R Grapenthin, J T Freymueller, S Serovetnikov

1455h **V33D-05** Petrological constrains of magma feeding system of Bezmyianny volcano (Kamchatka): P Plechov, V D Shcherbakov, P E Izbekov

1510h **V21B-2328** Relating the composition and mass flux of volcanic gas emissions with eruptive activity at Bezmyianny volcano from 2007 - 2010: T M Lopez, S Ushakov, P E Izbekov, Title of Team: PIRE Science Team

1525h **V33D-07** Modelling of an Eruption Dynamics of a Silicic Volcano. (*Invited*): O E Melnik, A A Barmin, R S Sparks

V33E Moscone West: 2016 Wednesday 1340h
Texture-Controlled Geochronology: Linking Petrography,
Mineral Zoning, and Dating I (*joint with MR*)

Presiding: A Moeller, University of Kansas; N M Kelly, Colorado School of Mines

1340h **V33E-01** Radiogenic argon loss in experimentally deformed muscovite and biotite determined by in situ ultraviolet laser ablation $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology (*Invited*): M A Cosca, H Stünitz, A Bourgeois

1355h **V33E-02** Xenocrysts and antecrysts and their effect on the precision of $^{40}\text{Ar}/^{39}\text{Ar}$ dates of explosive volcanic eruption: V Smith, D Mark, S Blockley, A Weh

1410h **V33E-03** Determining the rates of geological processes in a large-scale metamorphic complex: a multi-method approach: D Gasser, E Bruand, K Stuewe, D Rubatto, U S Kloetzli, D A Foster

1425h **V33E-04** Reconstructing the protracted P-T-t-d path of a giant ultrahigh-pressure terrane: Linking in-situ techniques with multiple methods of conventional geochronology (*Invited*): A R Kylander-Clark, B R Hacker

1440h **V33E-05** Dating sub-20 micron zircons in granulite-facies mafic dikes from SW Montana: a new approach using automated mineralogy and SIMS U-Pb geochronology: A K Ault, K H Mahan, R M Flowers, K Chamberlain, S K Appleby, A K Schmitt

1455h **V33E-06** GROWTH, TRANSPORT, AND/OR BREAKDOWN OF ACCESSORY MINERALS IN MIGMATITES FROM THE LARSEMANN HILLS, EAST ANTARCTICA: J A Matthews, N M Kelly

1510h **V33E-07** Dating metasomatism: U/Pb ages of titanite overgrowth on rutile from the Catalina Schist migmatites, Catalina Island: T Zack, A Cruz-Urbe, M G Barth

1525h **V33E-08** Dating Shearing and Exhumation in the Eastern Adirondack Mountains: Integrating Monazite into Microstructural and Petrologic Studies: M L Williams, M J Jercinovic, J M McLelland, M Wong

V33F Moscone West: 2022 Wednesday 1340h
Volatiles in Magmas: Breath of the Deep Earth III (*joint with MR, DI*)

Presiding: P Ruprecht, Lamont-Doherty Earth Observatory; S Demouchy, Geosciences Montpellier -CNRS-

1340h **V33F-01** Experimental investigation on H_2O , CO_2 , S and Cl degassing at Stromboli: from the magma chamber towards the surface. (*Invited*): P Lesne, S Kohn, J Blundy, F Witham, R E Botcharnikov, H Behrens

1400h **V33F-02** Influence of speciation of C-O-H-N volatiles in silicate melts and coexisting fluids on C and N solubility in melts and on C and N isotope fractionation between melt and coexisting fluid to upper mantle pressure and temperature as a function of redox conditions: B O Mysen, M Fogel, S Yamashita, G D Cody

1415h **V33F-03** Silicic magma accumulation beneath Mount Mazama, Oregon, 71 ka to 24 ka constrained by SHRIMP measurements of dissolved volatile concentrations in melt inclusions: H M Wright, C R Bacon, J A Vazquez, T W Sisson

1430h **V33F-04** The evolution of water concentration during the March 28-29 1875 eruption of Askja volcano, Iceland: H A Clark, S J Seaman

1445h **V33F-05** Rheology of Halogen-Rich Magmas: S L Webb

1500h **V33F-06** Seismic Tremors and Magma Wagging During Explosive Volcanism: M Jellinek, D Bercovicci

1515h **V33F-07** Coupled effects of vertical and lateral gas escapes on conduit flow dynamics and chemistry of volcanic gas during lava dome eruptions: T Kozono, T Koyaguchi

Union

U34A Moscone South: 104 Wednesday 1600h
Science With ICESat: Advances and Perspectives Using Space-
Based Laser Altimetry

Presiding: B E Schutz, University of Texas at Austin; T Neumann, NASA Goddard Space Flight Ctr.; T J Urban, University of Texas at Austin

1600h **Overview of ICESat Mission** Bob Schutz

1610h **U34A-01** Overview of Ice-Sheet Mass Balance and Dynamics from ICESat Measurements (*Invited*): H J Zwally

1630h **U34A-02** ICESat's contribution to advancing our understanding of ice sheet processes (*Invited*): H A Fricker

1650h **U34A-03** Atmospheric Applications of ICESat (*Invited*): S P Palm, J Spinhirne, D L Hlavka, W Hart

1710h **U34A-04** Progress In Vegetation Mapping and Monitoring With ICESat Data (*Invited*): M A Lefsky

1730h **U34A-05** The Arctic Ocean from ICESat altimetry: Sea ice freeboard, thickness, and ocean dynamic topography (*Invited*): R Kwok, J H Morison

1750h **U34A-06** ICESat-2: A View Forward (*Invited*): W Abdalati, T Markus, T Neumann, H J Zwally

Atmospheric Sciences

A34A Moscone West: 3002 Wednesday 1600h

Atmospheric Sciences New Fellows Highlights (*joint with AE, GC*)

Presiding: A M Thompson, Penn State Univ; N G Andronova, University of Michigan; S Madronich, NCAR

1600h **Natasha Andronova** *Introduction*

1603h **A34A-01** The Search for Dark Ice on Snowball Earth: **P F Hoffman**

1616h **A34A-02** INVERSION TECHNIQUES FOR RETRIEVING DETAILED AEROSOL PROPERTIES FROM REMOTE SENSING OBSERVATIONS: ACHIEVEMENTS AND PERSPECTIVES: **O Dubovik**

1629h **A34A-03** Sources of Cloud Condensation Nuclei in the Remote Marine Boundary Layer: A View Beyond the CLAW Hypothesis: **P Quinn**

1642h **A34A-04** Changes in Intense Precipitation over the Conterminous U.S.: N Stroumentova, **P Y Groisman**, R W Knight, T R Karl

1655h **A34A-05** A Paleo Perspective on Climate Change Commitment and the Future of the Oceans: **K Caldeira**

1708h **A34A-06** Decadal Climate Prediction: Challenges and Opportunities: **J W Hurrell**

1721h **A34A-07** The role of atmospheric dynamics in ozone-climate coupling: **T G Shepherd**

1734h **A34A-08** What would have happened to the ozone layer if chlorofluorocarbons (CFCs) had not been regulated?: L Oman, **P A Newman**, A R Douglass, E L Fleming, S M Frith, M Hurwitz, S R Kawa, C H Jackman, N A Krotkov, E R Nash, J E Nielsen, S Pawson, R S Stolarski, G J Velders

1747h **A34A-09** World-avoided simulation using a fully coupled climate-chemistry model: **R R Garcia**

A34B Moscone West: 3006 Wednesday 1600h
Extratropical and High-Latitude Storms, Teleconnections, and Changing Climate II (*joint with C, GC, H, NH, OS, PA*)

Presiding: X Zhang, University of Alaska Fairbanks; J E Walsh, University of Alaska Fairbanks; V A Alexeev, International Arctic Research Center

1600h **A34B-01** Can Arctic sea-ice melt be explained by atmospheric meridional transports? (*Invited*): **M K Tjernstrom**, R G Graversen

1615h **A34B-02** Does poleward heat transport affect Arctic amplification?: **J E Kay**, E Blanchard-Wrigglesworth, M M Holland, D A Bailey, C M Bitz

1630h **A34B-03** Mobility of the North Atlantic Oscillation Since the 1820s: **K Moore**, I Renfrew, R S Pickart

1645h **A34B-04** Circulation response to North American versus Eurasian anomalous snow scenarios in the Northern Hemisphere with an AGCM coupled to a slab ocean model: **G R Henderson**, D J Leathers, B Hanson

1700h **A34B-05** Response of Winter-Spring North American Storm Activities to Elevated Tropical Pacific Sea Surface Temperature: **S Basu**, X Zhang

1715h **A34B-06** Structure of a polar low over the Pacific Arctic observed by a shipboard Doppler radar (*Invited*): **J Inoue**, M E Hori, Y Tachibana, T Kikuchi

1730h **A34B-07** Evaluation of an air pressure based proxy for storm activity: **O Krueger**, H von Storch

1745h **A34B-08** The seasonal cycle of boreal Rossby wave breaking processes: **D H Peters**, A Schneidereit, A Gabriel

A34C Moscone West: 3008 Wednesday 1600h
Gulf of Mexico Air Quality and Climate Impacts: Urban and Regional Pollution Including the 2010 Oil Spill II (*joint with PA*)

Presiding: E P Olaguer, Houston Advanced Research Center; J A De Gouw, NOAA Earth System Research Laboratory

1600h **A34C-01** Assessing the Deepwater Horizon spill rate using chemical measurements from aircraft (*Invited*): **T B Ryerson**, K Aikin, W M Angevine, E L Atlas, R Bahreini, D R Blake, C A Brock, F C Fehsenfeld, R Gao, J A De Gouw, D W Fahey, J S Holloway, D A Lack, J M Langridge, J F Meagher, A M Middlebrook, D M Murphy, J Neuman, J B Nowak, D D Parrish, J Peischl, A Perring, I B Pollack, A R Ravishankara, J M Roberts, J P Schwarz, J R Spackman, H Stark, M Trainer, C Warneke

1615h **A34C-02** Air Quality Impact of the *Deepwater Horizon* Oil Spill (*Invited*): **A M Middlebrook**, R Ahmadov, E L Atlas, R Bahreini, D R Blake, J Brioude, C A Brock, J A De Gouw, D W Fahey, F C Fehsenfeld, R Gao, J S Holloway, R Lueb, S A McKeen, J F Meagher, S Meinardi, D M Murphy, D D Parrish, J Peischl, A Perring, I B Pollack, A R Ravishankara, J M Roberts, A L Robinson, T B Ryerson, J P Schwarz, J R Spackman, C Warneke, L Watts

1630h **A34C-03** Regional-scale modeling of secondary organic aerosol formation downwind from the DWH oil spill: **R Ahmadov**, S A McKeen, R Bahreini, J Brioude, J A De Gouw, A M Middlebrook, D M Murphy, I B Pollack, A L Robinson, T B Ryerson, M Trainer, C Warneke

1645h **A34C-04** CCN Activity, Hygroscopicity, and Droplet Activation Kinetics of Secondary Organic Aerosol Resulting from the 2010 Gulf Oil Spill: **R Moore**, T L Latham, K Cerully, R Bahreini, C A Brock, J M Langridge, A M Middlebrook, A Nenes, Title of Team: CALNEX science team

1700h **A34C-05** Overview and Major Findings of the Study of Houston Atmospheric Radical Precursors (SHARP) Campaign: **B L Lefer**, W H Brune, D R Collins, J E Dibb, R J Griffin, S C Herndon, L G Huey, B T Jobson, W T Luke, J Mellqvist, G A Morris, G H Mount, S W North, E P Olaguer, B Rappenglueck, X Ren, J Stutz, X Yu, R Zhang

1715h **A34C-06** Measurements of HONO and NO₂ by tunable infrared differential absorption spectrometer during SHARP 2009: **B H Lee**, E C Wood, S C Herndon, J Jayne, N L Ng, M S Zahniser, W T Luke, B L Lefer, J H Flynn, S C Wofsy, J W Mungler

1730h **A34C-07** Quantifying HCHO, NO₂ and SO₂ Emissions from Industrial Point Sources with Imaging DOAS: **O Pikelnaya**, J Stutz, J Tsai, D Fu, J H Flynn, B L Lefer

1745h **A34C-08** Atmospheric oxidation and air pollution in Houston: Lessons from the SHARP 2009 field campaign (*Invited*): **W H Brune**, D van Duin, M Cazorla, S Chen, X Ren, J Mao

A34D Moscone West: 3004 Wednesday 1600h
Interactions Between Tropospheric Chemistry and Climate II (*joint with GC*)

Presiding: L J Mickley, Harvard University; A M Fiore, NOAA GFDL

1600h **A34D-01** Developing metrics to account for climate change impacts on ozone air quality (*Invited*): D Winner, **B Bloomer**

1615h **A34D-02** Observed suppression of ozone formation at extremely high temperatures (*Invited*): **A L Steiner**, A J Davis, S Sillman, R C Owen, A M Michalak, A M Fiore

1630h **A34D-03** Impact of the Decadal-Scale Weakening of the Asian Summer Monsoon on Aerosol Concentrations in Eastern China: **J Zhu**, H Liao, J Li

1645h **A34D-04** Sensitivity of the Global Distribution of Cirrus Ice Crystal Concentration to Heterogeneous Freezing (*Invited*): **A Nenes**, D Barahona, J M Rodriguez

1700h **A34D-05** Ensemble projections of wildfire activity and carbonaceous aerosol concentrations over the western United States in the mid-21st century: **X Yue**, L J Mickley, J A Logan

1715h **A34D-06** Evaluating Sources, Chemistry and Climate Changes From the Isotopes of Nitrate in Ice Cores (*Invited*): **M G Hastings**

1730h **A34D-07** The Influence of Climate on Wetland Methane Emissions: **E L Hodson**, B Poulter, J O Kaplan, N Zimmermann

1745h **A34D-08** Coupling of Nitrous Oxide and Methane by Global Atmospheric Chemistry: **M J Prather**, J C Hsu

Biogeosciences

B34A Moscone West: 2002 Wednesday 1600h
Geochemical Signals of Early Diagenesis I (*joint with H, OS, PP, V*)

Presiding: **M Roy**, Oregon State University; **B Haley**, Oregon State University

1600h **B34A-01** Sources and Biogeochemical Cycling of Iron Isotopes in Coastal Environments (*Invited*): **O Rouxel**

1615h **B34A-02** TRACKING THE EVOLUTION OF FE-TI-OXIDE PHASE CHANGES IN MICROBIAL FOSSILIZATION EXPERIMENTS: UNDERSTANDING THE ROLE OF MICROBES IN DIAGENESIS: **D M Bower**, A Steele

1628h **B34A-03** Magnetic Signatures Associated with Early Diagenesis (*Invited*): **A P Roberts**

1643h **B34A-04** Determining Carbonate Concretion Formation Temperatures and Pore Water $\delta^{18}\text{O}$ Values Using the Clumped Isotope Approach: **S J Loyd**, F A Corsetti, A K Tripathi

1656h **Break** *Break between*

1704h **B34A-05** Coupled organic and inorganic carbon diagenesis in the deeply buried sediment of the northeastern Bering Sea Slope (IODP Exp. 323): **L M Wehrmann**, N Risgaard-Petersen, H N Schrum, E A Walsh, T G Ferdelman, S L D'Hondt, Y Huh, M Ikehara, A C Ravelo, K Takahashi, C A Alvarez Zarikian, Title of Team: IODP Exp. 323 Scientific Party

1717h **B34A-06** Reaction hotspots at micro- and macroscales: Challenges in early diagenetic modeling (*Invited*): **C D Meile**

1732h **B34A-07** The Geologic Signature of Anaerobic Oxidation of Methane (*Invited*): **W Ussler**, C K Paull

1747h **B34A-08** Carbonate diagenesis in the methane-rich sediments of the Beringian margin, IODP 323 Expedition: **C Pierre**, M Blanc Valleron, C Maerz, A Ravelo, K Takahashi, C A Alvarez Zarikian, Title of Team: Scientific Party of IODP Expedition 323

B34B Moscone West: 2004 Wednesday 1600h
Integrating Recent Knowledge of Soil Carbon to Help Develop Process-Based Soil Carbon Models I (*joint with A, GC, EP*)

Presiding: **M Khomik**, Max Planck Institute for Biogeochemistry; **D Gaumont-guay**, Vancouver Island University; **F M Hopkins**, University of California, Irvine; **F E Moyano**, BIOEMCO

1600h **B34B-01** Soil organic matter quality: Definition, quantification and implications for modeling (*Invited*): **A F Plante**

1615h **B34B-02** Above-ground litter decomposition experiments: moving beyond mass loss (*Invited*): **F M Cotrufo**

1630h **B34B-03** Controls on soil organic carbon and nitrogen in Inner Mongolia, China: a cross-continental comparison of temperate grasslands: **S E Evans**, I C Burke, W Lauenroth

1642h **B34B-04** Shifts in microbial biomass indicators track changes in carbon and nitrogen cycles during tree plantation development to 20 years: **A D Munson**, E Maillard, D Paré

1654h **B34B-05** Modeling in situ soil enzyme activity using continuous field soil moisture and temperature data: **J M Steinweg**, M D Wallenstein

1706h **B34B-06** Temperature sensitivity of respiration scales with organic matter recalcitrance: **J M Craine**, N Fierer, K K McLaughlan

1718h **B34B-07** Soil carbon accumulation and loss in Alaska's boreal forest: exploring the interactive effects wildfire and permafrost thaw: **J A O'Donnell**, J W Harden, A D McGuire, V E Romanovsky, M Z Kanevskiy, T Jorgenson

1730h **B34B-08** Mountain Pine beetle disturbance and climate effects on subalpine forest carbon cycling: **N A Trahan**, D J Moore, D R Bowling, R K Monson

1742h **B34B-09** New opportunities for integrating mechanisms into soil carbon models for global simulations (*Invited*): **M S Torn**, W J Riley, Title of Team: Contributions from: The Lake Constance think tank on global change and feedback from organic carbon dynamics - an ESF workshop

B34C Moscone West: 2006 Wednesday 1600h
Regional Land and Ocean Carbon Budgets II (*joint with A, OS*)

Presiding: **J Canadell**, CSIRO Marine & Atmospheric Res; **A J Dolman**, VU University Amsterdam; **P Ciaais**, CEA-CNRS-UVSQ

1600h **Introduction** *Pep Canadell*

1605h **B34C-01** Towards the establishment of the Southeast Asia carbon budget (*Invited*): **P K Patra**, J Canadell, Title of Team: RECCAP Southeast Asia team (Guido van der Werf, Richard Houghton, Shilong Piao, Stephen Sitch, Akihiko Ito, Herwint Simbolon, Al Hooijer)

1617h **B34C-02** The terrestrial carbon budget of Russia: integrating inventory based, eddy covariance and inversion methods: **A J Dolman**, M van der Molen, Title of Team: RECAPP Russia team

1629h **B34C-03** The Carbon Sink of the World's Forests: Trends and Causes of Change in Boreal, Temperate, and Tropical Regions from Forest Inventories: **R Birdsey**, Y Pan, J Fang, P Kauppi, W A Kurz, O Phillips, S Piao, A Z Shvidenko, J Canadell, P Ciaais, R A Houghton, R B Jackson, S Pacala

1641h **B34C-04** The Nordic Seas Carbon Budget: Sources, Sinks And Uncertainties: **E Jeansson**, A Olsen, T Eldevik, I Skjelvan, A M Omar, S Lauvset, J E Nilsen, R G Bellerby, T Johannessen, E Falck

1653h **B34C-05** Anthropogenic carbon dioxide and trends in the western South Atlantic: **A F Rios**, A Velo, M Hoppema, F F Pérez

1705h **B34C-06** REGIONAL CARBON BUDGETS FROM INVERSIONS OF ATMOSPHERIC CO₂ OBSERVATIONS: **P Peylin**, K R Gurney, R Law, X Zhang, Z Poussi

1717h **B34C-07** Estimation of monthly CO₂ fluxes by a joint inversion of atmospheric and oceanic carbon observations: **K Steinkamp**, N Gruber

1729h **B34C-08** Uncertainty analysis in RECCAP: **I G Enting**

1741h **General Discussion**

Cryosphere

C34A Moscone West: 301 I **Wednesday 1600h**
**Assessing Past and Future Mass Changes of Earth's Mountain
Glaciers and Ice Caps III** (joint with EP, GC, NH, H)

Presiding: R M Hock, University of Alaska; J M Hagen, Department
of Geosciences; S O'Neel, USGS

1600h **C34A-01** A 60-year (1948-2007) global estimation of glacie
mass changes by a global glacier model HYOGA: **Y Hirabayashi**,
P M Doll, S Kanae

1615h **C34A-02** Determining the maximum contribution of glacier
ice to streamflow: **N A Schaner**, N Voisin, D P Lettenmaier

1630h **C34A-03** Global Evaluations of Mountain Glacier and Ice
Cap Mass Balance (Invited): **W T Pfeffer**

1645h **C34A-04** Widespread disappearance of small glaciers in the
21st century (Invited): **V Radic**, R M Hock

1700h **C34A-05** The past and future deglaciation of western
Canada: years 1900 to 2100: **F S Anslow**, A H Jarosch, G K Clarke,
V Radic

1715h **C34A-06** Canadian High Arctic glacier surface mass budget
(1950-2009): **A Gardner**, G J Wolken, M J Sharp, G Moholdt,
B Wouters, D O Burgess, J G Cogley

1730h **C34A-07** A decade time series of melt season duration on
pan-Arctic land ice: **G J Wolken**, M J Sharp

1745h **C34A-08** Internal Accumulation as a Bias at Large Spatial
Scales: **T Clerac**, J G Cogley

Education and Human Resources

ED34A Moscone South: 102 **Wednesday 1600h**
**Broader Impacts: Successful Models and Measuring Their
Effectiveness II** (joint with OS, PA)

Presiding: G Scowcroft, University of Rhode Island; L E Duguay,
University of Southern California

1600h **ED34A-01** Responsive, Flexible and Scalable Broader
Impacts (Invited): **A deCharon**, C Companion, M Steinman

1615h **ED34A-02** Assisting Scientists With Their Broader Impacts:
Examples and Outcomes of Scientist Participation In The Centers
For Ocean Science Education Excellence - Pacific Partnerships:
J Hodder, G W Boehlert, S Rowe, K Morgan, C Gehrke, I Cheung

1630h **ED34A-03** Use of Video Podcasts to Communicate Scientific
Findings to Non-Scientists— Examples from the U.S. Geological
Survey National Water-Quality Assessment Program: **D A Harned**,
G McMahon, K Capelli

1645h **ED34A-04** Teaching Ocean Sciences in the 21st Century
Classroom: Lab to Classroom Videoconferencing: **C L Peach**,
W Gerwick, L Gerwick, M Senise, C S Jones, K Malloy, A Jones,
E Trentacoste, J Nunnery, T Mendibles, D Tayco, L Justice,
R Deutscher

1700h **ED34A-05** Engaging High School Students and Scientists in
a Café Scientifique Program: M A Mayhew, **M K Hall**, S Foutz

1715h **ED34A-06** Collaborative Research and Education in the
Ross Sea: A broader impact evaluation report: **C Parsons**, J T Kohut,
C S Lichtenwalner, H Clark

1730h **ED34A-07** Capitalizing on Education and Outreach (E/O)
Expertise to Broaden Impacts (Invited): **P R Girguis**, C Herren,
A deCharon

1745h **ED34A-08** Viewpoints on Education and Outreach: COSEE
Scientists Share Their Work (Invited): **B M McCann**, J Kastler,
C Cramer, L Taylor, S H Walker

Earth and Planetary Surface Processes

EP34A Moscone South: 310 **Wednesday 1600h**
**The Influence of Rock Material Properties on Landscape
Morphodynamics I** (joint with H, MR, P, T)

Presiding: L S Sklar, San Francisco State University; N J Finnegan,
UC Santa Cruz

1600h **EP34A-01** Mechanics of Sheeting Joints and Spheroidal
Weathering (Invited): **S J Martel**

1615h **EP34A-02** Beyond homogeneity and potential theory: Strain-
dependence of material properties and the anisotropic fabric of
orogens: **P O Koons**, P Upton, A D Barker

1630h **EP34A-03** ROCK BREAKAGE ENERGY AND LARGE-
SCALE, LOW-FRICTION GEODYNAMIC PHENOMENA:
T R Davies, M J McSaveney

1645h **EP34A-04** Quantifying Bedrock Fracture Densities and their
Influence on Hillslope Stability: D W Burbank, **B A Clarke**

1700h **EP34A-05** Controls on the weathering front depth on
hillslopes underlain by mudstones and sandstones: **D M Rempe**,
J Oshun, W E Dietrich, R Salve, I Fung

1715h **EP34A-06** Scaling the Teflon Peaks: Granite, Glaciers,
and the Highest Relief in North America: **D Ward**, R S Anderson,
P J Haeussler

1730h **EP34A-07** Tectonics and Unroofing of the Santa Cruz
Mountains, California, from Low-Temperature Thermochronology
and Catchment-Averaged ¹⁰Be-Derived Denudation Rates (Invited):
G E Hilley, R Burgmann, T A Dumitru, Y Ebert, J C Fossdick, K Le,
N M Levine, A Wilson, M H Gudmundsdottir

1745h **EP34A-08** Landscape Attributes in the Santa Cruz
Mountains Reflect Underlying Bedrock Lithology Rather Than
Tectonic Rates: **M H Gudmundsdottir**, N M Levine, G E Hilley

Geodesy

G34A Moscone West: 2008 **Wednesday 1600h**
**Recent Advances in Observation and Modeling of Glacial
Isostatic Adjustment I** (joint with C, PP)

Presiding: M Simpson, statens kartverk; E R Ivins, JPL/Caltech;
S A Khan, Danish National Institute

1600h **G34A-01** Earth's Elastic Response to Seasonal Cycles
in Surface Loading in Greenland and Antarctica: E C Kendrick,
M G Bevis, A K Brown, F Madsen, S A Khan, M J Willis, T vanDam,
R Forsberg, J E Box, T J Wilson, D Caccamise II, S A Konfal, B Johns

1615h **G34A-02** Accelerations in GPS horizontal coordinates due
to increased ice loss in Greenland (Invited): **T M van Dam**, S A Khan,
J M Wahr, L Liu, M R van den Broeke

1630h **G34A-03** Geodetically-Constrained Glacial Isostatic
Adjustment models of Antarctica: Implications for the Mass Balance
of the West Antarctic Ice Sheet: **M J Willis**, T J Wilson, T S James,
S Mazzotti, M G Bevis, E C Kendrick, A K Brown

1645h **G34A-04** A Newly Reanalyzed Dataset of GPS-determined
Antarctic Vertical Rates: **I Thomas**, M King, P J Clarke, N T Penna,
D A Lavallee, P Whitehouse

1700h **G34A-05** A new Glacial Isostatic Adjustment model for
Antarctica (Invited): **P Whitehouse**, M Bentley, G A Milne, A M Le
Brocq, M King, I Thomas

1715h **G34A-06** Glacio-isostatic adjustment around Vatnajökull
icecap, Iceland, revealed by satellite radar interferometry: **A Auriac**,
K Spaans, C Bernard, F Sigmundsson, A J Hooper

1730h **G34A-07** Glacial Isostatic Adjustment Signatures From a Global Joint Inversion of Multi-Satellite Geodetic Data (*Invited*):

X Wu, B L Vermeersen, E R Ivins

1600h **G34A-08** WITHDRAWN

1745h **GC41B-0812** GIA simulation with plastic and visco-plastic ice models on a laterally heterogeneous 3D Earth model for Scandinavia: **P Stocchi**, W van der Wal, B L Vermeersen, R Van de Wal, P P Wu

Global Environmental Change

GC34A Moscone West: 3005 **Wednesday 1600h**
Improving the Simulation of Climate-Agriculture Interactions and Global Land Processes II (*joint with A, B, IN, H*)

Presiding: **J M Winter**, NASA Goddard Institute for Space Studies; **A C Ruane**, NASA Goddard Institute for Space Studies; **C A Schlosser**, MIT; **R G Prinn**, MIT

1600h **GC34A-01** The Agriculture Model Intercomparison and Improvement Project (AgMIP) (*Invited*): **C Rosenzweig**

1615h **GC34A-02** New Tools to Assess Global Land Use, Agriculture, Food Security and Environment (*Invited*): **J A Foley**

1630h **GC34A-03** Towards accurate models of global crop-climate interactions (*Invited*): **D B Lobell**

1645h **GC34A-04** Climate Models, Spatial Scale, and Impacts of Climate Change on Agriculture (*Invited*): **L O Mearns**

1700h **GC34A-05** Land Surface Biophysical-Climatic Impacts of Tropical Deforestation with Time-dependence: Sensitivity to Deforestation Rates: **C G Castillo**, K R Gurney

1715h **GC34A-06** Regional-scale yield simulations using crop and climate models: assessing uncertainties, sensitivity to temperature and adaptation options: **A J Challinor**

1730h **GC34A-07** Estimating Indirect Emissions from Land Use Change Due to Biofuels (*Invited*): **J M Reilly**

1745h **GC34A-08** Modeling feedbacks and interactions between the land, climate, and human systems in the Community Land Model (CLM4): Successes and further research needs (*Invited*): **G B Bonan**, P Lawrence, S Levis, K W Oleson

GC34B Moscone West: 3001 **Wednesday 1600h**
Methodologies of Climate Model Confirmation and Interpretation I (*joint with A, IN*)

Presiding: **E A Lloyd**, Indiana University; **J T Kiehl**

1600h **GC34B-01** An early warning system for high climate sensitivity? (*Invited*): **R Pierrehumbert**

1615h **GC34B-02** If the predictions of climate models have come true, then why don't people believe them? (*Invited*): **N Oreskes**

1630h **GC34B-03** Confirmation of integrated assessment models of climate change (*Invited*): **B C O'Neill**

1645h **GC34B-04** Testing, confirmation and adequacy: What can climate models tell us? (*Invited*): **W Parker**

GC34C Moscone South: 103 **Wednesday 1600h**
The Third Pole Environment (TPE) Under Global Changes I (*joint with A, C, H, B*)

Presiding: **T Yao**, Inst of Tibetan Plateau Res; **L G Thompson**, Ohio State University; **V Mosbrugger**, Senckenberg Research Center for Nature Study; **Y Sheng**, UCLA

1600h **GC34C-01** Central Asia cryosphere dynamics: retrospective analysis, contemporary status, and prediction (*Invited*): **V B Aizen**, E Aizen, A Surazakov, N Takeuchi, K Fujita, P A Mayewski, B O Grigholm

1630h **GC34C-02** Variations in equilibrium line altitude of Glaciers in the Tibetan Plateau over the past two decades: **N Wang**, J Pu, T Yao

1645h **GC34C-03** Ice Core Records of Past Climate and Evidence for Present and Future Glacier Loss across the Third Pole:

L G Thompson, T Yao, M E Davis, E S Mosley-Thompson

1700h **GC34C-04** Inlandwater cycle and development of the Puruogangri ice cap, Tibet: **C Yi**

1715h **GC34C-05** Role of sub-regional variations on melting Response of Indian-Himalayan Glaciers: **S Tayal**, S I Hasnain

1730h **GC34C-06** Bacterial Diversity in the Tibetan Plateau Glaciers and their Relationship with Environmental and Climate Change: **Y Liu**, T Yao

1745h **GC34C-07** A century of blowing dust in southwestern Tibet: **J L Conroy**, J T Overpeck, K Liu, L Wang

Hydrology

H34A Moscone West: 3014 **Wednesday 1600h**
Groundwater/Surface Water Interactions: Stream Tracers and Techniques II (*joint with B*)

Presiding: **B T Neilson**, Utah State University; **R Haggerty**, Oregon State University; **S Krause**, Keele University

1600h **H34A-01** Groundwater-surface water interactions at Plynlimon, Wales, inferred from environmental tracers spanning the periodic table (*Invited*): **J W Kirchner**, C Neal

1618h **H34A-02** Pilot study of real-time groundwater monitoring coupled to USGS streamgaging stations: **J E Constantz**, C Eddy-Miller, R Caldwell, J Wheeler, J Barlow

1633h **H34A-03** Examination of groundwater-surface water interaction at the Hanford 300 Area using time-lapse resistivity imaging and distributed temperature sensing (*Invited*): **L D Slater**, F D Day-Lewis, D Ntarlagiannis, K E Mwakanyamale, T C Johnson, M H Alwasif, A L Ward, R Versteeg, A Binley, J Lane

1651h **H34A-04** Limitations of the Stream Tracer Approach for Hyporheic Investigations: **S M Wondzell**

1706h **H34A-05** Shape-Free Inference of Hyporheic Travel-Time Distributions from Tracer Experiments in Streams: **Z Liao**, **O A Cirpka**

1721h **H34A-06** What do you mean my stream is clogged? How geology, heat and streambed chemistry define surface water - ground water interactions in a Great Basin mountain stream. (*Invited*): **C E Hatch**, D E Prudic, T Jackson, K E Dotson, S W Tyler

1739h **H34A-07** Multi-scale interactions affecting transport, storage, and processing of solutes and sediments in stream corridors (*Invited*): **J W Harvey**, A I Packman

H34B Moscone West: 3018 Wednesday 1600h
Quantifying the Ecohydrological Effects of Dam Removal II
(joint with PA)

Presiding: E M Douglas, University of Massachusetts Boston;
B Lambert, Commonwealth of Massachusetts

1600h **H34B-01** Processing of sediment pulses following the removal of three small, gravel-filled barriers (Invited): **D D Tulllos**, M M Cox, C Walter, K Kibler

1620h **H34B-02** Geomorphic response of the Souhegan River to the removal of the Merrimack Village Dam (Invited): **A J Pearson**, N P Snyder, M J Collins

1640h **H34B-03** What have we restored, and by what ecohydrological processes? NOAA's program to improve implementation and effectiveness monitoring at dam removal sites (Invited): **M J Collins**

1700h **H34B-04** Geomorphic and Salmon Habitat Response to Dam Removal with Minimal Constraints to Channel Evolution, Wa'atch Creek, Western Washington, U.S.A: **A C Ritchie**, J G Shellberg

1720h **H34B-05** Homestead Dam Removal: a Natural Scale Experiment in Sandy and Coarse-grained Channels: **J Gartner**, F J Magilligan, C E Renshaw, W B Dade

1740h **H34B-06** Geomorphic and Ecological Issues in Removal of Sediment-Filled Dams in the California Coast Ranges (Invited): **G M Kondolf**, C O'Reilly

H34C Moscone West: 3016 Wednesday 1600h
Remote Sensing of Hydrology and Its Applications IV (joint with G)

Presiding: M H Cosh, USDA-ARS-HRSL; A K Sahoo, Center for Research on Environment and Water; J D Bolten, NASA GSFC

1600h **H34C-01** Integration of GRACE data, with inferences from traditional datasets for a better understanding of the time-dependent water storage variability in African watersheds: **M E Ahmed**, M Sultan, J M Wahr, E Yan, A Milewski, W Sauck, R Becker, B Welton, P J Marsala

1615h **H34C-02** Characterization of Terrestrial Water Dynamics in the Congo Basin using GRACE and Satellite Radar Altimetry: **H Lee**, D E Alsdorf, H Jung, C Shum, J Duan, J Guo, K Andreadis

1630h **H34C-03** Using GRACE Total Water Storage Changes to constrain River Routing Models in the Amazon River basin: **C de Linage**, M Lo, J S Famiglietti, R L Ray, R E Beighley

1645h **H34C-04** Realizing the potential of the GRACE Data Assimilation System (Invited): **B F Zaitchik**, M Rodell, R H Reichle, B Li, R Houborg, J D Bolten

1700h **H34C-05** The Contribution of Soil Moisture Information to Forecast Skill: Two Studies: **R D Koster**, S P Mahanama, B Livneh

1715h **H34C-06** INTEGRATING TERRESTRIAL WATER BALANCE IN THE AMAZON BASIN USING REMOTE SENSING DATA: **M Azarderakhsh**, W B Rossow, F Papa

1730h **H34C-07** Constraints on the Hydrologic Settings and Recharge of the Freshwater Lenses in Kuwait: **A Milewski**, M Sultan, A Al-Dousari

1745h **H34C-08** Combining hydrological modeling and remote sensing observations to enable data-driven decision making for Devils Lake flood mitigation in a changing climate: **X Zhang**, Y H Lim, W L Teng, A Kirilenko

H34D Moscone West: 3020 Wednesday 1600h
Understanding and Predicting Water and Energy Cycle Changes Using Multisensor Heterogeneous Data for Energy and Water Cycle Research II (joint with IN)

Presiding: K S Fontaine, NASA; P Houser, George Mason University; D Cripe, Group on Earth Observations Secretariat; J K Entin; H Plag; S J Kempler, NASA/GSFC; W L Teng, NASA GES DISC (Wyle); M G Bosilovich, NASA GSFC

1600h **H34D-01** Development of an Integrated Water Resources Management System: **T Koike**, M Rasmay, L Wang, O C Saavedra

1615h **H34D-02** Requirements for Expanding the Role of Science and Technology through the Group on Earth Observations (GEO) to meet the Information Needs of Water Managers (Invited):

R G Lawford

1630h **H34D-03** The NEWS Water and Energy Cycle Climatology Project (Invited): **M Rodell**, T S L'Ecuyer, H K Beaudoin, Title of Team: The NEWS Water and Energy Cycle Climatology Team

1645h **H34D-04** Indicators of Water Cycle Acceleration from GRACE and NASA NEWS Datasets (Invited): **J S Famiglietti**, D P Chambers, M Rodell, T H Syed, S C Swenson, I Velicogna, J M Wahr, R Nerem, K A Hilburn, J K Willis

1700h **H34D-05** Investigation of the 2006 Drought and 2007 Flood Extremes at the Southern Great Plains Through an Integrative Analysis of Observations (Invited): **X Dong**, B Xi, A D Kennedy, Z Feng, J K Entin, P Houser, R A Schiffer, T L'Ecuyer, W S Olson, K Hsu, T W Liu, B Lin, Y Deng, T Jiang

1715h **H34D-06** Observing system variations effect on reanalyses: **M G Bosilovich**, J Chen, F R Robertson, A da Silva

1730h **H34D-07** Understanding climate with merged water vapor, temperature and cloud observations from the A-Train (Invited): **E Fetzer**, H T Dang, A Guillaume, Q Yue, C Liang, B H Kahn, B D Wilson, B Lambriksen, E Fishbein

1745h **H34D-08** Using NASA Products of the Water Cycle for Improved Water Resources Management: D L Toll, **B Doorn**, E T Engman, R G Lawford

Earth and Space Science Informatics

IN34A Moscone South: 302 Wednesday 1600h
Sensor Networks: From Sensors to the Web II (joint with NH, A, H, PP, V)

Presiding: J K Hart, University of Southampton; K Martinez, University of Southampton; K Moe, NASA

1600h **IN34A-01** Adaptive Observatories for Observing Moving Marine Organisms (Invited): **J G Bellingham**, C Scholin, Y Zhang, M A Godin, B Hobson, S Frolov

1615h **IN34A-02** Soil Moisture Sensing Controller and Optimal Estimator (SoilSCaPE): An in-situ Wireless Sensor Network for Validation of Spaceborne Soil Moisture Estimates (Invited): **M Moghaddam**, M Liu, X Wu, K Li, M Burgin, Y Goykhman, Q Wang, D Shuman, A Nayyar, D Teneketzi, D Entekhabi

1630h **IN34A-03** Online Data Streams: A Challenge and Paradigm Shift for the Observation of Environmental Phenomena: **J Beutel**, S Gruber, T Gsell, A Hasler, M Keller, M Yuecel, Title of Team: PermaSense

1645h **IN34A-04** Telesupervision of Environmental Water Science Sensor Robots: **G Podnar**, J Dolan, A Elfes

1700h **IN34A-05** Data Acquisition System for Russian Arctic Magnetometer Network: **A Janzhura**, O A Troshichev, K Takahashi

1715h **IN34A-06** A Prototype Flood Early Warning Sensor Web System for Namibia: R A Sohlberg, **D Mandl**, S W Frye, P G Cappelaere, J Szarzynski, F Policelli, G Van Langenhove

1730h **IN34A-07** Design and development of a wireless sensor network to monitor snow depth in multiple catchments in the American River basin, California: hardware selection and sensor placement techniques: **B Kerkez**, R Rice, S D Glaser, R C Bales, P C Saksa

1745h **IN34A-08** Automated sensor networks to advance ocean science: **O Schofield**, J A Orcutt, M Arrott, F L Vernon, C L Peach, M Meisinger, I Krueger, J Kleinert, Y Chao, S Chien, D R Thompson, A D Chave, A Balasuriya

Nonlinear Geophysics

NG34A Moscone South: 308 **Wednesday 1600h**
Detection and Attribution of Trends, Correlations, and Cross Correlations in Climate and Geoscience I (*joint with NH*)

Presiding: **A Bunde**, Univ. of Giessen; **C C Barton**, Wright State Univ; **S Lennartz**, Univ. of Giessen; **A A Carsteanu**, ESFM-IPN

1600h **NG34A-01** Dynamical system exploration of long-term memory in the climate system (*Invited*): **O J Mesa**, V K Gupta, P E O'Connell

1615h **NG34A-02** The case of polar lows (*Invited*): **H von Storch**, M Zahn

1630h **NG34A-03** Climate Surprises, Catastrophes and Fat Tails (*Invited*): **J A Curry**

1645h **NG34A-04** Statistics of Record-Breaking Events in the Self-Organized Critical Systems: **R Shcherbakov**, W I Newman, D L Turcotte, J Davidsen, K Tiampo, J B Rundle

1700h **NG34A-05** Confidence bands for time series trends: **A Gluhovsky**

NG34B Moscone South: 308 **Wednesday 1715h**
Characterization of Geophysical Time Series I (*joint with NH*)

Presiding: **A Bunde**, Univ. of Giessen

1715h **NG34B-01** Acceleration to failure in geophysical signals prior to laboratory rock failure and volcanic eruptions (*Invited*): **I G Main**, A F Bell, J Greenhough, M J Heap, P G Meredith

1730h **NG34B-02** The Weather - Climate Transition, the Spectral Plateau and the Emergent Climate Regime (*Invited*): **S Lovejoy**, D J Schertzer

1745h **NG34B-03** Faithful deterministic encodings of precipitation series via a fractal-multifractal method: **C E Puente**, H Huang, A Cortis

Natural Hazards

NH34A Moscone West: 3010 **Wednesday 1600h**
Wildfires on Landscapes: Theory, Models, and Management II (*joint with GC, PA*)

Presiding: **J L Coen**, NCAR; **C B Clements**, San Jose State University

1600h **NH34A-01** A Conceptual Framework for Fire Ecology in a Changing Climate: **Z Gedalof**

1615h **NH34A-02** Remote Multispectral Imaging of Wildland Fires (*Invited*): **A Vodacek**, R Kremens

1630h **NH34A-03** Stand-replacing patches within a 'mixed severity' fire regime: quantitative characterization using recent fires in a long-established natural fire area: **B Collins**, S Stephens

1645h **NH34A-04** Recent Extreme Forest Fire Activity in Western Russia: Fire Danger Conditions, Fire Behavior and Smoke Transport: **B J Stocks**, M Fromm, J Goldammer, R Carr, A I Sukhinin

1700h **NH34A-05** Toward a detailed physical modelling of wildfires: physical considerations and numerical results (*Invited*): **D Morvan**

1715h **NH34A-06** Analysis Of Wind And Fire Direction During The 2005's Portuguese Fire Season: **A M Barros**, P M Miranda, J M Pereira

1600h **NH34A-07** WITHDRAWN

1730h **NH41A-1469** Predicting Forest Floor Consumption From Wildland Fire in Boreal forests of Alaska: **R D Ottmar**

1745h **NH41A-1470** Evaluation of The Fire Plume Dynamics Simulated by WRF-Fire: **A Kochanski**, M Jenkins, S K Krueger, J Mandel, J D Beezley, C B Clements

Near Surface Geophysics

NS34A Moscone West: 3022 **Wednesday 1600h**
Airborne Geophysics for Geohazards and Environmental Problems II (*joint with G, GP, H, NH, S, V*)

Presiding: **S Okuma**, Geological Survey Japan, AIST; **M Deszcz-Pan**, USGS

1600h **NS34A-01** Airborne Gravity Measurements using a Helicopter with Special Emphases on Delineating Local Gravity Anomalies Mainly for Detecting Active Seismic Faults (*Invited*): **J Segawa**

1615h **NS34A-02** Geophysical Investigation of the Wooded Island earthquake swarm, Hanford Site, Washington (*Invited*): **R J Blakely**, C S Weaver, R E Wells, B L Sherrod, A Rohay, C W Wicks

1630h **NS34A-03** Using airborne magnetic data to map folding and faulting in sedimentary layers: implications for seismic hazard (*Invited*): **V E Langenheim**, R C Jachens, G A Phelps, R W Simpson

1645h **NS34A-04** Aeromagnetic and Resistive Evidence for a Concealed Depression Associated with a Past Flank Collapse of Fuji Volcano, Central Japan: **S Okuma**, T Nakatsuka, S Takakura, N Matsushima, S Nakano

1700h **NS34A-05** Airborne EM survey in volcanoes : Application to a volcanic hazards assessment: **T Mogi**

1715h **NS34A-06** Airborne TEM investigations of salinity distribution in coastal aquifers: The Ringkoebing lagoon case: **C L Kirkegaard**, E Auken, T O Sonnenborg, F Jorgensen

1730h **NS34A-07** Mapping of natural and man-made groundwater mineralization by helicopter-borne electromagnetics (*Invited*): **A Steuer**, B Siemon, U Meyer

1745h **NS34A-08** Three-dimensional inversion of entire airborne electromagnetic surveys for salinity mapping: **L H Cox**, G A Wilson, M S Zhdanov

Ocean Sciences

OS34A Moscone West: 3007 **Wednesday 1600h**
Deep-Sea Hydrothermal Systems: New Knowledge From New Discoveries and New Technology III (*joint with B, V*)

Presiding: **R Pedersen**, University of Bergen; **D S Kelley**, University of Washington; **T M Shank**, Woods Hole Oceanographic Institution

1600h **OS34A-01** Novel insights into methane cycling, lateral gene transfer, and the rare biosphere within carbonate chimneys of the Lost City Hydrothermal Field (*Invited*): **W J Brazelton**, K A Ludwig, M O Schrenk, D S Kelley, M L Sogin, J A Baross

1615h **OS34A-02** Investigating microbial colonization in actively forming hydrothermal deposits using thermocouple arrays:

M K Tivey, A L Reysenbach, M Hirsch, J Steinberg, G E Flores

1630h **OS34A-03** Microbial life associated with low-temperature hydrothermal venting and formation of barite chimneys at Loki's Castle vent field: **I H Thorseth**, I Steen, I Roalkvam, H Dahle, R Stokke, H Rapp, R Pedersen

1645h **OS34A-04** Elaboration of a video processing platform to analyze the temporal dynamics of hydrothermal ecosystems: **M Aron**, J Sarrazin, P Sarradin, G Mercier

1700h **OS34A-05** Controls of surface topography on submarine and subaerial hydrothermal fluid flow and vent-site location: **N Bani Hassan**, L Rupke, K H Iyer, A Borgia

1715h **OS34A-06** The Role of Lateral Fluid Flow in Off-Axis, Oceanic Hydrothermal Systems Under Abyssal Sedimentation Conditions: **B W Anderson**, L A Coogan, K M Gillis

1730h **OS34A-07** Thermal legacy of near-ridge hydrothermal circulation reduces estimates of ridge flank advective heat loss: **G A Spinelli**, R N Harris

1745h **OS34A-08** Microearthquakes at the active Trans-Atlantic Geotraverse (TAG) hydrothermal mound, Mid-Atlantic Ridge, 26°08'N: **C Pontbriand**, R A Reves-Sohn

OS34B Moscone West: 3009 **Wednesday 1600h**
Tidal Flats: Hydrodynamics and Sedimentary Processes II
(joint with EP)

Presiding: **D K Ralston**, Woods Hole Oceanographic Institution; **J M Thomson**, University of Washington

1600h **OS34B-01** Sedimentary Processes on Tidal Flats: Recent Studies of Mesotidal Settings in the US Pacific Northwest (*Invited*): **C Nittrouer**, A S Ogston, K M Lee, K V Boldt, T Research Team

1615h **OS34B-02** Gyung-Gi Bay Introduction : Barotropic Tidal Propagation and its Temporal Variation of Residual Currents (*Invited*): **S Woo**, Y Song, B Yoon

1630h **OS34B-03** Hydromorphology of tidal flats: interactions between hydrodynamics, sediment transport, vegetation and morphology (*Invited*): **P Le Hir**, R Verney, P Bassoullet, F Cayocca

1645h **OS34B-04** Wave attenuation and sediment transport over an intertidal sand flat on the Fraser River Delta (*Invited*): **C Houser**, P R Hill

1700h **OS34B-05** Analysis of Truncation, Stratification, and Nonlinear Tidal Processes as Sources of Velocity Asymmetry on Mesotidal Tidal Flats: **N J Nidziako**, D K Ralston, W R Geyer

1715h **OS34B-06** Processes affecting the stratification-induced potential energy anomaly on the Skagit Bay tidal flats: **V Pavel**, B Raubenheimer, S Elgar, D K Ralston

1730h **OS34B-07** Observations of ebb flows on tidal flats: Evidence of dewatering?: **J P Rinehimer**, J M Thomson, C Chickadel

1745h **OS34B-08** Water-surface elevation controls on sediment-transport dynamics in channel-flat environments of intertidal flats: **D J Nowacki**, A S Ogston

Planetary Sciences

P34A Moscone South: 306 **Wednesday 1600h**
Planetary Radar Investigations: Observations, Theory, Lab Measurements, Field Analogues, and Future Opportunities III
(joint with C, NS)

Presiding: **E Heggy**, Jet Propulsion Laboratory; **V Ciarletti**, LATMOS; **S M Clifford**, LPI/USRA

1600h **P34A-01** SHARAD Finds Voluminous CO₂ Ice Sequestered in the Martian South Polar Layered Deposits: **R J Phillips**, B J Davis, S Byrne, B A Campbell, L M Carter, R M Haberle, J W Holt, M A Kahre, D C Nunes, J J Plaut, N E Putzig, I B Smith, S E Smrekar, K L Tanaka, T N Titus

1615h **P34A-02** Correlating High Resolution Radar Reflectors with Visible Layering of the Polar Layered Deposits, Mars: **S Christian**, J W Holt, P Choudhary, K E Fishbaugh, J J Plaut

1630h **P34A-03** The Radar Effects of Perchlorate-Doped Ice in the Martian Polar Layered Deposits: **D Stillman**, D P Winebrenner, R E Grimm, A Pathare

1645h **P34A-04** Shallow Radar soundings of the four candidate landing sites for MSL *Curiosity*: **N E Putzig**, R J Phillips, B J Davis, B A Campbell, J W Holt

1700h **P34A-05** Ground-penetrating radar as a tool for characterizing ground ice in the Canadian High Arctic: Implications for future Mars based radar investigations: **L I Thomson**, G Osinski

1715h **P34A-06** Ground Penetrating Radar Field Studies of Lunar-Analog Geologic Settings and Processes: Barringer Meteor Crater and Northern Arizona Volcanics: **P S Russell**, J A Grant, K K Williams, B Bussey

1730h **P34A-07** Results from the first year of Mini-RF operations on Lunar Reconnaissance Orbiter: **B Bussey**, Title of Team: Mini-RF Team

1745h **P34A-08** Science Results from the MARSIS and SHARAD Subsurface Sounding Radars on Mars and their Relevance to Radar Sounding of icy Moons in the Jovian System: **R Orosei**, G Alberti, L Bruzzone, E Flamini, A Frigeri, E Heggy, W W Kofman, G Komatsu, J J Plaut, R Seu

Paleoceanography and Paleoclimatology

PP34A Moscone West: 2011 **Wednesday 1600h**
Nitrogen Cycle in the Oceans, Past and Present II (joint with B, OS, V)

Presiding: **A Schmittner**, Oregon State University; **R De Pol-Holz**, University of California, Irvine; **M Kienast**, Dalhousie University

1600h **PP34A-01** Does N₂ Fixation in the Oligotrophic SE Pacific Influence N Isotopic Signals in the Peru-Chile OMZ?: **M A Altabet**, E Ryabenko, D Wallace

1615h **PP34A-02** Nitrous oxide concentrations and stable isotopes in water column and sediment profiles along the southern California and northwestern Mexican margin: **A Townsend-Small**, M G Prokopenko, W Berelson, L Chong

1630h **PP34A-03** Regional gradients in surface sediment nitrogen isotopes as a reflection of nutrient cycling and oxygen deficiency in upwelling areas off Peru and Namibia (*Invited*): **RR Schneider**, E Mollier-Vogel, P Martinez

1645h **PP34A-04** Nitrogen isotopic composition of planktonic foraminifera from the modern ocean and recent sediments: **H Ren**, R Thunell, D M Sigman, M G Prokopenko

1700h **PP34A-05** Nitrification-coupled denitrification in sediment of the eastern Bering Sea shelf leads to 15N-enrichment of fixed N in shelf waters: **J Granger**, M G Prokopenko, C W Mordy, D M Sigman
1715h **PP34A-06** Constraining the Biological Pump using Stable Nitrogen and Carbon Isotopes in the Glacial Ocean: **C J Somes**, A Schmittner
1730h **PP34A-07** Actual oxygen and suboxia representation: comparison of different ocean general circulation models: **O Duteil**, A Oschlies
1745h **PP34A-08** Nitrate isotope fractionations during biological nitrate reduction: Insights from first principles theoretical modeling: **W Guo**, J Granger, D M Sigman

PP34B Moscone West: 2003 **Wednesday 1600h**
Southern Connections: An Intrahemispheric Paleoclimate Comparison II (*joint with GC*)

Presiding: **T Cohen**, Macquarie University; **J May**, University of Wollongong

1600h **PP34B-01** Regional Hydroclimatology of the Peruvian Atacama Desert and Its Relation to the El Niño-Southern Oscillation: **F J Magilligan**, G Fisher, III, P Goldstein, B C Bostick
1615h **PP34B-02** Holocene and Late Pleistocene Climate Change in the Peruvian Altiplano: **L Kanner**, S J Burns, H Cheng, R Edwards
1630h **PP34B-03** Pleistocene large-lake episodes in the central Andes (*Invited*): **C J Placzek**, J Quade, P J Patchett, R Seager
1645h **PP34B-04** What controls the variability of the South American summer monsoon on paleoclimate timescales? (*Invited*): **P A Baker**, S C Fritz, C A Rigsby
1700h **PP34B-05** Climate of Australia over the past 100 ka inferred from stable isotopes in avian eggshells (*Invited*): **G H Miller**, M Fogel, J W Magee, M K Gagan, S D Newsome
1715h **PP34B-06** The Medieval Climate Anomaly – A View From Down Under: **I D Goodwin**, T Cohen, P A Mayewski, A M Lorrey, S A Browning, M A Curran, T D van Ommen, J A Renwick
1730h **PP34B-07** What do Westerly Wind Reconstructions from Fiordland, New Zealand, say about Southern Hemisphere Paleoclimatic Mechanisms?: **K P Knudson**, I L Hendy, H Neil
1745h **PP34B-08** Contrasting Holocene vs. Late Pleistocene dynamics of sediment deposition in Laguna Potrok Aike, Argentina: **C Ohlendorf**, C Gebhardt, A Hahn, P Kliem, B Zolitschka, P Science Team

PP34C Moscone West: 2005 **Wednesday 1600h**
Dynamics of Glacial Cycles II

Presiding: **S A Marcott**, Oregon State University; **J D Shakun**, Oregon State University

1600h **PP34C-01** Pacing, Forcing, or Chance? Milankovitch Plays Dice and Scores Ice Ages. (*Invited*): **A C Mix**
1615h **PP34C-02** Links between Orbital Eccentricity and the 100,000-year Glacial Cycle: **L E Lisiecki**
1630h **PP34C-03** Combined obliquity and precession pacing of glacial cycles (*Invited*): **P Huybers**
1645h **PP34C-04** Bifurcation structure and noise-assisted transitions in the Pleistocene glacial cycles: **P Ditlevsen**
1700h **PP34C-05** Reorganization of Ice Sheet Flow Patterns in Arctic Canada Prior to the Mid-Pleistocene Transition: **K A Refsnider**, G H Miller
1715h **PP34C-06** Forced response of a global ice-sheet model to climate changes during the last 130,000 years: **O Elison Timm**, A Timmermann, T Friedrich, A Abe-Ouchi

1730h **PP34C-07** The highs and lows of Quaternary sea-level reconstruction (*Invited*): **J A Dorale**, B P Onac
1745h **PP34C-08** Role of Atmospheric CO₂ in the Ice Ages (*Invited*): **J R Toggweiler**

SPA-Aeronomy

SA34A Moscone South: 301 **Wednesday 1600h**
The Active Inner Magnetosphere and Its Coupling With the Midlatitude Ionosphere I (*joint with SM*)

Presiding: **A J Coster**, MIT Haystack Observatory; **J M Ruohoniemi**, Virginia Tech; **J B Baker**, Virginia Tech

1600h **SA34A-01** Magnetosphere-Ionosphere Coupling at Subauroral Latitudes (*Invited*): **S Sazykin**, R W Spiro, R A Wolf, Y Song, F Toffoletto
1615h **SA34A-02** Statistical models of perpendicular Ion currents and pressure in the Inner magnetosphere: SCATHA, CRRES and Polar data: **J L Roeder**, J Fennell
1630h **SA34A-03** Understanding the dynamic ionospheric signature of the plasmopause (*Invited*): **M Moldwin**, P Sibanda, S Zou, E Yizengaw
1645h **SA34A-04** Remote sensing of the plasmasphere mass density using conjugate magnetometer chains SAMBA, MEASURE, and McMAC: **E Zesta**, A Boudouridis, M Moldwin, P J Chi, A M Jorgensen, N M McCarthy
1700h **SA34A-05** Oscillation of SAPS/SAID structures with various temporal scales observed by the SuperDARN Hokkaido radar: **N Nishitani**, T Ogawa, T Kikuchi, Y Ebihara, T Hori, Y Zou, K Hosokawa, R Kataoka, Title of Team: SuperDARN Hokkaido Radar Team
1715h **SA34A-06** Density Structure in the Plasmaspheric Boundary Layer (PBL) As Seen By IMAGE (*Invited*): **J Goldstein**, B R Sandel, C R Chappell, R E Denton
1730h **SA34A-07** Mid-Latitude Ionospheric Redistribution and Horizontal Flux In The Coupled Geospace System (*Invited*): **P J Erickson**, M Z Miskin, F Beroz, J C Foster
1745h **SA34A-08** Mid-Latitude Dayside Ionospheric Response to Storm-Time Electric Fields: **M David**, J J Sojka, R W Schunk, M W Liemohn

SPA-Solar and Heliospheric Physics

SH34A Moscone South: 309 **Wednesday 1600h**
Solar and Heliospheric Physics General Contributions III: Solar Wind

Presiding: **M M Velli**, JPL; **J T Steinberg**, Los Alamos Nat'l Lab

1600h **SH34A-01** Solar Wind Electrons Properties : HELIOS Observations and Extrapolations back to the SOLAR PROBE PLUS Perihelion: **M Maksimovic**, S Stverak, I Zouganelis
1615h **SH34A-02** Solar Wind Suprathermal Electron Strahl Width from 1.3 to 5.4 AU: **K A Goodrich**, R M Skoug, J T Steinberg, D J McComas
1630h **SH34A-03** Solar Wind Halo Formation by the Scattering of the Strahl: Direct Cluster/PEACE Observations of the 3D Velocity Distribution Function: **A F Vinas**, C A Gurgiolo, T Nieves-Chinchilla, D E Wendel, M L Goldstein, A N Fazakerley
1645h **SH34A-04** Solar Wind Suprathermal Electron Strahl Widths Across High Speed Stream Structures: **R M Skoug**, J T Steinberg, K A Goodrich, B R Anderson

1700h **SH34A-05** On the competition between radial expansion and Coulomb collisions in shaping the electron velocity distribution function: Kinetic simulations: **S Landi**, L Matteini, F Pantellini, M M Velli

1715h **SH34A-06** Singly-ionized helium of solar origin in the solar wind: **M L Stevens**, S Goodwin, W Hughes, J C Kasper

1730h **SH34A-07** Solar wind and pick-up ion energy spectra measured with New Horizons/SWAP between 11 and 12 AU: **B M Randol**, D J McComas, H A Elliott

1745h **SH34A-08** New Method to Predict Sunspot Numbers and Some Interplanetary Parameters for the Next Solar Maximum: **V A Osherovich**, J Fainberg

SPA-Magnetospheric Physics

SM34A Moscone South: 305 **Wednesday 1600h**
Heliophysics Data Environment: Success Stories and Lessons Learned II (*joint with SH, SA*)

Presiding: **R S Weigel**, George Mason University; **R E McGuire**, NASA Goddard

1600h **Introduction**

1602h **SM34A-01** SuperMAG: The Road to 115,000 Plots Viewed in a Month: **R J Barnes**, J W Gjerloev

1614h **SM34A-02** Cluster Active Archive: lessons learnt: **H E Laakso**, C H Perry, M G Taylor, C P Escoubet, A Masson

1626h **SM34A-03** Towards the VWO Annotation Service: a Success Story of the IMAGE RPI Expert Rating System: **B W Reinisch**, **I A Galkin**, S F Fung, R F Benson, A V Kozlov, G M Khmyrov, L N Garcia

1638h **SM34A-04** Statistical characteristics of transient flows in the magnetosphere revealed by the Virtual Magnetospheric Observatory: **J Merka**, D G Sibeck, T W Narock

1650h **Introduction to the Panel**

1652h **SM34A-05** Prospects in the NASA Heliophysics Data Environment. (*Invited*): **J J Hayes**

1700h **SM34A-06** Heliophysics Data Environment: What's next? (*Invited*): **P Martens**

1708h **SM34A-07** The Space Physics "Data Problem" from the Perspectives of Different Stakeholders (*Invited*): **E F Donovan**

1716h **SM34A-08** A Utopian View of Space Plasma Physics Data Analysis (*Invited*): **D G Sibeck**

1724h **Panel Discussion** *What's the major remaining problem TODAY in the Heliophysics Data Environment? And how can that problem best and realistically be addressed?*

SM34B Moscone South: 307 **Wednesday 1600h**
Physical Processes in the Magnetotails of Intrinsic and Induced Magnetospheres II (*joint with P*)

Presiding: **C S Arridge**, University College London; **N André**, Centre d'Etude Spatiale des Rayonnements

1600h **SM34B-01** The induced magnetotails of Mars and Venus: A tale of two tails (*Invited*): **D A Brain**, J S Halekas, J P Eastwood

1615h **SM34B-02** Average pitch angle distributions in the terrestrial magnetotail: Cluster observations and implications for magnetotail structure (*Invited*): **A P Walsh**, C J Owen, A N Fazakerley, C Forsyth, M Engebretson, R E Denton, I Dandouras

1630h **SM34B-03** Ion Heating in the Magnetotail During Quiet Magnetosphere Conditions: TWINS ENA Analysis: **A M Keesee**, K C Tallaksen, J McKee, E E Scime

1645h **SM34B-04** Cluster observations of Shear-mode surface waves diverging from Geomagnetic Tail reconnection: **L Dai**, J R Wygant, J P Dombeck, C A Cattell, S A Thaller, C Mouikis, A Balogh, H Reme

1700h **SM34B-05** Mercury's Dynamic Magnetic Tail (*Invited*): **J A Slavin**

1715h **SM34B-06** Modeling of Mercury's pick-up ion dynamics and its response to changes in IMF conditions: **M Benna**, J A Slavin, M Sarantos, W E McClintock, R M Killen, M H Burger, D N Baker, D Schriver, P M Travnicek, S C Solomon

1730h **SM34B-07** Magnetic Topology of the Deep Jovian Magnetotail Probed with Measurements and Modeling of Energetic Particles (*Invited*): **M E Hill**, E E Chollet, R L McNutt

1745h **SM34B-08** Magnetic Reconnection in the Plasma Sheet for Southward Turning from Northward IMF: **T Ogino**

Study of Earth's Deep Interior

DI34A Moscone West: 3024 **Wednesday 1600h**
Seismic Anisotropy in the Mantle: Progress, Prospects, and Pitfalls III (*joint with MR, S*)

Presiding: **T W Becker**, USC; **C Beghein**, UCLA; **S Merkel**, CNRS - Universite Lille 1

1600h **DI34A-01** A Study of Short-Period Surface Wave Data, Geodynamic Models, and the Rheology and Dynamics of the Mantle Beneath the East Pacific Rise: **G Ito**, R Dunn, D W Forsyth

1615h **DI34A-02** Modeling 3-D flow in the mantle wedge with complex slab geometries: Comparisons with seismic anisotropy: **C R Kincaid**, J G MacDougall, K A Druken, K M Fischer

1630h **DI34A-03** New constraints on the plastic deformation of wadsleyite from atomic modeling: implications for the seismic anisotropy in the mantle transition zone (*Invited*): **A Metsue**, P CARREZ, P Cordier, D Mainprice, Y Usui, T Tsuchiya

1645h **DI34A-04** Predicting seismic anisotropy in D₅ from global mantle flow models: **A J Nowacki**, A Walker, A M Forte, J Wookey, J M Kendall

DI34B Moscone West: 3024 **Wednesday 1700h**
Advances in Computational Modeling in Geoscience I (*joint with A, C, OS*)

Presiding: **J Brown**, ETH Zurich; **D May**, ETH Zurich; **L N Moresi**, Monash University

1700h **DI34B-01** Numerical Modelling of Plate-Tectonic and Planetary Processes with Finite Differences and Marker in Cell Techniques (*Invited*): **T Gerya**

1715h **DI34B-02** Iterative inverse problem techniques: Ice sheet scale parameter identification (*Invited*): **D A Maxwell**

1730h **DI34B-03** Parallel Multilevel Implicit Methods for Shallow Water Equations on Cubed-sphere (*Invited*): **X Cai**

1745h **DI34B-04** Towards scalable full-waveform seismic inversion with quantified uncertainties (*Invited*): **G Stadler**, T Bui-Thanh, C Burstedde, O Ghattas, J Martin, L Wilcox

Seismology

S34A Moscone West: 2009 Wednesday 1600h
Collaboration Among Science, Engineering, and Social Science: Earthquake Risk Mitigation in Urban Areas II (joint with NH, PA, T)

Presiding: N Hirata, University of Tokyo; M C Gerstenberger, GNS Science; K Nanjo, Earthquake Research Institute; M W Stirling, GNS Science

1600h **S34A-01** Using Precariously Balanced Rocks, Historic Records And Paleoseismology To Constrain Rupture Patterns And Rupture Potential Of The San Andreas And San Jacinto Faults In The Los Angeles Region: L Grant Ludwig, J N Brune

1615h **S34A-02** Peeling off of the uppermost crustal layer from the subducting plate at deep extensions of the subduction zone in Japan: H Kimura, T Takeda, K Obara, K Kasahara

1630h **S34A-03** Amplification and Attenuation in the Los Angeles and Kanto Sedimentary Basins using the Ambient Seismic Field: M Denolle, G Prieto, J F Lawrence, G C Beroza, N Hirata, S Nakagawa, H Miyake, K Kasahara, S Sakai, T Aketagawa, H Kimura

1645h **S34A-04** Dense Strong Motion Seismograph Networks in Canada: Opportunities and Applications. (Invited): J F Cassidy, A Rosenberger, G C Rogers, S Huffman

1700h **S34A-05** Modelling Strong Ground Motions for Subduction Events in the Wellington Region, New Zealand: C Francois-Holden, J Zhao

1715h **S34A-06** A Hybrid Seismic Loss Estimation Methodology based on Simulated Ground Motions in Urban Regions: A Askan, B Ugruhan, M A Erberik

1730h **S34A-07** A Cloud Computing Approach to Personal Risk Management: The Open Hazards Group: W R Graves, J R Holliday, J B Rundle

1745h **S34A-08** Public Release of Estimated Impact-Based Earthquake Alerts – An Update to the U.S. Geological Survey PAGER System: D J Wald, K S JAISWAL, K Marano, M Hearne, P S Earle, E So, D Garcia, G P Hayes, S Mathias, D Applegate, D Bausch

S34B Moscone West: 2007 Wednesday 1600h
Earthquake Source Studies III

Presiding: A Baltay, Stanford University; N Uchida, Graduate School of Science, Tohoku Univ.

1600h **S34B-01** The Lower Tagus Valley Fault Zone and its associated geomorphic features: G M Besana-Ostman, H Ferreira, A P Falcão Flor, J Narciso, P Pinheiro, S Heleno, E S Nemser, S P Vilanova, J F Fonseca

1615h **S34B-02** Rapid Centroid Moment Tensor (CMT) Inversion in 3D Earth Structure Model for Earthquakes in Southern California: D Mu, E Lee, P Chen, T H Jordan, P J Maechling

1630h **S34B-03** Towards a Realtime Detection of Small to Tsunamigenic Earthquakes Using a Continuous Moment Tensor Inversion: A Guilhem, D S Dreger

1645h **S34B-04** Seismicity on an interplate asperity off-Kamaishi, NE Japan over two earthquake cycles: N Uchida, T Matsuzawa, K Shimamura, A Hasegawa, W L Ellsworth

1700h **S34B-05** Coseismic and aseismic deformations of the rock mass around deep level mining in South Africa - Joint South African and Japanese study: A M Milev, Y Yabe, M M Naoi, M Nakatani, R J Durrheim, H Ogasawara, C H Scholz

1715h **S34B-06** Analysis of Laboratory Simulations of Volcanic Hybrid Earthquakes using Empirical Green's Functions: R M Harrington, P M Benson

1730h **S34B-07** Another Look at Strong Ground Motion Accelerations and Stress Drop: A Baltay, G Prieto, S Ide, T C Hanks, G C Beroza

1745h **S34B-08** Average static stress drops for heterogeneous slip distributions: Comparison of several measures and implications for energy partition in earthquakes: H Noda, N Lapusta, H Kanamori

Tectonophysics

T34A Moscone West: 2018 Wednesday 1600h
New Advances in Studies of the Tibetan Plateau and the Himalayas IV (joint with V, S)

Presiding: X Mo, China University of Geosciences, Beijing

1600h **T34A-01** Deformational and sedimentary responses to Late Miocene (13-8.5 Ma) left-lateral oblique movement along the northern foreland of the Red River-Ailao Shan shear zone, Yunnan, China: E Wang, J Yin, Z Su

1615h **T34A-02** Dynamics of the deep lithosphere during evolved continental collision: Applications to crustal underthrusting in the Tibetan Plateau: R Gray, R N Pysklywec

1630h **T34A-03** High Resolution of Crustal Seismic Wave Attenuation Tomography in Eastern Tibetan Plateau: X Bao, E A Sandvol, J F Ni, T M Hearn, Y J Chen, Y Shen

1645h **T34A-04** 3D Shear Wave Velocity Structure and Seismic Anisotropy beneath Northern Tibet: S Ceylan, J F Ni, Y J Chen, F Tilmann, Y Yang, M H Ritzwoller, E A Sandvol

T34B Moscone West: 3001 Wednesday 1700h
Birch Lecture (Webcast)

Presiding: H W Green, University of California

1700h **T34B-01** Global Tectonics Ties Quakes, Rocks, and Volatiles in the Mantle Transition Zone (Invited): W Chen

Volcanology, Geochemistry, and Petrology

V34A Moscone West: 2016 Wednesday 1600h
Geochemistry and Geochronology of Accessory Phases I (joint with T, MR)

Presiding: T Zack, Universitaet Mainz; D F Stockli, The University of Kansas

1600h **V34A-01** Accessory mineral records of tectonic environments? (Invited): C Storey, H R Marschall, F Enea, J Taylor, E S Jennings

1615h **V34A-02** Linking Trace Element Characteristics to U-Pb Ages of Accessory Minerals by In-Situ Analyses: Metamorphic Zircon Growth and Modification (Invited): A Moeller

1630h **V34A-03** Mobilization of Pb in zircon during high-T metamorphism (Invited): N M Kelly, B Gorman, R W Hinton, S L Harley

1645h **V34A-04** Zircon from East Antarctica: evidence for Archean intracrustal recycling in the Kaapvaal-Grünhegna Craton from O and Hf isotopes: H R Marschall, C J Hawkesworth, C Storey, P T Leat, B Dhuime

1700h **V34A-05** In situ detrital zircon (U-Th)/He thermochronology: A Tripathy, B D Monteleone, M C Van Soest, K Hodges, J K Hourigan

1715h **V34A-06** Quantifying alpha-producer zonation in apatite with LA-ICP-MS depth profiles; implications for low-temperature thermochronology and standardization to NIST glass: **S A Johnstone**, J K Hourigan, C Gallagher

1730h **V34A-07** An ion microprobe study of individual zircon phenocrysts from voluminous post-caldera rhyolites of the Yellowstone caldera: **K E Watts**, I N Bindeman, A K Schmitt

1745h **V34A-08** Evolution of the Youngest Toba Tuff magma reservoir as recorded by Zircon Geochemistry and Crystallization Temperatures: **T Gaither**, M R Reid

V34B Moscone West: 2020 Wednesday 1600h
Causes and Consequences of Rhyolite Volcanism at Chaiten Volcano, Southern Chile II (*joint with NH*)

Presiding: **J M Castro**, Monash University; **J S Pallister**, USGS; **A Amigo**, SERNAGEOMIN; **F J Swanson**, US Forest Service

1600h **V34B-01** Chaitén volcano unrest/eruption and crustal deformation: insights from geophysical data (*Invited*): **L E Lara**, M Piña, K Bataille, J Baez, D Basualto, A Tassara, F Gil

1615h **V34B-02** Satellite Remote Sensing of the 2008 Chaitén Eruption (*Invited*): **S A Carn**, F Prata, A Durant, W I Rose

1630h **V34B-03** Stratigraphy and Physical Characterization of the May, 2008, Chaitén Eruption, Chile: **F Alfano**, C bonadonna, A C Volentik, C Connor, S F Watt, D M Pyle, L Connor

1645h **V34B-04** Chaitén town (Chile) inundated by a complex multi-peaked volcanic flood in May 2008 (*Invited*): **T C Pierson**, J J Major, A Amigo, H Moreno

1700h **V34B-05** Pyroclastic density currents from the May 2008 eruption of Chaitén volcano (Chile) and subsequent dome collapse: **J J Major**, T C Pierson, J S Pallister, R P Hoblitt, H Moreno, F J Swanson

1715h **V34B-06** Volcano ecology at Chaiten, Chile: geophysical processes interact with forest ecosystems: **F J Swanson**, C Crisafulli, J A Jones, A Lara

1730h **V34B-07** Halogen Degassing during Emplacement and Crystallization of the Chaitén Rhyolitic Lava Dome(s): **J B Lowenstern**, H Bleick, J M Castro, J S Pallister, J C Eichelberger

1745h **V34B-08** Simultaneous explosive and effusive activity at Chaitén volcano, Chile: **J M Castro**, J B Lowenstern, J S Pallister, J C Eichelberger

V34C Moscone West: 2022 Wednesday 1600h
Volatiles in Magmas: Breath of the Deep Earth IV (*joint with MR, DI*)

Presiding: **P Ruprecht**, Lamont-Doherty Earth Observatory; **T W Sisson**, USGS; **S Demouchy**, Geosciences Montpellier -CNRS-

1600h **V34C-01** Volatile (H₂O, CO₂, F, Cl, S) Budgets and Their Evolution in Explosively Erupted Magmas: Insights from 23 ky of eruptions of Popocatepetl Volcano, Mexico: **G Sosa**, J E Gardner

1615h **V34C-02** Bubble Nucleation in Rhyolitic Magmas Saturated With Mixed Volatiles: **J E Gardner**, J D Webster

1630h **V34C-03** An Analysis of Sulfur Content and Multiple Sulfur Isotope Fractionation of Tephra Deposits at Valles Caldera, New Mexico: Variations over the Course of Two Caldera-Forming Eruptions: **M E Campbell**, B A Wing, J Stix

1645h **V34C-04** Evidence for Sulfur Degassing in Oceanic Basalts: **D T Wetzell**, A E Saal, M J Rutherford, E H Hauri

1700h **V34C-05** Water in Nominally Anhydrous Deep Crustal Minerals: Facilitators of Deformation and Partial Melting: **S J Seaman**, M L Williams, G C Koteas

1715h **V34C-06** Fluorine and Chlorine behavior in mantle wedge, new implications for slab component: **C Dalou**, K T Koga, N Shimizu

1730h **V34C-07** Effect of Fluorine on Near-Liquidus Phase Equilibria of Basalts: **J Filiberto**, J Wood, L Le, R Dasgupta, N Shimizu, A H Treiman

1745h **V34C-08** Sulfur isotope signals in molybdenite – a persistent message from the past: **H J Stein**, J L Hannah

Thursday A.M.

Union

U41A Moscone South: 104 Thursday 0800h
Innovative Approaches to Planetary Seismology I

Presiding: **C Sotin**, Jet Propulsion Laboratory; **M D Hofstadter**, Jet Propulsion Laboratory

0800h **U41A-01** Impact seismology on terrestrial planets and Small bodies (*Invited*): **P Lognonne**, J Gagnepain-Beyneix, M Le Feuvre, T Gudkova, T Kawamura, R F Garcia, C L Johnson, R Yamada, R C Weber, C Blitz

0820h **U41A-02** Global oscillation detection and study of internal structure of gaseous planet by Doppler spectroscopy (*Invited*): **F Schmider**, Title of Team: EJSM/JGO Doppler Spectro Imager (DSI) Team

0840h **U41A-03** Venusian Earthquakes Detection by Ionospheric Sounding: **G Occhipinti**, P Lognonne, R F Garcia, T Gudkova

0855h **U41A-04** Innovative Approaches for Seismic Studies of Mars (*Invited*): **B Banerdt**

0915h **U41A-05** One-Station Seismology Without Traditional Seismic Sources (*Invited*): **V C Tsai**

0935h **U41A-06** Ambient seismic noise applications for Titan: **J M Jackson**, Z Zhan, R W Clayton, D V Helmberger, V C Tsai

0948h **U41A-07** Combining the LP and SP Apollo Seismic data to explore Broad Band Seismology on the Moon: **T Kawamura**, P Lognonne, M Bourdet

Atmospheric Sciences

A41A Moscone South: Poster Hall Thursday 0800h
Atmospheric Sciences General Contributions: Aerosols, Air Quality, and Atmospheric Chemistry I Posters

Presiding: **D D Davis**, Georgia Institute of Technology

0800h **A41A-0020 POSTER** Relationship Between Precipitation Chemistry and Meteorological Parameters at a Urban Site in the North of Queretaro State: **R García Martínez**, G Hernández, S Solis, M D Torres, H Padilla, A Báez

0800h **A41A-0021 POSTER** Heterogeneous Reaction of HO₂ Radical with Dicarboxylic Acid Particles: **F Taketani**, Y Kanaya

0800h **A41A-0022 POSTER** Uptake of Gas-Phase CO₂ by Polycrystalline Ices or Aqueous Solutions: **M Leu**

0800h **A41A-0023 POSTER** The NIST Atmospheric Methane Gas Standard Scale: **G Rhoderick**, J Carney, E J Dlugokencky, D Kitzis

0800h **A41A-0024 POSTER** The Presence of Reactive Nitrogen in Fine and Coarse Aerosol: **C S McCluskey**, K B Beem, J L Collett

0800h **A41A-0025 POSTER** Evaluation of NO_x and CH₄ Emissions from Agricultural Land Using Geochemical Modeling: **L Guo**, D Luo, J Chen, M FitzGibbon

- 0800h **A41A-0026** POSTER The Retrieval and Comparison of Aerosol Mean and Effective Radii Measured by SAGE II and SAGE III: **G K Yue**
- 0800h **A41A-0027** POSTER Optical properties of urban aerosols, aircraft emissions, and heavy-duty diesel trucks using aerosol light extinction measurements by an Aerodyne Cavity Attenuated Phase Shift Particle Extinction Monitor (CAPS PMex): A Freedman, **P Massoli**, E C Wood, J D Allan, E Fortner, Z Yu, S C Herndon, R C Mlake-Lye, T B Onasch
- 0800h **A41A-0028** POSTER Change of the Angstrom exponent in Log-normal aerosol size distribution: **C Jung**, Y Kim
- 0800h **A41A-0029** POSTER Comparison of Contributions of Wind-blown and Anthropogenic Fugitive Dust Particles to Atmospheric Particulate Matter: **S Park**, S Gong
- 0800h **A41A-0030** POSTER Black cloud and transport of anthropogenic pollution across the Mediterranean Sea over Nile Delta region in Egypt during Fall season: **H M El-Askary**, A K Prasad, M Kafatos
- 0800h **A41A-0031** POSTER Photochemically consumed hydrocarbons and their relationship with ozone formation in two megacities of China: **C Chang**, J Wang, S Liu, M Shao, Y Zhang, T Zhu, C Shiu, C Lai
- 0800h **A41A-0032** POSTER Cycling of gaseous elemental mercury: Importance of water vapor: **S Kim**, R W Talbot, H Mao
- 0800h **A41A-0033** POSTER MUCESS-Supported Ozone Studies in Upstate New York and along the Texas Gulf Coast: **A Hromis**, M Balimuttajjo, A Johnson, J M Wright, A Idowu, D Vieyra, D Musselwhite, P A Morris
- 0800h **A41A-0034** POSTER Evaluation of biogenic emission flux and its impact on oxidants and inorganic aerosols in East Asia: **K M Han**, C H Song, R S Park, J Woo, H Kim
- 0800h **A41A-0035** POSTER Temporal and Spatial Variations in PM_{2.5} and PM_{10-2.5} in the Seoul Metropolitan Area between 2002 and 2008: **Y Ghim**, K Jung, M Kang
- 0800h **A41A-0036** POSTER Optical analysis of summer-time aerosol events over two southern Canadian sites using ground-based remote sensing techniques: **M Karumudi**, N T O'Neill, A Saha, D Daou, S Zidane, K B Strawbridge, B Firanski
- 0800h **A41A-0037** POSTER Assessment of Particulate Mercury Measured with the Tekran System: **R W Talbot**, H Mao, D Feddersen, M Smith, S Kim, B Sive, K Haase, J L Ambrose, Y Zhou, R S Russo
- 0800h **A41A-0038** POSTER Ozone Formation Potentials from Different Anthropogenic Emission Sources of Volatile Organic Compounds in California's South Coast Air Basin: **J Chen**, D Luo, B Croes
- 0800h **A41A-0039** POSTER Inhomogeneity of NO₂ over Yokosuka, an urban site in Japan observed by MAX-DOAS: **H Takashima**, H Irie, Y Kanaya
- 0800h **A41A-0040** POSTER Estimate of Top-down NO_x emissions over Seoul Metropolitan Area: **S Lee**, K M Han, C H Song
- 0800h **A41A-0041** POSTER Concentrations and changes of chemical elements in aerosol particulate matter as indicators of air quality in Riyadh City, Saudi Arabia: **A I Rushdi**, K F Al-Mutlaq, B R Simoneit
- 0800h **A41A-0042** POSTER An estimation of ship-plume SO₂ lifetimes as a function of mixing ratios of hydroxyl radicals and pH of sea-salt particles: **H Kim**, Y Kim, C H Song
- 0800h **A41A-0043** POSTER Size Distribution of Atmospheric Particulate Mercury in Marine and Continental Atmospheres: **D Feddersen**, R W Talbot, H Mao, M A Smith, B C Sive
- 0800h **A41A-0044** POSTER Modeling The Effects of Heterogeneous Reactions On Atmospheric Chemistry And Aerosol Properties During INTEX-B Field Campaign: **C Wei**, G R Carmichael, B Adhikary, S Kulkarni
- 0800h **A41A-0045** POSTER Characterization of stable carbon and nitrogen isotopes in aerosols at a semi-rural New England location: Temporal variations and implications for sources: **K M Shakya**, P F Place, R J Griffin, A Ouimette, R W Talbot
- 0800h **A41A-0046** POSTER Assessment of polarization effect on aerosol retrievals from MODIS: **S Korkin**, A Lyapustin
- 0800h **A41A-0047** POSTER Atmospheric mercury concentration measurements using cavity ring-down spectroscopy: **A Pierce**, X FAIN
- 0800h **A41A-0048** POSTER INORGANIC AND ORGANIC CHEMICAL COMPOSITION OF ATMOSPHERIC PARTICLES IN THE GUÁNICA'S DRY FOREST: **W Marrero-Ortiz**, O L Mayol-Bracero
- 0800h **A41A-0049** POSTER Preliminary Observations of Particulate Matter at Baeng-yeong Island, Korea, with a High Resolution Time of Flight Aerosol Mass Spectrometer: **J Park**, T Lee, S Lee, J Kim, S Jang, D Lee, J Ahn, H Jeon, G Lee, J L Collett
- 0800h **A41A-0050** POSTER Quartz-Enhanced Photoacoustic Detection for Aerosol Optical Characterization: **M Hollinger**, N Black, C Mazzoleni
- 0800h **A41A-0051** POSTER On-Road measurement of particulate matter emissions from vehicles: particle concentration, size distribution and morphology: **N Salvadori**, S China, J Cook, H D Kuhns, H Moosmuller, C Mazzoleni
- 0800h **A41A-0052** POSTER Characterization of Cooking-Related Aerosols: **R F Niedziela**, L E Blanc
- 0800h **A41A-0053** POSTER HaChi - Size- and time-resolved measurements of submicron winter and summer haze particles from the Beijing area: **B Nekat**, D van Pinxteren, Y Iinuma, T Gnauk, K Müller, H Herrmann
- 0800h **A41A-0054** POSTER Low-Cost Sensor Units for Measuring Urban Air Quality: **O A Popoola**, M Mead, G Stewart, T Hodgson, M McLoed, J Baldovi, P Landshoff, M Hayes, M Calleja, R Jones
- 0800h **A41A-0055** POSTER Observations of ClNO₂ and PANs in a mid-continental urban environment: **A Furgeson**, L Mielke, H D Osthoff
- 0800h **A41A-0056** POSTER Enhanced Turbulent Mixing on Highways: **M Gordon**, R M Staebler, J Liggio, P Makar, J Brook, J J Wentzell, G Lu, P Lee
- 0800h **A41A-0057** POSTER Formal blind intercomparison of HO₂ measurements during the HO_xComp campaign: **H Fuchs**, T Brauers, H Dorn, H D Harder, R Häseler, A Hofzumahaus, F Holland, Y Kanaya, Y J Kajii, D Kubistin, S Lou, M Martinez, K Miyamoto, S Nishida, M Rudolf, E Schlosser, A Wahner, A Yoshino, U Schurath
- 0800h **A41A-0058** POSTER Wet Deposition Concentrations and Fluxes of Mercury in Taiwan: **G Sheu**, N Lin
- 0800h **A41A-0059** POSTER Heterogeneous Uptake of HO₂ Radicals onto Atmospheric Aerosols: **I J George**, B Brooks, A Goddard, L K Whalley, M T Baeza-Romero, D E Heard
- 0800h **A41A-0060** POSTER Temporal and spatial variation of morphological descriptors for atmospheric aerosols collected in Mexico City: **S China**, C Mazzoleni, M K Dubey, R K Chakrabarty, H Moosmuller, T B Onasch, S C Herndon
- 0800h **A41A-0061** POSTER Characterization and Scaling of Black Carbon Aerosol Concentration with City Population Based on In-Situ Measurements and Analysis: **G Paredes-Miranda**, W P Arnott, H Moosmuller

0800h **A41A-0062** POSTER Aerosols in clean and smoky air at Bozeman, Montana: **J A Shaw**, M Thomas, T L Lathem, G E Shaw, A Nenes, N Pust, K S Repasky
0800h **A41A-0063** POSTER Hydroxyl Radicals on Ice: A Molecular Dynamics Study: **T Kahan**, J Vincent, D J Donaldson, D J Tobias, J C Hemminger
0800h **A41A-0064** POSTER Investigating the Kinetics of Mercury Oxidation and the Contribution of Halogen Radicals from Field Measurements in Barrow, AK: **C R Stephens**, P B Shepson, A Steffen, J W Bottenheim, J Liao, L G Huey
0800h **A41A-0065** POSTER Characteristics of Carbonaceous and Ionic Species and Direct Aerosol Forcing of the Aerosols over Gosan, Jeju, Korea: **N Kim**, Y Kim, C Kang
0800h **A41A-0066** POSTER High Resolution Formaldehyde Photochemistry: **C T Ernest**, D Bauer, A J Hynes

A41B Moscone South: Poster Hall Thursday 0800h
Hurricane Prediction and Societal Impacts I Posters (joint with NH, OS, PA)

Presiding: **J Bao**, NOAA/ESRL; **Z Pu**, University of Utah

0800h **A41B-0067** POSTER The Evolution of Convective Structure in Tropical Cyclones Undergoing Rapid Intensification as Observed by Passive Microwave Sensors: **D S Harnos**, S W Nesbitt
0800h **A41B-0068** POSTER Adjoint sensitivity structures of typhoon DIANMU (2010) based on a global model: **S Kim**, H Kim, S Joo, H Shin, D Won
0800h **A41B-0069** POSTER Hydrometeor Trajectories and Distributions in a Simulation of TC Rapid Intensification (RI): **Z Zhu**, P Zhu
0800h **A41B-0070** POSTER Development of a tropical cyclone tracker and applications to tropical cyclones occurred in 2008 in North Western Pacific: **J Kim**, H Kim, Title of Team: atmospheric predictability and data assimilation laboratory
0800h **A41B-0071** POSTER An Observing System Simulation Experiment for the use of Unmanned Aircraft Systems in improving tropical cyclone forecasts: **N Prive**, Y Xie, S E Koch, R Atlas, S Majumdar, M Masutani, J Woollen, L Riishojgaard
0800h **A41B-0072** POSTER Estimation of turbulence characteristics of the low-level eyewall and outer-core regions in intense Hurricanes Allen (1980) and Hugo (1989): **J A Zhang**, F D Marks, M Montgomery, S Lorusolo
0800h **A41B-0073** POSTER Predictability of Tropical Cyclone Inter-annual Variability with 25-km High-resolution Global Model: **J Chen**, S Lin, T Marchok
0800h **A41B-0074** POSTER Aircraft Monitoring of Sea-Spray and Changes in Hurricane Intensity: **J R Lawrence**
0800h **A41B-0075** POSTER A New Paradigm Shift from Weather to Quantitative Impact Forecasts: **S S Chen**
0800h **A41B-0076** POSTER Contributions of Airborne GPS Radio Occultation Observations to Investigations of Moisture Evolution during the Development of Tropical Depressions and Storms: **J S Haase**, B Murphy, P Muradyan, A Johnson, C A Davis, S Chen, F Xie, J L Garrison, R D Torn
0800h **A41B-0077** POSTER Impacts of the STMAS cycling data assimilation system on improving hurricane prediction: H Yuan, **Y Xie**
0800h **A41B-0078** POSTER Numerical simulations of tropical cyclones with assimilation of satellite, radar and in-situ observations: lessons learned from recent field programs and real-time experimental forecasts: **Z Pu**, L Zhang

0800h **A41B-0079** POSTER NOAA HRD's HEDAS Data Assimilation System's performance for the 2010 Atlantic Hurricane Season: **K Sellwood**, A Aksoy, T Vukicevic, S Lorusolo
0800h **A41B-0080** POSTER Comparison of vertical wind shear impacts on hurricane structure deduced from a high-resolution numerical model and airborne Doppler radar: **P D Reasor**, S Gopalakrishnan, S Lorusolo, J Gamache, F D Marks
0800h **A41B-0081** POSTER Impact of upper ocean warm layer thickness on hurricane intensity change in a regional coupled model: **H Seo**, S Xie
0800h **A41B-0082** POSTER The HFIP High Resolution Hurricane Forecast Test: **L B Nance**, L Bernardet, S Bao, B Brown, L Carson, T Fowler, J Halley Gotway, C Harrop, E Szoke, E I Tollerud, J Wolff, H Yuan
0800h **A41B-0083** WITHDRAWN
0800h **A41B-0084** POSTER Analysis of forecast errors of high-resolution hurricane forecast using the ensemble data assimilation system: **T Vukicevic**, A Aksoy, K Sellwood, P D Reasor, S Gopalakrishnan, L Bucci, S Aberson, F D Marks
0800h **A41B-0085** POSTER Advancements in Satellite Retrievals of Ocean Winds under Storm Conditions: The New WindSat All-Weather Dataset: T Meissner, **L Ricciardulli**, F J Wentz
0800h **A41B-0086** POSTER EVALUATING TROPICAL CYCLONE FORECASTS FROM HIGH-RESOLUTION REGIONAL MODELS AND LOWER RESOLUTION GLOBAL MODELS USING THE JPL GRIP/PREDICT/IFEX DATABASE OF SATELLITE AND AIRBORNE OBSERVATIONS DURING THE PERIOD AUGUST 15TH - SEPTEMBER 30TH 2010: **S M Hristova-Veleva**, F J Turk, P Li, B W Knosp, Q Vu, B Lambriksen, M Montgomery, M Boothe, C S Velden, S Gopalakrishnan, S L Durden, S Tanelli, T Quirino
0800h **A41B-0087** POSTER Sea Spray Physics in Coupled Atmosphere-Wave-Ocean Models for Hurricane Prediction: **J Bao**, C W Fairall, L Bianco, S A Michelson, I Ginis, T Hara, B Thomas
0800h **A41B-0088** POSTER Progress in development of the Flow-following finite-volume Icosahedral Model (FIM) toward improving NCEP global ensemble forecasts and toward a chemistry-coupled global: T B Henderson, S Benjamin, R Bleck, J Brown, S Sun, **J Bao**, S Sahm, G A Grell, M Fiorino
0800h **A41B-0089** POSTER Interaction of the ITCZ and an African Easterly Wave in the Pre-genesis Evolution of Tropical Storm Erika (2009): **Z Wang**
0800h **A41B-0090** POSTER The Tropical Cyclone Modeling Team (TCMT): Evaluation of Experimental Models for Tropical Cyclone Forecasting in Support of the NOAA Hurricane Forecast Improvement Project (HFIP): **P A Kucera**, B Brown, L B Nance, K M Crosby, C Williams, T Jensen

A41C Moscone South: Poster Hall Thursday 0800h
Investigation of Atmospheric Processes Using Stable Isotopes I Posters (joint with B, GC, P)

Presiding: **M G Hastings**, Brown University; **R Shaheen**, Univ. of California San Diego

0800h **A41C-0091** POSTER Variation in Atmospheric Helium Isotopes: **J C Mabry**, B Marty, P Burnard, P Bland
0800h **A41C-0092** WITHDRAWN
0800h **A41C-0093** POSTER Determination of triple oxygen isotope ratios for tropospheric carbon dioxide: **S Mahata**, M Liang
0800h **A41C-0094** POSTER DEVELOPMENT AND DEPLOYMENT OF A FIELD-DEPLOYABLE AMBIENT METHANE CARBON ISOTOPE ANALYZER USING NEAR-IR LASER ABSORPTION SPECTROSCOPY: **D S Baer**, F Dong

0800h **A41C-0095** POSTER Effects of natural and anthropogenic CH₄ sources on variations of atmospheric CH₄ over western Siberia identified by its carbon and hydrogen stable isotopes: **T Umezawa**, T Machida, S Aoki, T Nakazawa

0800h **A41C-0096** POSTER Understanding the historical trend in atmospheric methane using its carbon isotopic composition 1978 to 1998: **D G Teama**, A L Rice

0800h **A41C-0097** POSTER Latitudinal and temporal patterns in terrestrial ecosystems recorded by the carbon isotopic composition of plant leaf wax aerosols: **M H Conte**, J C Weber

0800h **A41C-0098** POSTER Carbon isotope discrimination of coniferous forests in the Pacific Northwest, U.S.A: **C Lai**, J Ehleringer

0800h **A41C-0099** POSTER Tracking atmospheric sulphur pollution from the study of *Racomitrium lanuginosum* mosses in Iceland: A multi-isotope approach ($\delta^{34}\text{S}$, $^{206}\text{Pb}/^{204}\text{Pb}$, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$): E Proust, **D Widory**, B Gautason, K Rogers, J Morrison

0800h **A41C-0100** POSTER Environmental controls on the 34S/32S ratios of soil and vegetation: **S A Balan**, A Laleian, E Portier, R Amundson

0800h **A41C-0101** POSTER Isotope ratio mass spectrometry as a tool to determine aerosol yields in organic seed aerosols: **J Dommen**, P Barmet, F Bianchi, L Pfaffenberger, P F DeCarlo, M Saurer, R T Siegwolf, A S Prevot, U Baltensperger

0800h **A41C-0102** POSTER Heterogeneous Chemical Transformation on Mineral Aerosol Surfaces during Long Range Transport and its Implications in Understanding Aeolian Dust Deposits in Antarctic Dry Valleys: **R Shaheen**, H Bao, M H Thiemens

0800h **A41C-0104** POSTER Triple oxygen isotope determination of oxygen exchange between sulfite and water preceding the aqueous oxidation of sulfite (pH=1-10): **I E Kohl**, H Bao

0800h **A41C-0105** POSTER Investigating atmospheric transport processes using cosmogenic 35S and oxygen isotopic anomaly ($\Delta 17\text{O}$) in sulfate: **J C Hill-falkenthal**, A Pandey, E Coupal, S D Kim, G Dominguez, M H Thiemens

0800h **A41C-0106** POSTER Sulfur Isotopes of SO₂ and Aerosol sulphate during the onset of Arctic Winter: **A Seguin**, O T Rempillo, A L Norman

0800h **A41C-0107** POSTER The spring nitrate peak in snow and ice cores at Summit, Greenland: **L Geng**, J Cole-Dai, B Alexander

0800h **A41C-0108** POSTER A simple model to predict $\delta^{18}\text{O}$ values of atmospheric nitrate: **G Michalski**, D Mase, V K Sehrawat

0800h **A41C-0109** POSTER Analysis of Atmospheric Nitrogen Inputs to the Forest Through Isotope Mass Spectrometry: **A J Wright**, B Alexander, G M Michalski, P B Shepson

0800h **A41C-0110** WITHDRAWN

0800h **A41C-0111** POSTER Quantifying the isotope fractionation factor for ^{18}O -O₂ consumption during respiration in flowing waters: **E R Hotchkiss**, R O Hall

A41D Moscone South: Poster Hall Thursday 0800h
Mechanisms of High-Latitude Climate Change I Posters (joint with C, GC, OS)

Presiding: **M G Flanner**, University of Michigan; **I L Eisenman**, Caltech & UW; **J E Kay**, NCAR

0800h **A41D-0112** POSTER Trends and variability in near-surface temperatures across West Antarctica: S Hosking, J Turner, A Orr, T Phillips, **H K Roscoe**

0800h **A41D-0113** POSTER Characteristics of Antarctic gravity waves in the lower atmosphere and their long-term variations at McMurdo and the South Pole: **Z Yu**, X Chu, A McDonald, C Yamashita, C S Gardner

0800h **A41D-0114** POSTER Starphotometry at two High Arctic stations: **K Baibakov**, N T O'Neill, A Herber, E Eloranta

0800h **A41D-0115** POSTER A dynamical mechanism for recent Southern Hemisphere climate change: A Orr, T Bracegirdle, S Hosking, T Jung, J Haigh, T Phillips, **H K Roscoe**

0800h **A41D-0116** POSTER Satellite derived 30-year trends in terrestrial frozen and non-frozen seasons and associated impacts to vegetation and atmospheric CO₂: **Y Kim**, J S Kimball, K C McDonald, J M Glassy

0800h **A41D-0117** POSTER On the influence of the height of expanding shrub vegetation on boreal climate: **C Bonfils**, T J Phillips, W J Riley, W M Post, P J Cameron-Smith, M S Torn

0800h **A41D-0118** POSTER The Effects of Continental-Scale Snow Albedo Anomalies on the Wintertime Arctic Oscillation: **R J Allen**, C S Zender

0800h **A41D-0119** POSTER Increasing Arctic sea ice export driven by stronger winds: **A Sorteberg**, L H Smedsrud, A Sirevaag, K Kloster

0800h **A41D-0120** POSTER Recent Changes in Tropospheric Water Vapour of the Arctic: **A P Barrett**, M C Serreze, J C Stroeve

0800h **A41D-0121** POSTER Modeling the Response of Boreal Forest Expansion on the Summer Arctic Frontal Zone: S Liess, **P K Snyder**, K J Harding

0800h **A41D-0122** POSTER High-Latitude Inversion Layers from GPS Radio Occultation Observations: C O Ao, **F Xie**, Y Zhang, D J Seidel, J E Kay, C Deser

0800h **A41D-0123** POSTER Changes in the sea ice seasonal cycle in response to climate change: **I L Eisenman**, T Schneider, D S Battisti, C M Bitz

0800h **A41D-0124** POSTER A Framework for Thinking About Cloud Feedbacks and Arctic Sea Ice Tipping Points: **D S Abbot**, M Silber, R Pierrehumbert

0800h **A41D-0125** POSTER Snow-atmosphere coupling strength and its contribution to climate predictability: **L Xu**

0800h **A41D-0126** POSTER Recent West Antarctic warming caused by central tropical Pacific warming: **Q Ding**, E J Steig, D S Battisti, M Kuttel

0800h **A41D-0127** POSTER Polar surface pressure responses to the global electric circuit: **L Hebert**, B A Tinsley

0800h **A41D-0128** POSTER The increase of Southern Ocean winds and SAM: is it caused by the ozone hole or by increased greenhouse gases?: **H K Roscoe**

0800h **A41D-0129** POSTER Role of Surface Temperature Inversions in Arctic Amplification: **G B Lesins**, T J Duck, J R Drummond

0800h **A41D-0130** POSTER Increasing October low-cloud cover in the Arctic as observed by MISR during 2000-2009: **D L Wu**, J N Lee

0800h **A41D-0131** POSTER Water vapour feedback amplifies high latitude warming: **R G Graversen**, P L Langen, T Mauritsen

0800h **A41D-0132** POSTER The role of changing synoptic circulation patterns on the climate of McCall Glacier, Alaska: **E Cassano**, J J Cassano, M Nolan

0800h **A41D-0133** POSTER Long-term changes in Arctic surface-based inversions: **Y Zhang**, D J Seidel, J Golaz, C Deser, R A Tomas

0800h **A41D-0134** POSTER Linkages between Transient Atmospheric Eddy Activities and the Retreat of Arctic Sea Ice in Different Circulation Patterns: **P Ma**, H Wang, P J Rasch

0800h **A41D-0135** POSTER Recent century-scale intrusion of MCDW on the Ross Sea continental shelf evidenced by multi-proxy analysis of the deep-water coral, Errina: **T Allinger**, T Burt, E W Domack

0800h **A41D-0136** POSTER The influence of initial conditions on predictability in the Arctic: **E Blanchard-Wrigglesworth**, C M Bitz, M M Holland

0800h **A41D-0137** POSTER Comparison of High Latitude MISR and CERES TOA Shortwave Irradiance Measurements: **J Corbett**, R Davies

0800h **A41D-0138** POSTER Is sea ice loss reversible?: **K Armour**, I L Eisenman, E Blanchard-Wrigglesworth, C M Bitz

A41E Moscone South: Poster Hall Thursday 0800h
Origin, Composition, and Physicochemical Transformation of Atmospheric Aerosols From Studies of Individual Particles I Posters

Presiding: **J M Conny**, National Institute of Standards and Technology; **R D Willis**, US EPA

0800h **A41E-0139** WITHDRAWN

0800h **A41E-0140** POSTER SEM/EDS Characterization of Ambient PM during Agricultural Burns: **J Wagner**, S Wall

0800h **A41E-0141** POSTER Measurements and model studies of ambient aerosol volatility in Riverside, CA: **L Hatch**, K A Pratt, K C Barsanti, K A Prather

0800h **A41E-0142** POSTER The Role of Aerosol Composition in Arctic Cloud Formation: **S D Brooks**, N Hiranuma, R Moffet, A Laskin, M K Gilles, A Glen

0800h **A41E-0143** POSTER Long-term measurements of aerosol hygroscopicity at a forested site in Colorado: **E J Levin**, A J Prenni, M D Petters, J Ortega, J N Smith, P J DeMott, S M Kreidenweis

0800h **A41E-0144** POSTER A comparison of characteristics of fog droplet size distribution in a mountainous region of South Korea: **J Jeong**, K Chang, J Cha, C Lee, Y Choi

0800h **A41E-0145** POSTER Importance of aerosol phase upon aerosol oxidation: **F D Pope**, P Achakulwisut, P Gallimore, M Kalberer

0800h **A41E-0146** POSTER Discontinuous hygroscopic growth of an aqueous surfactant/salt aerosol particle levitated in an electrodynamic balance: **V Soonsin**, U K Krieger, T Peter

0800h **A41E-0147** POSTER Brief (<1 sec) delays to particle activation, and their influence on deposition patterns in the respiratory system: **C R Ruehl**, M J Kleeman, P Y Chuang, A Nenes

0800h **A41E-0148** POSTER Depth resolved characterization of model and ambient atmospheric particles using high-resolution secondary ion mass spectrometry: **S Ghosal**

A41F Moscone South: Poster Hall Thursday 0800h
Wind Power Meteorology I Posters (joint with OS, PA)

Presiding: **J K Lundquist**, U. of Colorado at Boulder; **S Basu**, North Carolina State University; **J R McCaa**, 3TIER

0800h **A41F-0149** POSTER Evaluation of Mesoscale Modeled East Coast Offshore Winds Using Tall Towers, QuikSCAT, and Buoy Data: **M J Dvorak**, M Z Jacobson

0800h **A41F-0150** POSTER Long-Term Measurements for Evaluating Model Predicted Low-Level Winds: **L K Berg**, J D Fast, R K Newsom, J R McCaa, C A Finley

0800h **A41F-0151** POSTER Effect of wind turbine wakes on cropland surface fluxes in the US Great Plains during a Nocturnal Low Level Jet: **M E Rhodes**, M Aitken, J K Lundquist, E S Takle, J H Prueger

0800h **A41F-0152** POSTER Improving the Prediction of Hub Heights Winds Using Gradient Flux Techniques: **W Pendergrass**, N Keener, C A Vogel

0800h **A41F-0153** POSTER Innovative Solutions for Pulsed Wind Lidar Accuracy in Complex Terrain: **M Boquet**

0800h **A41F-0154** POSTER Performance of a wind-profiling LIDAR in the region of wind turbine rotor disks: **M Aitken**, M E Rhodes, J K Lundquist

0800h **A41F-0155** POSTER Terrain forcing and thermal winds in a mountain pass: **A Clifton**, M H Daniels, M Lehning

0800h **A41F-0156** POSTER Experimental study of wind turbine wakes in a convective boundary layer: **W Zhang**, C D Markfort, F Porte-Agel

0800h **A41F-0157** POSTER The effects of varying meteorological conditions on power production at a central North American wind farm: **B J Vanderwende**, J K Lundquist

0800h **A41F-0158** POSTER Atmospheric stability effects on turbulent flow over a steep 2-D hill: **F Porte-Agel**, W Zhang

0800h **A41F-0159** POSTER Large Eddy Simulation study of fully developed thermal wind-turbine array boundary layers: **M Calaf**, C V Meneveau, M B Parlange

0800h **A41F-0160** POSTER Implementation of the Blade Element Momentum Method into a High-Resolution 3-D Atmospheric Model: Evaluating a Parameterization for Wind Turbines: **M Sta. Maria**, G S Ketefian, M Z Jacobson

0800h **A41F-0161** POSTER An Approach for Quantitative Forecasting of Turbulent Flow over an Urban Area by Coupling Numerical Weather Prediction and Large-Eddy Simulation Models: **T Takemi**, H Nakayama

0800h **A41F-0162** POSTER Large-eddy simulation of flow over the Great Plains under stable atmospheric conditions: **B Zhou**, F K Chow

0800h **A41F-0163** POSTER Evaluation of sub-kilometer dynamical downscaling with MM5 and WRF mesoscale models: R Vellore, **K Horvath**, D Koracin, J Jiang, R Belu, T McCord

0800h **A41F-0164** POSTER Sensitivity evaluation of wind fields in surface layer by PBL and LSM parameterizations using WRF over the Korean Peninsula: **B Seo**, J Byon, Y Choi

0800h **A41F-0165** POSTER Wind field variability in high-resolution simulations for wind energy forecasts and resource assessment: **N Marjanovic**, F K Chow, S Wharton, J K Lundquist

0800h **A41F-0166** POSTER Short-term wind-speed forecasting system for wind power applications: **J J Traiteur**, S Baidya Roy

0800h **A41F-0167** POSTER Spatial and Temporal Variations of Wind Energy in Long Bay of the Carolinas: Numeric Modeling Estimates for the Year 2009-2010: **K Xu**, L J Pietrafesa, P T Gayes, M Peng, Y Ma, D Tarpley, K Gregorek, L Mynhier

0800h **A41F-0168** POSTER WRF and Mass-Consistent Wind Model Applications for Wind Power Forecasting in California's Coastal Complex Terrain: **K T Clifford**, C B Clements, M Voss

0800h **A41F-0169** POSTER Design of a WRF Ensemble for Improved Wind Forecasts at Turbine Height: **W A Gallus**, A J Deppe, E S Takle

0800h **A41F-0170** POSTER Assessment of a wind map over the Korean Peninsula based on WRF-FDDA: **J Byon**, Y Choi, B Seo

0800h **A41F-0171** POSTER Four-dimensional variational assimilation of multi-time wind profile observations: the impact and potential applications to wind power meteorology: X Liang, **Z Pu**, L Zhang

0800h **A41F-0172** POSTER Using initial and boundary condition perturbations in medium-range regional ensemble forecasting with two nested domains: **J Jiang**, D Koracin, R Vellore, M Xiao, J M Lewis

0800h **A41F-0173** POSTER Widespread land surface wind decline in the Northern Hemisphere partly attributed to land surface changes: J Thepaut, R Vautard, J Cattiaux, P Yiou, **P Ciais**

0800h **A41F-0174** POSTER Wind energy forecast ensembles using a fully-coupled groundwater to atmosphere model: **J L Williams**, R M Maxwell

0800h **A41F-0175** POSTER The Wind ENergy Data and Information (WENDI) Gateway: New Information and Analysis Tools for Wind Energy Stakeholders: **D Kaiser**, G Palanisamy, S Santhana Vannan, Y Wei, T Smith, M Starke, M Wibking, Y Pan, R Devarakonda, B E Wilson, Title of Team: Wind ENergy Data and Information (WENDI) Gateway Team

0800h **A41F-0176** WITHDRAWN

0800h **A41F-0177** POSTER Wind Climatology for the Great Lakes Region as Derived from the North American Regional Reanalysis: **S Zhong**, X Li, R X Bian, W Heilman

0800h **A41F-0178** POSTER A U.S. Wind Climatology: new tools to monitor wind trends across the contiguous United States: **J Crouch**, T W Wallis, D Arndt

0800h **A41F-0179** POSTER Application of Satellite Data to Develop Wind Potential Model: A Case Study of Pakistan Coastal Belt: **Z A Nayar**, N A Zaigham

0800h **A41F-0180** POSTER Wind Energy in the Midwest: Past and Future trends: **E M Holt**, J Wang

0800h **A41F-0181** POSTER An Analysis of Climate Change Impacts on Future Wind Energy Production in California: D M Rasmussen, **T Holloway**, G F Nemet

0800h **A41F-0182** POSTER Applications of the Renewable Energy Network Optimization Tool: **R Alliss**, R Link, D Apling, H Kiley, M Mason, K Darменова

0800h **A41F-0183** POSTER Optimizing Aggregation Scenarios for Integrating Renewable Energy into the U.S. Electric Grid: **B A Corcoran**, M Z Jacobson

0800h **A41F-0184** POSTER Optimizing Baseload Power of Interconnected Wind Farms: **B H Kobrin**

0800h **A41F-0185** POSTER Southern California Wind Power Sensitivity to Turbine Hub Height, Rotor Radius and Rated Power: **S B Capps**, A D Hall, M R Hughes

0800h **A41F-0186** POSTER Application-dependent Probability Distributions for Offshore Wind Speeds: **E C Morgan**, M Lackner, R M Vogel, L G Baise

0800h **A41F-0187** POSTER Wind resource in Iceland: K Jonasson, **H Bjornsson**, T Birgisson, J Blondal

0800h **A41F-0188** POSTER Accuracy of Wind Prediction Methods in the California Sea Breeze: **B D Sumers**, M J Dvorak, J E Ten Hoeve, M Z Jacobson

0800h **A41F-0189** POSTER Using and testing WAsP over West Texas area: **K Rozsavolgyi**, A Ruiz-Columbie

A41G Moscone West: 3006 Thursday 0800h
Atmospheric Sciences General Contributions: Numerical Methods I

Presiding: **S Madronich**, NCAR; **S J Solomon**, Environment Canada

0800h **A41G-01** WITHDRAWN

0815h **A41G-03** Assimilation of remotely sensed snow data in CALDAS land assimilation system: **S J Solomon**, S Belair, C Derksen, L Wang, M L Carrera, B Bilodeau

0830h **A41G-04** Impacts of the surface conditions uncertainties in the Canadian Regional Ensemble Prediction System: **C Lavaysse**, M L Carrera, S Belair, M Charron, P M Yau, R Frenette, N Gagnon

0845h **A41G-05** Multiscale Eulerian Model Within NCEP's National Environmental Modeling System: **Z Janjic**, T Black, R Vasic, E Rogers, G DiMego

0900h **A41G-06** Idealized Tropical Cyclone Simulations of Intermediate Complexity: A Test Case for Atmospheric GCMs: **C Jablonowski**, K A Reed

0915h **A41G-07** High-Order Finite-Volume Schemes for Simulating Atmospheric Flows: **P A Ullrich**, C Jablonowski

0800h **A41G-08** What is learned about amplitude and waveform from geometric acoustics?: **P Blom**, R Waxler

A41H Moscone West: 3004 Thursday 0800h
Marine Aerosols: Production Mechanisms, Chemical Composition, and Representation in Regional and Global Models I (*joint with B, OS*)

Presiding: **N Meskhidze**, North Carolina State university; **M D Petters**, North Carolina State University; **L M Russell**, Scripps Institution of Oceanography

0800h **A41H-01** Factors Regulating the Size-Resolved Production and Composition of Nascent Marine Aerosols (*Invited*): **W C Keene**, A Frossard, M S Long, J R Maben, L M Russell, D J Kieber, J Kinsey, T S Bates, P Quinn

0812h **A41H-02** Production Flux of Sea-Spray Aerosol: **G De Leeuw**, E L Andreas, M D Anguelova, C W Fairall, E R Lewis, C O'Dowd, M Schulz, S E Schwartz

0824h **A41H-03** Measurements of Ocean Derived Aerosol off the Coast of California: **T S Bates**, P Quinn, A Frossard, L M Russell, D J Kieber, J Hakala, W C Keene

0836h **A41H-04** Marine Boundary Layer Aerosol Profiling with a Camera Lidar: **J E Barnes**, N C Parikh Sharma, T Kaplan, A D Clarke

0848h **A41H-05** Effect of phytoplankton-released organic matter on the production and properties of the primary marine aerosol (*Invited*): **E Fuentes**, H Coe, D Green, G De Leeuw, G McFiggans

0900h **A41H-06** Isolating factors that determine the organic enrichment of sea spray: **B Gantt**, E Morris, M D Petters, N Meskhidze

0912h **A41H-07** Biogenic amines in submicron marine aerosol (*Invited*): **M Facchini**

0924h **A41H-08** Latitudinal distributions of organic nitrogen and organic carbon in marine biologically influenced aerosols over the western North Pacific in summer: **Y Miyazaki**, K Kawamura, J Jung, H Furutani, M Uematsu

0936h **A41H-09** Observational Constraints on Concentration and Production of Sea-Spray Aerosol: **E R Lewis**

0948h **A41H-10** Influences of the primary organic marine component on sea-spray composition and climate (*Invited*): **K Tsigaridis**, D M Koch, S Menon

A41I Moscone West: 3002 Thursday 0800h
Quantification of Emissions: Addressing Current and Future Challenges I (*joint with B*)

Presiding: **G J Frost**, NOAA; **C Granier**, LATMOS/IPSL and NOAA

0800h **Introduction** *Greg Frost, Claire Granier*

0805h **A41I-01** Bringing Emissions Data into the 21st Century (*Invited*): **S Smith**

0825h **A41I-02** Global EDGAR v4.1 emissions of air pollutants: analysis of impacts of emissions abatement in industry and road transport on regional and global scale: **G Janssens-Maenhout**, J G Olivier, U M Doering, J van Aardenne, S Monni, V Pagliari, J A Peters

0840h **A41I-03** What is in the flask? Going beyond inventories: **R J Andres**, P K Patra, S Piper

0855h **A41I-04** Quantification of uncertainty associated with United States high resolution fossil fuel CO₂ emissions: updates, challenges and future plans: **K R Gurney**, V Chandrasekaran, D L Mendoza, S Geethakumar
0910h **A41I-05** Megacity and country emissions from combustion sources-Buenos Aires-Argentina: **L Dawidowski**, D Gomez, M Matranga, A D'Angiola, G Oreggioni
0925h **A41I-06** Developing Shipping Emissions Assessments, Inventories and Scenarios (*Invited*): **J J Corbett**
0800h **A41I-07** WITHDRAWN
0945h **A43D-0256** Analysis and comparison of trends in concentrations and emissions of VOC and CO and VOC:CO ratios in urban European cities: **A D'Angiola**, E von Schneidmesser, C Granier, K Law, P S Monks

A41J Moscone West: 3008 Thursday 0800h
Troposphere Gaseous Composition in Regional and Global Perspective I (*joint with B*)

Presiding: **O A Tarasova**, World Meteorological Organization;
P C Novelli, NOAA/ESRL

0800h **Introduction** *Tarasova Oksana*
0805h **A41J-01** A Long-term Perspective on Recent Increases in Atmospheric Methane Abundance (*Invited*): **E J Dlugokencky**, P Lang, K Masarie, A M Crowell, L Bruhwiler
0825h **A41J-02** Combined analysis of the global methane and methyl chloroform budgets: **M C Krol**, S A Montzka, E J Dlugokencky, S Houweling, J Lelieveld
0840h **A41J-03** Inverse modeling of the recent trend and inter-annual variation of CH₄ emissions using in situ measurements and SCIAMACHY: **S Houweling**, P Bergamaschi, M Krol, C Frankenberg, E J Dlugokencky, I Aben
0855h **A41J-04** Global high resolution atmospheric CO₂ simulation with 1x1 km surface fluxes and coupled (Eulerian/Lagrangian) model: **A Ganshin**, S Maksyutov, T Oda, M Saito, V Valsala, Y Koyama, A Ito, R J Andres, R Zhuravlev, A Lukyanov
0910h **A41J-05** Volatile Organic Compounds in the Global Atmosphere (*Invited*): **D Helmig**, J W Bottenheim, I Galbally, A C Lewis, K Masarie, M Milton, S Penkett, C Plass-Duelmer, S Reimann, R Steinbrecher, P P Tans, S Thiel
0930h **A41J-06** North American isoprene influence on intercontinental ozone pollution: **A M Fiore**, H Levy, D A Jaffe
0945h **A41J-07** Seasonal and Interannual Trends of Volatile Organic Compounds in a Subtropical Area close to the Gulf of Mexico in the Time Frame 2003-2010: **B Rappenglueck**

Biogeosciences

B41A Moscone South: Poster Hall Thursday 0800h
Carbon Sequestration in the Biosphere: Biogeochemistry and Biophysics I Posters (*joint with A, GC, H, OS*)

Presiding: **N Zeng**, University of Maryland; **K Caldeira**, Carnegie Institution; **S D Wullschlegel**, Oar Ridge National Laboratory; **V L Bailey**, Pacific Northwest National Laboratory; **A Noormets**, North Carolina State University; **D EPRON**, Universit Henri Poincar

0800h **B41A-0279** POSTER THE FUTURE OF CARBON STORAGE IN UPLAND BLANKET PEATLANDS- THE CASE OF THE ENGLISH PEAK DISTRICT: S Dixon, **F Worrall**
0800h **B41A-0280** POSTER PARTITIONING CO₂ FLUXES IN TRANSITIONAL BIOENERGY CROPS:EFFECT OF LAND USE CHANGE: **T Zenone**, J Chen, S K Hamilton, G P Robertson

0800h **B41A-0281** POSTER Effect of Charcoal Volatile Matter Content and Feedstock on Soil Microbe-Carbon-Nitrogen Dynamics: **T McClellan**, J L Deenik, W C Hockaday, S Campbell, M J Antal, Jr.
0800h **B41A-0282** POSTER Eroding forest carbon sinks following thinning for combined fire prevention and bioenergy production: **T W Hudiburg**, B E Law, S Luysaert
0800h **B41A-0283** POSTER New Coupled Model Used Inversely for Reconstructing Past Terrestrial Carbon Storage from Pollen Data: Validation of Model Using Modern Data: **H Wu**, J Guiot, C Peng, Z Guo
0800h **B41A-0284** POSTER Long-Term Mineral Soil Carbon Response to Forest Harvesting in New England: **R A Neurath**, L M Zummo, A J Friedland
0800h **B41A-0285** POSTER Comparison of Chlorinated Ethenes DNAPL Reductive Dechlorination by Indigenous and Evantite culture with Surfactant Tween-80: **S Kwon**, S Hong, R Kim, N Kim, H Ahn, S Lee, Y Kim
0800h **B41A-0286** POSTER Climatic and management influence on the carbon sequestration capacity of a deciduous oak coppice forest in Italy: **L Belelli Marchesini**, A Rey Simó, D Papale, R Valentini
0800h **B41A-0287** POSTER Simulations of the terrestrial carbon cycle using DGVM under RCPs scenarios: **T Hajima**, H SATO, T Ise
0800h **B41A-0288** POSTER How strong are biological soil crusts as sinks for atmospheric CO₂? **R L Jasoni**, J D Larsen, L F Fenstermaker, J Arnone
0800h **B41A-0289** POSTER High rates of carbon storage in old deciduous forests: Emerging mechanisms from the Forest Accelerated Succession Experiment (FASET): **C M Gough**, L E Nave, B S Hardiman, G Bohrer, A Halperin, K Maurer, J Le Moine, K Nadelhoffer, C S Vogel, P Curtis, Title of Team: University of Michigan Biological Station Forest Ecosystem Study (UMBS-FEST) Team
0800h **B41A-0290** POSTER Efficient transport of fossil organic carbon to the ocean by steep mountain rivers: Retaining carbon in the lithosphere: **R G Hilton**, A Galy, N Hovius, M Horng, H Chen
0800h **B41A-0291** POSTER Coarse root structure in water-limited ecosystems: Results of large-scale tree and shrub excavations across a rainfall gradient in Southern Africa: **F C O'Donnell**, K K Caylor, P D'Odorico, G S Okin, A Bhattachan, K Dintwe
0800h **B41A-0292** POSTER Surface Properties of Bacterially-Influenced CaCO₃ Mineralization: **J A Cappuccio**, V D Pillar, C M Ajo-Franklin
0800h **B41A-0293** POSTER Influence of invasive earthworm activity on carbon dynamics in soils from the Aspen Free Air CO₂ Enrichment Experiment: **T R Filley**, S M Top, F M Hopkins
0800h **B41A-0294** POSTER Complementary soil water use is indicated in mixed native tree plantations, Panama: **L Schwendenmann**, R Sánchez Bragado, N Kunert, D Hölischer
0800h **B41A-0295** POSTER Soil Microbial Activities in a Regenerating Jack Pine Forest - Implications for Long-term Soil Sustainability: **K L Webster**, P Hazlett, R Fleming
0800h **B41A-0296** POSTER Using LiDAR and GIS to extrapolate data from a small watershed to watershed-scale to provide insight into patterns and relationships in an Oregon central-western Cascade forest: **D J Quandt**, K Peterson, B J Bond, K V Olson, T Spies, C Halpern
0800h **B41A-0297** POSTER Comparisons of Nutrient Pools After Timber Harvests on the Oak Dominated Sandy Soils of Northwest Wisconsin: **K Wilhelm**, B Rathsack, J Bockheim

0800h **B41A-0298** *POSTER* A comparison of calibrated sap flow and MAESTRA model simulation estimates of tree transpiration in a Eucalyptus plantation: **O C Campoe**, J Rojas, J Stape, J Laclau, G le Maire, W Bauerle, C Marsden, Y Nouvellon

0800h **B41A-0299** *POSTER* Competition for light and light use efficiency for Acacia mangium and Eucalyptus grandis trees in mono-specific and mixed-species plantations in Brazil: **G le Maire, Y Nouvellon**, J Gonçalves, J Bouillet, J Laclau

0800h **B41A-0300** *POSTER* Evaluating potential impacts of species conversion on transpiration in the Piedmont of North Carolina:

J Boggs, E Treasure, G Simpson, J domec, G Sun, S McNulty

B41B Moscone South: Poster Hall Thursday 0800h
Drilling Deep Time: Windows Into Earth's Early Biosphere I Posters

Presiding: **A D Anbar**, Arizona State University; **L Kump**, Pennsylvania State Univ; **H Ohmoto**, Penn State University; **R E Summons**, Massachusetts Institute of Technology

0800h **B41B-0301** *POSTER* FAR-DEEP: organic carbon isotope chemostratigraphy of early Paleoproterozoic sediments from Fennoscandia: **C J Illing**, H Strauss, R E Summons, L Kump, A E Fallick, V Melezhik, Title of Team: FAR-DEEP scientists

0800h **B41B-0302** *POSTER* Insight from Three-Dimensional Reconstruction of Neoproterozoic Fenestrate Microbialites:

E W Stevens, D Y Sumner

0800h **B41B-0303** *POSTER* RECONSTRUCTION OF 3.2 GA OCEAN FLOOR ENVIRONMENT FROM CORES OF DXCL DRILLING PROJECT, PILBARA, WESTERN AUSTRALIA:

R Sakamoto, S Kiyokawa, T Ito, M Ikehara, H Naraoka, K E Yamaguchi, Y Suganuma

0800h **B41B-0304** *POSTER* Bioactivity at Shallower Depth in 2.77 Ga Alteration of Mt. Roe Basalt, Pilbara, Western Australia:

M Nedachi, Y Nedachi, Y Ohzono, M Sogawa, S Kubo, N Sueyoshi

0800h **B41B-0305** *POSTER* Evidence for a diverse microbial community in a 3.46 Ga ocean from ADBP#1 core: **Y Watanabe**, D C Bevacqua, H Ohmoto

0800h **B41B-0306** *POSTER* Serpentinization at Isua, a forearc environment identified by Zn isotopes: **M Pons**, G Quitté, M Rosing, C Douchet, B Reynard, R Mills, F Albarede

0800h **B41B-0307** *POSTER* Biogenicity of microtubes in 2.7 Gyrs old basaltic tuff investigated down to the nanoscale: **K Lepot**, P Philippot, K Benzerara

0800h **B41B-0308** *POSTER* A rise of atmospheric oxygen triggered by the Paleoproterozoic deglaciations: Insights from redox-sensitive elements and osmium isotopes: **K T Goto**, Y Sekine, K Suzuki, E Tajika, R Senda, T Nozaki, R Tada, K Goto, S Yamamoto

0800h **B41B-0309** *POSTER* Multiple sulfur and carbon isotope composition of the Mesoarchean Manjeri and Cheshire Formations (Belingwe Greenstone Belt, Zimbabwe): a window on the sulfur and carbon Mesoarchean biogeochemistry: **C Thomazo**, H Strauss, N Grassineau, **E G Nisbet**

0800h **B41B-0310** *POSTER* Origins of hematite and redox-sensitive elements in a 3.46 Ga jasper-basalt sequence in ADBP #1 core from Pilbara, Western Australia: **H Ohmoto**, D C Bevacqua, Y Watanabe

0800h **B41B-0311** *POSTER* Magnetic susceptibility of the South African Agouron scientific drillcores quantifies iron and sulfur alteration relevant to geochemical oxygenation proxies: **T D Raub**, P M Nayak, S M Tikoo, J E Johnson, S Peek, W W Fischer, J L Kirschvink

B41C Moscone South: Poster Hall Thursday 0800h
Environmental Sensing Technologies for Improved Land Surface Characterization I Posters (*joint with A, GC, H*)

Presiding: **O Sonnentag**, UC Berkeley; **Y Ryu**, UC Berkeley; **J A Gamon**, University of Alberta

0800h **B41C-0312** *POSTER* Landscape metrics of coastal dunefields from LiDAR and hyper-spectral remote sensing: **L Zhang**, A C Baas

0800h **B41C-0313** *POSTER* Validation of Global Land Cover Products using an Independent Global Reference Validation Database: **D J Sulla-Menashe**, P Olofsson, S V Stehman, C E Woodcock, M Herold, J Newell, A M Sibley, M A Friedl

0800h **B41C-0314** *POSTER* Spectral sampling tools for vegetation biophysical parameters and flux measurements in Europe: the European ES0903 COST Action: **L Vescovo**

0800h **B41C-0315** *POSTER* Land surface thermal characterization of Asian-pacific region with Japanese geostationary satellite:

K Oyoshi, M Tamura

0800h **B41C-0316** *POSTER* Suitability of terrestrial laser scanner derived surface roughness for predicting rill erosion in rangeland ecosystems: **J U Eitel**, C J Williams, L A Vierling, O Z Al-Hamdan, F B Pierson

0800h **B41C-0317** *POSTER* Hyperspectral Data Processing and Mapping of Soil Parameters: Preliminary Data from Tuscany (Italy): **F Garfagnoli**, S Moretti, F Catani, L Innocenti, L Chiarantini

0800h **B41C-0318** *POSTER* Comparing Annual Evapotranspiration Estimates at the Watershed Scale Using Geospatial Satellite and Rainfall-Runoff Data: **T C Moran**, Y Ryu, D Agarwal, D D Baldocchi, J R Hunt, C van Ingen

0800h **B41C-0319** *POSTER* Generation of High Resolution Land Surface Parameters in the Community Land Model: **Y Ke**, A M Coleman, M S Wigmosta, L Leung, M Huang, H Li

0800h **B41C-0320** *POSTER* Monitoring impacts of Tamarix leaf beetles (*Diorhabda elongata*) on the leaf phenology and water use of Tamarix spp. using ground and remote sensing methods: **P L Nagler**, T Brown, K R Hultine, C van Riper, D A Bean, R Murray, S Pearlstein, E P Glenn

0800h **B41C-0321** *POSTER* Estimation of Leaf Area Index Using Downward and Upward Looking Digital Cameras in a Deciduous Broadleaf Forest: **J Choi**, S Kang, J Lim, K N Nasahara

0800h **B41C-0322** *POSTER* Gigavision – A weatherproof, multibillion pixel resolution time-lapse camera system for recording and tracking phenology in every plant in a landscape: **T Brown**, J O Borevitz, C Zimmermann

0800h **B41C-0323** *POSTER* Application of High Dynamic Range (HDR) Imaging for Improved Quantitative Environmental Monitoring: **D G Dye**

0800h **B41C-0324** *POSTER* Phenological research using digital image archives: how important is camera system choice?:

O Sonnentag, K Hufkens, C Teshera-Sterne, A M Young, A D Richardson

B41D Moscone South: Poster Hall Thursday 0800h
Geochemical Signals of Early Diagenesis II Posters (joint with H, OS, PP, V)

Presiding: **M Roy**, Oregon State University; **B Haley**, Oregon State University

0800h **B41D-0325** POSTER RARE EARTH ELEMENT SIGNATURES OF EARLY DIAGENESIS IN PORE WATERS AT METHANE-SEEPS FROM HYDRATE RIDGE, OFF OREGON: **T Himmler**, B Haley, M E Torres, G P Klinkhammer, G Bohrmann, J Peckmann

0800h **B41D-0326** POSTER Gas hydrate decomposition and migration of the sulfate/methane transition zone recorded by authigenic barite in cold seep sediments: **S Kasten**, C Hensen, V Spiess, M Blumenberg, R R Schneider

0800h **B41D-0327** POSTER Biogeochemical Cycling and Methane Production in Gas Hydrate-Bearing Sediments Offshore Southeast India: **E A Solomon**, A Spivack, M Kastner

0800h **B41D-0328** POSTER Methane fluxes and their controlling processes in the Baltic Sea: **G J Rehder**, H Fossing, L Lapham, R Endler, V Spiess, V Bruchert, T Nguyen, W Gülzow, J Schneider von Deimling, D J Conley, B Jorgensen

0800h **B41D-0329** POSTER New insights on methane cycling from analyses of carbonate samples from the Cascadia Margin: **C Joseph**, M E Torres, R Martin, K Rose, T Ryan, J Pohlman, G T Snyder

0800h **B41D-0330** POSTER The response of methane and dissolved inorganic carbon biogeochemistry to sediment mass transport processes in the Argentine Basin: **M Formolo**, N Riedinger, S Henkel, J Tomasini, M Strasser, A Vossmeier, S Kasten

0800h **B41D-0331** POSTER Post depositional alteration of foraminiferal shells in cold seep settings: New insights from Flow-Through Time-Resolved Analyses of biogenic and inorganic seep carbonates: **R Martin**, M E Torres, G P Klinkhammer, E A Nesbitt

0800h **B41D-0332** POSTER Early dolomitization of a Lower Cretaceous shallow water carbonate platform: was microbial activity a major controlling factor?: **C N Sena**, C M John, J W Cosgrove, V Vandeginste

0800h **B41D-0333** POSTER Flow-Through Time Resolved Analysis (FT-TRA) as a Tool for Better Understanding the Effects of Early Diagenesis on Foraminiferal Paleoproxies: **G P Klinkhammer**, M E Torres

0800h **B41D-0334** POSTER Using Clumped Isotopes to Understand Early Diagenetic Processes in Carbonate Microbialites of Mid-Cretaceous Codó Formation, NE Brazil: **A M Bahniuk**, C Vasconcelos, J A McKenzie, A B Franca, N Matsuda, J Eiler

0800h **B41D-0335** POSTER Can we use redox sensitive elements to indicate past stable state transitions? Preliminary results from three shallow lakes: **B C Czeck**, M L Deschamps, S Hagen, K M Theissen, W Hobbs

0800h **B41D-0336** POSTER Elemental, stable isotopic and biochemical characterization of soil organic matter alteration across a natural peatland gradient: **G Cowie**, S Mowbray, L Belyea, C Laing, K Allton, G Abbott, A Muhammad

0800h **B41D-0337** POSTER A mixing-model approach to quantifying sources of organic matter to salt marsh sediments: K M Bowles, **C D Meile**

0800h **B41D-0338** POSTER Metal and sulfur cycling in a highly dynamic sedimentary system: **N Riedinger**, M Formolo, S Henkel, J Tomasini, A Vossmeier, G L Arnold, J Sawicka, T W Lyons, S Kasten

0800h **B41D-0339** POSTER Response of Sedimentary Iron to Hypoxia below the California Current System: **M Roy**, J McManus, Z Chase, J M Muratli, M Megowan, R H Hastings, M A Goni, A C Mix

0800h **B41D-0340** POSTER The benthic manganese cycle along the Oregon-California continental margin: **J McManus**, W Berelson, S Severmann, M Roy, Z Chase, J M Muratli, R H Hastings, M A Goni, A C Mix

B41E Moscone South: Poster Hall Thursday 0800h
Global Soil Change: Mechanisms of Carbon Stabilization and Response III Posters (joint with GC, EP)

Presiding: **K Lajtha**, Oregon State University; **N Cavallaro**, USDA/CSREES

0800h **B41E-0341** POSTER Stability and vulnerability of organic carbon stored in Japanese forest soils: **J Koarashi**, M Atarashi-Andoh, S Ishizuka, A Kadono, K Moriya, T Nakanishi

0800h **B41E-0342** POSTER Differences in the amount and stability of SOC under aspen and conifer forests in Northern Utah: **H Van Miegroet**, A R Jacobson, M Gruselle

0800h **B41E-0343** POSTER Soil carbon and nitrogen turnover in a pine forest under elevated CO₂: **J Lichter**, J Reblin, A Kaurbris, R Austin, J Anderson, N Wong, S Wu

0800h **B41E-0344** POSTER Carbon-Mineral Interactions along an Earthworm Invasion Gradient: **A Lyttle**, K Yoo, A K Aufdenkampe, C Hale, S D Sebestyen

0800h **B41E-0345** POSTER Increased carbon recalcitrance with depletion of labile organic carbon under a long-term experimental warming in a tallgrass prairie: **X Xiu**, Y Luo, R A Sherry, Y Yang, X Zhou, S Niu

0800h **B41E-0346** POSTER Soil organic matter stabilization in buried paleosols of the Great Plains: **N T Chaopricha**, E Marin-Spiotta, J A Mason, C W Mueller

0800h **B41E-0347** POSTER Linking soil moisture with chemical quality of soil organic matter to evaluate belowground carbon storage in savannas: **N Mladenov**, G S Okin, F C O'Donnell, P D'Odorico, T Meyer, K Dintwe, K K Caylor, S Kim, S Ringrose

0800h **B41E-0348** POSTER Water Table Dynamics in a Tropical Peatland: **A Cobb**, L Gandois, K Abu Salim, C Harvey

0800h **B41E-0349** POSTER Two pools of old carbon in a volcanic-ash soil revealed by sequential density fractionation: **R Wagai**, Y Shirato, M Uchida, S Hiradate

0800h **B41E-0350** POSTER Self-assembly of humic acid: influence of pH and chemical composition: **G Chilom**, Z Nagy, S Delp, G Huff, J A Rice

0800h **B41E-0351** POSTER Teasing Apart the Influence of Past Land Use and Current Invertebrate Processes on the Controls of Soil Organic Matter Stabilization in Eastern Deciduous Forests, USA: Y Ma, T R Filley, C T Johnston, K A Szlavecz, M McCormick, **C Thayer**, J Jourdain, A Johnson

0800h **B41E-0352** POSTER Soil Organic Carbon Storage and Stability in a Highly Eroding La Rogativa Watershed, Spain: E Nadeu, C Boix-Fayos, J de Vente, **A A Berhe**

0800h **B41E-0353** POSTER Radioisotopes (¹³⁷Cs, ⁴⁰K, ²¹⁰Pb) indicate that cryoturbation processes in Alaskan tussock tundra are accelerated under deeper winter snow: results from short and long-term winter snow depth experiments: **E Blanc-Betes**, N C Sturchio, L Taneva, J M Welker, T P Guilderson, A Poghosyan, M A Gonzalez-Meler

0800h **B41E-0354** POSTER A Comparison of Symmetric and Asymmetric Warming Regimes on the Soil Carbon and Nitrogen Dynamics of Grassland Ecosystems: **J Wig**, K Lajtha, J W gregg

0800h **B41E-0355** POSTER Soil charcoal from the plains to tundra in the Colorado Front Range: **R L Sanford**, C Licata

0800h **B41E-0356** *POSTER* Near-Surface Soil Carbon, C/N Ratio and Tree Species Are Tightly Linked across Northeastern USA Watersheds: **D S Ross**, S W Bailey, G B Lawrence, J B Shanley

0800h **B41E-0357** *POSTER* Increased Calcium Availability Leads to Greater Forest Floor Accumulation in an Adirondack Forest: **A Melvin**, C L Goodale

0800h **B41E-0358** *POSTER* The response of soil carbon cycling in managed loblolly pine forests to fertilization and the planting of families with differing growth rates: **J G Vogel**, E A Schuur, C Gill, R Bracho, E Jokela

0800h **B41E-0359** *POSTER* Soil carbon storage in Alaska: Results from a new database and a multi-regional landscape approach to spatial distribution assessment: **K D Johnson**, J W Harden, A D McGuire, J Bockheim, M Clark, J O'Donnell, C Ping, E A Schuur

0800h **B41E-0360** *POSTER* Warming, nitrogen availability and site variation interact to govern soil microbial substrate choice and CO₂ release along a boreal forest transect: **J Li**, S E Ziegler, C Lane, S A Billings

0800h **B41E-0361** *POSTER* Contribution of recently fixed carbon to the efflux of carbon dioxide, methane and nitrous oxide in a sub-alpine grassland: **R R Simpson**, S Bachman, J O'Brien, M Adams

0800h **B41E-0362** *POSTER* Root architecture impacts on root decomposition rates in switchgrass: **M de Graaff**, C Schadt, C T Garten, J D Jastrow, J Phillips, S D Wullschlegel

0800h **B41E-0363** *POSTER* Biochar stability in field conditions: What do we know?: **N P Gurwick**, L Moore, P Elias

0800h **B41E-0364** *POSTER* Soil Incubations Synthesis Study to Identify and Constrain Relations of Soil Properties and Carbon Mineralization: **F E Moyano**, C Chenu

0800h **B41E-0365** *POSTER* Heterogeneity of Carbon Age and Carbon Quality in Soil Organic Matter: Identification of Carbon Stabilization using Radiocarbon and Stable Isotopes: **X Feng**, X Xu, L Zhou, A Coplin, K Liu

0800h **B41E-0366** *POSTER* Soil Carbon Storage and Turnover in an Old-Growth Coastal Redwood Forest and Adjacent Prairie: **K J McFarlane**, M S Torn, S Mambelli, T E Dawson

0800h **B41E-0367** *POSTER* VEGETATION INFLUENCES ON LONG-TERM CARBON STABILIZATION IN SOILS: A COAST REDWOOD-PRAIRIE COMPARISON: **S Mambelli**, S D Burton, K J McFarlane, M S Torn, T E Dawson

0800h **B41E-0368** *POSTER* Influence of ultrasonic energy on dispersion of aggregates and released amounts of organic matter and polyvalent cations: **M Kaiser**, M Kleber, A A Berhe

0800h **B41E-0369** *POSTER* Effects of Natural and Anthropogenic Disturbance on Long-term Carbon Storage and Productivity in the U.S. Eastern Temperate Forest: **S Danggal**, B S Felzer, B R Hargreaves, Z Yu

0800h **B41E-0370** *POSTER* Experimental Warming Effects on Soil Respiration at the Temperate Boreal Forest Ecotone: **W C Eddy**, S E Hobbie, P B Reich, R L Rich, R A Montgomery, J Oleksyn

0800h **B41E-0371** *POSTER* Diffuse Reflectance Spectroscopy for Total Carbon Analysis of Hawaiian Soils: **M L McDowell**, G L Bruland, J L Deenik, S Grunwald, R Uchida

0800h **B41E-0372** *POSTER* Quantifying Carbon Bioavailability in Northeast Siberian Soils: **J Heslop**, S Chandra, W V Sobczak, V Spector, A Davydova, R M Holmes, E B Bulygina, J D Schade, K E Frey, A G Bunn, K Walter Anthony, S A Zimov, N Zimov

0800h **B41E-0373** *POSTER* Global Carbon Reservoir Oxidative Ratios: **C A Masiello**, M E Gallagher, W C Hockaday

B41F Moscone South: Poster Hall Thursday 0800h Global Soil Change: New Frontiers for the Biogeosciences II Posters

Presiding: **M G Kramer**, University of California, Santa Cruz; **D D Richter**, Duke University

0800h **B41F-0374** *POSTER* Investigating the context-dependency of plant-soil-AMF-microbe interactions along a pollution gradient: **S I Glassman**, B B Casper

0800h **B41F-0375** *POSTER* Effects of experimental warming on soil temperature, moisture and respiration in northern Mongolia: **A Sharkhuu**, A F Plante, B B Casper, B R Helliker, P Liancourt, B Boldgiv, P Petraitis

0800h **B41F-0376** *POSTER* Nitrogen Isotopes as an Indicator of Long-Term N Cycling in a Grazed Temperate Pasture Receiving Different Rates of Superphosphate Fertilizer and Irrigation for ~ 50 Years: **P L Mudge**, L A Schipper, A Ghani, W T Baisden, M Dodd

0800h **B41F-0377** *POSTER* How far apart should I place my soil plots? Or: Spatial variation in soil properties in North American ecosystems: **E Ayres**, H W Loescher, H Luo, P Duffy, M Brunke

0800h **B41F-0378** *POSTER* Evidence of heterotrophic microbial decomposition of preaged carbon in Arctic soil; Insights from molecular level natural radiocarbon analysis: **M Uchida**, M Utsumi, M Kondo, Y Takahashi, M Uchida

0800h **B41F-0379** *POSTER* Radiocarbon-based estimates of residence times for soil organic carbon of Tundra and Boreal forests in Alaska: **M Kondo**, M Uchida, Y Kim, M Utsumi, T Shinozaki, Y Shibata

0800h **B41F-0380** WITHDRAWN

0800h **B41F-0381** *POSTER* Using an ecosystem process model to examine effects of increased atmospheric N deposition on soil carbon storage in northern temperate forests: **K A Whittinghill**, W S Currie, D R Zak

0800h **B41F-0382** *POSTER* The Response of Soil Carbon Stocks to Changing Atmospheric Carbon Dioxide Concentrations are Soil-Type-Dependent: **W C Hockaday**, M E Gallagher, C A Masiello, L A Pyle, W H Polley, J Baldock

0800h **B41F-0383** *POSTER* Radioisotope tracer approach for understanding the impacts of global change-induced pedoturbation on soil C dynamics: **M A Gonzalez-Meler**, N C Sturchio, Y Sanchez-de Leon, E Blanc-Betes, L Taneva, A Poghosyan, R J Norby, T R Filley, T P Guilderson, J M Welker

0800h **B41F-0384** *POSTER* Using soil enzymes to explain observed differences in the response of soil decomposition to nitrogen fertilization: **M Stone**, M Weiss, C L Goodale

0800h **B41F-0385** *POSTER* Changes in forest floor composition and chemistry along an invasive earthworm gradient in a hardwood forest: **J N Jourdain**, T R Filley, S M Top, C Thayer, A Johnson, M Jenkins, P Welle, S Zurn-Birkhimer, T Kroeger, Title of Team: GEMScholars

0800h **B41F-0386** *POSTER* High-resolution mycorrhizal hyphae dynamics: temporal variation, biophysical controls, and global environmental change: **R R Hernandez**, M F Allen

0800h **B41F-0387** *POSTER* Production and isotopic composition of black nitrogen following experimental charring of plant materials: **L A Pyle**, W C Hockaday, C A Masiello, T W Boutton, C LeCroy

B41G Moscone South: Poster Hall Thursday 0800h
Improving Predictions of the Global Carbon Cycle and Climate: New Mechanisms, Feedback Loops, and Approaches for Model Evaluation I Posters (joint with GC, H, A)

Presiding: **F M Hoffman**, Oak Ridge National Laboratory;
J T Randerson, University of California; **A K Jain**, University of Illinois; **W M Post**, Oak Ridge National Laboratory

0800h **B41G-0388** *POSTER* Modelling Methane Dynamics from Northern Wetlands with JSBACH: **M A Tomasic**, T Vesala, R Getzieh, M Raivonen, V Brovkin, T Hölttä

0800h **B41G-0389** *POSTER* Temperature sensitivity of CO₂, CH₄, CO, and H₂ emissions during photodegradation of plant material: **H Lee**, H L Throop, T Rahn

0800h **B41G-0390** *POSTER* Reversible and irreversible impacts of greenhouse gas emissions in multi-century projections with the NCAR global coupled carbon cycle-climate model: **T L Froelicher**, F Joos

0800h **B41G-0391** *POSTER* Monthly Anthropogenic CO₂ fluxes: Impacts on the atmospheric CO₂ seasonal cycle and implications for models of the terrestrial biosphere: **M R Allen**, D J Erickson, R J Andres, F M Hoffman, M L Branstetter

0800h **B41G-0392** *POSTER* Transient response of the CO₂ airborne fraction to fluctuations in emissions: the role of climate-carbon feedbacks versus emissions growth rate: **J P Landers**, F Terenzi, S Khatiwala

0800h **B41G-0393** *POSTER* Processes influencing model-data mismatch in drought-stressed, fire-disturbed eddy flux sites: **S R Mitchell**, K Beven, J E Freer, B E Law

0800h **B41G-0394** *POSTER* Evaluation of a terrestrial carbon cycle submodel in an earth system model using networks of eddy covariance observations: **K Ichii**, T Suzuki

0800h **B41G-0395** WITHDRAWN

0800h **B41G-0396** *POSTER* Influence of Regional Climate Biases within General Circulation Models on the Location of Projected Terrestrial Carbon Sources and Sinks: **S A McAfee**, J L Russell, R S Webb

0800h **B41G-0397** *POSTER* Partitioning Ecosystem Respiration Using Carbon Isotopes in Tundra Undergoing Permafrost Thaw: **C E Hicks**, T Schuur

0800h **B41G-0398** *POSTER* Benchmarking of two terrestrial ecosystem models using a parsimonious set of tests for carbon processes and vegetation phenology: **D Dalmonech**, S Zaehle

0800h **B41G-0399** *POSTER* Controls on the speed of spring: challenges for terrestrial carbon cycle models: **L Gu**, Y Fu

0800h **B41G-0400** *POSTER* Remote sensing evaluation of CLMCN GPP: **J Mao**, P E Thornton, X Shi, S Levis

0800h **B41G-0401** *POSTER* The impact of climate, CO₂, nitrogen deposition and land use change on contemporary global river flow: **X Shi**, J Mao, P E Thornton, F M Hoffman

0800h **B41G-0402** *POSTER* Seasonal Covariance Between Baroclinicity and Ecosystem Metabolism: **N Parazoo**, A Denning, J A Berry, D A Randall, S R Kawa, S Pawson, O M Pauluis

0800h **B41G-0403** *POSTER* Implementation of Global Carbon Cycle in GISS ModelE GCM: from Leaf to Planetary Scale: **I D Aleinov**, N Y Kiang, A Romanou, M J Puma, P R Moorcroft, Y Kim

0800h **B41G-0404** *POSTER* Reduced Diurnal Temperature Range Does Not Change Warming Impacts on Grassland Carbon Balance: **C L Phillips**, J W Gregg

0800h **B41G-0405** *POSTER* Impact of Reduced Diurnal Temperature Range (DTR) on Grassland Mesocosms: **J W Gregg**, C Phillips, J Wilson

0800h **B41G-0406** *POSTER* Using ocean tracers to reduce uncertainties about ocean diapycnal mixing and model projections: **M P Goes**, N Urban, K Keller, A Schmittner, R Tonkonojenkov, M Haran

0800h **B41G-0407** *POSTER* How coupled are ocean carbon and heat uptake?: **J G John**, J P Dunne

0800h **B41G-0408** *POSTER* Carbon cycle optimism hides climate risks and mitigation needs: **P A Higgins**

B41H Moscone South: Poster Hall Thursday 0800h
Integrating Recent Knowledge of Soil Carbon to Help Develop Process-Based Soil Carbon Models II Posters (joint with A, GC, EP)

Presiding: **M Khomik**, Max Planck Institute for Biogeochemistry;
D Gaumont-guay, Vancouver Island University; **F M Hopkins**, University of California, Irvine; **F E Moyano**, BIOEMCO

0800h **B41H-0409** *POSTER* 2000 years of paddy soil development – gain and loss of soil carbon: **A Koelbl**, K Kalbitz, S Fiedler, T Braeuer, P M Grootes, Z Cao, R Jahn, V Vogelsang, L Wissing, I Koegel-Knabner

0800h **B41H-0410** *POSTER* Terrain Control on Soil Organic Carbon Distribution in Loess Soils with Varying Land Cover: **B J Dalzell**, C Fissore, E A Nater, K Yoo

0800h **B41H-0411** *POSTER* Influence of Soil Deflation on Soil Carbon in an Arctic Landscape, West Greenland: **J I Bradley-Cook**, R A Virginia

0800h **B41H-0412** *POSTER* Controls on Ecosystem and Root Respiration in an Alaskan Peatland: **N A McConnell**, A D McGuire, J W Harden, E S Kane, M R Turetsky

0800h **B41H-0413** *POSTER* Soil respiration under snowpack in a temperate forest in Massachusetts: steady state vs. transient state: **J Tang**

0800h **B41H-0414** WITHDRAWN

0800h **B41H-0415** *POSTER* Respiration dynamics of size-separated soil fractions: **C A Creamer**, T W Boutton, I B Kantola, T R Filley

0800h **B41H-0416** *POSTER* Integrating the impact of bioturbation to landscape-scale modeling of soil carbon dynamics: a case study of chernozems in Central Saskatchewan: **V Viaud**, D Pennock

0800h **B41H-0417** WITHDRAWN

0800h **B41H-0418** *POSTER* Bayesian inference of decomposition rate of soil organic carbon using a turnover model and a hybrid method of particle filter and MH algorithm: **G Sakurai**, M Jomura, S Yonemura, T Iizumi, Y Shirato, M Yokozawa

0800h **B41H-0419** *POSTER* Constructing a Depth-Stratified Model for Soil Organic Carbon: Dynamics of Past, Current, and Future Accumulation and Decomposition: **T Ise**

0800h **B41H-0420** *POSTER* Net Ecosystem Productivity of Temperate and Boreal Forests after Clearcutting – a Fluxnet-Canada Measurement and Modelling Synthesis: **R F Grant**, A G Barr, T A Black, H A Margolis, J H McCaughey, J A Trofymow

0800h **B41H-0421** *POSTER* Environmental Controls on Cumulative and Yearly Litter Decay Rates Over Four Years in Forested and Harvested Sites Across Canada: **J A Trofymow**, E Thompson, A Cameron, D Pare, B D Amiro, M Lavigne, C Smyth, T A Black, A G Barr, H A Margolis

0800h **B41H-0422** POSTER The influence of climate on soil carbon turnover times derived from carbon flux and pool data: **M Khomik**, M Reichstein, M Schrumppf, C Beer, C J Curiel-Yuste, I Jenessens, S Luysaert, J Subke, S Trumbore, T Wutzler, M Jung, G Lasslop, Title of Team: FLUXNET LaThuille synthesis team (cf. www.fluxdata.org)

0800h **B41H-0423** POSTER Input-decomposition balance of heterotrophic processes in a warm-temperate mixed forest in Japan: **M Jomura**, Y Kominami, M Ataka, N Makita, M Dannoura, T Miyama, K Tamai, Y Goto, S Sakurai

0800h **B41H-0424** POSTER On the Use of Trenched Plots to Quantify Sources of Soil Surface CO₂ flux: **B P Bond-Lamberty**, D R Bronson, E Bladyka, S T Gower

0800h **B41H-0425** POSTER Partitioning of soil respiration components in a Mediterranean maquis ecosystems: **C Sirca**, M Carta, A Arca, P Duce, D Spano

0800h **B41H-0426** POSTER Isotope partitioning of soil respiration: A panacea?: **E Pendall**, Y Carrillo, F A Dijkstra, M D Wallenstein, J A Morgan, D G Williams

0800h **B41H-0427** POSTER Effect on Autochamber Flux Measurements in an Ombrotrophic Peatland from Atmospheric Turbulence and Deployment Time: **D Lai**, N T Roulet, M Dalva, E R Humphreys, T R Moore

B41I Moscone South: Poster Hall Thursday 0800h
Remote Sensing of Terrestrial Carbon Fluxes I Posters (joint with EP)

Presiding: **K F Huemmrich**, University of Maryland Baltimore County; **A F Rahman**, Indiana University

0800h **B41I-0428** POSTER Estimating impacts of snow cover on net ecosystem exchange near Daring Lake, NWT, Canada (65°N, 111°W): **K A Luus**, R E Kelly, J C Lin, E R Humphreys, P Lafleur

0800h **B41I-0429** POSTER Remote estimation of net CO₂ emission from boreal ecosystems: **C A Rogers**, I B Strachan

0800h **B41I-0430** POSTER Seasonal patterns of foliar reflectance in relation to leaf nitrogen and photosynthetic properties in two tree species with a contrasting growth habit, *Quercus rubra* and *Betula papyrifera*: **S Y Dillen**, N Phillips

0800h **B41I-0431** POSTER Survey of Bi-directional Reflectance Factor of Black Spruce Forest in Alaska for Validation of GCOM-C Remote Sensing: **R Suzuki**, S Nagai, T Nakai, Y Kim, T Ohata

0800h **B41I-0432** POSTER Satellite-driven estimation of terrestrial carbon flux over Far East Asia with 30-second grid resolution: **T Sasai**, N Saigusa, K N Nasahara, A Ito, H Hashimoto, R R Nemani, R Hirata, K Ichii, K Takagi, T M Saitoh, T Ohta, K Murakami, T Oikawa, Y Yamaguchi

0800h **B41I-0433** WITHDRAWN

0800h **B41I-0434** POSTER Terrestrial Biomass Pilot Product: Estimating Biomass and Carbon Storage by Combining Satellite and Ground Observations: **S Ganguly**, **RR Nemani**, G Zhang, P Votava, W Wang, H Hashimoto, C Milesi, S H Hiatt, A Michaelis, F S Melton, J L Dungan

0800h **B41I-0435** POSTER EFFECT OF FOREST FIRE ON REGIONAL CARBON DIOXIDE EXCHANGE OVER BOREAL FOREST IN INTERIOR ALASKA: **H Iwata**, M Otsuki, Y Harazono, M Ueyama, T iwata

0800h **B41I-0436** POSTER Quantifying soil CO₂ respiration measurement error across instruments: **C A Creelman**, N R Nickerson, D A Risk

0800h **B41I-0437** POSTER Plant Light Stress Tolerance across the New Mexico Elevation Gradient: Scaling from Leaf to Tower: **D J Krofcheck**, D Hanson, A M Fox, M E Litvak

0800h **B41I-0438** POSTER A simple estimate of ecosystem respiration across biomes based on MODIS products: **J Jaegermeyr**, P Hostert, W Lucht

0800h **B41I-0439** POSTER Seasonal spectral dynamics and carbon fluxes at core EOS sites using EO-1 Hyperion images: **D Lagomasino**, P Campbell, R M Price

0800h **B41I-0440** POSTER Global remote sensing of chlorophyll fluorescence using high-resolution spectra recorded by the Japanese GOSAT satellite: **C Frankenberg**, A Butz, J B Fisher, G C Toon, A kuze, T Yokota

0800h **B41I-0441** POSTER Spatial and temporal patterns of solar-induced chlorophyll fluorescence from a Finnish boreal landscape: Comparisons from the ground up to space: **G Drolet**, C J Nichol, T J Wade, A Porcar-Castell, E Nikinmaa, E Middleton, L Ong, T Vesala, J Levula, J B Moncrieff

0800h **B41I-0442** POSTER RETROSPECTIVE RETRIEVAL OF LONG-TERM GLOBAL LEAF AREA INDEX (1982-2010) BY FUSION OF AVHRR AND MODIS DATA: **Y Liu**, R Liu, J M Chen

0800h **B41I-0443** POSTER Drought-Induced Reduction in Global Terrestrial Net Primary Production from 2000 Through 2009: **M Zhao**, S W Running

0800h **B54C-06** POSTER Controls of Climate Anomalies on Terrestrial Carbon Assimilation in East Asia: **G Choi**, S Kang

B41J Moscone West: 2002 Thursday 0800h
Biogeochemistry of Urban and Suburban Ecosystems I (joint with PA, V, H)

Presiding: **M Steele**, Texas A&M University; **J A Aitkenhead-Peterson**, Texas A&M University

0800h **B41J-01** Strengthening Carbon Sinks in Urban Soils to Mitigate and Adapt to Climate Change (*Invited*): **K Lorenz**

0820h **B41J-02** Re-connecting Urban Ecohydrology to Improve Ecosystem Functioning: The Role of Local-scale Green Infrastructure: **M Pavao-Zuckerman**

0835h **B41J-03** Tracking nonpoint nitrogen pollution from urbanizing watersheds (*Invited*): **S Kaushal**, P M Groffman, L E Band, E M Elliott, C A Shields, C Kendall

0855h **B41J-04** Long-term (10 year) trends in the chemistry of urban streams: **P M Groffman**, L E Band, K T Belt, S Kaushal, G T Fisher

0910h **B41J-05** Eutrophication in an Urban Estuary: Famosa Slough, California: **K McLaughlin**, M Sutula, J E Cable, P Fong, L Green

0925h **B41J-06** Relation Between PAHs and Coal-Tar-Based Pavement Sealant in Urban Environments (*Invited*): **BJ Mahler**, P C Van Metre

0945h **B41J-07** SPECIES DIVERSITY AND FOLIAR CHEMISTRY ALONG AN URBAN-TO-RURAL GRADIENT: **P Rao**, L Hutyra, S Raciti, A C Finzi

B41K Moscone West: 2004 Thursday 0800h
Determining the Controls of Terrestrial Net Ecosystem Exchange and Related Processes at Regional to Global Scales II (joint with A)

Presiding: C Yi, Queens College, CUNY; D M Ricciuto, Oak Ridge National Laboratory

0800h **B41K-01** Implementation of forest allometry in combined models of carbon cycle processes and reflectance properties of forest canopies: First steps toward a system for data assimilation of the carbon cycle at regional and continental scales. (Invited): **J A Berry**, A Wolf

0815h **B41K-02** Determinants of NEE and NBP of croplands in Europe (Invited): **W L Kutsch**, E Moors, M Aubinet, N C Buchmann, P Smith, B Osborne, W Eugster, M Schruppf, E Schulze, E Tomelleri, E Ceschia, C Bernhofer, A Carrara, M B Jones, V Magliulo, O Marloie, H Soegaard

0830h **B41K-03** Data-driven Diagnostics of Terrestrial Carbon Dynamics over North America (Invited): **J Xiao**, S V Ollinger, J Chen

0845h **B41K-04** A Comparison of Observations and Process-based Simulations (WRF-ACASA and WRF-NOAH) for Scaling Controls of Net Ecosystem Exchange (NEE) from the leaf to the regional and global scales (Invited): **K Paw U**, L Xu, R D Pyles

0900h **B41K-05** Terrestrial Net Primary Production Predicted from MODIS Satellite Data from 2000-2009: **C S Potter**, S A Klooster, V B Genovese, P M Gross, C Hiatt

0915h **B41K-06** Climate controls of terrestrial carbon sequestration: **C Yi**, D M Ricciuto

0930h **B41K-07** Carbon balance in conterminous U.S. forests based on historic changes in climate, atmospheric composition, and disturbances: **F Zhang**, J Chen, W Ju, S Shen, Y Pan, R Birdsey, L He

0945h **B41K-08** 6000 yrs modeled vs. observed fire activity within the MPI-Earth System Model: **T Bruecher**, C Barbante, V Brovkin, N Fischer, N M Kehrwald, S Kloster, T Raddatz, M J Power

B41L Moscone West: 2006 Thursday 0800h
Geochemistry and Geobiology of Terrestrial Thermal Systems I (joint with V)

Presiding: H E Hartnett, Arizona State University; B P Hedlund, University of Nevada Las Vegas; C Zhang, University of Georgia

0800h **B41L-01** Structure of Chemotrophic Energy Sources in Continental Hydrothermal Ecosystems (Invited): **E Shock**

0815h **B41L-02** Thermophilic metabolisms from hot spring gas geochemistry: case studies from Uzon Caldera, Kamchatka, Russia, and Lassen Volcanic National Park, California: **B He**, F Robb, A S Colman

0830h **B41L-03** Diversity and Ecological Functions of Crenarchaeota in Terrestrial Hot Springs of Tengchong, China: **W Li**, Z Song, J Chen, H Jiang, E Zhou, F Wang, X Xiao, C Zhang

0845h **B41L-04** Quantification of Nitrogen Cycling Processes in Two Great Basin Geothermal Springs (Invited): **J A Dodsworth**, B A Hungate, B P Hedlund

0900h **B41L-05** Insights into high-temperature nitrogen cycling from studies of the thermophilic ammonia-oxidizing archaeon *Nitrosocaldus yellowstonii*. (Invited): **J R de la Torre**

0915h **B41L-06** Environmental Constraints on the Distribution, Diversity, and Activity of Biological Nitrogen Fixation in the Yellowstone Geothermal Complex: **E Boyd**, T L Hamilton, J W Peters

0930h **B41L-07** Variability in microbial community composition between geochemically distinct hydrothermal features at El Tatio geyser field: **M A Franks**, P Bennett

0945h **B41L-08** Lamination Formation, CO₂ Uptake And Environmental Effects On Morphology: Siliceous Stromatolite Formation In A Hot Spring, Yellowstone National Park: **F A Corsetti**, W Berelson, J R Spear, D E Hammond, C Pepe-Ranney, W Beaumont

Cryosphere

C41A Moscone South: Poster Hall Thursday 0800h
Measuring Earth's Third Dimension: ICESat, IceBridge, CryoSat, and Beyond I Posters (joint with G, EP, GC)

Presiding: T J Urban, University of Texas at Austin; D Wingham, UCL; T Markus, Cryospheric Sciences Branch; B E Schutz, University of Texas at Austin; L Koenig, NASA Goddard Space Flight Center; H J Zwally, NASA Goddard SFC

0800h **C41A-0485 POSTER** Release 33 Geoscience Laser Altimeter System (GLAS) Data Fields and Processing Enhancements from the Ice, Cloud, and land Elevation Satellite (ICESat-1) Mission: D Webster, **D K Fowler**, T M Haran, D Korn, T A Scambos

0800h **C41A-0486 POSTER** Laser Targeting Performance in the ICESat Mission: **C E Webb**, S Bae, B E Schutz

0800h **C41A-0487 POSTER** ICESat Calibration and Validation Experiments at White Sands, New Mexico, 2003-2010: **B E Schutz**, T J Urban

0800h **C41A-0488 POSTER** Estimation and Implication of ICESat Inter-campaign Elevation Biases Derived Over the Global Oceans: **T J Urban**

0800h **C41A-0489 POSTER** LASER ALTIMETER EXPERIENCES AT IBIZA ISLAND, CAPE OF BEGUR AND BARCELONA (SPAIN): **J J Martinez-Benjamin**, B E Schutz, T J Urban, M Ortiz

0800h **C41A-0490 POSTER** ICESat Detection of Storm-generated Long-period Ocean Waves: Confirmation from Sea Level Recorder and Seismometer Observations: **J F Heinrichs**

0800h **C41A-0491 POSTER** ICESat Elevation Change Bias Correction And Elevation Accuracy Assessments (2003-2009) At Large Subglacial Lake Sites, Antarctica: **C A Shuman**, D J Harding, H G Cornejo, V P Suchdeo

0800h **C41A-0492 POSTER** ICESat elevations in Antarctica along the 2007-09 Norway-USA Traverse: Validation with ground-based GPS: **J Kohler**, T Neumann, J W Robbins, G Melland, S Tronstad

0800h **C41A-0493 POSTER** Validation and comparison of SRTM and ASTER/GDEM in the Tibetan Plateau using ICESat/GLAS data: **C Fan**, H Xie, D Shen

0800h **C41A-0494 POSTER** DEVELOPMENT OF AN ICESat GEODETIC CONTROL DATABASE AND EVALUATION OF GLOBAL TOPOGRAPHIC ASSETS: **C C Carabajal**, D J Harding, V P Suchdeo, J J Danielson

0800h **C41A-0495 POSTER** Deriving Antarctic Postglacial Rebound rates from GRACE and altimetry: **R Meister**, D Wingham

0800h **C41A-0496 POSTER** Status And Update On Time-VARIABLE Gravity Observations Of Ice Sheet Mass Balance With GRACE: Precision And Limitations: **I Velicogna**, J M Wahr

0800h **C41A-0497 POSTER** Satellite validation and support using the Cryowing UAV: **W S Bogren**, J F Burkhart, R Storvold, Title of Team: VAUAV Science Team

0800h **C41A-0498** WITHDRAWN

0800h **C41A-0499 POSTER** An Australian contribution to CryoSat-II cal/val in East Antarctica including the Totten glacier region: **C S Watson**, R J Burgette, P Tregoning, R Coleman, J Roberts, J L Lieser, H A Fricker, B Legresy

0800h **C41A-0500** POSTER An Assessment of the AMSR-E Snow Depth on Sea Ice Algorithm Using the March 2006 Arctic Field Campaign Aircraft Measurements: **D J Cavaliere**, T Markus, A Ivanoff, J Miller, M Sturm, J A Maslanik, J F Heinrichs, A J Gasiewski, C Leuschen, W B Krabill, J G Sonntag, L Brucker

0800h **C41A-0501** POSTER Swath processing CryoSat-2 SIRAL interferometric mode data for determination of across-track surface-elevation profiles: **R L Hawley**, A Shepherd

0800h **C41A-0502** POSTER Near-surface density variations at the Larsen-C ice shelf derived from neutron scattering measurements: **S J Palmer**, A Shepherd, N Gourmelen, M Mcmillan, A Hill

0800h **C41A-0503** POSTER Using Surface Roughness Derived From ICESat, IceBridge and CASIE Data to Map Geophysical and Ice-Dynamic Provinces in Glaciers and Sea Ice: **U C Herzfeld**, B F Wallin, B W McDonald, W B Krabill, S S Manizade, J A Maslanik, R I Crocker, M Fladeland

0800h **C41A-0504** POSTER Managing IceBridge Airborne Mission Data at the National Snow and Ice Data Center: M Brodzik, **M L Kaminski**, J S Deems, T A Scambos

0800h **C41A-0505** POSTER Cryosat-2 precision orbit determination with Doris and satellite laser ranging: P N Visser, **E J Schrama**, M Naeije

0800h **C41A-0506** POSTER A first comparison of CryoSat-2 and IceBridge altimetry from April 20, 2010 over Arctic Sea Ice: **L N Connor**, S Laxon, D C McAdoo, S L Farrell, A Ridout, R Cullen, R Francis, M Studinger, W B Krabill, J G Sonntag, Title of Team: The IceBridge Sea Ice Science Team

0800h **C41A-0507** POSTER Basic Radar Altimetry Toolbox: Tools and Tutorial To Use Radar Altimetry For Cryosphere: **J J Benveniste**, E Bronner, S Dinardo, B M Lucas, V Rosmorduc, D Earith

0800h **C41A-0508** POSTER Characteristics of the ice surface over the Gamburtsev Mountains, Antarctica from airborne laser altimetry: **I Das**, R E Bell, M Studinger, M Wolovick, N Frearson

0800h **C41A-0509** POSTER ROLE OF CRYOSPHERE IN PRESENT-DAY SEA-LEVEL RISE: **C Shum**, J Duan, J Guo, I M Howat, K C Jezek, H Lee, A Braun, J G Cogley, C Kuo, H Wang

0800h **C41A-0510** POSTER The effect of fluctuations in surface density, accumulation and compaction on elevation change rates along the EGIG line, Central Greenland: **E Morris**

0800h **C41A-0511** POSTER ICESat-2 Simulations and Analysis using Sigma Space MPL Measurements over Greenland: **A C Brenner**, K Barbieri, T Markus, T Neumann, M Sirota, C Field, H J Zwally

0800h **C41A-0512** POSTER ICESat-2 simulated data from airborne altimetry: **K M Brunt**, T Neumann, T Markus, A C Brenner, K Barbieri, C Field, M Sirota

0800h **C41A-0513** POSTER High-precision Ice Surface Topography Mapping Using Radar Interferometry: **D Moller**, S Hensley, T Michel, E J Rignot, M Simard, W B Krabill, J G Sonntag

0800h **C41A-0514** POSTER Three decades of change on Antarctica's major ice shelves from multi-mission satellite radar altimetry: **F S Paolo**, H A Fricker, L Padman

0800h **C41A-0515** POSTER CryoSat-2 commissioning phase results summary: **R Cullen**

0800h **C41A-0516** POSTER ICEPOD – Developing Ice Imaging Capabilities for the New York Air National Guard's LC-130 Aircraft: J DeTemple, **N Frearson**, C J Zappa, M Turrin, R E Bell

0800h **C41A-0517** POSTER Observations of sea ice using the CryoSat-2 interferometric altimeter: **N Galin**, D Wingham, A Ridout

0800h **C41A-0518** POSTER AN ULTRA WIDE-BAND RADAR ALTIMETER FOR ICE SHEET SURFACE ELEVATION AND SNOW COVER OVER SEA ICE MEASUREMENT: **A E Patel**, P S Gogineni, C Leuschen, F Rodriguez-Morales, B Panzer

C41B Moscone West: 3011 Thursday 0800h
Evolution and Stability of the Greenland Ice Sheet II (joint with EP, G, GC, NG, PP)

Presiding: **J P Briner**, University at Buffalo; **S F Price**, Los Alamos National Laboratory; **C J Van der Veen**

0800h **C41B-01** Ice Front Position, Thinning and Speed Variability of Jakobshavn Isbrae, Greenland (Invited): **I R Joughin**, B E Smith, I Howat, D Floricioiu, R B Alley, M Truffer, M A Fahnestock

0815h **C41B-02** Changing seasonality of ice front position and calving in Jakobshavn Isbrae, West Greenland, in relation to drawdown history and character of fjord ice cover (Invited):

M A Fahnestock, M Truffer, R J Motyka, J M Amundson, I R Joughin, R K Cassotto, D B Podrasky

0830h **C41B-03** Evidence of Bedrock Geology and Sediment Lubrication as Controls on Jakobshavn Isbrae: **A E Block**, R E Bell, M Studinger, N Frearson

0845h **C41B-04** Testing models of Jakobshavn ice stream mass changes during the last 800 years using relative sea-level data:

A J Long, S Woodroffe, G A Milne, L M Wake, M Simpson

0900h **C41B-05** Response of Jakobshavn Isbrae to early Holocene abrupt climate events: **N E Young**, J P Briner, D H Rood, R C Finkel

0915h **C41B-06** Uncertainties in the Holocene evolution of the Greenland ice sheet: Implications for interpreting far-field sea-level records and present-day geodetic observations: **M Simpson**, G A Milne, A J Long, M E Tamisiea, P Huybrechts

0930h **C41B-07** A comparison of late glacial to early Holocene fluctuations of Greenland Ice Sheet outlet glaciers with nearby mountain glaciers in central east Greenland: **M A Kelly**, T V Lowell, B L Hall, J M Schaefer

0945h **C41B-08** The quest for the lost picture and surface detection change of the Greenland Ice Sheet (Invited): **K H Kjaer**, N Korsgaard, K Kjeldsen

C41C Moscone West: 3010 Thursday 0800h
The Legacy and Fate of Permafrost: Geochemical, Geophysical, and Geomorphic Aspects II (joint with EP, H, GC)

Presiding: **S A Ewing**, Montana State University; **A K Liljedahl**, University of Alaska, Fairbanks; **J O'Donnell**, UAF

0800h **C41C-01** The Role of Ice-Push Shoreline Features in the Orientation of Thaw Lakes: **E A Lyons**, Y Sheng, K M Hinkel, J Wang

0815h **C41C-02** Experimental rejuvenation of ice-wedge cracking at Illisarvik, western Arctic coast, Canada (Invited): **C Burn**

0830h **C41C-03** History and Vulnerability of Permafrost in Upland and Lowland Boreal Landscapes (Invited): **M T Jorgenson**, M Z Kanevskiy, Y Shur, J W Harden, J O'Donnell, K P Wickland, S A Ewing, R G Striegl, Q Zhuang

0845h **C41C-04** Effects of water-energy feedback processes on thawing of peat-covered, discontinuous permafrost: **M Hayashi**, A F McClymont, B S Christensen, L R Bentley, W L Quinton

0900h **C41C-05** What can paleo studies tell us about permafrost and future warming? (Invited): **D G Froese**, A Reyes, F Calmels, B J Jensen

0915h **C41C-06** Projections of near-surface permafrost degradation in the Community Climate System Model (CCSM4) (Invited):

D M Lawrence, A G Slater, S C Swenson

0930h **C41C-07** The Topographic Evolution of Thermal Erosion Features: an investigation using an airborne LiDAR transect across a chronosequence of glacial deposits: **K E Krieger**, B T Crosby
0945h **C41C-08** Estimating Active Layer Thickness from Remotely Sensed Surface Deformation: **L Liu**, K M Schaefer, T Zhang, J M Wahr

Education and Human Resources

ED41A Moscone South: Poster Hall Thursday 0800h
BRIGHT STARS: Bright Students Training as Research Scientists Posters (*joint with ED*)

Presiding: **P Asher**, AGU; **J Saltzman**, Stanford University

0800h **ED41A-0605** *POSTER* A Comparison of Particulate Matter In and Around Two Freeways in Oakland, California: **J Adams**, A Negrete, K Gilliland, J Diaz, B Centeno, C Girton, D Fasil, D Romero, D Arroyo-Ruiz, D Spears, E Marbley Jr., G Mehari, J Armour, J Cheung, K Williams, L Tate, M Scott, M Burris, P Lei, R Ramirez

0800h **ED41A-0606** *POSTER* Lead Concentration Levels In Public Water Sources in the Fruitvale District of Oakland, California: **A Ahumada**, M Edel, E Tril, R Crockett, K Moreno, C Telles, F Rodriguez, E Folgar, J Ramirez-Tril, J Torres, J Navarro, R Nguyen, S Moqadam

0800h **ED41A-0607** *POSTER* Identifying Particulate Matter Concentrations Using a New Mobile Data Collection Method in West Oakland, California: **M Alexander**, T O'Guinn, G Haynes, T Bryant, N Lockett, O Evans, M McAroy, S Harris, Q Bui, D Lacy, Y Wong, T Marks-Block

0800h **ED41A-0608** *POSTER* Determination of Pyrethroids through Liquid-Liquid Extraction and GC-ECD: **B Ding**

0800h **ED41A-0609** *POSTER* Development of Activity Based Probes For The Study of Legumain In Cancer: **A Ortega**

0800h **ED41A-0610** *POSTER* California Rare Endemics and Climate Change: **M Espinoza**

0800h **ED41A-0611** *POSTER* Design and Test of an Electrometer Test Track: **C Lui**

0800h **ED41A-0612** *POSTER* CONFIDENTIAL: LOCAL BAY AREA COMMUNITY COLLEGE HIDES POO BACTERIA ON COMPUTER MICE: **R Pimentia**

0800h **ED41A-0613** *POSTER* A strontium isotope ($87\text{Sr}/86\text{Sr}$) record of paleo-groundwater discharge and regional climate change at Celestun Estuary, Yucatan Peninsula, Mexico: **G Tang**, J H Street, K Sylvan, J Herrera-Silveira, A Paytan

0800h **ED41A-0614** *POSTER* $\delta^{18}\text{O}$ comparisons of coral cores in the western tropical Pacific, Palau: **E Johnston**, M C Osborne

0800h **ED41A-0615** *POSTER* Changes in Maximum length of Foraminifera through the Phanerozoic Era: **S Lo**, R Garcia, N O'Keefe, A Jost, J Payne

0800h **ED41A-0616** *POSTER* The effect of the variation of atmospheric oxygen levels throughout the Phanerozoic on the size of foraminifera tests: **J Campbell**, A Jost, J Payne, Title of Team: Jackson A. Campbell, Adam B. Jost, Jonathan L. Payne

0800h **ED41A-0617** *POSTER* Volume to Surface Area Ratios of Foraminifera over the Phanerozoic: **K Cheung**, D Gomez, D Guo, A Jost, J Payne

0800h **ED41A-0618** *POSTER* Size and Origination: Foraminifera: **A Jin**, S Smith, J Binn, A Jost, J Payne, Title of Team: Foraminifera: Origination

0800h **ED41A-0619** *POSTER* Mapping the time-averaged distribution of combustion-derived air pollutants in the San Francisco Bay Area: **C Yu**, D A Zinniker, J Moldowan

0800h **ED41A-0620** *POSTER* India Co2 Emissions: **S Sharan**, N S Diffenbaugh

0800h **ED41A-0621** *POSTER* Mercury Removal with Activated Carbon in Coal-Fired Power Plants: **J Rapperport**, E Sasmaz, J Wilcox

0800h **ED41A-0622** *POSTER* Extended X-Ray Absorption Fine Structure Analysis of Crystalline Germanium at High Pressure: **K Mu**, M Baldini, W L Mao

0800h **ED41A-0623** *POSTER* Optimization of Heating Schedules for Measurement of Helium Diffusion in Monazite: **C Day**, M Grove, E Peterman

0800h **ED41A-0624** *POSTER* Cathodoluminescence Depth Profiling of Zircons: **E Chen**, J L Wooden, J A Vazquez, R E Jones, M Grove

0800h **ED41A-0625** *POSTER* Using Leaf Samples to Establish a Library of Tropical Leaf Fingerprints: **P Ngo**, R Nguyen, C Anderson, P Weiss

0800h **ED41A-0626** *POSTER* A Mechanistic Description Of Strain Hardening And Softening In Quartz Sand: **M Hernandez**, L Cruz, G E Hilley, A Take

0800h **ED41A-0627** *POSTER* Tracking the San Andreas Fault in northern California using Airborne Laser Swath Mapping Data: **N Lin**, V Kidd, S Moon, G E Hilley

0800h **ED41A-0628** *POSTER* MODELING THE MECHANICAL BEHAVIOR AND SLIP DISTRIBUTION OF FAULTS INVOLVED IN THE 1992 LANDERS EARTHQUAKE IN SOUTHERN CALIFORNIA: **J He**, B H Madden

0800h **ED41A-0629** *POSTER* Sustainable Seas Student Intertidal Monitoring Project at Duxbury Reef in Bolinas, CA: **K Soave**, A Dean, G Yang, E Solli, C Dattels, K Wallace, A Boesel, C Steiger, A Buie

0800h **ED41A-0630** *POSTER* *Emerita analoga* recruit populations and correlations with sea surface temperature: **J Pettway**, H Quan, F Juarez, M Vicencio, N Ng, Title of Team: Careers in Science Intern Program

0800h **ED41A-0631** *POSTER* Volume to Surface Area Ratios of Foraminifera over the Phanerozoic: **K Cheung**, A B Jost, J Payne

ED41B Moscone South: Poster Hall Thursday 0800h
New Resources, Approaches, and Technologies for Teaching About the Deep Earth and Plate Margins I Posters (*joint with IN, T, V, G*)

Presiding: **V S Cronin**, Baylor University; **J G Ryan**, University of South Florida

0800h **ED41B-0632** *POSTER* Educating the Public about Deep-Earth Science: **V S Cronin**

0800h **ED41B-0633** *POSTER* Development of a Mantle Convection Physical Model to Assist with Teaching about Earth's Interior Processes: **G B Glesener**, J M Aurnou

0800h **ED41B-0634** *POSTER* Hot Spots and Mantle Plumes: A Window Into the Deep Earth and a Lesson on How Science Really Works: **J Caplan-Auerbach**

0800h **ED41B-0635** *POSTER* Discovering and measuring a layered Earth: A foundational laboratory for developing students' understanding of Earth's interior structure: **M Hubenthal**, L W Braille, S E Olds, J Taber

0800h **ED41B-0636** *POSTER* Virtual Synchrotron Experiments for Deep Earth Studies: **J M Jackson**, E Alp, A Alatas, J Zhao, W Sturhahn

0800h **ED41B-0637** *POSTER* Simulating Earthquake Early Warning Systems in the Classroom as a New Approach to Teaching Earthquakes: **M A d'Alessio**

0800h **ED41B-0638** *POSTER* Earthquakes, Cities, and Lifelines: lessons integrating tectonics, society, and engineering in middle school Earth Science: **N Toke**, A Johnson, K Nelson

0800h **ED41B-0639** *POSTER* K-20 educator collaboration effective at conveying EarthScope science to middle school teachers: **B Pratt-Sitaula**, R F Butler, J M Whitman, F D Granshaw, R Groom, C Hedeon, B Magura, D Thompson, J A Johnson

0800h **ED41B-0640** *POSTER* Jules Verne Voyager, Jr: An Interactive Map Tool for Teaching Plate Tectonics: **M W Hamburger**, C M Meertens

0800h **ED41B-0641** *POSTER* Discovering plate boundaries: Laboratory and classroom exercises using geodetic data to develop students' understanding of plate motion: **S E Olds**

0800h **ED41B-0642** *POSTER* The Role of Serpentinites at Convergent Plate Boundaries: Using New Discoveries to Facilitate the Learning of Major Earth Processes: **J G Ryan**

0800h **ED41B-0643** *POSTER* Learning to Characterize Submarine Lava Flow Morphology at Seamounts and Spreading Centers using High Definition Video and Photomosaics: **A T Fundis**, L R Sautter, D S Kelley, J R Delaney, M Kerr-Riess, A R Denny, M Elend

0800h **ED41B-0644** *POSTER* Adibat_1ph 3.0 and the MAGMA website: educational and research tools for studying the petrology and geochemistry of plate margins: **P M Antoshechkina**, P D Asimow

ED41C Moscone South: Poster Hall Thursday 0800h
Visualization of Geophysical Processes for Science, Education, and Outreach I Posters (*joint with IN*)

Presiding: **J M Byrne**, University of Lethbridge; **P A Fox**, Rensselaer Polytechnic Inst.; **J R Graham**, University of Lethbridge

0800h **ED41C-0645** *POSTER* Self-Discovery of Structural Geology Concepts using Interactive 3D Visualization: M I Billen, **J Saunders**

0800h **ED41C-0646** *POSTER* The Geology Robot: A Collaborative Effort for improving Outcrop Visualization and Analysis: **K C Fredrick**, M P Valoski, A F Rodi

0800h **ED41C-0647** *POSTER* Visualization of geomagnetic field for education and outreach: **T Hatakeyama**

0800h **ED41C-0648** *POSTER* 3D Online Visualization and Synergy of NASA A-Train Data using Google Earth: **A Chen**, S J Kempler, G G Leptoukh, P M Smith

0800h **ED41C-0649** *POSTER* Color changing large climate sensors as communication and outreach device: **R Hut**

0800h **ED41C-0650** *POSTER* Developing Smartphone Apps for Education, Outreach, Science, and Engineering: **A T Weatherwax**, Z Fitzsimmons, J Czajkowski, E Breimer, S B Hellman, S Hunter, J DeMatteo, T Savery, K Melsert, J Sneeringer

0800h **ED41C-0651** *POSTER* 4D Visualization of Experimental Procedures in Rock Physics: **T Vanorio**, C Di Bonito

0800h **ED41C-0652** *POSTER* Creating Earth science educational computer animation (with Blender3D): **O de Viron**

0800h **ED41C-0653** *POSTER* Three Dimensional Spherical Display Systems and McIDAS: Tools for Science, Education and Outreach: **R Kohrs**, M E Mooney

0800h **ED41C-0654** *POSTER* Hear it, See it, Explore it: Visualizations and Sonifications of Seismic Signals: M Fisher, **Z Peng**, D W Simpson, D L Kilb

0800h **ED41C-0655** *POSTER* Visualization of Asian Yellow Dust using Virtual Globes: J Choi, T Kim, **Y Yang**, S Oh

0800h **ED41C-0656** *POSTER* Using McIDAS-V data analysis and visualization software as an educational tool for understanding the atmosphere: **T H Ahtor**, T Rink

0800h **ED41C-0657** *POSTER* Development of educational programs using Dagik Earth, a four dimensional display of the Earth and planets: A Saito, **Y Akiya**, D Yoshida, Y Odagi, M Yoshikawa, T Tsugawa, M Takahashi, Y Kumano, S Iwasaki

0800h **ED41C-0658** *POSTER* Assessing the Effectiveness of the Cone of Probability as a Visual Means of Communicating Scientific Forecasts: **B S Orlove**, K Broad, R Meyer

0800h **ED41C-0659** *POSTER* Challenges of Presenting Context and Interpretation of Global Datasets on Spherical Displays: **K Ward**, S Graham, R Simmon

0800h **ED41C-0660** *POSTER* Leveraging an ESIP Data-Type Ontology to Support Visualization: **N Del Rio**, P Pinheiro da Silva

0800h **ED41C-0661** *POSTER* New Tools for Viewing Spectrally and Temporally-Rich Remote Sensing Imagery: **E S Bradley**, M P Toomey, D A Roberts, C J Still

ED41D Moscone South: I02 Thursday 0800h
Climate Change Adaptation: Education and Communication I
(joint with A, B, C, GC, H, NH, PA)

Presiding: **J M Byrne**, University of Lethbridge; **D B Fagre**, U.S. Geological Survey; **F Grifo**, Union of Concerned Scientists; **T F Pedersen**

0800h **ED41D-01** Weathering the Climate Communication Storm (*Invited*): **M E Mann**

0815h **ED41D-02** Can Models Replicate Observed Temperature Trends Over the Past Decade? (*Invited*): **B D Santer**, C A Mears, P J Gleckler, S Solomon, T Wigley, J Arblaster, W Cai, N P Gillett, D P Ivanova, T R Karl, J Lanzante, G A Meehl, P Stott, K E Taylor, P Thorne, M F Wehner, F J Wentz, C Zou

0830h **ED41D-03** First UCCRN Assessment Report on Climate Change and Cities (ARC3) (*Invited*): **C Rosenzweig**

0845h **ED41D-04** The Communication Strategy of NASA's Earth Observatory: **R Simmon**, K Ward, H Riebeek, J Allen, P Przyborski, M Scott, M J Carlowicz

0900h **ED41D-05** Toilets and the Smart Grid: A role for history and art in communicating assessed science for Earth—The Operators' Manual: **R B Alley**, G Haines-stiles, E Akuginow

0915h **ED41D-06** The Psychology of Climate Change Communication - Insights from the Center for Research on Environmental Decisions (CRED) (*Invited*): **S Marx**

0930h **ED41D-07** Social Issue Entertainment 2.0: How pop culture, behavioral science and impact evaluation can motivate social and environmental change (*Invited*): **D Shome**

0945h **ED41D-08** Who speaks for the climate? Considering 'expert' and 'authorized' claims-makers in the media (*Invited*): **M Boykoff**

Earth and Planetary Surface Processes

EP41A Moscone South: Poster Hall Thursday 0800h Alpine Hillslope Processes: From Grain-Scale Mechanics to Landscape Modeling Posters (joint with C, NH)

Presiding: **J R Moore**, ETH Zurich; **J W Sanders**, UC Berkeley

0800h **EP41A-0681** *POSTER* Glacial impact on postglacial sediment flux in the Canadian Rocky Mountains: **T Hoffmann**, E A Johnson

0800h **EP41A-0682** *POSTER* Denudation rates across a steep rainfall gradient on Kauai, constrained by cosmogenic nuclides and landslide mapping (*Invited*): **K Ferrier**, T Perron, S Mukhopadhyay, K L Huppert

0800h **EP41A-0683** *POSTER* Strong glacial influence on postglacial rock fall rates and magnitudes in Yosemite Valley, California (*Invited*): **G M Stock**, R J Sas

0800h **EP41A-0684** *POSTER* Air circulation in deep cracks and the temperature field of an alpine rock slope (Randa, VS): V Gischig, **J R Moore**, M Katterbach, S Loew

0800h **EP41A-0685** *POSTER* Sediment Transport by Spring Avalanches in the Southern Swiss Alps: J M Egloff, M Hunziker, **J R Moore**, M Christen

0800h **EP41A-0686** *POSTER* Simple Solutions for the Steady-State Longitudinal Profiles of Glacially-Eroded Valleys: **R M Headley**, G Roe, B Hallet

EP41B Moscone South: Poster Hall Thursday 0800h Earth and Planetary Surface Processes III: Hillslopes, Rivers, and Humans Posters (joint with H, NH, B)

Presiding: **M P Lamb**, Caltech; **L S Sklar**, San Francisco State University

0800h **EP41B-0687** *POSTER* A particle based model for tracking the coupled geochemical and geomorphic evolution of hillslope soils: **S M Mudd**, K Yoo

0800h **EP41B-0688** *POSTER* Predicting Sediment Flux from Hillslopes by Dry Ravel Following Wildfires in Steep Terrain: **M Levina**, M P Lamb

0800h **EP41B-0689** *POSTER* Effects of moisture and grain size on the mechanisms of rainsplash transport: **S R Taube**, D J Furbish

0800h **EP41B-0690** *POSTER* An overview of a landslide susceptibility methodology for identification of unstable slopes in volcanic terrains. A case-control study in Pico de Orizaba volcano, México: **G Legorreta Paulin**, J Lugo Hubp

0800h **EP41B-0691** *POSTER* FRACTURED BEDROCK STORM FLOW: A NEW PATHWAY FOR RUNOFF GENERATION: **J Oshun**, R Salve, D M Rempe, W E Dietrich, I Fung

0800h **EP41B-0692** *POSTER* Landslide Force History inversion: Measuring the dynamics of catastrophic landslides using seismology and satellite remote-sensing: **C P Stark**, G Ekstrom

0800h **EP41B-0693** *POSTER* How Does Decommissioning Forest Roads Effect Hydrologic and Geomorphic Risk?: **T Black**, C Luce, R M Cissel, N Nelson, B Staab

0800h **EP41B-0694** *POSTER* Monte Carlo Simulation of River Meander Modelling: **A J Posner**, J G Duan

0800h **EP41B-0695** *POSTER* Constraints on Lobate Debris Apron Evolution and Rheology from Numerical Modeling of Ice Flow: **R Parsonson**, F Nimmo

0800h **EP41B-0696** *POSTER* Evolution of the Kızılırmak river and its interaction with the North Anatolian Fault, Turkey: **L Drab**, A Hubert Ferrari, L Benedetti, J van der Woerd

0800h **EP41B-0697** *POSTER* Role of the Duff Layer in Post-fire Soil Hydrology and Erosion: Field and Modelling Observations: **Y E Martin**, E A Johnson, J Gallaway

0800h **EP41B-0698** *POSTER* Discriminant Analysis of a Spatially Extensive Landsliding Inventory for the Haida Gwaii, British Columbia, Canada: D Sjogren, **Y E Martin**, L Jagielko

0800h **EP41B-0699** *POSTER* Lithological strength but chemical weakness controls granitic tor formation: A P Stroeven, **B W Goodfellow**, A Skelton, K N Jansson, C Håttestrand

0800h **EP41B-0700** *POSTER* Slow river incision and erosion strongly limit active uplift in southern Africa: **E D Erlanger**, D E Granger, R J Gibbon

0800h **EP41B-0701** *POSTER* Effects of channel constriction on upstream steering of flow around Locke Island, Columbia River, Washington: **G E Loy**, D J Furbish, A Covey

0800h **EP41B-0702** *POSTER* River channel sensitivity to change in the context of human activities and natural factors: an 80-year record of channel morphodynamics on the lower Santa Clara River, Ventura County, California: **P W Downs**, S R Dusterhoff, W A Sears

0800h **EP41B-0703** *POSTER* Modeling the evolution of in situ cosmogenic nuclide concentrations in mobile and eroding boulders – applications to channel incision and flood frequency analysis: **B H Mackey**, M P Lamb

0800h **EP41B-0704** *POSTER* Reexamining the late Cenozoic geologic evolution of the Amazon basin: **C A Rigsby**, E M Latrubesse, P A Baker, C G Silva

0800h **EP41B-0705** *POSTER* Thrust-fold activity at the mountain front of the Northern Apennines (Italy) from quantitative landscape analysis: **A Ponza**, F J Pazzaglia, V Picotti

0800h **EP41B-0706** *POSTER* Evaluating the impacts on runoff of landscape-based Best Management Practices in a rain-fed agroecosystem of the US Midwest: **T Papanicolaou**, M Elhakeem, C G Wilson, D C Dermis, O Abaci

0800h **EP41B-0707** *POSTER* Air-Photograph Based Estimates of Channel Widening within the Minnesota River Basin: **C Echterling**, J Conway, J Graves, J W Lauer

0800h **EP41B-0708** *POSTER* An empirical model to predict the occurrence of cobble-boulder channel beds: **E T Donaldson**, L S Sklar

0800h **EP41B-0709** *POSTER* Rapid 3-dimensional channel adjustments on the disequilibrium Rio Grande in the Big Bend region: **D J Dean**, J C Schmidt

EP41C Moscone South: Poster Hall Thursday 0800h Quantifying Present and Ancient Rates of Earth Surface Processes III Posters (joint with H, PP, V)

Presiding: **A Dosseto**, University of Wollongong; **A M Heimsath**, Arizona State University; **E J Rhodes**, UCLA

0800h **EP41C-0710** *POSTER* Link between climate and himalayan continental discharge for the last 800ka: **A T Gourlan**, C Chauvel, M Garçon, L Meynadier, C J Allegre

0800h **EP41C-0711** *POSTER* 10Be, OSL/IRSL Luminescence and 14C Cross-Dating of a Series of Abandoned Alluvial Surfaces Laterally Offset by the Dead Sea Fault, Jordan: **M Le Beon**, M Jaiswal, M Al-Qaryouti, K Moumani, G S Burr, Y Chen, Y Klinger, M Abdelghafoor, J Suppe

0800h **EP41C-0712** *POSTER* Climatically driven changes in erosion rates recorded in alluvial fan sediments, Providence Mountains, eastern Mojave Desert, California: **A J Cyr**, D M Miller, M C Reheis, S A Mahan, J D Stock, K M Schmidt

0800h **EP41C-0713** POSTER Using cosmogenic ^3He to quantify bedrock channel erosion rates on the Mooi River, South Africa: **A Keen-Zebert**, S Tooth, F Stuart

0800h **EP41C-0714** POSTER Investigating Source to Sink Processes with Cosmogenic ^{10}Be Concentrations in Multiple Alluvial Grain Sizes: **T L Marsteller**, K L Frankel, P Belmont

0800h **EP41C-0715** POSTER Do cosmogenic nuclides (^{10}Be , ^{14}C , ^{21}Ne , ^{26}Al) track late Quaternary climate changes on the Altiplano?: **K Hippe**, F Kober, G Zeilinger, S Ivy-Ochs, P Kubik, C Maden, R Wieler

0800h **EP41C-0716** POSTER First quantification of severe wind erosion in yardang fields using cosmogenic ^{10}Be within the western Qaidam Basin, China: **A Rohrmann**, R Heermance, P A Kapp, A McCallister

0800h **EP41C-0717** POSTER (U-Th-Sm)/He Analysis of Denudation Rates and Exhumation Histories in Southern West Virginia: **K V Littlefield**, J Toro

0800h **EP41C-0718** POSTER Quantifying weathering advance rates in basaltic andesite rinds with uranium-series isotopes: a case study from Guadeloupe: **L Ma**, F J Chabaux, E Pelt, M Granet, P B Sak, J Gaillardet, S L Brantley

0800h **EP41C-0719** POSTER Controls on the U isotopic composition of modern soil waters and implications for initial U isotope variations in dated soil minerals: **D E Ibarra**, J L Oster, C Harris, K Maher

0800h **EP41C-0720** POSTER Detrital apatite (U-Th)/He constraints on the exhumational histories of the Arunachal Pradesh Himalaya and the Shillong Plateau: **L M Staisch**, M K Clark, N A Niemi, B Avdeev

0800h **EP41C-0721** POSTER Modeling the Effects of Weathering Processes on Uranium-series Comminution Ages: **V E Lee**, C Huber, G M Henderson

0800h **EP41C-0722** POSTER Constraints on Weathering from Riverine Magnesium Isotope Ratios: **U Wiechert**, C V Ullmann, A Meixner, M Recker, R Romer, H Becker

0800h **EP41C-0723** POSTER Do glaciers reset their beds? Investigating the effects of glacial shearing on the luminescence of subglacial sediment: **D A Swift**, M Bateman, J Piotrowski, D Sanderson, P W Nienow

0800h **EP41C-0724** POSTER An approach to luminescence thermochronometer applied on Quartz from different rock types: **T Wu**, Y Chen, M Jaiswal

0800h **EP41C-0725** POSTER Preliminary constraints on the kinetics of OSL thermochronology: **B Guralnik**, F Herman, S Lowick, F Preusser, E J Rhodes

0800h **EP41C-0726** POSTER The record of bedrock incision dynamics by optical luminescence data: **S Bonnet**, J Wallinga, U Rieser, D Lague, P Davy

0800h **EP41C-0727** POSTER Distributed unroofing rates across the central and east Lhasa Terrane: deduced by multiple thermochronometers: **S Huang**, Y Chen, T Liu, M Felling, Z Cao

0800h **EP41C-0728** POSTER Identifying climate change signals in the late Quaternary gravel-bed, braided river stratigraphy of the Canterbury Plains, New Zealand: M A Jones, **A V Rowan**, S J Covey-crump, S H Brocklehurst, H M Roberts, G A Duller

0800h **EP41C-0729** POSTER Timescales of glacial limits to mountain topography in the Patagonian Andes: **C D Willett**, K F Ma, J K Hourigan, M T Brandon

0800h **EP41C-0730** POSTER Sediment budget of a terrestrial source-to-sink system: An example from the Eocene Escanilla Formation, Spanish Pyrenees: **N Michael**, P A Allen, A Carter, M Mange

0800h **EP41C-0731** POSTER BAY OF BENGAL: RECORDING THE WEATHERING EVOLUTION OF THE GANGA AND BRAHMAPUTRA BASIN DURING DEGLACIATION: **M Lupker**, C France-Lanord, V Galy, H Kudrass

0800h **EP41C-0732** POSTER Numerical simulation of geomorphic, climatic and anthropogenic drivers of soil distribution on semi-arid hillslopes: G R Willgoose, **S Cohen**, T Svoray, S Sela, G R Hancock

0800h **EP41C-0733** POSTER QUANTIFYING RELATIVE RATES OF UPLAND AND BANK EROSION USING RADIONUCLIDE TRACERS IN AN AGRICULTURAL WATERSHED: **C G Wilson**, T Papanicolaou, K D Denn

0800h **EP41C-0734** POSTER The Tale of Hyper-arid Pedogenesis- Two Comparing Sites in the Atacama Desert, Chile: **F Wang**, J Seo, B Bowen, R Ochoa, G Michalski

0800h **EP41C-0735** POSTER Quantifying sediment dynamics over century and event timescales with Beryllium-10 and Lead-210: **P Belmont**, J Willenbring, S Schottler

EP41D Moscone South: Poster Hall Thursday 0800h
The Influence of Rock Material Properties on Landscape Morphodynamics II Posters (joint with H, MR, P, T)

Presiding: **L S Sklar**, San Francisco State University; **N J Finnegan**, UC Santa Cruz

0800h **EP41D-0736** POSTER Erosion, Weathering and Stepped Topography in the Sierra Nevada, California; Quantifying the Dynamics of Hybrid (Soil-Bedrock) Landscapes: **B S Jessup**, S N Miller, J W Kirchner, C S Riebe

0800h **EP41D-0737** POSTER EXPLORING APPROACHES TO FIELD CHARACTERIZATION OF BEDROCK ERODIBILITY: REVISITING THE SELBY ROCK-MASS-STRENGTH SYSTEM: **J A Spotila**, R Rodriguez, L M Tranel

0800h **EP41D-0738** POSTER EXPLORING SUBSURFACE FLOW PATHS AS A PRECURSOR TO UNDERSTANDING THE SPATIAL PATTERN OF WEATHERING IN A ROCKY LANDSCAPE: **A L Langston**, G E Tucker, S P Anderson, R S Anderson

0800h **EP41D-0739** POSTER How do rocks of very different properties erode at the same rate: Erosion rates of the Quadrilatero Ferrifero escarpment, Brazil, derived from cosmogenic nuclides: **M R Lopes**, S Binnie, K C Welten, M W Caffee, N F Fernandes, A A Salgado, W E Dietrich, K Nishiizumi

0800h **EP41D-0740** POSTER Bedrock resistance to fluvial erosion: the importance of rock tensile strength, crystal grain size and porosity in scaling from the laboratory to the field: **J D Beyeler**, L S Sklar

EP41E Moscone South: 310 Thursday 0800h
Vegetation and Flow in Fluvial and Wetland Environments I (joint with B, H)

Presiding: **K Skalak**, U.S. Geological Survey; **A Lightbody**, University of New Hampshire

0800h **EP41E-01** Effects of Varying Shrub Density on Erosion and Deposition During a Large Flood, Rio Puerco, New Mexico: **E R Griffin**, J M Friedman, K R Vincent

0815h **EP41E-02** The role of biota in retention of fine sediment in deltas: **R C Littlewood**, S Dayley, K Frederick, C Paola

0830h **EP41E-03** Hydraulic Models for the Accumulation of Mercury-Contaminated Fine-Grained Sediment in Forested and Non-Forested Near-Bank Regions of the South River, Virginia, 1930-2007: **J E Pizzuto**, K Skalak

0845h **EP41E-04** Vertical and Interfacial Transport in Wetlands (Invited): **E A Variano**

0900h **EP41E-05** Biomechanics of Riparian Plant Species Common to the Platte River and Implications for Management of Habitat for Endangered Species. (*Invited*): **N L Bankhead**, R E Thomas, A Simon
0915h **EP41E-06** The contribution of vegetation to riverbed morphology (*Invited*): **W Bertoldi**, A M Gurnell
0930h **EP41E-07** Analysis of interactions between channel dynamics and vegetation development following damming: example of the Old Rhine downstream of Kembs (1949-2009): **F Arnaud**, C Béraud, H Piégay, L Schmitt, A Rollet, K Johnstone, D Hoenen, D Béal
0945h **EP41E-08** Meander migration modeling accounting for the effect of riparian vegetation: **E Eke**, G Parker

Geodesy

G41A Moscone South: Poster Hall Thursday 0800h
Combination of Geodetic Data Types to Address Current and Future Problems, Including Application to the Impending Loss of GRACE I Posters (*joint with T, IN, H, DI, C, GC, NH*)

Presiding: **J L Davis**, Harvard Smithsonian Center for Astrophysics; **J Henton**, Natural Resources Canada

0800h **G41A-0784** *POSTER* Orbital Gravity Gradiometry Beyond GOCE: Geophysical Applications: **H Paik**, M V Moody, K Y Venkateswara, **S Han**, P Ditmar, R Klees, P J Shirron, M J DiPirro, E R Canavan, C Jekeli, C Shum
0800h **G41A-0785** *POSTER* Orbital Gravity Gradiometry Beyond GOCE: Mission Concepts: **P J Shirron**, M J DiPirro, E R Canavan, H Paik, M V Moody, K Y Venkateswara, S Han, P Ditmar, R Klees, C Jekeli, C Shum
0800h **G41A-0786** *POSTER* Orbital Gravity Gradiometry Beyond GOCE: Instrument Concept: M V Moody, **H Paik**, K Y Venkateswara, P J Shirron, M J DiPirro, E R Canavan, S Han, P Ditmar, R Klees, C Jekeli, C Shum
0800h **G41A-0787** *POSTER* Time-variable gravity field from Swarm – first simulation results: **X Wang**, R F Rummel
0800h **G41A-0788** *POSTER* Using existing satellite constellations to complement current and future dedicated gravity field missions: **B Gunter**, J Encarnação, P Ditmar, R Klees
0800h **G41A-0789** *POSTER* Surface gravity observations define gravity field change over 30 years: **D R Roman**, D Winester, J Saleh
0800h **G41A-0790** *POSTER* Estimating geoid changes and over North America: past, present and future: **T Jacob**, J Wahr, R S Gross, S C Swenson
0800h **G41A-0791** *POSTER* High Resolution Terrain Contributions to Geoid modeling Over Alaska: **X Li**, Y Wang, S A Holmes, D R Roman
0800h **G41A-0792** *POSTER* A proposal to use geoid slope validation lines to validate models of geoid change: **D A Smith**
0800h **G41A-0793** *POSTER* The Investigation of Downward Continuation Methods: A Case Study in Taiwan: **C Huang**, Y M Wang, J Saleh, Y Hsiao
0800h **G41A-0794** WITHDRAWN
0800h **G41A-0795** *POSTER* A regional-scale network for geoid monitoring and satellite gravimetry validation: **D Winester**, D Pool, J Kennedy
0800h **G41A-0796** *POSTER* Integrating seismological and geodetic datasets: New insights into the seismic source: T B O'Toole, **A P Valentine**, A Gilligan, J H Woodhouse

0800h **G41A-0797** *POSTER* The Plate Boundary Observatory Borehole Network: Combining Geodetic, Seismic and Environmental Data to Understand Plate Boundary Deformation: **K M Hodgkinson**, D Mencin, D B Henderson, A A Borsa, W Johnson, M H Gottlieb, E Van Boskirk, W Gallaher, O Fox, J Smith, M E Jackson
0800h **G41A-0798** *POSTER* Spatio-temporal evolution of the postseismic slip associated with the 2005 Miyagi-Oki earthquake (M7.2) estimated from geodetic and seismological data: **T Iinuma**, S Miura, N Uchida, M Sato, H Saito, T Ishikawa, R Hino, T Matsuzawa
0800h **G41A-0799** *POSTER* Observation of seafloor crustal movement using the seafloor acoustic ranging on Kumano-nada: **Y Osada**, M Kido, H Fujimoto
0800h **G41A-0800** *POSTER* Seafloor movements after the 2005 Off Miyagi Prefecture Earthquake (M7.2) detected by GPS/acoustic geodetic observation: **M Sato**, H Saito, T Ishikawa, M Fujita, M Mochizuki, A Asada
0800h **G41A-0801** *POSTER* Temporal variation of oceanic sound speed structure affecting seafloor geodesy: **M Kido**, Y Osada, H Fujimoto
0800h **G41A-0802** *POSTER* Identifying Growth of Structures in the Zagros Fold and Thrust Belt: Initial Time Series Results and Evaluation of Precipitable Water Vapor Effects: **W D Barnhart**, R B Lohman
0800h **G41A-0803** *POSTER* BASIC RADAR ALTIMETRY TOOLBOX: TOOLS TO USE RADAR ALTIMETRY FOR GEODESY: V Rosmorduc, **J J Benveniste**, E Bronner, S Nijmeier
0800h **G41A-0804** *POSTER* Combining tide gauge and geological records of 200 years of British sea level change: **N Barlow**, A J Long, R W Gehrels, P L Woodworth, M H Saher
0800h **G41A-0805** *POSTER* Parameter Estimation of the monadic Unsymmetrical P-norm distribution: **P Xiong**
0800h **G41A-0806** *POSTER* Biases in GNSS-Data Processing: S C Schaer, **R Dach**, S Lutz, M Meindl, G Beutler
0800h **G41A-0807** *POSTER* Characterizing Land Surface Change in the Sacramento-San Joaquin Delta Using L-band UAVSAR Polarimetric and Differential Interferometric Radar Imagery: **G W Bawden**, C E Jones, S Hensley, S J Deverel, J Dudas

G41B Moscone South: Poster Hall Thursday 0800h
Recent Advances in Observation and Modeling of Glacial Isostatic Adjustment II Posters (*joint with C, PP*)

Presiding: **M Simpson**, statens kartverk; **E R Ivins**, JPL/Caltech; **S A Khan**, Danish National Institute

0800h **G41B-0808** *POSTER* Tectonic, Climatic and Anthropogenic Vertical Land Movements in Western Europe by Repeated Absolute Gravity Measurements: **M J Van Camp**, O de Viron, T Lecocq, K G Hinzen, Y Quinif, S D Williams, T Camelbeeck
0800h **G41B-0809** *POSTER* On the ratio of the gravity change rate to the uplift rate in Southeast Alaska: S Miura, **T Sato**, Y Ohta, H Fujimoto, D Inazu, W Sun, T Sugano, C F Larsen, M Kaufman, R J Motyka, J T Freymueller
0800h **G41B-0810** *POSTER* Application of GRACE, Vertical GPS Station Motion and ICESat Altimeter Data for Generating Simultaneous Constrains on Ice Mass Balance and Glacial Isostatic Adjustment in the Antarctic Peninsula: **E R Ivins**, M Watkins, D Yuan, R O Dietrich, G Cassasa, A Rülke
0800h **G41B-0811** *POSTER* Glacial Isostatic Adjustment as a Source of Noise for the Interpretation of GRACE Data: **G A**, J M Wahr, S Zhong

0800h **G41B-0813** *POSTER* Vertical ground motion from tide gauges and satellite altimetry: **E Ostanciaux**, L Husson, G Choblet, C Robin, K Pedoja

0800h **G41B-0814** *POSTER* Separating Multi Time Scale Signals in GPS Time Series in Greenland: **Y Jiang**, T H Dixon, S Wdowinski

0800h **G41B-0815** *POSTER* Monitor Uplift in Western Coast, Greenland Using SBAS-InSAR Time Series: **W Zhao**, F Amelung, T H Dixon

0800h **G41B-0816** *POSTER* Refining predictions of relative sea-level change and vertical crustal motion from glacial isostatic adjustment in northern Canada: past, present, and future: **K M Simon**, T S James, A S Dyke, D L Forbes, J Stephaniuk

0800h **G41B-0817** *POSTER* Visco-elastic rebound of the lithosphere around the lake Siling Co in Tibet observed by InSAR: **M Doin**, C Twardzik, G Ducret, C Lasserre, S Guillaso, S Jianbao

G41C Moscone West: 2008 Thursday 0800h
Plate Motion and Continental Deformation I (*joint with T, S, NH*)

Presiding: **D Argus**, Jet Propulsion Laboratory; **J T Freymueller**, University of Alaska Fairbanks; **R M Fernandes**, UBI, CGUL, IDL

0800h **G41C-01** EPISODIC SLIP EVENTS MEASURED BY A CONTINUOUS GPS NETWORK ON THE NICOYA PENINSULA, COSTA RICA: **T H Dixon**, Y Jiang, S Wdowinski, S Y Schwartz, M Protti, V M Gonzalez

0815h **G41C-02** Seismic and aseismic slip on the central Peru megathrust (*Invited*): **H Perfettini**, J Avouac, A Kositsky, D Rémy, H Tavera, J Nocquet, M Chlieh, A Sladen

0830h **G41C-03** Interplate coupling model in West Java Trench, Indonesia, based on GPS Data: **N R Hanifa**, F Kimata, T Sagiya, C Subarya, H Z Abidin, I Meilano

0845h **G41C-04** New GPS velocity field in the northern Andes (Peru - Ecuador - Colombia): heterogeneous locking along the subduction, northeastwards motion of the Northern Andes: **J Nocquet**, P A Mothes, J Villegas Lanza, M Chlieh, P Jarrin, M Vallée, H Tavera, G Ruiz, M Regnier, F Rolandone

0900h **G41C-05** GPS measurements of crustal deformation across the northern Apennines, Italy: **R A Bennett**, E Serpelloni, S Hreinsdottir, G Buble, G Casale, A Cavaliere, N D'Agostino, E D'Anastasio, M Giancarlo, A Montanari, G Minelli, M T Brandon

0915h **G41C-06** Microplate kinematics, strain accumulation and geodetic fault slip rates along the Sicily-Calabria segment (southern Italy) of the Nubia-Eurasia plate boundary from the analysis and modeling of dense GPS networks: **B Mastrolembo Ventura**, E Serpelloni, R Burgmann, P Baldi

0930h **G41C-07** Global Positioning System measurements of present day crustal deformation in the Southern Balkans: **G Buble**, R A Bennett

0945h **G41C-08** Great Earthquakes and the stability of the Australian Plate (*Invited*): **S Lejeune**, P Tregoning, S McClusky, C S Watson, R J Burgette

Global Environmental Change

GC41A Moscone South: Poster Hall Thursday 0800h
The Third Pole Environment (TPE) Under Global Changes II
Posters (*joint with A, C, H, B*)

Presiding: **T Yao**, Inst of Tibetan Plateau Res; **L G Thompson**, Ohio State University; **V Mosbrugger**, Senckenberg Research Center for Nature Study; **Y Sheng**, UCLA

0800h **GC41A-0847** *POSTER* Local weather conditions greatly affect mass balance of glaciers on the southern and northern slopes of Mount Nyainqentanglha, Tibetan Plateau: **W Yu**, T Yao, S Kang, J Pu

0800h **GC41A-0848** *POSTER* Monsoon signals in shells of the gastropod *Radix*: a new archive for lake history and palaeoclimatic studies on the Tibetan Plateau: **L Taft**, F Riedel, U Wiechert, M Weynell, H Zhang

0800h **GC41A-0849** *POSTER* Precipitation water stable isotopes in the south Tibetan Plateau: observations and modeling: **J Gao**

0800h **GC41A-0850** *POSTER* Grain size, concentrations, and fluxes of dust particles in ice cores from the Tibetan Plateau: **G Wu**, T Yao, L Tian, B Xu, C Zhang, X Zhang

0800h **GC41A-0851** *POSTER* Variability of source water signal in δD values of sedimentary n-alkanes of Lake Nam Co: **F Guenther**, G Gleixner, B Xu, T Yao

0800h **GC41A-0852** *POSTER* Lake level changes on the Tibetan Plateau: **G Zhang**, H Xie, S Kang, S F Ackley

0800h **GC41A-0853** *POSTER* Variation of the Thermal Features over the Tibetan Plateau in Winter and its Impacts: **Y Liu**, J Yu, L Li, G Wu

0800h **GC41A-0854** *POSTER* The role of microphysical processes on the mesoscale simulation over the complex terrain, the Himalayas: **R K Shrestha**, M W Gallagher, P Connolly

0800h **GC41A-0855** *POSTER* NO_x emission from surface snow and ice over Tibetan Plateau, China: **J Wang**, T Zhu, W Lin, F Wang

0800h **GC41A-0856** *POSTER* Monsoon variability for the past 4 ka derived from high-resolution analyses of sediments from lake Nam Co, central Tibetan Plateau: **T Kasper**, T Haberkzettel, S Doberschütz, G Daut, R Mäusbacher, J Wang, L Zhu, V Wennrich

0800h **GC41A-0857** *POSTER* Comparisons of Soil Moisture Datasets Over Tibetan Plateau and Application to the Simulation of Asia Summer Monsoon Onset: **Q Bao**

0800h **GC41A-0858** *POSTER* The Changing Pattern of Glaciers During Last 40 Years in Tibetan Plateau, China: **S Liu**, W Guo, J Xu, J Li, J Wei, P Yu

0800h **GC41A-0859** *POSTER* Validation of Satellite Rainfall Estimates over Tibet Autonomous Region, China: **C Duo**

0800h **GC41A-0860** *POSTER* Late glacial and Holocene development of Lake Donggi Cona on the NE Tibetan Plateau: **S Opitz**, B Wünnemann, E Dietze, K Hartmann, F Lehmkuhl, G Stauch, J Ijmker, B Diekmann

0800h **GC41A-0861** *POSTER* Wet deposition of precipitation chemistry at Nam Co Station, Central Tibetan Plateau: from 2005 to 2009: **Y Zhang**, S Kang, C Li, Z Cong, Q Zhang

0800h **GC41A-0862** *POSTER* A 200 year history of mercury pollution across the Tibet-Himalaya reconstructed using lake sediments: **S Kang**, Q Li, C M Sharma, Q Zhang, B Xu, S Sharma, J Guo, K Wang, J Huang

0800h **GC41A-0863** *POSTER* Late-Holocene climate change derived from a high-resolution pollen record from varved sediments at Suga Lake in the Qaidam Basin, northeastern Tibetan Plateau: **Y Zhao**, K Zhang, Z Yu, A Zhou

0800h **GC41A-0864** POSTER Evidence for water cycle changes during past 50 years in Tibetan Plateau: Review and synthesis: **Y Zhang**

0800h **GC41A-0865** POSTER Use of a multi-temporal grid method to verify glacier coverage changes on the Tibetan Plateau using GIS techniques: **Q YE**

0800h **GC41A-0866** POSTER Snow and glacier change in Koshi Basin Himalaya and its response to global warming: **Y Gao**, X Yang, T Yao, D YuFeng

0800h **GC41A-0867** POSTER LAND COVER CHANGE IN THE VICINITY OF MT. QOMOLANGMA (EVEREST), CENTRAL HIGH HIMALAYAS SINCE 1976: **Y Zhang**, Y Nie, L Liu, Z Wang, M Ding, J Zhang

0800h **GC41A-0868** POSTER A New Comprehensive Dataset on Glacier Area Changes From 1960s to 2008 in Altai-Sayan, Tien Shan And Pamir Mountain Systems of Central Asia: **A Surazakov**, V B Aizen, E Aizen, S Nikitin

0800h **GC41A-0869** POSTER Surface energy balance and ablation modeling during the summer season at Parlhang No.4 Glacier in southeast Tibetan Plateau: **W Yang**

0800h **GC41A-0870** POSTER Hydrologic simulations of the Upstream of Major Rivers in the Tibetan Plateau: **F Su**, L Zhang, K Tong, Z Hao

0800h **GC41A-0871** POSTER Spatial distribution of soil trace elements along Qinghai-Tibet Railway: **Z Wang**, Y Zhang, H Zhang

0800h **GC41A-0872** POSTER The Question of High MIS 3 Lakes in Northwestern China and the Implications for Global Climate Models: **Z Lai**, D Madsen, X Liu, Y Sun

0800h **GC41A-0873** POSTER Glacier Surface Velocity Fields and their Seasonal Variation at West Kunlun, China, Detected by ALOS/PALSAR data: **T Yasuda**, M Furuya

0800h **GC41A-0874** POSTER Different Behaviors between Indian Monsoon and East Asian Monsoon Revealed from $\delta^{18}O$ in Precipitation: **X Yang**

0800h **GC41A-0875** POSTER Influence of the atmospheric-oceanic oscillations on the 20th century warming recorded by $\delta^{18}O$ in the Malan ice core: **Y Wang**, T Yao

0800h **GC41A-0876** POSTER Stable isotope variability in an ice core from the Tanggula Mountains, Central Tibetan Plateau: **D Joswiak**, T Yao, G Wu, B Xu, W Zheng

0800h **GC41A-0877** POSTER Central Asia Climate Change: Altai, Tien Shan And Pamir Ice Cores Contemporary And Paleo-Reconstruction: **E Aizen**, V B Aizen, N Takeuchi, P A Mayewski, B O Grigholm, K Fujita, D Joswiak

0800h **GC41A-0878** POSTER Reconstructing 2000 years of Indian summer monsoon variability from high-resolution Tibetan lake sediments, eastern Himalaya: **B W Bird**, L G Thompson, T Yao

0800h **GC41A-0879** POSTER The Change of Solar Radiation and Its Causes in Lhasa City: **Y Zhang**, S Kang

0800h **GC41A-0880** POSTER Lake System Response to Late Quaternary Monsoon Dynamics on the Tibetan Plateau: Microfossils as Indicators of Lake Level Changes: A Schwalb, P Frenzel, C Wroczynna, A Lödige, **G Gleixner**, G Daut, R Mäusbacher, L Zhu

0800h **GC41A-0881** POSTER Oxygen and Hydrogen Isotope Patterns of Surface Waters on the Tibetan Plateau: Implications on Sources and Transport Paths: **M Weynell**, U Wiechert, F Riedel, L Taft, H Zhang

0800h **GC41A-0882** POSTER Application of vegetation information on the Tibetan Plateau to improve East Asian summer monsoon prediction: **L Wu**, J Zhang

0800h **GC41A-0883** POSTER Historical Snow Cover Variability Data Reconstructed from AVHRR and MODIS over High Asia: **H ZHOU**, E Aizen, V B Aizen

0800h **GC41A-0884** POSTER Glacial Volume Loss in the Mt Everest Region in the Past Century: R G Bilham, D Breashears, **U N Horodyskyj**

0800h **GC41A-0885** POSTER Asian Ice Core Array (AICA): Late Holocene Atmospheric Dust Reconstruction over Asia:

B O Grigholm, P A Mayewski, V B Aizen, S Kang, E Aizen, K J Kreutz, S Kaspari, K Fujita, N Takeuchi, C P Wake, A Kurbatov

0800h **GC41A-0886** POSTER Early Human Occupation on the Northeast Tibetan Plateau: **D Rhode**, D Madsen, P Brantingham, C Perrault

0800h **GC41A-0887** POSTER Reconstruction of Late Glacial paleo-monsoon dynamics using lacustrine sediments of Lake Nam Co, Tibetan Plateau, China: **S Doberschütz**, G Daut, T Haberzettl, T Kasper, R Mäusbacher, J Wang, L Zhu

0800h **GC41A-0888** POSTER Temperature variability in the westernmost Tibetan Plateau in the past 2000 years: **J Hou**

0800h **GC41A-0889** POSTER Elemental composition of Tibetan Plateau top soils and its effect on evaluating atmospheric pollution transport: **C Li**, S Kang, Q Zhang

0800h **GC41A-0890** POSTER Tibetan Plateau Soil moisture products Intercomparison and the field observations: **Y Qi**, L Lu, L Jiang, J Tao, J Du, J Shi

GC41B Moscone South: Poster Hall Thursday 0800h Use of Observations for Evaluating CMIP5/IPCC Simulations I Posters (joint with A, IN)

Presiding: **D E Waliser**, Jet Propulsion Laboratory/Caltech;

G L Potter, NASA GSFC; **A J Braverman**, Jet Propulsion Laboratory; **J Teixeira**, Jet Propulsion Laboratory

0800h **GC41B-0891** POSTER Inferring global change from CHAMP and COSMIC occultation data: **S S Leroy**, C O Ao, J Anderson

0800h **GC41B-0892** WITHDRAWN

0800h **GC41B-0893** POSTER The CERES ISCCP-D2like cloud and radiative property data product: **M Sun**, D R Doelling, R I Raju, L C Nguyen, N G Loeb

0800h **GC41B-0894** POSTER Usefulness of AIRS-Derived OLR, Temperature, Water vapor and Cloudiness Anomaly Trends for GCM Validation: **G I Molnar**, J Susskind, L F Iredell, Title of Team: NASA/GSFC Sounder Research Team

0800h **GC41B-0895** POSTER A Framework for the Development of Multi-scale Regional Climate Information: **P L Gonzalez**, L Goddard, A M Greene

0800h **GC41B-0896** POSTER Spectral Forcing and Feedback Signals in IPCC Simulations: Simulations of Next-Generation Observing Systems: **D Feldman**, W Collins, C Algeri, J Ong

0800h **GC41B-0897** POSTER Long-term satellite-based cloud properties derived at DWD within the EUMETSAT Satellite Application Facility on Climate Monitoring: **M Stengel**, M Lockhoff, A Kniffka, F Kaspar, R Hollmann

0800h **GC41B-0898** POSTER Solar Intensity Distributing and Convolving Optic (SIDCO) Concept for the CLARREO Reflected Solar Imaging Spectrometer (RSIS): **G Matthews**, Title of Team: ITT Geospatial Systems Climate Calibration group

0800h **GC41B-0899** POSTER Assessment of Inter- to Multi-Decadal Temperature Variability in Coupled Climate Models: **P T Brown**, E C Cordero, S Mauget

0800h **GC41B-0900** *POSTER* Reproducibility by climate models of cloud radiative forcing associated with tropical convection: **H Ichikawa**, H Masunaga, Y Tsushima, H Kanzawa

0800h **GC41B-0901** *POSTER* Evaluating the realism of climate model hydrological cycle via comparisons with the observed moisture mixing ratio distribution (*Invited*): **E R Kursinski**, A L Kursinski

0800h **GC41B-0902** *POSTER* Detection of 20th Century Forcing and Feedback: **J A Crook**, P Forster

0800h **GC41B-0903** *POSTER* Influence of Convective Parameterization on Model Simulated Tropical Diurnal Cycle: **P C Taylor**, N G Loeb

0800h **GC41B-0904** *POSTER* Observational data preparation and availability for Integrated Earth System modeling: **A Corrigan**, K Kleese van Dam, K A Hibbard, D N Williams

0800h **GC41B-0905** *POSTER* Testing and Improving ENSO Models by Process using Transfer Functions: **E Tziperman**, D G MacMynowski

0800h **GC41B-0906** WITHDRAWN

0800h **GC41B-0907** *POSTER* Understanding Uncertainties Surrounding Low-Cloud Climate Feedback in Transient Climate Change: **X Qu**, A D Hall, F Sun, J Boe, A Jousse

0800h **GC41B-0908** *POSTER* Implied Nutrient Transport into the Southern Ocean in IPCC-AR4 Coupled Climate Models: **S J Everatt**, P J Goodman, J L Russell

0800h **GC41B-0909** *POSTER* A Regional Climate Model Evaluation System based on Satellite and other Observations: P Lean, **J Kim**, D E Waliser, A D Hall, C A Mattmann, S L Granger, K Case, C Goodale, A Hart, P Zimdars, B Guan, N P Molotch, S Kaki

0800h **GC41B-0910** *POSTER* A comparison of physical climate feedbacks between reanalysis and model datasets: **M M Flink**, K M Shell

0800h **GC41B-0911** *POSTER* Contrasting observed and CMIP3 simulated sea surface salinity in the tropical Pacific: **T C Delcroix**, G Alory, S Cravatte, M J McPhaden

0800h **GC41B-0912** *POSTER* Evaluating Projected Changes in Mean Processes, Extreme Events, and their Spatio-Temporal Dependence Structures: **A R Ganguly**, K Steinhäuser, E A Kodra, S Kao

0800h **GC41B-0913** WITHDRAWN

GC41C Moscone South: Poster Hall Thursday 0800h
Variability and Predictability of Weather and Climate
Extremes I Posters (*joint with A, H, NH, B, PA*)

Presiding: **Y Deng**, Georgia Institute of Technology; **M F Wehner**, Lawrence Berkeley National Laboratory; **A R Ganguly**, Oak Ridge National Laboratory

0800h **GC41C-0914** *POSTER* Assessing Extremes Climatology Using NWS Local Climate Analysis Tool: **M M Timofeyeva**, A Hollingshead, D Hilderbrand, B Mayes, T Hartley, N M Kempf McGavock, E Lau, E A Olenic, B Motta, R Bunge, L E Brown, F Fritsch

0800h **GC41C-0915** *POSTER* Atlantic Hurricanes During Intense ENSO Events: **C Andronache**

0800h **GC41C-0916** *POSTER* Storminess in northwest Europe: an evaluation of correlations between the meteorological wind record and the North Atlantic Oscillation: **H Burningham**, J French

0800h **GC41C-0917** WITHDRAWN

0800h **GC41C-0918** *POSTER* The Role of Changes in the Annual Cycle in Earlier Onset of Climatic Spring in Northern China: **C Qian**, C Fu, Z Wu, Z Yan

0800h **GC41C-0919** *POSTER* The soil moisture condition for the extreme 2006 dry and 2007 wet years over Oklahoma: **T Fan**, B Lin

0800h **GC41C-0920** *POSTER* Global Mass Circulation Variability associated with the Annular Mode: **C Shin**, M Cai

0800h **GC41C-0921** *POSTER* Winter 2009/10: A case study of an extreme Arctic Oscillation event and a skillful climate prediction: **J L Cohen**, J L Foster, M A Barlow, K Saito, J Jones

0800h **GC41C-0922** WITHDRAWN

0800h **GC41C-0923** *POSTER* Global, High-Resolution Identification of Areas Most Vulnerable to Rain-vs-Snow Transitions under Imposed Warmings: **M D Dettinger**

0800h **GC41C-0924** *POSTER* The complex dynamics of the seasonal component of USA surface temperature: **V Capparelli**, A Vecchio, V Carbone

0800h **GC41C-0925** *POSTER* Evaluating climate model simulations of heavy precipitation over North America: **A DeAngelis**

0800h **GC41C-0926** *POSTER* Projection of the future change in precipitation in the vicinity of Japan during the rainy season using a 5-km-mesh regional climate model: **S Kanada**, M Nakano, T Kato

0800h **GC41C-0927** *POSTER* Comparisons of hurricane-induced storm surge models and their operational use: **J Choi**, P Gay, J P Rigney, M Doody

0800h **GC41C-0928** *POSTER* The Eastern China land use/land cover change (LCLUC) and its influence on weather and climate: **L Jiang**, L Lu, R A Pielke

0800h **GC41C-0929** *POSTER* The possibility of persisting cold spells in a warming environment: **E A Kodra**, K Steinhäuser, A R Ganguly

0800h **GC41C-0930** *POSTER* Identification of Large Scale Circulation Patterns Associated With Temperature Extremes Over North America in Observations and Climate Model Simulations of the 20th Century: **P Loikith**, A J Broccoli

0800h **GC41C-0931** *POSTER* Drivers of interannual variations in Australian extremes: **A Gallant**, L Alexander

0800h **GC41C-0932** *POSTER* Cross-Pacific forcing of the boreal winter hydrological extremes over western North America: **T Jiang**, Y Deng

0800h **GC41C-0933** *POSTER* GCM Projections of Precipitation Extremes in the Mediterranean: Changes and Low Frequency Characteristics: **F Cioffi**, U Lall, E Volodin, C Karamperidou, R Purini

0800h **GC41C-0934** *POSTER* Climate-Induced Shifts in Extreme Precipitation Events Based on Resolved Atmospheric Changes: **C A Schlosser**, X Gao, M Weber, D Entekhabi

0800h **GC41C-0935** *POSTER* Predictors for extreme summertime precipitation events over tropical South America: the importance of intraseasonal forcing: **F E Hirata**, C Hoyos, P J Webster

0800h **GC41C-0936** *POSTER* The role of land-atmosphere coupling for climate variability and extremes over East Asia: **J Zhang**

0800h **GC41C-0937** *POSTER* About the link between an earlier NAMS retreat and a delayed SAMS onset during the recent decades: **P A Arias**, R Fu

GC41D Moscone West: 2022 Thursday 0800h
Bringing Together Environmental, Socioeconomic, and
Climatic Change Studies in Northern Eurasia II (*joint with B, NH, A, H, C, PP, PA*)

Presiding: **P Y Groisman**, UCAR at NOAA NCDC; **A J Soja**, National Institute Aerospace

0800h **Introduction** *The NEESPI status update.*

0801h **GC41D-01** Siberia Integrated Regional Study megaproject: approaches, first results and challenges: **E P Gordov**, E A Vaganov

0815h **GC41D-02** Methane emissions from the West Siberian wetlands: **S Maksyutov**, M Glagolev, I Kleptsova, A Sabrekov, A Peregon, T Machida

0830h **GC41D-03** Reconstruction of inundation and greenhouse gas emissions from Siberian wetlands over the last half-century: **T J Bohn**, R Schroeder, E Podest, N Pinto, K C McDonald, C Chiu, L C Bowling, D P Lettenmaier

0845h **GC41D-04** Perspectives on Fire Research Collaboration in Siberia: What Have We Learned; Why Does It Matter; and Where Do We Go from Here?: **S G Conard**

0900h **GC41D-05** Reconstructing Post-1979 Forest Fire Activity and Area Burned in Russia: NOAA AVHRR Analysis (*Invited*): **B J Stocks**, D R Cahoon

0915h **GC41D-06** Changes of land use and land cover and biogeochemistry in northern Eurasia in response to climate change and the global economy: **Q Zhuang**, J M Melillo, D W Kicklighter, J M Reilly, S Paltsev, A P Sokolov, A Shvidenko, N Tchebakova, E Parfenova, A Peregon, A Sirin, S Maksyutov, G Zhou

0930h **GC41D-07** Forest Cover Monitoring 2000-2005 for European Russia Using Landsat Data Composites: **P Potapov**, M C Hansen

0945h **GC41D-08** Combined Analysis of Land Cover Change and NDVI Trends in the Northern Eurasian Grain Belt and the Aral Basin: **C K Wright**, G M Henebry

GC41E Moscone South: 103 Thursday 0800h
Global Environmental Change General Contributions II (*joint with A, SA*)

Presiding: **S A Lloyd**, NASA Goddard Space Flight Ctr; **F Mekik**, Grand Valley State University

0800h **GC41E-01** Changes in Climate Variables: Contribution of Cloud Types to Global and Regional Cloud Patterns: **J R Dim**, H Murakami, T Y Nakajima

0815h **GC41E-02** Climate Sensitivity and the Global Water Cycle: **M Previdi**, B G Liepert

0830h **GC41E-03** The Sea Level Rise Challenge: **W Abdalati**, S C Moser, R W Schmitt

GC41F Moscone West: 3001 Thursday 0800h
Monitoring and Mitigation of Methane Clathrate Destabilization to Avoid Accelerated Global Warming I (*joint with A, C, MR, OS, B, NS*)

Presiding: **R K Vincent**, Bowling Green State University; **X Xiong**, NOAA/NESIDS/STAR

0800h **GC41F-01** Suggestions for Mitigation of Methane Clathrate Destabilization Along Continental Slopes Offshore and Discrimination Between Fossil and Recent Methane in the Atmosphere with Remote Sensing: **R K Vincent**, R A Vincent

0815h **GC41F-02** The East Siberian Arctic Shelf: monitoring is necessary to assess actual scale of annual methane emissions from seabed deposits. (*Invited*): **N E Shakhova**

0830h **GC41F-03** Space-borne remote sensing of atmospheric methane using near-infrared spectra: Current status and future perspectives. (*Invited*): **C Frankenberg**, I Aben, P M Bergamaschi, A Butz, S Houweling

0845h **GC41F-04** Using the Deepwater Horizon Disaster to Investigate Natural Biogeochemical Cycling Associated with Rapid Methane Emissions (*Invited*): **J D Kessler**, D L Valentine, S A Yvon-Lewis, M B Heintz, L Hu, F Garcia Tigreros, M Du, E W Chan

GC41G Moscone West: 2005 Thursday 0800h
Toward a Global Greenhouse Gas Monitoring and Information System II (*joint with A, B, OS, PA, IN*)

Presiding: **R M Duren**, JPL; **J H Butler**, NOAA Earth System Research Laboratory; **D Rotman**, Lawrence Livermore National Laboratory; **P Ciais**, CEA-CNRS-UVSQ

0800h **GC41G-01** Vision for an Open, Global Greenhouse Gas Information System (GHGIS): **R M Duren**, J H Butler, D Rotman, P Ciais, Title of Team: The Greenhouse Gas Information System Team

0808h **GC41G-02** Economic Data and Models in a Greenhouse Gas Monitoring System (*Invited*): **J M Reilly**

0824h **GC41G-03** Understanding Political Discourse on Climate Change in U.S. Congressional Hearings (*Invited*): **D R Fisher**

0840h **GC41G-04** Measurement Requirements for Greenhouse Gas Concentrations in Support of Treaty Monitoring and Verification (*Invited*): **S C Wofsy**, E A Kort, K McKain, G W Santoni, B Xiang, J V Pittman, B C Daube, B B Stephens, D W Fahey, P P Tans, C E Miller, M J Prather, P Ciais

0856h **GC41G-05** Research needs and current approaches for a global carbon monitoring system: Monitoring requirements, synthesis of existing data streams, and emissions verification (*Invited*): **A M Michalak**, R B Jackson, G Marland, C L Sabine, S M Gourdj, D Hammerling, K L Mueller, Y P Shiga, V Yadav

0912h **GC41G-06** Verifying Greenhouse Gas Emissions: A M Linn, **B Law**

0924h **GC41G-07** Greenhouse gas emissions derived from regional measurement networks and atmospheric inversions: Results from the MCI and INFLUX experiments: **K J Davis**, A E Andrews, M Cambaliza, A Denning, K R Gurney, T LAUVAUX, N L Miles, S M Ogle, A Possolo, S Richardson, A E Schuh, P B Shepson, C Sweeney, J C Turnbull, T O West, J R Whetstone

0936h **GC41G-08** NASA Carbon Monitoring System Program: **J A Kaye**, B Doorn, K W Jucks, D E Wickland, P S Bontempi, Title of Team: "NASA CMS Pilot Product and Scoping Study Teams"

0948h **GC41G-09** Modeling atmospheric transport of CO₂ at High Resolution to estimate the potentialities of spaceborne observation to monitor anthropogenic emissions: **P Ciais**, J Chimot, A Klonecki, P Prunet, J Vinuesa, C Nussli, F Breon

GC41H Moscone West: 2020 Thursday 0800h
Using Downscaled Climate Data in Impact and Adaptation Studies I (*joint with B, H, NH, A, IN, PA*)

Presiding: **P Duffy**, Climate Central; **L D Brekke**, U.S. Bureau of Reclamation; **B Thrasher**, Climate Central

0800h **GC41H-01** Recent Advances in Climate Impacts, Vulnerability, and Adaptation Studies in California: **G Franco**, D R Cayan, S C Moser, M Hanemann, S Pittiglio

0815h **GC41H-02** MAKING SCIENTIFIC DATA AVAILABLE TO ADAPTATION PRACTITIONERS - THE WALLACE INITIATIVE: **J T Price**, R F Warren, J Vanderwal, L Shoo, J Ramirez, A Jarvis, S Goswami

0830h **GC41H-03** Modeling Climate Change and Ecosystem Response—Developing Tools to Guide Resource Management in the Southeastern U.S.: **W B Hughes**, M Dalton, S Jones

0845h **GC41H-04** Assessing the future of crop yield variability in the United States with downscaled climate projections (*Invited*): **D B Lobell**, D Urban

- 0900h **GC41H-05** Implementation of regional climate scenarios data for the evaluation of biotic and abiotic forest risks in 21st century: **O Panferov**, C Doering, C Moseley, B Ahrends
- 0915h **GC41H-06** Systematic conservation planning for California avifauna in a climate change context (*Invited*): **D Stralberg**, S Veloz, D Jongsomjit, T Gardali, C Howell, J Alexander, M A Snyder, N Nur, G Ballard, J Wiens
- 0930h **GC41H-07** Climate change impacts on vegetation in the San Francisco Bay Area: a novel approach to vulnerability analysis (*Invited*): **D Ackerly**, W K Cornwell, S B Weiss, R Branciforte, L E Flint, A L Flint
- 0945h **GC41H-08** Incorporating Climate Variability, Change, and Model Uncertainty in Scenarios for California Water Planning (*Invited*): **A Munevar**

Geomagnetism and Paleomagnetism

GP41A Moscone South: Poster Hall Thursday 0800h **Recent Progress in Magnetic Fabrics and Applications to Earth Sciences II Posters**

Presiding: E C Ferre, SIUC

- 0800h **GP41A-1025** *POSTER* Delineating Glacial Till Bed Kinematics using AMS and Pebble Fabrics: M J Gentoso, E Evenson, **K P Kodama**
- 0800h **GP41A-1026** *POSTER* ANISOTROPY CONSTANT WITHIN THE BASAL PLANE OF HEMATITE SINGLE CRYSTALS: HIGH FIELD EXPERIMENTS: **F Martin Hernandez**, S Guerrero Suarez
- 0800h **GP41A-1027** *POSTER* LOW-FIELD AMS AT INCREASING FIELD STRENGTHS IN HEMATITE SINGLE CRYSTALS: INFLUENCE OF THE RAYLEIGH REGION ON THE MAGNETIC FABRIC PARAMETERS: S Guerrero Suarez, **F Martin Hernandez**
- 0800h **GP41A-1028** *POSTER* Magnetic fabrics analysis of the Outokumpu serpentinite body in the upper crust of Eastern Finland: **F Dietze**, A M Kontny
- 0800h **GP41A-1029** *POSTER* MAGNETIC FABRICS AND THEIR RELATIONSHIP WITH THE EMPLACEMENT OF THE PIRACAIÁ PLUTON, SE BRAZIL: **M B Raposo**, L F Pressi, V D Janasi
- 0800h **GP41A-1030** *POSTER* Structure, magnetic and crystallographic fabrics of columnar lava flows from the French Massif Central (France): T Boiron, J Bascou, P C Camps, **E C Ferre**, C Maurice, B Guy, M Gerbe
- 0800h **GP41A-1031** *POSTER* The effects of magnetic interactions and magnetic particle concentration on remanent magnetization and magnetic fabrics: **M D Stillwagon**, J L Till, B M Moskowitz, C L Waters-Tormey
- 0800h **GP41A-1032** *POSTER* Magnetic fabric of Pleistocene continental clays from the hanging-wall of a low-angle normal fault (Alto Tiberina Fault, Italy): **S Pucci**, M Maffione, L Sagnotti, F Speranza
- 0800h **GP41A-1033** *POSTER* Normal and anomalous AMS fabrics in gabbroic sills: examples from the Karoo Large Igneous Province: A Lehman, **E C Ferre**, S M Maes, J W Geissman, M C Marsh, L P Mare, J Marsh
- 0800h **GP41A-1034** *POSTER* A transtensional basin model for the Organyà basin (central southern Pyrenees) based on magnetic fabric and brittle structures: **B Oliva-Urcia**, A M Casas, R Soto, J VILLALAIN, K Kodama
- 0800h **GP41A-1035** *POSTER* AMS STUDIES ON FLASER GNEISS, PISECO LAKE, ADIRONDACK MOUNTAINS: W D MacDonald, **D A Wheeler**

- 0800h **GP41A-1036** *POSTER* Image analysis using reflected light: an underutilized tool for interpreting magnetic fabrics: **C L Waters-Tormey**, T Liner, B Miller, P R Kelso

GP41B Moscone West: 2003 Thursday 0800h **Geomagnetic Field Modeling and Interpretation of Satellite, Observatory, Marine, and Aeromagnetic Data II** (*joint with OS, SA, SM, DI, T, P*)

Presiding: **M E Purucker**, Raytheon at Goddard Space Flight Center; **J C Cain**

- 0800h **GP41B-01** The CHAMP final mission phase - opportunities for high-resolution modelling (*Invited*): **H Luhr**
- 0815h **GP41B-02** Changes in the zonal core-surface flow acceleration associated with the 2003 geomagnetic jerk: **L Silva**, Title of Team: Institute for Geophysics and Tectonics
- 0830h **GP41B-03** The magnetic fields generated by the tsunamis of February 27, 2010: **M C NAIR**, S Maus, S Neetu, A V Kuvshinov, A Chulliat
- 0845h **GP41B-04** World Digital Magnetic Anomaly Map: a combination of continental, oceanic and satellite information (*Invited*): **J V Korhonen**

GP41C Moscone West: 2003 Thursday 0900h **Magnetism of Glassy Materials I** (*joint with MR, V*)

Presiding: **J A Bowles**, University of Minnesota; **J M Feinberg**, University of Minnesota

- 0900h **GP41C-01** BEYOND MAGNETISM: A SHORT HISTORY OF OBSIDIAN PROVENANCE STUDIES AND MAGNETIC PERSONALITIES (*Invited*): **S Shackley**
- 0915h **GP41C-02** Paleointensities of silicic volcanic glass: Influence of emplacement rotations and devitrification (*Invited*): **A Ferk**, R Leonhardt, F W von Aulock, K Hess, D B Dingwell, H Tuffen
- 0930h **GP41C-03** Paleointensity Using Copper Slag Material: Extending Accuracy and Time Resolution of Geomagnetic Field Intensity Records (*Invited*): **R Shaar**, H Ron, L Tauxe, E Ben-Yosef, A Agnon, R Kessel, J M Feinberg
- 0945h **GP41C-04** Magnetic Response and Redox Reaction Texture in Basaltic Glass, Interrelated (*Invited*): **K Burgess**, R F Cooper, J A Bowles, J S Gee, D J Cherniak

Hydrology

H41A Moscone South: Poster Hall Thursday 0800h **Behavior and Remediation of Deep Vadose Zone Contaminants I Posters** (*joint with B*)

Presiding: **J C Marble**, U.S. Dept. of Energy; **D M Wellman**, Pacific Northwest National Laboratory

- 0800h **H41A-1063** *POSTER* Foam, a promising vehicle to deliver nanoparticles for vadose zone remediation: **X Li**, X Shen, L Zhong, L Zhao, Y Ding
- 0800h **H41A-1064** *POSTER* Simulation of Microfoam Transport in Porous Media: **Z F Zhang**, M D White
- 0800h **H41A-1065** *POSTER* Characterization of DVZ Medium Heterogeneity Using a Markov Chain Model Coupled with Principal Component Analysis: An Application at the BC Cribs and Trenches Site of DOE Hanford Site: L Wang, **M Ye**, R Khaleel, H Deng
- 0800h **H41A-1066** *POSTER* Assessing preferential fluxes in deep vadose zones using a source-responsive modeling approach: **B B Mirus**, K S Perkins, J R Nimmo

0800h **H41A-1067** POSTER Gas Dispersion Coefficients in Variably Saturated and Differently Textured Porous Media Muhammad Naveed (1), Shoichiro Hamamoto (1), Ken Kawamoto (1,2), Toshihiro Sakaki (3), Per Moldrup (4), and Toshiko Komatsu (1,2) (1) Graduate School of Science and Engineering, Saitama University, Saitama, Japan (2) Institute of Environmental Science and Technology, Saitama University, Saitama, Japan (3) Center for Experimental Study of Subsurface Environmental Processes, Colorado School of Mines, Golden, CO, USA (4) Department of Biotechnology, Chemistry and Environmental Engineering, Aalborg University, Aalborg, Denmark: **M Naveed**, K Kawamoto, S Hamamoto, T Sakaki, P Moldrup, T Komatsu

0800h **H41A-1068** POSTER Gas-phase Partitioning Tracer Tests to Quantify Water Content in Relatively Dry and Desiccated Porous Media: M Truex, **M Oostrom**, G D Tartakovsky, T W Wietsma

0800h **H41A-1069** POSTER Use of Ammonia Gas for Uranium Remediation in Vadose Zone Sediments: **J Szecsody**, M Truex, L Zhong, N P Qafoku, M D Williams, J Bargar, D Faurie

0800h **H41A-1070** POSTER Evaluating Soil Vapor Extraction Remediation Closure Criteria and Vadose Zone Source-Strength Distribution at the DOE Hanford 216-Z-9 Site: **K C Carroll**, M Truex, V J Rohay, M Brusseau, M Oostrom

0800h **H41A-1071** POSTER Composition and Transport of Volatile Organic Compounds Near a Chemical and Radioactive Waste Disposal Facility in an Arid Environment with a Thick Unsaturated Zone: **R J Baker**, B J Andraski, D A Stonestrom, W Luo

0800h **H41A-1072** POSTER Methane Rates in the Landfill Leachate Plume Of Wuhan Erfei Shan Landfill, China: **C Zhang**, Y Wang

0800h **H41A-1073** POSTER Characterizing Organic-Liquid Sources in the Vadose Zone: **M L Brusseau**, M Truex, J Mainhagu, C Morrison, M Oostrom, K C Carroll, T Yeh

0800h **H41A-1074** POSTER Influence of physical factors and geochemical conditions on groundwater acidification during enhanced reductive dechlorination: **A Brovelli**, D A Barry, C Robinson, J Gerhard

0800h **H41A-1075** POSTER Technical Methods of Evaluation of Near-surface Disposal of Very Low Level Radioactive Waste: **R Zuo**, Y Teng, J Wang

H41B Moscone South: Poster Hall Thursday 0800h
Ecohydrology of Arctic and Sub-Arctic Ecosystems: Patterns and Processes Across Spatial and Temporal Scales I Posters
(joint with A, B, C, GC)

Presiding: **J Cable**, University of Alaska; **A K Liljedahl**, University of Alaska, Fairbanks; **J M Welker**, Environment and Natural Resources Institute; **T Jorgenson**, Alaska Ecoscience

0800h **H41B-1076** POSTER Quantifying diffusion, ebullition, and plant-mediated transport of CH₄ in Alaskan peatlands undergoing permafrost thaw: **K Shea**, M R Turetsky, J M Waddington

0800h **H41B-1077** POSTER Surface water extent trends in interior Alaska (1979-2009): **J A Rover**, L Ji, B K Wylie, L L Tieszen

0800h **H41B-1078** POSTER Recent ecohydrological change in relation to permafrost degradation in eastern Siberia: **Y Iijima**, A N Fedorov, T C Maximov

0800h **H41B-1079** POSTER Hyper-resolution hydrological modeling of polygonal ground: **A K Liljedahl**, L D Hinzman, J Schulla, C Tweedie

0800h **H41B-1080** POSTER Seasonality in water, carbon, and nitrogen fluxes from an upland boreal catchment underlain by continuous permafrost: **J C Koch**, R G Striegl, R L Runkel, S A Ewing, D M McKnight

0800h **H41B-1081** POSTER Simulation of Active Layer CO₂ and CH₄ Emissions in Response to Rainfall Events: **I Ossola**, B J Travis

0800h **H41B-1082** POSTER Linking North Slope Climate, Hydrology, and Fish Migration: **E Betts**, D L Kane

0800h **H41B-1083** POSTER Chemical and microbial analysis of a talik in western Greenland: **B T Stackhouse**, T C Onstott, T Ruskeeniem, L Claesson-Liljedahl, A Lehtinen, B M Freifeld, D Hardisty, L Pratt

0800h **H41B-1084** POSTER Assessing the Potential to Simulate Peak Discharge of Arctic Alaskan Basins Using Minimal Input Datasets: **E K Youcha**, D L Kane, H A Toniolo

0800h **H41B-1085** POSTER Thermokarst Influences on Stream Biogeochemistry in Arctic Alaska: **J R Larouche**, W B Bowden, M B Flinn, J Kampman

0800h **H41B-1086** POSTER Effects of thermokarst on sediment deposition rates in two arctic headwater streams: **J Kampman**, M B Flinn

0800h **H41B-1087** POSTER Variations in Vegetation & Hydrology: Linkages to Evapotranspiration in the Alaskan Arctic: **E D Trochim**, J P Mumm, N E Farnham, D L Kane, A Prakash

0800h **H41B-1088** POSTER Coupling hydrologic and hydraulic models in the Mackenzie Basin to quantify the spatial and temporal distribution of surface and subsurface water storages: **R E Beighley**, K G Eggert, R L Ray, C J Wilson, M K Greene, G L Altman, J C Rowland, B J Travis, D M Lawrence

0800h **H41B-1089** POSTER The impacts of thermokarst on sediment, organic matter, and macroinvertebrate community dynamics in arctic headwater streams: **M Flinn**, J Kampman, J R Larouche, W B Bowden

0800h **H41B-1090** POSTER Quantification of interannual and inter-seasonal variability of lake areas within discontinuous permafrost of the Yukon Flats, Alaska: **G Altmann**, J C Rowland, C J Wilson, D Verbyla, L Charsley-Groffman

H41C Moscone South: Poster Hall Thursday 0800h
Endorheic Lakes and Water Resources in Arid and Semiarid Regions Posters (joint with GC)

Presiding: **Y Sheng**, UCLA; **X Chen**, Chinese Academy of Sciences

0800h **H41C-1091** POSTER The impact of climate and land use changes on water resources. The application of the integrated hydrological modelling system, IHMS (Invited): **R Ragab**, J Bromley, G Dörflinger, S Katsikides, D R D'Agostino, N Lamaddalena, G L Trisorio, S G Montenegro, A Montenegro

0800h **H41C-1092** POSTER Mechanisms Controlling Variability of Lake Salinity in Dune Environments in a Semi-arid Climate: The Nebraska Sand Hills (Invited): **V A Zlotnik**, J T Ong, J B Swinehart, S C Fritz, J D Lenters, J U Schmieder, J W Lane, T Halihan

0800h **H41C-1093** POSTER Remote Sensing of Endorheic Lakes and Analysis of their Aridity at Global Scale: **Y Sheng**, J Li

0800h **H41C-1094** POSTER Lake isotope variability in the Tibetan Plateau: **F Yuan**, Y Sheng, T Yao, J Li

0800h **H41C-1095** POSTER Lake Dynamics in Arid and Semi-Arid Regions of Central Asia and Their Responses to Climate Changes: **J Li**, Y Sheng, X Chen

0800h **H41C-1096** POSTER Lake-desert evolution during Holocene in Ulan Buh Desert, China: **H Zhao**, G Li, F Chen, M Jin

0800h **H41C-1097** POSTER Global Scale Remote Sensing Monitoring of Endorheic Lake Systems: **L A Scuderi**

0800h **H41C-1098** POSTER Managing the impact of climate change on the hydrology of the Gallocanta Basin, NE-Spain: **N J Kuhn**

0800h **H41C-1099** *POSTER* Latest Miocene-Pliocene Tiliviche Paleolake, Atacama Desert, Northern Chile 19.5°S: Paleoclimatic and Paleohydrologic Implications: **N E Kirk-lawlor**, T E Jordan, J Rech, S Lehmann

0800h **H41C-1100** *POSTER* Anthropogenic activities affecting Arreo Lake (N Spain) during the last 2500 years: **J Corella**, B L Valero-Garces, I Stefanova, A El Amrani, M Morellón, E Rico, P González-Sampériz, A Moreno-Caballud, S Giralt, J Sigro

0800h **H41C-1101** *POSTER* Evaluating the Impact of Gilgel Gibe Dam on the Lake Turkana Water Levels: An Illustration from an Endorheic Lake in Africa: **N VELPURI**, G B Senay

0800h **H41C-1102** *POSTER* Sedimentology and geomorphology of a relict lacustrine system in Tingri, Tibet, China: H Chiu, **A D Switzer**, J Aitchison

0800h **H41C-1103** *POSTER* A geochemical approach for the evaluation of water availability and salinity in closed basins: the Draa Basin, Morocco: **N Warner**, Z Lgourna, S Boutaleb, T Tagma, D S Vinson, N Ettayfi, L Bouchaou, A Vengosh

0800h **H41C-1104** *POSTER* Hydrochemical and isotopic variability of groundwater-dominated lake systems in dune environments: Comparison of the Badan Jilin Desert (China) and the Nebraska Sand Hills (USA): **J B Gates**, V A Zlotnik

H41D Moscone South: Poster Hall Thursday 0800h
Is Microscale Information Needed in Reactive Transport Models? | Posters (*joint with GC, V*)

Presiding: **T Schaefer**, Karlsruhe Institute of Technology (KIT); **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC); **P Gouze**, Géosciences Montpellier

0800h **H41D-1105** *POSTER* Number of connecting path and tortuosity information of 3 dimensional pore networks in pressurized clastic sandstone: **M TAKAHASHI**, C Ahn, H Park, Title of Team: Experimental Geoscience Research Team

0800h **H41D-1106** *POSTER* Migration of salt bands through a porous medium: **E M Gitelman**, M I Dragila

0800h **H41D-1107** *POSTER* Colloid transport in model fracture filling materials: **S Wold**, S Garcia-Garcia, M Jonsson

0800h **H41D-1108** *POSTER* Sub-grain scale mineralogy of Hanford sand after reaction with caustic tank wastes: **L E Crandell**, C A Peters, W Um, W Lindquist

0800h **H41D-1109** *POSTER* MULTI-SCALE CHARACTERIZATION OF SELF-ORGANIZED DISSOLUTION PATTERNS DURING CO₂ INJECTION IN LIMESTONES: **D Laurent**, L Luquot, P Gouze

0800h **H41D-1110** *POSTER* Biogeochemically-driven evolution of pore structures and flow paths: experimental studies and modeling: **S Molins**, J B Ajo Franklin, R T Armstrong, P S Nico, D Silin

0800h **H41D-1111** WITHDRAWN

0800h **H41D-1112** *POSTER* Breaking up the equivalence between buoyancy and pressure-driven flows in porous media: the effect of tortuosity: **C Huber**, A Parmigiani, J Dufek

0800h **H41D-1113** *POSTER* Isotherm of Pu/Goethite System: Linearity and the Sorbent Surface Characterization: **P Zhao**, M Zavarin, S J Tumey, R Williams, Z Dai, R Kips, A B Kersting

0800h **H41D-1114** *POSTER* Microstructural investigation of MX-80 bentonite and Na/Ca-montmorillonite using basal spacing determination: **M Holmboe**, S Wold

0800h **H41D-1115** *POSTER* High resolution direct upscaling of flow and reactive transport: bridging the continuum gap: **N B Engdahl**, G E Fogg

0800h **H41D-1116** *POSTER* Matching of fluid flow observations in geological material (GeoPET, mm³ resolution) with lattice Boltzmann simulations in μm resolved structures: **J Kulenkampff**, **M Wolf**, F Enzmann, M Gründig, M Richter, J Lippmann-Pipke

H41E Moscone South: Poster Hall Thursday 0800h
Nutrient Sources and Cycling in Aquatic Systems | Posters
(*joint with B, GC*)

Presiding: **H K Pant**, Lehman College of the City University of New York; **C Kendall**, USGS; **RJ Baker**, U.S. Geological Survey

0800h **H41E-1117** *POSTER* Water Velocity and Bioturbation Alter Sediment Resuspension and Biogeochemistry in an Experimental Freshwater Mesocosm System: **A Spivak**, M J Vanni

0800h **H41E-1118** *POSTER* Transition of Benthic Nutrient Sources after Engineered Levee Breaches Adjacent to Upper Klamath and Agency Lakes, Oregon: **J S Kuwabara**, B R Topping, J L Carter, F Parchaso, J M Cameron, J R Asbill, R A Carlson, S V Fend, A C Engelstad

0800h **H41E-1119** *POSTER* Hypoxia and Climate in Green Bay, Lake Michigan: **J V Klump**, J T Waples, T Valenta, P Anderson, K Weckerly, D Szmania, E Thomzik

0800h **H41E-1120** *POSTER* Trends In Concentrations And Loads Of Nitrogen And Carbon In Streams And Rivers Of The Western United States, 1990-Present: **M Miller**, S M Wiele, A Brasher

0800h **H41E-1121** *POSTER* Probabilistic Water quality trading model conditioned on season-ahead nutrient load forecasts: **S Arumugam**, **J Oh**

0800h **H41E-1122** *POSTER* Estimation of Nitrogen Loads to Two Impaired Reservoirs in the Piedmont Region of North Carolina Using LOADEST and SPARROW Models, 1997-2008: **B Pointer**, D A Harned, S Harden

0800h **H41E-1123** *POSTER* Effect of groundwater discharge and river topography on nutrient component of rivers in Southern Korea and Western Japan: **S Onodera**, Y Shimizu, Y Kato, M Saito, M Jige, J Hwang

0800h **H41E-1124** *POSTER* Characteristics of seasonal NO₃-N discharge by groundwater in a coastal agricultural catchment: **M Saito**, S Onodera

0800h **H41E-1125** *POSTER* Isotopic mixing model for quantifying contributions of soil water and groundwater in subsurface ('tile') drainage: **C D Kennedy**, H Gall, C T Jafvert, G J Bowen

0800h **H41E-1126** *POSTER* Seasonal Variation in Hydrology Driving Shifts in Sources of Nitrate in an Agricultural Dominant Semi-arid Watershed: **L G Moon Nielsen**, C H Orr

0800h **H41E-1127** *POSTER* USING NITRATE N AND O ISOTOPE RATIOS TO IDENTIFY NITRATE SOURCES AND DOMINANT NITROGEN CYCLING PROCESSES IN A 12ha TILE DRAINED DRYLAND AGRICULTURAL FIELD IN THE PALOUSE BASIN OF EASTERN WASHINGTON STATE: **C J Kelley**, C K Keller, R D Evans, C H Orr, J L Smith

0800h **H41E-1128** *POSTER* Phosphorus Dynamic in Wetlands: **H K Pant**

0800h **H41E-1129** *POSTER* Assessment of Downstream Cycling of Point Source Ammonium Input to the Sacramento River, California Using Stable Isotopes: **S R Silva**, C Kendall, M B Young, A E Parker

H41F Moscone South: Poster Hall Thursday 0800h
Physically Based Hydrologic Modeling: Advances and Challenges I Posters (joint with A, B)

Presiding: V Y Ivanov, University of Michigan; B B Mirus, US Geological Survey; B A Ebel, US Geological Survey; E Caporali, University of Firenze; O Semenova, State Hydrological Institute; P J Restrepo, NOAA National Weather Service

- 0800h **H41F-1130** POSTER Regional scale hydrologic simulation utilizing cluster-based parallel computing: **D Su**, Q Ran
- 0800h **H41F-1131** POSTER Effects of soil parameterization on distributed hydrologic response: Testing a distributed hydrologic model using a hypothetical reality dataset: **N C Cristea**, S K Kampf, B B Mirus, K Loague, S J Burges
- 0800h **H41F-1132** POSTER A parallel computational framework for integrated surface-subsurface flow and transport simulations: **Y Park**, H Hwang, E A Sudicky
- 0800h **H41F-1133** POSTER Transition of spatial controls on distributed soil moisture and runoff simulations at multiple model resolutions: **T H Mahmood**, E R Vivoni
- 0800h **H41F-1134** POSTER A physically-based Distributed Hydrologic Model for Tropical Catchments: **N A Abebe**, F L Ogden
- 0800h **H41F-1135** POSTER Modeling the impacts of climate change and agricultural management practices on surface erosion in a dryland agricultural basin: **E Ottenbreit**, J C Adam, M E Barber
- 0800h **H41F-1136** POSTER Development of the Next Generation Watershed Model, WASH123D v2.5: **D Shih**, G Yeh
- 0800h **H41F-1137** POSTER Exploring terrestrial and atmospheric constraints in land surface model validation: **B Livneh**, P J Restrepo, D P Lettenmaier
- 0800h **H41F-1138** POSTER Considerations in regional integrated hydrologic modeling: grid resolution, topography, and overland flow processes: **A Seck**, C Welty, R M Maxwell
- 0800h **H41F-1139** WITHDRAWN
- 0800h **H41F-1140** POSTER Modelling the Water Dynamics at a Hillslope in the Bavarian Forest, Germany: **A Heim**, B Creutzfeldt, A Güntner
- 0800h **H41F-1141** POSTER Multivariate calibration of a water and energy balance model in the spectral domain: recommendations for efficient parameter estimation: **V R Pauwels**, G J De Lannoy
- 0800h **H41F-1142** POSTER Spatial Streamflow Forecasting in a Large River Basin in Northwestern Mexico using a Fully-distributed Hydrologic Model: **A Robles-Morua**, E R Vivoni, A S Mayer
- 0800h **H41F-1143** POSTER Parallelized Modelling of Soil-Coupled 3D Water Uptake of Multiple Root Systems with Automatic Adaptive Time Step Control: T Kalbacher, **J Delfs**, C Schneider, O Kolditz, Title of Team: UFZ - Environmental Informatics
- 0800h **H41F-1144** POSTER Simulating the runoff regime of a data scarce glacierised Himalayan catchment: the information content of different calibration strategies and data sets: S Normand, M Konz, **F Pellicciotti**
- 0800h **H41F-1145** POSTER Comparison of modeling approaches in assessing hydrologic processes in a high elevation, semi-arid Andean watershed: **G Cortes**, M Quezada, S Ragettli, F Pellicciotti, J P McPhee
- 0800h **H41F-1146** POSTER Role of Hydraulic Geometry in Flood Wave Propagation: **S Orlandini**
- 0800h **H41F-1147** POSTER Effect of stone coverage on soil erosion: **S Jomaa**, D A Barry, B P Heng, A Brovelli, G C Sander, J Parlange
- 0800h **H41F-1148** POSTER A fast finite volume model for 2D shallow water flow: **S Li**, D Lohmann, C Duffy, S Eppert, F Yue

- 0800h **H41F-1149** POSTER Real-Time Implementation of the Penn State Integrated Hydrologic Modeling System: The Shale Hills Critical Zone Observatory: **X Yu**, C Duffy, G Bhatt, Y Shi, L N Leonard, M Kumar
- 0800h **H41F-1150** POSTER Multi-Watershed Assessment of WEPP in the Tahoe Basin: **E S Brooks**, W J Elliot, J Boll
- 0800h **H41F-1151** POSTER The effect of high resolution topography information on complex terrain flash-flood response modeling: **P Tarolli**, E I Nikolopoulos, E N Anagnostou, M Borga, E R Vivoni, A Papadopoulos
- 0800h **H41F-1152** POSTER Assessment of climate change impacts on forest growth via ecohydrological distributed modelling: **M Rulli**, V Rossini, R Rosso
- 0800h **H41F-1153** POSTER Evaluating Influence of Groundwater-supplied Moisture Flux in Global Land Surface Hydrologic Simulations: **S Koirala**, P J Yeh, T Oki, S Kanae
- 0800h **H41F-1154** POSTER Development of an integrated hydrological modeling system for near-real-time multi-objective reservoir operation in large river basins: **L Wang**, T Koike
- 0800h **H41F-1155** POSTER Wind forcing of upland lake hydrodynamics: implementation and validation of a 3D numerical model: **L Morales**, J French, H Burningham, C Evans, R Battarbee
- 0800h **H41F-1156** POSTER New concentrated flow hydraulics equations for physically-based rangelands hydrology and erosion models: **O Z Al-Hamdan**, F B Pierson, C J Williams, M A Nearing, J J Stone, C A Moffet, P R Kormos, J Boll, M A Weltz
- 0800h **H41F-1157** POSTER Comparison of Classical and Non-local Transport Theories in a "Perfectly" Sampled Sandstone Slab: **E Major**, D A Benson, A M Dean
- 0800h **H41F-1158** POSTER Application and comparison of the SCS-CN-based rainfall-runoff model in meso-scale watershed and field scale: **L Luo**, Z Wang
- 0800h **H41F-1159** POSTER Use of the time fractional advection dispersion equation for push-pull tests at the Macrodispersion Experiment (MADE) site: **A M Dean**, D A Benson, E Major

H41G Moscone South: Poster Hall Thursday 0800h
Predicting Behavior of Freshwater Systems in a Changing Environment I Posters (joint with B)

- Presiding:** M Sivapalan, Univ of Illinois at Urbana Champaign; A I Packman, Northwestern University; M A Hassan, Univ British Columbia; J Wilson, University of Illinois at Urbana-Champaign
- 0800h **H41G-1160** POSTER Reach Scale Sediment Balance of Goodwin Creek Watershed, Mississippi: **L Ran**, T Garcia, S Ye, C J Harman, M A Hassan, A Simon
- 0800h **H41G-1161** POSTER Environmental change in the Mississippi River Basin: **X Xu**, G Wynn, M A Hassan, S D Donner, M Sivapalan
- 0800h **H41G-1162** POSTER The role of water chemistry and geomorphic control in the presence of *Didymosphenia geminata* in Quebec: **C Gillis**, R S Gabor, J D Cullis, L Ran, M A Hassan
- 0800h **H41G-1163** POSTER The Effects of Solute Breakthrough Curve Tail Truncation on Residence Time Estimates and Mass Recovery: **J D Drummond**, T P Covino, A F Aubeneau, S Patil, D N Leong, L Ran, A I Packman, R Schumer
- 0800h **H41G-1164** POSTER Sensitivity of stoichiometric ratios to temporal variability in streamflow: S D Donner, **D N Leong**, T P Covino, R S Gabor, J D Drummond, X Xu
- 0800h **H41G-1165** POSTER Short time series analysis of *Didymosphenia geminata* blooming in the Oreti River, New Zealand: **T Garcia**, C Kilroy, S Larned, A I Packman, P Kumar

0800h **H41G-1166** POSTER Stochastic modeling of reactive solute transport in rivers: D N Leong, **A F Aubeneau**, R S Gabor, T Garcia, P C Rao, N B Basu, R Schumer, J Tank, A I Packman

0800h **H41G-1167** POSTER A network model for simulating sediment dynamics within a small watershed (*Invited*): **S Patil**, S Ye, X Xu, C J Harman, M Sivapalan, M A Hassan

0800h **H41G-1168** POSTER Factors affecting the growth of *Didymosphenia geminata* in New Zealand rivers: Flow, bed disturbance, nutrients, light, and seasonal dynamics. (*Invited*): **J D Cullis**, C Gillis, J D Drummond, T Garcia, C Kilroy, S Larned, M A Hassan

0800h **H41G-1169** POSTER Investigating the potential impacts of local climate change on the meltwater supply of a small snow-fed mountain river system: A case study of the Animas River, Colorado: **C A Day**

0800h **H41G-1170** POSTER Ecohydrological streamflow distributions and hydraulic food chain models: **S Ceola**, G Botter, E Bertuzzo, L Mari, I Rodriguez-Iturbe, A Rinaldo

0800h **H41G-1171** POSTER A PROCESS BASED MODEL TO PREDICT HYPORHEIC FLOW INDUCED BY ALTERNATE BARS: **A Marzadri**, D Tonina, A Bellin, G Vignoli, M Tubino

0800h **H41G-1172** POSTER Altering Reservoir Withdrawal: a modeling approach to tail-water eutrophication on the South Fork Humboldt Reservoir, NV USA: **D W Smith**, J J Warwick, C H Fritsen, C Davis, J Memmott, E Wirthlin

0800h **H41G-1173** POSTER Integrated uncertainty assessment of hydrological responses due to land cover change in a large river basin including feedback effects: **R Kumar**, L E Samaniego-Eguiguren, M Coskun

0800h **H41G-1174** POSTER Effects of soil structural development on soil hydraulic properties and hydraulic processes in forested hillslopes: **Y Hayashi**, K Kosugi, T Mizuyama

0800h **H41G-1175** POSTER Design and testing of a plot scale rainfall simulator in Sardina, Italy for calibration of a distributed hydrologic model: **T G Wilson**, C Cortis, A Idda, N Montaldo, J D Albertson

0800h **H41G-1176** POSTER Runoff production in a small agricultural catchment in Lao PDR: influence of slope, land-use and observation scale: **J Patin**, O Ribolzi, C Mugler, C Valentin, E Mouche

0800h **H41G-1177** POSTER Catchment Classification: Connecting Climate, Structure and Function: **K A Sawicz**, T Wagener, M Sivapalan, P A Troch, G A Carrillo

0800h **H41G-1178** POSTER Water Research within the SPRUCE Experiment, a Large-Scale Study of Climate Change Effects on a Northern Peatland: P J Mulholland, **S D Sebestyen**, P J Hanson, J Warren, R K Kolka

0800h **H41G-1179** POSTER Modeling the Variability of Blue and Green Water Flows in the Congo Basin: **N R Aloysius**, J E Saiers

0800h **H41G-1180** POSTER Preliminary Analysis of a Dynamic General Vegetation Model, MC1, for use in Forecasting Runoff Under a Changing Climate: **B S Pitts**, R P Neilson, J R Wells, R J Drapek

0800h **H41G-1181** POSTER Impacts of variable agricultural expansion and contraction on regional scale hydrology: The case of the Upper Mississippi River and Ohio River Basins: **C D Frans**, F Munoz-Arriola, E Istanbuluoglu, D P Lettenmaier

0800h **H41G-1182** POSTER Understanding Hydrological Trends with Budyko Hypothesis: **Z CONG**, D Yang

0800h **H41G-1183** POSTER Stream channel surface water – groundwater interactions in a fire impacted watershed: **T A Russo**, A T Fisher

0800h **H41G-1184** POSTER Explore Inter-annual Variability of Catchment Water-energy Balance Based on Remote Sensed ET Datasets: **L Cheng**, Z Xu, D Wang, X Cai

0800h **H41G-1185** POSTER Multiscale Monitoring and Analysis of the Impacts of Rural Land Use Changes on Downstream Flooding: **J Geris**, J Ewen, G O'Donnell, P E O'Connell

0800h **H41G-1186** POSTER Suspended sediment dynamics in the Mississippi River basin: **K Ali**, J D Cullis, X Xu, M More, M A Hassan, A Simon, S D Donner, M Sivapalan

0800h **H41G-1187** POSTER Analyzing Catchment Hydrologic Function through Process-based Behavioral Modeling: **G A Carrillo**, P A Troch, M Sivapalan, T Wagener, K A Sawicz

0800h **H41G-1188** POSTER Simulating Streamflow and Dissolved Organic Matter Export from small Forested Watersheds: **N Xu**, H Wilson, J E Saiers

0800h **H41G-1189** POSTER Proglacial hydrology in the Cordillera Blanca, Peru: **M Baraer**, J M McKenzie, B G Mark

0800h **H51E-0948** POSTER A Stochastic-Dynamical Approach to Snow Accumulation-Melting in a Changing Climate: **A Molini**, A M Porporato, G G Katul

H41H Moscone South: Poster Hall Thursday 0800h
The Future of Arsenic: Emerging Threats and Scalable Solutions Posters (*joint with B, V*)

Presiding: **B J Mailloux**, Barnard College; **M Polizzotto**, North Carolina State University

0800h **H41H-1190** POSTER Arsenic evolution in fractured bedrock wells in central Maine, USA: **Q Yang**, Y Zheng, C Culbertson, C Schalk, M G Nielsen, R Marvinney

0800h **H41H-1191** WITHDRAWN

0800h **H41H-1192** POSTER Evaluation of In-Situ Arsenic Mitigation with Fe(II) Using Push-Pull Tests in the Ogallala Aquifer: **N A Sheffer**, B R Scanlon, R C Reedy, J Nicot, C Yang, K G Stollenwerk

0800h **H41H-1193** POSTER Adsorption and Precipitation of Arsenic from Shallow Groundwater Pumped Through Columns of Orange Sand from a Deeper Low-Arsenic Aquifer: **I Mihajlov**, M Stute, B C Bostick, Y Zheng, I Choudhury, M Huq, K Ahmed, A van Geen

0800h **H41H-1194** POSTER Projecting groundwater arsenic levels to define water use options in South Asia (*Invited*): **S Fendorf**, B D Kocar, M Polizzotto, J Stuckey, S G Benner

0800h **H41H-1195** POSTER Determinants of Shallow Groundwater As Variability in Bangladesh: **K A Radloff**, Y Zheng, M Stute, M Rahman, I Mihajlov, H Siu, M Huq, I Choudhury, K Ahmed, A van Geen

0800h **H41H-1196** POSTER Assessment of the physical and chemical sustainability of deep, low-arsenic groundwater in the Bengal Basin: Regional- and local-scale considerations (*Invited*): **H A Michael**, C I Voss, K A Radloff, Y Zheng

0800h **H41H-1197** POSTER Soil-Root Processes Responsible for Arsenic Uptake in Rice: A Route of Human Exposure: **A Seyfferth**, S Fendorf

0800h **H41H-1198** POSTER Co-contamination of As and F in alluvial aquifer: **S Kim**, K Kim, B Kim, W Zhu, E Lee, K Ko

0800h **H41H-1199** POSTER Regional variation of As concentration in alluvial plain: An insight obtained from Mankyeong River plain, Korea: **K Kim**, S Kim, B Kim, W Zhu, E Lee, K Ko, K Lee

0800h **H41H-1200** POSTER Distribution of Arsenic Sulfides in Van Phuc, Vietnam, and Their Relationship to Aquifer Arsenic Concentrations: **B C Bostick**, C Harvey, M Stahl, P Oates, L Vi, M Nguyen, P Viet, P T Trang, M Berg, C Stengel, A van Geen

0800h **H41H-1201** POSTER Source and Processes of Dissolved Organic Matter in a Bangladesh Groundwater: **D M McKnight**, B E Simone, N Mladenov, Y Zheng, T M Legg, D Nemergut

H41I Moscone West: 3018 Thursday 0800h
Integrating Geomorphic, Hydrologic, and Ecologic Processes for Sustainable Management of River Corridors I (joint with B, PA)

Presiding: A Simon, USDA-ARS National Sedimentation Laboratory; D Tetzlaff, University of Aberdeen; L E Band, University of North Carolina; T J Beechie, NOAA Fisheries

0800h **H41I-01** Salmon as biogeomorphic agents in gravel-bed rivers (*Invited*): **M A Hassan**

0820h **H41I-02** Eastern Australian Examples of River Bank Soil Reinforcement by Tree Roots (*Invited*): **T Hubble**, I Rutherford, B Docker

0840h **H41I-03** Tidal river hydraulics, morphology, and biogeochemistry: Implications for management and restoration of coastal ecosystems (*Invited*): **M W Doyle**, S Ensign

0900h **H41I-04** How Will Climate Change Affect Channel Morphology and Salmonid Habitat in Mountain Basins?: **J M Buffington**, J Goode

0915h **H41I-05** A lidar-derived evaluation of watershed-scale large woody debris sources and recruitment mechanisms: coastal Maine, USA: **A Kasprak**, F J Magilligan, K Nislow, N P Snyder

0930h **H41I-06** Hierarchical Geomorphic, Hydrologic, and Ecohydraulic Analysis of a Remote Mountainous Regulated River using Ginormous Datasets: **G B Pasternack**, A E Senter, D Garner, N De La Mora

0945h **H41I-07** Geomorphic response to agricultural land use in small fluvial systems – The role of landscape connectivity: **R Poepll**, M Keiler, T Glade, Title of Team: ENGAGE - Geomorphological Systems and Risk Research

H41J Moscone West: 3020 Thursday 0800h
Stochastic Transport and Emergent Scaling on the Earth's Surface I (joint with EP, NG)

Presiding: E Foufoula-Georgiou, University of Minnesota; R Schumer, Desert Research Institute

0800h **H41J-01** WITHDRAWN

0815h **H41J-02** The branching instability in valley networks (*Invited*): **T Perron**, M Lapotre

0830h **H41J-03** Stochastic models for the transport of dissolved and suspended material in rivers: **A I Packman**, R Schumer, A F Aubeneau, J D Drummond

0845h **H41J-04** A probabilistic definition of the bed load sediment flux: Theory (*Invited*): **D J Furbish**, P K Haff, J C Roseberry, M W Schmeckle

0900h **H41J-05** Large to small scale coupling and time irreversibility in gravel bedform dynamics: experimental evidence and implications for modeling: **A Singh**, J Rigby, E Foufoula-Georgiou

0915h **H41J-06** Stochastic predictions of bedload flux and sediment availability in steep channels: **E M Yager**, J M Turowski, D Rickenmann, B W McArdeall

0930h **H41J-07** Linking stochastic sediment transport to physical processes (*Invited*): **D J Jerolmack**, R Martin, C Paola, M D Reitz, R Schumer

0945h **H41J-08** Effect of Subsidence Styles and Fractional Diffusion Exponents on Depositional Fluvial Profiles: **V R Voller**, C Paola, L Hajek

H41K Moscone West: 3014 Thursday 0800h
Remote Sensing of Rivers I (joint with B, C, EP, G)

Presiding: M A Fonstad, Texas State University; T M Pavelsky, University of North Carolina-Chapel Hill; P Carbonneau, Durham University; C J Legleiter, University of Wyoming

0800h **H41K-01** Towards remote sensing of river discharge from space (*Invited*): **L C Smith**, M T Durand, K Andreadis, M K Mersel

0830h **H41K-02** Effects of Fluvial Morphology On Orbital Remote Sensing Measurements of River Discharge: **G R Brakenridge**, A J Kettner, I Overeem, S V Nghiem, T De Groeve, J P Syvitski

0845h **H41K-03** Dynamic Channel Network Extraction from Satellite Imagery of the Jamuna River: E A Addink, W A Marra, **M G Kleinhans**

0900h **H41K-04** Current Measurements in Rivers by TerraSAR-X Along-Track InSAR: **R Romeiser**, S Suchandt, H Runge, H C Graber

0915h **H41K-05** Modeling rating curves using remotely-sensed LiDAR data: **M Nathanson**, S W Lyon, J W Kean, T J Grabs, J Seibert, H Laudon

0930h **H41K-06** Sensitivity analysis of simulated bathymetric LiDAR waveforms according to sensor and river parameters variability: **J Bailly**, H Abdallah, N Baghdadi, N Saint-Geours

0945h **H41K-07** Mapping the bathymetry of a turbid, sand-bed river using ground-based reflectance measurements and hyperspectral image data: **C J Legleiter**, P J Kinzel, J M Nelson

H41L Moscone West: 3016 Thursday 0800h
Uncertainty in Model Parameter Estimates and Impacts on Risk and Decision Making in the Subsurface I

Presiding: D Bolster, UPC; S A McKenna, Sandia National Laboratories; W Nowak, University of Stuttgart; S Srinivasan, University of Texas Austin

0800h **H41L-01** A New Approach to Nonlinear Inverse Uncertainty Using Model Compression and Sparse Posterior Sampling (*Invited*): J Fernandez Martinez, **M J Tompkins**

0815h **H41L-02** The impacts of uncertainty and variability in groundwater-driven health risk assessment. (*Invited*): **R M Maxwell**

0830h **H41L-03** DATA-DRIVEN ROBUST DESIGN AND PROBABILISTIC RISK ASSESSMENT: APPLICATION TO UNDERGROUND CARBON DIOXIDE STORAGE: **S Oladyshkin**, H Class, R Helmig, W Nowak

0845h **H41L-04** Probability Density Functions for Concentration Distributions in Random Velocity Fields: **M Dentz**, D M Tartakovsky

0900h **H41L-05** Divide and Conquer: A Valid Approach for Risk Assessment and Decision Making under Uncertainty for Groundwater-Related Diseases: **X Sanchez-Vila**, F de Barros, D Bolster, W Nowak

0915h **H41L-06** A Task-oriented Approach for Hydrogeological Site Characterization: **Y Rubin**, W Nowak, F de Barros

0930h **H41L-07** Posterior Predictive Modeling Using Multi-Scale Stochastic Inverse Parameter Estimates: **S A McKenna**, J Ray, B V BloemenWaanders, Y M Marzouk

0945h **H41L-08** A Controlled Experiment for Investigating Uncertainty Measures in Groundwater Flow Modeling: **D Lu**, M C Hill, M Ye

Earth and Space Science Informatics

IN41A Moscone South: Poster Hall Thursday 0800h **Large-Scale Geosciences Applications Using GPU and Multicore Architectures I Posters** (joint with NG, P)

Presiding: **D L Rosenberg**, NCAR; **C Ng**, Geophysical Institute; **D A Yuen**, University of Minnesota

0800h **IN41A-1349 POSTER** GPU Accelerated Hall Magnetohydrodynamics: **C Bard**, **J Dorelli**

0800h **IN41A-1350 POSTER** GPU Implementation of Stokes Equation with Strongly Variable Coefficients: **L Zheng**, T Gerya, D A Yuen, M G Knepley, H Zhang, Y Shi

0800h **IN41A-1351 POSTER** GPU Acceleration of Support Operator Rupture Dynamics: **Y Zhou**, T Dong, D A Yuen

0800h **IN41A-1352 POSTER** Using GPU for Seismic Emission Tomography processing: I G Dricker, **A J Cooke**, P A Friberg, S B Hellman

0800h **IN41A-1353 POSTER** Exploring the Potential of Large Scale Distributed Modeling of Snow Accumulation and Melt on GPUs: **G Bisht**, M Kumar

0800h **IN41A-1354 POSTER** A GPU powered investigation of the relationship between observed and modeled storm responses of a Minnesota cave stream: **J M Myre**, M D Covington, S D Walsh, M O Saar, A J Luhmann, D Lilja

0800h **IN41A-1355 POSTER** Discrete Element Modeling of Complex Granular Flows: **N Movshovitz**, E I Asphaug

0800h **IN41A-1356 POSTER** A Hybrid MPI-OpenMP Scheme for Scalable Parallel Pseudospectral Computations for Fluid Turbulence: **D L Rosenberg**, P D Mininni, R N Reddy, A Pouquet

0800h **IN41A-1357 POSTER** Hybrid Broad Phase Contact Detection Method for Lunar/Mars Regolith Modeling Designed for Use on Heterogeneous Computer Systems: **A V Kulchitsky**, J B Johnson

0800h **IN41A-1358 POSTER** A GEOSCIENCE ACCELERATOR LIBRARY - DESIGN AND APPLICATIONS: **C Hill**, A Richardson

0800h **IN41A-1359 POSTER** A Spatially-Registered, Massively Parallelised Data Structure for Interacting with Large, Integrated Geodatasets: **D H Irving**, M Rasheed, N O'Doherty

0800h **IN41A-1360 POSTER** Efficient Extraction of Regional Subsets from Massive Climate Datasets using Parallel IO: **J Daily**, K Schuchardt, B J Palmer

IN41B Moscone South: Poster Hall Thursday 0800h **Scientific Workflows and Provenance: Strategies for Current and Emerging Issues I Posters** (joint with A, ED, OS, H, SH)

Presiding: **H Hua**, NASA/JPL; **D L McGuinness**, Rensselaer Polytechnic Institute and McGuinness Associates; **B D Wilson**, Jet Propulsion Lab

0800h **IN41B-1361 POSTER** A Provenance Model for Real-Time Water Information Systems: Q Liu, Q Bai, **S Zednik**, P Taylor, P A Fox, K Taylor, C Kloppers, C Peters, A Terhorst, P West, M Compton, Y Shu, Title of Team: The Provenance Management Team

0800h **IN41B-1362 POSTER** Pegasus Workflow Management System: Helping Applications From Earth and Space: **G Mehta**, E Deelman, K Vahi, F Silva

0800h **IN41B-1363 POSTER** Freeing data through The Polar Information Commons: **T De Bruin**, R S Chen, M A Parsons, D J Carlson, K Cass, K Finney, J Wilbanks, K Jochum

0800h **IN41B-1364 POSTER** Applying the Karma Provenance tool to NASA's AMSR-E Data Production Stream: **R Ramachandran**, H Conover, K Regner, S Movva, H M Goodman, B Pale, P Purohit, Y Sun

0800h **IN41B-1365 POSTER** Rolling Deck to Repository (R2R): Organizing Datasets from Heterogeneous Shipboard Data into an Integrated Catalog: **P D Clark**, R A Arko, A Sweeney, D Fischman, S P Miller, K Stocks

0800h **IN41B-1366 POSTER** Evolving LISIRD and the LASP Time Series Server to Support Data Identification, Citation, and Provenance: **A Wilson**, D M Lindholm, A Ware DeWolfe, T Smith, C K Pankratz, M Snow, T N Woods

IN41C Moscone South: Poster Hall Thursday 0800h **Use of Ontologies in Earth Science Informatics I Posters** (joint with A, B, C, H, GC, OS, V)

Presiding: **M Piasecki**, Drexel University; **I Zaslavsky**, University of California, San Diego; **R G Raskin**, Jet Propulsion Laboratory

0800h **IN41C-1367 POSTER** Integration of hydrologic parameter ontology in CUAHSI HydroCatalog: **I Zaslavsky**, D W Valentine, T Whitenack, M Piasecki, R P Hooper, Y Choi, D R Maidment

0800h **IN41C-1368 POSTER** Ontology Driven Development and Science Information System Interoperability: **J S Hughes**, D J Crichton, R S Joyner, E D Rye, Title of Team: PDS4 Data Standards Team Leads

0800h **IN41C-1369 POSTER** Using Semantic Web Technologies with OPeNDAP: **D Holloway**, M B Blumenthal, H Liu, N Potter

0800h **IN41C-1370 POSTER** Developing an Ontology for Ocean Biogeochemistry Data: **C L Chandler**, M D Allison, R C Groman, P West, S Zednik, A R Maffei

0800h **IN41C-1371 POSTER** Extending TOPS: Ontology-driven Anomaly Detection and Analysis System: **P Votava**, R R Nemani, A Michaelis

0800h **IN41C-1372 POSTER** Use of Ontology for Field Geological Data in Geological Sheet Maps at 1:50,000: "Outcrop Information Vocabulary" Prototype: **Y Nishioka**, Y Fusejima, S Takarada, T Iwaya, T Igawa, Y A Masaka

0800h **IN41C-1373 POSTER** QuakeTables: A Federated Ontology-Based Database System for Geoscience: **R Al-Ghanmi**, D McLeod, L Grant Ludwig, A Donnellan, J W Parker, M Pierce

IN41D Moscone South: 302 Thursday 0800h **Information Systems Advances for Earth Science Decadal Survey Era Missions I** (joint with A, C, EP, GC, NH, OS, G)

Presiding: **C D Norton**, Jet Propulsion Laboratory; **K Moe**, NASA; **M Moghaddam**, University of Michigan

0800h **IN41D-01** Multiangle Spectropolarimetric Imager (MSPI) On-Board Processing Technology Development and In-Flight Validation for the ACE Decadal Survey Mission: **T Werne**, P Pingree, D Bekker

0815h **IN41D-02** SpaceCube On-board Science Data Processing Technology (*Invited*): **T Flatley**

0830h **IN41D-03** NPP/NPOESS Tools for Rapid Algorithm Updates: G Route, **K D Grant**, R Hughes

0845h **IN41D-04** Spatio-temporal Statistical Inference and Data Fusion and their Applications to Decadal Survey Missions (*Invited*): **A J Braverman**, H M Nguyen

0900h **IN41D-05** Uncertainty Analysis in the Decadal Survey Era: A Hydrologic Application using the Land Information System (LIS): **K Harrison**, S Kumar, C D Peters-Lidard, J A Santanello

0915h **IN41D-06** QuakeSim Computational Infrastructure for Integrating DESDynI and UAVSAR Data into Earthquake Models (*Invited*): A Donnellan, J B Rundle, L Grant Ludwig, D McLeod, M Pierce, G Fox, R A Al-Ghanmi, **J W Parker**, R A Granat, G A Lyzenga, Y Ma, M T Glasscoe, J Ji, J Wang, X Gao, Title of Team: QuakeSim Team

0930h **IN41D-07** A Virtual Ocean Observatory for Climate and Ocean Science: Synergistic Applications for SWOT and XOVWM: P Arabshahi, **B M Howe**, Y Chao, S Businger, S Chien

0945h **IN41D-08** Coupling NASA Advanced Multi-Scale Modeling and Concurrent Visualization Systems for Improving Predictions of High-Impact Tropical Weather (CAMVis): **B Shen**, W Tao, C Henze

Nonlinear Geophysics

NG41A Moscone South: 308 Thursday 0800h
Multiscaling in Hydrometeorology and Hydrology I (*joint with A, H, NH, NS*)

Presiding: **A P Barros**, Prat School of Engineering; **S Lovejoy**, McGill University; **D J Schertzer**, U. Paris-Est, Ecole des Ponts ParisTech; **A A Carsteanu**, ESFM-IPN

0800h **NG41A-01** A WRF-based ensemble data assimilation system for dynamic downscaling of satellite precipitation information (*Invited*): **S Q Zhang**, A Y Hou, M Zupanski, S Cheung

0815h **NG41A-02** Multi-scale predictability inferences from mesoscale models – how much can we trust them? (*Invited*): **J Hacker**

0830h **NG41A-03** Fine-scale structure of precipitation from optical and microwave link measurements (*Invited*): **R Uijlenhoet**

0845h **NG41A-04** A systematic approach for a multi-scale evaluation of dominant hydrological processes (*Invited*):

W F Krajewski, L Cunha, R Mantilla

NG41B Moscone South: 308 Thursday 0900h
Stochasticity, Memory Effects, and Multiplicity of Scales in Geophysics I

Presiding: **D J Schertzer**, U. Paris-Est, Ecole des Ponts ParisTech; **M D Chekroun**, UCLA

0900h **NG41B-01** Modeling complex systems with memory and without separation of scale (*Invited*): **A J Chorin**

0915h **NG41B-02** Weather noise and climate forecasting or, How to use the former and improve the latter? (*Invited*): **M Ghil**, M D Chekroun, D A Kondrashov

0930h **NG41B-03** Sub-sampling in Parametric Estimation of Stochastic Parameterizations: **I Timofeyev**, R Azencott, A Beri

0945h **NG41B-04** Non-equilibrium statistical mechanics of geophysical flows: **F Bouchet**, E Simonnet

Natural Hazards

NH41A Moscone South: Poster Hall Thursday 0800h
Wildfires on Landscapes: Theory, Models, and Management III Posters (*joint with GC, PA*)

Presiding: **D McKenzie**, US Forest Service; **R E Keane**, USDA Forest Service Rocky Mountain Research Station

0800h **NH34A-08 POSTER** The Fluid Dynamical Forces Involved in Grass Fire Propagation: M Jenkins, **A Kochanski**, S K Krueger, W Mell, R McDermott

0800h **NH41A-1471 POSTER** Carbon Emissions from North American Wildland Fires: Development and demonstration of the Wildland Fire Emissions Information System (WFEIS), a tool for scientists and land managers: **N H French**, D McKenzie, T A Erickson

0800h **NH41A-1472 POSTER** Process-based Intermediate Fire Parameterization in a Dynamic Global Vegetation Model: **F Li**, X Zeng, Q Zeng

0800h **NH41A-1473 POSTER** Global carbon budget: fire history matters: **F Mouillot**

0800h **NH41A-1474 POSTER** Factors affecting Holocene fire dynamics in boreal Europe: **K J Brown**, T Giesecke, M Ohlson

0800h **NH41A-1475 POSTER** Wildland fire simulation by WRF-Fire: **J Mandel**, J D Beezley, A Kochanski, V Y Kondratenko, B Sousedik

0800h **NH41A-1476 POSTER** Modeling Particulate Matter Plumes from 2007 California Wildland Fires Using a Coupled Emissions-Transport System: **B W Koziol**, R C Owen, T A Erickson, N H French

0800h **NH41A-1477 POSTER** A stochastic simulation model to predict future air quality in protected areas: **E Stavros**, D McKenzie, N Larkin, T Strand, B K Lamb

0800h **NH41A-1478 POSTER** Simulation of the Meadow Creek fire using WRF-Fire: **J D Beezley**, A Kochanski, V Y Kondratenko, J Mandel, B Sousedik

0800h **NH41A-1479 POSTER** Integrating MODIS-based products to improve post-fire recovery predictions for burned watersheds in Southern California: **A M Kinoshita**, T S Hogue

0800h **NH41A-1480 POSTER** Spatial and temporal controls on Southern California's large fires: **Y Jin**, A D Hall, J T Randerson, M Goulden

0800h **NH41A-1481 POSTER** Hydrologic Vulnerability and Risk Assessment Associated With the Increased Role of Fire on Western Landscapes, Great Basin, USA: **C J Williams**, F B Pierson, P R Robichaud, K E Spaeth, S P Hardegree, P E Clark, C A Moffet, O Z Al-Hamdan, J Boll

0800h **NH41A-1482 POSTER** Characterizing the Hydrological Properties of Wildfire Ash: **S Woods**, V Balfour

0800h **NH41A-1483 POSTER** The Grass Fires on Slopes Experiment: **C B Clements**, D Seto, W Heilman

0800h **NH41A-1484 POSTER** Long-term trends and interannual variability of fires in South America during 2001-2009: **Y Chen**, J T Randerson, D M Morton, Y Jin, L Giglio, G J Collatz, P S Kasibhatla, G van der Werf, R S DeFries

0800h **NH41A-1485 POSTER** The MISR Wildfire Smoke Plume Height Project: **D L Nelson**, M J Garay, D J Diner, R A Kahn

0800h **NH41A-1486 POSTER** Climatic and topographical influences on fire regime attributes in the northern Cascade Range, Washington, USA: **C Cansler**, D McKenzie

0800h **NH41A-1487 POSTER** Data-model comparison reveals unprecedented recent burning of Alaskan boreal forests since CE 1860: F Hu, **R Kelly**, M Olson, P E Higuera, S Rupp

0800h **NH41A-1488 POSTER** Quantifying the relative importance and potential interactive effects of multiple indices when predicting fire risk and severity in the Western US: **A Keyser**, A L Westerling

0800h **NH41A-1489 POSTER** Observations and Modeling of Fire-Induced Winds: **D Seto**, C B Clements, J L Coen

0800h **NH41A-1490 POSTER** Impacts of Climatic Change on Boreal-Forest Fire Regimes over the Past 2000 Years: P E Higuera, **C Barrett**, R Kelly, F Hu

0800h **NH41A-1491 POSTER** The Impact of a Vegetation Canopy Parameterization on Smoke Dispersion from Wildland Fires: **M T Kiefer**

Near Surface Geophysics

NS41A Moscone South: Poster Hall Thursday 0800h **Beyond the Case History: Novel Seismic Methods and Applications I Posters** (*joint with S*)

Presiding: S S Haines, USGS; A Lamb, Boise State University

0800h **NS41A-1500 POSTER** High-resolution seismic imaging applied to the characterization of very shallow highly contrasted structures: **A Roques**, R Brossier, J Virieux, J Mars

0800h **NS41A-1501 POSTER** 2-D High Resolution Seismic Imaging and Potential-Field Modeling of Small-Scale Intrabasin Faulting in Surprise Valley, California: **N Athens**, V C Fontiveros, S L Klemperer, A E Egger, J M Glen

0800h **NS41A-1502 POSTER** Omni-Directional Extension of the Refraction Microtremor Method: **S E Hauksson**, J N Louie, S Pullammanappallil

0800h **NS41A-1503 POSTER** Shear-wave Velocity Structure of Surabaya, Indonesia, Inferred from Microtremor Observation: **X Deng**, K Megawati, H Yamanaka

0800h **NS41A-1504 POSTER** CO₂ Sequestration Crosswell Monitoring: **C Morency**, Y Luo, J Tromp

0800h **NS41A-1505 POSTER** Seismic characterization of a CO₂ storage pilot plant in a Saline Aquifer (Hontomín, Spain): **J Alcalde**, R Carbonell, D Martí, A Calahorrano, I Palomeras, P Ayarza, A Pérez-Estaún

0800h **NS41A-1506 POSTER** Comparison of the Seismic Effects of Soil Disturbance and Void Space Over Shallow Cut-and-Cover Tunnels: **N D Bonal**, R E Abbott, L A Preston

0800h **NS41A-1507 POSTER** A new impulsive seismic shear wave source for near-surface (0-30 m) seismic studies: **J M Crane**, J M Lorenzo

0800h **NS41A-1508 POSTER** Fast and Efficient Approach in Surface Wave Analysis: **A I Kanli**

NS41B Moscone South: Poster Hall Thursday 0800h **Joint Interpretation of Different Geophysical Data for Natural Resources Characterization I Posters** (*joint with S*)

Presiding: T Seher, Massachusetts Institute of Technology; M Commer, Lawrence Berkeley National Laboratory

0800h **NS41B-1509 POSTER** Effectiveness of Joint Inversion Method for Mine Survey: **M Mataracioglu**, M Asci

0800h **NS41B-1510 POSTER** Three-Dimensional Seismic Image of a Geothermal Prospect: Tinguiririca, Central Andes, Chile: **E Lira**, D Comte, A Giavelli, J E Clavero, G Pineda

0800h **NS41B-1511 POSTER** Seismic Arrival Time Tomography as a Complementary Geophysical Exploration Tool in the Characterization of Structural Settings of Mineral Ore Deposits in Chile: **R Charrier**, D Comte, M García, D Carrizo, S Roecker

0800h **NS41B-1512 POSTER** A Numerical Investigation of Cross-Hole Seismoelectric Conversion: **A Araji**, A Revil, B J Minsley, A Jardani

0800h **NS41B-1513 POSTER** Integrating Geophysical Data for the Investigation of the Chingshui Geothermal Field in Northeastern Taiwan: **P Chang**, S Song, E Yeh, C Chen

0800h **NS41B-1514 POSTER** Integrated VLF and AMT survey for the exploration of a fluorite deposit at eastern Inner Mongolia, China: **L Zhang**, W Wei, S Jin, G Ye, D Jia, H Dong, C Xie

0800h **NS41B-1515 POSTER** Using Seismic Refraction and Ground Penetrating Radar (GPR) to Characterize the Valley Fill in Beaver Meadows, Rocky Mountain National Park: **N Kramer**, D L Harry, E E Wohl

0800h **NS41B-1516 POSTER** Joint inversion of seismic and flow data for reservoir parameter assessment using particle swarm optimization: **A SUMAN**, T Mukerji, J Fernandez Martinez

0800h **NS41B-1517 POSTER** Multi-scale and Integrated Characterization of the Marcellus Shale in the Appalachian Basin: From Microscopes to Mapping: D J Soeder, T Mroz, D Crandall, **K T McDannell**

0800h **NS41B-1518 POSTER** Finite Element Modeling for Geothermal Resource Exploration: **J Quilty**, L H Cox, B Elkins

0800h **NS41B-1519 POSTER** Joint Interpretation of Geophysical Data in the Eastern Tennessee Seismic Zone : An Integrative Approach: **P Arroucau**, G Vlahovic, C A Powell

0800h **NS41B-1520 POSTER** Electromagnetic Study of the Grímsvötn Volcanic Geothermal System in Iceland: **A M Vilhjalmsson**, K Arnason, M T Gudmundsson

0800h **NS41B-1521 POSTER** 3-D Imaging Method through Transient Electromagnetic Pseudo-seismic Technology: **G Xue**, X Li, N Zhou

0800h **NS41B-1522 POSTER** Application of Time-Lapse Monitoring with Crosshole Resistivity and Crosshole Radar Tomography Data in the Vadose Zone for Hydraulic Parameter Characterization: **J Kamm**, E Bloem, M Bastani

Ocean Sciences

OS41A Moscone South: Poster Hall Thursday 0800h **Ocean Circulation Variability and Air-Sea Interactions in the Western Tropical Pacific I Posters**

Presiding: C Maes, IRD; B Qiu, Univ of Hawaii at Manoa; K Ando, Japan Agcy Mar Sci & Tech

0800h **OS41A-1523 POSTER** Water mass formation rate of the North Pacific and its interannual variation: **A Iwasaki**, T Suga, K Toyama

0800h **OS41A-1524 POSTER** An ENSO-timescale variation in the sea-surface heat flux in the North Pacific mid-latitude region: **A Nagano**, Y Kawai, H Tomita, M Konda, T Hasegawa

0800h **OS41A-1525 POSTER** REFLECTION OF KELVIN AND YANAI WAVES AT AN EASTERN BOUNDARY SUCH THAT THE BOUNDARY RESPONSE IS CONFINED TO ONE HEMISPHERE: **D W Moore**, S Schmidtko

0800h **OS41A-1526** WITHDRAWN

0800h **OS41A-1527 POSTER** Inter-comparison of the mean circulation in the Coral and Solomon Sea simulated by high resolution ocean models: **C Maes**, F Durand, F Gasparin, A Melet, A Ganachaud

0800h **OS41A-1528 POSTER** Quasi-decadal scale variability of upper ocean salinity in the western tropical Pacific: T Hasegawa, I Ueki, **K Ando**

0800h **OS41A-1529 POSTER** Observed Circulation in the Solomon Sea from SADCP data: **S E CRAVATTE**, A S Ganachaud, G Eldin, W S Kessler, P Dutrieux

0800h **OS41A-1530 POSTER** Near-Surface Measurements of Temperature and Salinity in the Tropical Western Pacific from Profiling Floats: **J E Anderson**, S Riser

0800h **OS41A-1531** *POSTER* Teleconnected influence of North Atlantic sea surface temperature on the El Niño onset: **X Wang**, C Wang, D Wang, W Zhou

0800h **OS41A-1532** *POSTER* Roles of multi-scale interactions in the circulation and climate of the tropical western Pacific Ocean: **D Yuan**, Z Wang, X Song, Z Zhang, H Zhou, G Liu

0800h **OS41A-1533** *POSTER* Pathways of mesoscale sea level variability in the South China Sea: W Zhuang, Y Du, D Wang, **Q Xie**, X Ren, S Xie

0800h **OS41A-1534** *POSTER* Contrasting ENSO Events in the Western Tropical Pacific Using Sea Surface Salinity Observations: **A Singh**, T Delcroix, S E CRAVATTE

0800h **OS41A-1535** WITHDRAWN

0800h **OS41A-1536** *POSTER* Impact of temperature and salinity time series data to zonal geostrophic current estimation in the western Tropical Pacific Ocean: **K Ando**, I Ueki, T Hasegawa

0800h **OS41A-1537** *POSTER* Summertime heat budget and tidal mixing around New-Caledonia: **J Lefevre**, P Marchesiello, C Menkes

0800h **OS41A-1538** *POSTER* The LLWBCs of the Solomon Sea depicted by altimetry and gliders: **L Gourdeau**, A Melet, J A Verron, W S Kessler, R Dussurget, R E Davis

0800h **OS41A-1539** *POSTER* NEAR-SURFACE CIRCULATION IN THE SOLOMON SEA DERIVED FROM LAGRANGIAN DRIFTER OBSERVATIONS: **H G Hristova**, W S Kessler

0800h **OS41A-1540** *POSTER* The mean and time-variability of the shallow meridional overturning circulation in the tropical South Pacific Ocean: **N V Zilberman**, D H Roemmich, S T Gille

0800h **OS41A-1541** *POSTER* SPICE: SOUTHWEST PACIFIC OCEAN CIRCULATION AND CLIMATE EXPERIMENT: A S Ganachaud, **A Melet**, C Maes

0800h **OS41A-1542** *POSTER* Upper Ocean Response to Typhoon Morakot: **C Tu**, C Tsai, J Liao, Y Yang

0800h **OS41A-1543** *POSTER* Asymmetry of Atmospheric Circulation Anomalies over the Western North Pacific between El Niño and La Niña: **B Wu**

0800h **OS41A-1544** *POSTER* How useful are satellite-based ocean color observations to detect the eastern edge of the equatorial Pacific warm pool?: **J Sudre**, C Maes, V Garçon

0800h **OS41A-1545** *POSTER* Simulations of the Indo-Pacific Warm Pool by IPCC Models: **D Sun**, Y Sun, L Wu

0800h **OS41A-1546** *POSTER* Ocean response to typhoon Nari (2007) on continental shelf of the East China Sea: **S Lee**, H Lie, K Oh, S Kang, K Song, C Cho

0800h **OS41A-1547** *POSTER* Wind-Evaporation-Sea Surface Temperature feedback in the western Pacific warm pool during mature phase of 1997-98 El Niño: **I Ueki**

0800h **OS41A-1548** *POSTER* Western Pacific Sea Surface Salinity, Air-Sea Interaction, Surface Advection and the Morphology of ENSO: **H Kao**, G S Lagerloef

0800h **OS41A-1549** *POSTER* Sensitivity of western boundary transport at NEC bifurcation latitude to wind forcing: X Zhang, **B D Cornuelle**

0800h **OS41A-1550** *POSTER* Exploratory Observations of Physical Processes in the upper Sulu Sea: **J P Martin**, A L Gordon

0800h **OS41A-1551** *POSTER* Interannual variation of the Hawaiian Lee Countercurrent: **H Abe**, K Hanawa

0800h **OS41A-1552** *POSTER* Imaging the Sub-Tropical Front off the southeast coast of New Zealand's South Island using high-frequency seismic methods: **A R Gorman**, M H Bowman

0800h **OS41A-1553** *POSTER* Impact of effective ocean optical properties on Pacific subtropical cell and its mechanism for interdecadal variability: **G Yamanaka**, H Ishizaki, H Tsujino, M Hirabara, H Nakano

OS41B Moscone South: Poster Hall Thursday 0800h
Satellite Studies of Ocean-Atmosphere Coupling From Mesoscale to Basin Scale I Posters (*joint with A*)

Presiding: **M A Bourassa**, Florida State University; **W Liu**, Jet Propulsion Laboratory

0800h **OS41B-1554** *POSTER* Improved QuikSCAT Retrievals of High Winds: **L Ricciardulli**, F J Wentz

0800h **OS41B-1555** *POSTER* Quantifying equivalent neutral wind speed variance due to temporal and spatial difference between SeaWinds and in situ data: **J C May**, M A Bourassa

0800h **OS41B-1556** *POSTER* Ocean Surface Carbon Dioxide Fugacity and Flux From Space: **W Liu**, X Xie

0800h **OS41B-1557** *POSTER* Proposed Mission for Climate Quality Scatterometer Inter-calibration and Measurement of Ocean Surface CO₂ Fluxes: **M A Bourassa**, E Rodriguez

0800h **OS41B-1558** *POSTER* An Intercomparison of Numerically-Modeled Flux Data and Satellite-Derived SeaFlux Data for Warm-Core Seclusions: **J P Scott**, M A Bourassa, C A Clayson

0800h **OS41B-1559** *POSTER* Ocean winds, the global water cycle, and salinity: **L Yu**

0800h **OS41B-1560** *POSTER* Intraseasonal variations of sea surface temperature east of Taiwan: **L Li**, T Zhou

0800h **OS41B-1561** *POSTER* Impact of a fine scale SST over the Kuroshio Extension region to wintertime rainfall: **S Iizuka**

0800h **OS41B-1562** *POSTER* On the role of along-shore wind anomalies in the development of Benguela Niños: **I Richter**, S K Behera, Y Masumoto, B Taguchi, N Komori, T Yamagata

0800h **OS41B-1563** *POSTER* Atmospheric Forcing for the Eastern Mediterranean Transient Event: **J Romanski**, A Romanou

0800h **OS41B-1564** *POSTER* SPCZ variability in 30 years of high temporal and spatial resolution satellite data: **C M Haffke**, G Magnusdottir

0800h **OS41B-1565** *POSTER* A new diagnostics method for mechanisms of near surface wind response to SST: K Takatama, **S Minobe**, M Inatsu, R J Small

0800h **OS41B-1566** *POSTER* Rectification of Atmospheric Intraseasonal Oscillations on Seasonal to Interannual Sea Surface Temperature in the Indian Ocean: **B Duncan**, W Han

0800h **OS41B-1567** *POSTER* Numerical Simulations of the Wind Stress Effect in SAR Images of Natural and Artificial Features on the Sea Surface: **A Fujimura**, A Soloviev

0800h **OS41B-1568** *POSTER* SAR-derived gap jet characteristics in the lee of the Philippine Archipelago: **M M Gierach**, H C Graber

OS41C Moscone South: Poster Hall Thursday 0800h
Water Masses, Circulation, and Variability of the North Atlantic Ocean From Observations and Models I Posters

Presiding: **I Yashayaev**, H L Bryden, National Oceanography Centre

0800h **OS41C-1569** *POSTER* A numerical study of the Nordic Sea circulation and outflows: **J Yang**, L J Pratt

0800h **OS41C-1570** *POSTER* Sensitivity of the MOC to Enhanced Greenland Freshwater Run-Off in a Global Eddy-Resolving Ocean Model: W Weijer, **M E Maltrud**, H A Dijkstra, M W Hecht, M Kliphuis

- 0800h **OS41C-1571** POSTER Formation and variability of North Atlantic sea surface salinity maximum in a global OGCM: **T Qu**, S Gao, I Fukumori
- 0800h **OS41C-1572** POSTER Eastern and Western Boundary Currents in the Labrador Sea, 1995-2008: **M M Hall**, D J Torres, I Yashayaev
- 0800h **OS41C-1573** POSTER Currents and Hydrographic Variability in Orphan Basin, 2004-2010: J W Loder, Y Geshelin, **I Yashayaev**
- 0800h **OS41C-1574** POSTER Model study of interannual variability in the North Atlantic Sub-Polar Ocean: E K Demirov, **I Yashayaev**, J Zhu
- 0800h **OS41C-1575** POSTER Interannual variability in the Atlantic meridional overturning circulation at 26°N: **H L Bryden**, S Cunningham, C P Atkinson
- 0800h **OS41C-1576** POSTER Shelfbreak Frontal Structure and Gulf Stream Interaction north of Cape Hatteras: High resolution observations and regional modeling: **G Gawarkiewicz**, J H Churchill, R He, Y Gong
- 0800h **OS41C-1577** POSTER Comparison between measured and calculated density salinity for standard seawaters and real seawater: **H Uchida**, A Murata, T Kawano, M Aoyama, S Nishino

OS41D Moscone West: 3007 Thursday 0800h
Lessons Learned From the Deepwater Horizon Oil Spill: Physical Oceanography II (joint with B, NH, SH, PA)

Presiding: **Y Liu**, University of South Florida; **A MacFadyen**, NOAA

- 0800h **OS41D-01** Operational Satellite-based Surface Oil Analyses (*Invited*): D Streett, **C Warren**
- 0815h **OS41D-02** Rapid Response to Deepwater Horizon Oil Spill from University of South Florida: Numerical Models, Remote Sensing, and In-situ Observations (*Invited*): **R H Weisberg**, Y Liu, L Zheng, C Hu, C Lembke
- 0830h **OS41D-03** Airborne Surveys of the Loop Current Complex From NOAA WP-3D Aircraft During the Deepwater Horizon Oil Spill: **L K Shay**, B Jaimes de la Cruz, J K Brewster, P Meyers, F D Marks, E Uhlhorn, G R Halliwell
- 0845h **OS41D-04** Satellite Radar Observations of the Deepwater Horizon Oil Spill in the Gulf of Mexico: **H C Graber**, R E Turner, M J Caruso, P A Mallas, K Polk, R J Ramos, G Samuels
- 0900h **OS41D-05** Quantifying the flow rate of the Deepwater Horizon Macondo Well oil spill: **R Camilli**, A Bowen, D R Yoerger, L L Whitcomb, A H Techet, C M Reddy, S Sylva, J Seewald, D Di Iorio, Title of Team: WHOI Flow Rate Measurement Group
- 0915h **OS41D-06** Initial Results from the UAVSAR Deepwater Horizon Oil Spill Campaign: **C E Jones**, B M Minchew, B Holt, S Hensley
- 0930h **OS41D-07** High-resolution AUV mapping and sampling of a deep hydrocarbon plume in the Gulf of Mexico: **J P Ryan**, Y Zhang, H Thomas, E Rienecker, R Nelson, S Cummings
- 0945h **OS41D-08** Mapping Oil-Water Emulsions from the Deepwater Horizon Oil Spill Using Imaging Spectroscopy: **G A Swayze**, R N Clark, I Leifer, K Livo, R F Kokaly, T M Hoefen, S R Lundeen, M Eastwood, R O Green, N Pearson, C M Sarture, I B McCubbin, D A Roberts, E S Bradley, D Steele, T F Ryan, R Dominguez, Title of Team: AVIRIS Team

OS41E Moscone West: 3009 Thursday 0800h
The Southern Ocean: Variability in Ocean, Ice, and Climate I (joint with C, G)

Presiding: **C Boening**, Jet Propulsion Laboratory; **M Schodlok**, UCLA

- 0800h **OS41E-01** Air-sea Fluxes and Mode Waters in an Eddy Resolving Ocean Data Assimilating Southern Ocean State Estimate (SOSE) (*Invited*): **I Cerovecki**, L D Talley, M R Mazloff
- 0815h **OS41E-02** WITHDRAWN
- 0830h **OS41E-03** A record-high ocean bottom pressure signal in the South Pacific observed by GRACE: **C Boening**, T Lee, V Zlotnicki
- 0845h **OS41E-04** Meridional Atmospheric and Oceanic Circulation and its influence on the Biogeochemical Cycling of Carbon West of the Antarctic Peninsula: **M G Hughes**, A J Gabric
- 0900h **OS41E-05** Modeling the Effects of Tides on Sea Ice Around the Antarctic Peninsula: **S R Springer**, L Padman, M S Dinniman
- 0915h **OS41E-06** PROFILING FLOAT OBSERVATIONS OF THE UPPER OCEAN UNDER SEA ICE OFF THE WILKES LAND COAST OF ANTARCTICA: **A P Wong**, S Riser
- 0930h **OS41E-07** The Dependence of the Southern Ocean Residual MOC on Wind Strength: **R P Abernathy**, J Marshall, D Ferreira
- 0945h **OS41E-08** An Observed Poleward Shift of the Polar Front in Drake Passage: **J Sprintall**

Planetary Sciences

P41A Moscone South: 306 Thursday 0800h
Rethinking the Lunar Paradigm: New Observations and Implications I (joint with V)

Presiding: **H Nekvasil**, Stony Brook University; **F M McCubbin**, Institute of Meteoritics

- 0800h **P41A-01** Juvenile water in the Moon's interior: new constraints from Apollo 15 lunar volcanic glasses: **E H Hauri**, A E Saal, J A Van Orman, M J Rutherford
- 0815h **P41A-02** Shades of Damp: Certainties and Uncertainties in Lunar Hydration Models (*Invited*): **J W Boyce**, J Eiler
- 0830h **P41A-03** The Cl Isotope Composition of the Moon as evidence for an Anhydrous Mantle (*Invited*): **Z D Sharp**, C Shearer, Jr., K D McKeegan, J Barnes, Y Wang
- 0845h **P41A-04** Water in the Lunar Interior and the Apparent KREEP-Mare Dichotomy: **F M McCubbin**, H Nekvasil
- 0900h **P41A-05** Using Apatite to Assess Volatile Contents of Primary Lunar Magmas: Potential Pitfalls: **H Nekvasil**, F McCubbin, G K Ustunisik
- 0915h **P41A-06** Water in the Moon: Implications for Lunar Formation, Differentiation, and Early Bombardment (*Invited*): **J Taylor**
- 0930h **P41A-07** The Delivery of Water to the Lunar Mantle by Late Planetesimal Accretion (*Invited*): **W F Bottke**, R J Walker, J Day, D Nesvorny, L T Elkins-Tanton
- 0945h **P41A-08** Experimental Degassing of Cl, F, OH, and S Bearing Lunar Magmas: **G K Ustunisik**, H Nekvasil, D H Lindsley

Public Affairs

PA41A Moscone West: 3005 Thursday 0800h
America's Climate Choices I (*joint with GC, ED, A, B, C, NH*)

Presiding: **S Bougan Petroy**, Ball Aerospace; **I Kraucunas**, National Academy of Sciences

0800h **Introduction** *Ian Kraucunas*

0804h **PA41A-01** America's Climate Choices: Advancing the Science of Climate Change (*Invited*): **P A Matson**, T Dietz, I Kraucunas

0815h **PA41A-02** America's Climate Choices: Limiting the Magnitude of Future Climate Change (*Invited*): **A Carlson**, R Fri, M Brown, L Geller

0826h **PA41A-03** America's Climate Choices: Adapting to the Impacts of Climate Change (*Invited*): **T Wilbanks**, G Yohe, C Mengelt, J Casola

0837h **PA41A-04** America's Climate Choices: Informing an Effective Response to Climate Change (*Invited*): **D M Liverman**, M C McConnell, P Raven

0848h **PA41A-05** America's Climate Choices: Cross-Cutting Research Themes to Support Effective Responses to Climate Change: **S C Moser**, Title of Team: America's Climate Choices Science Panel

0900h **PA41A-06** Climate Legislation in the 111th Congress: The Role of Climate Science and the ACC Reports: **K J Rennert**

0912h **PA41A-07** NOAA and the NRC America's Climate Choices Study: **C J Koblinsky**

0924h **PA41A-08** MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE ADAPTATION PLANNING USING AN EXPERT PANEL BASED HABITAT VULNERABILITY ASSESSMENT John O'Leary, MA Div. of Fisheries and Wildlife and Hector Galbraith, Ph d. Climate Change Initiative, Manomet Center for Conservation Sciences: **J A O'leary**, H Galbraith

0936h **PA41A-09** On the role of scientists and scientific organizations: A question of leadership: **B J Lynch**, S Driver

0948h **PA41A-10** Off the Shelf and Fueling the Public Discourse on America's Climate Choices: **B Ekwurzel**, J Sideris, P Frumhoff, C Chung

Paleoceanography and Paleoclimatology

PP41A Moscone South: Poster Hall Thursday 0800h
Breakthroughs in Continental Paleothermometry:
Applications of Terrestrial Proxies I Posters (*joint with OS, V*)

Presiding: **J L Toney**, Brown University; **S E Loomis**, Brown University

0800h **PP41A-1607** POSTER Paleotemperature Estimation by Tandem $\delta^{18}\text{O}$ Measurement of Biogenic Carbonate and Gypsum Hydration Water: **D A Hodell**, A V Turchyn, J Escobar, J H Curtis, M Brenner, A Gilli, F Anselmetti, D Ariztegui, M Bush, L Perez, A Schwalb

0800h **PP41A-1608** POSTER Alkenone paleothermometry in lakes of the Lofoten Archipelago, Northwestern Norway: A new calibration from in situ measurements: **X Huang**, W J D'Andrea, R S Bradley

0800h **PP41A-1609** POSTER Spatial and temporal variability of Crenarchaeota in Lake Superior and implications for the application of the TEX86 temperature proxy: **M L Woltering**, J P Werne, R E Hicks, J L Kish, S Schouten, J S Sinninghe Damste

0800h **PP41A-1610** POSTER A high-resolution Holocene Asian Monsoon record from a Tibetan lake-Peiku Co: **M Du**, R D Ricketts, S Colman, J P Werne

0800h **PP41A-1611** POSTER Temperature and Aridity in Tropical East Africa Over the Past 200,000 Years: Reconstructions from the Lake Malawi Drill Core: **A N Abbott**, T C Johnson, M A Berke, J P Werne, S Schouten, J S Sinninghe Damste, E T Brown

0800h **PP41A-1612** POSTER Glycerol dialkyl glycerol tetraethers preserved in stalagmites: a new continental palaeothermometer: **A J Blyth**, S Schouten

0800h **PP41A-1613** POSTER Holocene paleoclimate characterization in Lago Fagnano (Tierra del Fuego) using sedimentary, physical and geochemical proxies: **A Vizcaino Marti**, R B Dunbar, D Wahl, C M Moy, D A Mucciarone, L Anderson, T P Guilderson

0800h **PP41A-1614** POSTER Synchronized High-Resolution Lacustrine Records in Iceland show Non-Linear Response to Holocene Insolation: **A Geirsdottir**, G H Miller, D J Larsen, T Thordarson, S Ólafsdóttir, J S Stoner

0800h **PP41A-1615** POSTER LGM Snow-Line Elevations In The Western Tropical Pacific- Exposure Ages On Moraines From Mt. Giluwe, Papua New Guinea: **M L Prentice**, M D Kurz, G Hope, T Barrows

0800h **PP41A-1616** POSTER Bahamian speleothems reveal Atlantic climate variability during Heinrich Events: **M M Arienzo**, P K Swart, K Broad, A C Clement, A Eisenhauer, B Kakuk

0800h **PP41A-1617** POSTER Climatic change record during the past 1 Ma of the Lake Biwa sediments, Japan: **K Takemura**, A Hayashida, T Danhara

PP41B Moscone South: Poster Hall Thursday 0800h
Interglacial Climate Variability I Posters (*joint with B, C*)

Presiding: **A H Voelker**, Laboratorio Nacional de Energia e Geologia (LNEG); **S Desprat**, EPHE, University Bordeaux 1; **J F McManus**, Lamont-Doherty Earth Observatory of Columbia University; **Q Yin**, Université catholique de Louvain

0800h **PP41B-1618** POSTER Sub-millennial climate variability during past interglacial periods: insights from new high resolution deuterium measurements conducted on the EPICA Dome C ice core (*Invited*): **K Pol**, V Masson-Delmotte, M Bigler, E Capron, O Cattani, M Debret, G B Dreyfus, G Durand, S Falourd, S J Johnsen, J Jouzel, A Landais, B Minster, F Parrenin, C Ritz, H Steen-Larsen, B Stenni

0800h **PP41B-1619** POSTER Stalagmite evidence for a highly dynamic Pleistocene hydrological history of the Black Sea: **S Badertscher**, D Fleitmann, H Cheng, R Edwards, O M Göktürk, A Zumbühl, O Tüysüz

0800h **PP41B-1620** POSTER Stalagmite-based Climate Reconstruction in the Southern Appalachians, Eastern North America: ~ 490-630 kya: **A R Wright**, H D Rowe, B F Hardt, G S Springer, R Edwards, H Cheng

0800h **PP41B-1621** POSTER A High-Resolution Study of a Late Pleistocene Interglacial-Glacial Transition and its Variability in Owens Lake, California Core OL-92: **C Meyers**, M J Kennedy

0800h **PP41B-1622** POSTER Thermal history of the Western Equatorial Warm Pool over the Past 400 k years: **K Tachikawa**, L Vidal, C Sonzogni

0800h **PP41B-1623** POSTER Overturning Circulation in the North Atlantic Ocean During Marine Isotope Stage 11c: **A H Voelker**, L de Abreu, C Hillaire-Marcel, A de Vernal, D A Hodell

0800h **PP41B-1624** POSTER Interglacial Climatic Variability in Southern Europe During the Last 425,000 Years From NW Iberian Marine Pollen Records: **S Desprat**, M Sanchez Goni, B Malaize, F Naughton

0800h **PP41B-1625** *POSTER* The End of the Last Interglacial in the Iberian Peninsula : The Villarquemado Sequence (Iberian Range, Spain): **B L Valero-Garces**, A Moreno-Caballud, P González-Sampérez, M Mata-Campo, G Gil-Romera, M Morellón

0800h **PP41B-1626** *WITHDRAWN*

0800h **PP41B-1627** *POSTER* Late-Quaternary Speleothem Records from the Balkan Peninsula - Potential, Objectives and First Results: **I John**, W D McCoy, S Markovic, W Endlicher

0800h **PP41B-1628** *POSTER* New OSL dates of Sangamon Episode biozones from Raymond Basin, Illinois, USA: **B Curry**, H Wang

0800h **PP41B-1629** *POSTER* A Tale of Two Interglacials: A Stalagmite Stable Isotope Record of Climate in Yucatán, Mexico Since 128,000 YBP: A E Frappier, **L D Brenner**

0800h **PP41B-1630** *POSTER* Heinrich-like events in the Southeast Pacific: Abrupt climate change during the last interglacial: **A W Jacobel**, Z Mokeddem, J F McManus

0800h **PP41B-1631** *POSTER* Paired microfossil evidence for a delayed development of fully marine surface water conditions in the Nordic seas during the Last interglacial (MIS 5e): **N Van Nieuwenhove**, H A Bauch, E S Kandiano

0800h **PP41B-1632** *POSTER* Reconstructing Holocene Laurentide Ice Sheet discharge and ocean temperature in the western Labrador Sea: **J S Hoffman**, A E Carlson, G P Klinkhammer, B Haley, J Strasser

0800h **PP41B-1633** *POSTER* THE HOLOCENE PALEOLIMNOLOGY OF LAKE SUPERIOR: **A Hyodo**, F J Longstaffe

0800h **PP41B-1634** *POSTER* Evidence for Deglacial, Younger Dryas and Early Holocene Climate Variability, Chesapeake Bay: **D A Willard**, C E Bernhardt, T M Cronin, J R Farmer, W Newell, J P Halka

0800h **PP41B-1635** *POSTER* Vegetation changes during the last deglacial and early Holocene: a record from Little Salt Spring Florida: **C E Bernhardt**, D A Willard, B Landacre, J Gifford

0800h **PP41B-1636** *POSTER* Recognizing Synchronous Responses to Holocene North Atlantic Bond Cycles in the Southwestern Tropical Atlantic: A Sifeddine, **H Evangelsita**, M Gurgel, N Rigozo, A Albuquerque

0800h **PP41B-1637** *POSTER* NW Pacific mid-depth ventilation changes during the Holocene: **S Rella**, M Uchida

0800h **PP41B-1638** *POSTER* Reconstructing thermocline hydrography using planktonic foraminiferal Mg/Ca: Implications for paleo-ENSO during the Holocene: **A O Parker**, T M Marchitto

0800h **PP41B-1639** *POSTER* LA-ICP-MS core-top Mg/Ca-temperature calibration for *G. bulloides* and a high resolution record of the last deglaciation in the Southwest Pacific Ocean: **J Marr**, J Baker, L Carter, G B Dunbar, H C Bostock

0800h **PP41B-1640** *POSTER* The Holocene Asian Monsoon discrepancies between Southwest China and Northern Vietnam: **Y Lin**, Y Chen, C Shen, D Lam

0800h **PP41B-1641** *POSTER* Holocene land cover change on the Tibetan Plateau: **A Dallmeyer**, M Claussen

0800h **PP41B-1642** *POSTER* High-Resolution Late Holocene Climatic Records From Kucukcekmece Lagoon and Uludag Glacial, Yeniçaga, Bafa Lakes in Western Turkey: Some Preliminary Results: **S Akcer On**, M Cagatay, M Sakinc

0800h **PP41B-1643** *POSTER* Reconstructing socially relevant Holocene climate using proxy records and a climate model: **K Haberkorn**, C Lemmen, R Blender, F Lunkeit, K Fraedrich

PP41C Moscone South: I03 Thursday 0845h
Emiliani Lecture (Webcast)

Presiding: **J Brigham-Grette**, University of Massachusetts; **F Mekik**, Grand Valley State University; **B Hoenisch**, Lamont-Doherty Earth Observatory

0845h **Welcome and Introduction**

0900h **PP41C-01** Abrupt climate change during the Last Ice Age from the perspective of 17°N, 90°W (*Invited*): **D A Hodell**

SPA-Aeronomy

SA41A Moscone South: Poster Hall Thursday 0800h
Advances in Understanding Magnetosphere-Ionosphere Dynamics and Coupling II Posters (*joint with SM*)

Presiding: **J U Kozyra**, University of Michigan

0800h **SA41A-1704** *POSTER* Magnetic Flux Circulation During Dawn-Dusk Oriented Interplanetary Magnetic Field: **E J Mitchell**, R E Lopez, M H Fok, Y Deng, M J Wiltberger, J Lyon

0800h **SA41A-1705** *POSTER* First Reconnected Flux Tubes in the Near-Earth Tail: **L Andersson**, G Lapenta, D L Newman, E L Spanswick, J B Baker, L Clausen, D E Larson, H U Frey, H J Singer, V Angelopoulos, R E Ergun, J W Bonnell, J P McFadden, K Glassmeier, W Baumjohann

0800h **SA41A-1706** *POSTER* Quantifying the azimuthal plasmaspheric density structure and dynamics inferred from IMAGE EUV: **P Sibanda**, M Moldwin, D A Galvan, B R Sandel, T Forrester

0800h **SA41A-1707** *POSTER* Seasonal dependence of magnetic field variations from subauroral latitude to the magnetic equator during geomagnetic sudden commencements: **A Shinbori**, Y Tsuji, T Kikuchi, T Araki, A Ikeda, T Uozumi, S I Solov'ev, B Shevtsov, R S Otadoy, H Utada, T Nagatsuma, H Hayashi, T Tsuda, K Yumoto, Title of Team: IUGONET project team

0800h **SA41A-1708** *POSTER* Dayside field-aligned current source regions: **S Wing**, S Ohtani, P T Newell, J Johnson, T Higuchi, G Ueno, J M Weygand

0800h **SA41A-1709** *POSTER* Comparison of TWINS Images of Low-Altitude Emission of Energetic Neutral Atoms with DMSP Precipitating Ion Fluxes: New Events: D Bazell, **T Sotirelis**, E C Roelof, H Nair, P C Brandt, P W Valek, J Goldstein, D J McComas

0800h **SA41A-1710** *POSTER* Contribution of Joule heating and soft particle precipitation to the cusp neutral density enhancement: **Y Deng**, T J Fuller-Rowell, D J Knipp, A J Ridley

0800h **SA41A-1711** *POSTER* External ionospheric and thermospheric forcing during solar minimum: **O P Verkhotyadova**, B Tsurutani, A J Mannucci, A Komjathy, M G Mlynczak, L A Hunt

0800h **SA41A-1712** *POSTER* Sub-auroral flow shear observed by King Salmon HF radar and RapidMAG: **T Hori**, T Kikuchi, Y Tsuji, A Shinbori, T Ohtaka, M Kunitake, S Watari, T Nagatsuma, O A Troshichev

0800h **SA41A-1713** *POSTER* Discrete auroral arcs: coordinated ALIS-EISCAT observations and modelling: **C Simon**, H Lamy, B Gustavsson, J M De Keyser, T Sergienko, U Brandstrom, I Sandahl

0800h **SA41A-1714** *POSTER* Magnetosphere-ionosphere convection and the upper thermosphere wind: Comparison of CHAMP observations with UAM modelling: **M Foerster**, A A Namgaladze, B E Prokhorov, M Holschneider

0800h **SA41A-1715** *POSTER* A Collection of Synthetic TEC Comparisons with Data: **J A Feldt**, M Moldwin

0800h **SA41A-1716** POSTER Night-side mid-latitude 135.6 nm intensity enhancements: TIMED/GUVI observations: **Y Zhang**, L J Paxton, E R Talaat, H Kil

0800h **SA41A-1717** POSTER Coordinated investigations of daytime redline optical emissions and incoherent scatter radar measurements from Sondrestromfjord, Greenland: **E S Douglas**, D Pallamraju, S Chakrabarti

0800h **SA41A-1718** POSTER Neutral Density and Wind Enhancements in the Polar Cap: **C S Lin**, S B Cable, E K Sutton, F A Marcos, C Huang, D J Knipp, D R Weimer, M Noah, W Wang

0800h **SA41A-1719** POSTER Altitude Dependence of Neutral Density Geomagnetic Storm Response: **F A Marcos**, C Lin, M Noah, W J Burke, S B Cable, J O Wise, E K Sutton

SA41B Moscone South: Poster Hall Thursday 0800h
The Active Inner Magnetosphere and Its Coupling With the Midlatitude Ionosphere II Posters (*joint with SM*)

Presiding: **A J Coster**, MIT Haystack Observatory; **J M Ruohoniemi**, Virginia Tech; **J B Baker**, Virginia Tech

0800h **SA41B-1720** POSTER Two Way Coupling RAM-SCB to the Space Weather Modeling Framework: **D T Welling**, V K Jordanova, S G Zaharia, G Toth

0800h **SA41B-1721** POSTER Comparing a Coupled Ionosphere-Plasmasphere Model to Observations with IMAGE/EUV: **A M Dodger**, A J Ridley

0800h **SA41B-1722** POSTER Empirical Model of Plasmaspheric Densities Derived from the IMAGE RPI Observations: **P Ozhgin**, J Tu, P Song, B W Reinisch

0800h **SA41B-1723** POSTER Investigation of Plasmaspheric Plumes Measured by Cluster: **H Matsui**, F Darrouzet, P A Puhl-Quinn, K M Sigsbee, R B Torbert

0800h **SA41B-1724** POSTER Large electric fields observed at the nightside plasmopause: **K Kim**, F Mozer, D Lee, H Jin

0800h **SA41B-1725** POSTER The ionospheric mid-latitude trough observed by FORMOSAT-3/COSMIC during solar minimum: **I Lee**, W Wang, J Y Liu, C Chen, C Lin

0800h **SA41B-1726** POSTER Estimating Flux Tube Volume At Geosynchronous Orbit From Single Spacecraft Measurements: **L Zheng**, F Toffoletto, R A Wolf, A A Chan

0800h **SA41B-1727** POSTER ROCSAT Observations of Large Wavy Flow Motions at the Topside Ionosphere: **S Su**, C Chao, C Liu

0800h **SA41B-1728** POSTER A Two-dimensional Magnetoseismic Network in the United States: **P J Chi**, W A Bristow, F K Chun, M J Engebretson, M R Hairston, A M Jorgensen, M G McHarg, D Mynatt, N Petit, C T Russell, D K Scherrer, K Takahashi, S Wing, L I Winkler, J L Cruz-Abeyro

0800h **SA41B-1729** POSTER Modeling Field Line Resonances in the Inner Plasmasphere with the Field Line Interhemispheric Plasma Model: N M McCarthy, **A M Jorgensen**, W D Stone, E Zesta

0800h **SA41B-1730** POSTER Improved hodograph method applied to ground magnetometer data to determine and error-estimate the field-line eigen-frequency: **H Kawano**, V Pilipenko, S Saita, K Yumoto, I R Mann

0800h **SA41B-1731** POSTER Temporal and spatial developments of global ionospheric current associated with storm-time overshielding: **Y Tsuji**, A Shinbori, Y Nishimura, T Kikuchi, T Nagatsuma, S Watari

0800h **SA41B-1732** POSTER Transient Convection in the Nightside Subauroral Ionosphere: Occurrence Statistics and Driving Influences: **J B Baker**, L Clausen, J M Ruohoniemi, A Ribeiro, E G Thomas, N A Friswell

0800h **SA41B-1733** POSTER Morphology and Causes of the Weddell Sea Anomaly: **L Lomidze**, L Scherliess

0800h **SA41B-1734** POSTER A New Fabry-Perot Interferometer for the Antarctica Peninsula: **Q Wu**, M G Conde

SA41C Moscone South: 301 Thursday 0800h
Forecasting the Ionosphere and Thermosphere at Low Latitudes I

Presiding: **O de la Beaujardiere**, Air Force Research Laboratory; **D N Anderson**, Univ of Colorado

0800h **SA41C-01** Seasonal Variations in Equatorial Ion Drifts measured by C/NOFS (*Invited*): **R Stoneback**, R A Heelis

0815h **SA41C-02** Latitude and Local Time Variations of Topside Magnetic Field-Aligned Ion Flows at Solar Minimum: **A G Burrell**, R A Heelis

0828h **SA41C-03** Persistent Longitudinal Variations of Plasma Density and DC Electric Fields in the Low Latitude Ionosphere Observed with Probes on the C/NOFS Satellite: **R F Pfaff**, H Freudenreich, J H Klenzing, D E Rowland, M C Liebrecht, K R Bromund, P A Roddy

0841h **SA41C-04** Magnetic Field Measurements on the C/NOFS Satellite: Geomagnetic Storm Effects in the Low Latitude Ionosphere: **G Le**, R F Pfaff, E L Kepko, D E Rowland, K R Bromund, H Freudenreich, S C Martin, M C Liebrecht, S Maus

0854h **SA41C-05** Large scale impacts of lower atmospheric waves on the ionosphere (*Invited*): **H Liu**

0909h **SA41C-06** Determining the Daytime, Equatorial Ionospheric Electron Densities Associated with the Observed, 4-cell Longitude Patterns in ExB Drift Velocities: **E A Araujo-Pradere**, D N Anderson, M Fedrizzi, R Stoneback

0922h **SA41C-07** Tidal structures in the equatorial ionosphere: **C Y Huang**, S H Delay, P A Roddy, E K Sutton

0935h **SA41C-08** Dawn Sector Plasma Density Observations from DMSP: **L C Gentile**, W J Burke, P A Roddy, J M Retterer

0948h **SA41C-09** On Equatorial Spread F During the Solstices Under Solar Minimum Conditions: **R T Tsunoda**, L C Gentile, W J Burke

SPA-Solar and Heliospheric Physics

SH41A Moscone South: Poster Hall Thursday 0800h
Heliospheric Imaging of Solar Wind Structure I Posters

Presiding: **S Dasso**, Inst Astronomia Fisica Espacio (IAFE)

0800h **SH41A-1771** POSTER Remote-Sensing Studies of Heliospheric Solar-Wind Structure Around Two Solar Minima:

M M Bisi, J M Clover, A Breen, E A Jensen, R Fallows, B V Jackson, P P Hick, A Rawlins, J A Davies, M Owens, M Xiong, A Buffington, M Grande

0800h **SH41A-1772** POSTER The automatic detection and tracking of interplanetary coronal mass ejections (CMEs) using heliospheric imager data: **R N Thompson**, T A Howard, M Hampson, J Tappin

0800h **SH41A-1773** POSTER Fast Solar Wind Streams From the Sun to 1 AU During the Recent Solar Minimum: **M P Miralles**, K D Simunac, L Strachan, A B Galvin, E Landi, C O Lee, J G Luhmann, P S McIntosh

0800h **SH41A-1774** POSTER SATPLOT – A New Tool for Analysis of SECCHI Heliospheric Imager Data: **E M De Jong**, J R Hall, P C Liewer, R A Howard, W T Thompson

0800h **SH41A-1775 POSTER** Propagation Directions and Kinematics of STEREO CME/ICMEs Events: T Rollett, **C Moestl**, M Temmer, A Veronig, N Lugaz, H K Biernat

0800h **SH41A-1776 POSTER** Scientific Revelations on Coronal Mass Ejections Using Heliospheric Imagers and In-Situ Data: **T A Howard**, J Tappin

0800h **SH41A-1777 POSTER** Evolution of the heliospheric plasma sheet observed in situ by 3 spacecraft over 4 solar rotations: **K Simunac**, A B Galvin, L M Kistler, H Kucharek, A J Lazarus, Y Liu, J G Luhmann, K W Ogilvie, A Opitz, M Popecki, S Wang

0800h **SH41A-1778 POSTER** End-to-End Observations and Modeling of the 17-21 January 2010 CME/ICME: **D F Webb**, E W Cliver, N V Nitta, G D Attrill, K Marubashi, T A Howard, J Tappin, B V Jackson

0800h **SH41A-1779 POSTER** A Microsatellite Heliospheric Imaging Network for Science and Space Weather: **C E DeForest**, T A Howard, C Kief, Title of Team: CHIME Mission Development Team

0800h **SH41A-1780 POSTER** A Heliospheric Imager for Deep Space: Lessons Learned from Helios, SMEI, and STEREO: **A Buffington**, B V Jackson, P P Hick, J M Clover, M M Bisi

SH41B Moscone South: Poster Hall Thursday 0800h
Solar Wind Turbulence: Theory, Observations, and Future Mission Concepts I Posters (*joint with NG, SM*)

Presiding: **W H Matthaeus**, University of Delaware

0800h **SH41B-1781 POSTER** Application of rank-ordered multifractal analysis (ROMA) to intermittent fluctuations in 3D turbulent flows, 2D MHD simulation and solar wind data: **C Wu**, T Chang

0800h **SH41B-1782 POSTER** Solar wind cross-helicity and residual energy during different solar cycles: **S Perri**, A Balogh

0800h **SH41B-1783 POSTER** Aging of solar wind magnetic and velocity fluctuations from observations in the inner heliosphere: M E Ruiz, **S Dasso**, W H Matthaeus, J M Weygand, E Marsch

0800h **SH41B-1784 POSTER** Magnetic Helicity of Alfvén Simple Waves: **G M Webb**, Q Hu, B Dasgupta, G P Zank, D Roberts

0800h **SH41B-1785 POSTER** Dual cascade of kinetic and magnetic energy in MHD turbulence: **H Aluie**

0800h **SH41B-1786 POSTER** Recent Successes of Wave/Turbulence Driven Models of Solar Wind Acceleration: **S R Cranmer**, J V Hollweg, B D Chandran, A A Van Ballegoijen

0800h **SH41B-1787 POSTER** Gyrokinetic Particle Simulation of Alfvén Turbulence: **X Cheng**, Z Lin

0800h **SH41B-1788 POSTER** Kinetic Alfvén wave and ion velocity distribution functions in the solar wind: **X Li**, Q Lu, Y CHEN, B Li, L Xia

0800h **SH41B-1789 POSTER** The effect of spectral anisotropy of fast magnetosonic turbulence on the plasma heating at the proton kinetic scales: **S Markovskii**, B J Vasquez

0800h **SH41B-1790 POSTER** Quantifying the spatio-temporal characteristics of magnetohydrodynamic turbulence seen in HINODE/SOT images of solar prominences: E Leonardis, **S C Chapman**, C Foullon

0800h **SH41B-1791 POSTER** Study of the relation between turbulent activity in the quasi-parallel foreshock and the ULF band pulsations of the geomagnetic field: **P Kovacs**, B Heilig, A Csontos, E W Worthington, G Vadasz

0800h **SH41B-1792 POSTER** Dynamics of transitional region of the solar wind turbulence with heliocentric distance: **V Galinsky**, V I Shevchenko

0800h **SH41B-1793 POSTER** 3D structures of solar wind turbulence from large to small scales: **Y Narita**

0800h **SH41B-1794 POSTER** Time-frequency analysis of phase coherence of solar wind turbulence: **O Fauvarque**, F Sahraoui

0800h **SH41B-1795 POSTER** Solar Modes in the Interplanetary Medium: **D J Thomson**, L J Lanzerotti

0800h **SH41B-1796 POSTER** IMF Turbulence and Cumulative Distribution Functions: **MA Coplan**, A Banerjee, K Ogilvie

0800h **SH41B-1797 POSTER** Linear and Non-Linear Landau Resonance of Kinetic Alfvén Waves: Consequences for Electron Distribution and Wave Spectrum in the Solar Wind: **L Rudakov**, M Mithaiwala, G Ganguli, C E Crabtree

0800h **SH41B-1798 POSTER** A Quantitative Examination of Solar Wind Properties as Functions of Instability Growth Rate: **B A Maruca**, J C Kasper, S P Gary

0800h **SH41B-1799 POSTER** The strahl electrons as a source of electrostatic whistler waves in the solar wind turbulence: **VI Shevchenko**, V Galinsky

0800h **SH41B-1800 POSTER** Magnetic Wavenumber Spectrum of Whistler Turbulence: Particle-In-Cell Simulation: **S Saito**, S P Gary, Y Narita

0800h **SH41B-1801 POSTER** Magnetic compressibility and Isotropic Scale-Invariant Dissipation of Solar Wind Turbulence: **K H Kiyani**, S C Chapman, Y V Khotyaintsev, B Hnat, F Sahraoui

0800h **SH41B-1802 POSTER** Scaling Properties Of Small-Scale Anisotropy In The Solar Wind Turbulence By Multipoint Measurements: E Yordanova, **L Sorriso-Valvo**, S Perri, V Carbone

0800h **SH41B-1803 POSTER** Solar wind magnetic turbulence at electron scales: **O Alexandrova**, C Lacombe, A Mangeney, M Maksimovic, J Saur, S J Schwartz, J Mitchell

0800h **SH41B-1804 POSTER** Statistics of the IMF turbulence spectra observed by Wind under different solar wind conditions: **A Koval**, A Szabo

0800h **SH41B-1805 POSTER** Wave amplitudes in the solar wind at 1 AU: Implications for energetic particle transport: **J Köhler**, R F Wimmer-Schweingruber

0800h **SH41B-1806 POSTER** Study of Energization of a Charged Particle Moving in a Time-dependent Chaotic Magnetic Field: **C Carden**, G Li, B Dasgupta

SH41C Moscone South: 309 Thursday 0800h
Acceleration and Transport of Solar Energetic Particles II (*joint with SM*)

Presiding: **G Li**, Univ Alabama Huntsville; **J C Kasper**, Smithsonian Astrophysical Obse; **A Szabo**, NASA GSFC

0800h **SH41C-01** Critical Next Steps in Understanding Solar Energetic Particle Events (*Invited*): **G M Mason**

0815h **SH41C-02** Observational Signatures of Ion Acceleration Near CME-Driven Interplanetary Shocks: **M I Desai**, M A Dayeh, M A Lee, C W Smith, G M Mason, J C Kasper

0830h **SH41C-03** Particle Acceleration at the Sun (*Invited*): **R P Lin**

0845h **SH41C-04** Properties of Accelerated Particles that Interact at the Sun: **G H Share**, R J Murphy

0900h **SH41C-05** Particle acceleration and transport of solar energetic particles: theory, modeling, and observational constraints (*Invited*): **G P Zank**

0915h **SH41C-06** Streaming Limit: New Observations and Model Results: **C K Ng**, D V Reames, A J Tylka

0930h **SH41C-07** Theories of Charged-Particle Acceleration in the Heliosphere (*Invited*): **J R Jokipii**

0945h **SH41C-08** Seed Particle Populations in the Solar Wind and Solar Corona: **L A Fisk**, G Gloeckler

SH41D Moscone South: 307 Thursday 0800h
Global Solar Magnetic Data as Drivers of Coronal Models II

Presiding: **C J Henney**, AFRL; **C N Arge**, Air Force Research Laboratory

0800h **SH41D-01** Flux Transport and the Sun's Global Magnetic Field (*Invited*): **D H Hathaway**

0818h **SH41D-02** Synchronic Maps and Frames: **J T Hoeksema**, Y Liu, X Sun, X Zhao

0830h **SH41D-03** Magnetic Maps and Coronal/Solar Wind Modeling: Practices and Pitfalls (*Invited*): **J A Linker**, Z Mikic, P Riley, R Lionello, V S Titov

0848h **SH41D-04** Improving the Far-Side Seismic Maps: **I Gonzalez Hernandez**, F Hill, J Koller

SH41E Moscone South: 307 Thursday 0900h
Multispacecraft Observations of Coronal Heating During the Rise of Solar Cycle 24 II

Presiding: **R A Frazin**, University of Michigan; **E Landi**, University of Michigan

0900h **SH41E-01** Partition of Proton and Electron Heating in the Solar Wind (*Invited*): **B van der Holst**, M Jin, W B Manchester, R A Frazin, A M Vasquez, P L Lamy, A Llebaria, T I Gombosi

0915h **SH41E-02** SDO/AIA Light Curves and Implications for Coronal Heating: Observations: **N M Viall**, J A Klimchuk

0930h **SH41E-03** SDO/AIA Light Curves and Implications for Coronal Heating: Model Predictions: **J A Klimchuk**, N M Viall

0945h **SH41E-04** Thermal study of active region plasma from Hinode and SDO observations: **P Testa**

SPA-Magnetospheric Physics

SM41A Moscone South: Poster Hall Thursday 0800h
Magnetotail Transients and Their Ionospheric Signatures I Posters (*joint with SA*)

Presiding: **A Runov**, University of California Los Angeles; **J Birn**, Los Alamos Nat. Lab.

0800h **SM41A-1825** POSTER MAGNETOTAIL RADIAL CHARACTERISTICS DURING STEADY CONVECTION EVENTS:

T I Pulkkinen, N J Partamies, M M Palmroth, J Kissinger, R L McPherron, M Kubyshkina, K Glassmeier, C W Carlson

0800h **SM41A-1826** POSTER FAR TAIL (255 RE) FAST RESPONSE TO VERY WEAK MAGNETIC ACTIVITY: **J A Sauvaud**, A Opitz, L Palin, B Lavraud, C Jacquey, L M Kistler, H U Frey, J G Luhmann, D E Larson, C T Russell

0800h **SM41A-1827** POSTER Magnetospheric Sawtooth Oscillations Induced by Ionospheric Outflow: **O J Brambles**, W Lotko, B Zhang, J Lyon, M J Wiltberger

0800h **SM41A-1828** POSTER Substorms, poleward boundary activations, auroral streamers, omega bands, and geosynchronous particle injections during a sawtooth event: **M G Henderson**, E L Kepko, E Spanswick, E F Donovan

0800h **SM41A-1829** POSTER Simulation of the longitudinal splitting of the nightside proton aurora during a substorm seen by the IMAGE spacecraft: **M L Gilson**, J Raeder, E F Donovan, S B Mende, Y Ge

0800h **SM41A-1830** WITHDRAWN

0800h **SM41A-1831** POSTER Differences between N-S arc sequences that do and do not lead to substorm expansion onset: **Y Nishimura**, L R Lyons, S Zou, X Xing, V Angelopoulos, S B Mende, J W Bonnell, D E Larson, H Auster

0800h **SM41A-1832** POSTER Ionospheric Flow Shear Associated with Poleward Boundary Intensification (PBI): **Y Shi**, E Zesta, L R Lyons, A Boudouridis, H Kim

0800h **SM41A-1833** POSTER REMOTE-SENSING RADIAL PLASMA FLOWS IN THE MAGNETOTAIL USING MULTISCALE VECTOR FIELD TECHNIQUES: **V M Uritsky**, E L Spanswick, E F Donovan, J Liang, J Birn, D J Knudsen, W Liu

0800h **SM41A-1834** POSTER FUV Spectrum in the polar region: **C Lee**, K W Min

0800h **SM41A-1835** POSTER The effect of variations of the solar wind energy input on the disturbance onsets in the magnetotail during substorms: **N Lin**, H U Frey, S B Mende, F S Mozer, R L Lysak, Y Song, V Angelopoulos

0800h **SM41A-1836** POSTER Current sheet profile and structure before and during the thinning of the magnetotail: **M H Saito**, D H Fairfield, G Le, L Hau

0800h **SM41A-1837** POSTER Looking for kinetic 'bounce' modes in the magnetotail: **P Louarn**, A Tur, G Fruit, C Jacquey, L Palin, V Genot

0800h **SM41A-1838** POSTER Consequences of Violation of Frozen-in Flux at the end of a Substorm Growth Phase: **F Toffoletto**, J Yang, R A Wolf, B Hu

0800h **SM41A-1839** POSTER MHD instability with dawn-dusk symmetry in near-Earth plasma sheet during substorm growth phase*: **P Zhu**, J Raeder, C Hegna, C Sovinec

0800h **SM41A-1840** POSTER Superposed Epoch Analysis of Magnetotail Flux Transport During Substorms, Observed by THEMIS: **J Liu**, C E Gabrielse, V Angelopoulos, N A Frisell, L R Lyons, J P McFadden, J W Bonnell, K Glassmeier

0800h **SM41A-1841** WITHDRAWN

0800h **SM41A-1842** POSTER Energy release and transport in the near-Earth magnetotail associated with substorms: THEMIS observations: **Y Miyashita**, S Machida, A Ieda, T Takada, K Seki, M Fujimoto, V Angelopoulos, J P McFadden, D E Larson, H Auster

0800h **SM41A-1843** POSTER Specific Entropy During Substorms Observed With Themis: **K Nyatoti**, G M Erickson

0800h **SM41A-1844** POSTER On the Cause of Magnetotail Transients and Their Ionospheric Signatures: **Y Song**, R L Lysak, N Lin

0800h **SM41A-1845** POSTER Statistical properties of flows in association with dipolarizations in the near-Earth tail: **H Kim**, D Lee, B Ahn, S Ohtani, M Park

0800h **SM41A-1846** POSTER Magnetic Field Disturbances Associated with Fast Flows in the Earth Plasmasheet: **S Fu**, Q Zong, Z Pu, H Zheng, X Bai, C Sheng

0800h **SM41A-1847** POSTER Statistical analysis of bursty bulk flows, plasma bubbles, and their wakes using Cluster and Double Star: **C Forsyth**, R J Duthie, A Pickett, A N Fazakerley, M Lester, C J Owen, A P Walsh

0800h **SM41A-1848** POSTER Particle energization in the course of plasma-sheet bubble injection: results of RCM-E simulations: **J Yang**, F Toffoletto, R A Wolf, S Sazykin

0800h **SM41A-1849** POSTER Exploring the inertial effects of fast moving bubbles using the two-way coupled OpenGGCM and the Rice Convection Model: **B Hu**, F Toffoletto, R A Wolf, J Raeder

0800h **SM41A-1850** POSTER Nonlinear interaction between Super-Alfvén flow and dipolarized magnetic field in the earth's magnetotail: **M Zhou**, Y Pang, X Deng, S Huang

0800h **SM41A-1851** POSTER Observational test of the interchange stability associated with near-tail dipolarizations: **D Lee**, K Kim, S Ohtani, M Park

0800h **SM41A-1852** POSTER Statistical Study of Magnetic Fluctuation Features Associated with Near-tail Dipolarizations Observed by the THEMIS Spacecraft: **M Park**, D Lee, S Ohtani, K Kim

0800h **SM41A-1853** POSTER Ion Dynamics Associated with Substorm Dipolarization Fronts: **S Fu**, M Ashour-Abdalla, X Deng, M El-Alaoui, M Zhou, R L Richard, R J Walker

0800h **SM41A-1854** POSTER Statistical analysis of dipolarisations using spacecraft closely separated along Z: **L Palin**, C Jacquey, J Sauvaud, B Lavraud, O LeContel, V Angelopoulos, H Auster, J P McFadden

0800h **SM41A-1855** POSTER Transient decrease of the north-south magnetic field component preceding sharp dipolarization: **K Kondoh**, M Ugai

0800h **SM41A-1856** POSTER Propagation of BBFs and Dipolarization Fronts in the Global MHD simulation of February 27, 2009 Substorm: **Y Ge**, J Raeder, V Angelopoulos, M L Gilson, A Runov

0800h **SM41A-1857** POSTER Dipolarization fronts in the magnetotail and their shaping by the reconnection onset features: **B W Thompson**, M I Sitnov, M M Swisdak

0800h **SM41A-1858** POSTER Inward Propagating Dipolarization Fronts in the Near-Earth Plasma Sheet: THEMIS multi-case studies: **A Runov**, V Angelopoulos, X Zhou, X Zhang, S Li, Title of Team: THEMIS team

0800h **SM41A-1859** POSTER Accelerated ions ahead of Earthward-propagating dipolarization fronts: **X Zhou**, V Angelopoulos, V A Sergeev, A Runov

0800h **SM41A-1860** WITHDRAWN

0800h **SM41A-1861** POSTER Observations and Simulations of Electron Dynamics Near an Active Neutral Line: M L Goldstein, **K Hwang**, M Ashour-Abdalla, M El-Alaoui, D Schriver, R L Richard, M Zhou, R J Walker

0800h **SM41A-1862** POSTER Inflow Density Influence on Magnetotail Reconnection: **P Wu**, M A Shay, T Phan, M Oieroset, M Oka

0800h **SM41A-1863** POSTER Flux closure during magnetotail reconnection: **K Snekvik**, E I Tanskanen, N Ostgaard

SM41B Moscone South: Poster Hall Thursday 0800h
Momentum and Energy Transfer and Atmospheric Escape in Weakly Magnetized Objects II Posters (*joint with P*)

Presiding: **I Sillanpaa**, Southwest Research Institute

0800h **SM41B-1864** POSTER Contribution of alpha particles to the interaction of the Solar wind with Mars: **G M Chanteur**, R Modolo, E Dubinin, E Richer

0800h **SM41B-1865** POSTER Mars' exosphere : Three dimensional multi-species thermal and nonthermal models: **M Yagi**, F Leblanc, J Chaufray, R Modolo, M Mancini, Title of Team: HELIOSARES

0800h **SM41B-1866** POSTER Mars- Solar wind interaction: 3D GCM-Ionosphere model to describe the Martian ionospheric dynamics and its coupling with neutral atmosphere: **J Chaufray**, F Gonzalez-Galindo, F Forget, M A Lopez-Valverde, F Leblanc, P Brelly, R Modolo, O Witasse

0800h **SM41B-1867** POSTER Pick-Up Oxygen Ion Loss at Mars: **S Curry**, M W Liemohn, X Fang, Y Ma

0800h **SM41B-1868** POSTER Total Electron Content in the Mars Ionosphere: temporal studies and dependence on solar inputs and crustal magnetic fields: R Jolitz, **D A Brain**, R J Lillis, M O Fillingim, P Withers, S England, A Safaeinili

0800h **SM41B-1869** POSTER Detection of Field-Aligned Current Signatures in Martian Auroral Regions: **S R Fischer**, D Uluken, D A Brain, J S Halekas, D M Hurley

0800h **SM41B-1870** POSTER Hot Hydrogen/Proton Precipitation in Planetary Ionospheres: **C D Parkinson**, D A Brain, M W Liemohn, R J Lillis, S W Bougher

0800h **SM41B-1871** POSTER Titan's induced magnetosphere from plasma wave and magnetometer observations: **R Modolo**, C Bertucci, P Canu, R Piberne, N J Edberg, L Rosenqvist, W S Kurth, D A Gurnett, M K Dougherty

0800h **SM41B-1872** POSTER Magnetospheric ion deposition on Titan's ionosphere in hybrid model: **I Sillanpaa**, R E Johnson, F J Crary, D T Young, E J Kallio, R Jarvinen

0800h **SM41B-1873** POSTER A Global Average Titan Dayside Ionosphere Model: Comparisons with Cassini Data: **M S Richard**, T E Cravens, C Wylie, J H Westlake, K Mandt, I P Robertson

0800h **SM41B-1874** POSTER Coupling of ion and neutral fluids near Titan's exobase: **D S Snowden**, R Winglee

0800h **SM41B-1875** POSTER A 2D Numerical Study of the Kelvin-Helmholtz Instability at Boundary Layers around Unmagnetized Planets: **M Zellinger**, U V Amerstorfer, H K Biernat

0800h **SM41B-1876** POSTER The Influence of the Total Pressure on the Evolution of the Kelvin-Helmholtz Instability around Unmagnetized Planets: **U V Amerstorfer**, M Zellinger, N V Erkaev, H K Biernat

0800h **SM41B-1877** POSTER Evidence of plasma vortices in the Venus plasma wake: **H A Perez De Tejada**, D S Intriligator, R Lundin, M Reyes-Ruiz

0800h **SM41B-1878** POSTER Formation of plasma vortices in the near wake of Venus due to the viscous-like interaction with the solar wind: **M Reyes-Ruiz**, H A Perez De Tejada

SM41C Moscone South: Poster Hall Thursday 0800h
The Dungey Cycle and Its Role in Auroral and Inner Magnetospheric Dynamics I Posters (*joint with SA*)

Presiding: **J W Gjerloev**, JHU/APL; **L R Lyons**, UCLA; **B J Anderson**, JHU/APL

0800h **SM41C-1879** POSTER In-situ evidence for the IMF-induced tail twisting in association with interhemispheric displacement of conjugate auroras: **T Motoba**, K Hosokawa, Y Ogawa, N Sato, A Kadokura, S C Buchert, H Reme

0800h **SM41C-1880** POSTER Magnetospheric convection strength inferred from inner edge of the electron plasma sheet and its relation to the polar cap potential drop: **F Jiang**, M G Kivelson, R J Walker, K K Khurana, V Angelopoulos

0800h **SM41C-1881** POSTER 3-D Plasma Sheet Models Based on the Time from Substorm Onset and on Average Solar-Wind/Magnetosphere Coupling Functions: **RL Kaufmann**

0800h **SM41C-1882** POSTER Investigating the Roles of Magnetic and Electric Self-consistency with Plasma Transport in Understanding the Dynamics of the Storm-time Ring Current: **C Lemon**, M W Chen, T B Guild

0800h **SM41C-1883** POSTER Ion and electron pressure distributions from the tail plasma sheet to the inner magnetosphere: THEMIS and Geotail observations and comparisons with the RCM simulations: **C Wang**, M Gkioulidou, S G Zaharia, L R Lyons, V Angelopoulos, T Nagai, A Lui

0800h **SM41C-1884** POSTER Effect of self-consistent magnetic field on plasma sheet penetration to the inner magnetosphere under enhanced convection: RCM simulations combined with force-balance magnetic field solver: **M Gkioulidou**, C Wang, L R Lyons, R A Wolf

0800h **SM41C-1885** POSTER Modeling of the Convection and Interaction of Ring Current, Plasmaspheric and Plasma Sheet Plasmas in the Inner Magnetosphere: M H Fok, **S Chen**, N Buzulukova, A Glocer

0800h **SM41C-1886** POSTER Magnetotail Flow Patterns During Steady Magnetospheric Convection: **J Kissinger**, R L McPherron, T Hsu, V Angelopoulos, X Chu, T I Pulkkinen

0800h **SM41C-1887** POSTER THE VISCOUS POTENTIAL DOES NOT SATURATE: **R E Lopez**, R J Bruntz

0800h **SM41C-1888** POSTER Night-time Transient Birkeland Currents Observed by AMPERE: **B J Anderson**, J W Gjerloev, C L Waters, H Korth, L P Dyrud, R J Barnes

0800h **SM41C-1889** POSTER Winter-summer asymmetry of auroral intensities revealed from a global MHD simulation: A Kadokura, **S Fujita**, H Yamagishi, T Tanaka

0800h **SM41C-1890** POSTER ST5 measurements of the variability of Region 1 and 2 field-aligned currents: **S M Imber**, J A Slavin, G Le, Y Wang

0800h **SM41C-1891** POSTER STUDY OF GEOMAGNETIC DISTURBANCES AND RING CURRENT VARIABILITY DURING STORM AND QUIET TIMES USING WAVELET ANALYSIS AND GROUND-BASED MAGNETIC DATA FROM MULTIPLE STATIONS: **Z Xu**, L Zhu, J J Sojka, P Kokoszka, A Jach

0800h **SM41C-1892** POSTER Loss time scales of plasma sheet electrons in the morning side: Analysis based on THEMIS observations: **S Kurita**, Y Miyoshi, F Tsuchiya, Y Nishimura, T Hori, Y Miyashita, T Takada, A Morioka, J M Albert, V Angelopoulos, J P McFadden, J W Bonnell, H Auster, H Misawa

0800h **SM41C-1893** POSTER EVOLUTION OF THE HOT COMPONENT IONS DURING AN EXTENDED INTERVAL OF NORTHWARD INTERPLANETARY MAGNETIC FIELD: **W J Mata**, C Lemon, L R Lyons

0800h **SM41C-1894** POSTER Correspondence Between Whistler Mode Ducts and Chorus Emissions Observed on the Cluster Spacecraft: **N Haque**, T F Bell, U S Inan

0800h **SM41C-1895** POSTER Continued analysis of sounding rocket particle data: **M R Mella**, K A Lynch, P M Kintner, E T Lundberg, M Lessard, H C Stenbaek-Nielsen, D L Hampton, H Dahlgren

0800h **SM41C-1896** POSTER Significance, Present Status and Perspectives of the Auroral Zone Magnetic Activity Monitoring by the Russian Arctic Magnetometer Network: **O A Troshichev**, A S Janzhura, K Takahashi

SM41D Moscone South: 305 Thursday 0800h
Turbulent Magnetic Reconnection in Space, Laboratory, and Astrophysical Systems I (*joint with SH*)

Presiding: **G Lapenta**, KU Leuven; **T Intrator**, Los Alamos Natl Laboratory; **A Lazarian**, University of Wisconsin; **J Sears**, Los Alamos National Laboratory

0800h **Lapenta, Lazarian, Intrator** *Introduction*

0810h **SM41D-01** Spontaneous and chaotic fast reconnection in three dimensional current-sheets (*Invited*): **L Bettarini**, G Lapenta

0840h **SM41D-02** What Breaks Magnetic Field Lines in 3D Simulations of Low β Plasmas?: **M M Swisdak**, H Che, J F Drake

0900h **SM41D-03** Magnetic reconnection as the cause of cosmic ray excess from the heliospheric tail: **P Desiati**, A Lazarian

0920h **SM41D-04** Does Wave Turbulence Remove the Flux Pileup at the Magnetopause?: **H Karimabadi**, W S Daughton, J Dorelli, V Roytershteyn, J Raeder, D J Larson

0940h **SM41D-05** Is Guide Field Reconnection Inherently Turbulent?: **W S Daughton**, V Roytershteyn, H Karimabadi, K B Quest, L Yin, B J Albright, K J Bowers

Study of Earth's Deep Interior

DI41A Moscone South: Poster Hall Thursday 0800h
Structure and Dynamics of Earth's Core III Posters (*joint with MR, S, T, V*)

Presiding: **H Tkalcić**, The Australian National University; **Y Kuwayama**, Ehime University; **F Niu**, Rice University

0800h **DI41A-1911** POSTER Seismic attenuation structure of the top half of the inner core beneath the northeastern Pacific: **R Iritani**, N Takeuchi, H Kawakatsu

0800h **DI41A-1912** POSTER New constraints on inner core anisotropy structure from data recorded at newly deployed seismic stations in Antarctic: **X Sun**, D A Wiens, A D Huerta, R C Aster, A Nyblade, S Anandakrishnan

0800h **DI41A-1913** POSTER Velocity heterogeneities in Earth's inner core: **J C Irving**, A F Deuss

0800h **DI41A-1914** POSTER Reconciling Earth's inner core hemispherical structure with its super-rotation: **L Waszek**, A F Deuss

0800h **DI41A-1915** POSTER On the Differential Rotation of the Earth's Inner Core From Testing the Nature of Differences in Repetitive Seismic Waveforms: **S Ngo**, H Tkalcić

0800h **DI41A-1916** POSTER Regional variation of P-wave velocity in the inner core: **T Yee**, J Rhie

0800h **DI41A-1917** POSTER The velocity structure of the outer core constrained by differential slowness measurements of PKP(BC)-PKP(DF): **J Rhie**, T Yee, S Kim

0800h **DI41A-1918** POSTER A Comparison of Long-Period SKS Datasets And What They Reveal About 1D Outer Core Structure: **C T Houser**, J E Ritsema, S Grand

0800h **DI41A-1919** POSTER The Outer Core F-region : A Seismic Mystery: **J Attanayake**, V F Cormier

0800h **DI41A-1920** POSTER Origin of the F-Layer by "Snowfall" in the Earth's Core: **J W Hernlund**, J Li, M M Armentrout, A S Buono, B Chen, S Durand, J Gaeman, J S Pigott, L Waszek, Z Zheng

0800h **DI41A-1921** POSTER Precessional States in a Laboratory Model of the Earth's Core: **S A Triana**, D Zimmerman, D P Lathrop

0800h **DI41A-1922** POSTER Can strong differential flows be maintained in the Earth's core prior to the formation of the solid inner core?: **M Evonuk**

0800h **DI41A-1923** POSTER Dynamical coupling of lower mantle and inner core: **P E Driscoll**, R Deguen

0800h **DI41A-1924** POSTER A hypothesis for the evolution of the structure of Earth's inner core: **D M Reaman**, G S Daehn, W R Panero

0800h **DI41A-1925** POSTER Viscosity of the Earth's inner core: constraints from nutation observations: **L Koot**, M Dumberry

0800h **DI41A-1926** *POSTER* Investigation of core signals from potential fields satellite missions: **M Mandea**, I PANET, M Diamant

0800h **DI41A-1927** *POSTER* Diffusion of Co, Mo and W in FeNi alloy at high pressure: **S Shan**, M Wang, T Yoshino, D Yamazaki

0800h **DI41A-1928** *POSTER* The effect of solid metal composition on solid metal/ liquid metal partitioning of trace elements: **N Rai**, W Van Westrenen

0800h **DI41A-1929** *POSTER* Si and O partitioning between core metal and lower mantle minerals during core formation: **Y Nakajima**, D J Frost, D C Rubie

0800h **DI41A-1930** *POSTER* Melting relation of Fe-O-S alloy up to the outer core pressure: Implication to temperature of the Earth's core: **H Terasaki**, S Kamada, T Sakai, E Ohtani, N Hirao, N Sata, Y Ohishi

0800h **DI41A-1931** *POSTER* Equilibrium between solid and liquid iron: The Fe-Si-O system at high pressures: **C T Seagle**, E Cottrell, Y Fei

0800h **DI41A-1932** *POSTER* Crystal structure of iron-rich iron-alloys under the Earth's core conditions: **Y Kuwayama**

0800h **DI41A-1933** *POSTER* An ab initio molecular dynamics study on the chemical composition of the outer core: **A S Côté**, J P Brodholt, J Badro

0800h **DI41A-1934** *POSTER* New high-pressure phase of Fe3S predicted from first-principles calculation: **T Ishikawa**, T Tsuchiya

0800h **DI41A-1935** *POSTER* A stratified layer of light elements at the top of the outer core: **W F McDonough**, B A Buffett, V F Cormier, S Cottaar, E A Day, S Dou, S W French, J C Irving, A Kavner, M P Panning, R Parai, I Rose

0800h **DI41A-1936** *POSTER* NEW TECHNOLOGY FOR DENSITY MODEL CONSTRUCTION USING GRAVITY DATA: **P S Martyshko**

DI41B Moscone West: 3022 Thursday 0800h
Observations and Dynamics of Subducted Slabs II (*joint with S, T, MR*)

Presiding: **D R Stegman**, UC San Diego; **E M Syracuse**, University of Wisconsin-Madison

0800h **DI41B-01** Three-dimensional thermal structure and seismogenesis in the Tohoku and Hokkaido subduction system: **P E Van Keken**, S Kita, J Nakajima, A K Bengtson, B R Hacker, G A Abers

0815h **DI41B-02** Slab width control on current global plate and trench velocities, and on Cenozoic western North America tectonics: **D R Stegman**, **W P Schellart**, R J Farrington, J C Freeman, L N Moresi

0830h **DI41B-03** Scaling of Free Subduction in Two and Three Dimensions: **N M Ribe**, Z Li

0845h **DI41B-04** Slab Stress and Strain Rate as Constraints on Global Mantle Flow (*Invited*): **L Alisic**, M Gurnis, G Stadler, C Burstedde, L Wilcox, O Ghattas

0900h **DI41B-05** Identifying slab fragments in the lower mantle by comparing seismic and plate reconstruction models: **S Duval**, E Stutzmann, J Besse, R D van der Hilst

0915h **DI41B-06** The Initiation of Subduction Models: **S Buiter**, S M Ellis

0930h **DI41B-07** 3-D Dynamics of Slab Detachment Due to Ridge-Trench Collision (*Invited*): **E R Burkett**, M I Billen

0945h **DI41B-08** Influence of plateau buoyancy, geometry and rheology on oceanic plateau subduction: **P Arrial**, M I Billen

Mineral and Rock Physics

MR41A Moscone South: Poster Hall Thursday 0800h
Elasticity, Plasticity, and Mechanical Properties of Mantle Minerals Posters (*joint with DI, V, T, S*)

Presiding: **R Caracas**, Ecole Normale Supérieure

0800h **MR41A-1962** *POSTER* Deformation of Natural Pyrope at Mantle Conditions: **H Long**, D J Weidner, L Li, L Wang

0800h **MR41A-1963** *POSTER* Lattice Preferred Orientation of Enstatite and Implications for Seismic Anisotropy: **H Jung**, M Park, S Jung, J Lee

0800h **MR41A-1964** *POSTER* Ultrasonic P-wave and S-wave attenuation in partially frozen porous material saturated with brine: **J Matsushima**, M Suzuki, Y Kato, S Rokugawa

0800h **MR41A-1965** *POSTER* A unified asperity-deformation model for cracked rocks: **K Gao**, R L Gibson, J Ge

0800h **MR41A-1966** *POSTER* Influence of pore-spaces on the elastic properties of crustal rocks: **M Ishikawa**, S Saito, M Arima, Y Tatsumi

0800h **MR41A-1967** *POSTER* Using combined stress tests to explore the effect of loading geometry on the flow properties of geological materials: **S J Covey-crump**, W F Xiao, J Mecklenburgh

0800h **MR41A-1968** *POSTER* Using neutron diffraction to investigate mechanical twinning in calcite: **P F Schofield**, S J Covey-crump

0800h **MR41A-1969** *POSTER* In-situ high-pressure transmission electron microscopy of minerals: **J Wu**, P R Buseck

0800h **MR41A-1970** *POSTER* Generation of Electric Field in Igneous Rocks under Non-uniform Stress: **A Takeuchi**, ÖMER Aydan, K Sayanagi, T Nagao

0800h **MR41A-1971** *POSTER* Inversion of Seismic Velocities to obtain the Crack and Pore Aspect Ratio Distribution: R W Zimmerman, **E C David**

0800h **MR41A-1972** *POSTER* Fuzzy Reasoning Method for Prediction of Sinkhole Occurrence in Abandoned Mine Area: **S O Choi**, S Lee, D Lee, J Min, B Lee

0800h **MR41A-1973** *POSTER* Damping of Elastic Waves during Low to High Quartz Transition: **M M Beck**, F R Schilling

0800h **MR41A-1974** *POSTER* Thermoelastic properties of spinels. - Is there a soft mode phase transition at 15 GPa in Gahnite?: **M Wehber**, C Lathe, H J Reichmann, S Speziale, F R Schilling

0800h **MR41A-1975** *POSTER* Plastic deformation of quartz at room temperature by SEM in situ micropillar compression: **X Maeder**, R Ghisleni, J Michler

0800h **MR41A-1976** *POSTER* Interactional Principle between Plastic Volume and Shear Strain of Soft Rock and Soil: **Q Ren**, H Tang, J Wang, Title of Team: scientific team of geological engineering of CUG

0800h **MR41A-1977** *POSTER* Fractional order viscoelasticity and theoretical progress in rheological constitutive law for rocks: **Y Kawada**, T Yajima, H Nagahama

0800h **MR41A-1978** *POSTER* Effect of aluminum on the elastic properties of orthopyroxene at high pressure: implications for the X-discontinuity: J Wang, **C Sanchez-Valle**, R Stalder

0800h **MR41A-1979** *POSTER* Experimental study on ultrasonic inspection of grouting soil: **R Wang**, J Zhang, D Wu

0800h **MR41A-1980** *POSTER* Frequency dependence of elastic wave speed: **H Kawakata**, I Doi, N Yoshimitsu

0800h **MR41A-1981** *POSTER* Velocity anisotropy in Basin and Range lower crust from EBSD: **M Erdman**, B R Hacker, G Seward, G Zandt

0800h **MR41A-1982** POSTER CO₂ sequestration in basalts: laboratory measurements: **L T Otheim**, L Adam, K Van Wijk, T L McLing, R K Podgorney

0800h **MR41A-1983** POSTER Dislocation creep of polycrystalline dolomite: **A K Kronenberg**, C W Holyoke, J Newman

0800h **MR41A-1984** POSTER Complete stress-strain test of basalt tuff under high-temperature and high confining pressure conditions and its tectonic significance: H Wang, **C Wang**

0800h **MR41A-1985** POSTER Ultrasonic Velocities in Methane Hydrate-Bearing Ottawa Sand F110: **M B Rydzy**, M L Batzle, K Hester, J J Howard

MR41B Moscone West: 3024 Thursday 0800h
Deep Mantle Properties III (*joint with DI, S, T*)

Presiding: **R M Wentzcovitch**, Univ Minnesota; **D A Yuen**, University of Minnesota

0800h **MR41B-01** Crystal chemistry of Fe(III)-bearing magnesium silicate perovskite: **D R Hummer**, Y Fei

0815h **MR41B-02** Spin-state crossover of ferric iron in magnesium silicate perovskite under pressure: **H Hsu**, M Cococcioni, R M Wentzcovitch

0830h **MR41B-03** Influence of iron on the strength of silicate perovskite at high pressure: **J Chen**, J Girard, H Couvy, D J Weidner, Y Wang

0845h **MR41B-04** Rheology of fine-grained forsterite aggregate under deep upper mantle conditions: **Y Nishihara**, T Ohuchi, T Kawazoe, D Spengler, M Tasaka, T Hiraga, T Kikegawa, A Suzuki, E Ohtani

0900h **MR41B-05** Properties of the Deep-Mantle Ferropentacisilicate Across the Spin Crossover (*Invited*): **J Lin**

0915h **MR41B-06** Post-stishovite transition in AlOOH-incorporated SiO₂: K Kawamura, **K Umemoto**, R M Wentzcovitch, K Hirose

0930h **MR41B-07** Sound velocity measurements of CaSiO₃ perovskite under lower mantle pressures: **Y Kudo**, K Hirose

0945h **MR41B-08** Implications of Thermal Diffusivity being Inversely Proportional to Temperature Times Thermal Expansivity on Lower Mantle Heat Transport: **A Hofmeister**

Seismology

S41A Moscone South: Poster Hall Thursday 0800h
Collaboration Among Science, Engineering, and Social Science: Earthquake Risk Mitigation in Urban Areas III Posters (*joint with NH, PA, T*)

Presiding: **N Hirata**, University of Tokyo; **M C Gerstenberger**, GNS Science; **K Nanjo**, Earthquake Research Institute

0800h **S41A-1986** POSTER Determination of Paleoseismic Ground Motions from Inversion of Block Failures in Masonry Structures: **G Yagoda - Biran**, Y H Hatzor

0800h **S41A-1987** POSTER Classification of magnitude 7 earthquakes which occurred after 1885 in Tokyo Metropolitan area: **T Ishibe**, K Satake, K Shimazaki, A Nishiyama

0800h **S41A-1988** POSTER Toward Unifying Available Earthquake Catalogs for Contributing to Earthquake Disaster Mitigation in the Tokyo Metropolitan Area: Data Quality Characterization for Individual Catalogs: **K Nanjo**, H Tsuruoka, K Kasahara, S Sakai, N Hirata, K Obara

0800h **S41A-1989** POSTER Improved seismic velocity structure in southwestern Japan using pronounced sP phase: **T Hayashida**, F C Tajima, J J Mori

0800h **S41A-1990** POSTER Seismic Basement Structure beneath the Tokyo Metropolitan Area Inferred from Seismic Interferometry: **K Yoshimoto**, N Hirata, K Kasahara, K Obara, H Sato, S Sakai, H Tsuruoka, S Nakagawa, H Kimura, T Tanada, T Aketagawa, H Nakahara, S Kinoshita

0800h **S41A-1991** POSTER Seismic velocity discontinuities in the crust and uppermost mantle beneath the Tokyo metropolitan area inferred from receiver function analysis: **T Igarashi**, S Sakai, N Hirata

0800h **S41A-1992** POSTER Relationship between dominant periods of H/V of coda waves observed by MeSO-net and underground velocity structures in the Tokyo metropolitan area: **S Tsuno**, H Yamanaka, S Sakai, N Hirata, K Kasahara, H Kimura, T Aketagawa

0800h **S41A-1993** POSTER A study on the seismic fortification level of offshore platform in Bohai Sea of China: **Y Lu**

0800h **S41A-1994** POSTER Nankai-Tokai subduction hazard for catastrophe risk modeling: **D D Spurr**

0800h **S41A-1995** POSTER WAVE PROPAGATION IN DOWNTOWN ISTANBUL DEDUCED FROM EARTHQUAKE RECORDINGS: **E Cakti**, E Harmandar, E Safak

0800h **S41A-1996** POSTER Thrust-faulting earthquake induced many normal-faulting aftershocks, in northeastern Chiba Prefecture, Japan: **S Sakai**, A Kato, N Hirata, S Nakagawa, K Kasahara, H Sato, E Kurashimo, K Nanjo, Y Panayotopoulos, K Obara, T Aketagawa, H Kimura

0800h **S41A-1997** POSTER Evaluation of Dynamic Property of a Base-Isolated Building Based on Microtremor Measurement During its Construction: **F Nagashima**, T Maeno, S Matsushima, H Kawase

0800h **S41A-1998** POSTER peeMap: A software for producing emergency earthquake maps: **A Sadeghi Bagherabadi**, H Sadeghi, S K Hosseini, P Babaei

0800h **S41A-1999** POSTER Benefits of multidisciplinary collaboration for earthquake casualty estimation models: recent case studies: **E So**

0800h **S41A-2000** POSTER One of the proposals to estimation of the active fault with the flexure structure: **N Kitada**, K Takemura

0800h **S41A-2001** POSTER Characteristics of V/H response spectral ratio with recent Korean Peninsula events: **J Kim**

0800h **S41A-2002** POSTER Relationship between earthquake source faults and 3D density structures derived by gravity anomaly inversion based on velocity structure in Japan: **N Inoue**, N Kitada, K Takemura

0800h **S41A-2003** POSTER Validation of Characterized Source Model of Intraslab Earthquakes for Strong Motion Prediction: **T Iwata**, K Asano

0800h **S41A-2004** POSTER Heterogeneous Structure and Seismicity beneath the Tokyo Metropolitan Area: **S Nakagawa**, A Kato, S Sakai, K Nanjo, Y Panayotopoulos, E Kurashimo, K Obara, K Kasahara, T Aketagawa, H Kimura, N Hirata

0800h **S41A-2005** POSTER P wave attenuation structure below the Tokyo Metropolitan area: **Y Panayotopoulos**, S Sakai, S Nakagawa, K Kasahara, N Hirata, T Aketagawa, H Kimura, C Lee

0800h **S41A-2006** POSTER Potential-Field and Seismic Reflection/Refraction Studies of the Eagle Rock and Raymond Faults in Arroyo Seco, Los Angeles County, California: **D S Scheirer**, M J Rymer, R D Catchings, M Goldman, G S Fuis

0800h **S41A-2007** POSTER Running On-Demand Strong Ground Motion Simulations with the Second-Generation Broadband Platform: **S Callaghan**, P J Maechling, R W Graves, P G Somerville, N Collins, K B Olsen, W Imperatori, M Jones, R J Archuleta, J Schmedes, T H Jordan, Title of Team: Broadband Platform Working Group

0800h **S41A-2008** POSTER Seismic Disaster Mitigation in Urban Area by using Building Vibration Observation of Weak Earthquake Ground Motion: an Approach of the IT Kyoshin Seismometer for Buildings: **K Takano**, T Ito

0800h **S41A-2009** POSTER SCEC VShaker Project: Visualization of Steel Building Response To Ground Motion Time Histories: P J Maechling, **S Kumar**, S Krishnan, Y Cui, K B Olsen, A Chourasia, G P Ely, T H Jordan

S41B Moscone South: Poster Hall Thursday 0800h
Engaging Citizens in the Collection of Earthquake Observations Using the Internet I Posters (*joint with NH*)

Presiding: **R Bossu**, EMSC; **R W Clayton**, Caltech

0800h **S41B-2010** POSTER ShakeMapple: Tapping Embedded Motion Sensors to Map the Felt Extents of an Earthquake: L Kamb, G McGilvary, J van Hemert, **R Bossu**

0800h **S41B-2011** POSTER RICHTER: A Smartphone Application for Rapid Collection of Geo-Tagged Pictures of Earthquake Damage: H Skinnemoen, **R Bossu**, K Furuheim, E Bjorgo

0800h **S41B-2012** POSTER Raising Seismic Awareness on- and off-campus with class-built seismometers: **K J Ferguson**, K Van Wijk, T Channel, R Nuxoll

0800h **S41B-2013** POSTER Community Seismic Network (CSN): **R W Clayton**, T H Heaton, M D Kohler, M Chandy, A Krause

0800h **S41B-2014** POSTER The Quake-Catcher Network: Improving Earthquake Strong Motion Observations Through Community Engagement: **E S Cochran**, J F Lawrence, C M Christensen, A I Chung, C Neighbors, J Saltzman

S41C Moscone West: 2007 Thursday 0800h
Advances in Inverse Problems and Seismic Tomography II (*joint with T, DI, NS, NG*)

Presiding: **C Tape**, Harvard University; **A Fichtner**, Utrecht University

0800h **S41C-01** The Three Stages of Uncertainty in Geophysical Models (*Invited*): **J Trampert**

0815h **S41C-02** Quantifying uncertainties in travel time tomography using the null space shuttle: **R W de Wit**, J Trampert, R D van der Hilst

0830h **S41C-03** Uncertainty Estimation of Shear-wave Velocity Structure from Bayesian Inversion of Microtremor Array Dispersion Data: S E Dosso, **S Molnar**, J Cassidy

0845h **S41C-04** FAST, NONLINEAR, FULLY PROBABILISTIC INVERSION OF LARGE GEOPHYSICAL PROBLEMS: **A Curtis**, M Shahraeeni, J Trampert, U Meier, G Cho

0900h **S41C-05** Large scale geophysical inversion by fast annealed importance sampling: **P L Stoffa**, M K Sen

0915h **S41C-06** Solving or resolving global tomographic models with spherical wavelets, and the scale and sparsity of seismic heterogeneity: **I Loris**, F J Simons, I Daubechies, G Nolet, M Fornasier, P Vetter, S Judd, S Voronin, C Vonesh, J Charl t y

0930h **S41C-07** A Maximum-Likelihood Approach to the Characterization of the Elastic Lithosphere from Gravity and Topography Data: **F J Simons**, S C Olhede

0945h **S41C-08** Inversion of First-Arrival Seismic Traveltimes on 3D Unstructured Grids Without Ray Tracing: **P G Lelievre**, C G Farquharson, C A Hurich

S41D Moscone West: 2009 Thursday 0800h
Source Inversion Validation (SIV): Quantifying Uncertainties in Earthquake Source Studies I

Presiding: **P M Mai**, Division of Physical Science and Engineering; **M T Page**, USGS Pasadena; **D Schorlemmer**, USC

0800h **S41D-01** Resolution and Trade-offs in Finite Fault Inversions for Large Earthquakes Using Teleseismic Signals (*Invited*): **T Lay**, C J Ammon

0815h **S41D-02** Trade-offs among Dynamic Parameters Inferred from 2D Dynamic Source Inversion Results (*Invited*): **H Goto**, S Sawada

0830h **S41D-03** Source Inversion Validation: Quantifying Uncertainties in Earthquake Source Inversions: **P M Mai**, M T Page, D Schorlemmer

0845h **S41D-04** The SCEC-USGS Dynamic Earthquake Rupture Code Verification Exercise: Regular and Extreme Ground Motion:

R Harris, M Barall, R J Archuleta, B Aagaard, J P Ampuero, D J Andrews, V M Cruz-Atienza, L A Dalguer Gudiel, S M Day, B Duan, E M Dunham, G P Ely, A A Gabriel, Y Kaneko, Y Kase, N Lapusta, S Ma, H Noda, D D Oglesby, K B Olsen, D Roten, S Song

0900h **S41D-05** Trade-offs in Analysis of Earthquake Source Parameters from Linear Problem Inversion: **T E Yano**, R J Archuleta, C Ji, Title of Team: UCSB Seismology Group

0915h **S41D-06** Assessing the quality of earthquake source models using 3-D forward modelling of long-period seismic data: **A M Ferreira**, M Vall e, K Lentas

0930h **S41D-07** Joint Inversion of InSAR and Seismic Waveform Data for the Finite-fault Solution of the Wells, Nevada Earthquake: D S Dreger, **S R Ford**

0945h **S41D-08** Obtaining Slip-Rate Function Using Near-Field Motions of Earthquakes: **A O Konca**, M P Bouchon

Tectonophysics

T41A Moscone South: Poster Hall Thursday 0800h
Latest Results From EarthScope's San Andreas Fault Observatory at Depth I Posters (*joint with S, MR*)

Presiding: **M D Zoback**, Stanford University; **M E Jackson**, UNAVCO

0800h **T41A-2084** POSTER Joint Inversion of V_p, V_s, and Resistivity at SAFOD: **N L Bennington**, H Zhang, C H Thurber, P A Bedrosian

0800h **T41A-2085** POSTER High-Resolution Imaging of the San Andreas Fault Damage Zone from SAFOD Main-Hole and Surface Seismic Records: **Y Li**, P Malin, E S Cochran, P Chen

0800h **T41A-2086** POSTER Magnetotelluric 3D inversion models from the San Andreas Fault near Parkfield, California: **K Tietze**, O Ritter, M Becken

0800h **T41A-2087** POSTER San Andreas Structural Interpretation: Merging Geophysical and Geological Data at SAFOD and Vicinity: **R E Wood**, J P Evans, P Malin

0800h **T41A-2088** POSTER Shear wave splitting in the Parkfield pilot hole from cross-correlation of seismic noise: **M A Lewis**, P Gerstoft

0800h **T41A-2089** POSTER Breakdown (?) of the Gutenberg-Richter Frequency-Magnitude Relation for Earthquakes in the SAFOD Target Zone: **W L Ellsworth**, K Imanishi

0800h **T41A-2090** POSTER How Reliable are our Earthquake Source Parameter Measurements?: **R E Abercrombie**, R Gok, L Malagnini, K M Mayeda, W R Walter

0800h **T41A-2091** POSTER The SAFOD Optical Fiber Strainmeter: **M A Zumberge**, J A Blum

0800h **T41A-2092** POSTER Frictional and hydrologic behavior of the San Andreas Fault: Insights from laboratory experiments on SAFOD cuttings and core: **B M Carpenter**, C Marone, D M Saffer

0800h **T41A-2093** POSTER Inter-Lab Strength and Friction Correlations on SAFOD Samples: **J M Logan**, C J Marone, D A Lockner

0800h **T41A-2094** POSTER Index of Unconfined Compressive Strength of SAFOD Core by Means of Point-Load Penetrometer Tests: **M B Enderlin**, B Weymer, P S D'Onfro, R Ramos, K Morgan

0800h **T41A-2095** POSTER Permeability of the San Andreas Fault Zone at Depth: **A P Rathbun**, I Song, D Saffer

0800h **T41A-2096** POSTER Absence of high pore pressure in the San Andreas fault?: **C Wang**

0800h **T41A-2097** POSTER Rapid episodic fluid flow within the San Andreas Fault—based on drill core samples recovered during the San Andreas Fault Observatory at Depth (SAFOD) drilling project: **S Ali**, M Stute, T Torgersen, S R Hemming, G Winckler

0800h **T41A-2098** POSTER Geochemistry of formation fluids from the SAFOD wells, Parkfield, California: **J J Thordsen**, W C Evans, Y K Kharaka

0800h **T41A-2099** POSTER Rock Properties and Internal Structure of the San Andreas Fault near ~ 3 km Depth in the SAFOD Borehole Based on Meso- to Micro-scale Analyses of Phase III whole rock core: **K Bradbury**, J P Evans

0800h **T41A-2100** POSTER Implications of Microstructural Studies of the SAFOD Gouge for the Strength and Deformation Mechanisms in the Creeping Segment of the San Andreas Fault: **J Hadizadeh**, J L Gratier, S Mittempergher, F Renard, J Richard, G Di Toro, H A Babaie

0800h **T41A-2101** POSTER Representation and Management of the Knowledge of Brittle Deformation in Shear Zones Using Microstructural Data From the SAFOD Core Samples: **H A Babaie**, C M Broda, A Kumar, J Hadizadeh

0800h **T41A-2102** POSTER Evidence for Cyclic Brittle-Ductile Deformation from San Andreas Fault Observatory at Depth (SAFOD) Phase 3 Cores: **J C White**, L Kennedy

0800h **T41A-2103** POSTER How clays affect fault strength and slip behavior: Lessons from SAFOD: **B A van der Pluijm**, A M Schleicher, L Warr

0800h **T41A-2104** POSTER Origin, Behavior and Texture of Clay Minerals in Mongolian Active Fault of Bogd and Comparison with SAFOD Fault Gouge: **H Wenk**, M Buatier, A Chauvet, W Kanitpanyacharoen

0800h **T41A-2105** POSTER Metasomatic Origin of Fault Gouge Comprising the Two Actively Creeping Strands at SAFOD: **D E Moore**, M J Rymer

0800h **T41A-2106** POSTER Pressure solution creep as a mechanism of aseismic sliding in active faults: evidence from the San Andreas Fault Observatory at Depth (SAFOD): **J Richard**, J L Gratier, F Renard, S Mittempergher, M Doan, G Di Toro, J Hadizadeh, A Boullier

0800h **T41A-2107** POSTER Evidence of transient increases of fluid pressure in SAFOD phase III cores: **S Mittempergher**, G Di Toro, J Gratier, J Hadizadeh, S A Smith, R Spiess

0800h **T41A-2108** POSTER Luminescence Studies of Age and Thermometric Properties in an Active Earthquake Zone: SAFOD Phase III Core Samples and Resetting Experiments: **J Q Spencer**, J Hadizadeh, J L Gratier, M Doan

T41B Moscone South: Poster Hall Thursday 0800h Lithological Controls on the Mechanics and Evolution of Lithospheric Deformation IV Posters (joint with MR, S)

Presiding: **V G Toy**, University of Otago; **T M Mitchell**, Ruhr-University Bochum; **S Grigull**, Ruhr-Universität Bochum; **D J Prior**, University of Liverpool

0800h **T41B-2109** POSTER Pulverized Fault Zone Rocks along the San Andres Fault: Investigating the damage pattern by seismic field measurements, laboratory experiments and quantitative microstructure analysis: **M Rempe**, T M Mitchell, J Renner, S Nippres, Y Ben-Zion, D A Okaya, T K Rockwell, A A Allam, Y Ozakin, S Xu

0800h **T41B-2110** POSTER Anatomy of a Plate Boundary at Shallow Crustal Levels: a Composite Section from the Alpine Fault, New Zealand: **N C Barth**, V G Toy, C J Boulton, B M Carpenter

0800h **T41B-2111** POSTER The shallow velocity structure of the Carboneras fault zone from high-resolution seismic investigations: C Jones, **S Nippres**, A Rietbrock, D R Faulkner, E H Rutter, C A Haberland, T Teixido

0800h **T41B-2112** POSTER Experimental Measurements of Permeability Evolution along Faults during Progressive Slip: M Strutz, **T M Mitchell**, J Renner

0800h **T41B-2113** POSTER Experimental Fault Reactivation on Favourably and Unfavourably Oriented Faults: **T M Mitchell**, R H Sibson, J Renner, V G Toy, G Di Toro, S A Smith

0800h **T41B-2114** POSTER Principal Slip Zones in Limestone: Natural and Experimental Examples of 'Clast-Cortex Grains' and Implications for the Seismic Cycle: **S A Smith**, A Billi, G Di Toro, A R Niemeijer

0800h **T41B-2115** POSTER Sliding behavior of calcite and dolomite marbles at seismic deformation conditions: **E Spagnuolo**, S A Smith, A R Niemeijer, G Di Toro, S Nielsen

0800h **T41B-2116** POSTER Effect of Hydrothermally Produced Talc Upon Fault Strength: **A C Ellis**, E H Rutter, K H Brodie, J Mecklenburgh

0800h **T41B-2117** POSTER Fault-Wear Under Constant Slip-Velocity: Experimental Observations: **Y Boneh**, J C Chang, D A Lockner, Z Reches

0800h **T41B-2118** POSTER Effect of water on long-term weakening preceding rupture of crustal faults: **K Masuda**, T Arai, K Fujimoto, M Takahashi, N Shigematsu

0800h **T41B-2119** POSTER Mechanisms of fault gouge evolution and physical properties: **N C Davatzes**, M Swyer, D A Lockner, J G Solum, N Anyamele

0800h **T41B-2120** POSTER Insights on frictional processes in sheared clastic marine sediments using ultrasonic nondestructive testing: **M W Knuth**, H J Tobin, C Marone, M Ikari

0800h **T41B-2121** POSTER Mapping the brittle-ductile transition in shales: **M Scuderi**, B M Carpenter, C Marone, D Elsworth, D M Saffer

0800h **T41B-2122** POSTER The development of echelon vein arrays in the McKim Limestone: Raplee and Comb Monoclines, eastern Monument Upwarp, Utah: **S Seyum**, D D Pollard

0800h **T41B-2123** POSTER Fracture-related diagenesis in the carbonate carapace of a salt dome, Jebel Madar, Oman: **J Lahr**, C M John, J W Cosgrove, V Vandeginste, C N Sena, A Jourdan

0800h **T41B-2124** *POSTER* Does Mt Etna creep in a brittle manner?: **P G Meredith**, M J Heap, P Baud, S Vinciguerra, A F Bell, I G Main

0800h **T41B-2125** *POSTER* The physical and chemical properties of tuffs from Campi Flegrei (Italy): the influence of thermal and stress-induced microcracking: **M J Heap**, A Laumann, K Hess, Y Lavallee, D B Dingwell, P G Meredith, G Orsi

0800h **T41B-2126** *POSTER* Deformation Bands in Subglacially Erupted Hyaloclastite Ridges, Reykjanes Peninsula, Iceland: **J Barnes**, S A Kattenhorn

0800h **T41B-2127** *POSTER* Petrophysical Properties of Sandstones Containing Deformation Bands Versus Those With Fractures: the Importance of Grain Contact Strength to Fault-Zone Structure: **J R Schneider**, H J Tobin, L B Goodwin

0800h **T41B-2128** *POSTER* Evidencing the transition from Mode I cracking to dilation banding: Results from physical experiments with fractographic observations: **S Nguyen**, A Chemenda, J Petit, J Ambre, Title of Team: Geo-FracNet - Géoazur

0800h **T41B-2129** *POSTER* Formation of different types of compaction bands: Theoretical analysis and numerical models: **A I Chemenda**

0800h **T41B-2130** *POSTER* Growth of deformation bands in a multilayer sequence: **C Klimczak**, R Soliva, R A Schultz, J chery, I Summerson

0800h **T41B-2131** *POSTER* Lithological Controls on Downdip Segmentation of Strike-Slip Faults in Mechanically Layered Sequences: **E S Nemser**, D S Cowan

0800h **T41B-2132** *POSTER* Triggerability varies inversely with seismicity rate: **N van der Elst**, E E Brodsky, H M Savage

0800h **T41B-2133** *POSTER* Probing Fault Strength Variations Across the Continent with Remote Earthquake Triggering: **H M Savage**, E E Brodsky, N van der Elst

0800h **T41B-2134** *POSTER* Earthquake depth distributions in central Asia, and their relations with lithosphere thickness, shortening and extension: **R Sloan**, J A Jackson, D P McKenzie, K F Priestley

0800h **T41B-2135** *POSTER* Thermal Stabilization Temperature of the Archean Cratons: **M Thakur**, D D Blackwell

0800h **T41B-2136** *POSTER* Thermal localization as a potential mechanism to rift cratons: **G Lv**, B J Kaus, L Zhao

0800h **T41B-2137** *POSTER* The Weakening of Lithospheric Fault Zones: **F Gueydan**

0800h **T41B-2138** *POSTER* Along-Strike Variation in Dip-Slip Rate on the Alpine Fault is a Consequence of Lithologic Variation?: **V G Toy**, Z Reid Lindroos, R J Norris, A F Cooper

0800h **T41B-2139** *POSTER* Mechanical and Microstructural Evolution of Ductile Shear Zones: Implications for the Deep Structure of Lithospheric Faults: **J P Platt**, W M Behr

0800h **T41B-2140** *POSTER* Naturally constrained stress profiles through the middle crust during extension: **W M Behr**, J P Platt

0800h **T41B-2141** *POSTER* Relating titanium distribution and stable isotope thermometry to quartz microstructure in an extensional detachment system, Shuswap metamorphic core complex, British Columbia: **W O Nachlas**, N C Seaton, D L Whitney, C Teyssier, A Mulch, M Grove

0800h **T41B-2142** *POSTER* Paleostress analyses in the uppermost footwalls of the Whipple detachment and the West Salton detachment faults, southern California: **A L Luther**, G J Axen, J Selverstone, K J Michelsen

0800h **T41B-2143** *POSTER* Dauphine Twinning in Quartz: An Indicator of Deformation Conditions: **P M Kaercher**, H Wenk, S Vogel

0800h **T41B-2144** *POSTER* Dynamic constraints on crustal-scale rheology from the Zagros Mountains: **B J Kaus**, P Yamato, F Mouthereau, S Castelltort

0800h **T41B-2145** *POSTER* The Rf/φ and Fry methods applied to synthetic calcite ‘conglomerates’ deformed under grain size-insensitive and grain size-sensitive regimes: **A Edwards**, S J Covey-crump, E H Rutter

0800h **T41B-2146** *POSTER* Geologic and Experimental Investigation of Strain Localization in Lower Crust Amphibolites: **A Getsinger**, G Hirth, H Stunitz, E T Goergen

0800h **T41B-2147** *POSTER* Kick & cook experiments on natural dunite: simulating episodic creep below the seismogenic zone during the seismic cycle: **A Druiventak**, C Trepmann, A K Matysiak, J Renner

0800h **T41B-2148** *POSTER* Non-steady state deformation at decaying stresses indicated by microfabrics in peridotites from the Balmuccia complex in the Western Alps: **A K Matysiak**, C Trepmann

0800h **T41B-2149** *POSTER* Pseudotachylite Bearing Cretaceous Fault in the Saddlebag Lake Pendant, Central Sierra Nevada, CA: **A S Whitesides**, W Cao, S R Paterson

0800h **T41B-2150** *POSTER* Raman spectral analysis of carbonaceous material to detect shear heating on a large fault—example from the Median Tectonic Line, Southwest Japan: **H Mori**, S Wallis, K Fujimoto, N Shigematsu

0800h **T41B-2151** *POSTER* Geochronology and Structural Studies in the Northern Ritter Range: Implications for the Tectonic History of Mesozoic Sierra Nevada Arc: **C J Black**, A S Whitesides, J L Anderson, K N Culbert, M Vanderveer, I V Cox, J Cardamone, G Torrez, M Quirk, V Memeti, W Cao, S R Paterson

0800h **T41B-2152** *POSTER* The relationship between microstructure and hydrogen isotopes in the Wildhorse detachment, Pioneer Mountains, Idaho: **R R Mcfadden**, A Mulch, C Teyssier, N C Seaton, L Tokle

0800h **T41B-2153** *POSTER* EBSD and kinematic analyses of high-pressure rocks, Sivrihisar massif, Turkey: **N C Seaton**, D L Whitney, C Teyssier, E Toraman

T41C Moscone West: 2016 Thursday 0800h
Fault Behavior Models: Improved Understanding Using Long Paleoseismic Records II (*joint with S, G*)

Presiding: **K M Scharer**, Appalachian State University; **T K Rockwell**, San Diego State University; **H Kondo**, AIST

0800h **T41C-01** Variable earthquake recurrence on the Northern San Andreas fault over the past 3,000 years at the Vedanta marsh site, Olema, CA (*Invited*): **T M Niemi**

0815h **T41C-02** Hayward Fault: A 50-km-long Locked Patch Regulates Its Large Earthquake Cycle (*Invited*): **J J Lienkaemper**, R W Simpson, P L Williams, F S McFarland, S J Caskey

0830h **T41C-03** Ruptures of the San Andreas fault system in San Geronio Pass: **D Yule**, K E Sieh

0845h **T41C-04** The Non-Regularity of Earthquake Recurrence in California: Lessons From Long Paleoseismic Records in Simple vs Complex Fault Regions (*Invited*): **T K Rockwell**

0900h **T41C-05** Long-term and Short-term Earthquake Behavior Along The Dead Sea Fault (Jordan) From Geomorphology, Paleoseismology And Archeoseismology: **M A Ferry**, M Meghraoui, N Abou Karaki, M M Al-Taj

0915h **T41C-06** Resolution limits and completeness in earthquake archives: Lessons from the Dead Sea fault (*Invited*): **A Agnon**, S Marco, R Ellenblum, Title of Team: Tel Ateret “Vadum Jacob” Team

0930h **T41C-07** An 8000 year (20 event) record of surface rupturing earthquakes on the Alpine Fault, New Zealand (*Invited*): **K R Berryman**, U A Cochran, K Clark, G P Biasi, D Pantosti, S Marco, R M Langridge, P Villamor, N J Litchfield, R Van Dissen
0945h **T41C-08** Dating Informed Correlations and Large Earthquake Recurrence at the Hokuri Creek Paleoseismic Site, Alpine Fault, South Island, New Zealand: **G P Biasi**, K Clark, K R Berryman, U A Cochran, C Prior

T41D Moscone West: 2018 Thursday 0800h
Raising a Plateau From Earthquakes, Basins, and Fold-Thrust Belts I (*joint with S, G*)

Presiding: **J Liu**, Inst. of Tibetan Plateau Res.; **A M Forte**, University of California, Davis; **M E Oskin**, University of California, Davis; **E Cowgill**, University of California, Davis

0800h **T41D-01** Tectonics of north Himalaya in China since early Oligocene (*Invited*): **J Zhang**

0815h **T41D-02** Evidence for mechanical coupling and strong Indian lower crust beneath southern Tibet (*Invited*): **A Copley**, J Avouac

0830h **T41D-03** How Rapidly is the Tibetan Plateau Rising, and What Fraction of that is Tectonic? (*Invited*): **J T Freymueller**, Y Fu, Q Wang, S Yang, C Xu, G Chen

0845h **T41D-04** Extension in Central-South Tibet, insight from cosmogenic nuclide dating: **E Kali**, J van der Woerd, P H Leloup, G Mahéo, N O Arnaud, J Liu, M Chevalier, L Robin, P tapponnier, R Thuizat

0900h **T41D-05** Broken foreland basins in the India-Eurasia collision zone and in the central Andes: tectonic, geomorphic and sedimentologic similarities (*Invited*): **M R Strecker**, B Bookhagen, G E Hilley, E Kirby, E R Sobel

0915h **T41D-06** Spatial-temporal evolution of sedimentary basin segmentation in NE Tibet: Implications for outward growth of the plateau margin (*Invited*): **C N Garzzone**, B G Hough, W Zhicai

0930h **T41D-07** Chronostratigraphy of upper Miocene - lower Pliocene sedimentary records of Carpathian and Caucasus Foredeep (*Invited*): **I Vasiliev**, W Krijgsman, M Stoica, C G van Baak, C G Langereis, A Iosifidy

0945h **T41D-08** Differential exhumation across the eastern Greater Caucasus from low-temperature thermochronology: Implications for plate boundary reorganization and foreland basin deformation: **N A Niemi**, B Avdeev

T41E Moscone West: 2011 Thursday 0800h
Understanding Continental Evolution From Innovative Analysis of EarthScope Data I (*joint with G, S*)

Presiding: **H J Gilbert**, Purdue University; **L Astiz**, Scripps Institution of Oceanography

0800h **T41E-01** Multi-scale seismic heterogeneity and convection in the western U.S. upper mantle (*Invited*): **B Schmandt**, E Humphreys

0815h **T41E-02** Tracking the Progress of EarthScope/USArray: The crust and upper mantle beneath the transition region between tectonic western US and cratonic eastern US: **W Shen**, F Lin, M H Ritzwoller

0830h **T41E-03** A comparison of teleseismic and regional seismic tomography west and east of the Rocky Mountains: **X Lou**, S van der Lee

0845h **T41E-04** Mixing Tomography with Waveform Modeling: Subduction vs. Destabilization (*Invited*): **D V Helmberger**, R Chu, D Sun

0900h **T41E-05** Imaging Lithospheric Cascadia Structure with Ambient Noise Tomography: **R W Porritt**, R M Allen, M R Brudzinski, D C Boyarko, L O'Driscoll, Y Zhai, A Levander, E Humphreys, F F Pollitz

0915h **T41E-06** Models of Seismic Velocity and Anisotropy For the Great Basin, Nevada: **C Beghein**

0930h **T41E-07** CRUSTAL STRUCTURE OF THE HIGH LAVA PLAINS OF THE PACIFIC NORTHWEST CONTROLLED- SOURCE SEISMIC AND GRAVITY MODELING: **C Cox**, G R Keller

0945h **T41E-08** What is the Geometry of the Juan de Fuca/Farallon Slab? New constraints from a Synthesis of Wavefield Imaging, Tomography, and Tectonic Reconstructions: **G L Pavlis**, X Liu

Volcanology, Geochemistry, and Petrology

V41A Moscone South: Poster Hall Thursday 0800h
175 Years of Geological Research in the Galapagos I Posters (*joint with G, T, DI*)

Presiding: **D Geist**, University of Idaho; **K S Harpp**, Colgate University; **E L Mittelstaedt**, Laboratoire FAST; **C W Sinton**, University of Redlands

0800h **V41A-2250 POSTER** Seafloor Volcanic and Structural Features Adjacent to the 90deg 50'N Transform - Galapagos Spreading Center: Clues for Understanding Plate Boundary Kinematics and Lithospheric Melting Processes (*Invited*): **D J Fornari**, S Soule, K S Harpp, E L Mittelstaedt, D Geist, M D Kurz, Title of Team: R/V Melville MV1007 Cruise Scientific Party

0800h **V41A-2251 POSTER** GRUVEE Broad Impacts—How to make the most of a Teacher At Sea Experience: **B J Cushman-Patz**, J M Sinton, S M White, Title of Team: Science Party of AT-193 (GRUVEE cruise)

0800h **V41A-2252 POSTER** A Shark's Eye View of the Ocean Floor: Integration of Oceanographic Research with Educational Outreach: **K Moser**, K S Harpp, J T Ketchum, E Espinoza, C Penaherrera, S Banks, D J Fornari, D Geist, E L Mittelstaedt, Title of Team: The R/V Melville MV1007 FLAMINGO Cruise Scientific Party

0800h **V41A-2253 POSTER** The Geochemistry of Pinta, Marchena, and Genovesa Islands and the Surrounding Seafloor in the Galápagos Archipelago: **W Schlitzer**, K S Harpp, M D Kurz, D Geist, E L Mittelstaedt, D J Fornari, Title of Team: The R/V Melville MV1007 FLAMINGO Cruise Scientific Party

0800h **V41A-2254 POSTER** Variation in melting conditions beneath a hotspot influenced mid-ocean ridge revealed by rare earth elements in melt inclusions from the western Galapagos Spreading Center: C J Russo, **D W Graham**, A Kent, J M Sinton

0800h **V41A-2255 POSTER** Morphology, Size, and Spatial Distribution of Seamounts in the Northern Galápagos: **C T Mckee**, K S Harpp, D Geist, E L Mittelstaedt, D J Fornari, S Soule, Title of Team: The R/V Melville MV1007 FLAMINGO Cruise Scientific Party

0800h **V41A-2256 POSTER** Seamount Lineaments of the Northern Galápagos and Plume-ridge Interaction: **W Cushman**, K S Harpp, M D Kurz, D Geist, E L Mittelstaedt, D J Fornari, S Soule, Title of Team: R/V Melville MV1007 FLAMINGO Scientific Team

0800h **V41A-2257 POSTER** R/V SONNE 208 PLUMEFLUX Cruise: Extent of the influence of the Galapagos Plume on the surrounding upper mantle and variations in plume-ridge interaction through time: **R Werner**, K Hoernle, A Herbrich, D Maicher, S F Hauff, S M White, W Borchert

0800h **V41A-2258** POSTER Morphology of a Newly Mapped Submarine Bank in the Northern Galapagos and Effects on Local Primary Productivity: **A J Tinnin**, C W Sinton, S Soule, K S Harpp, D J Fornari, E L Mittelstaedt

0800h **V41A-2259** POSTER New Geochemical and Isotope data for recent Galapagos volcanic rocks: **K Berlo**, H K Handley, C Beier, S Turner

0800h **V41A-2260** POSTER Lithospheric Evolution of Magmas from the Northern Galapagos Province: **M Miller**, D Geist, K S Harpp, E L Mittelstaedt

0800h **V41A-2261** POSTER Investigation of E-W Trending Parallel Ridges North of the Galápagos Archipelago: **C Mello**, K S Harpp, E L Mittelstaedt, D Geist, D J Fornari, S Soule, Title of Team: R/V Melville MV1007 FLAMINGO Cruise Scientific Party

0800h **V41A-2262** POSTER Volcanic Eruptions along the Galápagos Spreading Center Revealed by Geologic Mapping Using Alvin, Sentry and TowCam and Geochemical and Magnetic Paleointensity Studies: **A Colman**, J M Sinton, S M White, J A Bowles, K H Rubin, Title of Team: GRUVEE Science Team

0800h **V41A-2263** POSTER Mapping lava morphology of the Galapagos Spreading Center at 92°W: fuzzy logic provides a classification of high-resolution bathymetry and backscatter: **J T McClinton**, S M White, J M Sinton, K H Rubin, J A Bowles

0800h **V41A-2264** POSTER Do Periodic Plate Reorganisations Control Late-stage Volcanism across a Broad Galápagos Hotspot?: **J M O'Connor**, K Hoernle, J R Wijbrans, R Werner, S F Hauff, P Stoffers

0800h **V41A-2265** POSTER Galapagos Islands Volcanic SO₂ Emissions (1979-2009): **E M Head**, S A Carn, G J Bluth

0800h **V41A-2266** POSTER Gas geochemistry of Sierra Negra volcano, Galapagos hot spot: **Y Taran**, B Christenson, H Sumino, B Kennedy

0800h **V41A-2267** POSTER The May 2005 eruption of Fernandina volcano, Galápagos: The first GPS and InSAR observations of a circumferential dike intrusion: **B Chadwick**, S Jonsson, D Geist, M P Poland, D J Johnson, S Batt, K S Harpp, A Ruiz

0800h **V41A-2268** POSTER The Galápagos Islands seen from space: the contribution of Synthetic Aperture Radar Interferometry (InSAR) to volcano monitoring: B Osmanoglu, S Baker, **M Bagnardi**, F Amelung

0800h **V41A-2269** POSTER New Permanent Seismic Network at the Galapagos Islands: **M C Ruiz**, H A Yepes, P Ramon, A G Ruiz Paspuel, M Vaca, W L Enriquez, C Ramos, V Caceres

0800h **V41A-2270** POSTER Testing Magma Migration and Storage Models at Sierra Negra Volcano, Galápagos: **D M Cote**, C J Ebinger, M C Ruiz, M Bagnardi, D Geist, F Amelung

0800h **V41A-2271** POSTER Crustal structure beneath the Galápagos Archipelago from ambient noise tomography and its implications for plume-lithosphere interactions (*Invited*): **D R Villagomez**, D R Toomey, E E Hooft, S C Solomon

V41B Moscone South: Poster Hall Thursday 0800h
Geochemistry and Geochronology of Accessory Phases II
Posters (*joint with T, MR*)

Presiding: **T Zack**, Universitaet Mainz; **D F Stockli**, The University of Kansas

0800h **V41B-2272** POSTER Contrasting protracted and punctuated zircon growth in two syn-erupted rhyolite magmas from Tarawera volcano: insights to the heterogeneity of crystal mush: **S Storm**, P A Shane, A K Schmitt, J Lindsay

0800h **V41B-2273** POSTER Zircon U-Pb geochronology and whole-rock geochemistry of Chimei Igneous Complex, Central Coastal Range, eastern Taiwan: **W Shao**, W Chen, S Chung

0800h **V41B-2274** POSTER Tectonic Evolution of the Precambrian Aksu blueschist Terrain, Northwest China: Geochronological and Geochemical Constraints: **W Zhu**, B Zheng, L Shu, D Ma

0800h **V41B-2275** POSTER Trace element and oxygen isotope composition of Hawaiian hotspot zircon: **J A Vazquez**, I N Bindeman, P J Shamberger, J E Hammer

0800h **V41B-2276** POSTER Cooling rates and depth of detachment faulting of the Atlantis Massif and Kane oceanic core complexes at the slow-spreading Mid-Atlantic Ridge: **N Schoolmeesters**, M J Cheadle, B E John, C B Grimes, P W Reiners

0800h **V41B-2277** POSTER U-series in zircon and ⁴⁰Ar/³⁹Ar geochronology reveal the most recent stage of a supervolcanic cycle in the Altiplano-Puna Volcanic Complex, Central Andes: **C Tierney**, S L de Silva, A K Schmitt, B Jicha, B S Singer

0800h **V41B-2278** POSTER Apatite sulfur systematics and crystal population in the 1991 Pinatubo magmas: **A E Van Hoose**, M J Streck, J S Pallister

0800h **V41B-2279** POSTER Zircon U-Pb Dating Analyses of Lava Domes in the Sutter Buttes Volcano, California: **A M Hansen**, B Hausback, A K Schmitt

0800h **V41B-2280** POSTER Developments in U-Th-Pb geochronology of allanite by LA-ICPMS: **J Darling**, M Engi, B Cenki-Tok, B Dhuime, C Storey

0800h **V41B-2281** POSTER Sub-micrometer Age and Compositional Mapping of Monazite Through Positive Metal (Cs⁺, Ga⁺) Ion Sputtering: **A K Schmitt**, F Korhonen, M Grove

0800h **V41B-2282** POSTER Empirical test of an illite/muscovite ⁴⁰Ar/³⁹Ar thermochronometer: **C Verdel**, B A van der Pluijm, N A Niemi, C M Hall

0800h **V41B-2283** POSTER A new, simplified procedure, for separating Lu, Hf, Sm, and Nd, in preparation for coupled geochronology by ICP-MS: **S J Arauza**, A R Kylander-Clark, B R Hacker

0800h **V41B-2284** POSTER Magma, Magma, Quite Contaminated, How Does Your Garnet Grow?: **J Lackey**, G A Romero, J W Valley

0800h **V41B-2285** POSTER Neoproterozoic palaeogeography of the West Africa Craton constrained by detrital zircon provenance: **G B Straathof**, G Nicoll, J Tait, K Lô, M Dahmada, N Ousmane, J Berndt, R M Key

0800h **V41B-2286** POSTER The ¹⁹⁰Pt-¹⁸⁶Os Decay System Applied to Dating Platinum-Group Element Mineralization in Layered Intrusions, Ophiolites and Detrital Deposits: **J A Coggon**, G Nowell, G Pearson, T Oberthür, J Lorand, F Melcher, S W Parman

0800h **V41B-2287** POSTER Importance of LA-ICP-MS Zircon Geochronology and Geochemistry in Determining the History of Magmatic Systems: Insights from the Graciosa A-type Province, Southern Brazil: **S Braun**, G A Gualda, B R Bream, S R Vlach

0800h **V41B-2288** POSTER Quantifying Continental Margin Deformation North and South of the Opening of the Gulf of California—Evidence for Subduction Erosion?: **E M Peterman**, M Grove, D L Kimbrough

0800h **V41B-2289** POSTER Experimental measurement of trace-element partitioning between zircon and hydrothermal fluids at High Pressure (1.5 GPa) metamorphic conditions: **T J Peters**, J C Ayers

0800h **V41B-2290** POSTER Melt structure effect on Thorium and Uranium partitioning between monazite and Na₂O-Al₂O₃-SiO₂ melts: **L Xing**, D Trail, E B Watson

0800h **V41B-2291** POSTER Partitioning of trace elements during exsolution in ilmenite-hematite series minerals by LA-ICP-MS:

C Morisset, J S Scoates, D A Weis

0800h **V41B-2292** POSTER Rhenium - osmium heterogeneity of enriched mantle basalts explained by composition and behaviour of mantle-derived sulfides: **J Harvey**, C W Dale, A Gannoun, K W Burton

0800h **V41B-2293** POSTER Molybdenite Mineral Evolution: A Study Of Trace Elements Through Time: **M M Mcmillan**, R T Downs, H J Stein, A Zimmerman, B A Beitscher, D A Sverjensky, D Papineau, J T Armstrong, R M Hazen

0800h **V41B-2294** POSTER U-Th zircon dating of the great Millennium eruption of Changbaishan volcano: Evidence for rapid development of a catastrophic eruption: **H Zou**, Q Fan, H Zhang

V41C Moscone South: Poster Hall Thursday 0800h
Looking Backward and Forward: Volcanology in 2010 and 2020 I Posters

Presiding: **J C Eichelberger**, US Geological Survey

0800h **V41C-2295** POSTER Density tomography using cosmic ray muons: feasibility domain and field applications: **N Lesparre**, D Gibert, J Marteau, Y Déclais, D Carbone, E Galichet

0800h **V41C-2296** POSTER "False Positive," an Apt Term and Concept for Volcanologists: **R Wunderman**

0800h **V41C-2297** POSTER WOVODat: Data Population and Current Development: **A Ratdomopurbo**, C Widiwijayanti, A Baguet, C Lyou, C G Newhall

0800h **V41C-2298** POSTER Borehole Strain Measurements on Volcanoes: Insights from Montserrat and Hekla: **A T Linde**, S I Sacks

V41D Moscone South: Poster Hall Thursday 0800h
Texture-Controlled Geochronology: Linking Petrography, Mineral Zoning, and Dating II Posters (*joint with MR*)

Presiding: **A Moeller**, University of Kansas; **N M Kelly**, Colorado School of Mines

0800h **V41D-2299** POSTER Spatial evaluation of Ar-systematics in rocks from the British Channel Islands: a UV laserprobe Ar/Ar study of excess 40Ar: **S P Schwenger**, S Sherlock, S P Kelley

0800h **V41D-2300** POSTER Chronologic constraints on the tectonic evolution of the Wilson Lake terrane of the Grenville Province, Canada: **B L Reno**, F J Korhonen, J H Stout, T Waight

0800h **V41D-2301** POSTER Experimental high-grade alteration of zircon using alkali- and Ca-bearing solutions: resetting the zircon geochronometer during metasomatism: **D E Harlov**, D Dunkley

0800h **V41D-2302** POSTER Linking Lu-Hf geochronology and garnet chemistry in eclogites of the Sulu UHP terrane, China. Implications for punctuated garnet growth events and interpretation of element zoning patterns regarding geochronology: **A Schmidt**, K Mezger, P J O'Brien

0800h **V41D-2303** POSTER New approach for decoding P-T-d history based on Al distribution in orthopyroxene: Application to garnet pyroxenite/peridotite from the Bestiac mass, French Pyrenees: **K Ozawa**, J Bodinier, C J Garrido, H Nagahara

0800h **V41D-2304** POSTER Thickening and growth of lower crust during continental collision: constraints from geochronology of the Pamir: **J C Vrijmoed**, B R Hacker, L Ratschbacher, J L McGraw, A R Kylander-Clark, J M Cottle

0800h **V41D-2305** POSTER Relating Major Silicates and Monazite Growth in Metamorphic Rocks: Application to the Upper Granite Gorge (Grand Canyon, USA): **J Allaz**, M L Williams, M J Jercinovic

0800h **V41D-2306** POSTER Single or Multiphase Metamorphic History of the Nordfjord Ultrahigh-Pressure Province, Western Norway?: **D J Young**, A R Kylander-Clark, G E Gehrels, B R Hacker

0800h **V41D-2307** POSTER Cretaceous exhumation history of Cordillera Darwin, southern Patagonia, from patchily recrystallized garnet and U-Th-Pb monazite dating: **K T Maloney**, G L Clarke, K A Klepeis, C M Fanning, W Wang

V41E Moscone South: Poster Hall Thursday 0800h
The 2010 Eruption of Eyjafjallajökull: A Landmark Event for Volcanic Cloud Hazards I Posters (*joint with A, NH*)

Presiding: **S A Carn**, Michigan Technological University; **F Prata**, NILU; **S Karlsdottir**, Icelandic Meteorological Office

0800h **V41E-2308** POSTER Detection of Pre- and Post-Eruptive Deformation of Eyjafjallajökull and Katla volcano in 2010 from Interferometric Analysis of ALOS/PALSAR data: **H Michinaka**, Y Hiramatsu

0800h **V41E-2309** POSTER Ground deformation preceding the April 2010 eruption of Eyjafjallajökull, Iceland: **Y Aoki**

0800h **V41E-2310** POSTER Measurements of volcanic gas emissions during the first phase of 2010 eruptive activity of Eyjafjallajökull: **M R Burton**, G G Salerno, A La Spina, A Stefansson, H S Kaasalainen

0800h **V41E-2311** POSTER Monitoring the Eyjafjallajökull ash eruption with a near-source Infrasonic Array: **M Ripepe**, G Lacanna, D Delle Donne, R Genco, E Marchetti, G Ulivieri, A Hoskuldsson, R Cioni

0800h **V41E-2312** POSTER Long-range infrasound observations of eruptions April-May 2010 Eyjafjallajökull, Iceland and June 2009 Sarychev Peak, Kuril Islands: **R S Matoza**, A LE PICHON, J Vergoz, P Herry, J Lalande, L Ceranna, D N Green, L G Evers, E Marchetti, M Ripepe, P Campus, L J Liszka, T Kvaerna, H Lee, I Che, A Rybin

0800h **V41E-2313** POSTER Near-field tephra dispersal monitoring by satellites: I Jonsdottir, G Larsen, **T Thordarson**, A Hoskuldsson, F Hoskuldsson, A G Davies

0800h **V41E-2314** POSTER Settling dynamics of ash aggregates from the Eyjafjallajökull (Iceland) eruption plume illuminated by high-speed video analysis: **P Scarlato**, J Taddeucci, C Montanaro, E Del Bello, C Cimarelli, C Freda, D Andronico

0800h **V41E-2315** POSTER The Last Days of the 2010 Eruption at Eyjafjallajökull Volcano: **D Andronico**, P Scarlato, C Cimarelli, E Del Bello, C Freda, J Taddeucci

0800h **V41E-2316** POSTER Observing the 2010 Eyjafjallajökull, Iceland, Eruptions with NASA's Earth Observing-1 Spacecraft - Improving Data Flow In a Volcanic Crisis Through Use of Autonomy: S Chien, **A G Davies**, J Doubleday, D Q Tran, M T Gudmundsson, I Jónsdóttir, A Hoskuldsson, T Thordarson, S Jakobsdottir, R Wright

0800h **V41E-2317** POSTER Visualizing the Evolution of Eyjafjallajökull Ash Clouds: **V J Realmuto**, F Prata

0800h **V41E-2318** POSTER The 2010 Eyja eruption evolution by using IR satellite sensors measurements: retrieval comparison and insights into explosive volcanic processes: A Piscini, **S Corradini**, L Merucci, S Scollo

0800h **V41E-2319** POSTER NEAR REAL TIME DETECTION AND TRACKING OF THE EYJAFJÖLL (ICELAND) ASH CLOUD BY THE RST (ROBUST SATELLITE TECHNIQUE) APPROACH: V Tramutoli, C Filizzola, F Marchese, R Paciello, **N Pergola**, F Sannazzaro

0800h **V41E-2320** POSTER Analysis of the Eyjafjallajökull Eruption using the WRF-Chem Model compared to Satellite-Based Ash Retrieval Algorithms: **T S Steensen**, M Stuefer, P Webley, G A Grell, S R de Freitas

0800h **V41E-2321** POSTER Eyjafjallajökull Eruptions: direct SO₂ plume height estimation and enhanced ash detection with OMI: **K Yang**, X Liu, N A Krotkov, P K Bhartia, S A Carn, A J Krueger

0800h **V41E-2322** POSTER Separation of volcanic ash and sulfur dioxide from the Eyjafjallajökull eruption, April-May 2010: **H E Thomas**, F Prata, S A Carn, L Clarisse, M I Watson

0800h **V41E-2323** POSTER Which observations are necessary to estimate ash injection in the atmosphere by volcanic plumes? The case of the Eyjafjöll 2010 eruption: **E Kaminski**, S Tait, F Ferrucci

0800h **V41E-2324** POSTER Ensemble modeling of the Eyjafjallajökull plume of 15-20 April 2010: **M I Bursik**, S A Carn, K G Dean, A K Patra, M J Pavolonis, E Pitman, P Singla, T Singh, P Webley

0800h **V41E-2325** POSTER Science in Support of Aviation-Risk Management since the April 2010 Eruption of Eyjafjallajökull, Iceland: **M Guffanti**, L G Mastin, D J Schneider, A Tupper

0800h **V41E-2326** POSTER Regional model studies of the atmospheric dispersion of fine volcanic ash after the eruption of Eyjafjallajökull: B Langmann, **M K Hort**

0800h **V41E-2327** POSTER Constraints on the Longevity of the 2010 Eyjaföll Eruption Cloud From Analog Experiments and Modeling: **G Carazzo**, M Jellinek

0800h **V41E-2328** POSTER Coupling gravity current and advection-diffusion models in tephra sedimentation analysis: **A C Volentik**, T Koyaguchi, Y J Suzuki, B F Houghton

0800h **V41E-2329** POSTER Bringing the world to a standstill: an investigation into the effects of a Novarupta scale volcanic eruption on today's aviation industry: **RA Welchman**

0800h **V41E-2330** POSTER The 10th century Skerin ridge on northwest Eyjafjallajökull, south Iceland - Volcanic architecture and bimodal magma composition: **B V Oskarsson**, M T Gudmundsson, T Thordarson

V41F Moscone West: 3001 Thursday 0900h
Daly Lecture (Webcast)

Presiding: **R S Sparks**, Bristol University

0900h **V41F-01** Daly Lecture: Geochemical Insights into Mantle Geodynamics and Plume Structure (*Invited*): **D A Weis**

Union

U42A Moscone South: 104 Thursday 1020h
Frontiers in Scientific Ocean Drilling: Recent Discoveries and Future Opportunities I

Presiding: **S E Humphris**, Woods Hole Oceanographic Institution; **P B DeMenocal**, Lamont-Doherty Earth Obs

1020h **U42A-01** Coherent Tropical Ocean Response to Plio-Pleistocene Ice Age Cycles (*Invited*): **T Herbert**, K T Lawrence, Z Liu, L C Peterson

1035h **U42A-02** Overpressure, Flow Focusing, Compaction and Slope Stability on the continental slope: Insights from IODP Expedition 308: **P B Flemings**

1050h **U42A-03** Tectonics, Fluids, and the Seismogenic Zone: Four Decades of Drilling at Convergent Margins (*Invited*): **J C Moore**, Title of Team: All DSDP, ODP, and IODP Convergent Margin Scientific Parties

1105h **U42A-04** NanTroSEIZE: Sampling and Monitoring Plate Boundary Fault Processes of the Nankai Subduction Zone: **H J Tobin**, M Kinoshita, Title of Team: IODP Expedition 314/315/316/319/322 Scientists

1120h **U42A-05** S-wave velocity structure in the accretional prism beneath the Kumano Basin, Nankai Trough, Japan, revealed by vertical seismic profiling: **R Hino**, N L Bangs, Y Sanada, J Park, R von Huene, G F Moore, T Tsuji, E Araki, M Kinoshita

1135h **U42A-06** The leading edge of basement logging science: The detailed in situ volcanic architecture, crustal construction processes, vacancy for water, minerals, and microbes, and beyond: **M Tominaga**

1150h **U42A-07** Evolution Of Oceanic Crust Alteration From Deep Ocean Drilling (*Invited*): **J Alt**

1205h **U42A-08** Heterogeneity, anisotropy, and compartmentalization of fluid, heat, and solute transport in the upper ocean crust on ridge flanks (*Invited*): **A T Fisher**, K Becker, C G Wheat

Atmospheric Sciences

A42A Moscone South: 103 Thursday 1020h
Bjerknes Lecture (Webcast) (*joint with GC, PA*)

Presiding: **A Robock**, Rutgers University; **N G Andronova**, University of Michigan; **P J Webster**, School of Earth and Atmospheric sciences

1020h **Introduction** by *Alan Robock*

1025h **Introduction** by *Peter Webster*

1030h **A42A-01** A Very Grand Challenge for the Science of Climate Prediction - Towards a Community-Wide Prototype Probabilistic Earth-System Model (*Invited*): **T Palmer**

A42B Moscone West: 3002 Thursday 1020h
Quantification of Emissions: Addressing Current and Future Challenges II (*joint with B*)

Presiding: **C Liou**, CNRS; **G Petron**, NOAA

1020h **A42B-01** Working Toward Policy-Relevant Air Quality Emissions Scenarios: **T Holloway**

1035h **A42B-02** Evaluation of On-Road Vehicle Emission Trends in the United States: **RA Harley**, T R Dallmann, T Kirchstetter

1050h **A42B-03** Top-down estimate of anthropogenic emission inventories in Houston using a 4D-VAR mesoscale inverse modeling technique: M Trainer, **J Brioude**, S Kim, G J Frost, W M Angevine, R Ahmadov, S Lee, S A McKeen, J R Holloway, T B Ryerson, J Peischl, C Warneke, J A De Gouw, D D Parrish, F C Fehsenfeld, K R Gurney

1105h **A42B-04** Comparison of near-surface CO from multispectral measurements from MOPITT with WRF-Chem simulations using emissions inventory for the Beijing 2008 Olympics: **H M Worden**, Y Cheng, G Pfister, G Carmichael, M N Deeter, D P Edwards, J C Gille, Q Zhang, D G Streets

1120h **A42B-05** Observational constraints on U.S. emissions of climate-active and ozone-depleting trace gases from a tall-tower and aircraft sampling network: **SA Montzka**, B R Miller, C Siso, C Sweeney, A E Andrews, A Karion, D Neff, M L Fischer, J Higgs

1135h **A42B-06** Estimates of methane emissions from India using CH₄-CO₂-C₂H₆ relationships from CARIBIC observations in monsoon convective outflow: **A K Baker**, A Rauthe-Schöch, T J Schuck, P F van Velthoven, F Slemr, C A Brenninkmeijer

1150h **A42B-07** Quantifying the Magnitude and Uncertainty of Wetland CH₄ Emissions Through the 21st Century Using Satellite Data and Climate Model Analyses: **A A Bloom**, P I Palmer, D Reay, A C Fraser, C Frankenberg

1205h **A42B-08** Global fire emissions and the contribution of deforestation, savanna, forest, agricultural, and peat fires (1997–2009): **G van der Werf**, J T Randerson, L Giglio, G J Collatz, M Mu, P S Kasibhatla, D C Morton, R S DeFries, Y Jin, T T Van Leeuwen

A42C Moscone West: 3008 Thursday 1020h
Troposphere Gaseous Composition in Regional and Global Perspective II (*joint with B*)

Presiding: **O A Tarasova**, World Meteorological Organization;
P C Novelli, NOAA/ESRL

1020h **A42C-01** Continuous Greenhouse Gas Monitoring on South Atlantic Islands: **D Lowry**, R E Fisher, M Lanoiselle, E G Nisbet, E J Dlugokencky, A C Manning

1035h **A42C-02** Decadal trends in tropospheric ozone over East Asian Pacific rim during 1998–2007: Implications for emerging Asian emissions impacts and comparison to European and North American records (*Invited*): **H Tanimoto**, T Ohara, I Uno

1055h **A42C-03** OVERVIEW OF O₃ AND CO INTERANNUAL VARIABILITIES AND TRENDS BASED ON THE MOZAIC DATA: **V Thouret**, J Cammas, N Elguindi, R Zbinden, G Athier, P Nedelec, J Cousin, F Karcher

1105h **A42C-04** Effect of sampling frequency on ozone trends: Lessons from MOZAIC: **M Saunois**, L K Emmons, J Lamarque, S Tilmes, V Thouret

1115h **A42C-05** Composition of the spring Siberian troposphere during YAK-AEROSIB 2010: Influence of biomass burning, stratospheric intrusion and the Eyjafjöll eruption: **J PARIS**, A Berchet, M Arshinov, P Nedelec, A Stohl, G ANCELLET, K Law, B D Belan, M Ramonet, P Ciaia

1130h **A42C-06** Analysis of ozone and nitric acid for the ARCTAS field campaign using aircraft, satellite observations and MOZART-4 model simulations: source attribution and variability of Arctic pollution: **C Wespes**, L K Emmons, D P Edwards, D Hurtmans, P Coheur, C Clerbaux, J W Hannigan, R Lindenmaier, R Batchelor, K Strong

1145h **A42C-07** Tropospheric Gas-phase Composition Reanalyses in GEMS and MACC (*Invited*): **M G Schultz**, O Stein, A Agusti-Panareda, A Benedetti, R J Engelen, J Flemming, A Inness, A Simmons, C Granier, F Khokar, K Law, H Eskes, V Huijnen, E Katragkou, C S Zerefos, J Leitaó, A Richter, J Cammas, N Elguindi, V Thouret, Title of Team: GEMS/MACC G-RG science team

1205h **A42C-08** PROCESSES CONTROLLING THE DIURNAL AND SEASONAL VARIABILITY IN REACTIVE GASES IN THE TROPICAL NORTH ATLANTIC BOUNDARY LAYER: **A C Lewis**, L J Carpenter, K A Read, J D Lee, J R Hopkins, S Moller, L N Mendes, H Lopez, Z Fleming, M J Evans

A42D Moscone South: 103 Thursday 1120h
Charney Lecture (Webcast)

Presiding: **P J Webster**, School of Earth and Atmospheric sciences;
A Robock, Rutgers University

1120h **Peter J. Webster** *Introduction*

1125h **A42D-01** Past and Contemporary Climate Change: Evidence From Earth's Ice Cover (*Invited*): **E S Mosley-Thompson**

Biogeosciences

B42A Moscone West: 3006 Thursday 1020h
Biogeodynamics and Earth System Sciences II

Presiding: **J D Albertson**, Duke University

1020h **B42A-01** Evolution of modern eukaryotes in the context of Cryogenian geochemical, tectonic and climatic changes (*Invited*): **T Bosak**, F A Macdonald, S B Pruss, D Lahr

1035h **B42A-02** Dust emissions and dune mobilization in the southern Kalahari: possible effects on biotic-abiotic interactions in the Earth system (*Invited*): **P D'Odorico**, A Bhattachan, T M Zobeck, M Baddock, K Dintwe, G S Okin

1050h **B42A-03** The role of biotic and abiotic processes in determining equilibrium states and transient dynamics in tidal biogeomorphic systems: C Da Lio, **A D'Alpaos**, M Marani

1105h **B42A-04** Seagrass dynamics in shallow coastal lagoons: Interactions with fluid dynamics, sediment resuspension and light conditions: **J A Carr**, P D'Odorico, K McGlathery, P L Wiberg

1120h **B42A-05** Combined effect of fire and water scarcity on vegetation patterns in arid lands: N Ursino, **M Rulli**

1135h **B42A-06** Predicting the effect of changing vegetation conditions on aeolian dune landscapes: **M D Reitz**, D J Jerolmack, R C Ewing, R L Martin

1150h **B42A-07** Groundwater Controls on Vegetation Composition and Patterning in Mountain Meadows: **S P Loheide**, C Lowry, C E Moore, J D Lundquist

1205h **B42A-08** Soil- and plant- water uptake in saline environments and their consequences to plant adaptation in fluctuating climates: **V Volpe**, J D Albertson, G G Katul, M Marani

B42B Moscone West: 3004 Thursday 1020h
Determining the Controls of Terrestrial Net Ecosystem Exchange and Related Processes at Regional to Global Scales III (*joint with A*)

Presiding: **C Yi**, Queens College, CUNY; **D M Ricciuto**, Oak Ridge National Laboratory; **B N Sulman**, U. of Wisconsin-Madison

1020h **B42B-01** Relationships between net primary productivity and forest stand age derived from Forest Inventory and Analysis data and remote sensing imagery: **L He**, J M Chen, Y Pan, R Birdsey

1035h **B42B-02** A Review of Carbon Cycle Impacts of Biotic Disturbances in North American Forests: **J A Hicke**, C D Allen, A R Desai, M C Dietze, R J Hall, E T Hogg, D M Kashian, D J Moore, K Raffa, R Sturrock, J Vogelmann

1050h **B42B-03** Climatic Effects on the Inter-Annual Variability of Carbon Fluxes for North America and Europe: **E Tomelleri**, N Carvalhais, M Migliavacca, M Reichstein, Title of Team: FLUXNET LaThuille synthesis team (cf. www.fluxdata.org)

1105h **B42B-04** Hydroclimatic variability, land cover change, and the terrestrial carbon cycle: Recent patterns and trends diagnosed with FLUXNET: **C Schwalm**, C A Williams, K M Schaefer

1120h **B42B-05** The impact of bark beetle outbreaks on carbon cycling in the western US from 1997 to 2009: **S L Edburg**, J A Hicke, D M Lawrence, P E Thornton, A J Meddens

1135h **B42B-06** Sensitivity of regional forest carbon budgets to continuous and stochastic climate change pressures: **B N Sulman**, A R Desai, R M Scheller

1150h **B42B-07** Carbon, Water, and Heat Flux Responses to Experimental Burning and Drought in a Tallgrass Prairie: **M L Fischer**, M S Torn, D P Billesbach, G L Doyle, B Northup, S C Biraud

1205h **B42B-08** ROLE OF THE BOUNDARY LAYER PROCESSES IN UNDERSTANDING THE CO₂-BUDGET: D Pino, **J Vila-Guerau Arellano**

B42C Moscone West: 2002 Thursday 1020h
Novel Applications of Continuous Measurements in Freshwater Ecosystems I (*joint with H*)

Presiding: B A Pellerin, US Geological Survey; **M J Cohen**, University of Florida

1020h **B42C-01** Applications of in situ optical measurements in ecological and biogeochemical studies – a framework for a user-driven national network: **B A Bergamaschi**, B A Pellerin, B D Downing, J Saraceno, G Aiken, P Stumpner

1035h **B42C-02** Continuous Ecosystem Stoichiometry (C:N:P) in a Large Spring-fed River Reveals Decoupled N and P Assimilatory Dynamics: **M J Cohen**, R L Douglass, J B Martin, R G Thomas, J B Heffernan, C R Foster

1050h **B42C-03** Modification of suburban carbon and nitrogen fluxes by a coupled channel/floodplain system assessed using in situ sensors: **W M Wollheim**, B A Pellerin, J Saraceno, C Hopkinson, A Hope, N Morse

1105h **B42C-04** Headwater and basin scale forest harvesting effects on sediment yield using near-continuous turbidity measurements and sediment yield modeling: **N Zegre**, A E Skauget

1120h **B42C-05** Inference of biogeochemical processes in lotic ecosystems from diel variation in nutrient concentrations (*Invited*): **J B Heffernan**, M J Cohen, C R Foster, R G Thomas

1140h **B42C-06** Recent developments in the use of hydroacoustics for monitoring suspended-sediment transport in rivers (*Invited*): **S A Wright**, D J Topping, C A Williams, M S Wood, M N Landers, T D Straub

1200h **B42C-07** A Study of High Frequency Water Quality Observations in the Little Bear River Utah, USA (*Invited*): **J S Horsburgh**, A Spackman Jones, D K Stevens, D G Tarboton, N O Mesner

B42D Moscone West: 2006 Thursday 1020h
Seeing REDD: Application of Remote Sensing in Terrestrial Carbon Management II (*joint with GC, H, PA*)

Presiding: R Dubayah, University of Maryland; **S J Goetz**, Woods Hole Research Center

1020h **B42D-01** Introduction to the Application of Remote Sensing in Terrestrial Carbon Monitoring, Modeling and Management: **R Dubayah**, S J Goetz

1035h **B42D-02** National scale disturbance mapping in support of REDD monitoring systems (*Invited*): **M C Hansen**, P Potapov, M Broich, S Turubanova, B Adusei

1055h **B42D-03** FAO UN-REDD- INPE Joint Programme on Forest Monitoring Systems based on RS and GIS techniques: **I G Jonckheere**, Title of Team: FAO UN-REDD MRV Team, FAO HQ, Rome, Italy

1115h **B42D-04** Toward global baselines and monitoring of forest cover for REDD: the Global Forest Cover Change project: **J O Sexton**, C Huang, J G Masek, M Feng, R Narasimhan, E F Vermote, M C Hansen, R E Wolfe, S Channan, J R Townshend

1135h **B42D-05** Satellite and Field Derived Aboveground Carbon Stock in Tropical Regions: **A Baccini**, S J Goetz, W S Walker, N T Laporte, M Sun, D J Sulla-Menashe, M A Friedl, P S Beck, J M Kellndorfer, R A Houghton

1155h **B42D-06** PAN-TROPICAL FOREST COVER FROM ALOS-PALSAR DATA: **J M Kellndorfer**, W S Walker, J B Bishop, T Cormier, A Baccini, S J Goetz, N Laporte, F Holecz

B42E Moscone West: 2004 Thursday 1020h
The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition, and Terrestrial and Aquatic Ecosystem Impacts I (*joint with A, H, OS*)

Presiding: E M Elliott, University of Pittsburgh; **M G Hastings**, Brown University; **K E Altieri**, Princeton University

1020h **B42E-01** Regulatory Drivers of Multimedia Reactive Nitrogen Research (*Invited*): **S L Shaw**, E Knipping, N Kumar

1035h **B42E-02** Mobilization and Metabolism of Deposited N in High Montane Forests of the Colorado Front Range, U.S.: **E S Hinckley**, R T Barnes, M W Williams, S P Anderson

1050h **B42E-03** Nitrogen Flux in Watersheds: The Role of Soil Distributions in Nitrogen Flux to the Coastal Ecosystems: **W J Showers**, W Gurley, J W O'Conner

1105h **B42E-04** The Influence of Anthropogenic Reactive Nitrogen Deposition on Oceanic N₂O Emission: **P Suntharalingam**, E Buitenhuis, C Le Quere, F J Dentener, L Bopp, C D Nevison, H W Bange, J H Butler, J W Elkins, R A Duce

1120h **B42E-05** Global Seabird Ammonia Emissions: **S N Riddick**, T D Blackall, U Dragosits, F H Daunt, C F Braban, Y S Tang, P Trathan, S Wanless, M A Sutton

1135h **B42E-06** Apportionment of reactive N emissions using stable isotopes: Demonstrating proof of concept across spatial scales (*Invited*): **J Felix**, E M Elliott

1150h **B42E-07** Emission and deposition of Nitrogen compounds in West Africa: **C Delon**, C Galy-Lacaux, M Adon, C Liousse

1205h **B42E-08** Space based constraints on biogenic soil nitric oxide emissions: influence on global ozone and fertilization effect of anthropogenic N-deposition (*Invited*): **R C Hudman**, N E Moore, R V Martin, A R Russell, R C Cohen

Cryosphere

C42A Moscone West: 3011 Thursday 1020h
Evolution and Stability of the Greenland Ice Sheet III (*joint with EP, G, GC, NG, PP*)

Presiding: P W Nienow, University of Edinburgh; **B M Csatho**, University at Buffalo

1020h **C42A-01** Surface processes of the Greenland Ice Sheet under a warming climate: **K Steffen**, D McGrath, W Colgan

1035h **C42A-02** Seasonal acceleration of the Greenland Ice Sheet in contrasting melt-seasons: **A Sole**, P W Nienow, I D Bartholomew, D Mair, T Cowton, M King, M Burke

1050h **C42A-03** Integrating Borehole Measurements with Modeling of Englacial and Basal Conditions, Western Greenland (*Invited*): **J T Harper**, N F Humphrey, J V Johnson, T W Meierbachtol, D J Brinkerhoff, C M Landowski

1105h **C42A-04** The role of seasonal and short term melt variability in ice speedup (*Invited*): **C Schoof**

1120h **C42A-05** Modelling meltwater delivery to the ice-bed interface through full thickness fractures on outlet glaciers of the western Greenland Ice Sheet: **C Clason**, D Mair, P W Nienow

1135h **C42A-06** Observational and modeling constraints of changes along the margin of the Greenland ice sheet (*Invited*): **M Helsen**, R Van de Wal, F M Nick

1150h **G42A-07** An estimate for committed sea-level rise during the next century resulting from Greenland ice sheet dynamics during the past decade (*Invited*): **S F Price**, A J Payne, I M Howat, B E Smith
1205h **G42A-08** How do oceans regulate ice flow?: **M Truffer**, J M Amundson, M A Fahnestock, R J Motyka, I R Joughin

Earth and Planetary Surface Processes

EP42A Moscone South: 310 Thursday 1020h
Advances in Critical Zone Research: Interactions Among Water, Rock, and Life at Earth's Surface I (*joint with B, H, GC*)

Presiding: **C S Riebe**, University of Wyoming; **H L Buss**, U.S. Geological Survey

1020h **EP42A-01** The Earth on the Other Side of Life (*Invited*): **R Amundson**, S A Ewing, J J Owen

1035h **EP42A-02** Climate and landscape controls on chemical weathering - regional to pedon-scale analysis (*Invited*): **C Rasmussen**, R Lybrand, A B Jardine, I Heidbuechel, P A Troch, J Chorover

1050h **EP42A-03** Coevolution of topography, hydrology, soil development, and vegetation in sky islands of the southwestern United States: **J D Pelletier**, C Rasmussen, D D Breshears, P D Brooks, J Chorover, T E Huxman, K A Lohse, T Meixner, J C McIntosh, S A Kurc, M G Schaap, T Swetnam, P A Troch, Title of Team: University of Arizona CZO

1105h **EP42A-04** Impact of land use on weathering rates in Guadeloupe, Caribbean islands: **S Rad**, O Cerdan, J Gaillardet, G Grandjean, C J Allegre

1120h **EP42A-05** Spatial Nutrient Variability in a Sierran Forest Soil: an Investigation into the Nature and Potential Causes of Nutrient Hot Spots: **D W Johnson**, W W Miller, B M Rau, M W Meadows

1135h **EP42A-06** Determination of Nutrient Laden Preferential Flow Contributing to Hot Spots/Moments in the Soil on a Small Scale: **C Woodward**, D W Johnson

1150h **EP42A-07** Soil production is faster on south-facing slopes in the Susquehanna/Shale Hills Critical Zone Observatory due to periglacial, vegetative, and climate factors (*Invited*): **L Jin**, D Eissenstat, H Lin, F J Chabaux, L Ma, S L Brantley

1205h **EP42A-08** Chemical Weathering in the San Gabriel Mountains of California: The influence of erosion rates, soil depth, and transport processes on soil chemical losses (*Invited*): **J L Dixon**, A S Hartshorn, A M Heimsath, R A DiBiase, K X Whipple

Geodesy

G42A Moscone West: 2008 Thursday 1020h
Plate Motion and Continental Deformation II (*joint with T, S, NH*)

Presiding: **D Argus**, Jet Propulsion Laboratory; **J T Freymueller**, University of Alaska Fairbanks; **R M Fernandes**, UBI, CGUL, IDL

1020h **G42A-01** GPS measurements and velocity gradient analysis of present-day deformation along the entire Dead Sea fault system (eastern Mediterranean): **F G Gomez**, Title of Team: The Dead Sea Fault GPS Working Group

1035h **G42A-02** Partitioning of localized and diffuse deformation in the Tibetan Plateau region from inversion of geologic and geodetic observations (*Invited*): **J P Loveless**, B J Meade

1050h **G42A-03** Crustal Velocity Field from InSAR and GPS reveals Internal Deformation of Western Tibet: **H Wang**, T J Wright

1105h **G42A-04** India Plate Motion, Intraplate deformation and Plate Boundary Processes (*Invited*): **E V Apel**, R Burgmann, P Banerjee

1120h **G42A-05** Strain Partitioning, Current Tectonics and Deformation on the Southern Queen Charlotte Fault, Northern Vancouver Island, and the Adjacent Mainland: **S Hippchen**, S Mazzotti

1135h **G42A-06** Time series analysis of ERS and ENVISAT InSAR data in Northern Mojave, California: **G Peltzer**, Z Liu, P Lundgren

1150h **G42A-07** A Kinematic Fault Network Model of Crustal Deformation for California and Its Application to the Seismic Hazard Analysis: **Y Zeng**, Z Shen, S Harmsen, M D Petersen

1205h **G42A-08** Interior Western U. S. Deformation Coming into Focus with Maturing Survey and Continuous GPS Networks: **W R Thatcher**, J L Svarc

Global Environmental Change

GC42A Moscone West: 2020 Thursday 1020h
Advances in Downscaling Methods and Models I (*joint with A, B, IN, H, NH, PA*)

Presiding: **B Thrasher**, Climate Central; **E P Maurer**, Santa Clara University; **T Das**, Scripps Institution of Oceanography, University of California, San Diego; **D W Werth**, Savannah River National Laboratory

1020h **GC42A-01** Statistical downscaling for data sparse regions (*Invited*): **R Wilby**

1040h **GC42A-02** Simulations of Extreme Events Using WRF Driven by Two GCMs (*Invited*): **L Leung**, J Correia, Y Qian

1100h **GC42A-03** Precipitation downscaling for hydrological applications using regional climate model outputs (*Invited*): **A Bardossy**, G G Pegram

1120h **GC42A-04** Statistical Downscaling for Hydroclimate Applications (*Invited*): **E P Salathe**

1140h **GC42A-05** Regional climate model ensemble techniques: Towards higher spatial resolution probabilistic climate scenarios. (*Invited*): **M A Snyder**, T A O'Brien

1200h **GC42A-06** The Coordinated Regional Downscaling Experiment (CORDEX): A Framework for Mitigation and Adaptation Information (*Invited*): **W J Gutowski**, Title of Team: WCRP Task Force on Regional Climate Downscaling

GC42B Moscone West: 2022 Thursday 1020h
Bringing Together Environmental, Socioeconomic, and Climatic Change Studies in Northern Eurasia III (*joint with A, C, NH, H, B, PA*)

Presiding: **V E Romanovsky**, University of Alaska Fairbanks; **D Yang**, Univ Alaska Fairbanks

1020h **GC42B-01** BALTEX - A science broker for the Baltic Sea Region: **M Reckermann**, H von Storch, J Langner, A T Omstedt

1035h **GC42B-02** Climate change and response of geosystems of the Russian North (*Invited*): **D S Drozdov**, Y V Korostelev, G V Malkova, V P Melnikov, P T Orekhov, N G Ukraintseva

1050h **GC42B-03** Snow Cover and Hydrology Changes over Large Siberian Watersheds (*Invited*): **D Yang**, A I Shiklomanov, S Berezovskaya

1105h **GC42B-04** Contemporary Variability and Projected Changes in the North Eurasian Water Cycle: **A I Shiklomanov**, R B Lammers, I A Shiklomanov, A A Proussevitch

1120h **GC42B-05** Permafrost projections for Northern Eurasia: uncertainties associated with forcing climate data and model complexity: **O A Anisimov**, R Dankers, P Falloon

1135h **GC42B-06** Multi-Satellite Measurement of Changes in Water Storage, Land-Surface Temperature and Atmosphere CO₂ of the Northern Eurasian Permafrost Watersheds: **RR Muskett**, V E Romanovsky

1150h **GC42B-07** Cloudiness changes over Russia: observed trends and future projections: **A V Chernokulsky**, I I Mokhov, O Bulygina

1205h **GC42B-08** Scenarios of long-term river runoff changes within Russian large river basins: **A G Georgiadi**, N I Koronkevich, I P Milyukova, A V Kislov, E A Barabanova

GC42C Moscone West: 3005 Thursday 1020h
Undiscovered Climates of Earth I (*joint with A, B, H, NG, PP*)

Presiding: **M Huber**, Purdue University; **S C Sherwood**, University of New South Wales

1020h **GC42C-01** The Jormungand Global Climate State and Implications for the Neoproterozoic Snowball Paradox (*Invited*): **D S Abbot**, A Voigt, D Koll, R T Pierrehumbert

1035h **GC42C-02** How do we solve the Faint Young Sun Paradox? Examining diverse proposed atmospheres for Early Earth: **C Goldblatt**

1050h **GC42C-03** Multiple climate and sea ice states on a coupled Aquaplanet: **B Rose**, D Ferreira, J Marshall

1105h **GC42C-04** Paleoclimate Data-Model Comparisons for Early Paleogene New Zealand: **C J Hollis**, K W Taylor, L Handley, R D Pancost, J Creech, J Baker, S Schouten, E Kennedy, E M Crouch, M Huber, D Ackerley

1120h **GC42C-05** Eocene precipitation: How wet do greenhouse climates get? (*Invited*): **D R Greenwood**, R Y Smith

1135h **GC42C-06** If the Eocene was hot, what does this tell us about the future?: **M Huber**

1150h **GC42C-07** A spontaneous transition to superrotation in warm climates (*Invited*): **R Caballero**, M Huber

1205h **GC42C-08** Limitation of Outgoing Longwave Radiation in a Grey Plane-Parallel Atmosphere and the Consequences for a Runaway Greenhouse: **M Popp**, H Schmidt, J Marotzke

Geomagnetism and Paleomagnetism

GP42A Moscone West: 2003 Thursday 1020h
Planetary and Meteorite Paleomagnetism and Rock Magnetism I (*joint with P*)

Presiding: **J Gattacceca**, CEREGE (CNRS); **B P Weiss**, Massachusetts Institute of Technology

1020h **GP42A-01** Dynamo generation in asteroids and planetesimals (*Invited*): **S Stanley**, R Vilim, B P Weiss, L T Elkins-Tanton

1035h **GP42A-02** A new and improved description of the Martian magnetic crustal field using both MGS-MAG and MGS-ER measurements: **B Langlais**, M E Purucker, R J Lillis

1050h **GP42A-03** Near Surface Magnetic Field Mapping over the Swirls in the SPA Region on the Moon Using Kaguya LMAG Low Altitude Data: **H Shibuya**, H Tsunakawa, F Takahashi, H Shimizu, M Matsushima

1105h **GP42A-04** Lunar Paleomagnetism: The Case for an Ancient Lunar Dynamo. (*Invited*): **M Fuller**, B P Weiss, J Gattacceca

1120h **GP42A-05** Recent Lunar Magnetism: **J Buz**, B P Weiss, I Garrick-Bethell

1135h **GP42A-06** Magnetic study of meteorites recovered in the Atacama desert (Chile): implications for meteorite paleomagnetism and the stability of hot desert surfaces (*Invited*): **M Uehara**, J Gattacceca, M Valenzuela, F Demory, P Rochette

1150h **GP42A-07** Low Temperature Magnetic Transition in Meteoritic Troilites – Simple Mmarker for Highly Stoichiometric Iron(II) Sulphide Systems?: **T Kohout**, J Cuda, J Tucek, R Zboril, J Haloda, J Filip

1205h **GP42A-08** A pressure-induced, magnetic transition in pyrrhotite: Implications for the formation pressure of meteorites and diamonds: **S A Gilder**, R Egli, R Hochleitner, S C Roud, M Volk, M Le Goff, M De Wit

Hydrology

H42A Moscone West: 3018 Thursday 1020h
Coastal Hydrogeology: Physical, Chemical, and Biological Characterization of Variable-Density Systems I (*joint with A, B, EP, GC, NH, OS*)

Presiding: **J N King**, U.S. Geological Survey; **E D Swain**, U.S. Geological Survey; **E Abarca**, MIT; **J Luo**, Georgia Institute of Technology; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC)

1020h **H42A-01** Control of Submarine Groundwater Flow and Chemistry by Onshore and Offshore Buried Peat Along a Developed Long Island Shoreline: **J F Bratton**, K D Kroeger, J Crusius, C Schubert, R Paulsen, A C Green, J Wanlass, S Baldwin, I J Abbene, C Young

1035h **H42A-02** Flux and attenuation of nitrogen, fecal indicator bacteria and virus at a coastal septic system in California (*Invited*): **N R de Sienes**, T L Russell, C McClain, N P Crook, A B Boehm

1050h **H42A-03** Integrating turbulent flow, biogeochemical, and poromechanical processes in rippled coastal sediment (*Invited*): **M B Cardenas**, P L Cook, H Jiang, P Traykovski

1105h **H42A-05** Salinization may attack you from behind: upconing and related long-term downstream salinization in the Amsterdam Water Supply Dunes (*Invited*): **T Olsthoorn**

1120h **H42A-06** A correction to Ghyben-Herzberg approximation of the freshwater-saltwater interface in coastal aquifers. (*Invited*): **J Carrera**, M Pool Ramirez

1135h **H42A-07** Challenges in Projecting Sea Level Rise impacts on the Coastal Environment of South Florida (*Invited*): **J Obeysekera**, J Park, M M Irizarry-Ortiz, J A Barnes, P Trimble, W Said

1150h **H42A-08** WITHDRAWN

H42B Moscone West: 3014 Thursday 1020h
Remote Sensing of Rivers II (*joint with B, C, EP, G*)

Presiding: **P Carbonneau**, Durham University; **M A Fonstad**, Texas State University; **T M Pavelsky**, University of North Carolina-Chapel Hill; **C J Legleiter**, University of Wyoming

1020h **H42B-01** Multi-scale classification of riverine floodplain physical habitats for estimating potential salmon production: **D Whited**, J S Kimball, T Bansak, D DeWire, M S Lorang, B Ellis, J Stanford

1035h **H42B-02** Detection of salmonid thermal refugia from airborne thermal infrared (TIR) imagery: **S J Dugdale**, N Bergeron, M Rousseau

1050h **H42B-03** Processing and evaluation of riverine waveforms acquired by an experimental bathymetric LiDAR: **P J Kinzel**, C J Legleiter, J M Nelson

1105h **H42B-04** CHARACTERIZATION OF MESO-HABITAT FRAMEWORK FROM ORTHOPHOTOGRAPHS. APPLICATION TO THE DROME RIVER MAIN STEM (FRANCE): **E Wiederkehr**, S Dufour, H Piégay

1120h **H42B-05** Accuracy and Classification of River Form and Extent from Remote Observations in Support of the SWOT Satellite Mission: **T M Pavelsky**

1135h **H42B-06** Application of Satellite Based Imagery and Altimetry to Estimation of River Hydraulics and Remote Estimation of River Discharge: **D M Bjerklie**, C M Birkett, Y LI, R Dubayah, M A Hofton

1150h **H42B-07** River Ice monitoring over the Susquehanna River Basin using remote sensing data: **N Chaouch**, M Temimi, R Khanbilvardi, R Cabrera, G McKillop

1205h **H42B-08** Reconstruction of past interannual terrestrial water storage (1970-2008) in the Amazon Basin from GRACE, in situ river gauging and hydrological modeling (*Invited*): A A Cazenave, **M Becker**, B Meysignac, B Decharme, R Alkama

H42C Moscone West: 3020 Thursday 1020h
Transport of Particles and Sediments in Surfacewaters and Groundwaters: From Sediment-Sized Particles to Nanoparticles, Emerging Contaminants, and Microorganisms I (*joint with B*)

Presiding: **D M O'Carroll**, University of Western Ontario; **C A Ramsburg**, Tufts University

1020h **H42C-01** Image-Based Modeling of Nanoparticle Transport in Porous Media: **K E Thompson**, C S Willson, N Lane, T Narayana

1035h **H42C-02** Influence of Biological Macromolecules and Aquatic Chemistries on the Inhibition of Nitrifying Bacteria by Silver Nanoparticles: T S Radniecki, J W Anderson, M C Schneider, D P Stankus, J A Nason, **L Semprini**

1050h **H42C-03** Modeling Nanoparticle Transport in Saturated Porous Media – Alternatives and Challenges (*Invited*): **L M Abriola**

1105h **H42C-04** Electrokinetics Enhanced Delivery of Nano-scale Zero Valent Iron: **A I Chowdhury**, D M O'Carroll, Y Xu, B E Sleep

1120h **H42C-05** Injection of Nano Zero-Valent Iron for Subsurface Remediation: Evaluation of Methods for Assessment of Nanoparticle Delivery (*Invited*): **P G Tratnyek**, Z Shi, J T Nurmi, R L Johnson

1135h **H42C-06** Impact of Dissolved Organic Matter on Colloid Transport in the Vadose Zone: Deterministic Approximation of Transport Deposition Coefficients from Polymeric Coating Characteristics: **V L Morales**, W Zhang, B Gao, L W Lion, J J Bisogni, B A McDonough, T Steenhuis

1150h **H42C-07** The Role of Desorption Kinetics on the Colloid-Facilitated Transport of Cesium and Strontium in a Partially-Saturated Quartz Sand Column: **T M Dittrich**, J N Ryan, J E Saiers

1205h **H42C-08** Retention and Migration of Chlorpyrifos in Aquatic Sediments and Soils: **S Y Gebremariam**, M Beutel, D Yonge, M Flury, J B Harsh

H42D Moscone West: 3016 Thursday 1020h
Uncertainty in Model Parameter Estimates and Impacts on Risk and Decision Making in the Subsurface II

Presiding: **D Bolster**, UPC; **S A McKenna**, Sandia National Laboratories; **W Nowak**, University of Stuttgart; **S Srinivasan**, University of Texas Austin

1020h **H42D-01** Modeling of Block-Scale Effective Macrodispersion Tensors as Space Random Functions: **F de Barros**, Y Rubin

1035h **H42D-02** Probabilistic Risk Assessment in Subsurface Modeling (*Invited*): **D M Tartakovsky**

1050h **H42D-03** Assessment of Parametric Uncertainty using Markov Chain Monte Carlo Methods for Surface Complexation Models in Groundwater Reactive Transport Modeling: **G L Miller**, D Lu, M Ye, G P Curtis, B S Mendes, D Draper

1105h **H42D-04** An Accurate Probabilistic Collocation Method for Uncertainty Propagation in Tracer Transport: **F Müller**, D W Meyer, P Jenny

1120h **H42D-05** Uncertainty in Model parameter Estimates and Impacts on Risk and Decision Making in the Subsurface: **R Enzenhöfer**, R Helmig, W Nowak, P J Binning

1135h **H42D-06** Context-Specific Measures of Uncertainty in Groundwater Remediation: **X Liu**, J Lee, P K Kitanidis, J Parker, U Kim

1150h **H42D-07** Probabilistic Risk Analysis and Fault Trees as Tools in Improving the Delineation of Wellhead Protection Areas: An Initial Discussion: **C M Rodak**, S E Silliman

1205h **H42D-08** Effects of Multidimensional Description of the Spatial Structure of Hydraulic Conductivity on Solute Transport: **C P Haslauer**, M Rau, A Bárdossy, E A Sudicky

Earth and Space Science Informatics

IN42A Moscone South: 302 Thursday 1020h
Future Directions for Earth Science Data Access Technologies I (*joint with A, B, C, GC, OS*)

Presiding: **J F Moses**, NASA/GSFC; **D J Meyer**, US Geological Survey

1020h **IN42A-01** Metadata Evolution for NASA's Earth Science Data Systems: S S Khalsa, E M Armstrong, **S F Browdy**, H Conover, T Habermann, C Lynnes, A Mitchell, L M Olsen, J L Pals, B H Weiss

1035h **IN42A-02** A Distributed, Cross-Agency Software Architecture for Sharing Climate Models and Observational Data Sets (*Invited*): **D J Crichton**, C A Mattmann, A J Braverman, L Cinquini

1050h **IN42A-03** NOAA ENTERPRISE ARCHIVE ACCESS TOOL: **R H Rank**, S McCormick, C Cremidis

1105h **IN42A-04** Data Access Services that Make Remote Sensing Data Easier to Use (*Invited*): **C Lynnes**

1120h **IN42A-05** Geo-enabling Science through Web Services (*Invited*): **C E White**

1135h **IN42A-06** Data Collection, Access and Presentation Technologies in the National Ecological Observatory (NEON) Design (*Invited*): **S M Aulenbach**, S J Berukoff

1150h **IN42A-08** Development of a database of quick-look plots for the earth and space science data: A Saito, **T Tsugawa**, D Yoshida, Y Akiya

Nonlinear Geophysics

NG42A Moscone South: 308 Thursday 1020h
Complex Networks in Geosciences I (*joint with A, H, NH, S, SM, V*)

Presiding: **J Davidsen**, University of Calgary; **I Zaliapin**, University of Nevada

1020h **NG42A-01** Boolean delay equations on networks: An application to economic damage propagation: B Coluzzi, **M Ghil**, S Hallegatte, G Weisbuch

1035h **NG42A-02** The Magnetosphere as a Multiscale Complex Network: **A S Sharma**, S J Wascher

1050h **NG42A-03** Is there a Climate Network – A Backbone of the Climate System? (*Invited*): **J Kurths**

1105h **NG42A-04** Randomness and Self-similarity in the Topology of River Networks and its Implications for predicting scaling in floods (*Invited*): **V K Gupta**, R Mantilla, B M Troutman

NG42B Moscone South: 308 Thursday 1120h
Pattern Formation in Earth System Sciences I (*joint with B, EP, H*)

Presiding: **A D'Alpaos**, University of Padova; **M Marani**, University of Padova

1120h **NG42B-01** Shallow Seabed 'Sortodynamics': Bedforms Driven by a Sediment-Sorting Instability—Robust Emergent Properties, and Depositional Patterns (*Invited*): **A B Murray**, E Goldstein, G Coco, M Green

1135h **NG42B-02** Defect dynamics in wave ripples (*Invited*): **T Perron**, P Myrow, J B Southard, K L Huppert, M Szulczewski

1150h **NG42B-03** Diatom-sedimentation feedback generates a self-organized geomorphic landscape on intertidal mudflats (*Invited*): **J Van de Koppel**, E Weerman, P Herman

1205h **NG42B-04** Crossover from fingering to fracturing in deformable disordered media: **R Holtzman**, R Juanes

Ocean Sciences

OS42A Moscone West: 3007 Thursday 1020h
Lessons Learned From the Deepwater Horizon Oil Spill: Physical Oceanography III (*joint with B, NH, SH, PA*)

Presiding: **Y Liu**, University of South Florida; **A MacFadyen**, NOAA

1020h **OS42A-01** Oil Spill Risk Analysis Model and Its Application to Deepwater Horizon Oil Spill (*Invited*): **Z Ji**, W R Johnson, Z Li

1035h **OS42A-02** A Statistical Model of the Deepwater Horizon Oil Spill (*Invited*): **C H Barker**

1050h **OS42A-03** Tactical modeling of oil transport and fate in support of the Deepwater Horizon Spill Response: **A MacFadyen**, D Payton, G Watabayashi, C H Barker, C Beegle-Krause

1105h **OS42A-04** Hindcasting of the Gulf of Mexico Circulation and Age and Distribution of the Oil Plume Arising from the Deepwater Horizon Spill: **R He**, W Zhang, K Hyun, K Chen, H Qian

1120h **OS42A-05** Modeling possible spreadings of a buoyant surface plume with lagrangian and eulerian approaches at different resolutions using flow syntheses from 1992-2007 - a Gulf of Mexico study: **R Tulloch**, C N Hill, O Jahn

1135h **OS42A-06** DWH MC 252: Subsurface Oil Transport: **C J Beegle-Krause**, T Boyer, D Murray

1150h **OS42A-07** Simulating the three dimensional dispersal of aging oil with a Lagrangian approach: **E W North**, Z Schlag, E Adams, R He, K Hyun, C R Sherwood, R P Signell, S D Peckham

1205h **OS42A-08** On the possible long-term fate of oil released in the Deepwater Horizon incident, estimated by ensembles of dye release simulations: M E Maltrud, **M Visbeck**, S Peacock

OS42B Moscone West: 3009 Thursday 1020h
Tsunami and Storm Deposits Onshore and Offshore: Processes and Products II (*joint with NH*)

Presiding: **H Bahlburg**, Universitaet Muenster; **R Weiss**, Texas A&M University

1020h **OS42B-01** The Role of Sediment Supply in the Formation of Tsunami Deposits: A Comparison of the 2004 Indian Ocean and 2009 South Pacific Tsunamis (*Invited*): **A A Apotsos**, B E Jaffe, G R Gelfenbaum, M L Buckley, S G Watt

1035h **OS42B-02** Muddy tempestites: Flume analogs vs. ancient and modern examples: **J Schieber**, J Southard

1050h **OS42B-03** Modeling of tsunamis and hurricanes as causes of the catastrophic overwash of Anegada, British Virgin Islands, between 1650 and 1800: **Y Wei**, U S Ten Brink, B F Atwater

1105h **OS42B-04** Distinguishing between storm and tsunami in the geological record; progress, perturbations and potential: **A D Switzer**

1120h **OS42B-05** Tsunami Flow Speed Estimates Using Inverse Modeling Of Normally-Graded Sandy Deposits Formed During The 29 September 2009 Tsunami Near Satittoa, East Upolu, Samoa: **B E Jaffe**, M L Buckley, B M Richmond, L C Strotz, S Etienne, K Clark, G R Gelfenbaum

1135h **OS42B-06** The February 27, 2010 Chile Tsunami – Sedimentology of runup and backflow deposits at Isla Mocha: **H Bahlburg**, M Spiske

1150h **OS42B-07** Estimated velocities and inferred cause of overwash that emplaced inland fields of cobbles and boulders at Anegada, British Virgin Islands: **M L Buckley**, Y Wei, B E Jaffe, S G Watt

1205h **OS42B-08** A Microfossil-Based Approach to Estimate Hurricane Intensity: **A D Hawkes**, J P Donnelly, P Lane

Planetary Sciences

P42A Moscone South: 306 Thursday 1020h
Rethinking the Lunar Paradigm: New Observations and Implications II (*joint with V*)

Presiding: **H Nekvasil**, Stony Brook University; **F M McCubbin**, Institute of Meteoritics

1020h **P42A-01** Support of the lunar fossil figure by the elastic lithosphere: **I Matsuyama**

1035h **P42A-02** Impact melts on the Moon: How far will they go?: **M S Robinson**, P C Thomas, H Hiesinger, C van der Bogert, E Bowman-Cisneros, B Denevi, Title of Team: LROC Team

1050h **P42A-03** Crater shape and size-frequency distribution in determining the topographic power spectrum of a cratered surface: **M A Rosenburg**, O Aharonson, D E Smith, M T Zuber, X Zhang

1105h **P42A-04** The Neutral Lunar Exosphere as a Source for Pickup Ions: **R M Killen**, M Sarantos, J S Halekas, R E Hartle, D M Hurley, Title of Team: DREAM

P42B Moscone South: 306 Thursday 1120h
Mars and Mercury Geophysics I

Presiding: **T N Harrison**, Malin Space Science Systems; **D Atri**, University of Kansas

1120h **P42B-01** Modeling the terrestrial radiation dose on planetary surfaces: A constraint on the habitability of Earth-like terrestrial planets: **D Atri**, A L Melott

1135h **PA42B-02** The Exploration of Mercury by MESSENGER: Looking Ahead to Orbital Observations: **S C Solomon**, R L McNutt, P D Bedini, B J Anderson, L M Prockter, D T Blewett, L G Evans, R E Gold, S M Krimigis, S L Murchie, L R Nittler, R J Phillips, J A Slavin, M T Zuber

1150h **PA42B-03** Seismically-triggered Release of Shallow Groundwater Caused by the Hale Impact, Mars: **T N Harrison**, M R Kennedy

1205h **PA42B-04** A Shallow-Wave Model for the Emplacement of Layered Ejecta Deposits on Mars: **S A Fagents**, S M Baloga, L S Glaze

Public Affairs

PA42A Moscone West: 3010 Thursday 1020h
Geosciences, Risks, Economics, and Public Interest II (*joint with A, GC, H, NH, OS, ED*)

Presiding: **L Rowan**; **J Trapani**, Bipartisan Policy Center;
M L Zoback, RMS

1020h **PA42A-01** Demonstrating How Hazard Science Can Improve Community Resiliency: The Multi Hazards Demonstration Project of the US Geological Survey and the Great California ShakeOut.

(*Invited*): **L M Jones**

1035h **PA42A-02** The January 12, 2010, Haiti earthquake: Science and Engineering for Earthquake Resilience (*Invited*): **E Calais**, A Lerner-Lam, R Momplaisir, C Prepetit

1050h **PA42A-03** Incorporating human-triggered earthquake risks into energy and water policies: **C D Klose**, L Seeber, K H Jacob

1105h **PA42A-04** Risk communication at the science-policy interface: Reflections on the effectiveness of the geosciences community in communicating with policymakers on disposition of nuclear waste (*Invited*): **D Knopman**

1120h **PA42A-05** THE NAVY'S TASK FOR CLIMATE CHANGE: APPLYING SCIENCE TO ASSESS CLIMATE SECURITY RISK: T C Gallaudet, **D Titley**

1135h **PA42A-06** Devils Lake Climate, Weather, and Water Decision Support System: **F M Horsfall**, D R Kluck, M Brewer, M M Timofeyeva, J Symonds, S Dummer, M Frazier, M Shulski, A Akyuz

1150h **PA42A-07** How would a more resilient Galveston Island look?: **E Barraza**, J C Gibeaut

1205h **PA42A-08** Geologic hazards and Alaska's communities in a changing climate: **G J Wolken**

PA42B Moscone West: 3001 Thursday 1020h
Institutional Support for Science and Scientists in an Age of Public Scrutiny II (*joint with GC, H, B, NH, ED*)

Presiding: **F Grifo**, Union of Concerned Scientists; **J M Gullledge**, Pew Center on Global Climate Change; **A H Teich**, American Association for the Advancement of Science; **K S White**, AAAS

1020h **Introduction**

1025h **PA42B-01** Communication as a Strategic Activity (*Invited*): **B Fischhoff**

1035h **PA42B-02** Communicating Science: **G J Holland**, M S McCaffrey, J T Kiehl, C Schmidt

1045h **PA42B-03** Scientific Publishing and the Data Deluge (*Invited*): **B Hanson**

1055h **PA42B-04** Policy Issues in Accessibility and Interoperability of Scientific Data: Experiences from the Carbon Modeling Field: **P Kishor**, S D Peckham, S T Gower, S Batzli

1105h **Panel Discussion**

1120h **PA42B-05** Navigation Aids for Climate Scientists in an Age of High Stakes Policy Debate: **F Grifo**, B Ekwurzel, J Freeman, M Halpern

1130h **PA42B-06** Climate Scientists In The Public Arena: Who's Got Our Backs? (*Invited*): **M E Mann**

1140h **PA42B-07** Institutional support for science and scientists: A perspective from the immediate past AGU President: **T L Grove**

1150h **PA42B-08** Scientific Integrity and Executive National Security Proclamations: A Conflict of the Modern Age: **R Nelson**, B Banerdt, J L Bell, D V Byrnes, G L Carlisle, L R D'Addario, P R Weissman, P R Eisenhardt, S D Foster, M P Golombek, V Gorjian, Z Gorjian, A S Hale, J G Kulleck, S L Laubach, T P McElrath, K I Penanen, C Satter, W J Walker

1200h **Panel Discussion**

Paleoceanography and Paleoclimatology

PP42A Moscone West: 2005 Thursday 1020h
Advances in the Use of Biomarkers II (*joint with B, OS*)

Presiding: **N Dubois**, Dalhousie University; **S A Macko**, Univ Virginia; **M Kienast**, Dalhousie University

1020h **PP42A-01** Biomarkers as Paleoenvironmental Proxies: **S C Brassell**

1035h **PP42A-02** The role of the Black Sea in the final desiccation of the Mediterranean during the Messinian Salinity Crisis: **I Vasilev**, G Reichart, W Krijgsman

1050h **PP42A-03** Links between climate and the transmission times of biomarker signals to aquatic sediments: Implications for interpretation of the sedimentary record (*Invited*): **T I Eglinton**

1105h **PP42A-04** Branched GDGTs as paleoclimate proxies in lakes: the good, the bad, and the ugly (*Invited*): **J E Tierney**, S Schouten, A Pitcher, E Hopmans, J S Sinninghe Damste

1120h **PP42A-05** Lipid biomarkers in ooids from different locations and ages provide evidence for a common bacterial flora (*Invited*): **R E Summons**, L R Bird, A L Gillespie, S B Pruss, A L Sessions

1135h **PP42A-06** Western Arctic Sea Ice Algal Productivity during the Holocene: Estimation from Bulk and Compound Specific Stable Isotopes: **S A Macko**, D J Morris, R Harvey

1150h **PP42A-07** Biomarkers, microbes, and geochemistry of the Cariaco Basin chemocline: A comprehensive and multidisciplinary investigation: **C Turich**, F Schubotz, K Hinrichs, A Podlaska, G T Taylor, X Li, M I Scranton, R Varela, Y Astor, S G Wakeham

1205h **PP42A-08** Organic Biomarkers Along the River-Coastal Ocean Continuum: Human Activities and their Influence on Carbon Delivery (*Invited*): **E A Canuel**, C R Pondell

SPA-Aeronomy

SA42A Moscone South: 301 Thursday 1020h
Forecasting the Ionosphere and Thermosphere at Low Latitudes II

Presiding: **Y Su**, Air Force Research Laboratory; **C Y Huang**, AFRL

1020h **SA42A-01** How well reflects IRI the electron density during the recent solar minimum? Comparison with CHAMP and GRACE (*Invited*): **H Luhr**, C Xiong

1035h **SA42A-02** Low Latitude Ionospheric Dynamics: Specifications Using a Physics-Based Data Assimilation Model (*Invited*): **L Scherliess**, D C Thompson, R W Schunk

1050h **SA42A-03** Modeling the Climatology of Equatorial Plasma Bubbles at Solar Minimum Using Plasma Drifts Observed by C/NOFS: **J M Retterer**, Y Su, L C Gentile, O de la Beaujardiere, R A Stoneback, R F Pfaff

1103h **SA42A-04** Equatorial Plasma Bubbles Triggered by Non-Equatorial Traveling Ionospheric Disturbances: **J Krall**, J D Huba, S L Ossakow, G R Joyce, J J Makela, E S Miller

1116h **SA42A-05** Quantifying the sources of the disturbed electrodynamic: **N Maruyama**, T J Fuller-Rowell, M Codrescu, D N Anderson, A D Richmond, A Maute, S Sazykin, F Toffoletto, R W Spiro, R A Wolf, G H Millward

1129h **SA42A-06** Three-dimensional numerical simulation of equatorial spread F including bottomside shear flow effects: **H C Aveiro**, D L Hysell

1142h **SA42A-07** Short Term Variability in the Electrodynamic of the Equatorial Ionosphere: **B G Fejer**, B D Tracy

1155h **SA42A-08** Specification of the Occurrence of Equatorial Ionospheric Scintillations During the Main Phase of the Early Magnetic Storms Within Solar Cycle 24: **S Basu**, S Basu, K M Groves, P A Roddy, E MacKenzie

1208h **SA42A-09** Comparisons Between In-Situ Plasma Fluctuation and Radio Occultation Based Measures of Ionospheric Scintillation: **P R Straus**, P A Roddy, N Bonito

SPA-Solar and Heliospheric Physics

SH42A Moscone South: 307 Thursday 1020h
Comparing MHD Models to Observations in the Sun: From the Interior to the Heliosphere II

Presiding: **R A Frazin**, University of Michigan; **I N Kitiashvili**, Stanford University; **N N Mansour**, NASA Ames Research Center; **M Opher**, Physics and Astronomy

1020h **SH42A-01** Solar Dynamo: Comparing Models with Observations. (*Invited*): **A A Pevtsov**

1035h **SH42A-02** Formation of Solar Active Regions (*Invited*): **M Rempel**

1050h **SH42A-03** The Rise of Active Region Flux Tubes in the Turbulent Solar Convective Envelope: **M A Weber**, Y Fan, M Miesch

1100h **SH42A-04** Optimal Pre-Initial Conditions for Data-Driven MHD Simulations of Solar Active Regions: **Q Hu**, A Wang, S Wu, G A Gary

1110h **SH42A-05** Multispacecraft Validation of a Global Two-Temperature Corona and Inner Heliosphere Model (*Invited*): **B van der Holst**, M Jin, W B Manchester, R A Frazin, A M Vasquez, P L Lamy, A Llebaria, T I Gombosi

1125h **SH42A-06** Using MHD modeling to specify inner heliosphere conditions during the three MESSENGER Mercury flybys: N L Farr, **D Baker**, D Odstrcil, B J Anderson, M Benna, G Gloeckler, H Korth, L R Mayer, J M Raines, D Schriver, J A Slavin, S C Solomon, P M Travnicek, T Zurbuchen

1135h **SH42A-07** Coronal Heating by Surface Alfvén Wave Damping: Implementation in MHD Modeling and Connection to Observations: **R M Evans**, M Opher, R Oran, B van der Holst, I Sokolov, R A Frazin, T I Gombosi

1145h **SH42A-08** Testing Coronal and Solar Wind MHD Models with UV Spectroscopic and Visible Light Coronagraph Data: **L Strachan**, A Panasyuk, J L Kohl, L Woolsey, P L Lamy

1155h **SH42A-09** Comparing an MHD Model of the Corona During the July 11, 2010 Total Solar Eclipse with Observations (*Invited*): **Z Mikic**, J A Linker, R Lionello, P Riley, V S Titov

1210h **SH42A-10** An MHD Model of the Major Solar Flare on 2006 December 13: **K Kusano**, S Inoue, D Shiota, T T Yamamoto

SH42B Moscone South: 309 Thursday 1020h
New Views of Solar Energetic Particles II

Presiding: **E E Chollet**, California Institute of Technology; **E Moebius**, University of New Hampshire

1020h **SH42B-01** Angular Spread of Solar Energetic Electrons: Multipoint Observations by STEREO, ACE and SOHO (*Invited*):

R Gómez-Herrero, N Dresing, O Malandraki, A Klassen, M E Wiedenbeck, C M Cohen, G M Mason, B Heber, R F Wimmer-Schweingruber, R Müller-Mellin, Y Kartavykh, W Droege

1038h **SH42B-02** On the Origin of the Broad Spread in Heliolongitude over which some Impulsive Solar Energetic Particle Events are Observed: **M E Wiedenbeck**, R Gómez-Herrero, N Dresing, G M Mason, D K Haggerty, C M Cohen

1052h **SH42B-03** Simultaneous Observations of Evolution in SEP Elemental Composition on Widely-Separated Spacecraft: Comparisons between Ulysses and ACE/Wind in Late 2001: **A J Tylka**, O Malandraki, C K Ng, R G Marsden, C Tranquille

1106h **SH42B-04** A THREE-DIMENSIONAL VIEW OF MAJOR SOLAR ENERGETIC PARTICLE EVENTS: **L G Kocharov**, E Valtonen, B J Thompson, M J Reiner, A Klassen

1120h **SH42B-05** Multi-spacecraft Observations of Energetic Particle Events from 0.3 to 1.0 AU: Measurements by MESSENGER, STEREO, and ACE: **G C Ho**, S M Krimigis, H Korth, R D Starr, J M Raines, G Gloeckler, T Zurbuchen, G M Mason, R A Mewaldt, C M Cohen, D N Baker, R L McNutt, J A Slavin, S C Solomon

1134h **SH42B-06** Longitudinal distribution of solar energetic particles from large CME events (*Invited*): **M Zhang**

1152h **SH42B-07** Observation of High Iron Charge States over $\langle 0.1$ to ~ 1 MeV/nucleon in Solar Energetic Particle Events: **Z Guo**, E Moebius, M Popecki, B Klecker, G M Mason, P A Bochsler

1206h **SH42B-08** Combined Radio and X-ray Diagnostics of Electron Acceleration Region in the Solar Corona: **H Reid**, N Vilmer, E P Kontar

SPA-Magnetospheric Physics

SM42A Moscone South: 305 Thursday 1020h
Turbulent Magnetic Reconnection in Space, Laboratory, and Astrophysical Systems II (*joint with SH*)

Presiding: **G Lapenta**, KU Leuven; **T Intrator**, Los Alamos Natl Laboratory; **A Lazarian**, University of Wisconsin

1020h **SM42A-01** Three-Dimensional Magnetic Field Line Reconnection involving Magnetic Flux Ropes (*Invited*):

W N Gekelman, B Van Compernelle, E Lawrence, S T Vincena

1050h **SM42A-02** Statistics of magnetic reconnection in two-dimensional magnetohydrodynamic turbulence: **S Servidio**, W H Matthaeus, P Dmitruk, M A Shay, P Cassak, M Wan

1105h **SM42A-03** Conceptual Explorations of A Next Generation Experiment to Study Magnetic Reconnection in Large Sized Plasmas at High Lundquist Numbers for Space and Astrophysical Relevance: **H Ji**, M Yamada, S Prager, W S Daughton, V Roytershteyn

1120h **SM42A-04** Experimental Investigation of the Trigger Problem in Magnetic Reconnection: **N K Katz**, J Egedal, W Fox, A Le, A Vrubleviskis, J Bonde, Title of Team: The Versatile Toroidal Facility

1135h **SM42A-05** A Simple Model of Fast Magnetic Reconnection: W B Lyatsky, **M L Goldstein**

1155h **SM42A-06** Impulsive Reconnection: 3D Onset and Stagnation in Turbulent Paradigms (*Invited*): **J Sears**, T Intrator, T Weber, X Sun, G Lapenta, A Lazarian

Study of Earth's Deep Interior

DI42A Moscone West: 3022 Thursday 1020h
Observations and Dynamics of Subducted Slabs III (*joint with S, T, MR*)

Presiding: **D R Stegman**, UC San Diego; **E M Syracuse**, University of Wisconsin-Madison

1020h **DI42A-01** Seismic constraints on water flux into the deep Earth through subduction: **B Savage**

1035h **DI42A-02** Intermediate-Depth Earthquakes in South America: **L M Warren**

1050h **DI42A-03** Structure of the deep Nazca slab from joint inversion of regional S wave trains and teleseismic S arrival times: **S M Lloyd**, S van der Lee, M Assumpcao, M P Rocha, J C VanDecar

1105h **DI42A-04** Subduction in Central and Southern Mexico (*Invited*): **R W Clayton**

1120h **DI42A-05** AZIMUTHAL ANISOTROPY IN MEXICO FROM RAYLEIGH WAVE PHASE VELOCITY MAPS AND SHEAR-WAVE SPLITTING: **I Stubailo**, C Beghein, P M Davis

1135h **DI42A-06** Flat-Slab Dynamics: Deformation in the Central Andean Subducting Slab: **M L Anderson**, L Linkimer, K Olsen, S L Beck, P M Alvarado, H J Gilbert

1150h **DI42A-07** Seismic Evidence for the Influence of Subduction and Slab Fragmentation on Flood Volcanism in the Cascadian Backarc and on the Snake River Plain/Yellowstone Hotspot Track: **D E James**, M J Fouch, R W Carlson, J B Roth

1205h **DI42A-08** Upper Mantle Flow Beneath Pacific Plate Lithosphere Subducted along the Aleutian Islands: **R M Russo**

Mineral and Rock Physics

MR42A Moscone West: 3024 Thursday 1020h
Computational Advances and Applications in Mineral Physics I

Presiding: **B B Karki**, Louisiana State University; **L P Stixrude**, University College London; **B Winkler**

1020h **MR42A-01** Beyond Band Theory for Minerals at High Pressures (*Invited*): **RE Cohen**

1035h **MR42A-02** Unambiguously identifying spin states of transition-metal ions in the Earth (*Invited*): **H Hsu**

1050h **MR42A-03** Structural and vibrational properties of transition-metal oxides from first-principles calculations: M Cococcioni, A Floris, **B Himmetoglu**

1105h **MR42A-04** Theoretical prediction of new mineral phases in Earth's mantle and core (*Invited*): **A R Oganov**

1120h **MR42A-05** The pressure impact on the structure, elasticity and the electron density distribution of CaSi_2O_5 : **Y G Yu**, N Ross, G V Gibbs

1135h **MR42A-06** Molecular Dynamics study of transport properties (self-diffusion, shear viscosity, thermal conductivity) in CMAS liquids at elevated temperature and pressure: Relations between coordination statistics, activation energy and activation volume. (*Invited*): **F J Spera**, B Martin, J B Creamer, D Nevins, I Cutler, M S Ghiorso, D Tikunoff

1150h **MR42A-07** Calculating Diffusivities and Viscosity of Silicate Melts from First Principles Molecular Dynamics: **B B Karki**, **D B Ghosh**, L P Stixrude

1205h **MR42A-08** Synergies and conflicts between experiment and theory in high-pressure mineral physics (*Invited*): **T S Duffy**, A Kubo, R Smith

Seismology

S42A Moscone West: 2007 Thursday 1020h
Advances in Inverse Problems and Seismic Tomography III (*joint with T, DI, NS, NG*)

Presiding: **J V Morgan**, Imperial College London; **A J Calvert**, Simon Fraser University

1020h **S42A-01** Efficient 2D and 3D multiparameters frequency-domain full waveform inversion (*Invited*): **J Virieux**, S Operto, A Ribodetti, H Ben Hadj Ali, R Brossier, V Etienne, Y Gholami, G Hu, Y Jia, D Pageot, V Prieux

1035h **S42A-02** Three-dimensional full-wavefield seismic tomography on field data (*Invited*): **M Warner**, A Umpleby, I Stekl, L Guasch

1050h **S42A-03** 3D Elastic Wavefield Tomography: **L Guasch**, M Warner, I Stekl, A Umpleby, N Shah

1105h **S42A-04** Estimation of the Anelastic Parameters of Subsurface Structures From Their Seismic AVF and AVA Signatures: **K A Innanen**

1120h **S42A-05** High-Fidelity Imaging with illumination Compensation in 3-Dimensional Angle-Domain: **R Wu**, J Mao

1135h **S42A-06** Application of full waveform tomography to active-source surface-seismic data - Two case studies: **F Bleibinhaus**

1150h **S42A-07** Frequency Domain Full-Waveform Inversion in Imaging Thrust Related Features: **P Jaiswal**, C A Zelt

1205h **S42A-08** Seismic structure of the Vancouver Island continental shelf using tomographic & waveform inversion of multichannel seismic refraction data: **S Yeliseti**, G Spence

S42B Moscone West: 2009 Thursday 1020h
Developments in Statistical Seismology: Research and Education II (*joint with ED, T*)

Presiding: **A J Michael**, USGS; **M J Werner**, Princeton University; **J Woessner**, ETH Zurich

1020h **S42B-01** High frequencies are a critical component of aftershock triggering at <100-150 km (*Invited*): **K R Felzer**

1035h **S42B-02** Distribution of Earthquake Cluster Sizes in the Western United States and in Japan: **J G Anderson**, K Nanjo

1050h **S42B-03** Factors Controlling Aftershock Activity after $M \geq 5$ Earthquakes in California: **J Ebel**, J Martin

1105h **S42B-04** Short-term earthquake forecasting using early aftershock statistics: **P Shebalin**, C Narteau, M Holschneider, D Schorlemmer

1120h **S42B-05** Bayesian analysis of afterchock decay rates: **M Holschneider**, C Narteau, P Shebalin, D Schorlemmer

1135h **S42B-06** Uncertainties of Parameter Estimates in Earthquake Clustering Models: **Q Wang**, D D Jackson, R Schoenberg, J Zhuang

1150h **S42B-07** Aftershock modeling based on Coulomb stress-triggering and ground shaking (*Invited*): **S Hainzl**, C Bach, G B Brietzke, G Zoeller

1205h **S42B-08** Long-time Persistence of Changes in Seismicity Style Induced by Stress Changes of Great Earthquakes: **R Dmowska**, Z zarifi

Tectonophysics

T42A Moscone West: 2016 Thursday 1020h **Fault Behavior Models: Improved Understanding Using Long Paleoseismic Records III** (*joint with S, G*)

Presiding: K Clark, GNS Science; R J Weldon, University of Oregon; K R Berryman, GNS Science

1020h **T42A-01** The Fault Slip Record from Corals Above the Sumatran Subduction Zone and Implications for Fault Rupture Processes (*Invited*): B Philibosian, A J Meltzner, K E Sieh, D H Natawidjaja, H Chiang, C Shen, B W Suwargadi, M Daryono, D Prayudi, I Suprihanto, J Avouac

1035h **T42A-02** Long Paleoseismic Records at Plate Boundaries: Clustering, Segmentation, Supercycles and More (*Invited*):

C Goldfinger

1050h **T42A-03** A New Correlation of Large Earthquakes Along the Southern San Andreas Fault: K M Scharer, R J Weldon, G P Biasi

1105h **T42A-04** Recurrence Time Variability vs. Slip Invariability Documented from a Long Paleoseismic Record along the Wellington Fault, Upper Hutt, New Zealand: R Van Dissen, R M Langridge, T Little, D Nisins

1120h **T42A-05** HOLOCENE PALEOEARTHQUAKE CLUSTERING ALONG A SIERRAS PAMPEANAS (ARGENTINA) BOUNDING FAULT?: C H Costa, W Ricci, L A Owen, W J Johnson, A Halperin, E A Ahumada

1135h **T42A-06** Summary of the Paleoseismic Data from the Carrizo Plain, California: when the Past Contradicts the Present: S O Akciz, L Grant Ludwig, R Arrowsmith, O Zielke

1150h **T42A-07** Flexible slip near the largest step-over along the North Anatolian fault system, Turkey: H Kondo, A Kurcer, S Özalp, O Emre

1205h **T42A-08** The Bogd and Bulnay Faults of Mongolia: Slip Rate and Earthquake Recurrence Along Two Intracontinental Strike-Slip Faults (*Invited*): C S Prentice, M Rizza, J R Ritz

T42B Moscone West: 2018 Thursday 1020h **Lithospheric Structure and Cenozoic Tectonics in East Asia: From Tibetan Plateau to the Marginal Seas I** (*joint with G, S*)

Presiding: Y J Chen, Peking University; J Xu, Department of Petroleum Geology

1020h **T42B-01** From mountain building in the Tibetan Plateau to crustal extension in North China: The role of sublithospheric mantle flow: M Liu, E A Sandvol, Y Yang, S Ceylan, Y J Chen, L Wang, Q Wang, D Cui

1035h **T42B-02** Two Dynamic Systems: The Indian/Eurasia Intracontinental Convergent and the West Pacific Subduction Systems Controlled the Evolution of the Tibetan Plateau and the Development of Basins within Eastern Asia and Adjacent Offshore During Cenozoic Time: B C Burchfiel, R D van der Hilst, L Royden

1050h **T42B-03** Tectonic Evolution of Tibet: Space-time Patterns, Lithospheric Structures and Formation Mechanisms of the Plateau (*Invited*): A Yin

1105h **T42B-04** Seismic Velocity and Anisotropy Structure of the Northeastern Edge of the Tibetan Plateau (*Invited*): E A Sandvol, Y J Chen, J F Ni, M Liu

1120h **T42B-05** Tectonic affiliation of the North China Block with supercontinents since 1.8 Ga (*Invited*): S Zhang

1135h **T42B-06** Marginal Basins of the Western Pacific: An Overview (*Invited*): S D Lewis

1150h **T42B-07** Correlation between development of the marginal basin system of the NW Pacific and uplift of the Tibet Plateau: J Xu, T K Kelty, Z Ben-Avraham

1205h **T42B-08** SinoProbe - A Multidisciplinary Research Program of Earth Sciences in China (*Invited*): S Dong, T Li

T42C Moscone West: 2011 Thursday 1020h **Understanding Continental Evolution From Innovative Analysis of EarthScope Data II** (*joint with G, S*)

Presiding: B A van der Pluijm, Univ of Michigan; B Tikoff, University of Wisconsin; G R Keller, University of Oklahoma

1020h **T42C-01** Present-Day Crustal Deformation in the Intermountain West Measured by GPS (*Invited*): C W Kreemer, G Blewitt, R A Bennett

1035h **T42C-02** Melts at the Lithosphere-Asthenosphere Boundary beneath the Basin and Range, US (*Invited*): T Plank, E Gazel, C Bendersky, D W Forsyth, C J Rau, C Lee

1050h **T42C-03** GPS and InSAR Observations of Active Mountain Growth Across the Sierra Nevada/Great Basin Transition: W C Hammond, G Blewitt, Z Li, C W Kreemer, H Plag

1105h **T42C-04** U-Pb thermochronology of the lower crust: producing a long-term record of craton thermal evolution: T Blackburn, S A Bowring, K H Mahan, T Perron, B Schoene, F O Dudas

1120h **T42C-05** Perspectives on Precambrian basement architecture in the northern US Rocky Mountains from inherited zircons in the Idaho batholith: R M Gaschnig, J D Vervoort, R Lewis, B Tikoff

1135h **T42C-06** Montana: Filling A Gap In The GeoSwath: B Jensen, G R Keller

1150h **T42C-07** EarthScope in Midcontinent North America: Investigating the Architecture and Tectonic History of Cratonic-Platform Lithosphere: S Marshak, T Larson, M W Hamburger, G L Pavlis, H J Gilbert, M Parke

1205h **T42C-08** Genesis of Basement-Cored Foreland Arches: Insights from the EarthScope Bighorn Project: K C Miller, E Erslev, A F Sheehan, M L Anderson, C S Siddoway, S H Harder, L L Worthington, W L Yeck, V Schulte-Pelkum, K Aydinian

Thursday P.M.

Union

U43A Moscone South: Poster Hall Thursday 1340h **Frontiers in Scientific Ocean Drilling: Recent Discoveries and Future Opportunities II Posters**

Presiding: R von Huene, UC Davis; E A Solomon, University of Washington

1340h **U43A-0001** POSTER Fluid and chemical fluxes along a buried-basement ridge in the eastern Juan de Fuca Ridge flank: S Hulme, C G Wheat

1340h **U43A-0002** POSTER IODP Packer Experiments in Young Juan de Fuca Crust Suggest Lateral Continuity of Hydrological Structure on Ridge-parallel Scale of ~1 km: K Becker, A Fisher, T Tsuji, S Mrozewski, D Winslow, Title of Team: Expedition 327 Scientists

1340h **U43A-0003** *POSTER* Window into Sediment-Buried Basement Biosphere: Fluid Sampling from CORK Observatory Seafloor Platforms, Juan de Fuca Ridge Flanks: **J P Cowen**, H Lin, M Rappe, S Jungbluth, B T Glazer, M Matzinger, J P Amend, J Boettger

1340h **U43A-0004** *POSTER* Organic chemistry of fluids from sediment-buried young basement: discrete sampling from ODP borehole 1301A & 1025C: **H Lin**, J P Cowen, J P Amend, D B Albert, B T Glazer, M Rappe, S Jungbluth, M Matzinger

1340h **U43A-0005** *POSTER* An integrated optical/acoustic communication system for seafloor observatories: A field test of high data rate communications at CORK 857D: **M Tivey**, N Farr, J Ware, C Pontbriand

1340h **U43A-0006** *POSTER* Highlights of Recent CORK Hydrologic Borehole Observatory Results: Applications to Oceanography, Seismology, and Geodynamics: **E E Davis**, M L Heesemann

1340h **U43A-0007** *POSTER* Long-Term Hydrogeochemical Records from Ocean Drilling Program Borehole Observatories in the Costa Rica Subduction Zone: M Kastner, **E A Solomon**, C G Wheat, H W Jannasch

1340h **U43A-0008** *POSTER* NanTroSEIZE observatories: Installation of a long-term borehole monitoring systems offshore the Kii Peninsula, Japan: **A Kopf**, D M Saffer, E E Davis, E Araki, M Kinoshita, R M Lauer, C G Wheat, K Kitada, T Kimura, S Toczko, N O Eguchi, E Science Parties

1340h **U43A-0009** *POSTER* Quantification of subsurface pore pressure through IODP drilling: **D M Saffer**, P B Flemings

1340h **U43A-0010** WITHDRAWN

1340h **U43A-0011** *POSTER* Comparing slip behavior and hydromechanical properties of fault systems in the Nankai subduction zone: **M Ikari**, D M Saffer, C Marone, M W Knuth

1340h **U43A-0012** *POSTER* Application of an iterative analytical model for determining formation permeability from temperature data in subseafloor boreholes: **D M Winslow**, A T Fisher, K Becker

1340h **U43A-0013** *POSTER* A Snapshot of Climate Variability at Tahiti 9.5 ka using a Fossil Coral from IODP Expedition 310: **K L DeLong**, T M Quinn, C Shen, K Lin

1340h **U43A-0014** *POSTER* Tuffaceous sandstones at Site C0011B, Nankai Trough: Sources and emplacement processes: **S Kutterolf**, R P Scudder, A Freundt, S Labanieh, H Naruse, K T Pickering, M Underwood, H Wu, S Saito, Y Kubo, Title of Team: IODP Expedition 322 Scientists

1340h **U43A-0015** *POSTER* Pliocene to Quaternary Central American tephrostratigraphy based on marine Tephros from ODP and DSDP sites – first comprehensive study: **K Strehlow**, S Kutterolf, A Freundt, T Kwasnitschka

1340h **U43A-0016** *POSTER* Very Rapid Reversals Recorded by Middle Jurassic Ocean Crust: **M B Steiner**

1340h **U43A-0017** *POSTER* Toward a Theory of Geomagnetic Change: An Opportunity Through Ocean Drilling: **J S Stoner**, G St-Onge, C Xuan

1340h **U43A-0018** *POSTER* The MoHole: a Crustal Journey and Mantle Quest: **B Ildefonse**, N Abe, Y Isozaki, D K Blackman, J Canales, S Kodaira, G Myers, K Nakamura, M R Nedimovic, N Seama, D A Teagle, S Umino, D S Wilson, M Yamao

1340h **U43A-0019** *POSTER* Drilling at the northern Hikurangi subduction margin, New Zealand: The key to unlock the secrets of slow slip events: **D H Barker**, L M Wallace, R E Bell, S A Henrys, Title of Team: Hikurangi Margin Working Group

U43B Moscone South: I04 Thursday 1340h
Dynamic Earth: Plates, Plumes, and Mantle Convection I

Presiding: **M A Richards**, University of California, Berkeley; **W F McDonough**, University of Maryland

1340h **U43B-01** The emergence of whole mantle convection as a guiding paradigm in earth science: **M Gurnis**, L Alisic

1355h **U43B-02** Constraints on the Nature and Scale of Mantle Convection From Global Seismic Tomography and Transition Zone Imaging. (*Invited*): **R D van der Hilst**

1410h **U43B-03** Upper Mantle Structure and Properties from Combined Seismological and Experimental Models (*Invited*): **U Faul**, I Jackson, C A Dalton

1425h **U43B-04** Continents, Super-Continents, Mantle Thermal Mixing, and Mantle Thermal Isolation: **A Lenardic**, M Jellinek, C O'Neill, C M Cooper, L Moresi, C Lee

1440h **U43B-05** Insights into Earth's Accretion and Mantle Structure from Neon and Xenon in Icelandic Basalt (*Invited*): **S Mukhopadhyay**

1455h **U43B-06** Deep Water Cycle: its Role in Earth's Thermal Evolution and Plate Tectonics: T W Becker, J W Crowley, **M G erault**, T H oink, A J Schaeffer, P H Barry, J Frost, J Girard, M Nunez-Valdez, M Hirschmann, S Hier-Majumder, R J O'Connell

1510h **U43B-07** Models of Thermal Evolution of the Earth with Layered Viscosity and Plates: **R J O'Connell**, J W Crowley

1525h **U43B-08** Noble Gases in a Heterogeneous, Dynamic Mantle: **G F Davies**

Atmospheric Sciences

A43A Moscone South: Poster Hall Thursday 1340h
Atmospheric Sciences General Contributions: Numerical Methods II Posters

Presiding: **S Madronich**, NCAR; **S J Solomon**, Environment Canada

1340h **A43A-0190** *POSTER* A General Three-Dimensional Transformed Eulerian Mean Formulation and Application: **A Noda**, Y Kawatani

1340h **A43A-0191** *POSTER* The Data Assimilation Research Testbed: New Algorithms and Applications: J L Anderson, G Romine, **K Raeder**, H Liu, N Collins, T J Hoar

1340h **A43A-0192** WITHDRAWN

1340h **A43A-0193** *POSTER* Fuzzy-Probabilistic Risk Analysis of Weather Impact on Duration of Highway Construction: **I Abrishamchi**, M Khanzadi, S Afandizadeh

1340h **A43A-0194** *POSTER* A control-volume model of the compressible Euler equations with vertical Lagrangian Coordinate: **X Chen**, B Van Leer, N G Andronova, S Lin, J Penner

A43B Moscone South: Poster Hall Thursday 1340h
Climate Processes and Other Research Applications Enabled by Satellite Sounders, Imagers, and Profilers I Posters (joint with H)

Presiding: **B H Kahn**, Jet Propulsion Laboratory; **B Tian**, Jet Propulsion Lab

1340h **A43B-0195** *POSTER* The Diurnal Cycle of Clouds and Radiation: **A Marquardt**, M A Miller, V Ghate

1340h **A43B-0196** *POSTER* Climatology data of IR land spectral emissivity derived from IASI 3-year measurements: **D K Zhou**, A Larar, X Liu

- 1340h **A43B-0197** *POSTER* Comparison of Measured and MODIS Albedo - Big Cypress National Preserve, Florida USA: **D M Sumner**, Q Wu, C S Pathak
- 1340h **A43B-0198** *POSTER* Properties of tropical convective regimes identified through cluster analysis of satellite observations: **M A Rogers**, G L Stephens
- 1340h **A43B-0199** *POSTER* Partitioning CloudSat Ice Water Content for Comparison with Upper-Tropospheric Ice in Global Atmospheric Models: **W A Chen**, C P Woods, J F Li, D E Waliser, J Chern, W Tao, J H Jiang, A M Tompkins
- 1340h **A43B-0200** *POSTER* Multi-Sensor Analysis of Cloud-Top Height in Sc - Cu Transition Regions: **E Ludewig**, A Horvath
- 1340h **A43B-0201** *POSTER* Tracking Water Vapor in the Winter High Arctic using the Microwave Humidity Sounder: T J Duck, **G B Lesins**, J R Drummond
- 1340h **A43B-0202** *POSTER* AIRS Water Vapor and Cloud Products Validate and Explain Recent Negative Global and Tropical OLR Trends Observed by CERES: **J Susskind**, G I Molnar, L F Iredell, Title of Team: Sounder Research Team
- 1340h **A43B-0203** *POSTER* On-Orbit Absolute Radiance Standard for Future IR Remote Sensing Instruments: **F A Best**, D P Adler, C Pettersen, H E Revercomb, P J Gero, J K Taylor, R O Knuteson, J H Perepezko
- 1340h **A43B-0204** *POSTER* The University of Wisconsin Space Science and Engineering Center Absolute Radiance Interferometer (ARI): **J K Taylor**, H E Revercomb, H Buijs, F J Grandmont, P J Gero, F A Best, D C Tobin, R O Knuteson, D D LaPorte
- 1340h **A43B-0205** *POSTER* Validating a semi analytical cloud optical thickness retrieval technique by studying the effect of scaled cloud optical thickness on surface UV radiation and photolysis frequencies for NO₂, using Tropospheric Ultraviolet and Visible radiation model: **P Pandey**, K De Ridder, N van Lipzig
- 1340h **A43B-0206** *POSTER* Spectra Handling from AIRS and IRIS for Climate Change Research: **Y Jiang**, M Lau, H H Aumann, Y L Yung
- 1340h **A43B-0207** *POSTER* IASI Products Processing System at the NOAA/NESDIS: **A K Sharma**
- 1340h **A43B-0208** *POSTER* The Development of AMSU-A Fundamental CDR's: **W Yang**, H Meng, R Ferraro
- 1340h **A43B-0209** *POSTER* The Synergistic Use of NASA's A-Train Observations to Characterize the Planetary Boundary Layer and Enable Improved Understanding and Prediction of Land-Atmosphere Interactions: B Zavodsky, **J A Santanello**, M A Friedl, J Susskind, S P Palm
- 1340h **A43B-0210** *POSTER* The Information of PSC and PMC from GOSAT FTS: **G Kadosaki**, T Ichimaru, N Hirasawa, T Yamanouchi
- 1340h **A43B-0211** *POSTER* SABER OH Mesospheric Airglow Emissions: D J Baker, **B Svedin**, G Ware, Title of Team: SABER Science Team
- 1340h **A43B-0212** *POSTER* Lightning Impact on Tropospheric Ozone over the Tropical Southern Indian Ocean: **L Zhang**, Q Li, J Jin, N J Livesey
- 1340h **A43B-0213** *POSTER* Eight Year Climatology from observational (AIRS) and model (MERRA) data: **T J Hearty**, A K Savtchenko, Y Won, M Theobald, B Vollmer, E Manning, P M Smith, D Ostrenga, G G Leptoukh
- 1340h **A43B-0214** *POSTER* Toward Global Soundings and Atmospheric Measurements for Climate and NWP Using GNSS Radio Occultation Systems: **S A Mango**, D Ector, P Wilczynski, R A Fulton, D Whitely, L Cucurull, V Chu, W S Schreiner, C Rocken, R A Anthes, Y Kuo, K Cook
- 1340h **A43B-0215** *POSTER* Observations of Changing Cloud Properties due to the Great Lakes: **S A Ackerman**, B C Maddux, R E Holz, S E Platnick, W Menzel
- 1340h **A43B-0216** *POSTER* Results from the first inter-comparison study of overlapping data from the GERB 1 and GERB 2 instruments: **R Bantges**, J Russell, J E Harries
- 1340h **A43B-0217** *POSTER* Combined SSM/I and MERIS Water Vapour Products from the ESA GlobVapour project: **R Lindstrot**, M Stengel, M Schröder, N Schneider, R Preusker, J Fischer
- 1340h **A43B-0218** *POSTER* Are Convective Storms Initiated from Surface Processes? - A View from Satellites: **C Liu**, J Li, S A Ackerman
- 1340h **A43B-0219** *POSTER* Cloud Top Properties of AIRS V6: **H T Dang**, B H Kahn, M M Schreier, E Fetzer
- 1340h **A43B-0220** *POSTER* Validation of AIRS Version 6 Retrievals: **E Fetzer**, F W Irion, H T Dang, K Yau
- 1340h **A43B-0221** WITHDRAWN
- 1340h **A43B-0222** *POSTER* Global characteristics between lightning activity and frozen hydrometeor from WWLLN and AMSU-B/MHS: **Y Nakamura**, R H Holzworth, A R Jacobson, J A Weinman, L A McMurdie, H Meng, R R Ferraro, T Morimoto, T Ushio, Z Kawasaki
- 1340h **A43B-0223** *POSTER* Documenting the distribution of cloud layers within ISCCP cloud types using CloudSat and CALIPSO data: **F J Wrenn**
- 1340h **A43B-0224** *POSTER* Exploring the Chemical Reach of the Madden-Julian Oscillation using the A-Train data: **B Tian**, K Li, D E Waliser, Y L Yung, E Fetzer, J Worden, M J Schwartz
- 1340h **A43B-0225** *POSTER* Variability of AIRS Infrared Spectra in the Presence of Clouds Observed by MODIS: **M M Schreier**, B H Kahn, S L Nasiri, K Li, J Karlsson, Q Yue, S Ou
- 1340h **A43B-0226** *POSTER* Blackbody Cavity Design and Absorptance Metrology for CLARREO On-board Calibrator Support: **S Mekhontsev**, L M Hanssen, E L Shirley
- 1340h **A43B-0227** *POSTER* The Vertical and Horizontal Distribution of Clouds and Uncertainty from MODIS: **B C Maddux**, S A Ackerman, S E Platnick, W Menzel
- 1340h **A43B-0228** *POSTER* Optical Property Characterization of Far IR Materials Critical for CLARREO Mission Support: **L M Hanssen**, B Wilthan, S Mekhontsev, C Monte, J Hollandt, P McKenna, M Szczesniak
- 1340h **A43B-0229** *POSTER* Statistics of Cloud properties over four oceanic stratocumulus regions as a function of cloud fraction, cloud type and sea surface temperature: Large-scale signatures of turbulent cloud mixing: **M de la Torre Juarez**, J Teixeira, E Fetzer, A B Davis
- 1340h **A43B-0230** *POSTER* Interpretation of multi-wavelength-retrieved cloud droplet effective radii in terms of cloud vertical inhomogeneity using a spectral-bin microphysics cloud model and the radiative transfer: **T N Matsui**, K Suzuki, T Y Nakajima
- 1340h **A43B-0231** *POSTER* Comparing Information Content of Mid and Far Infrared Spectra for Clear-Sky Atmospheric Profile Retrievals: **A J Merrelli**, D Turner
- 1340h **A43B-0232** *POSTER* Using MODIS data to detect the presence of ice crystals in and above super-cooled liquid water clouds over the Arctic: **D Spangenberg**, P Minnis, R Palikonda, F Chang, M Shupe
- 1340h **A43B-0233** *POSTER* Comparing Water Vapor Estimates From AIRS and a Preliminary NVAP Reprocessed Data Set: T P Barnett, **D W Pierce**, E Fetzer
- 1340h **A43B-0234** *POSTER* Impact of various features of CRTM in GEOS-5: **E Liu**, R Todling, R Gelaro

A43C Moscone South: Poster Hall Thursday 1340h
Marine Aerosols: Production Mechanisms, Chemical
Composition, and Representation in Regional and Global
Models II Posters (joint with B, OS)

Presiding: **N Meskhidze**, North Carolina State university;
M D Petters, North Carolina State University; **L M Russell**, Scripps
Institution of Oceanography

1340h **A43C-0235** *POSTER* Adaptive method of lines for multi-
component aerosol condensational growth and cloud droplet
activation: **S Arabas**, H Pawlowska

1340h **A43C-0236** *POSTER* Molecular Characterization of Marine
Organic Aerosols Collected during a Round-the-World Cruise: **P Fu**,
K Kawamura, K Miura

1340h **A43C-0237** *POSTER* Investigating aerosol loading in the
remote marine environment using multi-platform observations
and GEOS-Chem: **K Lapina**, C L Heald, D V Spracklen, S R Arnold,
T S Bates, J D Allan, H Coe, G McFiggans, S R Zorn, A Smirnov,
F Drewnick

1340h **A43C-0238** *POSTER* Deriving a relationship between wind
speed and marine aerosol optical depth using CALIPSO and AMSR-E
data: **V Kiliyanpilakkil**, N Meskhidze

1340h **A43C-0239** *POSTER* New insights into modeling an organic
mass fraction of sea spray aerosol: **N Meskhidze**, B Gantt

1340h **A43C-0240** *POSTER* Quantifying Marine Emissions
of Biogenic Volatile Organic Compounds Using Laboratory
Measurements of Plankton Monocultures and Field Samples:
A W Sabolis, N Meskhidze, D Kamykowski, R E Reed

1340h **A43C-0241** *POSTER* The effect of organic matter on CCN
properties of particles produced in laboratory simulations of bubble
bursting: **S King**, T Rosenoern, D Nilsson, M Bilde

1340h **A43C-0242** *POSTER* Global distribution of sea salt aerosols:
New constraints from in situ and remote sensing observations:
L Jaegle, P Quinn, T S Bates

1340h **A43C-0243** *POSTER* Modeling the Production and Regional
Impacts of Freshwater "Marine" Particles in the Great Lakes Region:
S H Chung, B Basarab, **T M VanReken**

1340h **A43C-0244** *POSTER* Comparison of the cloud activation
potential of open ocean and coastal aerosol in the Pacific Ocean:
G Vidaurre, S D Brooks, D C Thornton

1340h **A43C-0245** *POSTER* Continental-scale transport of sea salt
aerosol: **W H White**, B P Perley, R L Poirot, T F Dann, E Dabek-
Zlotorzynska

1340h **A43C-0246** *POSTER* Atmospheric DMS and its oxidation
products in relation to aerosol growth and formation in the
Canadian Arctic: **O T Rempillo**, A Seguin, A L Norman

A43D Moscone South: Poster Hall Thursday 1340h
Quantification of Emissions: Addressing Current and Future
Challenges III Posters (joint with B)

Presiding: **G J Frost**, NOAA; **C Granier**, LATMOS/IPSL and NOAA

1340h **A43D-0247** *POSTER* The Global Emissions Inventory
Activity (GEIA): **P Middleton**, A B Guenther, C Granier, A Mieville

1340h **A43D-0248** *POSTER* ECCAD : Emission of Atmospheric
Compounds & Compilation of Ancillary Data: **S Darras**, C Granier,
V Pignot, R Bodichon, C Boonne, C Liousse, M Paulin

1340h **A43D-0249** *POSTER* Evolution of anthropogenic emissions
at the global and regional scale during the past three decades:
C Granier, B B Bessagnet, T C Bond, A D'Angiola, H Denier Van
Der Gon, G J Frost, A Heil, J Kaiser, S A Kinne, Z Klimont, S Kloster,
J Lamarque, C Liousse, T Masui, F Meleux, A Mieville, T Ohara,
J Raut, K Riahi, M G Schultz, S Smith, A M Thomson, J van
Aardenne, G van der Werf, D van Vuuren

1340h **A43D-0250** *POSTER* The Community Initiative for
Emissions Research and Applications: **G J Frost**, C Granier,
S R Falke, T J Keating, J Lamarque, M L Melamed, P Middleton,
G Petron, S Smith

1340h **A43D-0251** *POSTER* Collaboration Web Spaces for the
Community Initiative for Emissions Research and Applications
(CIERA): **S R Falke**, E Fialkowski, G J Frost, C Granier, T J Keating,
J Lamarque, M L Melamed, P Middleton, G Petron, S Smith

1340h **A43D-0252** *POSTER* Global EDGAR greenhouse gas
emissions and national emissions reporting under the UN
Climate Convention: availability, structure, definitions and role of
uncertainties: **J G Olivier**, S Monni, J van Aardenne, U M Doering,
G Janssens-Maenhout, J A Peters, V Pagliari

1340h **A43D-0253** *POSTER* U.S. regional greenhouse gas emissions
analysis comparing highly resolved vehicle miles traveled and CO2
emissions: mitigation implications and their effect on atmospheric
measurements: **D L Mendoza**, K R Gurney

1340h **A43D-0254** *POSTER* Developing an Improved Wildland
Fire Emissions Inventory: **S Larkin**, S M Raffuse, T Strand, S Drury,
R C Solomon, N Wheeler

1340h **A43D-0255** *POSTER* Modelling African aerosol using
updated fossil fuel and biofuel emission inventories for 2005 and
2030: **C Liousse**, J E Penner, E Assamoi, L Xu, P Criqui, S Mima,
B Guillaume, R Rosset

1340h **A43D-0257** *POSTER* How do emission patterns in megacities
affect regional air pollution?: **A Heil**, C Richter, S Schroeder,
M G Schultz

1340h **A43D-0258** *POSTER* A probabilistic approach to emissions
from transportation sector in the coming decades: **F Yan**, E Winijkul,
T C Bond, D G Streets

1340h **A43D-0259** *POSTER* Could Expanded Freight Rail Reduce
Air Pollution from Trucks?: **E E Bickford**, T Holloway, M Johnston

1340h **A43D-0260** *POSTER* Ozone sensitivity to industrial ethene
emissions events in regulatory air quality modeling simulations for
Houston, Texas: **E Couzo**, A O Olatosi, W Vizuete

1340h **A43D-0261** *POSTER* Quantifying Air Quality Co-Benefits
from Lower-Carbon Electricity Production: **S D Plachinski**,
T Holloway, P Meier, J Oberman

1340h **A43D-0262** *POSTER* Simulation of methane emissions
from tropical wetlands and rice paddies in the Community
Land Model (CLM4)-CN: Introduction and preliminary results:
L Meng, N M Mahowald, P G Hess, J B Yavitt, Z Subin, W J Riley,
D M Lawrence

1340h **A43D-0263** *POSTER* Net Greenhouse Gas Emissions at the
Eastmain 1 Reservoir, Quebec, Canada: **I B Strachan**, A Tremblay,
J Bastien, M Bonneville, P del Georgio, M Demarty, M Garneau,
J Helie, L Pelletier, Y Prairie, N T Roulet, C R Teodoru

1340h **A43D-0264** *POSTER* Real-Time Characterization of Particle
and Gas Phase Diesel Emissions – Understanding the Influence of
a Diesel Particulate Filter: **E S Cross**, A Sappok, A J Carrasquillo,
T B Onasch, E Fortner, J Jayne, V Wong, D R Worsnop, J H Kroll

1340h **A43D-0265** *POSTER* Quantifying the isotopic composition
of NOx emission sources: An analysis of collection methods:
D L Fibiger, M G Hastings

1340h **A43D-0266** POSTER New Insights on the Use of Ethanol in Automotive Fuels: A Stable Isotopic Tracer for Fossil Fuel Combustion Inputs to the Atmosphere: **B M Giebel**, P K Swart, D D Riemer

1340h **A43D-0267** POSTER Tracking Indium Emissions to the Atmosphere in the Northeastern United States: **S O White**, H Hemond

1340h **A43D-0268** POSTER Improving the lightning NO_x source using satellite observations: a 4D-var analysis approach: **R V Martin**, N Bousserrez, K W Bowman, D K Henze, M Kopacz, K Singh, C Shim

1340h **A43D-0269** POSTER Evaluating mobile emissions sources with satellite NO₂ and CO observations: **J Oberman**, T Holloway, E E Bickford, M Luedke, C C Moberg, S D Plachinski

1340h **A43D-0270** POSTER Quantification of Shipping Emissions in the Eastern Mediterranean and Comparison with Satellite Observations: **A Kilic**, A Unal, T Kindap, M Karaca, M N Khan

1340h **A43D-0271** POSTER Gas Flaring Volume Estimates with Multiple Satellite Observations: **D C Ziskin**, C Elvidge, K Baugh, T Ghosh, F C Hsu

1340h **A43D-0272** POSTER Evidence of emissions from oil and gas drilling operations in northeastern Colorado: **G Petron**, S A Montzka, A Karion, B R Miller, G J Frost, A Hirsch, C Sweeney, A E Andrews, E J Dlugokencky, B D Hall, M Trainer, D C Welsh, D E Wolfe, P P Tans

1340h **A43D-0273** POSTER Quantifying the Australian methane budget: the importance of wetlands emissions highlighted by surface and train-borne Fourier transform spectrometers: **A C Fraser**, C Chan Miller, P I Palmer, A A Bloom, N M Deutscher, L Feng, D W Griffith, N B Jones

1340h **A43D-0274** POSTER Emissions by Uncontrolled Coal Fires: **A F Terschure**, M Engle, E Heffern, J Hower, A Kolker, A Prakash, L Radke

1340h **A43D-0275** POSTER Using annual plants as atmospheric ¹⁴CO₂ samplers for regional fossil fuel emissions estimates: crop modeling and intensive sampling approaches: D Bozhinova, **W Peters**, M Combe, S W Palstra, H A Meijer, M C Krol

1340h **A43D-0276** POSTER Top-down Validation of Global and East Asian Emissions of Tetrafluoromethane and Hexafluoroethane: **J Kim**, J Muhle, P J Fraser, S Li, T Arnold, C M Harth, P Salameh, P Steele, P B Krummel, M Leist, A Stohl, M Park, R F Weiss, K Kim

1340h **A43D-0277** POSTER Verification of national halogenated greenhouse gas emissions in Europe using top-down estimates inferred from ambient air measurements: **D Brunner**, C A Keller, M K Vollmer, S Reimann, S O'Doherty

1340h **A43D-0278** POSTER History of Atmospheric SF₆ Emissions from 1973 to 2008: **M L Rigby**, J Muhle, B R Miller, R G Prinn, P B Krummel, P Steele, P J Fraser, P Salameh, C M Harth, R F Weiss, B R Grealley, S O'Doherty, P Simmonds, M K Vollmer, S Reimann, J Kim, K Kim, H Wang, J G Olivier, E J Dlugokencky, G S Dutton, B D Hall, J W Elkins

A43E Moscone West: 3004 Thursday 1340h
Atmospheric Sciences General Contributions: Aerosols, Air Quality, and Atmospheric Chemistry II

Presiding: **D D Davis**, Georgia Institute of Technology

1340h **A43E-01** Physicochemical and Toxicological Characteristics of Semi-volatile Components of Atmospheric Aerosols in an Urban Environment: **V Verma**, P Pakbin, K L Cheung, A K Cho, J J Schauer, M M Shafer, M T Kleinman, C Sioutas

1355h **A43E-02** Relationship between aerosol oxidation level and hygroscopic properties of laboratory generated secondary organic aerosol (SOA) particles: **P Massoli**, A Lambe, A Ahern, L R Williams, M Ehn, J Mikkila, M Canagaratna, W H Brune, T B Onasch, J Jayne, T T Petdjid, M T Kulmala, A Laaksonen, C E Kolb, P Davidovits, D R Worsnop

1410h **A43E-03** Photochemical Degradation of Persistent Organic Pollutants: A Study of Ice Photochemistry Mediated by Dissolved Organic Matter: **B Pierce**, A M Grannas

1425h **A43E-04** Transport of Cs-137 from Boreal Biomass Burning in Summer of 2010: **S A Strode**, L E Ott, J E Nielsen, S Pawson

1440h **A43E-05** Computational fluid dynamics (CFD) simulations with photochemistry of reactive pollutants in an urban street canyon: **M Kim**, R Park, J Kim

1455h **A43E-06** Turbulent Dispersion of Traffic Emissions: **R M Staebler**, M Gordon, J Liggio, P Makar, C Mihele, J Brook, J J Wentzell, S Gong, G Lu, P Lee

1510h **A43E-07** Yearly Trends in South Pole Atmospheric Sulfur and Nitrogen Species and Their Potential Use in Ice Core Interpretations: **D D Davis**, Y Wang, T Zeng, P Wine, K Brady, R Weber, J M Nicovich, A Beyersdorf, R Arimoto, W D Neff, Title of Team: ANTCI

1525h **A43E-08** Ozone Production Potential of Volatile Organic Compounds: **T Butler**, M G Lawrence, J Lelieveld

A43F Moscone West: 3002 Thursday 1340h
Hurricane Prediction and Societal Impacts II (*joint with NH, OS, PA*)

Presiding: **S S Chen**, University of Miami; **T Vukicevic**, AOML/NOAA

1340h **A43F-01** Observation, Analysis and Prediction of Atlantic tropical Cyclone Formation (*Invited*): **C A Davis**, R D Torn

1355h **A43F-02** Applying ultra-high resolution Global weather-climate models for hurricane predictions: past progresses and future directions (*Invited*): **S Lin**

1410h **A43F-03** High Resolution Hurricane Storm Surge and Inundation Modeling (*Invited*): **R Luettich**, J J Westerink

1425h **A43F-04** Hurricane Warnings and Society - it's not as easy as you think! (*Invited*): **B Read**

1440h **A43F-05** Improved Goddard Microphysics for simulating Typhoon Morakot 2009: **W Tao**, J J Shi, P Lin

1452h **A43F-06** A new transitioning wind field model based on high resolution reanalyzes: **V P Daniel**

1504h **A43F-07** Dynamic Hurricane Season Prediction with the NCEP T382 CFS CGCM: **J E Schemm**, L Long

1516h **A43F-08** Observing System Simulation Experiments for Hurricanes: Early results and plans for the future: **R M Atlas**, Z Pu

1528h **A43F-09** Hurricane and Severe Storm Sentinel (HS3): **S A Braun**, P A Newman, M Vasques

A43G Moscone West: 3008 Thursday 1340h
Troposphere Gaseous Composition in Regional and Global Perspective III (*joint with B*)

Presiding: **O A Tarasova**, World Meteorological Organization; **P C Novelli**, NOAA/ESRL

1340h **A43G-01** NO_x Chemical Sinks in the Upper Troposphere: **B H Henderson**, R W Pinder, J Crooks, R C Cohen, W T Hutzell, G Sarwar, W S Goliff, W R Stockwell, A Fahr, R Mathur, A G Carlton, W Vizuete

1355h **A43G-02** Seasonal Variability of Trans-Pacific Transport of Carbon Monoxide in the Upper Troposphere: Observations and simulations: **J Jin**, N J Livesey, J H Jiang, A Lupu, J W Kaminski, J C McConnell

1410h **A43G-03** Trend and Variability Analysis of Tropospheric Carbon Monoxide data Records from AIRS and Ground Measurements: **J X Warner**, Z Wei

1425h **A43G-04** Atmospheric Mercury Transport and Chemistry in Western Canada and the Arctic: Results from the IPY Project INCATPA: **A S Cole**, A Steffen, H Hung

1440h **A43G-05** Analysis of air quality trace gas spatio-temporal variability over the USA using the WRF-chem regional model: **A Boynard**, D P Edwards, G Pfister

1455h **A43G-06** Improving Atmospheric SF₆ Measurements: Towards a Better Understanding of Emissions: **B D Hall**, G S Dutton, D J Mondeel, A M Crotwell, J W Elkins

1510h **A43G-07** Global emissions of the hydrofluorocarbons (HFCs) HFC-365mfc, HFC-245fa, HFC-227ea, and HFC-236fa based on atmospheric observations: **M K Vollmer**, B R Miller, M L Rigby, S Reimann, J Muhle, Title of Team: AGAGE, SOGE, SNU members, KOPRI members

1525h **A43G-08** The atmospheric trend of methyl chloride and other chlorocarbons in the northern hemisphere obtained from the North Greenland Eemian (NEEM) firn air record: **C J Hogan**, W T Sturges, C Reeves, F Mani, R Mulvaney, D R Worton, P MARTINERIE, T Blunier, J Schwander

A43H Moscone West: 3006 Thursday 1340h
Wind Power Meteorology II (*joint with OS, PA*)

Presiding: **J K Lundquist**, U. of Colorado at Boulder; **S Basu**, North Carolina State University; **J R McCaa**, 3TIER

1340h **A43H-01** Evaluating the Impact of Enhanced Data for Assimilation on Short-term Forecasting for Wind Power: Overview of a Planned DOE/NOAA/Private-industry Study: **W J Shaw**, J M Wilczak, S Calvert, A Stern, S Benjamin

1355h **A43H-02** Clear and Present Atmospheric Science Foci for Wind Energy (*Invited*): **G S Poulos**

1410h **A43H-03** Comparison of Environmental Conditions Between Offshore Sites in Europe and United States: **J M Freedman**, M V Filippelli, B H Bailey

1425h **A43H-04** Downscaling the North American Regional Reanalysis Wind Dataset: **S Basu**, B A Storm, R Trier

1440h **A43H-05** Typical and Extreme Wind Speed Behavior for Coastal and Mainland Locations over the Past 50 years in the Pacific Northwest, North America: **B Griffin**, K E Kohfeld, A B Cooper, G W Boenisch

1455h **A43H-06** The Role of Meteorological Forecasting in Quantifying the Carbon Emissions Associated with Highly Intermittent Renewable Portfolios: **E Hart**, M Z Jacobson

1510h **A43H-07** Understanding the collective effects of large scale wind energy production: Implications for minimizing impacts while maximizing electricity production: **A S Adams**, D Keith

1525h **A43H-08** Seasonal and annual variability of the global onshore and offshore wind power resource at 100 m: **C L Archer**, M Z Jacobson

Biogeosciences

B43A Moscone South: Poster Hall Thursday 1340h
Biogeochemistry of Urban and Suburban Ecosystems II
Posters (*joint with PA, V, H*)

Presiding: **M Steele**, Texas A&M University; **J A Aitkenhead-Peterson**, Texas A&M University

1340h **B43A-0444 POSTER** The effect of nutrient ratios on *E. coli* re-growth in urban streams: **J A Aitkenhead-Peterson**, K McCrary, T J Gentry, C L Harclerode

1340h **B43A-0445 POSTER** Controls on Bacterial Concentrations in Sediment Grab Samples from the Hudson River Estuary: **J Batta**, B J Mailloux, F O Nitsche, T C Kenna, A S Ferguson, J Cheung, A Layton

1340h **B43A-0446 POSTER** Seasonal nutrient dynamics in the Anacostia River (D.C., USA): geochemistry and hydrocarbon biomarkers: S Sarraino, D E Frantz, **S E MacAvoy**

1340h **B43A-0447 POSTER** Long-term Sodium and Chloride Surface Water Exports from a Humid Subtropical Urban Gradient: **M Steele**, J A Aitkenhead-Peterson

1340h **B43A-0448 POSTER** Nitrogen transformation and removal in low-order restored urban streams: **A K Tuttle**, S K McMillan, S Clinton

1340h **B43A-0449 POSTER** Quantifying Spatial Variability in Runoff Quality in Semi-arid Urban Catchments: **A M Peterson**, E L Gallo, K A Lohse, P D Brooks, T Meixner

1340h **B43A-0450 POSTER** Elevated soil lead concentrations in residential yards in Appleton, WI, a small Midwestern city: **J J Clark**, **A C Knudsen**

1340h **B43A-0451 POSTER** Contributions of Paint and Soil to Pb in Household Dust Wipes: An XAS Study: **N E Pingitore**, J W Clague, M A Amaya

1340h **B43A-0452 POSTER** The Physical Speciation and Exchange of Metals in a Treatment Marsh: R Lee, **D J Janssen**, M P Hurst

1340h **B43A-0453 POSTER** Diffusion Study on Dissolved Hydrogen toward Effective Bioremediation of Chlorinated Ethenes in Aquitards: **M Yoshikawa**, M Zhang, M Takeuchi, T Komai

1340h **B43A-0454 POSTER** Comparison of Reductive Dechlorination of Chlorinated Ethylene in Batch and Continuous-Flow Reactor: **S Park**, L Jonghwan, U Hong, N Kim, H Ahn, S Lee, Y Kim

1340h **B43A-0455 POSTER** Attic Dust Analysis Approach for Evaluation of Heavy Metal Deposition on the El Paso Del Norte Region: **E G Shekhter**, S Van Pelt, K Pannell, T E Gill, M A Barnes

B43B Moscone South: Poster Hall Thursday 1340h
Foundations for Earth System Stewardship II Posters (*joint with A, GC, OS, H*)

Presiding: **R B Jackson**, Duke University; **J W Harden**, U.S. Geological Survey

1340h **B43B-0456 POSTER** Cumulative Carbon and Anthropocene Climate: **D Matthews**, R Pierrehumbert, S Solomon

1340h **B43B-0457 POSTER** Mid Latitude Afforestation Shifts General Circulation and Tropical Precipitation: **A Swann**, I Fung, J C Chiang

1340h **B43B-0458 POSTER** Past and Future of the Anthropogenic Biosphere: **E C Ellis**

1340h **B43B-0459 POSTER** Managing Land to Enhance Water Resources: A Hydrologic Ecosystem Services Study in Kona, Hawai'i: **K A Brauman**, G C Daily, D L Freyberg

1340h **B43B-0460** POSTER Agricultural Management Practices Explain Variation in Global Yield Gaps of Major Crops:

N D Mueller, J S Gerber, D K Ray, N Ramankutty, J A Foley

1340h **B43B-0461** POSTER Pattern formation during water infiltration in soil increases the resilience of water-stressed ecosystems: **L Cueto-Felgueroso**, R Juanes

1340h **B43B-0462** WITHDRAWN

1340h **B43B-0463** POSTER From Field to Fork: Mapping Agricultural Land Use in Terms of Calories Delivered to Humans: **E S Cassidy**, J S Gerber, J A Foley

1340h **B43B-0464** POSTER Vulnerability on the Roof of the World: Resilience to Climate Change and Natural Resource Policies on the Tibetan Plateau: **J A Klein**, K A Hopping, E Yeh, J Hu, Y Nyima, R Boone, K Galvin, S Kang, D S Ojima

1340h **B43B-0465** POSTER Tools for and barriers to terrestrial ecosystem stewardship: **C Tonitto**

1340h **B43B-0466** POSTER Fate of the wolverine under climate change in the contiguous United States: **S Peacock**

B43C Moscone South: Poster Hall Thursday 1340h
How Does Landscape Affect Solute Movement to Aquatic Ecosystems? II Posters (*joint with H*)

Presiding: **D A Burns**, U.S. Geological Survey; **S D Sebestyen**, USDA Forest Service; **J B Shanley**, U. S. Geological Survey

1340h **B43C-0467** POSTER Hydrologic Profiling for Greenhouse Gases from Prairie Potholes in Western Canada: **I F Creed**, D A Aldred, R A Bourbonniere

1340h **B43C-0468** POSTER Prairie stream water quality in sub-basins characterized by differing degrees of wetland drainage: **N N Brunet**, C J Westbrook

1340h **B43C-0469** POSTER Determining surface water sources using spatial and temporal variation in stream chemistry in a headwater catchment: **M A Zimmer**, S W Bailey, K J McGuire, T D Bullen

1340h **B43C-0470** WITHDRAWN

1340h **B43C-0471** POSTER Hydrological controls on denitrification in riparian zone of forested headwater catchment: Soil physical properties make difference in reduced environment: **N Ohte**, Y Watanabe, T Oda, K Osaka

1340h **B43C-0472** POSTER Impacts of Surrounding Land Cover on Headwater Wetland Edaphic Habitat Types and Their Associated Microbial Communities: **J B Moon**, D H Wardrop, E A Smithwick

1340h **B43C-0473** POSTER Quantifying topographic and saturation frequency controls on magnitude and duration of hot moments in contrasting biogeochemical hotspots: **J M Duncan**, L E Band

1340h **B43C-0474** POSTER Landscape controls on dissolved nutrients, organic matter and major ions in a suburbanizing watershed: **M L Daley**, W H McDowell

1340h **B43C-0475** POSTER Mapping Critical Loads of Atmospheric Nitrogen Deposition in the Rocky Mountains, USA: **L Nanus**, D W Clow, V C Stephens, J E Saros

B43D Moscone South: Poster Hall Thursday 1340h
Novel Applications of Continuous Measurements in Freshwater Ecosystems II Posters (*joint with H*)

Presiding: **B A Pellerin**, US Geological Survey; **M J Cohen**, University of Florida

1340h **B43D-0476** POSTER In-Situ Ion Analysis of Fresh Waters via an ISE Multiprobe and Artificial Neural Networks: **A V Mueller**, H Hemond

1340h **B43D-0477** POSTER Understanding Biogeochemical and Hydrological Processes in a Reservoir, Kentucky Lake (USA), Using Long-term Monitoring and Real-time Sensors: **S P Hendricks**, D White, M Williamson, R Hooks

1340h **B43D-0478** POSTER An investigation of carbon dynamics in Beaver Creek, Alaska, using in-situ sensors: **M Dornblaser**, R G Striegl

1340h **B43D-0479** POSTER In situ CDOM fluorescence measurements: A continuous proxy for dissolved organic carbon concentration in rivers and streams?: **B A Pellerin**, B A Bergamaschi, B D Downing, J Saraceno, J A Fleck, T E Kraus, J B Shanley, G Aiken

1340h **B43D-0480** POSTER Laser Particle Diffraction: A Novel Approach to Quantify In-Situ Suspended Sediment Particle Size Class Concentrations: **G W Freeman**, J A Hubbard, P Chinnasamy, E A Bulliner, J Schulz

1340h **B43D-0481** POSTER The application of fDOM sensors in freshwater systems: Limitations, knowledge gaps and recommendations for future enhancement and novel development: **B D Downing**, B A Bergamaschi, B A Pellerin, J Saraceno, T E Kraus

1340h **B43D-0482** POSTER Real-time Monitoring of Dissolved Organic Matter (DOM) Amount, Composition, Source and Reactivity Using Fluorescence Spectroscopy: Applications for Drinking Water Quality: **T E Kraus**, J Saraceno, B D Downing, J H Goldman, K D Carpenter, G McGhee, B A Bergamaschi

1340h **B43D-0483** POSTER Dissolved organic carbon interferences in UV nitrate measurements and possible mitigation methods: **R G Thomas**, C R Foster, M J Cohen, J B Martin, J J Delfino

1340h **B43D-0484** POSTER Spatio-Temporal Variation of Stream Metabolism in a Managed River System: **S R Villamizar**, H Pai, C A Butler, P A Barnes, T C Harmon

B43E Moscone West: 2004 Thursday 1340h
Improving Predictions of the Global Carbon Cycle and Climate: New Mechanisms, Feedback Loops, and Approaches for Model Evaluation II (*joint with GC, H, A*)

Presiding: **F M Hoffman**, Oak Ridge National Laboratory; **J T Randerson**, University of California

1340h **B43E-01** Carbon-Water Feedbacks in Climate Models (*Invited*): **I Fung**

1355h **B43E-02** Investigating the interactions between biogeophysical and biogeochemical processes in the northern high latitudes using a land surface model; feedbacks and climatic impacts: **R Barman**, A Jain, M Liang, A D McGuire

1410h **B43E-03** The response of frozen soil respiration to warming controls the 21st century high-latitude CO₂ and CH₄ balance: **C D Koven**, B Ringeval, P Friedlingstein, P Ciais, P Cadule, D Khvorostyanov, G Krinner, C Tarnocai

1425h **B43E-04** Biogeochemical feedbacks on ocean carbon uptake and sensitivity to climate change in an earth system model: **J P Dunne**, J G John

1440h **B43E-05** Global carbon-water cycles patterns inferred from FLUXNET observations - useful for model evaluation? (*Invited*): **M Reichstein**, M Jung, C Beer, D D Baldocchi, E Tomelleri, D Papale, Title of Team: FLUXNET LaThuille synthesis team (cf. www.fluxdata.org)

1455h **B43E-06** The Distribution of Soil Phosphorus in Terrestrial Ecosystems: **X Yang**, W M Post, P E Thornton, A K Jain

1510h **B43E-07** Land cover uncertainty magnifies the climate sensitivity of regional water and carbon fluxes: **B Poulter**, P Ciais, E L Hodson, H Lischke, F Maignan, S Plummer, N Zimmermann

1525h **B43E-08** Divergent trajectories in tropical rainforest carbon-climate relationships: results from a new tropical forest carbon inventory database: **P Taylor**, W Wieder, A Townsend, G P Asner, C Cleveland, S Loarie

B43F Moscone West: 2002 Thursday 1340h
Integrating Advances in Molecular Studies of Denitrification With Biogeochemistry at Larger Scales I (*joint with A, GC, OS, H*)

Presiding: **M K Firestone**, University of California, Berkeley; **M A Voytek**, USGS; **D D Myrold**, Oregon State University; **E A Davidson**, Woods Hole Research Ctr

1340h **B43F-01** Molecular approaches to understand the regulation of N₂O emission from denitrifying bacteria – model strains and soil communities (*Invited*): **A Frostegard**, L R Bakken

1400h **B43F-02** Anaerobic Ammonium Oxidation (ANAMMOX) and Denitrification in Marine Environments (*Invited*): **J J Rich**

1420h **B43F-03** Mapping spatial patterns of denitrifiers at large scales (*Invited*): **L Philippot**, A Ramette, N Saby, D Bru, S Dequiedt, L Ranjard, C Jolivet, D Arrouays

1440h **B43F-04** Using T-RFLP data on denitrifier community composition to inform understanding of denitrification in stream sediments (*Invited*): **S Wang**, K Somers, E Sudduth, B Hassett, E S Bernhardt, D L Urban

1455h **B43F-05** Combining qPCR and functional gene microarrays to directly link changes in the expression of the nirS gene to denitrification rates in aquatic sediment mesocosms: **J L Bowen**, A R Babbin, B B Ward

1510h **B43F-06** Quantitative molecular biology and gas flux measurements demonstrate soil treatment and depth affects on the distribution and activity of denitrifiers: **M M Barrett**, M Jahangir, L Cardenas, M Khalil, K R Richards, V O'Flaherty

1525h **B43F-07** Nitric oxide in denitrification – an elusive signal molecule emitted from soil: **L R Bakken**, A Frostegard

B43G Moscone West: 2006 Thursday 1340h
Metal Sorption on Organic and Inorganic Surfaces: From Laboratory to Model to Field I (*joint with H, EP, V*)

Presiding: **J Schijf**, UMCES; **K H Johannesson**, Tulane University

1340h **B43G-01** Predicting Adsorption in Natural Systems: Are We There Yet? (*Invited*): **C M Koretsky**

1400h **B43G-02** The Microbial Biology of Metal Sorption onto Bacterial Surfaces (*Invited*): **N Yee**

1420h **B43G-03** Organic and inorganic molecules as probes of mineral surfaces (*Invited*): **D A Sverjensky**

1440h **B43G-04** Neptunium(V) Adsorption to Bacteria at Low and High Ionic Strength: **D Ams**, J S Swanson, D T Reed

1455h **B43G-05** Effect of Colloids on the Calculation of Distribution Coefficients in Studies of Metal Sorption on Organic Matter: **A M Straka**, J Schijf

1510h **B43G-06** Investigation of REE adsorption to aquifer sand under different CO₂ partial pressures and in the presence or absence of humic substances: Experimental results and surface complexation modeling: **J Tang**, K H Johannesson

1525h **B43G-07** In-Situ ATR-FTIR and Surface Complexation Modeling Study of the Adsorption of Dimethylarsenic Acid and p-Arsanilic Acid on Iron Oxides: **S R Goldberg**, H Al-Abadleh, W Mitchell

Cryosphere

C43A Moscone South: Poster Hall Thursday 1340h
Advances in Glacier Seismology I Posters (*joint with S, GC, EP*)

Presiding: **J M Amundson**, University of Chicago; **F T Walter**, Scripps Institution of Oceanography; **S O'Neel**, USGS; **R C Aster**, New Mexico Institute of Mining and Technology

1340h **C43A-0519 POSTER** Spatial and Temporal Aspects of Alpine Icequakes During Three Seasons of Glacier-Dammed Lake Drainages: Gornergletscher Switzerland: **D L Kilb**, F T Walter, P F Roux, N Deichmann, M Funk

1340h **C43A-0520 POSTER** Dynamics of iceberg detachment and mélange motion during the August 21, 2009, calving event at Jakobshavn Isbræ: **F T Walter**, J M Amundson, J N Bassis, J F Clinton, M A Fahnestock, H A Fricker, M P Luethi, S O'Neel, M Truffer

1340h **C43A-0521 POSTER** Seismic observations of long-period ocean waves generated by calving icebergs, Jakobshavn Isbræ, Greenland: **J M Amundson**, M Truffer, M A Fahnestock, D M Holland, M P Luethi, R J Motyka, J F Clinton, D R MacAyeal

1340h **C43A-0522 POSTER** Capturing fracture propagation in a glacier using passive seismology: **K L Smith**, T D Mikesell, K Van Wijk, F T Walter, J H Bradford

1340h **C43A-0523 POSTER** Relocations of recent events and trends in glacial-earthquake locations in Greenland: **S A Veitch**, M Nettles

1340h **C43A-0524 POSTER** Supporting Ice Seismology: **T Parker**, B C Beaudoin, J C Fowler

1340h **C43A-0525 POSTER** The Greenland Ice Sheet Monitoring Network (GLISN): **K R Anderson**, B C Beaudoin, R Butler, J F Clinton, T Dahl-Jensen, G Ekstrom, D Giardini, A Govoni, W Hanka, M Kanao, T Larsen, S Lasocki, D A McCormack, S Mykkeltveit, M Nettles, N P Agostinetti, E Stutzmann, S Tsuboi, P Voss

1340h **C43A-0526 POSTER** The Swiss Seismological Service in Greenland: Network Building and Research Initiatives: S Husen, **J F Clinton**, M Olivieri, D Giardini

1340h **C43A-0527 POSTER** Glacier Seismicity and Basal Sliding: Field Experiments at Engabreen, Norway: **P L Moore**, K A Christianson, N R Iverson, J Winberry, D Cohen, S Anandakrishnan, M Mathison, M Jackson

1340h **C43A-0528 POSTER** What can seismic anisotropy tell us about ice deformation?: G E Lloyd, **G W Stuart**, B Al-Rumaih, R W Obbard, J M Kendall, A Smith

1340h **C43A-0529 POSTER** Shallow Repeating Seismic Events Under an Alpine Glacier at Mount Rainier, Washington: **K Allstadt**, W A Thelen, S D Malone, J E Vidale, S De Angelis, S C Moran

1340h **C43A-0530 POSTER** A preliminary analysis of icequakes at the Ruiz volcano glacier – Colombia: L C Garcia Cano, C M Lopez, **J A Muñoz Maya**, M Maturana Banquez, G A Giraldo, J Giraldo Garcia

1340h **C43A-0531 POSTER** Underwater acoustic energy generated by drifting ice in the Scotia Sea: **K W Warren**, D R Bohnenstiehl, H Matsumoto, R P Dziak, M Park, W Lee, M J Fowler, J H Haxel

1340h **C43A-0532 POSTER** Western Greenland Subglacial Hydrologic Modeling and Observables: Seismicity and GPS: **J D Carmichael**, I R Joughin

1340h **C43A-0533 POSTER** Ice/till coupling estimated from broadband seismology and continuous GPS: J I Walter, **S M Tulaczyk**, E E Brodsky, S Y Schwartz

- 1340h **C43A-0534** POSTER Receiver functions on ice: crust and mantle properties from POLENET: **J A Chaput**, R C Aster, T J Wilson, A Nyblade, A D Huerta, D A Wiens, Title of Team: The POLENET group
- 1340h **C43A-0535** POSTER Detection of Seismic Sources Associated with Ice Movement in Antarctica using the AGAP and POLENET Seismic Deployments: A C Lough, **D A Wiens**, A Nyblade, R C Aster, S Anandakrishnan, A D Huerta
- 1340h **C43A-0536** POSTER Laboratory Obtained Deformational Properties of Ice as Related to Field Based Observations of Repeating Ruptures Beneath David Glacier, Antarctica: **L Zoet**, S Anandakrishnan, R B Alley
- 1340h **C43A-0537** POSTER Interference of high-latitude geomagnetic pulsations on signals from glacial earthquakes recorded by broadband force-balanced seismic sensors: A Kozlovsky, **E Kozlovskaya**

C43B Moscone South: Poster Hall Thursday 1340h
ANDRILL (Antarctic Drilling Program): Scientific Outcomes of the Two Inaugural Projects I Posters (*joint with GP, PP*)

Presiding: **F Florindo**, INGV; **D M Harwood**, Univ. Nebraska-Lincoln; **R D Powell**, Northern Illinois Univ.

- 1340h **C43B-0538** POSTER Evidence of Early Miocene volcanism in McMurdo Sound from glass-rich sediments in the ANDRILL AND-2A core: source and possible response to glacial cyclicity: **R Nyland**, K S Panter, P Del Carlo, G Di Vincenzo, S Rocchi, B Field
- 1340h **C43B-0539** POSTER THE SEEDS LEFT IN ITALY BY THE E&O PROGRAM OF THE ANDRILL RESEARCH: **M cattadori**
- 1340h **C43B-0540** POSTER Geochemical record of Miocene sediment provenance and continental weathering in the McMurdo Sound, ANDRILL AND-2A, Ross Sea, Antarctica: **S Hoffmann**, H von Eynatten, G Kuhn
- 1340h **C43B-0541** POSTER Benthic foraminifer paleoenvironmental record for AND-2A, Southern McMurdo Sound, Antarctica: M Patterson, **S E Ishman**
- 1340h **C43B-0542** POSTER Sr and O Geochemistry of ANDRILL AND-2A Biogenic Carbonates. Scientific Outcomes; Current and Future Research: **M C Marciano**, S B Mukasa, K C Lohmann
- 1340h **C43B-0543** POSTER Borehole breakout analysis: results from the AnDrill-2A well: P Montone, **S Pierdominici**, R D Jarrard, T J Wilson, T S Paulsen, T Wonik, D Handwerker
- 1340h **C43B-0544** POSTER Neogene deformation in the West Antarctic Rift in the McMurdo Sound region from studies of the ANDRILL and Cape Roberts drill cores: **T S Paulsen**, T J Wilson, R D Jarrard, C Millan, D Saddler, A Läufer, S Pierdominici
- 1340h **C43B-0545** POSTER MICROSTRUCTURAL CHARACTER AND STABLE ISOTOPE SIGNATURES OF CALCITE VEINS IN THE MIS AND SMS SEDIMENTARY ROCK CORES, VICTORIA LAND BASIN, ANTARCTICA: **C Millan**, T J Wilson, T S Paulsen
- 1340h **C43B-0546** POSTER Iron Oxide Textures, Geochemistry, and Magnetic Behavior in the ANDRILL AND-1B McMurdo Ice Shelf Core: Defining a fingerprint for Ice Rafted Debris from the Ross Sea: **S A Brachfeld**, J S Darley, J Pinzon
- 1340h **C43B-0547** POSTER Magnetostratigraphy of ANDRILL Core AND-2A, Southern McMurdo Sound, Antarctica: F Florindo, **G Acton**, D M Harwood, L Jovane, R H Levy, C Ohneiser, L Sagnotti, E Strada, K L Verosub, G S Wilson
- 1340h **C43B-0548** POSTER Assessment of East Antarctic ice flow directions, ice grounding events, and glacial thermal regime across the middle Miocene climate transition from the ANDRILL-SMS and CRP drill holes: **S Passchier**, D Hauptvogel, M Hansen, C Falk, L Martin

1340h **C43B-0549** POSTER Provenance analysis of the SMS ANDRILL core: Trends in sandstone composition: **K N Bassett**, S Barnard

1340h **C43B-0550** POSTER Mineralogy of Neogene Mudrocks from ANDRILL AND-1B: A Combined Record of Long-Term Provenance Changes and Shorter-Term Weathering Effects: **L A Krissek**

C43C Moscone South: Poster Hall Thursday 1340h
Ice Streams: Glaciological Mechanisms and Geological Records I Posters

Presiding: **J B Anderson**, Rice University; **M Jakobsson**, Stockholm University

- 1340h **C43C-0551** POSTER Basal friction coefficient reconstruction performed by Tikhonov's regularization method in the full 2D ice flow line model: **Y Kononov**, O V Nagornov
- 1340h **C43C-0552** POSTER Exploring the role of viscoelastic ice rheology for glacial flow: **J M Thompson**, M Simons
- 1340h **C43C-0553** POSTER Ice Shelf Modeling: A Cross-Polar Bayesian Statistical Approach: **N Kirchner**, R Furrer, M Jakobsson, H J Zwally
- 1340h **C43C-0554** POSTER Ar-Ar Age Distributions of Glacially Derived Hornblende Grains in the Eastern Weddell Sea: **E M Dahlhauser**, E L Pierce, S R Hemming, T Williams, E A Steponaitis, S A Brachfeld
- 1340h **C43C-0555** POSTER Sediment volume estimates of the middle-shelf grounding-zone wedge in the Glomar-Challenger-Basin paleotrough, Eastern Basin Ross Sea, Antarctica: P J Bart, **B Owolana**
- 1340h **C43C-0556** POSTER Rapid thinning and retreat of the Marguerite Trough Ice Stream, western Antarctic Peninsula in the Early Holocene: **M Bentley**, J Johnson, D Hodgson, T J Dunai, S Freeman, C O'Cofaigh
- 1340h **C43C-0557** POSTER Modelling the dynamics of palaeo ice-stream retreat in Marguerite Bay, Antarctica: **S S Jamieson**, A Vieli, S J Livingstone, C R Stokes, C O'Cofaigh, C Hillenbrand
- 1340h **C43C-0558** POSTER Mapped Submarine Landforms in Pine Island Bay, West Antarctica, Indicate Past Ice Shelf Disintegration and Grounding Line Retreat: **M Jakobsson**, J B Anderson, F O Nitsche, J A Dowdeswell, R Gyllencreutz, N Kirchner, M A O'regan, R B Alley, S Anandakrishnan, R Mohammad, B Eriksson, R A Fernandez-Vasquez, A E Kirchner, R L Minzoni, T D Stollendorf, W Majewski
- 1340h **C43C-0559** POSTER Rapid Grounding Line Retreat Followed by Collapse of the Ross Ice Shelf : Response to Meltwater Pulse 1A: **J B Anderson**, T D Stollendorf, M Jakobsson
- 1340h **C43C-0560** POSTER Paleo ice-flow and sub-glacial hydrology in the inner Pine Island Bay, West Antarctica: **F O Nitsche**, S S Jacobs
- 1340h **C43C-0561** POSTER Geological constraints on the last glacial maximum extent, flow and subsequent retreat history of the Belgica Trough palaeo-ice stream, Bellingshausen Sea, Antarctica: **R D Larter**, C Hillenbrand, S Benetti, J A Dowdeswell, W U Ehrmann, A G Graham, R Noormets, C O'Cofaigh
- 1340h **C43C-0562** POSTER Marine sedimentary provenance evidence for massive discharges of icebergs from the Aurora and Wilkes sub-glacial basins: **E L Pierce**, T Williams, T van de Fliedrt, S R Hemming, S A Brachfeld, S L Goldstein
- 1340h **C43C-0563** POSTER Coupling Geophysical, Geotechnical and Stratigraphic Data to Interpret the Genesis of Mega-Scale-Glacial-Lineations on the Yermak Plateau, Arctic Ocean: **M A O'regan**, M Jakobsson, N Kirchner, J A Dowdeswell, K Hogan

1340h **C43C-0564** POSTER New evidence on past ice flow and iceberg activity on the southern Yermak Plateau: **R Noormets**, J A Dowdeswell, M Jakobsson, C O'Cofaigh

1340h **C43C-0565** WITHDRAWN

1340h **C43C-0566** POSTER 3D seismic characterization of the Norwegian Channel Ice Stream - bedrock controls on ice streaming behaviour and spatio-temporal evolution of erosion and infill of a major cross-shelf trough through multiple glaciations: **J Grant**, M Huuse

C43D Moscone South: Poster Hall Thursday 1340h
The Arctic Atmosphere-Sea-Ice-Land-Hydrology Interface: Observations and Modeling I Posters (joint with A, H, OS)

Presiding: **W Maslowski**, Naval Postgraduate School

1340h **C43D-0567** POSTER The Arctic System Reanalysis for 2007 and 2008: **K M Hines**, D H Bromwich, L Bai

1340h **C43D-0568** POSTER A survey of forcing and albedo sensitivity of the Arctic Ocean ice cover: **C Stranne**, G M Bjvrk

1340h **C43D-0569** POSTER Influence of winter and summer surface wind anomalies on Summer Arctic sea ice extent: **M Ogi**, K Yamazaki, J M Wallace

1340h **C43D-0570** POSTER Coupling and feedback between Pacific sea ice and the Western Pacific pattern: **N J Matthewman**, G Magnusdottir

1340h **C43D-0571** WITHDRAWN

1340h **C43D-0572** POSTER Understanding the Importance of Oceanic Forcing on Arctic Sea Ice Variability: **J E Haynes**, W Maslowski, R Osinski, J Clement Kinney, W J Shaw

1340h **C43D-0573** POSTER Sea ice as a tracer for circulation features associated with the Barrow area Bowhead whale feeding hotspot: **S R Okkonen**, C J Ashjian, R G Campbell

1340h **C43D-0574** POSTER Sea ice characteristics and ice seal behavior: new results from unmanned aircraft data: **E C Weatherhead**, Title of Team: NOAA's National Marine Mammal Laboratory, Arctic Office, Global Systems Division

1340h **C43D-0575** POSTER Brine-Wetted Snow on the Surface of Sea Ice: A Potentially Vast and Overlooked Microbial Habitat: **J W Deming**, M Ewert, J S Bowman, J Colangelo-lillis, S D Carpenter

1340h **C43D-0576** POSTER Vertical and Lateral Structure of Arctic Subarctic Ocean Exchange via Nares Strait to the West of Greenland 2003 to 2009: **A Muenchow**

1340h **C43D-0577** POSTER Sea Ice and Hydrographic Variability in the Northwest North Atlantic: **I G Fenty**, P Heimbach, C I Wunsch

1340h **C43D-0578** POSTER Reduced Sea Ice and its link to frequent intraseasonal cold air outbreak during the 2009-2010 abnormal winter in Japan and East Asia: **M E Hori**, J Inoue, T Kikuchi, Y Tachibana

1340h **C43D-0579** POSTER Long term Measurements of ozone, bromine monoxide and carbon dioxide over the Frozen Arctic Ocean Surface: first data from O-Buoy Deployments: **J W Bottenheim**, P A Matrai, S Netcheva, D K Perovich, P B Shepson, W R Simpson, Title of Team: the O-Buoy team

1340h **C43D-0580** POSTER Rejuvenation of Arctic Sea Ice and Tropospheric Chemical Change: **S V Nghiem**, I G Rigor, P Clemente-Colon, A Freeman, A Richter, J P Burrows, P B Shepson, J W Bottenheim, D G Barber, W R Simpson, D K Perovich, M Sturm, A Steffen, L Kaleschke, D K Hall, T Markus, H Eicken, G Neumann

1340h **C43D-0581** POSTER Retrieval of aerosol and marine parameters in coastal areas in the Arctic: **Y Fan**, N Chen, W Li, T Tanikawa, J J Stamnes, K H Stamnes

1340h **C43D-0582** POSTER A Surface-to-Environment Synoptic Typing Approach to Classify Cyclone Forcing of Ocean-Sea Ice-Atmosphere Coupling within the Cape Bathurst Flaw Lead:

M G Asplin, D G Barber, L M Candlish, R Raddatz

C43E Moscone South: Poster Hall Thursday 1340h
The Sea Ice Ocean System I Posters (joint with GC, OS, B)

Presiding: **M Jin**, University of Alaska Fairbanks; **S L Pfirman**, Barnard College; **J K Hutchings**, University of Alaska Fairbanks; **M M Holland**, NCAR

1340h **C43E-0583** POSTER Variability of Sea Ice Meltwater Content and Mean Residence Times of the Freshwater Lens in the 'Arctic Switchyard' Region: **R Chan**, P Schlosser, R Friedrich, W M Smethie, R Newton

1340h **C43E-0584** POSTER Creating future fit between ice and society: The institutionalization of a refuge in the Arctic to preserve sea ice system services in a changing North: **A L Lovcraft**, C L Meek

1340h **C43E-0585** POSTER Optical properties of ocean waters beneath melt-season first-year sea ice in the Chukchi Sea: **K E Frey**, C Wood, L D Trusel, L W Cooper, J M Grebmeier

1340h **C43E-0586** POSTER Carbon Dioxide Transfer Through Sea Ice: Modelling Flux in Brine Channels: **L Edwards**, G Mitchelson-Jacob, N Hardman-Mountford

1340h **C43E-0587** POSTER A Changing Arctic Sea Ice Cover and the Partitioning of Solar Radiation: **D K Perovich**, B Light, C Polashenski, S V Nghiem

1340h **C43E-0588** POSTER Brine-ecosystem interactions in sea ice: M Vancoppenolle, **C M Bitz**, T Fichet, H Goosse, C Lancelot, J Tison

1340h **C43E-0589** POSTER Changing Sea Ice Conditions in the Northwest Passage: A C Tivy, **S Howell**, T Agnew, C Derksen

1340h **C43E-0590** POSTER The ringed seal's last refuge and the importance of snow cover: **B P Kelly**, C M Bitz

1340h **C43E-0591** WITHDRAWN

1340h **C43E-0592** POSTER The Last Arctic Sea Ice Refuge: **S L Pfirman**, B Tremblay, R Newton, C Fowler

1340h **C43E-0593** WITHDRAWN

1340h **C43E-0594** POSTER Nutrient - Productivity Interactions under Reduced Summer Ice Conditions in the Arctic Ocean:

R Sambrotto, R Newton, P Schlosser

1340h **C43E-0595** WITHDRAWN

1340h **C43E-0596** POSTER Potential Arctic sea ice refuge for sustaining a remnant polar bear population (*Invited*): **G M Durner**, S C Amstrup, D C Douglas, D L Gautier

1340h **C43E-0597** WITHDRAWN

1340h **C43E-0598** POSTER Sea ice-ocean interactions and their effect on mixing at very high resolution in a fully coupled climate model (*Invited*): **C M Bitz**, H Singh

1340h **C43E-0599** POSTER Factors Controlling Light Transmission through Thin First-Year Arctic Sea Ice: Observations and Modeling:

S R Hudson, B Hamre, M A Granskog, J J Stamnes, S Gerland, M Nicolaus, R Lei

1340h **C43E-0600** POSTER Dynamic and Thermodynamic Causes of Recent Changes in the Barents Sea Ice Cover: **O Pavlova**, S Gerland, V Pavlov

1340h **C43E-0601** POSTER Sea ice response to an extreme negative phase of the Arctic Oscillation during winter 2009/2010: J C Stroeve, J A Maslanik, M C Serreze, I G Rigor, **W Meier**

1340h **C43E-0602** POSTER Sea Ice Drift in the Arctic Ocean. Seasonal Variability and Long-Term Changes: **V Pavlov**, O Pavlova

1340h **C43E-0603** POSTER Fast ice in the Canadian Arctic: Climatology, Atmospheric Forcing and Relation to Bathymetry: **R J Galley**, D G Barber

1340h **C43E-0604** POSTER Arctic Sea Ice Model Sensitivities: **K J Peterson**, P Bochev, B Paskaleva

C43F Moscone West: 301 I Thursday 1340h
Measuring Earth's Third Dimension: ICESat, IceBridge, CryoSat, and Beyond II (joint with G, EP, GC)

Presiding: **T J Urban**, University of Texas at Austin; **D Wingham**, UCL; **T Markus**, Cryospheric Sciences Branch; **T Neumann**, NASA Goddard Space Flight Ctr.; **B E Schutz**, University of Texas at Austin; **L Koenig**, NASA Goddard Space Flight Center; **H J Zwally**, NASA Goddard SFC

1340h **C43F-01** ICESat laser full waveform analysis for the classification of land cover types over the cryosphere: R Molijn, R Lindenbergh, **B Gunter**

1355h **C43F-02** Application of ICESat/GLAS laser altimetry to the Estimation of Surface Water Level and River Discharge: **C M Birkett**, D M Bjerklie, M A Hofton, Y LI, R Dubayah

1410h **C43F-03** Combining ICESat Altimetry, GRACE Ocean Bottom Pressure, and In Situ Observations to Understand Recent Changes in Arctic Ocean Circulation: **J H Morison**, R Kwok, C Peralta-Ferriz

1425h **C43F-04** The ICESat Arctic-Ocean Mean Sea Surface: Reference Field for Future Satellite and Airborne Altimetry over Sea Ice: **S L Farrell**, D C McAdoo, H J Zwally, D Yi

1440h **C43F-05** Quantification of glacier elevation changes using ICESat and SRTM elevation data in the Upper Indus Basin: B S Naz, **L C Bowling**, M M Crawford

1455h **C43F-06** High-resolution ground-based GPS measurements show inter-campaign bias in ICESat elevation data: **M R Siegfried**, R L Hawley, J F Burkhart

1510h **C43F-07** Ice loss in Jakobshavn Isbrae, Greenland, measured by NASA's Airborne Topographic Mapper and ICESat: W B Krabill, **S S Manizade**, J G Sonntag, J Yungel

1525h **C43F-08** Changes in Land Ice from GRACE: Signal, Errors and Relation to Other Missions (*Invited*): **S B Luthcke**, D D Rowlands, J McCarthy, T J Sabaka, A A Arendt, B Loomis, J Boy

Education and Human Resources

ED43A Moscone South: Poster Hall Thursday 1340h
Climate Change Adaptation: Education and Communication II Posters (joint with A, B, C, GC, H, NH, PA)

Presiding: **J M Byrne**, University of Lethbridge; **D B Fagre**, U.S. Geological Survey; **F Grifo**, Union of Concerned Scientists; **T F Pedersen**

1340h **ED43A-0662** POSTER Joint Projections of North Pacific Sea Surface Temperature from Different Global Climate Models: **F M Beltran**

1340h **ED43A-0663** POSTER Climate Science Communications - Video Visualization Techniques: **J P Reisman**, M E Mann

1340h **ED43A-0664** POSTER Extending Climate Change Education from the Scientific Community to Society: W B Bendel, **E Russell**, C McDougall

1340h **ED43A-0665** POSTER Gigapixel panoramas of Glacier National Park create enhanced education experiences: **D B Fagre**, L A McKeon

1340h **ED43A-0666** POSTER Can Skateboarding Save the Planet? A Curricular Unit on Global Climate Change Developed Through the NASA LIFT-OFF Program: **L E Pruett**, S Burrell, C Chidester, E P Metzger

1340h **ED43A-0667** POSTER Delivering Global Environmental Change Science Through Documentary Film: **K Dodgson**, J M Byrne, J R Graham

1340h **ED43A-0668** POSTER Science documentary video slides to enhance education and communication: **J M Byrne**, L J Little, K Dodgson

1340h **ED43A-0669** POSTER Social Networking and Smart Technology: Viable Environmental Communication Tools...?: **J Montain**, J M Byrne

1340h **ED43A-0670** POSTER Identifying NASA resources for middle school teacher professional development in global climate education: **R R Weihs**, M A Bourassa, S R Smith, K Fearon, J V Carlson

1340h **ED43A-0671** POSTER Inspiring Inquiry: Scientists, science teachers, and GK-12 students learning climate science together: **C Stwertka**, J Blonquist, D Feener

1340h **ED43A-0672** POSTER Engaging Undergraduates in Methods of Communicating Global Climate Change: **C Hall**, M W Colgan, R R Humphreys

1340h **ED43A-0673** POSTER Quantification of Linkages between Large-Scale Climate Patterns and Annual Precipitation for the Colorado River Basin: **A Kalra**, S Ahmad

1340h **ED43A-0674** WITHDRAWN

1340h **ED43A-0675** POSTER Program on Promoting Climate Change Adaptation Technologies Bridging Policy Making and Science Research in Taiwan: **Y Chiang**, W Chiang, C Sui, C Tung, H Ho, M Li, S Chan, Title of Team: Climate Change Adaptation Technologies Program, National Science Council, Taiwan

1340h **ED43A-0676** POSTER The Pawsey Supercomputer geothermal cooling project: **K Regenauer-Lieb**, F Horowitz, T Western Australian Geothermal Centre of Excellence

1340h **ED43A-0677** POSTER The Colorado Climate Preparedness Project: A Systematic Approach to Assessing Efforts Supporting State-Level Adaptation: R Klein, **E Gordon**

1340h **ED43A-0678** POSTER Hazard Risk to Near Sea-Level Populations due to Tropical Cyclone Intensification and Sea-Level Rise: **J Montain**, J M Byrne, J Elsner

1340h **ED43A-0679** WITHDRAWN

1340h **ED43A-0680** POSTER GAIA - Understanding Global Policy Issues in Climate Change: **S M Babin**, L J Paxton, C K Pikas, R K Schaefer, S Simpkins, W H Swartz, M Weiss

ED43B Moscone South: 102 Thursday 1340h
Visualization of Geophysical Processes for Science, Education, and Outreach II (joint with IN)

Presiding: **J M Byrne**, University of Lethbridge; **P A Fox**, Rensselaer Polytechnic Inst.; **J R Graham**, University of Lethbridge

1340h **ED43B-01** Beyond Pretty Pictures: The Changing Role of Visualization in the Sciences (*Invited*): **J Clyne**

1355h **ED43B-02** Visualization Case Study: Eyjafjallajökull Ash (*Invited*): **R Simmon**

1410h **ED43B-03** Geoinformation web-system for processing and visualization of large archives of geo-referenced data: **E P Gordov**, I G Okladnikov, A G Titov, T M Shulgina

1425h **ED43B-04** Visualization at NOAA: Serving multiple audiences; Forming multiple partnerships; Developing scientific awareness: **D Pisut**, A M Powell

1440h **ED43B-05** Multigraph: Interactive Data Graphs on the Web: **M B Phillips**
1455h **ED43B-06** NOAA's *Honua*: Visualizations of Complex Environmental Information in Formal and Informal Education: **M A McBride**, W K Stovall, S Lewinski, S Bennett
1510h **ED43B-07** WITHDRAWN
1525h **ED43B-08** Regional Ocean Products Portal: Transforming Information to Knowledge: **M K Howard**, S Kobara, F C Gayanilo, S K Baum, C Simoniello, A E Jochens

Earth and Planetary Surface Processes

EP43A Moscone South: Poster Hall Thursday 1340h
Advances in Critical Zone Research: Interactions Among Water, Rock, and Life at Earth's Surface II Posters (*joint with B, H, GC*)

Presiding: **C S Riebe**, University of Wyoming; **H L Buss**, U.S. Geological Survey

1340h **EP43A-0742** *POSTER* Correlation between thermal gradient and flexure-type deformation as a potential trigger for exfoliation-related rock falls (*Invited*): **B D Collins**, G M Stock

1340h **EP43A-0743** *POSTER* Short-term and long-term degradation processes in marly sediment transport: **C Le Bouteiller**, F Naaïm, N Mathys

1340h **EP43A-0744** *POSTER* Weathering in the cold: Granite hillslopes in Osborn Mountain, WY and Bodmin Moor, UK: **S G Riggins**, S P Anderson, R S Anderson

1340h **EP43A-0745** *POSTER* Insolation Weathering: An Instrumentation and Field Based Study (*Invited*): **M C Eppes**, K Warren, S Swami, K Folz-Donahue, S Evans, J Cavendar, I Smith, A Layzell

1340h **EP43A-0746** *POSTER* The Mechanics and Chemistry of Grussic Sapolite Formation in Granite: **B W Goodfellow**, G E Hilley, M S Schulz

1340h **EP43A-0747** *POSTER* Using meteoric ¹⁰Be to track soil erosion and transport within a forested watershed, Susquehanna Shale Hills Critical Zone Observatory, PA: **N West**, E Kirby, P R Bierman, D H Rood

1340h **EP43A-0748** *POSTER* Geochemistry and Chemical Weathering in Soils along an Earthworm Invasion Gradient: **K Resner**, K Yoo, A K Aufdenkampe, C Hale, S D Sebestyen

1340h **EP43A-0749** *POSTER* Extending the Interdisciplinary Interfaces of Geomorphology by Changing the Units of Key Variables: From Volumes to Masses to Areas: **K Yoo**, A K Aufdenkampe, B A Weinman, S M Mudd, C Chen

EP43B Moscone South: Poster Hall Thursday 1340h
Does Size Matter? Does Local Count? The Role of Extrafluvial Events in River and Landscape Evolution Posters (*joint with H, V*)

Presiding: **E B Safran**, Lewis & Clark College; **K V Cashman**, University of Oregon; **G E Grant**, USDA Forest Service

1340h **EP43B-0750** *POSTER* Analyzing Clues in River Evolution of the Bedrock-Controlled Colorado River using Hydraulic Modeling: **C S Magirl**

1340h **EP43B-0751** *POSTER* Plugs or Flood-makers? The Unstable Landslide Dams of Eastern Oregon: **E B Safran**, K Croall, E Jones, J E O'Connor, L L Ely, P K House, G E Grant

1340h **EP43B-0752** *POSTER* Outburst floods, landslide erosion, and the development of threshold hillslopes in the Tsangpo Gorge, eastern Himalaya: **I J Larsen**, D R Montgomery

1340h **EP43B-0753** *POSTER* Natural Dams as Tipping Points in Himalayan Erosion (*Invited*): **O Korup**

1340h **EP43B-0754** *POSTER* Reconstructing western Grand Canyon's lava dams and their failure mechanisms: new insights from geochemical correlation and ⁴⁰Ar/³⁹Ar dating: **R Crow**, K E Karlstrom, W C McIntosh, L Peters, N W Dunbar

1340h **EP43B-0755** *POSTER* Lava flows vs. surface water: the geologic battle for the upper McKenzie valley, central Oregon Cascades: **N I Deligne**, R M Conrey, K V Cashman, G E Grant, W H Amidon

1340h **EP43B-0756** *POSTER* Rapid bedrock channel incision and gorge formation in a Late Holocene lava flow, High Cascade Mountains, Oregon: **K E Sweeney**, J J Roering, G E Grant, K V Cashman, N I Deligne, N Deardorff

1340h **EP43B-0757** *POSTER* Two decades of channel evolution following the eruption of Mount Pinatubo, Philippines: **K B Gran**

1340h **EP43B-0758** *POSTER* Tectonics, fluvial transport, and long-term episodicity in landscape evolution. (*Invited*): **D Garcia-Castellanos**

EP43C Moscone South: Poster Hall Thursday 1340h
Fluvial Morphology and Past Climate on Planet Mars Posters (*joint with P*)

Presiding: **M G Kleinhans**, Universiteit Utrecht

1340h **EP43C-0759** *POSTER* MODELLING FLUVIAL FLOW WITH ANSYS FLUENT AND COMPARISON WITH MARTIAN ANALOGUE LAB-SCALE EXPERIMENTS AND MARTIAN GULLIES: **M C Price**, S J Conway, M C Towner

1340h **EP43C-0760** *POSTER* Palaeoflow Reconstruction from Delta Morphology on Mars: G de Villiers, **M G Kleinhans**, E Hauber, G Postma

1340h **EP43C-0761** *POSTER* Formation Timescales of the Martian Valley Networks: **M T Hoke**, B M Hynek

1340h **EP43C-0762** *POSTER* Inevitability of low-latitude melting on Mars: implications for the sedimentary record: **E S Kite**, M Manga, I Halevy

1340h **EP43C-0763** *POSTER* Geomorphic record of Noachian, Hesperian and Amazonian materials and deposits preserved within Asimov Crater, Mars: A cross-sectional view of the role of volatiles through martian history: **G A Morgan**, J W Head, D R Marchant

1340h **EP43C-0764** *POSTER* Applying comparative fractal analysis to infer origin and process in channels on Earth and Mars: **A Balakrishnan**, S Rice-Snow, B A Hampton

EP43D Moscone South: Poster Hall Thursday 1340h
Vegetation and Flow in Fluvial and Wetland Environments II Posters (*joint with B, H*)

Presiding: **K Skalak**, U.S. Geological Survey; **A Lightbody**, University of New Hampshire

1340h **EP43D-0765** *POSTER* Effect of Increasing Vegetated Area on Sediment Storage in a Supply-limited Reach of the Colorado River: **B Ralston**, J E Hazel, M A Kaplinski

1340h **EP43D-0766** *POSTER* An experimental and numerical study into the effect of submerged vegetation on the generation of turbulent flow structures: **T I Marjoribanks**, R J Hardy, S N Lane, D R Parsons

1340h **EP43D-0767** POSTER Controls on vegetative flow resistance in wetlands and low-gradient floodplains: **K Skalak**, J W Harvey, L G Larsen, G B Noe, N Rybick, J Jones

1340h **EP43D-0768** POSTER Hydraulic Consequences of Hydrilla, an Invasive Submerged Aquatic Plant, in Freshwater Tidal Channels: **B A Jenner**, K L Prestegaard

1340h **EP43D-0769** POSTER The Geomorphic Effectiveness of a Woody Shrub: **R Manners**, J C Schmidt, J M Wheaton

1340h **EP43D-0770** POSTER Wind driven vertical transport in a vegetated, wetland water column with air-water gas exchange: **C Poindexter**, E A Variano

1340h **EP43D-0771** POSTER Turbulent flow within vegetated areas: interaction of spatial scales: **A Ricardo**, M J Franca, A Schleiss, R M Ferreira

1340h **EP43D-0772** POSTER Field Bending Tests of Three Riparian Species Common to the Central Platte River: Resistance, Rigidity and Plant Streamlining: **R E Thomas**, N L Bankhead, A Simon

1340h **EP43D-0773** POSTER A hydrological study of Waen y Griafolen blanket bog, North Wales: **G Hall**

1340h **EP43D-0774** POSTER Analytical solutions for contaminant transport in open channel flows and underlying slow zones: **S Gurusamy**, G Jayaraman

1340h **EP43D-0775** POSTER Trends in large wood storage and transport on the low-gradient Roanoke River, North Carolina: **E R Schenk**, C R Hupp

1340h **EP43D-0776** WITHDRAWN

1340h **EP43D-0777** POSTER Estimating boundary shear stress along vegetated streambanks with turbulent kinetic energy: **L C Hopkinson**, T Wynn

1340h **EP43D-0778** POSTER Vegetation control of gravel-bed channel morphology and adjustment: the case of *Carex nudata*: **P F McDowell**

1340h **EP43D-0779** POSTER SCALE DEPENDENCE IN THE EFFICIENCY OF GRASSED WATERWAYS WITHIN AN AGRICULTURAL WATERSHED: **D C Dermisis**, T Papanicolaou, B K Abban

1340h **EP43D-0780** WITHDRAWN

1340h **EP43D-0781** POSTER Spatial patterns of streambed morphology around woody debris: flume experiments and field observations on the effects of woody debris on streambed morphology: **V Leung**, D R Montgomery

1340h **EP43D-0782** POSTER Scaling Vegetation on Experimental Channel Patterns: D M van Breemen, **W I van de Lageweg**, W M van Dijk, M G Kleinans

1340h **EP43D-0783** WITHDRAWN

EP43E Moscone South: 308 Thursday 1340h
Landscape Evolution in Response to Active Faulting I (*joint with T*)

Presiding: **N M Gasparini**, Tulane University; **N H Dawers**, Tulane University

1340h **EP43E-01** Active tectonic of the Medlicott Wadia Thrust (Western Himalaya) inferred from morphotectonic analysis: **V Vignon**, J L Mugnier, A Replumaz, R Vassallo, R Ramakrishnan, P Srivastava, M M Malik, F Jouanne, J Carcaillet

1355h **EP43E-02** EXPLORING EVIDENCE FOR POSSIBLE RECENT N-S EXTENSION ALONG THE HIMALAYAN CREST: **J A McDermott**, K Hodges, K X Whipple, M C Van Soest

1410h **EP43E-03** Temporal and spatial variation in slip along the central Karakoram Fault System, Ladakh Himalayas: **W Bohon**, R Arrowsmith, K Hodges

1425h **EP43E-04** Topographic and Geomorphic Response to Active Deformation Along the Dragon's Back Pressure Ridge, central San Andreas Fault, California (*Invited*): **G E Hilley**, R Arrowsmith, M H Gudmundsdottir, E Shelef, M M Traer

1445h **EP43E-05** Hula basin pull apart inversion - geophysical evidences supported by analog clay model: B J Medvedev, M Politi, Z Reches, **A Agnon**

1500h **EP43E-06** First LiDAR images of the Alpine Fault, central South Island, New Zealand: **R M Langridge**, V G Toy, N Barth, G P De Pascale, R Sutherland, T Farrier

1515h **EP43E-07** Tectonic signals in glaciated landscapes: the importance of scale (*Invited*): **S H Brocklehurst**

EP43F Moscone South: 310 Thursday 1340h
Morphogenesis, From Microscale Experiments to Landscape Dynamics I (*joint with NG, H*)

Presiding: **C Narteau**, Institut de Physique du Globe de Paris; **E Lajeunesse**; **C Paola**, University of Minnesota

1340h **EP43F-01** Don't Upscale the Coastline: Scales of Cumulative Change Emerge: **A B Murray**, E Lazarus, A D Ashton, S F Tebbens, S M Burroughs

1355h **EP43F-02** Sediment Mixture Controls on Morphodynamics of Experimental Deltas: N R Cheshier, W I van de Lageweg, **W M van Dijk**, D C Hoyal, M G Kleinans, G Postma

1410h **EP43F-03** Quantifying the fluvial autogenic processes: Tank Experiments: **E J Powell**, W Kim, T Muto

1425h **EP43F-04** Challenges in Upscaling Geomorphic Transport Laws: Scale-dependence of Local vs. Non-local Formalisms and Derivation of Closures (*Invited*): **E Foufoula-Georgiou**, V K Ganti, P Passalacqua

1440h **EP43F-05** Particle transport on rough hillslope surfaces: flume experiments and numerical modeling: **E J Gabet**, M Mendoza

1455h **EP43F-06** Influence of the sediment transport threshold on a river network (*Invited*): **O Devauchelle**, A Petroff, H F Seybold, D Rothman

1510h **EP43F-07** A unifying model of planform straightness of ripples and dunes in air and water: **D M Rubin**

1525h **EP43F-08** Formation of bedforms in a turbulent stream : a comprehensive analysis of dynamical mechanisms and scaling laws: **B Andreotti**, P Claudin, O Duran Vinent, Title of Team: The Morphodynamics Lab

Geodesy

G43A Moscone South: Poster Hall Thursday 1340h
Plate Motion and Continental Deformation III Posters (*joint with T, S, NH*)

Presiding: **D Argus**, Jet Propulsion Laboratory; **J T Freymueller**, University of Alaska Fairbanks; **R M Fernandes**, UBI, CGUL, IDL

1340h **G43A-0818** POSTER Differential spreading along the northern North Atlantic ridge and resulting intraplate deformation of the adjacent continental margins: **E Le Breton**, P R Cobbold, P Roperch, O Dauteuil

1340h **G43A-0819** POSTER NNR-MORVEL56: No-net-rotation model of geologically current plate motions: **D Argus**, R G Gordon, C DeMets, L Zheng

1340h **G43A-0820** POSTER Measurement of Quasi-Steady Deformation in Niigata-Chuetsu region, Central Japan, Using Persistent Scatterer Interferometry: **Y Fukushima**, A J Hooper

1340h **G43A-0821** *POSTER* Ocean contribution to co-seismic crustal deformation and geoid anomalies: application to the 2004 December 26 Sumatra-Andaman earthquake: B L Vermeersen, **T Broerse**

1340h **G43A-0822** *POSTER* Seismic potential on the Sumatran fault using GPS observation: **T Ito**, E Gunawan, F Kimata, T Tabei, M Simons, I Meilano, A Agustan, D Sugiyanto

1340h **G43A-0823** *POSTER* Andaman post-seismic deformation observations: An update: **J Puchakayala**, C Rajendran, A R Lowry

1340h **G43A-0824** *POSTER* Fault geometry and slip distribution of the 1891 Nobi great earthquake ($M = 8.0$) with the oldest survey data sets in Japan: **K Takano**, F Kimata

1340h **G43A-0825** *POSTER* Slow Slip Following the 2003 Tokachi-oki M8 Earthquake off Hokkaido: **T Takanami**, A T Linde, S I Sacks, G Kitagawa, H Peng

1340h **G43A-0826** *POSTER* Kinematics of deformation across the Philippine Archipelago as observed from GPS campaign data: **T Bacolcol**, R Solidum, Jr., S Yu, Title of Team: PHIVOLCS GPS Team

1340h **G43A-0827** *POSTER* GPS Application : Theoretical Analysis of Coseismic Crustal Deformation of the Subduction Zone Colombia - Ecuador: **A L Ramos Barreto**, S I Franco, A Iglesias

1340h **G43A-0828** *POSTER* The unique Chilean earthquake of May 22, 1960 ($M_w = 9.5$): **M Raesi**, K Atakan, Z zarifi

1340h **G43A-0829** *POSTER* A Study of Current Interseismic Deformation of San Andreas Fault, San Bernardino Mountain section, using Interferometric Synthetic Aperture Radar: **P Nee**, G J Funning

1340h **G43A-0830** *POSTER* HTDP 3.1: Towards An Improved Model Of Crustal Deformation In The Western US: **C Pearson**, R A Snay

1340h **G43A-0831** *POSTER* Seafloor bathymetry and gravity from the ALBACORE marine seismic experiment offshore southern California: **N Shintaku**, D S Weeraratne, M D Kohler

1340h **G43A-0832** *POSTER* Diffuse plate boundary and microplate motion: is the Sierra Nevada an independent block?: **R Malservisi**, M Hackl, P C La Femina, J S Oldow, H Geirsson

1340h **G43A-0833** *POSTER* Campaign GPS Measurements from 2000-2010 in the Sierra Block South of Long Valley Caldera, CA, USA: **P F Cervelli**, J O Langbein, J P Perkins, J L Svarc, S E Owen

1340h **G43A-0834** *POSTER* Testing the inference of creep on Rodgers Creek Fault: **L Jin**, G J Funning

1340h **G43A-0835** *POSTER* Horizontal Strain Field for the Bohemian Massif, Central Europe: **V Schenk**, R Pichl, Z Schenkova, T Marek

1340h **G43A-0836** *POSTER* Combined analysis of seismotectonics of the southern Dead Sea Fault (Eastern Mediterranean) using GPS measurements and seismicity: **W J Cochran**, F G Gomez, J Abu Rajab, E al Tarazi

1340h **G43A-0837** *POSTER* Investigation of Crustal Deformation Along NAFZ Using GPS and InSAR: **B Turgut**, A Dogru, H Ozener, A Sabuncu

1340h **G43A-0838** *POSTER* Interseismic strain accumulation across the North Anatolian Fault measured using InSAR: **R J Walters**, B E Parsons, T J Wright

1340h **G43A-0839** *POSTER* GPS Measurements for Detecting Aseismic Creeping in the Ismetpasa Region of North Anatolian Fault Zone, Turkey: **H Ozener**, A Dogru, B Turgut, O Yilmaz, K Halicioglu, A Sabuncu

1340h **G43A-0840** *POSTER* Determination of the Deformation along the Tuzla Fault, Izmir, Turkey by Geodetic Techniques: **A Sabuncu**, H Ozener

1340h **G43A-0841** *POSTER* Estimating the Locking Depth of the North Anatolian Fault in Eastern Turkey from InSAR Observations: **O Cavalie**, S Jonsson

1340h **G43A-0842** *POSTER* Seasonal geodetic displacements in the Himalaya induced by surface load variations and implications for shallow elastic structure of the Earth: **K Chanard**, J Avouac, T Ito, J F Genrich, J E Galetzka, M Flouzat, N Team

1340h **G43A-0843** *POSTER* Nubia-Eurasia Plate Boundary in Iberia From GPS Data: **R M Fernandes**, J M Miranda, L M Matias, J I Soto, M S Bos, P G Almeida

1340h **G43A-0844** *POSTER* Study on Seismogenic Tectonic based on InSAR Measurement of Long-term fault Deformation and Co-seismic Deformation in Dangxiong, Tibet: **Y Luo**, J Zhang, B Liu, L Hu

1340h **G43A-0845** *POSTER* Investigating the creeping section of the San Andreas Fault using ALOS PALSAR interferometry: **P S Agram**, C Wortham, H A Zebker

1340h **G43A-0846** *POSTER* Using ALOS-InSAR to study the Caribbean Tectonic Activities: **H Fattahi**, F Amelung

G43B Moscone West: 2008 Thursday 1340h
Mass Transport and Mass Distribution in the Earth System I
(joint with A, C, GC, H, OS, EP)

Presiding: **T M van Dam**, University of Luxembourg; **J Kusche**, Universität Bonn

1340h **G43B-01** Improved Global Mascon Solutions from GRACE: **F G Lemoine**, T J Sabaka, D D Rowlands, S B Luthcke, J Boy

1355h **G43B-02** J2: an evaluation of new estimates from GPS, GRACE and load models compared to SLR: **D A Lavallee**, P Moore, P J Clarke, E J Petrie, T vanDam, M King

1410h **G43B-03** Contributions of reprocessed GPS observations to a joint inversion of surface displacements, ocean bottom pressure and GRACE global gravity models (*Invited*): **M Fritsche**, R Dietrich, R Rietbroek, J Kusche, S Brunnabend, J Schröter, C Dahle, F Flechtner

1425h **G43B-04** Insights from GRACE and GPS data on the seismic cycle and mantle rheology (*Invited*): **I PANET**, V O Mikhailov, F F Pollitz, M Diament, O de Viron, K A Grijalva, P Banerjee

1440h **G43B-05** Turning GRACE into a Tool for Water Management: **L Longuevergne**, B R Scanlon, C R Wilson

1455h **G43B-06** Greenland Mass Loss Observed by GRACE: **E J Schrama**, B Wouters

1510h **G43B-07** Dynamics of the Antarctic Circumpolar Current as seen by GRACE (*Invited*): **M Thomas**, H Dobslaw, I Bergmann

1525h **G43B-08** Ongoing Glacial Isostatic Contribution to Observations of Sea Level Change (*Invited*): **M E Tamisiea**

Global Environmental Change

GC43A Moscone South: Poster Hall Thursday 1340h
Biogeochemical Responses to a Changing Arctic I Posters *(joint with B, C)*

Presiding: **A V Rocha**, Marine Biological Lab; **R R Muskett**, University of Alaska Fairbanks; **A L Kholodov**, Geophysical Institute UAF

1340h **GC43A-0938** *POSTER* The investigation of temperature trend in the Antarctic using GPS radio occultation technique: **E Fu**

- 1340h **GC43A-0939** POSTER Satellite and Reanalysis Data for Modeling Active Layer Dynamics and the Thermal State of Permafrost - Perspectives and Challenges: **S Westermann**, M Langer, J Boike
- 1340h **GC43A-0940** POSTER Using aerial and satellite-borne radar data and ground-based measurements to assess soil moisture characteristics in the Anaktuvuk River Fire, Alaska: **B Zapatka**, K E Frey, K M Barrett, J Rogan
- 1340h **GC43A-0941** POSTER Global Climate Sensitivity to Lake Distribution, and Predicted 21st Century Thermokarst Active Layer Thickening, Using an Improved Lake Model in CESM1: **Z M Subin**, W J Riley, C Bonfils, Title of Team: DOE Investigation of the Magnitudes and Probabilities of Abrupt Climate TransitionS (IMPACTS)
- 1340h **GC43A-0942** POSTER Modeling of permafrost dynamics and hydrological processes under seasonal and long term temperature variations: **S Ge**, J M McKenzie, Q Wu, C I Voss, J J Cochran
- 1340h **GC43A-0943** POSTER Using speleothem growth periods to constrain Quaternary evolution of Siberian permafrost: **A Vaks**, O Gutareva, S Breitenbach, A Osinzev, G M Henderson
- 1340h **GC43A-0944** POSTER INTERPRETING LINKAGES AMONG LANDSCAPE, WATER CHEMISTRY, AND DIATOM COMMUNITIES TO BETTER UNDERSTAND SUBARCTIC PALEOENVIRONMENTAL RECORDS: **A Shinneman**, W Hobbs, M Edlund, C E Umbanhowar, P Camill, C E Geiss
- 1340h **GC43A-0945** POSTER DYNAMICS OF THE THERMAL STATE OF ACTIVE LAYER AT THE ALASKA NORTH SLOPE AND NORTHERN YAKUTIA: **A L Kholodov**, V E Romanovsky, S Marchenko, N I Shiklomanov, D Fedorov-Davydov
- 1340h **GC43A-0946** POSTER SEDIMENTARY CARBON FLUX AND SOURCE APPORTIONMENT IN THE LAPTEV AND EAST SIBERIAN SEA: STRONG SHELF IMPRINT OF OLD ORGANIC CARBON FROM COASTAL EROSION: O Gustafsson, **J Vonk**, L Sánchez-García, V Alling, B Van Dongen, V Mordukhovich, A Charkin, P S Andersson, I P Semiletov, O Dudarev, P Roos, T I Eglinton
- 1340h **GC43A-0947** POSTER Hydrological and Biogeochemical Responses to Fire and Thermokarst Formation in Arctic Alaska: **S Godsey**, M N Gooseff, C Johnson, A G Lewkowicz, K E Krieger, B T Crosby
- 1340h **GC43A-0948** POSTER Impacts of thermokarst formation on soil carbon dynamics on the North Slope of Alaska: **B W Abbott**, J B Jones, T Harms
- 1340h **GC43A-0949** POSTER Spatial Variation in Soil Nutrient Concentrations and Microbial Activity in the Kolyma River Basin in Eastern Siberia: **S Dunn**, N Zimov, J D Schade, E B Bulygina, R M Holmes, S Chandra, V Spektor, S A Zimov, W V Sobczak, A Davydova, Title of Team: The Polaris Project
- 1340h **GC43A-0950** POSTER Microbial respiration and DOC composition in leachates from Holocene and Pleistocene soils from the Kolyma River basin in Eastern Siberia: **K Lewis**, J D Schade, W V Sobczak, R M Holmes, N Zimov, E B Bulygina, S Chandra, A G Bunn, L Russell-Roy, E C Seybold
- 1340h **GC43A-0951** POSTER Nitrous oxide production and emission in high arctic soils of NW Greenland: **A Stills**, M Lupascu, C I Czimczik, E D Sharp, J M Welker, S M Schaeffer
- 1340h **GC43A-0952** POSTER Seasonal Variations in CO₂ Flux among Arctic Plant Communities in Northern Alaska: **A Kade**, M S Bret-Harte
- 1340h **GC43A-0953** POSTER Growing season fluxes and sources of CO₂ and CH₄ in high arctic ecosystems, NW Greenland: **M Lupascu**, U Seibt, A K Stills, X Xu, D S Lindsey, J M Welker, C I Czimczik
- 1340h **GC43A-0954** POSTER Climate Change Experiments in Arctic Ecosystems: Scientific Strategy and Design Criteria: **S D Wullschleger**, L D Hinzman, A D McGuire, S F Oberbauer, W C Oechel, R J Norby, P E Thornton, E A Schuur, H H Shugart, J E Walsh, C J Wilson
- 1340h **GC43A-0955** POSTER Changing the seasonality of an Arctic tundra ecosystem: earlier snowmelt and warmer temperatures: **H Steltzer**, M N Weintraub, A Darrouzet-Nardi, C Melle, A Segal, P Sullivan, C Landry, M D Wallenstein
- 1340h **GC43A-0956** POSTER Warmer summers combined with increases in rain lead to major changes in trace gas feedbacks from high arctic polar semi-deserts in NW Greenland to the atmosphere: **E D Sharp**, P Sullivan, C I Czimczik, J M Welker
- 1340h **GC43A-0957** POSTER Vegetation recovery in Alaskan tundra following an unusual fire: **M S Bret-Harte**, R R Jandt, D A Yokel, P M Ray, E A Miller, M C Mack, G R Shaver
- 1340h **GC43A-0958** POSTER Tundra fire alters stream water chemistry and benthic invertebrate communities, North Slope, Alaska: **A R Allen**, W B Bowden, G W Kling, E Schuett, J M Kostrzewski, C Kolden Abatzoglou, R H Findlay
- 1340h **GC43A-0959** POSTER Distribution of Carbon and Cations across Aquatic and Terrestrial Ecosystems of the Western Hudson Bay Low Arctic, Manitoba, Canada: **C E Umbanhowar**, P Henneghan, K Passow, E Emmons, M Kubis, M Parker, P Camill, C E Geiss, M Edlund
- 1340h **GC43A-0960** POSTER Major element concentrations in six Alaskan arctic rivers from melt to freeze-up: **T A Douglas**, A Barker, A D Jacobson, J W McClelland, M S Khosh, G O Lehn
- 1340h **GC43A-0961** POSTER Seasonal variability of dissolved organic carbon and total dissolved nitrogen in Arctic streams and rivers: **M S Khosh**, J W McClelland, T A Douglas, A D Jacobson, G O Lehn, A Barker
- 1340h **GC43A-0962** POSTER Late summer variability of dissolved organic matter in the Kolyma River observed using satellite imagery: **C G Griffin**, K E Frey, J Rogan, R M Holmes
- 1340h **GC43A-0963** POSTER Seasonal changes in the major ion and δ¹³C_{DIC} geochemistry of Arctic Alaskan rivers: **G O Lehn**, A D Jacobson, T A Douglas, J W McClelland, M S Khosh, A Barker
- 1340h **GC43A-0964** WITHDRAWN
- 1340h **GC43A-0965** POSTER Assessing Nitrogen Cycling Processes in Stream Sediments from the Yukon River Basin Repert, Deborah A., and Smith, Richard L: **D Repert**, R L Smith
- 1340h **GC43A-0966** POSTER High mid-summer pCO₂ concentrations and evasion from headwater streams of the Kolyma River Basin, Siberia: **T Drake**, N Zimov, B A Denfeld, E C Seybold, J D Schade, E B Bulygina, R M Holmes, W V Sobczak
- 1340h **GC43A-0967** POSTER Carbon processing in the Kolyma River Watershed and the role it plays in CO₂ outgassing: **B A Denfeld**, K E Frey, E B Bulygina, T Drake, R M Holmes, J D Schade, W V Sobczak, N Zimov
- 1340h **GC43A-0968** POSTER CO₂ evasion from the Greenland ice sheet: **J Ryu**, A D Jacobson

GC43B Moscone South: Poster Hall Thursday 1340h
Greening/Sustainable Arctic I Posters (joint with B, A, C, H)

Presiding: **D A Walker**, University of Alaska Fairbanks; **M Macias Fauria**, University of Calgary; **B C Forbes**, University of Lapland

1340h **GC43B-0969 POSTER** Using acoustic monitoring to observe and interrelate ambient noise, sea ice dynamics, marine mammal distributions, and anthropogenic activity in the Alaskan Arctic: **E H Roth**, J Hildebrand, S M Wiggins, Title of Team: Whale Acoustics Lab

1340h **GC43B-0970 POSTER** Benthic Macroinvertebrate in the NE Siberian Arctic and Their Role in Processing Particulate Carbon: **E Ulrich**, E Vaughan, S Chandra

1340h **GC43B-0971 POSTER** Conspicuous circumpolar greening in the end of growing season over the Arctic region: **S Jeong**, B Kim, C Ho, D Medvigy, S Feng, Y Kim, H Lee

1340h **GC43B-0972 POSTER** Evaluating observed and projected future climate changes in the Arctic region: An approach using the Köppen-rewartha climate classification: C Ho, **S Feng**, S Jeong

1340h **GC43B-0973 POSTER** Increased peak-growing season GPP in a Greenlandic high-Arctic fen 1992-2008: T Tagesson, M Mastepanov, M P Tamstorf, L Eklundh, P Schubert, A Ekberg, C Sigsgaard, **T R Christensen**, L Strom

1340h **GC43B-0974 POSTER** Increasing NDVI values in northern Alaska: studies that mix shrub density, spectral and CO₂ exchange measurements: **A Anderson-Smith**, A Lewis, P Sullivan, J M Welker

1340h **GC43B-0975 POSTER** Willow Shrub Expansion Following Tundra Fires in Arctic Alaska: **C Racine**

1340h **GC43B-0976 POSTER** Alaska tundra vegetation trends and their links to the large-scale climate: **P A Bieniek**, U S Bhatt, D A Walker, M K Reynolds, J C Comiso, H E Epstein, R Gens, J Pinzon, C J Tucker, M Steele, C Ozimek

1340h **GC43B-0977 POSTER** Spectral indices for remote sensing of phytomass and deciduous shrub changes in Alaskan arctic tundra: **K Kushida**, S Hobara, S Tsuyuzaki, M Watanabe, K Harada, Y Kim, G R Shaver, M Fukuda

1340h **GC43B-0978 POSTER** Water sources of evergreen and deciduous species depend upon season, ecosystem type and snowpack depth in arctic tundra near Toolik Lake, Alaska: **L M Ebbs**, P Sullivan, J M Welker

1340h **GC43B-0979 POSTER** Climate-induced shrubland greening in northern Quebec over the Landsat era: **K M McManus**, D C Morton, J G Masek, D Wang, J O Sexton

1340h **GC43B-0980 POSTER** Herbivory and soil moisture drive long-term patterns of vegetation structure and function in Alaskan coastal tundra: results from resampling historic exclosures at Barrow: **D R Johnson**, M J Lara, G R Shaver, C Tweedie

1340h **GC43B-0981 POSTER** Characterizing patterns of historic shrub expansion in the North Slope of Alaska: **A T Naito**, D M Cairns

1340h **GC43B-0982 POSTER** Landscape- and decadal-scale changes in the composition and structure of plant communities in the northern foothills of the Brooks Range of Arctic Alaska: **J A Mercado-Díaz**, W A Gould

1340h **GC43B-0983 POSTER** Expansion of dwarf birch in subarctic Québec: linking radial growth to climate warming: **P Ropars**, S Boudreau

1340h **GC43B-0984 POSTER** Changes in tundra vegetation over 25 years as measured by Landsat NDVI in the Upper Kuparuk River Basin, North Slope, Alaska, 1985-2009: **M K Reynolds**, D A Walker, D Verbyla, C A Munger

1340h **GC43B-0985 POSTER** Boreal forest anomalies in the Yukon River Basin: **B K Wylie**, J A Rover, K Murnahan, J Long, L L Tieszen, B Brisco

1340h **GC43B-0986 POSTER** Varying Northern Forest Response to Arctic Environmental Change at the Firth River, Alaska: **L Andreu**, R D'Arrigo, K J Anchukaitis, S J Goetz, P S Beck

GC43C Moscone South: Poster Hall Thursday 1340h
Methodologies of Climate Model Confirmation and Interpretation II Posters (joint with A, PA)

Presiding: **L O Mearns**, NCAR; **J T Kiehl**

1340h **GC43C-0987 POSTER** Ontological and Epistemological Issues Regarding Climate Models and Computer Experiments: **M A Vezer**

1340h **GC43C-0988 POSTER** Future surface temperature change estimation constrained by using the future-present correlated modes in variability of CMIP3 multi-model simulations: **M Abe**, H Shiogama, T Nozawa, S Emori

1340h **GC43C-0989 WITHDRAWN**

1340h **GC43C-0990 POSTER** Understanding and Interpreting Climate Model Ensembles: **J D Annan**, J C Hargreaves

1340h **GC43C-0991 POSTER** Reliability of multi-model and structurally different single-model ensembles: T Yokohata, **J D Annan**, J C Hargreaves, C S Jackson, M Tobis, M Collins

1340h **GC43C-0992 POSTER** Resolving the Effects of Complex Topography on Regional Climate and Climate Change: The Need for Very High Spatial Resolution: **C M Rowe**, K A Maasch, R J Oglesby, R Mawalagedera, B O Grigholm, D J Erickson

GC43D Moscone South: Poster Hall Thursday 1340h
Monitoring and Mitigation of Methane Clathrate Destabilization to Avoid Accelerated Global Warming II Posters (joint with A, B, C, PA, NH)

Presiding: **R K Vincent**, Bowling Green State University; **X Xiong**, NOAA/NESIDS/STAR

1340h **GC43D-0993 POSTER** Effects of Salinity and Sea Level Change on Permafrost-Hosted Methane Hydrate Reservoirs: **M Elwood-Madden**

1340h **GC43D-0994 POSTER** Atmospheric Impact of Large Methane Emissions and the Gulf Oil Spill: **S Bhattacharyya**, P J Cameron-Smith, D J Bergmann

1340h **GC43D-0995 POSTER** Space-borne Observation of CH₄ using IASI and AIRS at NOAA: **X Xiong**, C Barnet, E S Maddy, A Gambacorta, T S King, J Wei

1340h **GC43D-0996 POSTER** Assessing change in the Arctic methane budget using the late summer "hump": **C Sweeney**, L Bruhwiler, E J Dlugokencky, J B Miller, J W White

1340h **GC43D-0997 POSTER** Observation of methane in this decade by ground-based FTIR Spectrometer over Poker Flat, ALASKA: **Y Kasai**, A Kagawa, N B Jones, Y Murayama

1340h **GC43D-0998 POSTER** Spatial distribution of methane seepage on the East Siberian Arctic Shelf: C Stubbs, **I Leifer**, N E Shakhova, I P Semiletov, B P Luyendyk

1340h **GC43D-0999 POSTER** Did the destruction of methane hydrates cause sudden increases in the atmospheric CO₂ level during the Phanerozoic era?: **J Brainard**, H Ohmoto

GC43E Moscone South: Poster Hall Thursday 1340h
Past and Present Dynamics of the Antarctic Peninsula Ice Cap
System Posters (*joint with C, OS, PP, B*)

Presiding: **S A Brachfeld**, Montclair State University; **E C Pettit**, University of Alaska Fairbanks

1340h **GC43E-1000** WITHDRAWN

1340h **GC43E-1001** WITHDRAWN

1340h **GC43E-1002** *POSTER* An interdisciplinary approach to climate and coastal systems changes on King George Island: **D Abele**, **M Braun**, U Falk, G Kuhn, C H Hass, M Dominguez, P Monien, H Brumsack, A Wasilowska, A Tatur, I Schloss, M Hernando, M L Quartino, L Torre, R Sahade, E Philipp

1340h **GC43E-1003** *POSTER* Onset of a small but significant regional climate change documented in high-resolution late Holocene sediment cores from the maritime western Antarctic Peninsula: **A Barnard**, J S Wellner, J B Anderson

1340h **GC43E-1004** *POSTER* Marine Ecosystem Response to Rapid Climate Warming on the West Antarctic Peninsula (*Invited*): **H Ducklow**, K S Baker, S C Doney, B Fraser, D G Martinson, M P Meredith, M A Montes-Hugo, S Saille, O Schofield, R M Sherrell, S E Stammerjohn, D K Steinberg

1340h **GC43E-1005** *POSTER* Glacial-marine sediments record ice-shelf retreat during the late Holocene in Beascochea Bay on the western margin of the Antarctic Peninsula: **L A Hardin**, J S Wellner

1340h **GC43E-1006** *POSTER* Evidence for more extensive ice shelves along the Western Antarctic Peninsula during the Little Ice Age: observations from the LARISSA project in Barilari Bay, Graham Land: **A E Kirshner**, A Christ, T Allinger, G Armbruster, A Crawford, N Elking, J Gao, M Gunter, D Kirievskaya, S Jeong, C Peers, P Povea de Castro, D Reardon, C Sanchez Cervera, M Talaia-Murray, W Verreydt, M Ward, Title of Team: LARISSA summer school

1340h **GC43E-1007** *POSTER* Reconstructing Late Quaternary Sea Levels in the Antarctic Peninsula (*Invited*): **A R Simms**, R DeWitt, E R Ivins, P Kouremenos, L Miller

1340h **GC43E-1008** *POSTER* The Marine Record of Holocene Deglaciation and Paleoclimate Change, Antarctic Peninsula: **R L Minzoni**, J B Anderson, A E Kirshner, J S Wellner, R A Fernandez-Vasquez

1340h **GC43E-1009** *POSTER* Marine sedimentary record of the Greenpeace Trough, Larsen A embayment, Antarctic Peninsula: **A Crawford**, A Leventer, E W Domack, S A Brachfeld

1340h **GC43E-1010** *POSTER* Stable isotope records from Larsen-C Ice Shelf ice cores to constrain ice shelf growth models: **B E Rosenheim**, N Gourmelen, S J Palmer, A A Leeson, E K Williams, A Fernandez, A Shepherd

1340h **GC43E-1011** *POSTER* Climatology of the Larsen C Ice Shelf, Antarctic Peninsula (*Invited*): **K Steffen**, D McGrath

1340h **GC43E-1012** *POSTER* Bruce Plateau, Antarctic Peninsula: Ice-Core Site Characterization: **E C Pettit**, T A Scambos, R J Bauer, E S Mosley-Thompson, M Truffer, B Blair

GC43F Moscone South: Poster Hall Thursday 1340h
The North American Regional Climate Change Assessment
Program: Studies Based on NARCCAP Simulations I Posters
(*joint with A, B*)

Presiding: **L O Mearns**, NCAR; **W J Gutowski**, Iowa State University

1340h **GC43F-1013** *POSTER* Projecting Future Extreme Precipitation Pattern in Ohio: **S Wu**

1340h **GC43F-1014** *POSTER* Extremes of Precipitation and Heat as simulated by NARCCAP Climate Models: **S J Vavrus**, R Behnke, K Holman

1340h **GC43F-1015** *POSTER* Regional, Extreme Daily Precipitation in NARCCAP Simulations: **W J Gutowski**, S Kawazoe, Title of Team: NARCCAP Modeling Team

1340h **GC43F-1016** *POSTER* Effects of Spatial Interpolation Algorithm Choice on Regional Climate Model Data Analysis: **S A McGinnis**, L R McDaniel, L O Mearns

1340h **GC43F-1017** *POSTER* Late 20th Century Temperature Trends in the NARCCAP Regional Model Simulations: **M S Bukovsky**, L O Mearns

1340h **GC43F-1018** *POSTER* Projected changes in phenological indices for North America using NARCCAP data: **M A Rawlins**, R S Bradley, H F Diaz

1340h **GC43F-1019** *POSTER* Validation of Narccap climate products for forest resource applications in the southeast United States: **W Shem**, T L Mote, J M Shepherd

1340h **GC43F-1020** *POSTER* Assessment of Precipitation Projections and Derived Estimates of Evapotranspiration from NARCCAP models for Water Resources Applications in Florida: **J Obeysekera**, M M Irizarry-Ortiz, W Abtew, J Park, J A Barnes, P Trimble

1340h **GC43F-1021** *POSTER* Precipitation in the Intermountain Region simulated by the NARCCAP regional climate models: **R R Gillies**, S Wang, E S Takle, W J Gutowski

1340h **GC43F-1022** *POSTER* Evaluation of Precipitation and Temperature in NARCCAP Regional Climate Models over the North and South Carolina in Southeast US: **Y Kim**, L E Band

1340h **GC43F-1023** *POSTER* Climate Change Projections using Dynamical Downscaling for the Colorado River Basin: **S Wi**, F Dominguez, M Durcik, J B Valdes, H F Diaz

1340h **GC43F-1024** *POSTER* Investigating Future Warming in the Colorado Rocky Mountains from High Resolution "NARCCAP" Models: I Rangwala, **J Barsugli**

GC43G Moscone West: 3001 Thursday 1340h
The Third Pole Environment (TPE) Under Global Changes III
(*joint with A, C, H, B*)

Presiding: **T Yao**, Inst of Tibetan Plateau Res; **L G Thompson**, Ohio State University; **V Mosbrugger**, Senckenberg Research Center for Nature Study; **Y Sheng**, UCLA

1340h **GC43G-01** Third Pole Environment Programme: A new base for the study of atmosphere-land interaction over heterogeneous landscape of the Tibetan Plateau and surrounding areas: **Y Ma**

1410h **GC43G-02** Toward Quantitative Understanding of the Atmospheric Heating over the Tibetan Plateau (*Invited*): **T Koike**, T Tamura, M Rasmay, R Seto

1440h **GC43G-03** On the Climatology and Trend of the Atmospheric Heat Sources over the Tibetan Plateau: An Observation-supported Revisit: **K Yang**

1455h **GC43G-04** Observation and modeling of land surface state and convective activity over the Qinghai - Tibet Plateau: **M Menenti**, J Colin, L Jia, Y Ma, T Foken, J Sobrino, J Wang, K Ueno

1510h **GC43G-05** Land surface processes/land cover change (LCC) and the Tibetan Plateau climate: **Y Xue**, Q Li, F De Sales, R Vasic, G Song

1525h **GC43G-06** The relative impacts of greenhouse gas and aerosol climate forcing on mountain glacier melt at the third pole: **E M Wilcox**

Geomagnetism and Paleomagnetism

GP43A Moscone South: Poster Hall Thursday 1340h Magnetism of Glassy Materials II Posters (joint with MR, V)

Presiding: R S Sternberg, Franklin & Marshall College

1340h GP43A-1037 POSTER Magnetism of Cr-rich Spinel: Y Yu, B Tikoff

1340h GP43A-1038 POSTER Cooling rate dependence of synthetic SD, PSD, MD magnetite: S Koch, A Ferk, K Hess, R Leonhardt

1340h GP43A-1039 POSTER Aligned submicron grains in archeological potteries with high TRM anisotropy: K Fukuma, M Ooga, H Isobe

1340h GP43A-1040 POSTER Anisotropy of Magnetic Susceptibility and Magnetic Properties of Obsidians: Volcanic Implications: E Cañón-Tapia, K Cárdenas

1340h GP43A-1041 POSTER Magnetic Sourcing of Obsidian Artifacts: Successes and Limitations: A Hillis, J Feinberg, E Frahm, C Johnson

1340h GP43A-1042 POSTER Magnetic Properties of Obsidians from the Southwestern U.S.: R S Sternberg, S Gilder, P R Renne, S Shackley

1340h GP43A-1043 POSTER Paleointensity results from the mid Jurassic: Submarine basaltic glasses of ODP Site 801C: L Tauxe, M B Steiner, H Staudigel, J S Gee

1340h GP43A-1044 POSTER Comparative paleointensity study of volcanic glass and whole rock samples of the Aso pyroclastic flows: T Maruuchi, H Shibuya, N Mochizuki, Y Yamamoto

1340h GP43A-1045 POSTER Magnetic mineralogy of ash flow tuffs: Teasing out effects of emplacement and post-emplacement conditions: J A Bowles, M J Jackson, J S Gee, J Bowar, J L Till, Y Yu, J K Vavrek, J Steindorf

GP43B Moscone South: Poster Hall Thursday 1340h Planetary and Meteorite Paleomagnetism and Rock Magnetism II Posters (joint with P)

Presiding: J Gattacceca, CEREGE (CNRS)

1340h GP43B-1046 POSTER Analysis of the Allende chondritic meteorite's remanence: A R Muxworthy, J Moore, P Bland

1340h GP43B-1047 POSTER Paleomagnetism of the Brenham Pallasite: J Brock, J A Tarduno, R D Cottrell, F Nimmo

1340h GP43B-1048 POSTER Magnetic Properties of LL6 Ordinary Chondrite St. Severin: S Doh, Y Yu, W Kim, K K Min

1340h GP43B-1049 POSTER Fidelity of Mare Basalts as Magnetic Recorders and Implications for Lunar Paleomagnetism: S M Tikoo, B P Weiss, J Buz, M G Silva, T L Grove, J Gattacceca

1340h GP43B-1050 POSTER What we can learn from the hysteresis properties of metal-bearing meteorites: J Gattacceca, P Rochette, C Suavet, M Uehara

1340h GP43B-1051 POSTER Ferromagnetic minerals in peridotite xenoliths and possible implications for fO_2 in the lithospheric mantle: S A Friedman, E C Ferre, F Martin Hernandez, D A Ionov, J L Till, J M Feinberg

1340h GP43B-1052 POSTER Using the magnetic properties of Fe-serpentines for probing early alteration events in CM2 carbonaceous chondrites: A Elmaleh, G Rousse, B Devouard

1340h GP43B-1053 POSTER Paleomagnetic record of the Earth's magnetic field polarity by micrometeorites: C Suavet, J Gattacceca, P Rochette, L Folco

1340h GP43B-1054 POSTER Further Investigations on the Magnetic Properties of Cosmic Spherules: P Rochette, C Suavet, D Dampffhoffer, J Gattacceca, L Folco, C Sonzogni

1340h GP43B-1055 POSTER Paleomagnetic tests for impact-generated fields at Lonar and other terrestrial craters: B P Weiss, S Pedersen, I Garrick-Bethell, S T Stewart, K L Louzada, M Fuller, A C Maloof, N Swanson-Hysell

1340h GP43B-1056 POSTER Shock deformation and nucleation of magnetic minerals in suevites of the Chesapeake Bay impact crater, USA: C Mang, A M Kontny, D Harries, F Langenhorst, U Reimold

1340h GP43B-1057 POSTER Testing the origin of high remanent magnetization in Vredefort impact structure: J M Salminen, L J Pesonen, K Lahti, K Kannus

1340h GP43B-1058 POSTER Shock-generated magnetite in the Vredefort impact crater basement rocks: L Carporzen, B P Weiss, S A Gilder, R J Hart

1340h GP43B-1059 POSTER Impact demagnetization at the moon and Mars: new results from hydrocode simulations and multiple altitude magnetic field data: R J Lillis, S T Stewart, M Manga, I Rose, J S Halekas, K L Louzada, M E Purucker

1340h GP43B-1060 POSTER Surface mapping of three components of the lunar magnetic anomaly field: Preliminary results:

H Tsunakawa, F Takahashi, H Shimizu, H Shibuya, M Matsushima

1340h GP43B-1061 POSTER Basic properties of transformation remanent magnetization due to the Verwey transition of magnetite: M Sato, N Mochizuki, H Tsunakawa

1340h GP43B-1062 POSTER Rock Magnetic Properties of Rio Tinto Sediments: G McIntosh, F Martin Hernandez, D C Fernandez-Remolar, P de la Presa

GP43C Moscone South: 103 Thursday 1440h Edward Bullard Lecture (Webcast)

Presiding: R J Blakely, U.S Geological Survey; R G Gordon, Rice University

1440h Richard Blakely *Introduction of the 2010 Bullard Lecturer*

1445h GP43C-01 Geomagnetic secular variation as a window on the dynamics of Earth's core (*Invited*): A Jackson

1530h Andrew Jackson *Questions & Answers*

Hydrology

H43A Moscone South: Poster Hall Thursday 1340h Coastal Hydrogeology: Physical, Chemical, and Biological Characterization of Variable-Density Systems II Posters (joint with A, B, EP, GC, NH, OS)

Presiding: E Abarca, MIT; J Luo, Georgia Institute of Technology; M Dentz, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC); E D Swain, U.S. Geological Survey; J N King, U.S. Geological Survey

1340h H43A-1202 POSTER Delineation of submarine groundwater discharge (SGD) in a large-scaled reclaimed land: B Lee, S Park, J Hwang, S Song, J Choi, K Nam

1340h H43A-1203 POSTER Geophysical Conceptual Model for Benthic Flux and Submarine Groundwater Discharge: J N King

1340h H43A-1204 POSTER Long-term transient groundwater dynamics in a tidally influenced coastal aquifer: E Abarca, H Karam, C Harvey

1340h H43A-1205 WITHDRAWN

1340h H43A-1206 POSTER Effects of aquifer stratification on freshwater-seawater mixing-zone development: C Lu, J Luo

1340h **H43A-1207** POSTER Evaluation of Seawater Intrusion Potential into a Coastal Underground Oil Storage Cavern in Korea: **E Lee**, J Lim, H Moon, K Lee

1340h **H43A-1208** POSTER Determination of Groundwater Flow Paths in a Coastal Southern California Aquifer: **R Anders**, K Futa

1340h **H43A-1209** POSTER Assessing Current and Future Performance of the Alamitos Gap Seawater Intrusion Barrier with a New Flow and Transport Model, Los Angeles and Orange Counties, CA: **J M Sigda**, N Deeds, D L Jordan, R Sengebush

1340h **H43A-1210** POSTER Modeling and Electrical Imaging of Natural Free Convection Induced by Saline Recharge in a Coastal Sabkha: **B P Eustice**, D W Hyndman, R L Van Dam, W W Wood

1340h **H43A-1211** POSTER Model Simulation and Reduction of Variable-Density Flow and Salt Transport Using Proper Orthogonal Decomposition: **X Li**, B Hu, X Chen

1340h **H43A-1212** POSTER Fault-induced seawater circulation in the Seferihisar-Balçova Geothermal Basin, Western Anatolia, Turkey: **F Magri**, T Akar, U Gemici, A Pekdeger

1340h **H43A-1213** POSTER The fabric and compaction of mudstones in the Gulf of Mexico: **R Day-Stirrat**, P B Flemings, A C Aplin, A M Schleicher

1340h **H43A-1214** POSTER A new geological model to predict anthropogenic Venice uplift: **G Gambolati**, P Teatini, N Castelletto, M Ferronato, L Tosi

1340h **H43A-1215** POSTER Geochemical features of groundwater from deep wells in and around the Seto Inland Sea, Japan: **T Sato**, K Kazahaya, K Kitaoka, H A Takahashi, N Morikawa, M Yasuhara, M Takahashi, M Ohwada, A Inamura, Y Oyama

1340h **H43A-1216** POSTER Pore water dating by 129I: What do 36Cl/Cl ratio, dissolved 4He concentration, $\delta^{37}\text{Cl}$ and 129I/127I ratio suggest in the Mobarra Gas field, Japan?: **Y Mahara**, T Ohta, T Tokunaga

1340h **H43A-1217** POSTER Sources of chlorine in deep fluids beneath the Japanese island, inferred from the application of the long-lived radionuclide ^{36}Cl : **Y Tosaki**, N Morikawa, K Kazahaya, M Ohwada, M Yasuhara, H A Takahashi, M Takahashi, A Inamura, Y Oyama

1340h **H43A-1218** POSTER Helium isotopes and ^{36}Cl in saline groundwater from the Osaka Basin, Southwest Japan: Concurrent change in isotopic ratio during groundwater flow: **N Morikawa**, K Kazahaya, M Takahashi, Y Tosaki, M Ohwada, H A Takahashi, M Yasuhara, H Masuda

1340h **H43A-1219** POSTER Numerical Simulation of Borehole Flow in Deep Monitor Wells, Pearl Harbor Aquifer, Oahu, Hawaii: **K Rotzoll**, D S Oki, A I El-Kadi

1340h **H43A-1220** POSTER Rapid seawater circulation through animal burrows in mangrove forests – A significant source of saline groundwater to the tropical coastal ocean: **J F Clark**, T C Stieglitz, G J Hancock

1340h **H43A-1221** POSTER Lattice Boltzmann Hydrodynamic and Transport Modeling of Everglades Mangrove Estuaries: **M C Sukop**, V Engel

1340h **H43A-1222** POSTER Sea Level fluctuations and their hydrologic impacts in S. Florida: V Engel, **C Karamperidou**, E Stabenau, U Lall

1340h **H43A-1223** POSTER Using Field Measurements to Determine Appropriate Hydrodynamic Surface-Water Formulations: **E D Swain**, J D Decker, J D Hughes

1340h **H43A-1224** POSTER Biogeochemical and hydrological controls in mobilizing Se in a saline wetland environment: **S Datta**, G M Hettiarachchi, M Crawford, R Karna, N E Allmendinger, R Khatiwada

1340h **H43A-1225** POSTER A new analytical approach to estimate the hydraulic parameters of a coastal phreatic aquifer from tidally induced water table fluctuations and its application at the Nijijima Island, Japan: **M Aichi**, M Shiokari, T Tokunaga

H43B Moscone South: Poster Hall Thursday 1340h Data, Information Systems, Interoperability, Cloud Computing, and Community Modeling in Hydrology I Posters (joint with IN)

Presiding: **J L Goodall**, University of South Carolina; **J E Freer**, University of Bristol

1340h **H43B-1226** POSTER Creation of a Web-Based GIS Server and Custom Geoprocessing Tools for Enhanced Hydrologic Applications: **B Welton**, K Chouinard, M Sultan, D Becker, A Milewski, R Becker

1340h **H43B-1227** POSTER Detailed Soil Information for Hydrologic Modeling in the Conterminous United States: **N B Bliss**, S W Waltman, A C Neale

1340h **H43B-1228** POSTER Arc Hydro Tools for CUASHI WaterOneFlow Services: **Z Ye**

1340h **H43B-1229** WITHDRAWN

1340h **H43B-1230** POSTER Towards a virtual observatory for ecosystem services and poverty alleviation: **W Buytaert**, S Baez, F Cuesta, C Veliz Rosas

1340h **H43B-1231** POSTER A virtual observatory in a real world: building capacity for an uncertain future – the UK pVO: **R J Gurney**, D Tetzlaff, J E Freer, B Emmett, A Mcdonald, G Rees, W Buytaert, G Blair, P Haygarth

1340h **H43B-1232** POSTER Implementation of a Hydrologic Information Data Server in the DFW Metroplex: **J A McEnery**, P W McKeel, G P Shelton

1340h **H43B-1233** POSTER Integrating water data, models and forecasts – the Australian Water Resources Information System (*Invited*): **R Argent**, P Sheahan, N Plummer

1340h **H43B-1234** POSTER Toward Federated Security and Data Access Control within a Services Oriented Architecture for Publishing Hydrologic Data: **J S Horsburgh**, D G Tarboton, K Schreuders, K S Patil

1340h **H43B-1235** POSTER Berkeley Sensor Database, an Implementation of CUAHSI's ODM for the Keck HydroWatch Wireless Sensor Network: G Ogle, **C Bode**, I Fung

1340h **H43B-1236** POSTER HydroDesktop: An Open Source GIS-Based Platform for Hydrologic Data Discovery, Visualization, and Analysis: **D P Ames**, J Kadlec, Y Cao, D Grover, J S Horsburgh, T Whiteaker, J L Goodall, D W Valentine

1340h **H43B-1237** POSTER An integrated modeling environment within the CUAHSI Hydrologic Information System: **J L Goodall**, A M Castronova, M Elag, M B Ercan

1340h **H43B-1238** POSTER Water-HUB - A community cyberinfrastructure for hydrology education and research: **V Merwade**, B L Ruddell, C Song, S Brophy, R H Mohtar, A Yerrammilli

1340h **H43B-1239** POSTER Development of a Hydrologic Modeling Platform Using a Workflow Engine: **M Piasecki**, B Lu

1340h **H43B-1240** POSTER Interactive Data Coupler for SWAT Using Open Source Components: **M Muste**, D Kim, N Arnold

1340h **H43B-1241** POSTER Real-time Hydro-NEXRAD II-derived Rainfall Data for the Upper Embarrass Watershed: **S K Jha**, A Rodriguez, S Singh, Y Liu, B S Minsker, W F Krajewski

1340h **H43B-1242** *POSTER* A multi-language, regional water management model; linking a surface (WaterSim 4.0) and a groundwater flow model (MODFLOW): **D A Sampson**, V M Escobar, P Gober

1340h **H43B-1243** *POSTER* The Role of Ontologies for Model and Data Interoperability: **A Byrd**, D G Tarboton

1340h **H43B-1244** *POSTER* On the fall 2010 Enhancements of the Global Precipitation Climatology Centre's Data Sets: **A W Becker**, U Schneider, A Meyer-Christoffer, M Ziese, P Finger, B Rudolf

1340h **H43B-1245** *POSTER* A continental scale daily gridded precipitation dataset for Asia based on a dense network of rain gauges -APHRODITE project-: **A Hamada**, K Kamiguchi, O Arakawa, N Yasutomi, A I Yatagai

H43C Moscone South: Poster Hall Thursday 1340h
Detecting and Predicting Change in Coupled Human-Water Systems I Posters (*joint with GC, PA, B*)

Presiding: **J S Arrigo**, East Carolina University; **C M Hermans**, City University of New York; **A Parolari**, Massachusetts Institute of Technology; **B G Voigt**, University of Vermont; **M Huang**, Pacific Northwest National Laboratory; **A Munoz Hernandez**, City University of New York; **M S Wigmosta**, Pacific Northwest National Laboratory

1340h **H43C-1246** *POSTER* Evaluating and improving CLM hydrologic processes for integrated earth system modeling at regional scales: **M Huang**, L Leung, M S Wigmosta, A M Coleman, Y Ke, T K Tesfa, H Li

1340h **H43C-1247** *POSTER* Application of Method of Variation to Analyze and Predict Human Induced Modifications of Water Resource Systems: **S B Dessu**, A M Melesse, B Mahadev, M McClain

1340h **H43C-1248** *POSTER* Identifying the causes of water crises: A configurational frequency analysis of 22 basins world wide: **V Srinivasan**, S Gorelick, E Lambin, S Rozelle, B Thompson

1340h **H43C-1249** *POSTER* Water Diplomacy: A Synthesis of Water Information and Understanding to Create Actionable Knowledge: **Y Gao**, S Islam

1340h **H43C-1250** *POSTER* Will Climate Change Exacerbate or Mitigate Water Stress in Central Asia?: **T U Siegfried**, T Bernauer, R Guiennet, S L Sellars, A W Robertson, J Mankin, P Bauer-Gottwein

1340h **H43C-1251** *POSTER* The Geography of Conflict in International River Basins: L Beck, **T U Siegfried**

1340h **H43C-1252** *POSTER* A Watershed-Scale Agent-Based Model Incorporating Agent Learning and Interaction of Farmers' Decisions Subject to Carbon and Miscanthus Prices: **T Ng**, J Eheart, X Cai, J B Braden

1340h **H43C-1253** *POSTER* Assessing Uncertainties for Water Manager's Planning: Understanding the Impacts of Policy and Climate Change for Informed Decision Making: **V M Escobar**, D A Sampson

1340h **H43C-1254** *POSTER* Determining the Spatial Influence of Imported and Local Water Sources to Municipal Tap Water Systems in the Southwestern United States Using Stable Isotopes of Oxygen and Hydrogen: **J C Stalker**, C D Kennedy, G J Bowen

1340h **H43C-1255** *POSTER* Analyzing long-term hydrological impacts of forest disturbance and growth: a case study from Homochitto Watershed (MS): **I Yeo**

1340h **H43C-1256** *POSTER* Modeling Temporal and Spatial Flows of Ecosystem Services in Chittenden County, VT: **B G Voigt**, K Bagstad, G Johnson, F Villa

1340h **H43C-1257** *POSTER* Effects of changes in seasonal precipitation in Catskill Mountain region on NYC water supply system management: **A H Matonse**, D C Pierson, A Frei, M Zion, R Mukundan

1340h **H43C-1258** *POSTER* Groundwater Response to Drought and Seasonal Precipitation Changes: **J Haucke**, K A Clancy, G Kraft

1340h **H43C-1259** *POSTER* Detection of changes in hydrologic system memory associated with urbanization in the Great Lakes region: **G Yang**, L C Bowling

1340h **H43C-1260** *POSTER* Examining 20th Century Seasonality Changes in River Hydrology: Attributing Natural and Anthropogenic Change in the Merrimack River: **J S Arrigo**

1340h **H43C-1261** *POSTER* Understanding the linkages and feedbacks in human-water systems: development of an integrated systems framework: **C M Hermans**, C J Vorosmarty, J S Arrigo, A Parolari, B Thomas

1340h **H43C-1262** *POSTER* Inventing Wastewater: The Social and Scientific Construction of Effluent in the Northeastern United States: **J M Brideau**, M Ng, J H Hoover, R L Hale, B Thomas, R M Vogel, Title of Team: Northeast Consortium for Hydrologic Synthesis Summer Institute, 2010 – Biogeochemistry

1340h **H43C-1263** *POSTER* An Examination of the Sensitivity of Runoff in the Northeastern US to 20th Century Development: **I N Mohammed**, D G Tarboton, R Cohen, U Lall

1340h **H43C-1264** *POSTER* Regional and State Level Water Scarcity Report: Northeast United States: **C K Nicoletti**, C A Lopez-morales, J H Hoover, B G Voigt, C J Vorosmarty, I N Mohammed

1340h **H43C-1265** *POSTER* Leveraging spatial statistics in the development of an historical narrative for water resources in the Northeast United States: **J H Hoover**, J M Brideau, B G Voigt, C J Vorosmarty

1340h **H43C-1266** *POSTER* Anthropogenic Nutrient Loading in the Northeastern US 1920-2000: **R L Hale**, M Ng, J M Brideau, J H Hoover, B Thomas

1340h **H43C-1267** *POSTER* Water Quality Loading: Trends in the Northeastern Corridor of US During the 20th Century: **M Ng**, R M Vogel, R L Hale, B Thomas, J H Hoover, J M Brideau

1340h **H43C-1268** *POSTER* The spatial and temporal variations of streamflow disruption as a result of dam building in the Northeast US: **B J Pompeii**, C J Vorosmarty

1340h **H43C-1269** *POSTER* 20th Century Groundwater in the Northeast United States: A case study quantifying the impact of groundwater policies in New Jersey: **P S Kanwar**, J S Arrigo, B Thomas, R M Vogel, J H Hoover

1340h **H43C-1270** *POSTER* How can hydrology inform economic policymaking? An assessment of water stress at the county level for the Northeastern United States using two concepts of water availability: **C A Lopez-morales**, C Nicoletti, J H Hoover, B G Voigt, C Vörösmarty, B M Fekete

H43D Moscone South: Poster Hall Thursday 1340h
Integrating Geomorphic, Hydrologic, and Ecologic Processes for Sustainable Management of River Corridors II Posters (*joint with B, PA*)

Presiding: **D Tetzlaff**, University of Aberdeen; **L E Band**, University of North Carolina; **T J Beechie**, NOAA Fisheries

1340h **H43D-1271** *POSTER* Comparison of Stream-Groundwater Interactions in Two Restoration Approaches: **S E Gregg**, M N Gooseff, T Wagener

1340h **H43D-1272** *POSTER* Prioritizing Road Treatments using the Geomorphic Roads Analysis and Inventory Package (GRAIP) to Improve Watershed Conditions in the Wall Creek Watershed, Oregon: **K T Day**, T Black, C Clifton, C Luce, S McCune, N Nelson

1340h **H43D-1273** *POSTER* Hydraulic features of Engineered Log Jams (ELJs) and their influence on salmonid behavior: **W D Rice**, D Fetter, G Somerville, D D Tulllos, J Palacijo

1340h **H43D-1274** *WITHDRAWN*

1340h **H43D-1275** *POSTER* Mechanical Analyses for coupled Vegetation-Flow System: **L Chen**, K Acharya, M Stone

1340h **H43D-1276** *POSTER* Riparian rehabilitation using vegetation patches: field and laboratory investigations linking hydrology, vegetation and geomorphology: **J F Rodriguez**, S Gorrnick

1340h **H43D-1277** *POSTER* Classification of physical habitat for Pacific Salmon in a Semi-Arid Basin in Northeast Oregon: **S J O'Daniel**, J Webster, M Lambert

1340h **H43D-1278** *POSTER* The Changing Geomorphic Template of Native Fish Habitat of the Lower San Rafael River, Utah: **S T Fortney**, D J Dean, J C Schmidt

1340h **H43D-1279** *POSTER* A modeling framework for evaluating stream restoration techniques and ecosystem response: **S S Blersch**, J F Atkinson, D M Blersch, S J Bennett

1340h **H43D-1280** *POSTER* Soil moisture versus depth-to-water-level: Which is better for predicting plant composition in a restored floodplain wetland?: **E Booth**, S P Loheide

1340h **H43D-1281** *POSTER* Using Braid Plain Ecology and Geomorphology to Inform Bank Erosion Management along a Braided River, Matanuska River, Alaska: **J H Curran**, M L McTeague

1340h **H43D-1282** *POSTER* Hydrological and biogeochemical investigation of an agricultural watershed, southeast New Hampshire, USA: **J M Davis**, W H McDowell, J E Campbell, A N Hristov

1340h **H43D-1283** *POSTER* Effects of River Regulation on Aeolian Landscapes, Grand Canyon National Park, USA: **A E Draut**

1340h **H43D-1284** *POSTER* A geomorphic framework to assess changes to aquatic habitat due to flow regulation and channel and floodplain alteration of the Cedar River, Washington: **A S Gendaszek**, C S Magirl, C R Barnas, C P Konrad, R Little

1340h **H43D-1285** *POSTER* Climate-driven changes in scour regime and potential risks to salmonid survival in the Middle Fork Salmon River, Idaho: **J Goode**, J M Buffington, D Isaak, D Tonina, D Tetzlaff, C Soulsby, K Tockner, R Thurow, J A McKean, C Luce, S Wenger, D Nagel

1340h **H43D-1286** *POSTER* Laboratory Experiments To Investigate The Effects Of Bank-Toe Vegetation On Distributions Of Stresses On Streambanks: **C K Hinners**, A Simon, J F Atkinson

1340h **H43D-1287** *POSTER* Novel Image-based Methodology for Correlating Fish Position and Local Flow Attributes: **A Lightbody**, E Tytell, F Sotiropoulos

1340h **H43D-1288** *POSTER* A groundwater-vegetation interaction model for assessing the impacts of water transfer on ecological restoration in the lower Tarim River: **D Liu**, F Tian, H Hu, M Lin, Z CONG

1340h **H43D-1289** *POSTER* Transport of pulse and chronic inputs of sand and their effects on salmonid spawning habitat in Bear Valley Creek, Idaho, USA: **O Maturana**, D Tonina, D Caamano, J A McKean, J M Buffington, C Luce

1340h **H43D-1290** *POSTER* Sensitivity of Off-Channel Salmon Rearing Habitats to Changing Base Flows in Low-Gradient Reaches of Central Idaho Mountain Streams: **J A McKean**, R Thurow, D Tonina, D Isaak, C Bohn

1340h **H43D-1291** *POSTER* Multi-objective sustainable river management: balancing flood control, bio-physical restoration and socio-economic factors in a Scottish river: **H Moir**, C Bowles, C Campbell, A Sawyer, L Comins, A Werritty

1340h **H43D-1292** *POSTER* A New Tool for Assessing Salmon Spawning Substrates in Coarse-Bedded Rivers: **C S Riebe**, B T Overstreet, J K Wooster, F K Ligon

1340h **H43D-1293** *POSTER* Designing Hydroecologic - Geomorphic Monitoring Networks to Capture Heterogeneity and Predict the Influence of Climate Change on Hydrologic, Ecologic and Geomorphic Processes: **C J Tennant**, B T Crosby

1340h **H43D-1294** *POSTER* A study of artificial neural networks for estimating riverine biodiversity: **W Tsai**, F Chang, Y Chiang

1340h **H43D-1295** *POSTER* Assessing patterns of bed-material storage and flux on a mixed bedrock-alluvium river: Umpqua River Oregon, USA: **R Wallick**, S Anderson, M Keith, C Cannon, J E O'Connor

1340h **H43D-1296** *POSTER* THE MATTOLE RIVER ESTUARY: RESTORATION EFFORTS IN A DYNAMIC SYSTEM: **D Barber**, M Liquori

1340h **H43D-1297** *POSTER* Process-based principles for restoring river ecosystems: **T J Beechie**

H43E Moscone South: Poster Hall Thursday 1340h
Nonequilibrium Drivers in Mediterranean Climate River and Riparian Ecosystems Posters (*joint with B, EP, GC*)

Presiding: **J C Stella**, SUNY-ESF; **J Bendix**, Syracuse University; **P W Downs**, University of Plymouth

1340h **H43E-1298** *POSTER* Human alterations, dynamic equilibrium, and riparian ecosystem responses along selected rivers in Tuscany, Italy (*Invited*): **C R Hupp**, M Rinaldi

1340h **H43E-1299** *POSTER* Riparian vegetation in South-western Europe: drivers of change across space and time (*Invited*): **F C Aguiar**, M Ferriera

1340h **H43E-1300** *POSTER* MODELING MEDITERRANEAN RIPARIAN VEGETATION DYNAMICS FROM HYDROLOGIC CHANGES CONDUCTED BY CLIMATE CHANGE: **R P Rivaes**, P Rodríguez-González, A Albuquerque, M Ferriera, A Pinheiro

1340h **H43E-1301** *POSTER* Multi-Scale Drivers of Riparian Forest Decline Along a Mediterranean-Climate River: **J C Stella**, J Riddle, H Piégay, M Gagnage, M Trémolo

1340h **H43E-1302** *WITHDRAWN*

1340h **H43E-1303** *POSTER* Disturbance and California riparian tree establishment: **J Bendix**, C M Cowell

1340h **H43E-1304** *POSTER* Inference of Eco-geomorphic Processes Using Integrated Historical Data for a Rapidly Changing Mediterranean-climate River Corridor: Lower Santa Clara River, California: **E E Beller**, R M Grossinger, P W Downs, B K Orr

1340h **H43E-1305** *POSTER* Hydrological and hydrochemical responses of the streams in coastal California to land use, fire and climate: **J M Melack**, B Goodridge

1340h **H43E-1306** *POSTER* EFFECTS OF URBANIZATION ON THE FLOW REGIMES OF SEMI-ARID SOUTHERN CALIFORNIA STREAMS: **R J Hawley**, B P Bledsoe, E D Stein

1340h **H43E-1307** *POSTER* Episodic Channels: Effects of Regulation on Non-Equilibrium River Systems in California (*Invited*): **G M Kondolf**, J T Minear

1340h **H43E-1308** *POSTER* Floodplain Polygenesis: from Geomorphic Construction to Forest Pattern: **C A Gomez**, H Piégay, A K Fremier

1340h **H43E-1309** *POSTER* Quantifying the Geomorphic Dynamics of the Extensively Impacted Lower Yuba River: **J R Wyrick**, G B Pasternack, J K Carley, R Barker, D Massa, P Bratovich, G Reedy, T Johnson

1340h **H43E-1310** *POSTER* An Observed Step Change in River Delta Turbidity Following 1982-1983 El Nino Floods: **E L Hestir**, D H Schoellhamer, T Morgan-King, S Ustin

H43F Moscone South: Poster Hall Thursday 1340h
Recent Advances in Process-Based/Physically Based Distributed Hydrologic Modeling I Posters (*joint with B, EP, GC, A*)

Presiding: **M S Phanikumar**, Michigan State University; **C Shen**, Michigan State University

1340h **H43F-1311** *POSTER* Estimations of Water-Table Fluctuations Considering Delayed Drainage Effect of Unsaturated Zone: **S Kim**, E Park

1340h **H43F-1312** *POSTER* A Process-Based, Distributed Hydrologic Model Based on a Large-Scale Method for Surface - Subsurface Coupling: **M S Phanikumar**, **C Shen**

1340h **H43F-1313** *POSTER* Integrated hydrological SVAT model for climate change studies in Denmark: **M Mollerup**, J Refsgaard, T O Sonnenborg

1340h **H43F-1314** *POSTER* Memory Estimation in the Simulated Moisture Storages and other Hydroclimatological Variables over a Drought-Prone Catchment: **C Agboma**, L Lye, S Yirdaw

1340h **H43F-1315** *POSTER* Numerical investigation of the influence of watershed characteristics on pollutant transport in overland flow: **Z He**, G Tayfur, Q Ran

1340h **H43F-1316** *POSTER* Effects of climate changes on groundwater in various catchments of Korea: **J Lee**, N C Woo

1340h **H43F-1317** *POSTER* A Physically-based Model for Surface and Subsurface Drainage from Porous Pavement Overlays: **B J Eck**, M Barrett, R J Charbeneau

1340h **H43F-1318** *POSTER* Simulation of Climate Change Impacts on Himalayan Headwater Watershed Snowmelt Hydrology: Discharge, Sediment Load, and Nutrient Shifts: **R P Neupane**, J D White

1340h **H43F-1319** *POSTER* Future Water Resource Scenarios for USA: Effects of Land Use/Cover Change, Climate Change and Human Disturbance: **S Kumar**, V Merwade, B C Pijanowski

1340h **H43F-1320** *POSTER* Hydrologic Response to Climate Change in the Clinch River Watershed Using SWAT: **S R Koirala**, J Logan, R W Gentry

1340h **H43F-1321** *POSTER* Upscaling topographic and hydraulic resistance data in a two-dimensional hydrodynamic model of the Everglades ridge and slough landscape: **J D Hughes**, J D Decker, J W Jawitz

1340h **H43F-1322** *POSTER* Surface Storage Dynamics in Large Rivers: Comparing Three-Dimensional Particle Transport, 1D Fractional Derivative and Multi-Rate Transient Storage Models: **E J Anderson**, M S Phanikumar

1340h **H43F-1323** *POSTER* A New Approach to Address Complexities in Single-Well Push-Pull Test Data: Application of a Multi-Species Reactive Transport Model to Estimate Biogeochemical Rates: **T Kneeshaw**, M S Phanikumar, J T McGuire

1340h **H43F-1324** *POSTER* Coupling of HEC-HMS and HEC-ResSim in Modeling the Fluctuation of Water Level in Devils Lake Using Heterogeneous Data: **H S Munna**, Y H Lim

1340h **H43F-1325** *POSTER* Measuring and Modeling Stream Temperature in a Forested Ozark Border Stream: An Energy Balance Approach: **E A Bulliner**, J A Hubbard

1340h **H43F-1326** *POSTER* Role of simulation time in grid based distributed hydrologic simulations: **K Kang**, V Merwade

1340h **H43F-1327** *POSTER* Weather Modification and its Hydrologic Impact on the North Platte Watershed, Wyoming: **A Acharya**, T C Piechota, H Stephen, G A Tootle

1340h **H43F-1328** *POSTER* Development and evaluation of a soil erosion module for the GEOTOP distributed hydrological model: **T Zi**, C Lewis, G Kiely, J D Albertson

1340h **H43F-1329** *POSTER* Spatially-Distributed Stream Flow and Nutrient Dynamics Simulations Using the Component-Based AgroEcoSystem-Watershed (AgES-W) Model: **J C Ascough**, O David, G C Heathman, D R Smith, T R Green, P Krause, H Kipka, M Fink

1340h **H43F-1330** *POSTER* Validating the Performance of the Post Wildfire Erosion Risk Management Tool (ERMiT): **P R Robichaud**, W J Elliot, J W Wagenbrenner

H43G Moscone South: Poster Hall Thursday 1340h
Remote Sensing of Rivers III Posters (*joint with B, C, EP, G*)

Presiding: **M A Fonstad**, Texas State University; **T M Pavelsky**, University of North Carolina-Chapel Hill; **P Carbonneau**, Durham University; **C J Legleiter**, University of Wyoming

1340h **H43G-1331** *POSTER* Digital Photograph Analysis to Quantify Fine-grained Sediment Composition of Riverbed Surfaces: **C R Vernon**, T P Hanrahan

1340h **H43G-1332** *POSTER* Georectification of historical aerial photos to track meander change in Wood River, Klamath County, Oregon: **C Nash**, M L Hughes

1340h **H43G-1333** *POSTER* Assessing stream temperature variations in the Pacific Northwest using airborne thermal infrared remote sensing: **J Tan**, K A Cherkauer

1340h **H43G-1334** *POSTER* Acquisition, calibration, and performance of airborne high-resolution ADS40 SH52 sensor data for monitoring the Colorado River below Glen Canyon Dam: **P A Davis**, L E Cagney, K A Kohl, T M Gushue, C Fritzinger, G E Bennett, J F Hamill, T S Melis

1340h **H43G-1335** *POSTER* Close-range Photogrammetry for High Resolution Modeling of River Bed Topography in Small Channels: **S A Bird**

1340h **H43G-1336** *POSTER* Lighter-Than-Air Blimps As a Testbed For River Remote Sensing Techniques: **M A Fonstad**

1340h **H43G-1337** WITHDRAWN

1340h **H43G-1338** *POSTER* Quantifying Stream Habitat: Relative Effort Versus Quality of Competing Remote Sensing & Ground-Based Survey Techniques: **S G Bangen**, J M Wheaton, N Bouwes

1340h **H43G-1339** WITHDRAWN

1340h **H43G-1340** *POSTER* Terrestrial Laser Scanning for Quantifying Habitat and Hydraulic Complexity Measures: A Comparison with Traditional Surveying Techniques: **J P Resop**, J L Kozarek, W C Hession

1340h **H43G-1341** *POSTER* Geomorphic assessment of habitat suitability in large rivers from satellite remote sensing: a case study from the Ganga river system, India: **C Mozumder**, R Sinha, P Carbonneau

1340h **H43G-1342** *POSTER* Climate Change Impacts on the Hydrology and Temperature of Pacific Northwest Streams: **J A Stanford**, H Wu, F Su, J Lucotch, J S Kimball, N J Mantua

1340h **H43G-1343** POSTER How Can We Evaluate the Accuracy of Small Stream Maps? -Focusing on Sampling Method and Statistical Analysis -: **J Park**

1340h **H43G-1344** POSTER An operational methodology for riparian land cover fine scale regional mapping for the study of landscape influence on river ecological status: **T Tormos**, P Kosuth, Y Souchon, B Villeneuve, S Durrieu, A Chandresris

1340h **H43G-1345** POSTER Seasonal water storage on the Amazon floodplain: a comparison between satellite measurement and model simulation: **D Yamazaki**, D E Alsdorf, S Han, T Oki

1340h **H43G-1346** POSTER Future Concepts for River Discharge Measurements with Microwave Radar: **G Farquharson**, W J Plant, C Chickadel, A T Jessup

1340h **H43G-1347** POSTER AN OBJECT-BASED METHOD FOR ESTIMATION OF RIVER DISCHARGE FROM REMOTELY-SENSED IMAGERY: **D A Burgett**, L Blesius, J D Davis

1340h **H43G-1348** POSTER Implementation of a catchment-based river routing system with explicit representation of river depth and floodplain extent in North America: **Z Liu**, J S Famiglietti

H43H Moscone West: 3018 Thursday 1340h
Ecohydrology of Arctic and Sub-Arctic Ecosystems: Patterns and Processes Across Spatial and Temporal Scales II (*joint with A, B, C, GC*)

Presiding: **J Cable**, University of Alaska; **A K Liljedahl**, University of Alaska, Fairbanks; **J M Welker**, Environment and Natural Resources Institute; **T Jorgenson**, Alaska Ecoscience

1340h **Introduction**

1345h **H43H-01** Ecohydrology of permafrost-affected boreal forest ecosystems: sources of water utilized by plants and fluxed by ecosystems: **J M Cable**, K Ogle, B Cable, J M Welker

1400h **H43H-02** Effect of Speed and Intensity of Freezing on Microbial C and N Cycling in Two Arctic Tundra Soils: **S M Schaeffer**, C M Boot, J Schimel, S Sistla, D Roux-Michollet

1415h **H43H-03** Ecohydrological monitoring blindness to Arctic ecosystem regime shifts: **J Mård Karlsson**, A Bring, G Destouni

1430h **H43H-04** The effect of shoreline retrogressive thaw slumping on chlorophyll a, nutrient and light relationships in small tundra lakes: **M S Thompson**, F J Wrona, T D Prowse

1445h **Break**

1455h **H43H-05** Changes in snow cover and soil thermal dynamics in the terrestrial Arctic regions: **H PARK**, Y Iijima, H Yabuki, Y Kodama, T Ohata

1510h **H43H-06** Permafrost - Surface water interactions in the Community Land Model: **S C Swenson**, D M Lawrence

1525h **H43H-07** Intensification of hydrological process in permafrost regions and correlation with ecological processes from multi-sensor satellite observations and in-situ measurements: **J Tong**, I Velicogna, T Zhang, J S Kimball, M A Rawlins, K C McDonald

H43I Moscone West: 3016 Thursday 1340h
Physically Based Hydrologic Modeling: Advances and Challenges II (*joint with A, B*)

Presiding: **V Y Ivanov**, University of Michigan; **E Caporali**, University of Firenze; **O Semenova**, State Hydrological Institute; **P J Restrepo**, NOAA National Weather Service

1340h **H43I-01** The Challenge of Fully-Predictive Hydrologic Models Supported by Observations: Recent Experiences and Prospects in Semiarid Systems (*Invited*): **E R Vivoni**

1400h **H43I-02** LOCAL LAND-ATMOSPHERE COUPLING (*Invited*): **M Ek**, J A Santanello, C Jacobs, O Tuinenburg

1420h **H43I-03** Is deterministic physically-based hydrological modeling a feasible target? Incorporating physical knowledge in stochastic modeling of uncertain systems: **A Montanari**, D Koutsoyiannis

1436h **H43I-04** Mechanistic ecohydrological modeling with Tethys-Chloris: an attempt to unravel complexity: **S Fatichi**, V Y Ivanov, E Caporali

1452h **H43I-05** Development and Application of Physics-Based Hydrologic Models for the Simulation of Difficult Hydrologic Modeling Scenarios: C W Downer, **F L Ogden**, N Pradhan, M Paudel, A Byrd, C A Talbot, J Nelson

1508h **H43I-06** Benchmarking Flow and Solute Transport in Coupled Surface-Soil Hydrologic Models: **J Delfs**, E A Sudicky, O Kolditz, Y Park, R McLaren, T Kalbacher

1524h **H43I-07** Understanding and Prediction : An Evolving Paradigm for Modeling Hydrologic Process Feedbacks at Multiple Scales: **M Kumar**, C Duffy, G Bhatt

H43J Moscone West: 3014 Thursday 1340h
Predicting Behavior of Freshwater Systems in a Changing Environment II (*joint with B*)

Presiding: **M Sivapalan**, Univ of Illinois at Urbana Champaign; **A I Packman**, Northwestern University; **M A Hassan**, Univ British Columbia; **J Wilson**, University of Illinois at Urbana-Champaign

1340h **H43J-01** Trends in Precipitation and Stream Discharge over the Past Century for the Continental United States: Implications (*Invited*): **A Simon**, L Klimetz

1355h **H43J-02** Interannual rainfall variability, vegetation dynamics, and runoff controls in Mediterranean climates: **J D Albertson**, T G Wilson, N Montaldo

1410h **H43J-03** The Role of Water Subsidy on Vegetation Dynamics in a Semiarid Grassland Catchment: Comparison between Field Measurements and 3-D Ecohydrological Modeling: **G Niu**, P A Troch, C Paniconi, R L Scott, M Durcik, X Zeng, T E Huxman, D C Goodrich

1425h **H43J-04** Climate change effects on vegetation characteristics and groundwater recharge: **R Bartholomeus**, B Voortman, J Witte

1440h **H43J-05** Spatial variability in streamflow predictions across United States: Role of climate and topography in predictability at ungauged basins: M Stieglitz, **S Patil**

1455h **H43J-06** Effects of watershed management practice on short-term variation in stream discharge: **L A Worman**, G Lindstrom

1510h **H43J-07** Historic trends in the suspended sediment dynamics along the Missouri River: **M A Hassan**, J D Cullis, A Simon

1525h **H43J-08** WITHDRAWN

H43K Moscone West: 3020 Thursday 1340h
Transport of Particles and Biocolloids in Surfacewaters and Groundwaters; From Sediment-Sized Particles to Nanoparticles, Emerging Contaminants, and Microorganisms II (*joint with B*)

Presiding: **G S Bilotta**, University of Brighton; **P Owens**, University of Northern British Columbia

1340h **H43K-01** Effects of marine-derived organic matter on fine sediment transport: implications for sediment and nutrient storage in gravel beds. (*Invited*): **E L Petticrew**, J F Rex, S J Albers

1355h **H43K-02** Role of dissolved organic carbon upon re-entrainment and surface properties of aquifer bacteria and bacteria-sized microspheres during subsurface transport (*Invited*): **R W Harvey**, D W Metge, A Mohanram, X Gao, J Chorover

1410h **H43K-03** Model Simulations of Metal Ions Exchange between Streams and Streambeds in the Presence of Particle Aggregation: **T Areepitak**, J Ren

1425h **H43K-04** Tracing sediment using by enhancing the ferrimagnetic content of soil: **J Quinton**, A Armstrong, B A Maher

1440h **H43K-05** Prediction of Estrogen Runoff and Transport Driven by Rainfalls from Swine Spray Fields: **B Lee**, K H Reckhow, S W Kullman

1455h **H43K-06** MODULAR MODELING OF SUSPENDED SEDIMENT CONCENTRATIONS IN A SANDSTONE HEADWATER CATCHMENT (LUXEMBOURG): **M Onderka**, A Krein, L Pfister, N Martinez-Carreras, S Wrede

1510h **H43K-07** Effectiveness of post-fire channel treatments in reducing sediment transport: **J W Wagenbrenner**, P R Robichaud

1525h **H43K-08** Transport of bacteriophage PRD1 through saturated clean sand columns as a function of pH and ionic strength: **G Sadeghi**, J F Schijven, S M Hassanizadeh, T Behrends, J Gerritse

Earth and Space Science Informatics

IN43A Moscone South: Poster Hall Thursday 1340h
Future Directions for Earth Science Data Access Technologies II Posters (*joint with A, B, C, GC, OS*)

Presiding: **J F Moses**, NASA/GSFC; **D J Meyer**, US Geological Survey

1340h **IN43A-1374** POSTER A Prototype Web-based system for GOES-R Space Weather Data: **A Sundaravel**, D C Wilkinson

1340h **IN43A-1375** POSTER Searching for and retrieving swath data using virtual tiles: **M L Henderson**

1340h **IN43A-1376** POSTER Accessing Data via DAP in IDL: **M D Galloy**

1340h **IN43A-1377** POSTER Datacasting: Integration of Earth Science Data and Information using RSS: **S McCleese**, A Bingham, R Deen, T Stough, N Chung

1340h **IN43A-1378** POSTER Key Features of the Deployed NPP/NPOESS Ground System: **G Heckmann**, K D Grant, J E Mulligan

1340h **IN43A-1379** POSTER Management of Data Quality Information in NASA's Earth Science Data Systems: **S W Berrick**, F Lindsay

1340h **IN43A-1380** POSTER DATA RODS: MANAGING CRYOSPHERIC REMOTE SENSING DATA ENTIRELY WITHIN A PURE-OBJECT DATABASE: **G Grant**, D W Gallaher

1340h **IN43A-1381** POSTER EOS Data Products Archive, Distribution and Utilization Patterns Derived from the ESDIS Metrics System (EMS): **L Wanchoo**, B M Krupp, H Chang, K J Murphy, Title of Team: ESDIS Metrics System

1340h **IN43A-1382** POSTER Back to the Future: The Modernization of the Alaska Satellite Facility Data Access Portal: **J Garron**

1340h **IN43A-1383** POSTER Enabling Interoperability and Servicing Multiple User Segments Through Web Services, Standards, and Data Tools: **G Palanisamy**, B E Wilson, R B Cook, W Lenhardt, S Santhana Vannan, Y Pan, B F McMurry, R Devarakonda

1340h **IN43A-1384** POSTER Easy Access of EOSDIS HDF data via OPeNDAP and Other Tools: H Lee, Z Li, J Gallagher, M J Folk, **M Yang**

1340h **IN43A-1385** POSTER Immediate Download for Synthetic Aperture Data Products From the Alaska Satellite Facility:

J Laurencelle

1340h **IN43A-1386** POSTER BingEO: Enable Distributed Earth Observation Data for Environmental Research: **H Wu**, C Yang, Y Xu

1340h **IN43A-1387** POSTER CROSS ARCHIVE SEARCH, ACCESS AND DISTRIBUTION ENABLING MODIS AND BEYOND: D J Meyer, **C J Doescher**, R E Wolfe, J Werpy, T Sohre, G Ye

1340h **IN43A-1388** POSTER A Timeline Concept for Presenting Search Results from Heterogeneous Remote Sensing Data Collections: **T Maersperger**, C J Doescher, J Werpy

1340h **IN43A-1389** POSTER User Registration Systems for Distributed Systems: **K J Murphy**, M Cechini, D Pilone, A Mitchell

1340h **IN43A-1390** POSTER MODIS Web Services Synchronous Post-processing Approach: **R E Wolfe**, Title of Team: MODIS Science Data Support Team

1340h **IN43A-1391** POSTER From Phase to Fringe: How InSAR Might Work for You: **G Bryson**, B Buechler, R Gens, K Hogenson, M Shapran, G Short

1340h **IN43A-1392** POSTER Accuracy VS Performance: Finding the Sweet Spot in the Geospatial Resolution of Satellite Metadata: **W E Baskin**, D C Mangosing, P L Rinsland

1340h **IN43A-1393** POSTER Lightweight Advertising and Scalable Discovery of Services, Datasets, and Events Using Feedcasts: **B D Wilson**, R Ramachandran, S Movva

1340h **IN43A-1394** POSTER STOQS: The Spatial Temporal Oceanographic Query System: **M P McCann**, R Schramm

1340h **IN43A-1395** POSTER Auroral Resources: Dataset Access and Interactive Visualization: **P Elespuru**, R J Redmon, E A Kihn, M Zhizhin, D Medvedev

1340h **IN42A-07** POSTER A Software Prototype For Accessing Large Climate Simulation Data Through Digital Globe Interface: **A Chaudhuri**, A Sorokine

IN43B Moscone South: Poster Hall Thursday 1340h
Information Systems Advances for Earth Science Decadal Survey Era Missions II Posters (*joint with A, C, EP, GC, NH, OS, G*)

Presiding: **C D Norton**, Jet Propulsion Laboratory; **K Moe**, NASA; **M Moghaddam**, University of Michigan

1340h **IN43B-1396** POSTER OSCAR: Online Service for Correcting Atmosphere in Radar: **P A von Allmen**, Z Xing, E J Fielding, E Fishbein, L Pan, Z Li

1340h **IN43B-1397** POSTER InSAR Scientific Computing Environment: **E M Gurrola**, P A Rosen, G Sacco, H A Zebker, M Simons, D T Sandwell

1340h **IN43B-1398** POSTER A Science Data System Approach for the DESDynI Mission: **O Kwoun**, D Cuddy, K Leung, D Freeborn

1340h **IN43B-1399** POSTER Data Formats for SAR Archival and Distribution: **K Cunningham**

1340h **IN43B-1400** POSTER Real-Time In-Situ Measurements for Earthquake Early Warning and Space-Borne Deformation Measurement Mission Support: **S Kedar**, Y Bock, F Webb, R W Clayton, S E Owen, A W Moore, E Yu, D Dong, P Fang, P Jamason, M B Squibb, B W Crowell

1340h **IN43B-1401** POSTER MODIS tools for land validation, field site characterization, data intensive science and classroom education: **S Santhana Vannan**, R B Cook, B E Wilson

1340h **IN43B-1402** POSTER Efficient and Effective Implementation of New Data Sets into the Distributed Active Archive Center, a Land Processes Perspective: **C J Doescher**, T Sohre, J Behnke, A Hall, J Vermeer, J McManus

1340h **IN43B-1403** *POSTER* Objectively Optimized Observation Direction System Providing Situational Awareness for a Sensor Web: **O Aulov**, D J Lary

1340h **IN43B-1404** *POSTER* NPOESS C3S Expandability: SafetyNet™ and McMurdo Improvements: M L Jamilkowski, J Paciaroni, **F Pela**

1340h **IN43B-1405** *POSTER* NPOESS McMurdo Multimission Communications System: **J Paciaroni**, C Higgins, M L Jamilkowski

IN43C Moscone South: 302 Thursday 1340h
Scientific Workflows and Provenance: Strategies for Current and Emerging Issues II (*joint with A, ED, OS, H, SH*)

Presiding: **H Hua**, NASA/JPL; **D L McGuinness**, Rensselaer Polytechnic Institute and McGuinness Associates; **C Lynnes**, NASA/GSFC; **B D Wilson**, Jet Propulsion Lab

1340h **IN43C-01** The Symbiotic Relationship between Scientific Workflow and Provenance (*Invited*): **E Stephan**

1355h **IN43C-02** The Kiel data management infrastructure – arising from a generic data model: **D Fleischer**, H Mehrtens, C Schirnick, P Springer

1410h **IN43C-03** Long-term Science Data Curation Using a Digital Object Model and Open-Source Frameworks: **J Pan**, W Lenhardt, B E Wilson, G Palanisamy, R B Cook

1425h **IN43C-04** Widening the adoption of workflows to include human and human-machine scientific processes: **L Salayandia**, P Pinheiro da Silva, A Q Gates

1440h **IN43C-05** Presenting Provenance Based on User Roles - Experiences from the ACOS System: **P West**, J Michaelis, P A Fox, S Zednik, D L McGuinness

1455h **IN43C-06** Experiences Developing A User-centric Presentation of A Domain-enhanced Provenance Data Model: C Chang, **S Zednik**, C Lynnes, P A Fox, D L McGuinness, G G Leptoukh, J Pan

1510h **IN43C-07** A Provenance Enabled Framework for Subjectivity and Context: **T W Narock**, V Yoon

1525h **IN43C-08** Extending eScience Provenance with User-Submitted Semantic Annotations: **J Michaelis**, S Zednik, P West, P A Fox, D L McGuinness

Nonlinear Geophysics

NG43A Moscone South: Poster Hall Thursday 1340h
Characterization of Geophysical Time Series II Posters (*joint with NH*)

Presiding: **A Bunde**, Univ. of Giessen

1340h **NG43A-1406** *POSTER* Estimation of the Scaling Exponent due to Fractal Behaviour of a Time Series: **V P Dimri**, R P Srivastava

1340h **NG43A-1407** WITHDRAWN

1340h **NG43A-1408** *POSTER* Discerning hidden scaling in mean-reverting multifractal processes: **M Rypdal**, K Rypdal

1340h **NG43A-1409** *POSTER* Creating Synthetic Water Level Time Series from the Scaling Exponents of Water Level Records from Atlantic, Gulf of Mexico, and Pacific Coastal Stations and the North American Great Lakes: **J R Smigelski**, S F Tebbens, C C Barton

1340h **NG43A-1410** *POSTER* A Non-Linear, Non-Stationary Look at Oceanic-Land-Atmospheric Surface Temperature Variations over the Past 150 and 350 Years: **L J Pietrafesa**

1340h **NG43A-1411** *POSTER* Monte Carlo Modelling Of Sea Ice Population Dynamics: **D Godlovitch**, G M Flato, A H Monahan

NG43B Moscone South: Poster Hall Thursday 1340h
Complex Networks in Geosciences II Posters (*joint with A, H, NH, S, SM, V*)

Presiding: **J Davidsen**, University of Calgary; **I Zaliapin**, University of Nevada; **U Lall**, Columbia Univ

1340h **NG43B-1412** *POSTER* Statistical properties of aftershocks: C Gu, **J Davidsen**

1340h **NG43B-1413** *POSTER* Complex Networks Reveal Persistent Global / Regional Structure and Predictive Information Content in Climate Data: K Steinhäuser, N V Chawla, **A R Ganguly**

1340h **NG43B-1414** *POSTER* Tokunaga self-similarity for symmetric homogeneous Markov chains: **Y Kovchegov**, I Zaliapin

1340h **NG43B-1415** *POSTER* Anomalous Physical Transport in Complex Networks: **C Nicolaides**, L Cueto-Felgueroso, R Juanes

1340h **NG43B-1416** *POSTER* Flows in mixed structures composed of interacting networks and continua: **P M Adler**, V V Mityushev

1340h **NG43B-1417** *POSTER* Fluid Flow complexity in a Rough Fracture Using a Complex Aperture Network: **H Ghaffari**

1340h **NG43B-1418** *POSTER* A Dynamic Tree Approach to Environmental Transport on Hillslopes: **P Passalacqua**, I Zaliapin, E Foufoula-Georgiou, M Ghil, W E Dietrich

1340h **NG43B-1419** *POSTER* Scaling of Peak Flows with Constant Flow Velocity in Random Self-Similar Networks: **R Mantilla**, V K Gupta, B M Troutman

1340h **NG43B-1420** *POSTER* Dynamics of land use and common-resource pressures in terrestrial-aquatic environments: **E Lazarus**, K P Bell

1340h **NG43B-1421** *POSTER* Emergent Dynamics of Sustainability and Resource Equity in Coupled Human Coastline Systems: **D McNamara**, E Lazarus, A B Murray, M Smith, S Gopalakrishnan

1340h **NG43B-1422** *POSTER* Transient and asymptotic behavior in a regular network model for the ice-albedo feedback under thermal forcing: **M Mueller-Stoffels**, R Wackerbauer

NG43C Moscone South: Poster Hall Thursday 1340h
Detection and Attribution of Trends, Correlations, and Cross Correlations in Climate and Geoscience II Posters (*joint with NH*)

Presiding: **S Lennartz**, Univ. of Giessen; **A Bunde**, Univ. of Giessen; **C C Barton**, Wright State Univ

1340h **NG43C-1423** *POSTER* On the Statistical Properties of Record-Breaking Temperatures: **W I Newman**, B D Malamud, D L Turcotte

1340h **NG43C-1424** *POSTER* Long-term changes and trends in total ozone over the northern mid-latitudes: Influence of atmospheric dynamics and chemistry and contribution from extreme events: **H E Rieder**, J Staehelin, J A Maeder, M Ribatet, S Di Rocco, L Frossard, L M Jancso, T Peter, A C Davison

1340h **NG43C-1425** *POSTER* Trend evaluation in records with long-term persistence: Application to climate data: **S Lennartz**, A Bunde

1340h **NG43C-1426** WITHDRAWN

1340h **NG43C-1427** WITHDRAWN

1340h **NG43C-1427** *POSTER* Trends from Levy-walk statistics in solar activity – a link to multidecadal and secular trends in Earth climate?: **K Rypdal**, M Rypdal

1340h **NG43C-1428** *POSTER* New Analysis of the Paleoclimate Temperature Signal from Ice Cores: **S H Bischoff**, C C Barton, J R Smigelski

1340h **NG43C-1429** *POSTER* Atlantic Multidecadal Oscillation and Northern Hemisphere's climate variability: S Kravtsov, **M G Wyatt**, A A Tsonis

NG43D Moscone South: Poster Hall Thursday 1340h
Multiplicity of Scales, Dynamics, and Extremes in Geophysics: Theory, Validation, and Applications II Posters (*joint with NH, S*)

Presiding: **V G Kossobokov**, Intl Inst Earthquake Prediction Theory & Math Geoph, RAS; **D P Ouzounov**, NASA/GSFC; **M Parrot**, LPC2E/CNRS; **J G Liu**, National Central University; **I G Main**, University of Edinburgh

1340h **NG43D-1430** *POSTER* On the dynamics of the magnetosphere during geomagnetic storms and substorms: **T Zivkovic**, K Rypdal

1340h **NG43D-1431** *POSTER* Earthquake forecasting based on NASA's integrated systems engineering analysis: A Bogatko, **G Temple**, F T Freund

NG43E Moscone South: Poster Hall Thursday 1340h
Multiscaling in Hydrometeorology and Hydrology II Posters (*joint with A, H, NH, NS*)

Presiding: **A P Barros**, Prat School of Engineering; **S Lovejoy**, McGill University; **D J Schertzer**, U. Paris-Est, Ecole des Ponts ParisTech; **A A Carsteanu**, ESFM-IPN

1340h **NG43E-1432** *POSTER* Parameterization of Storm Models for Extreme Rainfall Analysis: **D Veneziano**, E Armagan, C Lepore

1340h **NG43E-1433** *POSTER* Analysis of high-resolution spatiotemporal structures of mesoscale rainfields based upon the theory of left-sided Multifractals: **L Wang**, C Onof, C Maksimovic

1340h **NG43E-1434** *POSTER* Elucidating the Spatial Scaling Behavior of Cloud Embedded Convection and Rainfall Patterns in Complex Terrain Using Idealized WRF Simulations: **M Nogueira**, A P Barros, P M Miranda

1340h **NG43E-1435** *POSTER* Atmospheric Pollution in Mexico City: Temporal Scaling and Interaction with Rainfall (*Invited*): **A A Carsteanu**, J J Castro, L G Escandon

NG43F Moscone South: Poster Hall Thursday 1340h
Pattern Formation in Earth System Sciences II Posters (*joint with B, EP, H*)

Presiding: **L Cueto-Felgueroso**, MIT; **J A Neufeld**, Institute of Theoretical Geophysics

1340h **NG43F-1436** *POSTER* Emergence of aeolian ripples: direct simulations, actual dynamical mechanisms and scaling laws: **O Duran Vinent**, B Andreotti, P Claudin

1340h **NG43F-1437** *POSTER* Role of overland flow in the formation of spatial vegetation patterns: **A G Konings**, S E Thompson, G G Katul

1340h **NG43F-1438** *POSTER* Modelling channel network formation: the effect of tidal range and initial bathymetry: **G Coco**, B van Maanen, K Bryan

1340h **NG43F-1439** *POSTER* Patterns in salt-marsh ecosystems: the role of biotic and abiotic forcings: **A D'Alpaos**, M Marani

1340h **NG43F-1440** *POSTER* Modeling the formation of a large sand bar system inside funnel-shaped, tidally-dominated Qiantangjiang estuary, China: **Q Yu**, Y Wang, S Gao, B W Flemming

1340h **NG43F-1441** *POSTER* The Why of Waiting: How mathematical Best-Choice Models demonstrate optimality of a Refractory Period in Habitat Selection: **M F Brugger**, E C Waymire, M G Betts

1340h **NG43F-1442** *POSTER* Why is columnar jointing not perfectly hexagonal?: S Bosshard, **G Hetenyi**, B Taisne, F Garell, E Medard, H B Mattsson

1340h **NG43F-1443** *POSTER* Surface moisture feedback in modelled aeolian rippled sand strip and dune field patterns: **J M Nield**

1340h **NG43F-1444** *POSTER* Pattern formation at the ocean surface: The distribution of Sargassum and the role of the eddy field: **Y Zhong**, A Bracco, T Villareal

1340h **NG43F-1445** *POSTER* Utilization of time series airborne LiDAR to quantify patterns of deposition and erosion across dune-dune interactions at White Sands Dune Field, New Mexico: **R C Ewing**, V B Smith, D C Mohrig, G Kocurek

1340h **NG43F-1446** *POSTER* Bifurcating Particle Swarms in Smooth-Walled Fractures: **L J Pyrak-Nolte**, H Sun

1340h **NG43F-1447** *POSTER* The absorption and transpiration of plants lead to a typical chaotic eco-hydrological process: **M Lin**, F Tian, H Hu, D Liu, Y Tang

NG43G Moscone South: Poster Hall Thursday 1340h
Scaling Functions and Forecasting Extremes in Natural Hazards, Meteorology, and Space Physics II Posters (*joint with NH, S*)

Presiding: **S F Tebbens**, Wright State University; **C C Barton**, Wright State Univ; **S Lennartz**, Univ. of Giessen; **A Bunde**, Univ. of Giessen

1340h **NG43G-1448** *POSTER* Does the non-extensivity parameter q capture the effect of long-range temporal correlations between the magnitudes of successive earthquakes?: **P Varotsos**, N V Sarlis, E S Skordas

1340h **NG43G-1449** *POSTER* Examination of historical landslide time series: a test case from the Emilia-Romagna region, northern Italy: **M Rossi**, A Witt, B D Malamud, F Guzzetti, S Peruccacci

1340h **NG43G-1450** *POSTER* Annual Shoreline Dynamics of the Outer Banks, North Carolina: **S F Tebbens**, R M Myers, C C Barton, S M Burroughs, A B Murray

1340h **NG43G-1451** *POSTER* Fractal Analysis of the Polarity Reversal of the Earth's Magnetic Field and the Rikitake Self-Reversing Dynamo Model: **P S Craig**, C C Barton

1340h **NG43G-1452** *POSTER* Universality of rain event size distributions: **A Corral**, O Peters, A Deluca, J Neelin, C Holloway

1340h **NG43G-1453** *POSTER* Sampling properties of precipitation quantiles in series affected by trend: **A Cancelliere**, B Bonaccorso, G Rossi

1340h **NG43G-1454** *POSTER* Cross-correlations in the meteorological variables and different regions over China: **T Feng**, Z Fu

1340h **NG43G-1455** *POSTER* Scale invariant avalanches: a critical confusion: **O Ramos**

NG43H Moscone South: Poster Hall Thursday 1340h
Stochasticity, Memory Effects, and Multiplicity of Scales in Geophysics II Posters

Presiding: **M D Chekroun**, UCLA

1340h **NG43H-1456** *POSTER* A Statistical Mechanical Approach for the Computation of the Climatic Response to General Forcings: **V Lucarini**, S Sarno

1340h **NG43H-1457** *POSTER* Improved linear response for stochastically driven systems: **R V Abramov**

1340h **NG43H-1458** *POSTER* Improving long-term ENSO prediction by using “weather” noise: **D A Kondrashov**, M Chekroun, M Ghil

1340h **NG43H-1459** *POSTER* Prognosis of qualitative behavior from time series: stochastic modeling framework: **E M Loskutov**, D Mukhin, Y Molkov, A M Feigin

1340h **NG43H-1460** *POSTER* Convection Scales and Thermohaline Circulation: **S Wang**

1340h **NG43H-1461** *POSTER* ROMA (Rank-Ordered Multifractional Analysis) for Intermittent Fluctuations with Global Crossover Behavior — Application to the Electric Field in the Auroral Zone: **S W Tam**, T Chang, P M Kintner, E M Klatt

1340h **NG43H-1462** *POSTER* On the use and effectiveness of genetic algorithm to VDA with discontinuous “on-off” switches: **Q Zheng**

1340h **NG43H-1463** *POSTER* Prognosis of qualitative behavior from time series: low-dimensional stochastic modeling of ENSO phenomena: **D Mukhin**, A Gavrilov, E M Loskutov, A M Feigin

1340h **NG43H-1464** *POSTER* Prognosis of qualitative behavior from time series: advantages and limitations of deterministic modeling: **A M Feigin**, E M Loskutov, D Mukhin, Y Molkov

1340h **NG43H-1465** *POSTER* Nonlinear stochastic threshold behavior in Arctic Sea Ice: **W Moon**, J S Wetlaufer

NG43I Moscone South: Poster Hall Thursday 1340h
Statistical Structure of the Atmosphere in the Horizontal and Vertical: Theory and Observation II Posters (*joint with A*)

Presiding: **A Tuck**, Imperial College London; **S Lovejoy**, McGill University

1340h **NG43I-1466** *POSTER* Understanding the $k^{5/3}$ to $k^{-2.4}$ spectral break in aircraft wind data: **J Pintel**, S Lovejoy, D J Schertzer, A Tuck

1340h **NG43I-1467** *POSTER* Beyond Quasi-Geostrophic Turbulence: Generalized Scale Invariance and $(2+H_z)$ -Dimensional Vorticity Equations: **D J Schertzer**, I Tchiguirinskaia, S Lovejoy, A Tuck

1340h **NG43I-1468** *POSTER* Assessing spatio-temporal variability of rainfall using a simple physically based statistical model: **M F Hutchinson**, T Xu, J Kesteven

NG43J Moscone South: 103 Thursday 1340h
Lorenz Lecture (Webcast)

Presiding: **A Bunde**, Univ. of Giessen; **S Lovejoy**, McGill University

1340h **Lorenz Award Presentation**

1350h **NG43J-01** Dragon-Kings, Black-Swans and Prediction (*Invited*): **D Sornette**

Natural Hazards

NH43A Moscone South: Poster Hall Thursday 1340h
Remote Sensing of Volcanic Aerosol and Gases Using Ground-Based, Aircraft, and Satellite Observations I Posters (*joint with A, V*)

Presiding: **A A Kokhanovsky**, University of Bremen; **G De Leeuw**, Finnish Meteorological Institute

1340h **NH43A-1492** *POSTER* Plume Height Analysis of the 2009 Redoubt Eruption: A Comparison of MISR, AVHRR, and MODIS Data: **A L Ekstrand**, P Webley, J Dehn, D L Nelson, M J Garay, K G Dean

1340h **NH43A-1493** *POSTER* The Hygroscopic Properties of Volcanic Ash and Implications for the Evolution of Volcanic Plumes in the Atmosphere: **T L Latham**, P Kumar, J Dufek, I N Sokolik, A Nenes

1340h **NH43A-1494** *POSTER* A multi-sensor analysis of the 2009 eruption of Sarychev Peak, Kuril Islands: A case study for hazards to aviation: D Williams, **H E Thomas**, M I Watson

1340h **NH43A-1495** *POSTER* Observing the plume of Popocatepetl with a novel SO₂-Camera: **P Luebcke**, J Zielcke, L Vogel, C Kern, N Bobrowski, U Platt

1340h **NH43A-1496** *POSTER* Early in-flight detection of SO₂ via Differential Optical Absorption Spectroscopy: A feasible aviation safety measure to prevent potential encounters with volcanic plumes: **L Vogel**, B Galle, C Kern, H Delgado Granados, V Conde, P Norman, S Arellano, O Landgren, P Luebcke, J Alvarez Nieves, L Cárdenas Gonzáles, U Platt

1340h **NH43A-1497** *POSTER* Insights into rapid explosive volcanic processes from ground- and space-based intraday SO₂ flux measurements: **L Merucci**, M Burton, S Corradini, G G Salerno

1340h **NH43A-1498** *POSTER* MODIS volcanic ash retrievals vs FALL3D transport model: a quantitative comparison: **S Corradini**, L Merucci, A FOLCH

1340h **NH43A-1499** *POSTER* Volcanic ash retrieval from IR multispectral measurements by means of Neural Networks: M Picchiani, M Chini, **S Corradini**, L Merucci, P Sellitto, F Del Frate, S Stramondo

NH43B Moscone West: 3010 Thursday 1340h
Transmitting Hazard Science to End Users: What Works, What Doesn't, and What's Needed? II (*joint with G, PA, S, V, EP*)

Presiding: **L M Jones**, U.S. Geological Survey; **D Applegate**, USGS

1340h **NH43B-01** Success in transmitting hazard science: **J G Price**, T Garside

1355h **NH43B-02** The Effective Organization and Use of Data in Bridging the Hazard Mitigation-Climatic Change Adaptation Divide (*Invited*): **G P Smith**, J Fox, S Shuford

1410h **NH43B-03** The Earthquake Early Warning System in Japan (*Invited*): **J J Mori**, M Yamada

1425h **NH43B-04** Public and Media Communication of Volcanic Hazard Before and During the 2010 Eruption in Eyjafjallajökull, Iceland: A G Gylfason, **M T Gudmundsson**, S Jakobsdottir, V Reynisson

1440h **NH43B-05** Flood Hazards: Communicating Hydrology and Complexity to the Public: **R R Holmes**, S F Blanchard, R R Mason

1455h **NH43B-06** Scientific Studies in Support of Shutting In the Macondo Well (Deepwater Horizon) Blowout, Gulf of Mexico (*Invited*): **S Hickman**, W D Mooney, P A Hsieh, C Enomoto, P H Nelson, M McNutt

1510h **NH43B-07** Linking Federal, State, and Local Adaptation Strategies in New York (*Invited*): **C Rosenzweig**

1525h **NH43B-08** Assessing the Utility of and Improving USGS Earthquake Hazards Program Products: **J S Gomberg**, M Scott, C S Weaver, B L Sherrod, D Bailey, D Gibbons

Near Surface Geophysics

NS43A Moscone West: 3022 Thursday 1340h
Joint Interpretation of Different Geophysical Data for Natural Resources Characterization II (*joint with S*)

Presiding: **T Seher**, Massachusetts Institute of Technology;
M Commer, Lawrence Berkeley National Laboratory

1340h **NS43A-01** A framework for 3D joint inversion of MT, gravity and seismic refraction data (*Invited*): **M Moorkamp**, M D Jegen, B Heincke, A W Roberts, R W Hobbs

1400h **NS43A-02** Joint Electromagnetic and Seismic Data Inversion Algorithm for Geophysical Applications (*Invited*): **A Abubakar**, G Gao, T Habashy, J Liu

1420h **NS43A-03** Joint Stochastic Inversion of Seismic Amplitude Versus Angles and Controlled Sources Electromagnetic Data for Gas Saturation Estimation (*Invited*): **J Chen**, M Hoversten

1440h **NS43A-04** Model resolution, clustering, and zonal properties of cross-gradient joint inversion models (*Invited*): **N Linde**, J A Doetsch

1500h **NS43A-05** Joint Inversion of Seismic Traveltimes and Gravity Data on 3D Unstructured Grids for Mineral Exploration: **C G Farquharson**, P G Lelievre, C A Hurich

1520h **NS43A-06** JOINT GEOPHYSICAL CHARACTERIZATION OF GEOTHERMAL SYSTEM IN MENENGAL, KENYA USING MAGNETOTELLURIC AND GRAVITY: **A M Wamalwa**, L F Serpa

Ocean Sciences

OS43A Moscone South: Poster Hall Thursday 1340h
Ocean Sciences General Contributions Posters

Presiding: **J Salisbury**, University of New Hampshire; **D Gilbert**

1340h **OS43A-1578** *POSTER* Canaries upwelling: More or Less?: **E D Barton**, C Roy

1340h **OS43A-1579** *POSTER* A methodology for constructing a weekly upwelling index at high spatial resolution from satellite sea surface temperature maps with application to West Iberia: **G P King**, J Dias

1340h **OS43A-1580** *POSTER* Water Column Sampling Capabilities of the NEPTUNE Canada Regional Cabled Observatory: **S F Mihaly**, Title of Team: and NEPTUNE Canada Science

1340h **OS43A-1581** *POSTER* Temporal Variability in Net Community Productivity on a Coastal Shelf Site as Determined by High-Rate Dissolved Oxygen and Nitrogen Data: **D C Vandemark**, K W Hanley, J Salisbury

1340h **OS43A-1582** *POSTER* Oxygen Trends In The Global Ocean: **D Gilbert**

1340h **OS43A-1583** *POSTER* On-line real time monitoring system of the water quality at the Nanwan Bay, southern Taiwan: **P Meng**, C Chen

1340h **OS43A-1584** *POSTER* Effects of turbulence parameterization on the modeling of mesoscale vortices in the Ligurian Sea: E Casella, **A Parodi**, F Siccardi

1340h **OS43A-1585** *POSTER* Trapping of gyrotactic organisms in an unstable shear layer: **M S Hoecker-Martinez**, W Smyth

1340h **OS43A-1586** *POSTER* On the correlation between microseisms and ocean waves: **L Lin**, W Liao, W Liang, M Liang

1340h **OS43A-1587** *POSTER* Hydrographic Variability off the Coast of Oman: **L Belabbassi**, S F Dimarco, A E Jochens, H Al Gheilani, Z Wang

1340h **OS43A-1588** *POSTER* Results from a geophysical investigation of Lake Superior's ring structures: N J Wattrus, **D Gustafson**

1340h **OS43A-1590** *POSTER* Seasonal Advective Influences on CDOM Distribution over the Louisiana-Texas Shelf Using Hydrodynamic Modeling and Ocean Color: **N Chaichi Tehrani**, E J D'Sa, D Ko

1340h **OS43A-1591** *POSTER* Quasi-Oscillatory Processes of Louisiana Bay Flushing under Normal and Extreme Weather Conditions and their Relationships with Coastal Stratification and Hypoxia: **C Li**, N N Rabalais, R E Turner, G Stone, E Weeks

1340h **OS43A-1592** *POSTER* Evaluation of Backscatter in the northeastern Red Sea using a Lowered Acoustic Doppler Profiler, Simrad EK60 Echosounder and in situ Observations: **D J Torres**, T A Klevjer, I Solberg, A S Bower, S Kaartvedt

1340h **OS43A-1593** *POSTER* Using LiDAR to as a Potential Method for Detection Plastics in Water: **G Lee**, A Neal, R Mielke, B Bookhagen

1340h **OS43A-1594** *POSTER* Correlations of Interannual Variability of Winds, Sea Surface Temperature, and Sea Surface Height in Tropical Ocean from Satellite Multi-sensor Observations: **J Pan**, H Lin

1340h **OS43A-1595** WITHDRAWN

1340h **OS43A-1596** *POSTER* Hindcasting circulation in the Pacific sector of the Arctic Ocean and the Bering Strait with a nested 4Dvar data assimilation system: **G Panteleev**, D Nechaev, M Yaremchuk, T Kikuchi

1340h **OS43A-1597** *POSTER* Multivariate Multi-data Assimilation System in Regional Model with High Resolution: **M Benkiran**, J Chanut, S Giraud St Albin, Y Drillet

1340h **OS43A-1598** *POSTER* The role of subsurface ocean dynamics in the memory of Central Pacific Warming Pattern: **L I Ceballos**, C Hoyos, E Di Lorenzo

1340h **OS43A-1599** *POSTER* Development of Vertical Cable Seismic System for Hydrothermal Deposit Survey (2) - Feasibility Study: **E Asakawa**, F Murakami, Y Sekino, T Okamoto, H Mikada, J Takekawa, T Shimura

1340h **OS43A-1600** *POSTER* R/V SIKULIAQ - A New Ice-capable Asset For The Future UNOLS Fleet: **T E Whitledge**, D K Oliver

1340h **OS43A-1601** *POSTER* Sea Ice SAR Signature Dependence on Thaw and Refreeze Event in the Snow Cover: **E J Hudier**, S Tolszczuk-Leclerc

1340h **OS43A-1602** *POSTER* Near-bed environmental conditions influencing cold-water coral growth on Viosca Knoll, Gulf of Mexico: **F Mienis**, G Duineveld, A J Davies, T V Weering, S Ross, M Roberts, H Seim

1340h **OS43A-1603** *POSTER* Depositional Environments of Late Danian Plant Localities: Chubut Province, Patagonia, Argentina: **E Comer**, R L Slingerland, P Wilf

1340h **OS43A-1604** *POSTER* Coastal Seafloor Observatory Of The East China Sea At Xiaoqushan And Its Primary Observations: **H Xu**, C Xu, R Qin, Y Zhang, H Chen

1340h **OS43A-1605** *POSTER* Investigation of mercury occurrence in the benthic environment of the continental shelf along the Eastern Gulf of Mexico: **D A Steffy**, A Nichols

1340h **OS43A-1606** *POSTER* Application of Several Techniques for Prohibiting Fouling in Li-Recovery Pilot Plant: **H Yoon**, D Kim, M Gong, B Kim, K Chung

OS43B Moscone West: 3009 Thursday 1340h**Fluid Flow and Gas Hydrates in Continental Margins I** (*joint with GC, NH, PP, V*)**Presiding:** C Berndt, IFM-GEOMAR; S Planke, Volcanic Basin Petroleum Rsch1340h **OS43B-01** The p in p-T is for pressure: Movement of the gas hydrate stability field during glacial sealevel lowering and its possible link to pockmark formation on the Chatham Rise, New Zealand (*Invited*): I A Pecher, B W Davy, R Wood, L Carter, K Gohl1355h **OS43B-02** Subsurface plumbing and fluid expulsion from sedimentary basins: evidence from the sedimentary record offshore West Africa (*Invited*): M Huuse1410h **OS43B-03** Focused Fluid Flow and Gas Hydrate Distribution in Heterogeneous Marine Sediments: S Chatterjee, G Gu, G Bhatnagar, W G Chapman, G R Dickens, B Dugan, G J Hirasaki1425h **OS43B-04** Evidence for two discrete fluid-flow regimes below Hydrate Ridge from 3D heat-flow modeling: M J Hornbach, N L Bangs, C Berndt1440h **OS43B-05** Flow Focusing in Layered Ocean Sediments: J M Frederick, B A Buffett1455h **OS43B-06** Simulating the response of ocean sediment methane hydrates to climate change: P C McGuire, D E Archer, B A Buffett, V H Magalhaes, E B O'Donnell1510h **OS43B-07** Groundwater Systematics in Hydrate Petroleum System Analysis: M D Max, A H Johnson1525h **OS43B-08** Basin-Scale Assessment of Gas Hydrate Dissociation in Response to Climate Change: M T Reagan, G J Moridis, S M Elliott, M E Maltrud**OS43C Moscone West: 3007 Thursday 1340h****Nearshore Processes I** (*joint with EP*)**Presiding:** C Chickadel, University of Washington; J W Long, USGS; H F Stockdon, U.S. Geological Survey; G R Pawlak, University of Hawaii; D Foster, University of New Hampshire1340h **OS43C-01** Sediment Delivery to Diamond Shoals: a Field Experiment at Cape Hatteras Point, North Carolina (*Invited*): J H List, J C Warner, E R Thieler, K A Haas, G Voulgaris, J E McNinch, K L Brodie1355h **OS43C-02** In-situ geotechnical investigation of sediment dynamics over 'The Bar', Raglan, New Zealand: N Stark, D Greer, D J Phillips, J C Borrero, S Harrison, A Kopf1410h **OS43C-03** Understanding the response of nearshore circulation on the South Carolina coast due to atmospheric frontal patterns using field measurements and 3-D numerical modeling: N Kumar, G Voulgaris, J C Warner1425h **OS43C-04** Low-grazing angle laser scans of foreshore topography, swash and inner surf-zone wave heights, and mean water level: validation and storm response: K L Brodie, J E McNinch, M Forte, R Slocum1440h **OS43C-05** The Statistics of Optical Radiance in the Surf Zone: R A Holman, J Stanley1455h **OS43C-06** Models and observations of foam coverage and bubble content in the surf zone: J T Kirby, F Shi, R A Holman1510h **OS43C-07** Dissipation from a Drifter: J M Thomson, J Talbert1525h **OS43C-08** A new closure approximation for shallow-water wave propagation: T T Janssen, T H Herbers**Planetary Sciences****P43A Moscone South: 306 Thursday 1340h****South Pole-Aitken Basin: New Insights I** (*joint with EP*)**Presiding:** N E Petro, NASA\GSFC; E Mazarico, NASA GSFC / ORAU NPP; R L Klima, Johns Hopkins University Applied Physics Laboratory1340h **P43A-01** MoonRise: Sampling South Pole-Aitken Basin as a Recorder of Solar System Events (*Invited*): B L Jolliff, C Shearer, Jr., L R Gaddis, C M Pieters, J W Head, J Haruyama, R Jaumann, M Ohtake, G Osinski, D A Papanastassiou, N E Petro, Title of Team: MoonRise Science Team1355h **P43A-02** Silicate Mineralogy of SPA: A New View from the Diviner Lunar Radiometer: B T Greenhagen, N E Petro, P G Lucey, M B Wyatt, K L Donaldson Hanna, C M Pieters, T D Glotch, J Arnold, C Allen, N E Bowles, I R Thomas, D A Paige1410h **P43A-03** Distribution and Composition of Prominent Low-Ca Pyroxene Exposures in the South Pole-Aitken Basin as Observed by the Moon Mineralogy Mapper (M³): R L Klima, N E Petro, P Isaacson, J M Sunshine, C M Pieters, J W Head1425h **P43A-04** Implications of the Distinctive Mafic Mound in Central SPA (*Invited*): C M Pieters, M Ohtake, J Haruyama, B L Jolliff, L R Gaddis, N E Petro, R L Klima, J W Head1440h **P43A-05** The Structure and evolution of the Moon's South Pole-Aitken Basin from the Lunar Orbiter Laser Altimeter (LOLA) (*Invited*): M T Zuber, D E Smith, G A Neumann, E Mazarico, M H Torrence, J W Head, O Aharonson, M M Sori, M J Talpe, I Garrick-Bethell, F G Lemoine1455h **P43A-06** Magnetic signature of the South Pole-Aitken (SPA) basin: Character, origin, age, thickness and depth: M E Purucker, J W Head1510h **P43A-07** The fate of the South Pole-Aitken impactor: constraints from orbital magnetic field data and impact simulations (*Invited*): M A Wieczorek, B P Weiss, S T Stewart1525h **P43A-08** The Mechanics of Impact Basin Formation: Comparisons between Modeling and Geophysical Observations: S T Stewart**Public Affairs****PA43A Moscone West: 3005 Thursday 1340h****Priorities and Pitfalls: Pathways for Effective Science****Communication II** (*joint with B, ED, GC, NH, H*)**Presiding:** R M Richardson, University of Arizona; M L La Grave; J W Harden, U.S. Geological Survey1340h **PA43A-03** Fostering science communication via direct outreach by scientists: M Viñas, P L Weiss, K O'Neil, R M Richardson1355h **PA43A-02** About errors, inaccuracies and stereotypes: Mistakes in media coverage - and how to reduce them: D Scherzler1410h **PA43A-01** To engage or not to engage: Public discussion of climate science in the age of the blogosphere: W Meier, J C Stroeve, K Leitzell1425h **PA43A-04** Everything I Need to Know About Science Communication, I Learned from Local Television News (*Invited*): E Lorditch, C O'Riordan1440h **PA43A-05** Emphasizing history in communicating scientific debates: S C Sherwood1455h **PA43A-06** Risk Communication on Earthquake Prediction Studies - "No LAquila quake risk" experts probed in Italy in June 2010: S Oki, K Koketsu, E Kuwabara, J Tomari

1510h **PA43A-07** An Emerging Ethic of Responsibility: A Case Study for Engaging the Public: S A Mandia, **J A Abraham**

1525h **PA43A-08** Getting Beyond First Base: Science-Society Communication for Climate Adaptation: **G M Garfin**

Paleoceanography and Paleoclimatology

PP43A Moscone South: Poster Hall Thursday 1340h
Studying Uncertainty in Paleoclimate Reconstruction I
Posters (joint with A, B, GC, OS, V)

Presiding: **C E Buck**, University of Sheffield; **W E Austin**,
M N Evans, University of Maryland; **B Wohlfarth**, Stockholm
University

1340h **PP43A-1644** *POSTER* Do modeling experiments and proxy data provide the same MIS-13?: **A L Berger**, Q Yin

1340h **PP43A-1645** *POSTER* Reliability of climate model ensembles at the Last Glacial Maximum: **J C Hargreaves**, A Paul, R Ohgaito, J D Annan

1340h **PP43A-1646** *POSTER* Comparison of a regional paleoclimate simulation over Europe for the last 500 years with proxy-based reconstructions: **J J Gomez-Navarro**, J P Montavez, S Jerez, P Jimenez-Guerrero, R Lorente-Plazas, F J Gonzalez-Rouco, E Zorita

1340h **PP43A-1647** *POSTER* The Effects of Topography on the Seasonality of Aridity and Humidity: A Case Study in the Andes from Observations and Modeling Results: J L Russell, **S Dasher**, P J Goodman

1340h **PP43A-1648** *POSTER* Replication of Subdecadal Holocene $\delta^{18}\text{O}$ Records from Borneo Speleothems: **S S Hoffmann**, D C Lund, K Cobb, J F Adkins, R N Sortor, R Franzblau, R Seltz

1340h **PP43A-1649** *POSTER* Can caves capture decadal climate variability? Evaluating uncertainty in cave speleothem $\delta^{18}\text{O}$ records using a simple process model: **S A Truebe**, T R Ault, J E Cole

1340h **PP43A-1650** *POSTER* Derivation of acid fractionation factor for BaCO_3 : Implications for equilibrium oxygen isotope fractionations of the carbonic acid system: **J Uchikawa**, R E Zeebe, T W Vennemann, H J Spero

1340h **PP43A-1651** *POSTER* The impact of meter-scale oxygen gradients in the selective degradation of organic matter: implications for proxy interpretation: **K Bogus**, K A Zonneveld, D Fischer, S Kasten, G Versteegh

1340h **PP43A-1652** *POSTER* The uncertainty of atmospheric CO_2 estimates made using the paleosol carbonate CO_2 barometer: **D O Breecker**

1340h **PP43A-1653** *POSTER* A Taxonomic Reduced-Space Pollen Model for Paleoclimate Reconstruction: **E R Wahl**, C Schoelzel

1340h **PP43A-1654** *POSTER* Assessing Paleoceanographic Reconstruction Uncertainties caused by No-Analogs: a NE Pacific example: **C Lopes**, A C Mix

1340h **PP43A-1655** WITHDRAWN

1340h **PP43A-1656** *POSTER* Evaluation of the Steel Lake chronology and the uncertainty in timing of major pollen transitions in the north-central US: **A Myrbo**, M Blaauw, J A Christen, I Stefanova, H E Wright

1340h **PP43A-1657** *POSTER* Borehole Paleoclimatology: In search of a minimum depth criterion for terrestrial borehole temperature profiles: **H Beltrami**, J E Smerdon, G Matharoo, N R Nickerson

1340h **PP43A-1658** *POSTER* Uncertainties from the determination of the steady state in borehole climatology: G S Matharoo, **H Beltrami**, J E Smerdon

1340h **PP43A-1659** *POSTER* A new method for separating the climatic and biological trend components from tree ring series, with implications for paleoclimate reconstructions: **J Bouldin**

1340h **PP43A-1660** *POSTER* Quantification of Environmental Proxy Precision: **A Meibom**, C Kopp

1340h **PP43A-1661** *POSTER* Time-slice last millennium experiments with interactive gas-phase chemistry and aerosols: **K Tsigaridis**, A N LeGrande, D M Koch

1340h **PP43A-1662** *POSTER* How much do carbon isotope measurements constrain glacial ocean circulation?: **A Schmittner**, A C Mix

1340h **PP43A-1663** *POSTER* Insight from a careful dissection of the Rayleigh Distillation Model: **R W Vachon**, J M Welker

1340h **PP43A-1664** *POSTER* Response of the Walker Circulation to LGM Forcing: Implications for Detection in Proxies: **P N Di Nezio**, A C Clement, G A Vecchi, A J Broccoli, B L Otto-Bliesner

1340h **PP43A-1665** *POSTER* Climate field reconstruction uncertainty arising from the multivariate/nonlinear nature of realistic proxy systems: **M N Evans**, J E Smerdon, A Kaplan, S E Tolwinski-Ward, F J Gonzalez-Rouco

1340h **PP43A-1666** *POSTER* Sensitivity Analysis for Proxy Reconstructions of the Past 2000 Years: **S Hanhijärvi**, A Korhola

1340h **PP43A-1667** *POSTER* A pseudoproxy evaluation of the spectral fidelity of reconstructed temperature fields: **J E Smerdon**, A Kaplan, M N Evans

1340h **PP43A-1668** *POSTER* Optimal Interpolation Framework for Evaluating the Skill and Error of Climate Field Reconstruction Methods: **A Kaplan**, J E Smerdon, M N Evans

PP43B Moscone South: Poster Hall Thursday 1340h
Climate of the Common Era I Posters (joint with A, GC)

Presiding: **K J Anchukaitis**, Columbia University; **J Emile-Geay**, Univ. of Southern California; **J E Smerdon**, Columbia University

1340h **PP43B-1669** *POSTER* Variability of North Atlantic surface and subsurface temperatures during the last 2000 years: **T Bouinot**, E CORTIJO, A Govin, C Cléroux, T Mulder, E Gonthier

1340h **PP43B-1670** *POSTER* Marine sediments from southeastern Brazilian continental shelf: A 1200 Year record of upwelling productivity: **A Albuquerque**, D D Souto, D D Lessa, A Sifeddine, B Turcq, C F Barbosa, Title of Team: Ressurgence Project

1340h **PP43B-1671** *POSTER* Interannual and decadal variability of East Asian Winter Monsoon and ENSO detected in a 120-year coral record from the eastern coast of the Philippines: **A Fukushima**, H Kawahata, A Suzuki, K Kojima, T Okai, T Ishimura, F P Siringan

1340h **PP43B-1672** *POSTER* A 200 year coral paleoclimate record of West Pacific Warm Pool variability and ENSO behavior from the Republic of Palau: **M C Osborne**, R B Dunbar, D A Mucciarone, J Sanchez-Cabeza

1340h **PP43B-1673** *POSTER* Sea surface temperatures in the subpolar North Atlantic over the last 230 years and their relation to the North Atlantic Oscillation and great salinity anomalies: **A Miettinen**, N Koc, F Godtliessen, D Divine, I R Hall

1340h **PP43B-1674** *POSTER* Extreme Drought Events Revealed in Amazon Tree Ring Records: **H S Jenkins**, P A Baker, T P Guilderson

1340h **PP43B-1675** *POSTER* Calcareous sinter from ancient aqueducts as a source of data in paleoclimate, tectonics and hydrology: **G Surmelihindi**, C W Passchier

1340h **PP43B-1676** *POSTER* A 1248-year reconstruction of May precipitation for the Mid-Atlantic Region using *Juniperus virginiana* tree rings: **S Maxwell**, A E Hessel, E Cook, B Buckley

1340h **PP43B-1677** POSTER Stable isotope records of convection variability in the West Pacific Warm Pool from fast-growing stalagmites: **C R Maupin**, J W Partin, T M Quinn, C Shen, K Lin, F W Taylor, D J Sinclair, J L Banner

1340h **PP43B-1678** POSTER Kauri trees in New Zealand indicate a major change in ENSO in the middle of the second millennium AD: **A M Fowler**, G Boswijk

1340h **PP43B-1679** POSTER Multi-century Records of SST and NAO Variability from Sr/Ca in Red Sea Corals: **S A Murty**, W N Bernstein, J E Ossolinski, R S Davis, K A Hughen

1340h **PP43B-1680** POSTER ENSO Variability during the Little Ice Age from the Perspective of a Long Coral Record from the Western Pacific Warm Pool: **K A Hereid**, T M Quinn, F W Taylor, C Shen, J L Banner

1340h **PP43B-1681** POSTER Data-adaptive truncation in RegEM: potential for multiproxy temperature reconstructions over the Common Era: **J Emile-Geay**, T Schneider, K Cobb, A T Wittenberg, D Sima

1340h **PP43B-1682** POSTER A record of ENSO variability in the Western Pacific Warm Pool during the 19th century: **M K Gorman**, T M Quinn, F W Taylor, E M Dunn, G Cabioch, V Ballu, C Maes, J A Austin, S Saustrop, B Pelletier

1340h **PP43B-1683** POSTER A Multiproxy High Resolution Paleoclimate Study of Lake Mirabad Iran: **N Lambert**, L Stevens, G J Holk

1340h **PP43B-1684** POSTER Refining the timing and magnitude of Medieval warmth in the NW North Atlantic: **G H Miller**, A Geirsdottir, D J Larsen, T Thordarson, K A Refsnider, S J Lehman, J R Southon

1340h **PP43B-1685** POSTER Evaluating the SPCZ interannual changes with both instrumental and coral-derived SSS data: **E P Dassie**, B K Linsley, T Delcroix, S Howe

1340h **PP43B-1686** POSTER Interdecadal Modulation of ENSO Amplitude During the Last Millennium: **J Li**, S Xie, E Cook, G Huang, R D'Arrigo, F Liu, J Ma, X Zheng

1340h **PP43B-1687** POSTER A millennium of Mediterranean climate change and forest history in central Italy: **S A Mensing**, I Tunno, G Piovesan

1340h **PP43B-1688** POSTER Centennial-scale variability in sea surface temperature and sardine and anchovy abundances in the Beppu Bay in Japan during the last 1500 years: **M Yamamoto**, M Kuwae, N Ichikawa

1340h **PP43B-1689** POSTER The Chemical Signal of Clastic-biogenic Varves during the Last 2000 Years from Lake Nautajärvi (Southern Finland): **E Kosonen**, A E Ojala, P Francus, S Kihlman

1340h **PP43B-1690** POSTER The influence of volcanic eruptions on the climate of the Asian monsoon region during the Common Era: **K J Anchukaitis**, B Buckley, E Cook, B I Cook, R D'Arrigo, C M Ammann

1340h **PP43B-1691** POSTER East African Droughts of the Last 2 Millennia: Insights from Compound-Specific Hydrogen Isotopes at Sacred Lake, Mount Kenya: **B Konecky**, L R Cohen, J M Russell, M Vuille, Y Huang, A Street-Perrott

1340h **PP43B-1692** POSTER High-resolution diatom records of climate and hydrological variability over the last two millennia along coastal British Columbia (Canada): **M B Hay**, R Pienitz, A Dallimore, S E Calvert, R Thomson, T R Baumgartner, R Enkin, K Cooke

1340h **PP43B-1693** POSTER Rapid Carbon Accumulation Associated With Warm Medieval Climate in Peatlands of a Glaciated Valley in Southcentral Alaska: **E S Klein**, R K Booth, Z Yu

1340h **PP43B-1694** POSTER A Millennial-length Reconstruction of the Western Pacific Pattern with Associated Paleoclimate: **W E Wright**, B T Guan, K Wei

1340h **PP43B-1695** POSTER The recent climatic change of subarctic zone recorded in lake sediments in Hokkaido, Japan: **K Seto**, H Takata, M Saito, K Katsuki, T Sonoda, T Kawajiri, T Watanabe

1340h **PP43B-1696** POSTER Tree-ring reconstruction of 700 years of flow at the Oldman River, southwestern Alberta, Canada: **C Perez-Valdivia**, J R Vanstone, D Sauchyn

1340h **PP43B-1697** POSTER Tree-ring reconstructions of streamflow using early and latewood chronologies as proxies in the North Saskatchewan River Basin, Alberta, Canada: **J R Vanstone**, C A Perez-Valdivia, D Sauchyn

1340h **PP43B-1698** POSTER Long Island Sound Water Temperatures During the Last Two Thousand Years: **C E Warren**, J C Varekamp, E Thomas

1340h **PP43B-1699** POSTER Intra- and Inter-Annual Variability in Surface Hydrology in Northern Arizona from $\delta^{18}\text{O}$ of Tree-Ring Cellulose: **T E Whittaker**, J Galewsky, L A Scuderi, Z D Sharp

1340h **PP43B-1700** POSTER Coral radiocarbon records from the eastern tropical Atlantic - what can they tell us about Ekman upwelling and the subtropical cells?: **A Fernandez**, B E Rosenheim, P K Swart

1340h **PP43B-1701** POSTER Pacific Sea Surface Temperature Influence on Southwestern United States Climate During the Past Millennium: New Evidence from a Well-calibrated, High-resolution Stalagmite $\delta^{18}\text{O}$ Record from the Sierra Nevada Mountains: **S E McCabe-Glynn**, K R Johnson, M B Berkelhammer, A Sinha, H Cheng, L Edwards

1340h **PP43B-1702** POSTER Proxy Inconsistency and Confidence Interval Estimation: **S McIntyre**

1340h **PP43B-1703** POSTER Evidence for Medieval droughts in Maine and potential linkages to the coupled ocean-atmosphere system: **M J Clifford**, R K Booth

PP43C Moscone West: 2003 Thursday 1340h
Breakthroughs in Continental Paleothermometry:
Applications of Terrestrial Proxies II (*joint with OS, V*)

Presiding: **J L Toney**, Brown University; **S E Loomis**, Brown University

1340h **PP43C-01** Do Proxies Agree? A Simple Test Comparing Terrestrial and Marine Records of Late Holocene Climate and Sea Ice Around Iceland: **Y Axford**, C S Andresen, J T Andrews, S T Belt, A Geirsdottir, G G Masse, G H Miller, S Ólafsdóttir, L Vare

1352h **PP43C-02** Testing the MBT/CBT continental paleothermometer (*Invited*): **F Peterse**, S Schouten, J S Sinninghe Damste

1404h **PP43C-03** A new, 20 kyr paleotemperature record using branched GDGTs in Sacred Lake, Kenya: **S E Loomis**, J M Russell, B Ladd, F A Street-Perrott

1416h **PP43C-04** Fluxes and distributions of core and intact tetraether membrane lipids in the water column of Lake Challa, East Africa: **L K Buckles**, J Weijers, G Reichart, D Verschuren, J S Sinninghe Damste

1428h **PP43C-05** High-resolution terrestrial GDGT data from the mid-Cretaceous: significant shifts in continental paleotemperatures (*Invited*): **D R Grocke**, J S Sinninghe Damsté, R A Spicer, U Heimhofer

1440h **PP43C-06** A five-century annually-resolved growth-independent temperature reconstruction for the inter-mountain and central United States: **M B Berkelhammer**, L D Stott

1452h **PP43C-07** Clumped Isotopes Kinetic Effects: Insight from Synthetic Carbonate and its Implication for Speleothems: **H P Affek**, S Zaarur, T Kluge, C P Saenger, P M Douglas

1504h **PP43C-08** A New Method of Obtaining High-Resolution Paleoclimate Records from Speleothem Fluid Inclusions: **A J Logan**, T W Horton

1516h **PP43C-09** Temperature calibration of lacustrine alkenones using in-situ sampling and growth cultures: **Y Huang**, J L Toney, R Andersen, S C Fritz, P A Baker, E C Grimm, S Theroux, L Amaral Zettler, P E Nyren

1528h **PP43C-10** A 5,000 year alkenone-based temperature record from Lower Murray Lake reveals a distinct Medieval Warm Period in the Canadian High Arctic: **W J D'Andrea**, R S Bradley

PP43D Moscone West: 2005 Thursday 1340h
Interglacial Climate Variability II (*joint with B, C*)

Presiding: **J F McManus**, Lamont-Doherty Earth Observatory of Columbia University; **S Desprat**, EPHE, University Bordeaux 1

1340h **Introduction** *Jerry McManus*

1343h **PP43D-01** Insolation and CO₂ Contribution to the interglacial climates of the past 800,000 years: **Q Yin**, A L Berger

1355h **PP43D-02** Deep Ocean Temperature and Ice Volume since the mid Pleistocene Transition: a Southern Ocean perspective of interglacials (*Invited*): **H Elderfield**, M Greaves, P Ferretti, I N McCave, S Crowhurst

1410h **PP43D-03** A high-resolution record of ocean chemistry, temperature and productivity in the Southwest Pacific Ocean during Marine Isotope Stage 31 from *G. ruber* and *G. bulloides*: **A Bolton**, J Baker, G B Dunbar, L Carter

1425h **PP43D-04** Timing and duration of the last five interglacial periods from an accurate age model of the Dome Fuji Antarctic ice core: **K Kawamura**, S Aoki, T Nakazawa, A Abe-Ouchi, F SAITO

1440h **PP43D-05** Interglacial climate in the tropical West Pacific through the late Pleistocene: **A N Meckler**, M Clarkson, J F Adkins, J Eiler, K Cobb

1455h **PP43D-06** The intensity of interglacial warmth in northwest Europe over the last 800,000 yrs: An absence of the MBE in Europe?: **I Candy**, J Rose, D Schreve, J Lee

1510h **PP43D-07** Carbon cycle dynamics during interglacials (*Invited*): **V Brovkin**, T Kleinen, A Ganopolski, G Munhoven, D E Archer

1525h **PP43D-08** Comparing past interglacials to understand atmospheric CO₂ and carbon cycle dynamics using Antarctic ice core $\Delta^{13}\text{CO}_2$ data: **R Schneider**, J Schmitt, F Joos, H Fischer

SPA-Aeronomy

SA43A Moscone South: Poster Hall Thursday 1340h
Chemistry and Temperatures in the Upper Mesosphere and Lower Thermosphere I Posters (*joint with A*)

Presiding: **R L Bishop**, The Aerospace Corporation; **S A Budzien**, Naval Research Laboratory; **A W Stephan**, Naval Research Laboratory; **G Crowley**, ASTRA

1340h **SA43A-1735 POSTER** Spatial Changes in the Global Distribution of Meteoric Metals: **A C Aikin**, J Correira

1340h **SA43A-1736 POSTER** The FeO Nightglow: D V Saran, **T G Slanger**

1340h **SA43A-1737 POSTER** Common-volume observations of sporadic Fe and Na layers and a potential overturning event by resonance lidars at Boulder (40.13N, 105.24W): **X Chu**, W Fong, Z Wang, W Huang, J A Smith, Z Yu

1340h **SA43A-1738 POSTER** Simultaneous Lidar Observations of Mesospheric Na and Fe Layers at Boulder, Colorado (40N, 105W) in 2010: **W Huang**, Z Wang, W Fong, J A Smith, Z Yu, X Chu

1340h **SA43A-1739 POSTER** Sodium Nightglow Measurements with the Faraday Filter-Based Spectrometer: An Instrument to Study Sodium and Oxygen Chemistry in the MLT Region: **S Harrell**, C She, T Yuan, D A Krueger, J M Plane, T G Slanger

1340h **SA43A-1740 POSTER** A sodium lidar project at Tromsø, Norway: First report on test observations at Wako, Japan and current status: **T T Tsuda**, S Nozawa, T Kawahara, T Kawabata, T Yamasaki, S Oyama, R Fujii, Y Ogawa, N Saito, S Wada, A Brekke, C M Hall

1340h **SA43A-1741 POSTER** Initial Results of Na Density and Temperature Measurements by a STAR Na Lidar at Boulder: **W Fong**, I Dahlke, B Roberts, J A Smith, Z Yu, W Huang, X Chu

1340h **SA43A-1742 POSTER** Wave Induced Transport of Atmospheric Constituents and Its Effect on the Mesospheric Na Layer: **A Z Liu**, C S Gardner

1340h **SA43A-1743 POSTER** Global Mesospheric Atomic Oxygen Distribution Deduced From HRDI/UARS, SABER/TIMED and TIDI/TIMED Airglow Measurements: **H Nair**, J Yee, M G Mlynczak, J C Mast, J Russell

1340h **SA43A-1744 POSTER** Mesospheric temperatures estimated from the meteor decay times over King Sejong Station (62.2°S, 58.8°W), Antarctica: **J Kim**, Y Kim, G Jee

1340h **SA43A-1745 POSTER** Evidence for a QBO signature in polar summer mesopause temperatures over Antarctica: **C von Savigny**, H Bovensmann, J P Burrows, M T DeLand

1340h **SA43A-1746 POSTER** Spatial distribution of the airglow observed by the Reimei/MAC limb observations: **Y Akiya**, A Saito, T Sakanoi, A Yamazaki, M Hirahara

1340h **SA43A-1747 POSTER** Energy Budget of the Mesosphere: **J C Mast**, M G Mlynczak, L A Hunt, C J Mertens, B T Marshall, J Russell

1340h **SA43A-1748 POSTER** Observations of Nitric Oxide by the Remote Atmospheric Ionospheric Detection System (RAIDS): J D Yonker, **C Y Lin**, S M Bailey, K R Minschwaner, S A Budzien, A W Stephan, R L Bishop, A B Christensen, J H Hecht

1340h **SA43A-1749 POSTER** Observations of N₂ in the Lower Thermosphere by the RAIDS Experiment: **R L Bishop**, A W Stephan, S A Budzien, A B Christensen, P R Straus, J H Hecht

1340h **SA43A-1750 POSTER** The N₂ and NI Emissions in the VUV Region: A Low Temperature Study: **R C Wu**, J I Lo, Y C Lin, T Yih, H S Fung, Y Y Lee, D L Judge

1340h **SA43A-1751 POSTER** Relaxation of O₂(X³Σ_g⁻; v = 1) by Atmospherically Relevant Colliders: **D A Pejakovic**, D V Saran, R A Copeland

1340h **SA43A-1752 POSTER** Vibrational Relaxation of OH(v = 7) with O, O₂, and H: **J E Thiebaud**, R A Copeland, K Kalogerakis

1340h **SA43A-1753 POSTER** Design and Analysis of a Getter-Based Vacuum Pumping System for a Rocket-Borne Mass Spectrometer: **E A Everett**, E A Syrstad, J S Dyer

SA43B Moscone South: Poster Hall Thursday 1340h
Remote Sensing of Ionospheric Disturbances I Posters (joint
with NH, OS, S, G)

Presiding: **J L Garrison**, Purdue University; **A Komjathy**, Jet Propulsion Laboratory; **G Occhipinti**, Institut de Physique du Globe de Paris

1340h **SA43B-1754** POSTER Observations of Ionospheric Disturbances Coincident with North Korean Underground Nuclear Tests: **J L Garrison**, Y Yang, S G Lee

1340h **SA43B-1755** POSTER Horizontal propagation of Gravity Waves in the ionosphere: **J Chum**, J Base, F Hruska, D Buresova, L A McKinnell, R Athieno

1340h **SA43B-1756** POSTER Numerical simulations of the formation process of acoustic-gravity wave resonance between the ground and the mesosphere: **M Matsumura**, H Shinagawa, T Iyemori

1340h **SA43B-1757** POSTER Remote Sensing of Low and Mid-Latitude Ionospheric Disturbances During Solar Minimum Using CITRIS and CERTO Measurements of TEC and Radio Scintillation: **C L Siefiring**, P A Bernhardt

1340h **SA43B-1758** POSTER TEC variations associated with the 2010 Chile Earthquake studied with ground-based GPS data: **M Nishioka**, Y Otsuka, K Shiokawa

1340h **SA43B-1759** POSTER COSMIC observations of dayside TEC enhancements in response to a moderate disturbance in the solar wind: **P Lai**, C Lin, W J Burke, C Huang, M Chen

1340h **SA43B-1760** POSTER Mid-latitude ionosphere observed by ground-based GPS during intense geomagnetic storms in October 2003 and November 2004: **J Chung**, G Jee

1340h **SA43B-1761** POSTER VLF Radio Observations and Modeling of the Ionospheric Effects of SGR 1550-5418: **B E Carlson**, N G Lehtinen, M Cohen, G J Fishman, C Kouveliotou, A van der Horst, V Chaplan, U S Inan

1340h **SA43B-1762** POSTER Abnormal distribution of low-latitude ionospheric electron density during November 2004 superstorm as reconstructed by 3-D CT technique from IGS and LEO/GPS observations: R Xiao, **S Ma**, J Xu, C Xiong, W Yan, H Luhr, N Jakowski

1340h **SA43B-1763** POSTER Ionospheric modification during moderate geomagnetic storm at low solar activity: **A Krankowski**, I Shagimuratov, I Zakharenkova, A Krypiak-Gregorczyk

1340h **SA43B-1764** POSTER Remote sensing of the Ionosphere over the Murchison Radio Observatory, Western Australia, Leading to an Understanding of Fine Scale Behaviour: **D E Herne**, M J Lynch, A J Coster, D Oberoi, C S Carrano, J Williams, J Kennewell, K M Groves

1340h **SA43B-1765** POSTER A statistical study of GPS loss of lock caused by ionospheric disturbances: **T Tsugawa**, M Nishioka, Y Otsuka, A Saito, H Kato, M Kubota, T Nagatsuma, K T Murata

1340h **SA43B-1766** POSTER Effect of sporadic E clouds on GPS radio occultation signals: **Z Zeng**, S V Sokolovskiy

1340h **SA43B-1767** POSTER Uncertainty and its improvement of Abel retrieved electron density from radio occultation measurements: **X Yue**, W S Schreiner, C Rocken, Y Kuo

1340h **SA43B-1768** POSTER IONOTOMO: Ionospheric Tomography by OTH radar: J Molinie, **G Occhipinti**, L Boschi, P Lognonne

1340h **SA43B-1769** POSTER Expected performance of the Plasma Diagnostic Instrumentation on DICE: **S Burr**, C Swenson, C S Fish, G Crowley, D Hui, P Suresh, T Neilsen

1340h **SA43B-1770** POSTER CASES: A Novel Low-Cost Ground-based Dual-Frequency GPS Software Receiver: B Haacke, **G Crowley**, A Reynolds, G S Bust, P M Kintner, M Psai, T E Humphreys, S Powell, B O'Hanlon

SA43C Moscone South: 30I Thursday 1340h
Unique Equatorial Ionospheric Electrodynamics in the African Sector I (joint with SM)

Presiding: **E Yizengaw**, Institute of Scientific Research; **K M Groves**, Air Force Research Laboratory; **T W Garner**, ARL:UT

1340h **SA43C-01** Opportunities for Ionospheric Science as Part of the International Space Weather Initiative (ISWI) (Invited): **J M Davila**, N Gopalswamy, H Haubold

1355h **SA43C-02** Electrodynamics and temporal characteristics of the East African ionosphere inferred from ground-based observations (Invited): **B Damtie**, M Negussie, S Radichella, B Nava, E Yizengaw, K M Groves

1410h **SA43C-03** Radio Scintillation over Africa (Invited): **J M Retterer**

1425h **SA43C-04** Ionospheric Current System over the African Region and East Asian Region as Observed by MAGDAS Stations (Invited): **K Yumoto**, Y Yamazaki, A Rabi, A Mahrous, A Meloni, P Baki, N Makundi, T Afullo, L A McKinnell, K Badi, H Mweene, A Macamo, S Abe, A Ikeda, A Fujimoto, T Tokunaga, Y Fujita, K Matsuyama

1440h **SA43C-05** Study of a geomagnetic storm effect on the ionospheric scintillation and total electron content (TEC) over the SCINDA station in Abidjan: **O K Obrou**, J Ackah, Z K Zaka

1452h **SA43C-06** GPS Observations of Plasma Bubbles and Scintillations over Equatorial Africa: **C S Carrano**, C E Valladares, G K Semala, C T Bridgwood, J Adeniyi, L L Amaeshi, B Damtie, F D'Ujanga Mutonyi, J D Ndeda, P Baki, O K Obrou, B Okere, G M Tsidu

1504h **SA43C-07** Observations of Wave-like Plasma Structures Near the Equatorial Fountain Peak in the African Sector: **D C Munton**, T Pitre, T W Garner, A Mahrous

1516h **SA43C-08** VHF Scintillation Measurements from Cape Verde and Ascension Island During the Current Deep Solar Minimum Including Impact of a Geomagnetic Storm in August 2010 from Space and Ground: **S Basu**, S Basu, E MacKenzie, P A Roddy, K M Groves

1528h **SA43C-09** The Longitudinal Variation of Equatorial Electrodynamics Observations: **E Yizengaw**, E Zesta, M Moldwin, C E Valladares, B Damtie, A Mebrahtu, C M Biouele, K Yumoto, R F Pfaff, R A Heelis

SPA-Solar and Heliospheric Physics

SH43A Moscone South: Poster Hall Thursday 1340h
Extreme Space Weather Events in the Solar System I Posters (joint with P, SM, SA)

Presiding: **D J Ruffolo**, Mahidol Univ

1340h **SH43A-1807** POSTER An exploratory survey of the attenuation of radio signals by the ionosphere of Mars: **P Withers**

1340h **SH43A-1808** POSTER ICME interaction with the Martian ionosphere and atmosphere: **Y Ma**, X Fang, A F Nagy, C T Russell

1340h **SH43A-1809** POSTER Distribution and Clustering of Fast Coronal Mass Ejections: **J Feynman**, A Ruzmaikin, S Stoev

1340h **SH43A-1810** *POSTER* CMEs at Earth and Mars: **T V Falkenberg**, S Vennerstrom, A Taktakishvili, A Pulkkinen, D A Brain, G T Delory, D Mitchell

1340h **SH43A-1811** *POSTER* Mars Global Surveyor measurements of solar storms and their effects: **D A Brain**, G T Delory, R J Lillis, D Ulusen, D Mitchell, J G Luhmann, T V Falkenberg

1340h **SH43A-1812** *POSTER* Magnetic Evolution for Recurrent Intense Flares and Extremely Fast CMEs: **Y Li**, B T Welsch, B J Lynch, G H Fisher, J G Luhmann

1340h **SH43A-1813** *POSTER* Expansion rate of Magnetic Clouds beyond Earth: A M Gulisano, **S Dasso**, P Demoulin

1340h **SH43A-1814** *POSTER* Transport Modeling and Injection Time Profile of Relativistic Solar Protons on 2005 January 20: **D J Ruffolo**, A Saiz, J W Bieber, J M Clem, P A Evenson, R Pyle

1340h **SH43A-1815** *POSTER* Effects of Interplanetary Particle Transport on the Event Integrated Spectra of Solar Energetic Particles Observed in the Inner Heliosphere: **I Diaz**, M Zhang, H K Rassoul

SH43B Moscone South: Poster Hall Thursday 1340h
Short-Term (Transitional) Precursors of Transient Solar Phenomena I Posters

Presiding: **D F Webb**, Boston College

1340h **SH43B-1816** *POSTER* Properties of Solar Flares and Associated Sequential Chromospheric Brightenings: **M S Kirk**, K S Balasubramaniam, J Jackiewicz, B J McNamara

1340h **SH43B-1817** *POSTER* Trend of photospheric magnetic helicity flux in active regions generating halo CMEs: **F P Zuccarello**, F Zuccarello, A Smyrli, P Romano, S Poedts

1340h **SH43B-1818** *POSTER* Predictions of active region flaring probability using subsurface helicity measurements: A A Reinard, **R Komm**, F Hill

1340h **SH43B-1819** *POSTER* Sunspot Proper Motion and Flare Onset Prediction: **Y Suematsu**, C Y Yatini

1340h **SH43B-1820** *POSTER* Development of a Statistical Diagnostic Scheme for Flare Probability: **K S Balasubramaniam**, D C Norquist

1340h **SH43B-1821** *POSTER* Nuclear Decay Variations: New Solar Observations and Possible New Flare Predictors: **P A Sturrock**, E Fischbach, J Jenkins

1340h **SH43B-1822** *POSTER* Analysis of Solar Dynamics Observatory Data during Solar Eruptions: **T Nasar**, N Elham, G Tremberger, T K Cheung, L P Johnson, S A Austin, P Marchese

1340h **SH43B-1823** *POSTER* Tracking the Topology of the Photospheric Magnetic Network in Multiscale Space-time: Towards New Precursors of Transient Coronal Events: A J Coyner, **V M Uritsky**, J M Davila

1340h **SH43B-1824** *POSTER* Precursors of CMEs in coronal images: **S L Freeland**, G L Slater, N V Nitta

SH43C Moscone South: 307 Thursday 1340h
Geoeffective Transients From the Sun to the Earth I (*joint with SM*)

Presiding: **N Lugaz**, Institute for Astronomy; **C J Farrugia**, **A P Rouillard**, CESR

1340h **SH43C-01** Writhing and rotation of erupting prominences and CMEs: **T Torok**, B Kliem, W T Thompson, M A Berger

1355h **SH43C-02** Deflected Propagation — A Factor Deciding the Geoeffectiveness of A CME: **Y Wang**, C Shen, J Liu, B Gui, S Wang

1410h **SH43C-03** Relationship Between Earth Directed Solar Eruptions and Magnetic Clouds at 1AU (*Invited*): **V Yurchyshyn**

1425h **SH43C-04** Understanding the Evolution of Coronal Mass Ejections in the Interplanetary Space (*Invited*): **J Zhang**

1440h **SH43C-05** Evolution of geoeffective ICMEs in the inner heliosphere (*Invited*): **S Dasso**, P Demoulin, A M Gulisano, M Nakwacki

1455h **SH43C-06** Properties and processes that influence CME geoeffectiveness (*Invited*): **B Lavraud**

1510h **SH43C-07** The CME/ICME relationship for the 3-5 April 2010 and Aug 1-4 2010 events: **C Moestl**, M Temmer, T Rollett, E K Kilpua, C J Farrugia, A Veronig, A B Galvin, H K Biernat

1525h **SH43C-08** Geoeffectiveness of ICMEs during 1996-2009: **I G Richardson**, H V Cane

SH43D Moscone South: 309 Thursday 1340h
Solar Wind Turbulence: Theory, Observations, and Future Mission Concepts II (*joint with NG, SM*)

Presiding: **J J Podesta**, Los Alamos National Laboratory; **G Li**, Univ Alabama Huntsville

1340h **SH43D-01** Parallel electric field fluctuations produced by Alfvénic turbulence: **N Bian**, E P Kontar

1355h **SH43D-02** Observations of anisotropy in solar wind turbulence. (*Invited*): **R T Wicks**, T S Horbury, C H Chen, A Schekochihin

1410h **SH43D-03** Perpendicular Ion Heating by Low-Frequency Alfvén-Wave Turbulence in the Solar Wind (*Invited*): **B D Chandran**

1425h **SH43D-04** Kinetic Distributions of Coronal Hole Protons in the Solar Wind Generation Region: **P A Isenberg**, B J Vasquez

1440h **SH43D-05** On the interactions of transverse ion-cyclotron waves with ions in solar wind plasma: **S Bourouaine**, E Marsch, F M Neubauer

1455h **SH43D-06** Ion Cyclotron Waves in the Inner Heliosphere (*Invited*): **L Jian**, C T Russell, R J Strangeway, J G Luhmann, X Blanco-Cano, N Omid, P Isenberg, K D Simunac, M Popecki, A B Galvin, B Klecker

1510h **SH43D-07** Existence of Alfvén-cyclotron waves in solar wind turbulence as identified from the angular distribution of magnetic helicity: **J He**, E Marsch, C Tu, S Yao, H Tian

1525h **SH43D-08** Three dimensional anisotropic k-spectra of turbulence at sub-proton scales in the solar wind: **F Sahraoui**, M L Goldstein, G Belmont, P Canu, L Rezeau

SPA-Magnetospheric Physics

SM43A Moscone South: Poster Hall Thursday 1340h
Multipoint Perspective on the Auroral Acceleration Region and M-I Coupling I Posters

Presiding: **A Masson**, European Space Agency; **J S Pickett**, The University of Iowa

1340h **SM43A-1897** *POSTER* Cluster Multi-spacecraft Observations of Electrostatic Solitary Waves, VLF Saucers and Broadband Wave Bursts in the Auroral Downward Current Region: **J S Pickett**, I Christopher, A N Fazakerley, E Georgescu, A Masson, J Seeberger

1340h **SM43A-1898** WITHDRAWN

1340h **SM43A-1899** *POSTER* Cluster multi-point observations of density cavities in and near the Auroral Acceleration Region: **A Masson**, J S Pickett, G T Marklund, I Christopher, J Trotignon, A N Fazakerley, C P Escoubet, M G Taylor, H E Laakso

1340h **SM43A-1900** POSTER Cluster AAR Campaign Summary Plots: A N Fazakerley, **A P Walsh**, K J Garza, I Christopher, S Sadeghi, P Lindqvist, B Mihaljic, C Forsyth, J S Pickett, G T Marklund, E A Lucek, I S Dandouras

1340h **SM43A-1901** POSTER Comprehensive ground-based and in situ observations of substorm expansion phase onset: **A P Walsh**, J Rae, A N Fazakerley, K R Murphy, I R Mann, C E Watt, M Volwerk, C Forsyth, H J Singer, E F Donovan, T Zhang

1340h **SM43A-1902** POSTER Statistical relation of substorm onset to auroral onset, mid-latitude positive bay onset and geosynchronous dipolarization: **X Chu**, R L McPherron, T Hsu, J Kissinger

1340h **SM43A-1903** POSTER Precursor activation and substorm expansion associated with observations of a dipolarization front by Time History of Events and Macroscale Interactions during Substorms (THEMIS): **C Tang**, V Angelopoulos, A Runov, C T Russell, H U Frey, K Glassmeier, K H Fornacon, Y Z Li

1340h **SM43A-1904** POSTER Comparison of features of all-sky imager identified substorms associated with, and not associated with, IMF northward turnings: **B I Gallardo-Lacourt**, L R Lyons, T Nishimura

1340h **SM43A-1905** POSTER Azimuthal Pressure Gradient and Associated Auroral Development in the Near-Earth Plasma Sheet Soon Before Substorm Onset: **X Xing**, L R Lyons, Y Nishimura, V Angelopoulos, E F Donovan, D E Larson, C W Carlson, H Auster

1340h **SM43A-1906** POSTER A statistical study of the THEMIS satellite data for plasma sheet electrons carrying auroral upward field-aligned currents: **S Lee**, K Shiokawa, J P McFadden

1340h **SM43A-1907** POSTER Role of Parallel Electric Fields in the Dynamics of Discrete Auroral Arcs: **T Bhattacharya**, A Otto, D Lummerzheim, R J Stevens

1340h **SM43A-1908** POSTER Current Closure in the Ionosphere: Results from the ACES Sounding Rocket: **S R Kaeppler**, S R Bounds, C Kletzing, J W Gjerloev, B J Anderson, H Korth, J W Labelle, M P Dombrowski, M Lessard, S Jones, R F Pfaff, D E Rowland, C J Heinselman, T Dudok de Wit

1340h **SM43A-1909** POSTER Various Aspect of the Field Line Resonance Phenomena Observed at the South Pole Station: **Y Tanaka**, Y Ebihara, A Yoshikawa, S Saita, A T Weatherwax

1340h **SM43A-1910** POSTER AUGO II: a comprehensive subauroral zone observatory: **I S Schofield**, M G Connors

SM43B Moscone South: 305 Thursday 1340h Reconnection and the Dayside Magnetosphere

Presiding: **E J Mitchell**; **D G Sibeck**, Space Weather Laboratory

1340h **SM43B-01** Double Star-Cluster observations of magnetic reconnection at the magnetopause: **Z Pu**

1355h **SM43B-02** Entropy Generation Associated with Magnetic Reconnection for Small Plasma Beta: **A Otto**, X Ma

1410h **SM43B-03** FACTORS THAT AFFECT GEOEFFECTIVE LENGTH FOR NORTHWARD IMF: **S K Bhattacharai**, R E Lopez, R J Bruntz, E J Mitchell, S Cockrell, J Lyon

1425h **SM43B-04** Evidence for a flux transfer event generated by multiple X-line reconnection at the magnetopause: **H Hasegawa**, J Wang, M Dunlop, Z Pu, Q Zhang, B Lavraud, M G Taylor, D O Constantinescu, J Berchem, V Angelopoulos, J P McFadden, H U Frey, E V Panov, M Volwerk, Y V Bogdanova

1440h **SM43B-05** Formation, Evolution, and Associated Flows for Flux Transfer Events: 3D Nature of Reconnection: **B Loring**, H Karimabadi, J Raeder, H Vu, Y A Omelchenko, C Parnell, A Haynes, W S Daughton, V Roytershteyn, J Dorelli

1455h **SM43B-06** Flank Magnetopause Boundary Perturbations at Low Solar Wind Dynamic Pressure: **S Chen**, G Le, V Angelopoulos

1510h **SM43B-07** Reconstruction of propagating Kelvin-Helmholtz vortices at Mercury's magnetopause: **T Sundberg**, S A Boardsen, J A Slavin, L G Blomberg, J A Cumnock, S C Solomon, B J Anderson, H Korth

1525h **SM43B-08** Differences in the structure of a planetary magnetopause boundary layer: A J Coates, **A Masters**, A P Walsh, A N Fazakerley, M K Dougherty

Study of Earth's Deep Interior

DI43A Moscone South: Poster Hall Thursday 1340h Interior Structure and Evolution of the Terrestrial Planets II Posters (joint with P, S, T, GP, MR)

Presiding: **P Lognonne**, Inst Physique Globe Paris; **W S Kiefer**

1340h **DI43A-1937** POSTER Dawn mission to constrain interior structure and thermal evolution of protoplanet Vesta: **C A Raymond**, S W Asmar, A S Konopliv, H Y McSween, T H Prettyman, C T Russell, D E Smith, M T Zuber

1340h **DI43A-1938** POSTER Geophysical Monitoring Station (GEMS): A Discovery-Class Mission to Explore the Interior of Mars: **B Banerdt**, Z N Cox, C Seybold, R Warwick, S Barry, T L Hudson, K J Hurst, B Kobie, E Sklyanskiy

1340h **DI43A-1939** POSTER Lunette: A Dual Lander Mission to the Moon to Explore Early Planetary Differentiation: **C R Neal**, B Banerdt, M Jones, J Elliott, L Alkalai, S Turyshev, P Lognonné, N Kobayashi, R E Grimm, T Spohn, R C Weber, Title of Team: The Lunette Science & Instrument Support Team

1340h **DI43A-1940** POSTER The International Lunar Network: science goals and landing site selection: **M A Wieczorek**, I Crawford, Title of Team: ILN site selection working group

1340h **DI43A-1941** POSTER Spatial Correlation of Deep Moonquakes and Mare Basalts and Implications for Lunar Present-day Mantle Structure, Magmatism and Thermal Evolution: **A C Muirhead**, S Zhong

1340h **DI43A-1942** POSTER The crustal structure of lunar impact basins: **J C Andrews-Hanna**, R A Krahenbuhl

1340h **DI43A-1943** POSTER Impactor mass and source cutoff frequency estimations for three large impacts detected by the Apollo seismometers: **T Gudkova**, P Lognonné, J Gagnepain-Beyneix

1340h **DI43A-1944** POSTER Signal Strength and Bandwidth for Magnetotelluric Sounding of the Interior of the Moon: **M O Fillingim**, G T Delory, J S Halekas, R E Grimm

1340h **DI43A-1945** POSTER Measuring Heat Flow on the Moon and Mars- The Heat Flow and Physical Properties Package HP-cubed: **T Spohn**, M Grott, T Ho, T van Zoest, G Kargl, S E Smrekar, T L Hudson

1340h **DI43A-1946** POSTER Librations and obliquity of Mercury from the BepiColombo laser altimetry, radio science and camera experiments: **G Pfyffer**, T Van Hoolst, V M Dehant

1340h **DI43A-1947** POSTER The effects of core-mantle gravitational coupling on the rotational dynamics of Mercury: **M Veasey**, M Dumberry

1340h **DI43A-1948** POSTER Widespread evidence for a late veneer on the terrestrial planets and planetesimals: **C W Dale**, K Burton, G Pearson, R C Greenwood

1340h **DI43A-1949** POSTER Conditions of accretion and core formation in the inner solar system: **J Wade**, J Tuff, B J Wood

1340h **DI43A-1950** POSTER Phase relation of C-Mg-Fe-Si-O system under various oxygen fugacity conditions at high pressure and high temperature: **S Takahashi**, E Ohtani, H Terasaki, Y Ito, Y Shibazaki, M Ishii, K Funakoshi, Y Higo

1340h **DI43A-1951** POSTER Study of Trailing Conduits in High Bond Number Metal-Silicate Plumes during Core Formation: **C T Nguyen**, D S Weeraratne, P Olson

1340h **DI43A-1952** POSTER Crustal Recycling, Mantle Dehydration and the Thermal Evolution of Mars: **A Morschhauser**, M Grott, D Breuer

1340h **DI43A-1953** POSTER Chemical Evolution of the Martian Mantle and Implications for its Magmatic History: **C Sandu**, W S Kiefer

1340h **DI43A-1954** POSTER The Accretion and Differentiation of Mars: Trace element constraints: **J Tuff**, B J Wood, J Wade

DI43B Moscone South: Poster Hall Thursday 1340h
Spin Transition, Fe/Mg Partitioning, Viscosity, Seismic Structure: How Well Do We Know the Lower Mantle? II Posters (*joint with MR, S, T*)

Presiding: **S Speziale**, Deutsches GeoForschungsZentrum; **J Badro**, Institut de Physique du Globe de Paris; **F Cammarano**, ETH Zürich; **T Tsuchiya**, Ehime University

1340h **DI43B-1955** POSTER Fe distribution between (post-) perovskite and ferropericlaite: **T Tsuchiya**, Y Tange, J Tsuchiya

1340h **DI43B-1956** POSTER Experimental evidence for iron enrichment in (Mg,Fe)SiO₃ post-perovskite relative to perovskite: **L Zhang**, Y Meng, I Kantor, W L Mao

1340h **DI43B-1957** POSTER Effects of Fe-Enrichment on the Equation of State and Stability of (Mg,Fe)SiO₃ Perovskite and Post-Perovskite: **S M Dorfman**, C M Holl, Y Meng, V Prakapenka, T S Duffy

1340h **DI43B-1958** POSTER Fe-bearing perovskite and post-perovskite: phase stability, spin transitions, and the consequences for the lower mantle: **R Caracas**, D Mainprice, C Thomas

1340h **DI43B-1959** POSTER P-V-T equation of state of MgSiO₃ perovskite up to 110 GPa and 2500 K: Primary reference for the mineralogy of the lower mantle: **Y Tange**, Y Kuwayama, T Irifune, K Funakoshi, Y Ohishi

1340h **DI43B-1960** POSTER Spin transition of Fe²⁺ in (Fe_{0.83}Fe_{0.17})O in the multi anvil apparatus equipped with sintered diamond anvils: **E Ito**, T Yoshino, D Yamazaki, A Shatsky, X Guo, S Shan, T Katsura, A Yoneda, Y Higo, K Funakoshi

1340h **DI43B-1961** POSTER Ferrous Iron Diffusion in Periclaite across the Spin Transition: **M W Ammann**, J P Brodholt, D P Dobson

DI43C Moscone West: 3024 Thursday 1340h
Melts and Fluids in the Deep Mantle I (*joint with MR, S, T, V*)

Presiding: **G C Richard**, Ecole Normale Supérieure de Lyon / Université C. Bernard; **T Yoshino**, Inst Study Earth Interior

1340h **DI43C-01** Shear-Induced Porosity Bands in Three Dimensions: **S L Butler**

1355h **DI43C-02** Waves and channels for melt migration in an upwelling mantle: A R Schiemenz, **Y Liang**, M A Hesse, E Parmentier

1410h **DI43C-03** Thermodynamic model for partial melting of peridotite by system energy minimization (*Invited*): H Iwamori, **K Ueki**

1425h **DI43C-04** Comparison of Deep Upper-Mantle Melting in Varying Tectonic Environments: Insights from Seismic Observations (*Invited*): **A M Courtier**

1440h **DI43C-05** Storage of water in (Mg,Fe)SiO₃-perovskite: Synthesis from natural samples: **W R Panero**, D M Reaman, J S Pigott

1455h **DI43C-06** Diffusion and Viscosity of Anorthite and Silica Liquids from First Principles Molecular Dynamics Simulations: B Bohara, **B B Karki**, L P Stixrude

1510h **DI43C-07** Chemical Reaction at the Core-Mantle Boundary from Experimental Study with a Diamond-Anvil Cell (*Invited*): **H Ozawa**, K Hirose

1525h **DI43C-08** Visualizing Earth's Core-Mantle Interactions using Nanoscale X-ray Tomography: **W L Mao**, J Wang, W Yang, J Hayter, P Pianetta, L Zhang, Y Fei, H Mao, J W Hustoft, D L Kohlstedt

Seismology

S43A Moscone South: Poster Hall Thursday 1340h
Earthquake Source Processes: What Have We Learned From Recent Large Earthquakes? I Posters (*joint with T*)

Presiding: **B Duan**, Texas A&M University; **B Aagaard**, U.S. Geological Survey

1340h **S43A-2015** POSTER Rupture Properties of the 2008 Mw=7.9 Wenchuan, China, Earthquake: Analysis from Inverse Kinematic and Forward Dynamic Modeling: **Y Wen**, D D Oglesby, K Ma, B Duan

1340h **S43A-2016** POSTER The 2008 Wenchuan Earthquake: A case study for determining stress states and modeling rupture propagation through branch geometries: **N DeDontney**, J Hubbard

1340h **S43A-2017** POSTER Numerical models of coseismic slip and strain energy release along listric thrust faults: Application to the 2008 Ms 8.0 Wenchuan earthquake: **W Tao**, Z Shen, T Masterlark, C Hu, K Wang

1340h **S43A-2018** POSTER The Characteristics of f_{max} in Wenchuan Earthquake of 12 May 2008: **J Wen**, **X Chen**

1340h **S43A-2019** POSTER Heterogeneous Coupling on the Sumatran Megathrust and the Nature of Triggering of Seismicity in the Inter-seismic Period: **M Nic Bhloscaidh**, J McCloskey, C J Bean

1340h **S43A-2020** POSTER The 2010 Yushu, China, Earthquake and Tectonic Activity in the Eastern Tibetan Plateau: **Y Yokota**, Y Kawazoe, S Yun, S Oki, K Koketsu

1340h **S43A-2021** POSTER Coseismic Slip Distribution of the 2010 Mw 7.3 El Mayor-Cucapah Earthquake: **X Zhao**, G Shao, C Ji, K M Larson, K Hudnut, T Herring

1340h **S43A-2022** POSTER Differential Energy Radiation from Two Earthquakes with Similar Mw: The Baja California 2010 and Haiti 2010 Earthquakes: **L Meng**, B Shi

1340h **S43A-2023** POSTER Earthquake source imaging by high-resolution array analysis at regional distances: the 2010 M7 Haiti earthquake as seen by the Venezuela National Seismic Network: **L Meng**, J P Ampuero, H Rendon

1340h **S43A-2024** POSTER Complex Seismic Source Inversion Method with the Data Covariance Matrix: Application to the 2010 Haiti Earthquake: **A Kasahara**, Y Yagi

1340h **S43A-2025** POSTER Applying the Back Projection Method to Image the Rupture Process of the 2010 Mw 8.8 Great Chile's Earthquake: **H Zhang**, Z Ge

1340h **S43A-2026** POSTER Coherent Variation in Stress Drop of Small Earthquakes to the Slip Distribution of the 2006 Kiholo Bay, Hawaii, Earthquake: **T Yamada**, P Okubo, C J Wolfe

1340h **S43A-2027** POSTER Linear Inversion of GPS data of the 2009 L'Aquila Earthquake by means of a 3D Finite Element Approach: **M Volpe, A Piersanti, D Melini, E Casarotti**

1340h **S43A-2028** POSTER The effect of heterogeneous crust on the earthquake – The case study of the 2004 Chuetsu, Japan, earthquake: **T Miyatake, N Kato, J Yin, A Kato**

1340h **S43A-2029** POSTER Determination of the Coseismic Fault Slip Distribution on a Complex Fault Geometry, the Case of the Taitung Earthquake (2006), Mw 6.1, South-east of Taiwan: **L Mozziconacci, B Delouis, N Béthoux, B Huang**

1340h **S43A-2030** POSTER Source Fault and Rupture Process of the 2006 Yogyakarta Earthquake: **Y Kawazoe, K Koketsu**

1340h **S43A-2031** POSTER The seismic velocity structure of a foreshock zone on an oceanic transform fault: Imaging a rupture barrier to the 2008 Mw 6.0 earthquake on the Gofar fault, EPR: **E C Roland, J J McGuire, D Lizarralde, J A Collins**

1340h **S43A-2032** POSTER Dynamic rupture processes on two orthogonal but not conjugate fault segments: **Y Kase, S Aoi**

1340h **S43A-2033** POSTER Anomalies of rupture velocity in deep earthquakes: **M Suzuki, Y Yagi**

1340h **S43A-2034** POSTER Tsunami Waveform Inversion without Assuming Fault Models– Application to Recent Three Earthquakes around Japan: **Y Namegaya, T Ueno, K Satake, Y Tanioka**

1340h **S43A-2035** POSTER Location and local magnitude of the Tocopilla earthquake sequence of Northern Chile: **A Fuenzalida, M Lancieri, R I Madariaga, M Sobiesiak**

1340h **S43A-2036** POSTER Did the November 17, 2009 Queen Charlotte Island (QCI) earthquake fill a predicted seismic gap?: **K Vasudevan, D W Eaton, A Iverson**

1340h **S43A-2037** POSTER Searching for slow afterslips of large earthquakes by normal-mode analysis: **T Tanimoto, C Ji**

1340h **S43A-2038** POSTER To what extent the repeating earthquakes repeated? - Analyses of 1982 and 2008 Ibaraki-ken-oki M7 class earthquakes using strong motion records -: **M Takiguchi, K Asano, T Iwata**

1340h **S43A-2039** POSTER Postseismic viscoelastic stress changes following the 1960 M9.5 Chile earthquake: Implications for its relationship with the 2010 M8.8 Chile earthquake: **M Ding, J Lin**

1340h **S43A-2040** POSTER The Source Processes of an Earthquake Sequence in Eastern Indonesia: **S Yun, K Koketsu, H Miyake, Y Yokota, N Poiata**

1340h **S43A-2041** POSTER Interacting Earthquakes Along the Northern Vanuatu Subduction Zone: **M Cleveland, C J Ammon, T Lay**

1340h **S43A-2042** POSTER Detailed Slip Distribution and Fault Geometry of the 2008 Iwate-Miyagi Nairiku, Northeast Japan (M_w 6.9) Earthquake Directly Obtained from Strong Motion Records: **K Asano, T Iwata**

1340h **S43A-2043** POSTER Early determinations of earthquake duration and rupture directivity from variations in the rate of seismic energy release: **J A Convers, A V Newman**

1340h **S43A-2044** POSTER FAST AND ROBUST INVERSION OF EARTHQUAKE SOURCE RUPTURE PROCESS WITH APPLICATIONS TO EARTHQUAKE EMERGENCY RESPONSE: **Y Chen, Y Zhang**

1340h **S43A-2045** POSTER Investigation of Long-period Characteristics of Great Earthquakes through Multiple Point Source Analysis: **X Li, C Ji**

1340h **S43A-2046** POSTER Magnitude estimation of large regional earthquakes using high-frequency energy radiation with KMA data: **W Yun, S Park**

1340h **S43A-2047** POSTER Development of rupture process analysis method for great earthquakes using Direct Solution Method: **M Yoshimoto, Y Yamanaka, N Takeuchi**

1340h **S43A-2048** POSTER High-order finite difference methods for earthquake rupture dynamics in complex geometries: **O O'Reilly, J E Kozdon, E M Dunham, J Nordström**

1340h **S43A-2049** POSTER Response Of Building Structures To Scaled Laboratory Earthquake Ruptures: **M Mello, H Bhat, S Krishnan, A Rosakis, H Kanamori**

1340h **S43A-2050** POSTER Fault Roughness and Background Stress Levels on Mature and Immature Faults: **Z Fang, E M Dunham**

1340h **S43A-2051** POSTER Effects of heterogeneous frictional properties on spontaneous rupture propagation in the 1999 Hector Mine earthquake: **J Kang, B Duan**

1340h **S43A-2052** POSTER The effects of D₀ on rupture propagation on geometrically-complex faults: **J Lozos, J H Dieterich, D D Oglesby**

1340h **S43A-2053** POSTER Supershear Mach-Waves Expose the Fault Breakdown Slip: **V M Cruz-Atienza, K B Olsen**

1340h **S43A-2054** POSTER Dynamic Slip Pulses generated by a Damaged Fault Zone and by Fault Roughness: **Y Huang, J P Ampuero**

1340h **S43A-2055** POSTER Supershear Rupture Transition on Fault Stepovers using Different Friction Parameterizations: **K J Ryan, D D Oglesby**

1340h **S43A-2056** POSTER Constraining the Depth Dependence of Fault Constitutive Parameters in Spontaneous Rupture Models: **B Aagaard**

1340h **S43A-2057** POSTER Dynamic rupture of megathrust earthquakes with branching on splay faults: **S Somala, J P Ampuero, N Lapusta**

1340h **S43A-2058** POSTER How Barriers Enable Multi-Fault Rupture in a Branched Fault System: **J M Tarnowski, D D Oglesby, D D Bowman**

S43B Moscone South: Poster Hall Thursday 1340h Seismic Structure Posters

Presiding: **S Ghosh**, IIT Kharagpur

1340h **S43B-2059** POSTER Characterizing Seismic Properties of the Sacramento-San Joaquin River Delta, California: **D M Eberhart-Phillips, C H Thurber, A Teel**

1340h **S43B-2060** POSTER A Study of the Spectral Stability of Microtremors in the Los Angeles Basin, California: **L W Wolf, D Bose**

1340h **S43B-2061** POSTER Limitation and applicability of microtremor records for site-response estimation: **G Song, T Kang, S Park**

1340h **S43B-2062** POSTER Attenuation Studies in the Upper Mississippi Embayment Using USGS Explosion Data: **C S Obikili, J Chiu**

1340h **S43B-2063** POSTER Seismic Attenuation in the Parkfield area of the San Andreas Fault: **C M Kelly, A Rietbrock, D R Faulkner**

1340h **S43B-2064** POSTER Proposed modification on attenuation relationships in central east of Iran with special respect to Kerman region: **K Behzadafshar, A Abbaszadeh Shahri**

1340h **S43B-2065** POSTER Estimation of seismic wave attenuation using sonic logging data -Comparison of estimating methods-: **H Suzuki, J Matsushima**

1340h **S43B-2066** POSTER Estimation of velocity structure around a natural gas reservoir at Yufutsu, Japan, by microtremor survey: **H Shiraiishi, H Asanuma, K Tezuka**

1340h **S43B-2067** POSTER Envelope Synthesis in Layered Random Media with Background-Velocity Discontinuities Based on the Markov Approximation: **K Emoto**, H Sato, T Nishimura

1340h **S43B-2068** POSTER The need of inhomogeneous models to explain the seismograms of 2 explosions: **A Marcellini**, A Tiento, R Daminelli

1340h **S43B-2069** POSTER Bighorns Arch Seismic Experiment (BASE): Amplitude Response to Different Seismic Charge Configurations: **S H Harder**, K C Miller, L L Worthington, C M Snelson

1340h **S43B-2070** POSTER Near-podal P'P'df precursor: asymmetrical scattering from rough free-surface: **W Wu**, S Ni

1340h **S43B-2071** POSTER Nonstationary ray decomposition method and its application for estimating velocity boundaries in a layered structure: **M Takagishi**, S Kinoshita

1340h **S43B-2072** POSTER Envelope broadening of S-waves from the shallow intraslab earthquakes observed in the northeastern Japan: **S Koga**, Y Ito, R Hino, M Shinohara, N Umino

1340h **S43B-2073** POSTER Scattering and anelastic attenuation of seismic energy in Northeast India using the multiple lapse time window analysis: **S Padhy**

1340h **S43B-2074** POSTER Stacking attributes from local slopes: **S Ghosh**, D Gajewski, S Dell, S K Nath, Title of Team: Wave Inversion Technology (WIT) Consortium

1340h **S43B-2075** POSTER Characterization of scattered seismic wavefields simulated in heterogeneous media with topography: **H Kumagai**, T Saito, G S O'Brien, T Yamashina

1340h **S43B-2076** POSTER An Integrated Simulation of Seismic and Tsunami Waves: **T Maeda**, T Furumura

1340h **S43B-2077** POSTER Computer simulation of trench trapped Rayleigh wave: **S Noguchi**, T Maeda, T Furumura

1340h **S43B-2078** POSTER MEMORY-EFFICIENT DISPLACEMENT-BASED INTERNAL FRICTION FOR WAVE PROPAGATION SIMULATION: J Bielak, **H Karaoglu**, R Taborda

1340h **S43B-2079** POSTER Validating 3D Seismic Velocity Models Using the Spectral Element Method: **M Maceira**, C A Rowe, R M Allen, M J Obrebski

1340h **S43B-2080** POSTER The effect of a non-linear viscoelastic mantle on seismic wave propagation: **I Calisto**, K Bataille

1340h **S43B-2081** POSTER Generating synthetic seismogram envelopes along the MASE array for a vertical dependent heterogeneous model: **L A Dominguez Ramirez**, P M Davis

1340h **S43B-2082** POSTER SCEC CVM-Toolkit (CVM-T) – High Performance Meshing Tools for SCEC Community Velocity Models: **P Small**, P J Maechling, G P Ely, K B Olsen, K Withers, R W Graves, T H Jordan, A Plesch, J H Shaw

1340h **S43B-2083** POSTER 3-D Waveform Modeling of the 11 September 2001 World Trade Center Collapse Events in New York City: **S Yoo**, J Rhie, W Kim

S43C Moscone West: 2007 Thursday 1340h
Advances in Inverse Problems and Seismic Tomography IV
(joint with T, DI, NS, NG)

Presiding: C Tape, Harvard University

1340h **S43C-01** Time reversal imaging, Inverse problems and Adjoint Tomography: **J Montagner**, C S Larmat, Y Capdeville, H Kawakatsu, M Fink

1355h **S43C-02** Imaging the Earth: Methods and Algorithms for Global Seismic Tomography: **A P Valentine**, J H Woodhouse

1410h **S43C-03** Trans-dimensional approaches to seismic imaging and inversion (Invited): **M Sambridge**, T Bodin, K Gallagher

1425h **S43C-04** A Hierarchical Bayes Formulation of Inverse Problems. Application to Joint Inversion of Receiver Function and Surface wave Dispersion: **T Bodin**, M Sambridge, H Tkalcic, K Gallagher, P Arroucau

1440h **S43C-05** Towards the quantitative resolution analysis in full seismic waveform inversion: **A Fichtner**, J Trampert

1455h **S43C-06** On the resolution of plumes by seismic tomography: **Y Hwang**, J E Ritsema, P E Van Keken, S D Goes

1510h **S43C-07** Iterative FM&TI procedure for finding a realistic velocity distribution: **I Koulakov**, H Kopp, T Stupina

1525h **S43C-08** Seismic velocity estimation by joint inversion of P & S receiver function, waveform fitting, and surface wave dispersion: M K Sen, U Dutta, **J Pulliam**, R Ghosh, R Gok, M E Pasyanos

S43D Moscone West: 2009 Thursday 1340h
Developments in Statistical Seismology: Research and Education III (joint with ED, T)

Presiding: A J Michael, USGS; **M J Werner**, Princeton University; **J Woessner**, ETH Zurich

1340h **S43D-01** Building the Community Online Resource for Statistical Seismicity Analysis (CORSSA): **A J Michael**, S Wiemer, J D Zechar, J L Hardebeck, M Naylor, J Zhuang, S Steacy, Title of Team: The CORSSA Executive Committee

1355h **S43D-02** Open Source Tools for Seismicity Analysis: **P Powers**

1410h **S43D-03** Stress shadow effect found in recent seismic sequences associated with Japan's large earthquakes: **S Hirose**, S Toda

1425h **S43D-04** A closer look at foreshock-mainshock occurrences in Japan: **C W Smyth**, J Mori, M Yamada

1440h **S43D-05** Foreshock statistics in Italy: **W Marzocchi**, J Zhuang

1455h **S43D-06** An Improved Statistical Solution for Global Seismicity by the HIST-ETAS Approach: **A Chu**, Y Ogata, K Katsura

1510h **S43D-07** Three-dimensional fluid mapping and earthquake probabilities for induced seismicity sequences: **C E Bachmann**, S Wiemer, J Woessner

1525h **S43D-08** Detecting missing earthquakes on the Parkfield section of the San Andreas Fault following the 2003 Mw6.5 San Simeon earthquake: **X Meng**, Z Peng, J L Hardebeck

Tectonophysics

T43A Moscone South: Poster Hall Thursday 1340h
Lithospheric Structure and Cenozoic Tectonics in East Asia: From Tibetan Plateau to the Marginal Seas II Posters (joint with G, S)

Presiding: M Liu, University of Missouri; **R Gao**, Chinese Academy of Geological Sciences

1340h **T43A-2154** POSTER The Moho depth and variation character of the continent in China and its geodynamic implications: **X Xiong**, R Gao, Q Li, Y Guan, R He, H Wang, Z Lu, H Hou, W Li, G Deng

1340h **T43A-2155** POSTER A 1000-km E-W Receiver Function Profile across the Ordos and the Taihang Orogeny of the Northern China: Y Tang, **Y J Chen**

1340h **T43A-2156** POSTER Crust and upper mantle characteristic of Northern and Eastern Tibet from Ambient Noise Tomography results: **W Fan**, Y J Chen, Y Tang, E A Sandvol, T M Hearn, J F Ni

1340h **T43A-2157** POSTER 3D lithospheric structure beneath the eastern Tien-Shan and its geodynamic implication: **Z Li**, H Wang, G Huang, V L Levin, S W Roecker, Z Li

1340h **T43A-2158** POSTER Crust and upper mantle characteristic of northeast Tibet: receiver function results of Indepth-IV passive array: **H Yue**, Y J Chen, Y Tang, S S Wei, X Liang, E A Sandvol, T M Hearn, J F Ni, Title of Team: Indepth IV passive array research team

1340h **T43A-2159** POSTER The high-resolution tomographic structure of upper crust around Yushu Ms7.1 earthquake, Qinghai, China and its implications: **S Pei**, Y J Chen

1340h **T43A-2160** POSTER Crustal structure of the northeastern Tibetan Plateau, the Ordos Block and the Sichuan Basin from ambient noise tomography: Y Zheng, **Y Yang**, M H Ritzwoller, X Xiong, X Zheng

1340h **T43A-2161** POSTER Receiver Function Transect Across Tibet, Tarim and Tien Shan: **B Marshall**, V L Levin, G Huang, S W Roecker, H Wang

1340h **T43A-2162** POSTER Earthquake source parameters in the western Tarim basin and the Tien-Shan: **G Huang**, V L Levin, S W Roecker, Z Li, H Wang

1340h **T43A-2163** POSTER Focal Mechanisms of Wenchuan Aftershocks and Stress Field around Longmenshan Fault Zone: **L Zhao**, K Wan, S Ni

1340h **T43A-2164** POSTER Formation mechanism of the Qiongdongnan basin northwest of the South China Sea-dating the sinistral slip of the Red River Fault Zone: **Z Sun**, J Jiang, W Xie

1340h **T43A-2165** POSTER The early-middle Jurassic Gerze SSZ ophiolites and tectonic evolution of the Bangong suture, Tibet: **Y Zhang**

1340h **T43A-2166** POSTER Evolution of the Andaman Sea region: Dextral transtension as consequence of the India-Asia collision: L Zhang, **J Xu**, Z Ben-Avraham, T K Kelly

1340h **T43A-2167** POSTER Flexural subsidence, structural style and sedimentation in the northeastern South China Sea near Taiwan (*Invited*): **H Yu**

1340h **T43A-2168** POSTER Lateral asthenospheric flow beneath South China craton: constraints from Cenozoic basalts and metamorphic rocks distribution in South China: **J Gong**, Y J Chen

1340h **T43A-2169** POSTER Coeval Tibet uplift and shortening of SE Asia basins (*Invited*): **M Pubellier**, A Robert, J de Sigoyer, X Zuo, N R Chamot-Rooke, L S Chan

1340h **T43A-2170** POSTER The India-Eurasia collision and marginal basin evolution in the NW Pacific: S Zahirovic, P Müller, M Gurnis, M Seton, **J Whittaker**, N Flament

1340h **T43A-2171** POSTER Accumulation fluxes of clastic minerals in northern South China Sea and their response to tectonic since 32Ma: **A Li**, H Jiang

1340h **T43A-2172** POSTER The relationship between the opening of South China Sea and the formation of the Tibetan Plateau (*Invited*): **X Mo**

1340h **T43A-2173** POSTER Seismic structure of the crust and local seismicity in Western Tibet: **A Shokoohi Razi**, V L Levin, G Huang, S Roecker, Z Cao

1340h **T43A-2174** POSTER Petrogenesis and Tectonic Evolution of Granitic Rocks in The Northern Margin of North China Plate: **X Xu**, Q Zhao, C Zheng, W Liu, B Xu

1340h **T43A-2175** POSTER The Qiqinaer mafic-ultramafic complex: A newly identified ophiolitic suite in the southern Tianshan, China: **L Zhao**, J Encarnacion, Z Zhang, D Zhang, H Huang, S Dong

T43B Moscone South: Poster Hall Thursday 1340h
New Advances in Studies of the Tibetan Plateau and the Himalayas IV Posters (*joint with V, S*)

Presiding: **X Mo**, China University of Geosciences, Beijing; **J F Ni**, New Mexico State University

1340h **T43B-2176** POSTER A new 1:500,000-scale geologic map of Bhutan: a detailed view of eastern Himalayan stratigraphy and structural geometry: **S P Long**, N McQuarrie, T Tobgay, D Grujic, L S Hollister

1340h **T43B-2177** POSTER Thickness of underthrust Indian crust in the Garhwal Himalaya: **W B Caldwell**, S S Rai, A Ashish, S L Klemperer, J F Lawrence

1340h **T43B-2178** POSTER The motion and rheology of the Indian plate, and their effects upon Tibetan tectonics: **A Copley**, J Avouac, J Hollingsworth, S Leprince

1340h **T43B-2179** POSTER Cretaceous to Paleogene speed-up and slow-down of India-Asia relative plate convergence: the roles of mantle plumes and continental collision: **D J Van Hinsbergen**, B M Steinberger, P V Doubrovine, R Gassmüller

1340h **T43B-2180** POSTER The Lhasa Terrane: Record of a microcontinent and its histories of drift and growth: **D Zhu**, Z Zhao, Y Niu, X Mo, S Chung, Z Hou, L Wang, F Wu

1340h **T43B-2181** POSTER Evaluating basal tractions as a mechanism of crustal rotation in the eastern syntaxis of the Tibetan plateau: **J Chen**, D A Schmidt

1340h **T43B-2182** POSTER Southeastward lower crustal channel flow beneath southern Tibet: geochemical evidences from Miocene adakitic rocks: **J Xu**, J Chen, W Zhao, Y Dong, B Wang, Z Kang, Title of Team: Tethyan Tectonic Evolution

1340h **T43B-2183** POSTER Jumbling, oozing, underplating, and delamination of Himalayan-Tibetan crust: **X Song**, Z Xu

1340h **T43B-2184** POSTER Constraining age and rate of the Main Central Thrust displacement in western Bhutan: **T Tobgay**, N McQuarrie, S P Long

1340h **T43B-2185** POSTER Onset of oblique extension in south-central Tibet by 15 Ma: implications for diachronous extension of the Tibetan Plateau: **V Sanchez**, M A Murphy, A C Robinson, T J Lapen, M T Heizler, M H Taylor

1340h **T43B-2186** POSTER The distribution of the Linzizong sequences along the Indo-Asian collision belt: **S Zhou**, X Mo, Y Niu, R Qiu, Z Zhao, G Xie, K Sun

1340h **T43B-2187** POSTER Controls on Landscape Denudation Between Lhasa and Namche Barwa, Southeastern Tibet: **N M Levine**, P Blisniuk, B Bookhagen, M H Gudmundsdottir, Y Ebert, S Moon, C P Chamberlain, G E Hilley

1340h **T43B-2188** POSTER Postseismic Motion of the 1997 Manyi Earthquake Continuing to the Present: **M A Bell**, B E Parsons, I M Ryder

1340h **T43B-2189** POSTER Surface rupture faulting of the 1950 Assam Earthquake: Evidence from paleoseismological trench investigation across the Northeastern Himalayan Front, India: **R Perumal**, V C Thakur, B Choudhuri, A Dubey

1340h **T43B-2190** POSTER Structural and thermochronologic implications for the development of the Northern Qilian Shan; tracking the history of slip partitioning from the Altyn Tagh Fault into the Northern Tibetan Plateau: **H J Gray**, S A Johnstone, J K Hourigan, B J Darby, B D Ritts, G Zhuang, P C Lippert

1340h **T43B-2191** POSTER Post-Cretaceous Sinistral Transpression in Southwest Alxa: Structural and Paleomagnetic Insights into the Long-Term Slip History of the Altyn Tagh Fault: **L Shumaker**, P C Lippert, B J Darby, B D Ritts, R S Coe

- 1340h **T43B-2192** POSTER New paleomagnetic results from Cretaceous rocks of the Gyaring Co fault region, central Tibet: **D Finn**, X Zhao, P C Lippert, A Yin, Y Li, C Wang, J Meng, S Zhang, H Li
- 1340h **T43B-2193** POSTER Sedimentary and Thermochronologic Constraints on the Cenozoic Tectonics of Northern Tibetan Plateau: **G Zhuang**, J K Hourigan, B D Ritts, S A Johnstone, M Kent-corsor, A C Robinson
- 1340h **T43B-2194** POSTER Episodic early Miocene anatexis in the Ama Drime Massif, southern Tibet: **J Yu**, L Zeng, J Liu, L Gao, K Xie
- 1340h **T43B-2195** POSTER The response of the Gangdese magmatism to the India-Asia convergence: **D Wen**, S Chung, S Gallet, T Lee, C Lee
- 1340h **T43B-2196** POSTER Low-Temperature cooling history of a Modi Khola transect, central Nepalese Himalaya: **E S Nadin**, A J Martin
- 1340h **T43B-2197** POSTER Exhumation of the High-Grade Crustal Domes of the Pamir: **J L McGraw**, B R Hacker, L Ratschbacher, K Stubner
- 1340h **T43B-2198** POSTER TRACKING BURIAL, DISPLACEMENT AND EXHUMATION IN THE LESSER HIMALAYAS, EASTERN BHUTAN: **N McQuarrie**, S P Long, T Tobgay, P W Reiners, I Coutand
- 1340h **T43B-2199** POSTER Eocene High-grade Metamorphism in the North Himalayan Gneiss Dome: **L Gao**, L Zeng, K Xie, G Hu
- 1340h **T43B-2200** POSTER Isotopic analysis of northern Himalayan gneiss domes: **W C Hassett**
- 1340h **T43B-2201** POSTER Late Eocene-Miocene tectono-magmatic response to the Indian- Eurasian plate collision: constraints from structural analysis, and Sr-Nd and Hf geochemistry of leucocratic intrusions along the Ailao Shan Red-River shear zone, SE Tibet: **J Liu**, Y Tang, S Cao, Q Ngyuen, Z Song, M Tran, Y Chen, M Ji, Z Zhang, Z Zhao
- 1340h **T43B-2202** POSTER Late Miocene - Pliocene rifting in west-central Tibet: Evidence from (U-Th)/He thermochronology of the North Lunggar Rift: **K E Sundell**, M H Taylor, D F Stockli, P A Kapp, R H Styron, D Liu, L Ding
- 1340h **T43B-2203** POSTER Ca-Mg-Sr-Nd Isotopes in Granitic Rocks of the Lhasa Terrane, Southern Tibet: **B T Peterson**, J I Simon, D J Depaolo, J N Christensen, T M Harrison
- 1340h **T43B-2204** WITHDRAWN
- 1340h **T43B-2205** POSTER Isotopic constraints on the collision age from the Kohistan-Ladakh Arc crust: **P Bouilhol**, O E Jagoutz, J M Hanchar
- 1340h **T43B-2206** POSTER Stable Isotopic Constraints of the Turpan Basin in Northwestern China: **A J Schaen**
- 1340h **T43B-2207** POSTER Electromagnetic Studies of Lithospheric Mantle and Crust in the Central Tibetan Plateau from INDEPTH Magnetotelluric Profiles and Magnetovariational Data: J Vozar, A G Jones, **F Le Pape**, M J Unsworth, W Wei, Title of Team: INDEPTH MT Team
- 1340h **T43B-2208** POSTER Northern Tibet crustal and lithospheric mantle structures inferred from INDEPTH magnetotelluric data: **F Le Pape**, A G Jones, J Vozar, M J Unsworth, W Wei, Title of Team: INDEPTH MT Team
- 1340h **T43B-2209** POSTER Upper mantle structure of the southern and eastern Tibetan Plateau from finite frequency body wave tomography: **X Liang**, E A Sandvol, J F Ni, Y J Chen, F J Tilmann, T M Hearn
- 1340h **T43B-2210** POSTER Ambient noise tomography of the Kumaon Himalaya: **S S Rai**, K Borah, K Surya Prakasham, K F Priestley, V K Gaur
- 1340h **T43B-2211** POSTER Pn tomography of eastern Tibet: H Wang, **T M Hearn**, Y J Chen, J F Ni, S Zhou, E A Sandvol, H Yue, S S Wei, F J Tilmann
- 1340h **T43B-2212** POSTER Velocity and Attenuation Structure of the Tibetan Lithosphere using Seismic Attributes of P-waves from Regional Earthquakes Recorded by the Hi-CLIMB Array: **R L Nowack**, A C Bakir, J Griffin, W Chen, T Tseng
- 1340h **T43B-2213** POSTER Shear velocity profiles in the crust and lithospheric mantle across Tibet: M R Agius, **S Lebedev**
- 1340h **T43B-2214** POSTER Shear-wave splitting study in Northeastern Tibet: **C Chen**, A Li, D Shi, X Li, H Li, E A Sandvol, Y Shen
- 1340h **T43B-2215** POSTER SinoProbe seismic experiment in Tibetan plateau (2008-2012): **R Gao**, Title of Team: SinoProbe-02 Tibetan team
- 1340h **T43B-2216** POSTER SinoProbe-02: Deep Seismic Reflection Profiling of the Bangong Suture and Qiangtang terrane in central Tibet: **Z Lu**, C Chen, R Gao, L Brown, X Xiong, W Li, G Deng
- 1340h **T43B-2217** POSTER Large contrast observed in crustal composition and structure between the Ordos plateau and the northeastern margin of the Tibetan Plateau: **S Pan**, F Niu
- 1340h **T43B-2218** POSTER Crustal Structure Variation of the Tibetan Plateau From Teleseismic Receiver Function Studies: **Y Zhou**, L Zhu, X Song
- 1340h **T43B-2219** POSTER Comparing INDEPTH IV wide-angle and p-wave receiver function profiles from the Songpan-Ganzi terrane to the Qaidam Basin: **M Karplus**, R Kind, J Mechie, X Yuan, S L Klemperer, F J Tilmann, W Zhao, P Kumar, H Su, Title of Team: INDEPTH IV Team
- 1340h **T43B-2220** POSTER The Golmud Step: New details of the 15 km Moho offset between the Tibet Plateau and Qaidam Basin from INDEPTH IV Seismic Results: **C Chen**, L D Brown, M Karplus, S L Klemperer, Title of Team: INDEPTH IV Group
- 1340h **T43B-2221** POSTER High-velocity, Aseismic Lower Crust Inboard of the High Himalaya: An Eclogite Conundrum: G Monsalve, **V Schulte-Pelkum**, A F Sheehan, P M Shearer
- 1340h **T43B-2222** POSTER Analysis of local seismicity, crustal and upper mantle structure in Central Asia using data recorded by a seismological network in the Pamir and Tien Shan: C Sippl, F Schneider, **B Schurr**, X Yuan, J Mechie, M Gadoev, I Oimahmadov, U Abydybachaev, S Negmatullaev, V Minaev
- 1340h **T43B-2223** POSTER South-Central Tibetan Seismicity from HiCLIMB Seismic Array Data: **S Carpenter**, J Nabelek, J Braunmiller
- 1340h **T43B-2224** POSTER Seismological observation of a crustal response to river erosion?: Z Zhang, **Y Shen**
- 1340h **T43B-2225** POSTER Quasi-stable Slope-Failure Dams in High Asia: **J F Shroder**
- 1340h **T43B-2226** POSTER U-Pb SHRIMP geochronology of leucogranites from the Greater Himalayan Sequence in Zaskar and from the Karakoram fault zone, NW India: **F Horton**, J Sommerfeld, W C Hassett, M L Leech
- 1340h **T43B-2227** POSTER Cenozoic volcanic rocks from central Myanmar: Age, geochemical characteristics and geodynamic significance: **H Lee**, S Chung, H Yang, C Chu, C Lo, A Mitchell

T43C Moscone South: Poster Hall Thursday 1340h
Raising a Plateau From Earthquakes, Basins, and Fold-Thrust Belts II Posters (joint with S, G)

Presiding: **J van der Woerd**, Institut de Physique du Globe, Strasbourg; **D W Burbank**, UCSB; **N A Niemi**, University of Michigan

1340h **T43C-2228 POSTER** Transpression along the Altyn Tagh fault and terminations of large ruptures at the Aksay restraining bend: results from numerical modeling and the observed earthquake record: **A J Elliott**, B Duan, M E Oskin, J Liu

1340h **T43C-2229 POSTER** Fault slip-rate estimate for the right-lateral Beng Co strike-slip fault, based on Quaternary dating of displaced paleo-lake shorelines: **J Hollingsworth**, B P Wernicke, L Ding

1340h **T43C-2230 POSTER** Rupturing Styles of the Jiegu Segment of the Yushu April 14, 2010 Earthquake in Qinghai-Tibet Plateau, China: L Chen, **H Wang**, Y Ran

1340h **T43C-2231 POSTER** Strain accumulation across the Longmen Shan before the 2008 Mw 7.9 Wenchuan earthquake: **J He**, S Lu

1340h **T43C-2232 POSTER** High rate of uplift and erosion along the Beichuan fault associated with the 2008 Wenchuan earthquake: Implications for building the high-relief eastern margin of the Tibetan Plateau: **J Chen**, T Li, J Liu, M Huang, Z Yuan, S Yu, H Yang, Title of Team: Neotectonics and Geochronology

1340h **T43C-2233 POSTER** Uplifting model of the Longmenshan mountain in the eastern margin of Tibetan plateau: **S Zhang**, R Ding, C Mao

1340h **T43C-2234 POSTER** hunting for the Traces of Great Himalayan Earthquakes: Surface Break of the M ≈ 8.1, 1934 Bihar Nepal event?: P tapponnier, S Sapkota, **Y Klinger**, L Bollinger, F Perrier, Y Gaudemer, T Tiwari, S Siwakoti

1340h **T43C-2235 POSTER** Deposition and Deformation of an Intermontane Basin in NW China: **J A Thompson**, D W Burbank, J Chen, T Li

1340h **T43C-2236 POSTER** Basin Width Control of Faulting and Structural Style: **J K Goode**, D W Burbank

1340h **T43C-2237 POSTER** Style, magnitude, and timing of shortening at the eastern end of Kura fold-thrust belt, Azerbaijan: **A M Forte**, E Cowgill, I Murtuzayev

1340h **T43C-2238 POSTER** Miocene West Directed Back Thrusting in the Southeast Pamir, China: **A C Robinson**, D B Imrecke, M T Heizler, J Chen, L Wenqiao, X Yang, Z Yuan

1340h **T43C-2239 POSTER** Neogene Basin Development in the Waqia Valley, Southeast Pamir: **D B Imrecke**, A C Robinson, J Chen, L M Schoenbohm, L Wenqiao, Y Zhaode, Y Xiaodong, L A Owen, K Hedrick

1340h **T43C-2240 POSTER** Tectonic and sedimentary evolution of the Ili Basin (northern Tien Shan, Kazakhstan): **J Kley**, T Voigt, N Seib, M Kober

1340h **T43C-2241 POSTER** Magnetostratigraphy of Cenozoic sediments from Sikouzi basin and its implications for tectonic uplift processes in northeastern Tibetan Plateau: **W Wang**

1340h **T43C-2242 POSTER** EARLY STAGES OF OROGENIC GROWTH: ASYMMETRY OF THE PYRENEES REVEALED BY DETRITAL ZIRCONS DOUBLE DATING (U/PB AND (U-TH)/HE) AND DETRITAL AFT: P Filleaudeau, F Mouthereau, **R Pik**, M Fellin

1340h **T43C-2243 POSTER** Preliminary Structural and Thermochronological Observations from the South Lunggar Rift, Western Tibet: M H Taylor, **R H Styron**, D F Stockli, K E Sundell, L Ding

1340h **T43C-2244 POSTER** Incision and uplift patterns along the Yellow River from fluvial terrace dating in northeastern Tibet: implications for plateau building: **J van der Woerd**, A Perrineau, Y Gaudemer, J Liu, R Pik, P tapponnier, R Thuizat, R Zheng

1340h **T43C-2245 POSTER** Timing and driving mechanism of uplift in the northern flanks of the Central Anatolian Plateau, Turkey: **C Yildirim**, T F Schildgen, H Echler, D Melnick, M R Strecker

1340h **T43C-2246 POSTER** Dynamic topography of the southern Central Anatolian Plateau, Turkey, and geodynamic driving mechanisms: **T F Schildgen**, D Cosentino, F O Dudas, S Niedermann, M R Strecker, H Echler, C Yildirim

1340h **T43C-2247 POSTER** Combined finite-discrete element modeling of the India-Asia collision zone: **M A Langstaff**, B J Meade

1340h **T43C-2248 POSTER** Crustal structure beneath the Indochina peninsula from teleseismic receiver functions: **L Bai**, X Tian, J E Ritsema

1340h **T43C-2249 POSTER** Crustal and lithospheric structure of the Alborz Mountains (Iran) and surrounding areas from integrated geophysical modeling: **S Motavallianbaran**, H J Zeyen, M Brunet, V E Ardestani

T43D Moscone West: 2016 Thursday 1340h
Fault Behavior Models: Improved Understanding Using Long Paleoseismic Records IV (joint with S, G)

Presiding: **T K Rockwell**, San Diego State University; **R J Weldon**, University of Oregon; **H Kondo**, AIST

1340h **T43D-01** Co-seismic strike-slip surface rupture and displacement produced by the 2010 Mw 6.9 Yushu earthquake, China, and implications for Tibetan tectonics: **A Lin**, G Rao, D Jia, X Wu, B Yan, Z Ren

1355h **T43D-02** The Road Less Traveled: Why the 2002 Denali Rupture Took the Totschunda Exit: **D P Schwartz**, P J Haeussler, G G Seitz, T E Dawson

1410h **T43D-03** Identification of Geomorphic Conditions Favoring Preservation of Multiple Individual Displacements Across Transform Faults: **P L Williams**, D A Phillips, E Bowles-martinez, E Masana, P Stepancikova

1425h **T43D-04** New paleoseismic data from the northern San Jacinto Fault Zone, southern California: **N Onderdonk**, S F McGill, G I Marliyani, T K Rockwell

1440h **T43D-05** Three time scales of earthquake clustering inferred from *in-situ* ³⁶Cl cosmogenic dating on the Velino-Magnola fault (Central Italy): A Schlagenhauf, I Manighetti, **L Benedetti**, Y Gaudemer, J Malavieille, R C Finkel, K Pou

1455h **T43D-06** Mid Holocene earthquake cluster along the central Altyn Tagh Fault, NW China resolved through integration of morphochronologic datasets: **R D Gold**, E Cowgill, R Arrowsmith

1510h **T43D-07** continental strike-slip earthquake segmentation and thickness of the crust: **Y Klinger**

1525h **T43D-08** Exploring Transient Fault Slip Behaviors and “Earthquake” Distributions Using Discrete Element Models: **T Fournier**, J K Morgan

T43E Moscone West: 2011 Thursday 1340h
What Controls Strong Versus Weak Coupling on Subduction Interface Faults? I (joint with G, S)

Presiding: **L M Wallace**, GNS Science; **S Y Schwartz**, Univ California Santa Cruz

1340h **T43E-01** Comparison of earthquake source parameters and interseismic plate coupling variations in global subduction zones (Invited): **S L Bilek**, P A Moyer, J Stankova-Pursley

1355h **T43E-02** Melange rheology, fluid pressure distribution, and seismic style (*Invited*): **A Fagereng**, R H Sibson

1410h **T43E-03** What controls along-strike variation in the depth of interseismic coupling and slow slip events at the Hikurangi subduction margin, New Zealand?: **L M Wallace**, A Fagereng, S M Ellis

1425h **T43E-04** Subduction interface geometry and seismic reflection character in the region of shallow slow slip events and tsunami earthquake generation along the northern Hikurangi margin, New Zealand: **R E Bell**, R Sutherland, S A Henrys, L M Wallace, D H Barker, S C Bannister, R J Beavan

1440h **T43E-05** Depth-dependent activity of non-volcanic tremor and other slow earthquake in the Nankai subduction zone: **K Obara**

1455h **T43E-06** Great earthquakes and slow slip events along the Sagami trough and outline of the Kanto Asperity Project: **R Kobayashi**, Y Yamamoto, T Sato, M Shishikura, H Ito, M Shinohara, K Kawamura, B Shibazaki

1510h **T43E-07** Characterization of the upper surface of the Philippine Sea plate beneath Kanto, central Japan: insight from seismic reflection profiling: **H Sato**, S Abe, T Iwasaki, E Kurashimo, D A Okaya, S Sakai, T Kawanaka, N Hirata

1525h **T43E-08** Exploring Interface Coupling Variability Using New Models of Three-Dimensional Subduction Zone Geometries: **G P Hayes**, D J Wald

Volcanology, Geochemistry, and Petrology

V43A Moscone South: Poster Hall Thursday 1340h
Chemical, Physical, and Petrographic Perspectives on Magmatic Differentiation I Posters (*joint with MR*)

Presiding: **A J Kent**, Oregon State University; **S Collins**, Durham University; **C L McLeod**, Durham University

1340h **V43A-2331** POSTER The physicochemical dynamics of fluid above asthenosphere beneath the Siberian Platform: **V N Sharapov**, A A Tomilenko, Y V Perepechko, K V Chudnenko, M P Mazurov

1340h **V43A-2332** POSTER The influence of oxygen fugacity on melt evolution: 1 atmosphere experiments on Aleutian basaltic andesites: **J F Larsen**, E L Rader

1340h **V43A-2333** POSTER Variations in Fe oxidation state at arc volcanoes driven by degassing and crystallization: **M N Brounce**, K A Kelley, E Cottrell

1340h **V43A-2334** POSTER Crystal Transfer at Chaos Crags during Magma Mingling: **S Collins**, J P Davidson, D A Jerram, E W Llewellyn, D J Morgan

1340h **V43A-2335** POSTER Investigating crustal contamination: a case study from the Bolivian Altiplano, Central Andes: **C L McLeod**, J P Davidson, G Nowell

1340h **V43A-2336** POSTER Fractionation and Assimilation Processes Dominate in the Generation of Silicic Magmas from Four Kermadec Arc Volcanoes: **S J Barker**, C J Wilson, J Baker, R J Wysoczanski, M D Rotella, M Millet, I C Wright

1340h **V43A-2337** POSTER Melt inclusion evidence for the relative timing of assimilation and crystallisation in high MgO lavas, Mull, Scotland: **D W Peate**, I Ukstins Peate, M C Rowe, J M Thompson, A C Kerr

1340h **V43A-2338** POSTER Laser ICP-MS study of trace element partitioning between olivine, plagioclase, orthopyroxene and melt: **M Laubier**, T L Grove, C H Langmuir

1340h **V43A-2339** POSTER Compositional and isotopic diversity in MORB crystal cargoes: the differing influence of crustal and mantle processes on separate phase populations: **B Winpenny**, J MacLennan

1340h **V43A-2340** POSTER REE-SIO₂ SYSTEMATICS IN MOR GABBROS AND ASSOCIATED PLAGIOGRANITES FROM THE FOURNIER OCEANIC FRAGMENT, NEW BRUNSWICK, CANADA:

J G Brophy

1340h **V43A-2341** POSTER Exploring the relationship between Assimilation and Fractional Crystallization of Basalts with the Magma Chamber Simulator (MCS): **J B Creamer**, W A Bohrsen, F J Spera, M S Ghiorso

1340h **V43A-2342** POSTER Perspectives on Crystal Populations Versus Individual Crystals: Linking CSD, Diffusion Times, and Geochemistry to Determine Magma Histories: **D J Morgan**, J Day, D A Jerram

1340h **V43A-2343** POSTER Insights from analog gelatin experiments on the effect of bedding dip on sill morphology and crystal load: **R M Currier**, B D Marsh, T Mittal

1340h **V43A-2344** POSTER Examining the role and relative timing of magma mixing and fractionation in the formation of the Kuna Crest lobe of the Tuolumne batholith, Sierra Nevada, USA: **J Krause**, V Memeti, S R Paterson

1340h **V43A-2345** POSTER New evolutionary insights into granite genesis preserved in the trace element compositions of apatite and zircon: **A Miles**, C Graham, M Gillespie, C J Hawkesworth, R W Hinton

1340h **V43A-2346** POSTER A Geochemical Comparison of the Northern Peninsular Ranges Batholith in Southern California and the Coastal Batholith in Southern Peru: **B L Clausen**, A M Martínez Ardila, D M Morton

1340h **V43A-2347** POSTER The Modulation of Crustal Magmatic Systems by Tectonic Forcing: **O Karakas**, J Dufek

1340h **V43A-2348** WITHDRAWN

1340h **V43A-2349** POSTER Re-melting of rhyolite crystal mush and priming for caldera-forming eruption revealed by trace element zoning patterns in phenocrysts of Okataina deposits: **P A Shane**, V Smith, I Nairn

1340h **V43A-2350** POSTER The evolution of the Peach Spring Tuff magmatic system as revealed by accessory mineral textures and compositions: **A S Pamukcu**, G A Gualda, C F Miller, J L Wooden

1340h **V43A-2351** POSTER Modeling the destabilization of large-volume silicic magmatic systems using rhyolite-MELTS and the Peach Spring Tuff: **T L Carley**, G A Gualda, M S Ghiorso, C F Miller

1340h **V43A-2352** POSTER Rhyolite-MELTS: A Modified Calibration of MELTS Optimized for Silica-Rich, Fluid-Bearing Magmatic Systems: **G A Gualda**, M S Ghiorso, R V Lemons, T L Carley

1340h **V43A-2353** POSTER P, T, X magma storage conditions of the dominantly silicic explosive eruptions from Santorini volcano (Aegean Arc, Greece): **A Cadoux**, T H Druitt, E Deloule, B Scaillet

1340h **V43A-2354** POSTER Differentiation conditions of a basaltic magma from Santorini and its bearing on andesitic/dacitic magma production: **J Andújar**, B Scaillet, M Pichavant, T H Druitt

1340h **V43A-2355** POSTER Degassing-Induced Crystallization of Plagioclase in Hydrous Rhyolite Liquids: Evidence from Obsidian Samples from the Mexican and Cascades Volcanic Arcs: **L Waters**, R A Lange

1340h **V43A-2356** POSTER A Critical Assessment of the Validity of Temperature and Pressure Estimates from Ti Concentrations in Quartz in Two Large Silicic Eruption Deposits: **C Wilson**, T Seward, B L Charlier, L Bello, A Allan

1340h **V43A-2357** POSTER Geochemical and textural comparison of two different scoria erupted from Llaima volcano, Chile: **D C Ruth**, J A Cortes, E Cottrell, E S Calder, G A Valentine

- 1340h **V43A-2358** *POSTER* Are U-Series Disequilibria Transparent to Crustal Processing of Magma? A Case Study at Bezmyanny and Klyuchevskoy Volcanoes, Kamchatka, Russia: **T M Kayzar**, B K Nelson, O Bachmann, M Portnyagin, V Ponomareva
- 1340h **V43A-2359** *POSTER* Skaergaard Liquidus Temperatures and the Frailty of Plagioclase Thermometry: **S A Morse**
- 1340h **V54A-04** *POSTER* Magma differentiation in shallow sills controlled by compaction and surface tension: San Rafael desert, Utah: **M Diez**, I P Savov, C Connor

**V43B Moscone South: Poster Hall Thursday 1340h
Magmatic Architecture During Flow: Constraints on Time Scales and Dynamics of Magma Ascent I Posters**

Presiding: **L Caricchi**, University of Bristol; **J M Castro**, Monash University; **Y Lavallee**, LMU Munchen; **H Tuffen**, Lancaster University

- 1340h **V43B-2360** *POSTER* The death of a Strombolian eruption: Evidence for dyke drainage from Red Crater, Tongariro volcano, New Zealand: **F B Wadsworth**, F W von Aulock, B Kennedy, M Branney, C J Bardsley
- 1340h **V43B-2361** *POSTER* Calculating rheologic properties of magmas from field observations combined with experimental data: **R Verberne**, P Ulmer, O Muntener
- 1340h **V43B-2362** *POSTER* SHRIMP Ti-in-zircon thermometry of the Empire quartz diorite, southern Sierra Nevada: implications for skarn formation in the Mineral King pendant: **M D'errico**, B Surpless, J Lackey, S L Loewy, J L Wooden
- 1340h **V43B-2363** *POSTER* The Influence of Magma Plumbing Complexity on Low-Volume, Intraplate Volcanism: **S J Cronin**, M Brenna, K Nemeth, I E Smith, Y Sohn
- 1340h **V43B-2364** *POSTER* INTERNAL FLOW STRUCTURES IN COLUMNAR JOINTED BASALT FROM HREPPHÓLAR, ICELAND: **H B Mattsson**, S A Bosshard, G Hetenyi, B Almqvist, A M Hirt, L Caricchi, M Caddick
- 1340h **V43B-2365** *POSTER* Controls on magma outgassing and their influence on the effusive-explosive transition of volcanic eruptions: **W Degruyter**, O Bachmann, A Burgisser, J Dufek
- 1340h **V43B-2366** *POSTER* Reconstructing the Growth History of Bubbles in Magma from Preserved Volatile Concentrations in Glass: **I M Mcintosh**, E W Llewellyn, M Humphreys, J F Larsen, J D Blower
- 1340h **V43B-2367** *POSTER* Rheology of Arc Dacite Lavas: Experimental Determination at Low Strain Rates: **G Avard**, A G Whittington
- 1340h **V43B-2368** *POSTER* Rates of Melt Migration Following Deglaciation-Induced Mantle Melting Revealed by Studies of Icelandic Table Mountains: **D E Eason**, J M Sinton, G Ito, K Gronvold, M D Kurz
- 1340h **V43B-2369** *POSTER* Can tuffite veins help dictate eruption styles?: **S Kolzenburg**, M J Heap, Y Lavallee, J K Russell, P G Meredith, D B Dingwell
- 1340h **V43B-2370** *POSTER* Quartz Resorption as a Geospeedometer in Peralkaline Rhyolites: M Janebo, **L Caricchi**, A Rust
- 1340h **V43B-2371** *POSTER* Rheological effects of microlites on the Plinian eruption of basaltic magma: **P Moitra**, H M Gonnermann, B F Houghton
- 1340h **V43B-2372** *POSTER* Slug or Plug: A second look at the mechanism of normal Strombolian eruptions: **J Suckale**, K V Cashman, B H Hager, I L Belien
- 1340h **V43B-2373** *POSTER* The Non-Newtonian Rheology of Real Magmas: insights into 3D microstructures: **M Pistone**, L Caricchi, P Ulmer, E Reusser, F Marone, L Burlini

- 1340h **V43B-2374** *POSTER* Effects of gas exsolution and microlite crystallization on the complexity of conduit flow dynamics during lava dome eruptions: **T Koyaguchi**, T Kozono
- 1340h **V43B-2376** *POSTER* Extrusion cycles of dome-forming eruptions: **M de' Michieli Vitturi**, A B Clarke, A Neri, B Voight
- 1340h **V43B-2377** *POSTER* Determining Magma Ascent Rates From Overprinted Amphibole Breakdown Textures: The Soufrière Hills 2003 Lava Dome: **K D Genareau**, A B Clarke
- 1340h **V43B-2378** *POSTER* The growth history of the Lago Della Vacca (Southern Adamello Massive, Italy) intrusion from field observations, thermal and rheological modelling: **A Rust**, C Annen, J D Blundy, L Caricchi
- 1340h **V43B-2379** *POSTER* Reverse Faulting as a Crucial Mechanism for Magma Ascent in Compressional Volcanic Arcs: Field Examples from the Central Andes: **F A Aron**, G Gonzalez, J M Cembrano, E E Veloso
- 1340h **V43B-2380** *POSTER* Hydration of a Rhyolitic Magma by Spherulite Growth: **F W von Aulock**, A R Nichols, H Tuffen, F B Wadsworth, P A Ashwell, B Kennedy
- 1340h **V43B-2381** *POSTER* Analogue models of dikes: insights on emplacement mechanisms by Particle Image Velocimetry: **M Cerca**, B Barrientos, C Mares, M J Chavez Alvarez
- 1340h **V43B-2382** *POSTER* Mapping the ductile-brittle transition of magma: **J E Kendrick**, Y Lavallee, D B Dingwell

**V43C Moscone South: Poster Hall Thursday 1340h
Quantifying Magma Mixing Processes I Posters**

Presiding: **B J Andrews**, UC Berkeley; **B L Browne**, Cal State Fullerton

- 1340h **V43C-2383** *POSTER* Evidence for magma mingling at Newberry Volcano, Oregon: **J H Templeton**
- 1340h **V43C-2384** *POSTER* Magma Mixing and Crystallization at Chaos Crags, in the Lassen Volcanic Center: **M J Farner**, J L Jackson, K D Putirka, A Wood
- 1340h **V43C-2385** *POSTER* Lengthscales and Timescales of Homogenization in a Large Continental Magma System: A Case Study of the Purico Complex, Northern Chile: **D H Burns**, F J Tepley, S L de Silva
- 1340h **V43C-2386** *POSTER* Mechanics and Timescales of Magma Mixing Inferred by Texture and Petrology of Basalt Inclusions and Host Andesite From the 2006 Eruption of Augustine Volcano, Alaska: **M L Vitale**, B L Browne
- 1340h **V43C-2387** *POSTER* Conditions of magma mixing as recorded in amphiboles from Mount Hood, Oregon: **A M Koleszar**, A J Kent, K M Cooper, G R Eppich
- 1340h **V43C-2388** *POSTER* ^{238}U - ^{230}Th - ^{226}Ra disequilibria in plagioclase from recent mixed magmas at Mount Hood: constraints on crystal storage timescales and eruption triggering processes: **G R Eppich**, K M Cooper, A J Kent, A M Koleszar
- 1340h **V43C-2389** *POSTER* Disequilibrium phenocryst textures in an Andean volcanic complex: mixing or rapid decompression?: **M D Feineman**, P Sruoga, D Drew, T Murray
- 1340h **V43C-2390** *POSTER* Plagioclase Textures and Zoning Patterns in the Miocene Dowdy Ranch Andesite, Central California Coast Ranges: Implications for Open and Closed System Behavior in Magmatic Systems: **D K Bavishi**, E P Metzger, J S Miller
- 1340h **V43C-2391** *POSTER* Post-eruptive magma mixing: recycling in volcanic vents: **N Deardorff**, K V Cashman
- 1340h **V43C-2392** *POSTER* Mixing Experiments with Natural Shoshonitic and Trachytic Melts: **C P De Campos**, D Perugini, S Kolzenburg, M Petrelli, A Dorfman, D B Dingwell

- 1340h **V43C-2393** POSTER Experimental textures of mingling and mixing between two chemically contrasted magmas: **M Laumonier**, L Arbaret, B Scaillet, R Champallier, M Pichavant, T H Druitt
- 1340h **V43C-2394** POSTER Assimilation of rhyolitic magma by basaltic recharge in the Bruneau-Jarbridge eruptive center, Snake River Plain (USA): **D Morgavi**, C P De Campos, Y Lavallee, L A Morgan, D Perugini, D B Dingwell
- 1340h **V43C-2395** POSTER Revealing the degree of complexity in open magmatic systems: A new, but simple statistical treatment of whole-rock compositions: W Aeberhard, **M A Dungan**
- 1340h **V43C-2396** POSTER Wall Rock Assimilation and Magma Migration in the Sierra Nevada Batholith: A Study of the Courtright Intrusive Zone, Central California: **G Torrez**, K D Putirka
- 1340h **V43C-2397** POSTER The Role of Magma Mixing in the Differentiation of Koru Volcanics, NW, TURKEY: **D Kiran Yildirim**, A Kilinc
- 1340h **V43C-2398** POSTER U-Th-Ba elemental fractionation during partial melting of crustal xenoliths and implications for U-series disequilibria in continental arc rocks: **R Brens**, R Hickey-Vargas
- 1340h **V43C-2399** POSTER SEM-Cathodoluminescence and fluid inclusion study of quartz veins in Hugo Dummett porphyry Cu-Au deposit, South Mongolia: **M Sanjaa**, H Fujimaki, H Ken-Ichiro
- 1340h **V43C-2400** POSTER Late Pleistocene to Holocene tephrostratigraphy of the Lonquimay Volcano, South Central Chile: **D Gilbert**, A Freundt, S Kutterolf, C Burkert
- 1340h **V43C-2401** POSTER Magma transport and storage at Kilauea volcano, HI: **T L Wright**

V43D Moscone West: 2022 Thursday 1340h
Earth's First Few Hundred Million Years II (joint with DI, MR, T, GP, P, S)

Presiding: J Badro, Institut de Physique du Globe de Paris; **J Badro**, Institut de Physique du Globe de Paris; **M J Walter**, University of Bristol; **M J Walter**, University of Bristol

- 1340h **V43D-01** Origin of volatiles by solar-wind implantation and physical adsorption during planetary accretion (*Invited*): **M A Moreira**, S Charnoz, V Milesi
- 1355h **V43D-02** Survival of the primitive mantle reservoir?: **S Huang**, S B Jacobsen, S Mukhopadhyay
- 1410h **V43D-03** Hf and Nd Isotope Evidence for Production of an Incompatible Trace Element Enriched Crustal Reservoir in Early Earth (*Invited*): **A D Brandon**, V Debaille, T J Lapen
- 1425h **V43D-04** A glimpse of Earth's primordial crust: The Nuvvuagittuq greenstone belt as a vestige of mafic Hadean oceanic crust: **J O'Neil**, R W Carlson
- 1440h **V43D-05** A COUPLED ND AND HF ISOTOPIC STUDY OF ISUA ARCHEAN ROCKS AND THE DIFFERENTIATION OF THE HADEAN MANTLE: **H L Rizo Garza**, M M Boyet, J Blichert-Toft, M Rosing, A Gannoun
- 1455h **V43D-06** The $\epsilon_{182}W$ composition of early Archaean terrestrial rocks (*Invited*): **M Willbold**, T Elliott, S Moorbath
- 1510h **V43D-07** Early Earth's history as inferred from studies of Archean komatiites: **I S Puchtel**, R J Walker
- 1525h **V43D-08** TO SEE THE HADEAN IN A SLAB OF GNEISS: **S J Mojzsis**, N L Cates, A C Maier, O Abramov, D Trail, W Bleeker, M GUITREAU

V43E Moscone West: 2020 Thursday 1340h
Looking Backward and Forward: Volcanology in 2010 and 2020 III

Presiding: J H Fink, Arizona State University; **J C Eichelberger**, US Geological Survey

- 1340h **V43E-01** Looking Backward and Forward: A Decadal View of Volcanology: **J H Fink**
- 1355h **V43E-02** Punctuated Evolution of Volcanology: An Observatory Perspective: W C Burton, **J C Eichelberger**
- 1410h **V43E-03** Challenges to Integrating Geographically-Dispersed Data and Expertise at U.S. Volcano Observatories: **T L Murray**, J W Ewert
- 1425h **V43E-04** The Future of Smithsonian's Global Volcanism Program (*Invited*): **E Cottrell**, L Siebert, P Kimberly
- 1440h **V43E-05** The Volcano Disaster Assistance Program (VDAP) – Past and Future: J W Ewert, **J S Pallister**
- 1455h **V43E-06** Volcano Monitoring and Eruption Response in Japan: **S Nakada**, Y Morita
- 1510h **V43E-07** Current and future trends of Volcanology in Italy and abroad: **P Papale**
- 1525h **V43E-08** Submarine Volcanology: 1950 to 2050 and Beyond (*Invited*): **J R Delaney**, D S Kelley

V43F Moscone West: 2018 Thursday 1340h
Microanalysis in Geoscience: Advances and Challenges I (joint with MR, T)

Presiding: J Fournelle, University of Wisconsin; **B Jicha**, University of Wisconsin; **H Lowers**, USGS; **A Koenig**, USGS

- 1340h **V43F-01** Application of Microbeam Techniques to Identifying and Assessing Comagmatic Mixing Between Summit and Rift Eruptions at Kilauea Volcano (*Invited*): **C R Thorner**, M C Rowe, D T Adams, T R Orr
- 1355h **V43F-02** Development and characterization of a Ti-doped haploandesite glass standard for Ti-in-zircon geothermometry (*Invited*): **J M Hanchar**, N Shimizu, J Fournelle, C M Fisher, A Buchanan, P M Piccoli, C Hayward, S A Bowring
- 1410h **V43F-03** New Capabilities and Challenges for Mineral Microanalysis using Large Area Silicon-Drift Detectors on Field Emission SEM's and Electron Microprobes: **J T Armstrong**
- 1425h **V43F-04** Combined SIMS, NanoSIMS, FTIR, and SEM Studies of OH in Nominally Anhydrous Minerals (NAMs): **J L Mosenfelder**, M Le Voyer, G R Rossman, Y Guan, D R Bell, P D Asimow, J Eiler
- 1440h **V43F-05** Interphase Misorientation – A Technique for Identifying Mimetic Lattice Preferred Orientation: **D D Mcnamara**, J Wheeler, M A Pearce, D J Prior
- 1455h **V43F-06** X-ray tomography as a non-destructive tool for evaluating the preservation of primary isotope signatures and mineralogy of Mesozoic fossils: **J D Santillan**, J W Boyce, R Eagle, T Martin, T Tuetken, J Eiler
- 1510h **V43F-07** Atom Probe Tomography of Olivine: **S W Parman**, B Gorman, C Jackson, R F Cooper, D Jaeger
- 1525h **V43F-08** Combining Focused Ion Beam and Electron Microscopy to Prepare and Analyze Starting and Recovered Materials of High Pressure and Temperature Diamond-Anvil Cell Experiments: **S Speziale**, H Marquardt, R Wirth, A Schreiber, K Marquardt, G Neusser, H J Reichmann

Union

U44A Moscone South: 104 Thursday 1600h **Dynamic Earth: Plates, Plumes, and Mantle Convection II**

Presiding: **M Gurnis**, California Institute of Technology;
W F McDonough, University of Maryland

1600h **U44A-01** Constraining temperature and heat flux at the core-mantle boundary with plumes as a probe (*Invited*): **W Leng**, S Zhong

1615h **U44A-02** Plate and Plume Flux: Constraints for paleomagnetic reference frames and interpretation of deep mantle seismic heterogeneity. (*Invited*): **H Bunge**, B S Schuberth, G E Shephard, D Müller

1630h **U44A-03** Vestiges of the Kerguelen Plume in the Sylhet Traps, NE India: Reconstructing a 800km diameter plume head in the Bengal basin aligned with the Ninetyeast Ridge: **A R Basu**, A Ghatak

1645h **U44A-04** Deep Crustal Structure beneath Large Igneous Provinces and the Petrologic Evolution of Flood Basalts: **M A Richards**, V A Ridley

1700h **U44A-05** New Tomographic Images of the Yellowstone Plume and its Interaction with the Farallon Plate From the Integrated Analysis of Body and Surface Waves: **M J Obrebski**, R M Allen, F F Pollitz, R W Porritt, S Hung

1715h **U44A-06** Rollback subduction: the great killer of mantle plumes: **K A Druken**, C R Kincaid, R W Griffiths

1730h **U44A-07** New Joint Geochemical-Geophysical Record of Time-Dependent Mantle Convection South of Iceland: **S M Jones**, B J Murton, J G Fitton, N J White, Title of Team: Scientific Team of RV Celtic Explorer Cruise CE0806

1745h **U44A-08** Is the 'Fast Halo' around Hawaii as imaged in the PLUME experiment direct evidence for buoyant plume-fed asthenosphere?: **J P Morgan**, C Shi, J Hasenclever

Atmospheric Sciences

A44A Moscone West: 3008 Thursday 1600h **Investigation of Atmospheric Processes Using Stable Isotopes II** (*joint with B, GC, P*)

Presiding: **R Shaheen**, Univ. of California San Diego; **M G Hastings**, Brown University

1600h **A44A-01** WITHDRAWN

1600h **A41C-0103** Triple Oxygen Isotope Composition of Sulfate: A time capsule for Earth's O₂, O₃, and H₂O: **H Bao**

1615h **A44A-02** The stable isotope compositions of mercury in atmospheric particles (PM₁₀) from Paris (France) and vicinity: **D Widory**, E PETELET-GIRAUD, T Johnson, C Quélet, J Snell, M Van Bocxstaele, T D Bullen

1630h **A44A-03** Oxygen Isotopic Anomaly in Terrestrial Atmospheric Carbonates and its Implications to Understand the Role of Water on Mars: **M H Thiemens**, R Shaheen

1645h **A44A-04** Characterization of Secondary Organic Aerosols (SOA) from oxidation of biogenic volatile organic compounds (VOCs) using stable isotopes: **R F Derseh**, T E Larson, G Perkins, C I Mora, L R Mazzoleni, A Putman, T Rahn

1700h **A44A-05** Quantifying global atmospheric sulfate formation pathways utilizing observations and modeling of the oxygen isotopic composition ($\Delta^{17}\text{O}$) of sulfate aerosol (*Invited*): **B Alexander**

1715h **A44A-06** Fractionation of sulfur isotopes during atmospheric processes: SO₂ oxidation and photolysis: **E J Harris**, B Sinha, P Hoppe, J Crowley, S F Foley

1730h **A44A-07** Top-down and bottom-up: Atmospheric, field and laboratory measurements of the isotopic composition of N₂O as a tracer of its natural and anthropogenic sources to the atmosphere (*Invited*): **K A Boering**

1745h **A44A-08** Nitrous Oxide: Stratospheric Isotopic Composition and Tropospheric Impact (*Invited*): **Y L Yung**, J D Weibel, R Shia

A44B Moscone West: 3002 Thursday 1600h **Mechanisms of High-Latitude Climate Change II** (*joint with C, GC, OS*)

Presiding: **M G Flanner**, University of Michigan; **I L Eisenman**, Caltech & UW; **J E Kay**, NCAR

1600h **A44B-01** Atmospheric and Surface Forcings on Recent Arctic Temperature Anomalies: **M C Serreze**, A P Barrett, J J Cassano

1615h **A44B-02** Do climate models underestimate the sensitivity of Northern Hemisphere sea ice cover? (*Invited*): **M Winton**

1630h **A44B-03** Assessing the role of snow albedo feedback in climate change (*Invited*): **C G Fletcher**, P J Kushner, R Fernandes, H Zhao

1645h **A44B-04** Optimal convective brine drainage from sea ice and optimal brine channel spacing: **A J Wells**, J S Wetlaufer, S Orszag

1700h **A44B-05** An Arctic and Antarctic perspective on interdecadal climate variability and global change: **D P Schneider**, D C Noone

1715h **A44B-06** TRENDS IN THE SOUTHERN HEMISPHERE IN WACCM4 SIMULATIONS: **N CalvoFernandez**, R R Garcia, D R Marsh, D E Kinnison, M J Mills, A K Smith

1730h **A44B-07** Arctic Sea-Ice Decline: A Paleoclimatic Perspective (*Invited*): **L V Polyak**

1745h **A44B-08** Arctic sea ice processes: a perspective (*Invited*): **N Untersteiner**, R Kwok

A44C Moscone West: 3004 Thursday 1600h **Origin, Composition, and Physicochemical Transformation of Atmospheric Aerosols From Studies of Individual Particles II**

Presiding: **J M Conny**, National Institute of Standards and Technology; **R D Willis**, US EPA

1600h **A44C-01** The Effect of Organic Material on Heterogeneous Ice Nucleation – Insights from Microscopic Analysis of Field-Collected, Laboratory Generated, and Marine Biogenic Particles (*Invited*): **D A Knopf**

1615h **A44C-02** Hygroscopicity of Chemically Aged, sub-micron Squalane Particles: On the Role of Size and Composition towards the Hygroscopicity Parameter κ : **C W Harmon**, J D Smith, D L Che, S R Leone, K R Wilson

1630h **A44C-03** Composition and Morphology of Individual Combustion, Biomass Burning, and Secondary Organic Particle Types Obtained Using ATOFMS and STXM-NEXAFS Measurements (*Invited*): **L M Russell**, R Bahadur, S Liu, S Takahama, K A Prather

1645h **A44C-04** STXM-NEXAFS Investigations of Amazonian Background Aerosols, Laboratory Secondary Organic Aerosols, and Fungal Spores: **M O Andreae**, C Pöhlker, P Artaxo, M K Gilles, A L Kilcoyne, S T Martin, R Moffet, U Pöschl, B Sinha, M L Smith, K T Wiedemann

1700h **A44C-05** Characterization of morphology of mineral dust particles for remote sensing applications and atmospheric transport models (*Invited*): **I N Sokolik**

1715h **A44C-06** Mass size distributions and mixing state of individual black-carbon containing aerosol particles observed in situ from 65S to 85N: **J P Schwarz**, J R Spackman, A Perring, L Watts, R Gao, S C Wofsy, D W Fahey
1730h **A44C-07** Influence of water coating on the optical scattering properties of fractal aggregates: **C Liu**, R L Panetta, P Yang
1745h **A44C-08** The Interior Analysis and 3-D Reconstruction of Internally-Mixed Light-Absorbing Atmospheric Particles: **J M Conny**, S M Collins, I Anderson, A Herzing

A44D Moscone West: 3006 Thursday 1600h
Wind Power Meteorology III (*joint with OS, PA*)

Presiding: **J K Lundquist**, U. of Colorado at Boulder; **S Basu**, North Carolina State University; **J R McCaa**, 3TIER

1600h **A44D-01** Modeling flow over roughness changes and applications to wind energy for sites on the Great Lakes (*Invited*): **P A Taylor**, J Salmon, W Weng
1615h **A44D-02** Modeling Fluctuating Winds by Blending Mesoscale Model Data with Computational Fluid Dynamics (*Invited*): **S E Haupt**, F J Zajackowski, K J Schmehl
1630h **A44D-03** Using Dynamically Coupled Turbine/Wind Simulations to Investigate the Influence of Atmospheric Turbulence in Turbine Wake Recovery: **R Linn**, E Koo, N D Kelley, B Jonkman, J K Lundquist, J Canfield
1645h **A44D-04** Investigation of flow transition problems at WRFs nested-domain interfaces: **G Kirkil**, J Mirocha
1700h **A44D-05** Wind and flux measurements in a windfarm co-located with agricultural production (*Invited*): **E S Takle**, J H Prueger, D A Rajewski, J K Lundquist, M Aitken, M E Rhodes, A J Deppe, F E Goodman, K C Carter, L Mattison, S L Rabideau, A J Rosenberg, C L Whitfield, J Hatfield
1715h **A44D-06** The impact of wakes on power output at large offshore wind farms: **R J Barthelmie**, S Frandsen, K Hansen, G Schepers, K Rados, W Schlez, D Cabezon, L Jensen, S Neckelmann
1730h **A44D-07** Wind Tunnel Modeling Of Wind Flow Over Complex Terrain: **D Banks**, B Cochran
1745h **A44D-08** Flow properties around a staggered wind farm. A wind tunnel study: **L P Chamorro**, R Arndt, F Sotiropoulos

Biogeosciences

B44A Moscone West: 2004 Thursday 1600h
Improving Predictions of the Global Carbon Cycle and Climate: New Mechanisms, Feedback Loops, and Approaches for Model Evaluation III (*joint with GC, H, A*)

Presiding: **A K Jain**, University of Illinois; **W M Post**, Oak Ridge National Laboratory

1600h **B44A-01** Benchmark analysis of parameterization for terrestrial carbon cycle model (*Invited*): **Y Luo**, X Zhou, P Verburg, J Arnone
1615h **B44A-02** The Impact of the Temperature Sensitivity of Ecosystem Respiration on the Climate-Carbon Cycle Feedback Strength: **F M Hoffman**, J T Randerson
1630h **B44A-03** Characterizing uncertainties in recent trends of global terrestrial net primary production through ensemble modeling: **W Wang**, H Hashimoto, S Ganguly, P Votava, R R Nemani, R B Myneni

1645h **B44A-04** Dispersion of the future temperature rise caused by the physical and biogeochemical parametric uncertainties: **K Tachiiri**, J C Hargreaves, J D Annan, M Kawamiya, Title of Team: Japan Uncertainty Modelling Project

1700h **B44A-05** Modeling past, present and future global fire carbon emissions (*Invited*): **S Kloster**, N M Mahowald, J T Randerson
1715h **B44A-06** Desert dust and anthropogenic aerosol interactions in the Community Climate System Model coupled-carbon-climate model: **N M Mahowald**, K T Lindsay, D Rothenberg, S C Doney, J K Moore, P E Thornton, J T Randerson, C D Jones
1730h **B44A-07** Evaluation of land surface model representation of phenology: an analysis of model runs submitted to the NACP Interim Site Synthesis: **A D Richardson**, Title of Team: NACP Interim Site Synthesis Participants
1745h **B44A-08** Amazon old-growth forest wind disturbance and the regional carbon balance: **J Q Chambers**, R I Negron Juarez, D M Marra, D A Roberts, G C Hurtt, A Lima, N Higuchi

B44B Moscone West: 2002 Thursday 1600h
Paleoecology of Climate Change in Pre-Neogene Continental Environments I (*joint with GC, PP, EP*)

Presiding: **A Jahren**, University of Hawaii at Honolulu; **J H Whiteside**, Brown University; **R B Irmis**, Utah Museum of Natural History; **B Schubert**, University of Hawaii

1600h **B44B-01** Ice-house-like orbital forcing of a mid-Devonian Ecosystem (Orcadian Basin, Scotland): **J H Whiteside**, D S Grogan
1615h **B44B-02** Tectonic Drift, Climate, and Paleoenvironment of Angola Since the Cretaceous: **L L Jacobs**, M J Polcyn, O Mateus, A Schulp, K Ferguson, C Scotese, B F Jacobs, C Strganac, D Vineyard, T S Myers, M L Morais
1630h **B44B-03** Mammalian Biogeography and the Latitudinal Climatic Gradient in Western North America During the Paleocene Evolutionary Radiation of Mammals (*Invited*): **D L Fox**, P Rose
1645h **B44B-04** Resilient terrestrial ecosystems at the Paleocene-Eocene Thermal Maximum (*Invited*): **S Wing**
1700h **B44B-05** Ultra-high Resolution Carbon Isotope Records in Tree Rings: Indicators of Carbon Allocation and Growing Season Precipitation/Temperature (*Invited*): **A Jahren**, B Schubert
1715h **B44B-06** WAS THE EOCENE ARCTIC A SOURCE AREA FOR EXOTIC PLANTS AND MAMMALS? (*Invited*): **J J Eberle**, G J Harrington, H C Fricke, J Humphrey, L Hackett, M Newbrey, J H Hutchison
1730h **B44B-07** The Impact of Elevated Temperatures on Continental Carbon Cycling in the Paleogene: **R D Pancost**, L Handley, K W Taylor, M E Collinson, J Weijers, H M Talbot, C J Hollis, D S Grogan, J H Whiteside
1745h **B44B-08** Early-Middle Cenozoic Andean mammal faunas: Integrated analyses of biochronology, geochronology, and paleoecology (*Invited*): **J J Flynn**

B44C Moscone West: 2006 Thursday 1600h
Ecological Significance of Forest Structure from Remote Sensing, Modeling, and Field Measurements II (*joint with GC*)

Presiding: **R N Treuhaft**, Jet Propulsion Laboratory, California Institute of Technology; **P Dubois-Fernandez**, ONERA

1600h **B44C-01** SAR and INSAR Possibilities for the Remote Sensing of Forest Structure (*Invited*): **S Hensley**, K Papathanassiou
1615h **B44C-02** Three-Dimensional Vegetation Structure from Lidar Remote Sensing: An Overview (*Invited*): **R Dubayah**, A Swatantran, M A Hofton, B Blair, G C Hurtt

1630h **B44C-03** Advances in the use of vegetation structure metrics to predict biodiversity patterns and associated habitat use (*Invited*): **S J Goetz**

1645h **B44C-04** Using Data on Vegetation Structure to Initialize and Test Ecosystem Models (*Invited*): **G C Hurtt**, R Dubayah, J Fisk, K A Dolan, H H Shugart

1700h **B44C-05** Polarimetric and Structural Properties of a Boreal Forest at P-Band and L-Band: **S Tebaldini**, F Rocca

1715h **B44C-06** Using Satellite and Airborne LiDAR to Predict Woodpecker Presence at the Landscape Scale: **P Adam**, L A Vierling, K Vierling, A T Hudak, E K Strand

1730h **B44C-07** Lidar-based biomass assessment for the Yukon River Basin: **B Peterson**, B K Wylie, J Stoker, D Nossou

1745h **B44C-08** Quantifying radiation and energy balances at a heterogeneous oak savanna ecosystem in California: a three dimensional modeling approach: **H Kobayashi**, D D Baldocchi, Y Ryu, Q Chen, S Ma, J L Osuna, S Ustin

Cryosphere

C44A Moscone West: 301 I Thursday 1600h
Measuring Earth's Third Dimension: ICESat, IceBridge, CryoSat, and Beyond III (*joint with G, EP, GC*)

Presiding: **T J Urban**, University of Texas at Austin; **D Wingham**, UCL; **T Markus**, Cryospheric Sciences Branch; **T Neumann**, NASA Goddard Space Flight Ctr.; **R Francis**, ESA/ESTEC; **B E Schutz**, University of Texas at Austin; **L Koenig**, NASA Goddard Space Flight Center; **H J Zwally**, NASA Goddard SFC

1600h **C44A-01** NASA's Operation IceBridge: using instrumented aircraft to bridge the observational gap between ICESat and ICESat-2 laser altimeter measurements (*Invited*): **M Studinger**, L Koenig, S Martin, J G Sonntag

1615h **C44A-02** The CREStIS Radar Suite for Measurements of the Ice Sheets and Sea Ice during Operation Ice Bridge: **C Leuschen**, P S Gogineni, C Allen, J D Paden, R Hale, F Rodriguez-Morales, A Harish, S Seguin, E Arnold, W Blake, K Byers, R Crowe, C Lewis, B Panzer, A Patel, L Shi

1630h **C44A-03** CryoSat: Mission Status, Achievements and New Results: **R Francis**, D Wingham, R Cullen, T Parrinello

1645h **C44A-04** Initial Assessment of CryoSat-2 Performance over Continental Ice (*Invited*): **A Shepherd**, D Wingham, A Ridout, A Muir

1700h **C44A-05** Investigating snow accumulation and densification patterns across the Greenland Ice Sheet by means of radar altimetry: **S de la Pena**, P W Nienow, A Shepherd

1715h **C44A-06** Recent changes in the ice covered Arctic Ocean from ESA's radar altimetry missions: **K Giles**, S Laxon, A Ridout

1730h **C44A-07** CryoSat Measurements of Arctic Sea Ice Thickness Trends (*Invited*): **S Laxon**, A Ridout, K Giles

1745h **C44A-08** The ICESat-2 Mission: Laser altimetry of ice, clouds and land elevation: **T Neumann**, T Markus, W Abdalati, H J Zwally

Education and Human Resources

ED44A Moscone South: 102 Thursday 1600h
New Resources, Approaches, and Technologies for Teaching About the Deep Earth and Plate Margins II (*joint with IN, T, V, G*)

Presiding: **J G Ryan**, University of South Florida; **V S Cronin**, Baylor University; **M L Williams**, University of Massachusetts; **D L Reed**, San Jose State University

1600h **ED44A-01** Understanding the Deep Earth: Slabs, Drips, Plumes and More – An On the Cutting Edge Workshop: **M L Williams**, D W Mogk, J R McDaris

1615h **ED44A-02** Hot or Not? Using Seismic Observations of Mantle Discontinuities to Examine Thermal and Chemical Variability in the Earth (*Invited*): **A M Courtier**

1630h **ED44A-03** GeoMapApp: A free, on-line resource for plate margins research and education (*Invited*): **A M Goodwillie**, W B Ryan, J Coplan, S Chan, S M Carbotte, V Ferrini, S O'Hara, R A Arko, F O Nitsche, J Bonczkowski, R Weissel, J J Morton, A Leung
1645h **ED44A-04** Using Google Earth to Visualize the Core, Mantle, and Crust in Four Dimensions (*Invited*): **D G De Paor**, M Dordevic, S C Wild, Title of Team: Scientific Team of DigitalPlanet.org

1700h **ED44A-05** Teaching the Mantle Plumes Debate: **G R Foulger**

1715h **ED44A-06** Teaching about Subduction Zone Magmatogenesis using MARGINS Subduction Factory Focus Site Geochemical Compilations and ABS3 (*Invited*): **R J Stern**, E Jordan, U Raye, M J Carr, M Feigenson, J B Gill, B R Hacker, J Kimura, K A Lehnert, Y Tamura, P E Van Keken

1730h **ED44A-07** Virtual Research Expeditions along Plate Margins: Examples from an Online Oceanography Course: **D L Reed**, G F Moore, N L Bangs, H J Tobin

1745h **ED44A-08** Cooperative Institute for Dynamic Earth Research (CIDER): Contributions to Education (*Invited*): **B A Romanowicz**

Earth and Planetary Surface Processes

EP44A Moscone South: 308 Thursday 1600h
Landscape Evolution in Response to Active Faulting II (*joint with T*)

Presiding: **N M Gasparini**, Tulane University; **N H Dawers**, Tulane University

1600h **EP44A-01** How fast do landscapes respond to active faulting? (*Invited*): **A C Whittaker**, S J Boulton, M Attal

1620h **EP44A-02** Long term landscape evolution within central Apennines (Italy): Marsica and Peligna region morphotectonics and surface processes: **E Miccadei**, T Piacentini, C Berti

1635h **EP44A-03** Topographic Expression of Active Tectonics in the Absence of Physical Erosion in the External Dinarides of Croatia: **G Casale**, K Paulson, E Salamonsen, R A Bennett, M Surkovic

1650h **EP44A-04** Differential river incision across active normal faults in Grand Canyon: a response to mantle-driven uplift of the western Colorado Plateau: **K E Karlstrom**, R Crow

1705h **EP44A-05** Reconstructing temporal variations in fault slip from footwall topography: An example from Saline Valley, California (*Invited*): **E Kirby**, C Regalla, W B Ouimet, P R Bierman

1725h **EP44A-06** Recently active contractile deformation in the forearc of southern Peru: **S R Hall**, D Farber, L Audin, R C Finkel

1740h **EP44A-07** Geomorphic Evidence for the Deformation Front Propagation of the Malargüe Fold-and-Thrust Belt, Neuquén Andes (Argentina): **G Messenger**, B Nivihre, V Regard, J Xavier, Y Hervouet, D Dhont, C Bonnel

EP44B Moscone South: 307 Thursday 1600h
Lidar for Analysis of Earth-Surface Processes I (joint with G)

Presiding: **P Belmont**, Utah State University; **P Passalacqua**, University of Minnesota

1600h **EP44B-01** Efficient Swath mapping Laser Altimeter Instrument Incubator Program: **A W Yu**, D J Harding, M Krainak, J B Abshire, X Sun, J F Cavanaugh, S R Valett, L Ramos-Izquierdo, Title of Team: Instrument Development Team of SwAth Mapping IIP

1615h **EP44B-02** Mapping the El Mayor-Cucapah Earthquake Rupture Using Crusta, a New Virtual Globe for Remote Field Studies: **T S Bernardin**, P O Gold, A J Elliott, M E Oskin, E Cowgill, O Kreylos, B Hamann, L H Kellogg

1630h **EP44B-03** Fault zone evolution and topographic change detection using LiDAR: **S DeLong**, C S Prentice, G E Hilley

1645h **EP44B-04** Meter-scale characterization of surface processes and fault-related deformation using LiDAR topography (Invited): **R Arrowsmith**, C J Crosby

1700h **EP44B-05** Modeling low-height vegetation with airborne LiDAR (Invited): **N F Glenn**, J Mitchell, L Spaete, T Sankey, R Shrestha, S P Hardegree

1715h **EP44B-06** Use of Airborne and Ground-based LiDAR in Geomorphic Change Detection (Invited): **J M Wheaton**

1730h **EP44B-07** Effects of LiDAR Derived DEM Resolution on Hydrographic Feature Extraction: **P Yang**, D P Ames, N F Glenn, D Anderson

1745h **EP44B-08** Stream Channel Delineation from LiDAR Point Cloud Data: D Anderson, **D P Ames**, P Yang

EP44C Moscone South: 310 Thursday 1600h
Morphogenesis, From Microscale Experiments to Landscape Dynamics II (joint with B, H, NG)

Presiding: **C Narteau**, Institut de Physique du Globe de Paris; **C Paola**, University of Minnesota; **E Lajeunesse**

1600h **EP44C-01** Self-formed Dynamic Meandering Rivers and Floodplains in the Laboratory: Necessary and Sufficient Conditions: **M G Kleinhans**, W M van Dijk, W I van de Lageweg, H Markies, T van der Gon-Netscher, H van de Meer, M van Maarseveen, G Postma

1615h **EP44C-02** Physical basis for anomalous sediment dispersion: **R L Martin**, D J Jerolmack, C T Kasserian

1630h **EP44C-03** Coupled dynamics of the co-evolution of surface roughness, shear stress and sediment flux in an experimental flume: E Foufoula-Georgiou, **A Singh**, F Porte-Agel

1645h **EP44C-04** WITHDRAWN

1700h **EP44C-05** Persistence of exponential bed thickness distributions in the stratigraphic record: Experiments and theory: **K M Straub**, V K Ganti, C Paola, E Foufoula-Georgiou

1715h **EP44C-06** Fluvial response to base-level change in a back-tilted subsiding basin: E A Hajek, **A L Petter**, C Paola

1730h **EP44C-07** Surface Processes and Hack's law: **R Walcott**

1745h **EP44C-08** Influence of spatially variable precipitation on passive margin escarpment evolution: **A M Anders**, J Colberg, S W Nesbitt

Geodesy

G44A Moscone West: 2008 Thursday 1600h
Combination of Geodetic Data Types to Address Current and Future Problems, Including Application to the Impending Loss of GRACE II (joint with T, IN, H, DI, C, GC)

Presiding: **E M Hill**, Earth Observatory of Singapore; **D R Roman**, NOAA's National Geodetic Survey

1600h **G44A-01** Status of the GRACE Follow-On Mission (Invited): **M M Watkins**, F Flechtner, B D Tapley

1615h **G44A-02** Reconstruction of Temporal Gravity Variations Before and After the GRACE Mission: **R Nerem**, F G Lemoine, D S Chinn

1630h **G44A-03** Understanding Ice Sheet Changes During the Gap between GRACE and the GRACE Follow-on (Invited): **W Abdalati**

1645h **G44A-04** Inferring Aquifer Storage Parameters Using GRACE and In-Situ Measurement: Estimation Under Data Uncertainty (Invited): **A Y Sun**, R T Green, M Rodell, S C Swenson

1700h **G44A-05** Global Simultaneous Estimation of Present-Day Surface Mass Transport and GIA From Data Combination: Methodology, Results and Perspectives (Invited): **X Wu**

1715h **G44A-06** Short-Term versus Steady-State Crustal Deformation: Are Some Anomalies Driven by Transient Coupling with Mantle Flow? (Invited): **W E Holt**, M J Fouch, L M Flesch, E C Klein, J D West

1730h **G44A-07** Models of Active Mountain Building in Taiwan Constrained by GPS, Leveling, Geologic and Stress Observations (Invited): **K M Johnson**, K Ching, R Rau

1745h **G44A-08** Harmonic Expansions of Topographic Potential: X Yang, Y M Wang, **S A Holmes**, X Li, D R Roman

Global Environmental Change

GC44A Moscone West: 3005 Thursday 1600h
Challenges in Understanding and Modeling Global-Regional Climate Connections I (joint with A, C, OS, H, NG)

Presiding: **P D Sardeshmukh**, CIRES Climate Diagnostics Center; **G P Compo**, University of Colorado

1600h **GC44A-01** Dynamic and Thermodynamic Feedbacks and the Spatial Response to Climate Change (Invited): **D L Hartmann**, C Garfinkel, M D Zelinka

1615h **GC44A-02** Climate Model Misrepresentations of Tropical SSTs and their Global Implications: **P D Sardeshmukh**, S Shin

1630h **GC44A-03** Rethinking the Ocean's Role in the Southern Oscillation: **A C Clement**, P N Di Nezio, C Deser

1645h **GC44A-04** Insights on ENSO characteristics in IPCC/CMIP3 models and their relation to mean state biases using a linear intermediate model: **J Leloup**, D Vimont, D S Battisti, W Robert

1700h **GC44A-05** Mitigating Systematic Biases in Regional Climate Change Projections (Invited): **L M Goddard**, A M Greene

1715h **GC44A-06** Regional Responses to Stratospheric Geoengineering: The Need for GeoMIP (Geoengineering Model Intercomparison Project) (Invited): **A Robock**, B S Kravitz

1730h **GC44A-07** Air temperature variations on the Atlantic - Arctic boundary since 1802: the low-frequency pattern and ocean teleconnections: **K R Wood**, J E Overland, T Jónsson, B V Smoliak

1745h **GC44A-08** Why can't climate models capture the observed connection between seasonal snow cover and the Northern Annular Mode?: **K L Smith**, P J Kushner, C G Fletcher, J L Cohen

GC44B Moscone West: 3001 Thursday 1600h
The Third Pole Environment (TPE) Under Global Changes IV
(joint with A, C, H, B)

Presiding: **T Yao**, Inst of Tibetan Plateau Res; **L G Thompson**, Ohio State University; **V Mosbrugger**, Senckenberg Research Center for Nature Study; **Y Sheng**, UCLA

1600h **GC44B-01** Lake System Response to Late Quaternary Monsoon Dynamics on the Tibetan Plateau (*Invited*): **G Gleixner**, F Guenther, R Mäusbacher, G Daut, S Doberschütz, T Haberzettl, B Schütt, A Schwalb, P Frenzel, S Mischke, C Wrocyna, T Yao, B Xu, L Zhu, S Kang, C Yi, S Wagner, Title of Team: TiP lake consortium

1630h **GC44B-02** THE ROLE OF GLACIERS IN THE HYDROLOGY OF NEPAL (*Invited*): **R L Armstrong**, A Racoviteanu, D Alford

1700h **GC44B-03** A dipole mode of precipitation variability in north and south Tibetan plateau: **K Duan**

1715h **GC44B-04** WITHDRAWN

1730h **GC44B-05** Linking Large-scale, Long-term Modeling and Micro-scale, Short-term Process Studies to Assess Climate-driven Changes in Hydrological Dynamics in the Nam Co Basin, Tibet, China: S Biskop, P Krause, R Leiterer, **J Helmschrot**

1745h **GC44B-06** Large magnitude change of water isotope influence by various factors over the Tibetan Plateau region: **L Tian**, T Yao, W Yu

Hydrology

H44A Moscone West: 3018 Thursday 1600h
Is Microscale Information Needed in Reactive Transport Models? II (joint with GC, V)

Presiding: **T Schaefer**, Karlsruhe Institute of Technology (KIT); **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC); **P Gouze**, Géosciences Montpellier

1600h **H44A-01** Can nuclear magnetic resonance provide useful microscale data for quantitative testing of reactive transport models? (*Invited*): **J D Seymour**, S L Codd

1615h **H44A-02** Response of Multiphase Flow to Microtopography of Rock Fractures: **M W Becker**, C F Burke

1630h **H44A-03** Diffusion in Altered Tonalite Sample Using Time Domain Diffusion Simulations in Tomographic Images Combined with Lab-scale Diffusion Experiments: **M Voutilainen**, P Sardini, L Togneri, M Siitari-Kauppi, J Timonen

1645h **H44A-04** CFD modeling of fluid flow and solute transport in a μ XCT scanned natural fracture: Impact of fracture geometry on solute transport: **F M Huber**, F Enzmann, A Wenka, M Dentz, T Schaefer

1700h **H44A-05** The Importance of Parameter Variances, Correlations Lengths, and Cross-Correlations in Reactive Transport Models: Key Considerations for Assessing the Need for Microscale Information (*Invited*): **P W Reimus**

1715h **H44A-06** A New Approach to Simulate the Kinetics of Metal Desorption from Mineral Surfaces: **R M Tinnacher**, B A Powell, A B Kersting, M Zavarin

1730h **H44A-07** When is Small Scale Information Important in Determining Large Scale Mineral Dissolution Rates? (*Invited*): **L Li**, F Salehikhoo, S L Brantley

1745h **H44A-08** Uranium transport experiments at the intermediate scale: Do more heterogeneous systems create more complex behaviors?: **A W Miller**, D Rodriguez, B Honeyman

H44B Moscone West: 3016 Thursday 1600h
Physically Based Hydrologic Modeling: Advances and Challenges III (joint with EP, A, B)

Presiding: **B B Mirus**, US Geological Survey; **B A Ebel**, US Geological Survey

1600h **H44B-01** Recent advances in modeling the coupled hydrologic cycle: Connecting atmospheric processes, land energy fluxes and hydrology (*Invited*): **R M Maxwell**, I M Ferguson, J K Lundquist, F K Chow, S J Kollet

1620h **H44B-02** Modelling root soil-water extraction of two different root systems in 3D: **M Bouda**, J E Saiers

1636h **H44B-03** Simulating Water Flow in Variably Saturated Soils – Exploring the Advantage of Three-dimensional Models: **L Hopp**, V Y Ivanov

1652h **H44B-04** Perched Soil Zone (PSZ) Aquifer Package for MODFLOW-2005: **W Henson**, R G Niswonger

1708h **H44B-05** An Improved “Low-Dimensional” State-Space Model for Unsaturated Flow in Fractured Porous Catchments: **A M Ireson**, A P Butler, H S Wheater

1724h **H44B-06** Watershed reanalysis: data assimilation from strip charts to embedded sensor networks (*Invited*): **C Duffy**, M Kumar, G Bhatt, L N Leonard, X Yu, Y Shi, K J Davis, G Holmes

1744h **H44B-07** Modeling the runoff regime of the glacierised upper Aconcagua River Basin using a physically-based distributed hydrological model: the value of short term glaciological observations: S Ragettli, **F Pellicciotti**, D Molnar, S Rimkus, J Helbing, F Escobar, P Burlando

H44C Moscone West: 3014 Thursday 1600h
Predicting Behavior of Freshwater Systems in a Changing Environment III (joint with B)

Presiding: **M Sivapalan**, Univ of Illinois at Urbana Champaign; **A I Packman**, Northwestern University; **M A Hassan**, Univ British Columbia; **J Wilson**, University of Illinois at Urbana-Champaign

1600h **H44C-01** Modeling global scale sediment flux, a new component in the spatially distributed Framework for Aquatic Modeling of Earth System (FrAMES): **S Cohen**, A J Kettner, J P Syvitski

1615h **H44C-02** Are Human influences responsible for the existence and possible drowning of (parts of) the Ebro Delta, Spain?: **A J Kettner**, F Xing, A D Ashton

1630h **H44C-03** Anthropogenic Signatures in Nutrient Loads Exported from Managed Catchments: Emergence of Effective Biogeochemical Stationarity: **N B Basu**, G Destouni, J W Jawitz, S E Thompson, A Rinaldo, M Sivapalan, P C Rao

1645h **H44C-04** Dynamics of nitrogen saturation in river networks. (*Invited*): **W M Wollheim**, R J Stewart, M N Gooseff, M Green

1700h **H44C-05** Catchment Hydro-biogeochemical Response to Climate Change and Future Land-use: **A G Abdelnour**, M Stieglitz, R Mckane, F Pan

1715h **H44C-06** Linking observed break-through curves from tracer injections in streams to experimental and environmental conditions: **A F Aubeneau**, J D Drummond, T P Covino, N B Basu, S S Rao, R Schumer, J Tank, A I Packman

1730h **H44C-07** Daily Water Temperature and River Discharge Modeling for Climate Change Impact Assessment in Large River Basins Globally: **M T van Vliet**, J R Yearsley, W H Franssen, F Ludwig, I Haddeland, D P Lettenmaier, P Kabat

1745h **H44C-08** A conceptual model for the growth, persistence, and blooming behavior of the benthic mat-forming diatom *Didymosphenia geminata* (*Invited*): **J D Cullis**, C Gillis, M Bothwell, C Kilroy, A I Packman, M A Hassan

H44D Moscone West: 3020 Thursday 1600h
Transport of Particles and Biocolloids in Surfacewaters and Groundwaters: From Sediment-Sized Particles to Nanoparticles, Emerging Contaminants, and Microorganisms III (*joint with B*)

Presiding: **J F Schijven**, National Institute of Public Health and the Environment; **W P Johnson**, University of Utah; **S A Bradford**, USDA, ARS, Salinity Laboratory; **P S Knappett**, Helmholtz Center for Environmental Health Munich

1600h **H44D-01** WITHDRAWN

1615h **H44D-02** Transport of Bacteria and Virus-Sized Particles and Bacteriophage from Ground Surface to Depth in a Bedrock Aquifer – A Field Experiment: **K S Novakowski**, S Trimper, T Praamsma, S Springthorpe

1630h **H44D-03** Upscaling of adsorptive transport under unsaturated conditions (*Invited*): **A Raoof**, S M Hassanizadeh

1645h **H44D-04** Influence of porous media structure in colloid retention in the absence of an energy barrier: **E F Pazmino**, W P Johnson, H Ma

1700h **H44D-05** Collector Efficiency Equations for Colloid Filtration in Saturated Porous Media (*Invited*): **T R Ginn**, K E Nelson

1715h **H44D-06** Comparing laboratory column test treatments with field profiles of fecal indicator bacteria and virus from concentrated source areas: **J Feighery**, P Culligan, A S Ferguson, B J Mailloux, L D McKay, K Ahmed, M Alam, M Huq, M Emch, M L Serre, M Yunus, A van Geen

1730h **H44D-07** Characteristic Time Scales of Transport Processes for Chemotactic Bacteria in Groundwater: Analysis of Pore-scale to Field-scale Experimental Data: **R M Ford**

1745h **H44D-08** Distribution of Dechlorinating Bacteria between the Aqueous and Solid Phases: **N L Cápiro**, J K Hatt, Y Wang, F E Loeffler, K D Pennell

Earth and Space Science Informatics

IN44A Moscone South: 309 Thursday 1600h
Large-Scale Geosciences Applications Using GPU and Multicore Architectures II (*joint with NG, P*)

Presiding: **D A Yuen**, University of Minnesota; **D L Rosenberg**, NCAR; **C Ng**, Geophysical Institute; **G Erlebacher**, Florida State University

1600h **IN44A-01** Acceleration of low order finite element computation with GPUs (*Invited*): **M G Knepley**

1620h **IN44A-02** Porting fluid and kinetic plasma models for space plasma physics to heterogeneous architectures: Benefits and Challenges (*Invited*): **K Germaschewski**, J Raeder, H Ruhl

1640h **IN44A-03** Accelerating Simulation of Seismic Wave Propagation by Multi-GPUs (*Invited*): **T Okamoto**, H Takenaka, T Nakamura, T Aoki

1700h **IN44A-04** Pore-scale lattice-Boltzmann fluid flow simulations in super-critical CO₂/brine/rock systems using graphics processing units: **S D Walsh**, M O Saar, J B Randolph

1712h **IN44A-05** Large-scale Reduced MHD Simulations of Coronal Heating via GPGPUs: **L Lin**, C Ng, A Bhattacharjee

1724h **IN44A-06** GPU Implementation of High Rayleigh Number Three-Dimensional Mantle Convection: **D A Sanchez**, D A Yuen, G B Wright, G A Barnett

1736h **IN44A-07** Massive parallelization of a 3D finite difference electromagnetic forward solution using domain decomposition methods on multiple CUDA enabled GPUs: **A Schultz**

1748h **IN44A-08** GPU Implementation of Two-Dimensional Rayleigh-Benard Code with High Resolution and Extremely High Rayleigh Number: **C M Gonzalez**, D A Sanchez, D A Yuen, G B Wright, G A Barnett

IN44B Moscone South: 302 Thursday 1600h
Use of Ontologies in Earth Science Informatics II (*joint with A, B, C, H, GC, OS, V*)

Presiding: **M Piasecki**, Drexel University; **I Zaslavsky**, University of California, San Diego; **R G Raskin**, Jet Propulsion Laboratory

1600h **IN44B-01** Semantic rules and inference make a comeback, watch out query! (*Invited*): **P A Fox**

1615h **IN44B-02** Ontologies Come of Age Revisited (*Invited*): **D L McGuinness**

1630h **IN44B-03** Revised Ontology Improves United States Water-Quality Data Sharing (*Invited*): **J C Scott**, D Gellenbeck, K Gunthardt

1645h **IN44B-04** An Ontology for the Discovery of Time-series Data: **R P Hooper**, Y Choi, M Piasecki, I Zaslavsky, D W Valentine, T Whitenack

1700h **IN44B-05** A core observational data model for enhancing the interoperability of ontologically annotated environmental data: **M Schildhauer**, L E Bermudez, S Bowers, P C Dibner, C Gries, M B Jones, D L McGuinness, H Cao, S J Cox, S Kelling, C Lagoze, H Lapp, J Madin

1715h **IN44B-06** SWEET 2.1 Ontologies: **R G Raskin**

1730h **IN44B-07** Semantics Enabled Queries in EuroGEOSS: a Discovery Augmentation Approach: **M Santoro**, P Mazzetti, C Fugazza, S Nativi, M Craglia

1745h **IN44B-08** The MMI Device Ontology: Enabling Sensor Integration: **C Rueda**, N Galbraith, R A Morris, L E Bermudez, J Graybeal, R A Arko, Title of Team: MMI Device Ontology Working Group

Nonlinear Geophysics

NG44A Moscone South: 305 Thursday 1600h
Statistical Geophysics I (*joint with A, B, H, OS, EP, NH, G, S*)

Presiding: **K F Tiampo**, University of Western Ontario; **D L Turcotte**, University of California, Davis; **W Klein**, Boston University

1600h **NG44A-01** On the Generation of the Earth's low Frequency "Hum" Through non-Linear Interactions Between Atmosphere, Ocean and Solid Earth (*Invited*): **B A Romanowicz**, J Rhie, D Dolenc

1615h **NG44A-02** The Critical Point Model for Large Earthquakes Revisited (*Invited*): **C G Sammis**

1630h **NG44A-03** Steady-state statistical mechanics of model and real earthquakes (*Invited*): **I G Main**, M Naylor

1645h **NG44A-04** Worldwide seismic clustering and correlations with regional physical properties: A Hicks, **I Zaliapin**, Y Ben-Zion

1700h **NG44A-05** A unifying phase diagram for the dynamics of sheared solids and granular materials (*Invited*): **Y Ben-Zion**, K Dahmen

1715h **NG44A-06** The Effect of Damage on Earthquake Scaling and Forecasting: **W Klein**, C Serino, K F Tiampo, J B Rundle

1730h **NG44A-07** Damage and the Gutenberg-Richter Law: from simple models to natural earthquake fault systems: **K F Tiampo**, W Klein, J B Rundle, R Dominguez, C Serino

1745h **NG44A-08** Preliminary Results from SCEC Earthquake Simulator Comparison Project: **T E Tullis**, M Barall, K B Richards-Dinger, S N Ward, E Heien, O Zielke, F F Pollitz, J H Dieterich, J B Rundle, M B Yikilmaz, D L Turcotte, L H Kellogg, E H Field

Natural Hazards

NH44A Moscone West: 3010 Thursday 1600h
Transmitting Hazard Science to End Users: What Works, What Doesn't and What's Needed? III (*joint with G, PA, S, V, EP*)

Presiding: **L M Jones**, U.S. Geological Survey; **D Applegate**, USGS

1600h **NH44A-01** Science for decision making: Transmitting hazard science using catastrophic scenarios: **A Wein**

1615h **NH44A-02** Ten Tips for Talking to Townies: Observations on Risk Communication from the Multihazards Demonstration Project: **K A Porter**, L M Jones

1630h **NH44A-03** Time Horizon and Social Scale in Communication: **D H Krantz**

1645h **NH44A-04** Studying and Improving Human Response to Natural Hazards: Lessons from the Virtual Hurricane Lab: **R Meyer**, K Broad, B S Orlove

1700h **NH44A-05** Lessons learned from an emergency release of a post-fire debris-flow hazard assessment for the 2009 Station fire, San Gabriel Mountains, southern California: **S H Cannon**, S C Perry, D M Staley

1715h **NH44A-06** NOAA/National Weather Service Support in Response to the Threat of Debris Flows from the 2009 Station Fire in Los Angeles County: Lessons Learned in Hazard Communications and Public Response: **M Jackson**, J L Laber, E Boldt

1730h **NH44A-07** Reducing Community Vulnerability to Wildland Fires in Southern California: **J E Keeley**

1745h **NH44A-08** Anticipating and Communicating Plausible Environmental and Health Concerns Associated with Future Disasters: The ShakeOut and ARKStorm Scenarios as Examples: **G S Plumlee**, S A Morman, C N Alpers, T M Hoefen, G P Meeker

Near Surface Geophysics

NS44A Moscone West: 3022 Thursday 1600h
Beyond the Case History: Novel Seismic Methods and Applications II (*joint with S*)

Presiding: **J M Lorenzo**, Louisiana State University; **T E Blum**, Boise State University

1600h **NS44A-01** From Seismic Resonance to Sediment Thickness: Ambient Seismic Noise Analysis Using the Horizontal-to-Vertical Spectral Ratio (HVSr) Method (*Invited*): **J W Lane**, E B Voytek, F Stumm, A Chu, J Hunter, A Pugin, G Fairchild, E A White, C D Johnson

1620h **NS44A-02** WITHDRAWN

1640h **NS44A-03** Simultaneous estimation of water saturation and porosity in the vadose zone by common parameterization of seismic p-wave and GPR velocities (*Invited*): **J H Bradford**

1700h **NS44A-04** Multi-level continuous active source seismic monitoring (ML-CASSM): Application to shallow hydrofracture monitoring: **J B Ajo Franklin**, T M Daley, B Butler-Veytia, J Peterson, E Gasperikova, S S Hubbard

1720h **NS44A-05** Stability properties of an algorithm for estimating porosity from body wave measurements: **J Crempien**, C Lai

1740h **NS44A-06** Estimating seismic attenuation in methane hydrate bearing sediments in the Nankai Trough, Japan: **K Lee**, J Matsushima

Ocean Sciences

OS44A Moscone West: 3009 Thursday 1600h
Fluid Flow and Gas Hydrates in Continental Margins II (*joint with GC, NH, PP, V*)

Presiding: **C Berndt**, IFM-GEOMAR; **S Planke**, Volcanic Basin Petroleum Rsch

1600h **OS44A-01** Seismic Characterization of a Bottom Simulating Reflector (BSR) and Plumbing System of the Cameroon Margin, West Africa: **A N Le**, M Huuse, J Redfern, D H Irving

1615h **OS44A-02** Observed temporal hydrate-pingo alteration at pockmark G11, Nyegga, - an important climate-change signal?: **M T Hovland**

1630h **OS44A-03** Controls on mound formation and effects of fluid ascent on the gas hydrate system of mound structures offshore Costa Rica: L Planert, D Klaeschen, **C Berndt**, C Hensen, W Brueckmann

1645h **OS44A-04** Constraints on Methane and Methane Hydrate Distribution at a Gulf of Mexico Seep Using Waveform Inversion of Seismic Data: **W Wood**, C C Knapp, J H Knapp

1700h **OS44A-05** Growth of gas hydrate mounds and gas chimneys of the eastern margin of Japan Sea as revealed by MBES, SSS and SBP of AUV: **R Matsumoto**, M Satoh, M Hiromatsu, H Tomaru, H Machiyama

1715h **OS44A-06** Seismic imaging of a cold seep site offshore southwestern Taiwan: **C Liu**, H Hsu, S Morita, S Tu, C Ku, S Lin, H Machiyama, W Soh

1730h **OS44A-07** WITHDRAWN

1745h **OS44A-08** Seismic Evidence for Fluid Flow along Re-activated Backstop Interface During/After 2004 and 2007 Great Sumatran Earthquakes: A Chauhan, **S C Singh**, N D Hananto

OS44B Moscone West: 3007 Thursday 1600h
Nearshore Processes II (*joint with EP*)

Presiding: **C Chickadel**, University of Washington; **J W Long**, USGS; **H F Stockdon**, U.S. Geological Survey; **D Foster**, University of New Hampshire; **G R Pawlak**, University of Hawaii

1600h **OS44B-01** Investigating Coastal Processes and Hazards Along the Coastline of Ghana, West Africa (*Invited*): **C J Hapke**, A D Ashton, G Wiafe, K A Addo, S Ababio, K A Agyekum, T C Lippmann, J Roelvink

1615h **OS44B-02** Generation of Wind Waves in the Persian Gulf: A Numerical Investigation: **Y Liao**, J M Kaihatu

1630h **OS44B-03** Southern California Beaches during the El Niño Winter of 2009/2010: **A Doria**, R T Guza, M L Yates, W O'Reilly

1645h **OS44B-04** Predicting Waves in the Pacific Northwest of the US: **H T Ozkan-Haller**, J A Oskamp, G Garcia, S Kassem, J McNutt

1700h **OS44B-05** WITHDRAWN

1715h **OS44B-06** Ocean wave reconstruction from inland seismic records: **A Balanche**, F Arduin, E Stutzmann

1730h **OS44B-07** Shore-based Photogrammetry of Surface Oil Films: **J Whitefield**, N Record, A J Pershing

1745h **OS44B-08** Modeling of Tsunami Currents in Harbors:
P J Lynett

Planetary Sciences

P44A Moscone South: 301 Thursday 1600h
Exploring Venus I (*joint with A, SA*)

Presiding: **J Helbert**, DLR; **S E Smrekar**, Jet Propulsion Laboratory

1600h **P44A-01** AKATSUKI status after the Venus orbit insertion:
M Nakamura, N Ishii, T Imamura, M Ueno, A Yamazaki, T Satoh,
M Suzuki, N Iwagami, M Taguchi, S Watanabe, Y Takahashi,
T Fukuhara, S Ohtsuki, Title of Team: PLANET-C Project Team

1615h **P44A-02** Optical properties of the upper Venus clouds
and haze as inferred from the Venus Monitoring Camera data:
W J Markiewicz, E Petrova, O Shalygina, N Ignatiev, D Titov

1630h **P44A-03** Periodical oscillation of zonal wind velocities at the
cloud top of Venus: **T Kouyama**, T Imamura, M Nakamura, T Satoh,
Y Futaana

1645h **P44A-04** Structure and Dynamics of the Upper Ionosphere
of Venus: **A Angsmann**, M Fraenz, E Dubinin, J G Woch, N Krupp,
S Barabash, M Paetzold, T Zhang, U M Motschmann

1700h **P44A-05** Venus Lightning: Statistical Properties from
Venus Express Magnetic Field Observations: **J Daniels**, C T Russell,
R J Strangeway, H Wei, T Zhang

1715h **P44A-06** Observing the surface of Venus after VIRTIS on
VEX: **J Helbert**, N T Mueller, R Nadalini, A Maturilli, S E Smrekar

1730h **P44A-07** Remote Raman - Laser Induced Breakdown
Spectroscopy (LIBS) Geochemical Investigation under Venus
Atmospheric Conditions: **S M Clegg**, J E Barefield, S Humphries,
R C Wiens, D T Vaniman, S K Sharma, A K Misra, M D Dyar,
S E Smrekar

1745h **P44A-08** A Study of Venus Surface Elemental Composition
From 14-MeV Neutron Induced Gamma Ray Spectroscopy:
Activation Analysis: **I Jun**, W Kim, M Smith, I Mitrofanov, M L Litvak

P44B Moscone South: 306 Thursday 1600h
**Mineralogical Studies of Impact Craters: Exhumed Crust,
Hydrothermal Processes, and Post Impact Weathering I** (*joint
with EP, MR*)

Presiding: **J R Michalski**, Planetary Science Institute; **P B Niles**,
NASA JSC; **S P Wright**, University of New Mexico

1600h **P44B-01** Melting of Permafrost on Mars in the Formation of
Large Impact Craters (*Invited*): **E Pierazzo**, B A Ivanov

1615h **P44B-02** Evaluating the Historical Importance of Impact
Induced Hydrothermal Systems on Mars using the Stable Isotopic
Composition of Martian Water: **P B Niles**

1630h **P44B-03** Impact-generated hydrothermal systems on
Noachian Mars: Clays, carbonates and more (*Invited*): **S P Schwenzer**,
O Abramov

1645h **P44B-04** Deep crustal carbonate rocks exposed by meteor
impact on Mars: **J R Michalski**, P B Niles

1700h **P44B-05** Impact Craters as Probes of the Ancient Martian
Southern Highlands: Insights on Aqueous Alteration (*Invited*):
B L Ehlmann, D Buczkowski, R N Clark, S L Murchie, J F Mustard,
K D Seelos, J R Skok, G A Swayze, Title of Team: the MRO-CRISM
team

1715h **P44B-06** Excavation of buried hydrated minerals on Mars by
impact cratering? (*Invited*): **J Carter**, F Poulet, D Loizeau, J Bibring

1730h **P44B-07** High-resolution morphologic and spectral
characteristics of Crater-exposed Bedrock on Mars: Insights into
the petrogenesis, stratigraphy and geologic history of the Martian
crust: **L L Tornabene**, C M Caudill, A S McEwen, G Osinski, J J Wray,
J F Mustard, J R Skok, G Marzo, J A Grant

1745h **P44B-08** Can Single Crystal (U-Th)/He Zircon Ages from
Nördlinger Ries Suvite be Linked to Impact-Related Shock Effects?:
M C Van Soest, F J Cooper, J Wartho, K Hodges, E Buchner,
M Schmieder, C Koeberl

Paleoceanography and Paleoclimatology

PP44A Moscone West: 2005 Thursday 1600h
Interglacial Climate Variability III (*joint with B, C*)

Presiding: **A H Voelker**, Laboratorio Nacional de Energia e Geologia
(LNEG); **Q Yin**, Université catholique de Louvain

1600h **PP44A-01** Fluctuating sea levels during the Last Interglacial:
termination, oscillation, and glacial inception: **W G Thompson**

1615h **PP44A-02** European warming linked to Greenland melting
during the Last Interglacial North Atlantic climate optimum:
M Sanchez Goni, E Michel, **S Desprat**, A E Carlson, F Naughton,
W J Fletcher, L Rossignol

1630h **PP44A-03** Did Marine Isotope sub-Stage 5e warmth vary in
1,500-year cycles?: **Z Mokeddem**, J F McManus

1645h **PP44A-04** The Eemian Climate Controversy in the Polar
North: **H A Bauch**, E S Kandiano, N Van Nieuwenhove

1700h **PP44A-05** The Last Interglacial represented in the
glaciochemical record from Mount Moulton Blue Ice Area, West
Antarctica: **E Korotkikh**, P A Mayewski, M Handley, S B Sneed,
D Introne, A Kurbatov

1715h **PP44A-06** WITHDRAWN

1730h **PP44A-07** Holocene precipitation changes in the deep
tropics recorded by Speleothems (*Invited*): **X Wang**, A S Auler,
R Edwards, X Kong, H Cheng, F W Cruz, Y Wang, W S Broecker

1745h **PP44A-08** Global Holocene Temperature Variations:
S A Marcott, J D Shakun, P U Clark, A C Mix, N G Pisias

PP44B Moscone West: 2003 Thursday 1600h
Paleoclimate Insights From Vegetation Proxies and Models I
(*joint with GC, B*)

Presiding: **I S Castañeda**, Royal Netherlands Institute for Sea
Research; **A Henderson**, Pennsylvania State University; **M A Berke**,
University of Minnesota

1600h **PP44B-01** Pollen-based reconstructions of bioclimatic
variables for the mid-Holocene and LGM: issues and strategies in
diagnosing and benchmarking paleoclimatic simulations (*Invited*):
P J Bartlein, Title of Team: Late-Quaternary Quantitative Climate
Reconstruction Working Group

1615h **PP44B-02** Three climate cycles of millennial-scale vegetation
change in Africa (*Invited*): **L M Dupont**

1630h **PP44B-03** In the hot seat : Insolation and ENSO controls
on vegetation productivity in tropical Africa inferred from NDVI:
S Ivory, J L Russell, A S Cohen

1642h **PP44B-04** Links Between the Hydrological Cycle and Carbon
Cycle Constrained with Stable Isotope Ratios of Leaf Waxes in an
Alaskan Peatland: **J E Nichols**, D M Peteet, P D Isles, B Tabanpour,
C M Moy

1654h **PP44B-05** Paleovegetation and paleoclimate of NE Africa 12-
1Ma (*Invited*): **S J Feakins**, T I Eglinton

1709h **PP44B-06** Climate controls on savanna C₃ and C₄ expansion in Southern Africa during the last 36 kyr BP: **Y V Wang**, T Larsen, N Andersen, T Blanz, R R Schneider

1721h **PP44B-07** High-latitude ecosystem changes enable late Paleozoic glacial-interglacial cycles: **D E Horton**, C J Poulsen

1733h **PP44B-08** Paleo-shade: woody cover, stable isotopes, soil temperature, and soil organic matter in tropical ecosystems (*Invited*): **T E Cerling**, S Andanje, D Kimutai, N E Levin, W D Mace, A N Macharia, B H Passey, C Remien, J G Wynn

1748h **PP44B-09** Three and half million year vegetation history of South West Africa and its implications for human evolution: **M A Maslin**, R D Pancost

SPA-Magnetospheric Physics

SM44A Moscone South: I03 Thursday 1600h
Van Allen Lecture (Webcast) (*joint with SH, SA*)

Presiding: **J J Sojka**

1600h **Introduction**

1605h **SM44A-01** Plasma and Field Boundaries in Space:
B U Sonnerup

SM44B Moscone South: I03 Thursday 1700h
SPA Decadal Survey (*joint with SA, SH*)

Presiding: **J J Sojka**; **D N Baker**, University of Colorado

Mineral and Rock Physics

MR44A Moscone West: 3024 Thursday 1600h
Melt-Solid Density Inversions in the Earth and Planetary Interiors II (*joint with DI*)

Presiding: **J W Hernlund**, University of California, Berkeley;
A Kavner, UCLA

1600h **MR44A-01** The composition of hydrous partial melt at 410 km: Geodynamic implications (*Invited*): **M Mookherjee**, D J Frost

1615h **MR44A-02** Advanced Elasticity and Density Measurements on Melts at Mantle Pressures Using Ultrasonic Interferometry and Synchrotron X-radiation: **B Li**, W Liu

1630h **MR44A-03** Experimental Compressibility of Molten Hedenbergite at High Pressure: **C B Agee**, R G Barnett, X Guo, R A Lange, C Waller, P D Asimow

1645h **MR44A-04** Melting of Peridotite to 140 GPa (*Invited*):
G Fiquet, A Auzende, J Siebert, A Corgne, H Bureau, H Ozawa, G Garbarino

1700h **MR44A-05** Spin crossover and iron-rich silicate melt in the Earth's deep mantle (*Invited*): **K Hirose**, R Nomura, H Ozawa, S Tateno, J W Hernlund

1715h **MR44A-06** Equation of state of molten fayalite (Fe₂SiO₄):
C Waller, Q Liu, C B Agee, P D Asimow, R A Lange

1730h **MR44A-07** Silicate liquids at the base of the mantle (*Invited*):
L P Stixrude, B B Karki

1745h **MR44A-08** Universality in Melt-densification in Magmatic Reservoirs in Earth's Interior: Insights from Magnetic Resonance Spectroscopy: **S Lee**

Seismology

S44A Moscone West: 2007 Thursday 1600h
Advances in Inverse Problems and Seismic Tomography V (*joint with T, DI, NH, NS*)

Presiding: **A Fichtner**, Utrecht University; **J V Morgan**, Imperial College London

1600h **S44A-01** Object-Based Probabilistic Full Waveform Tomography. - Methodology and Application to the Australian Continental Lithosphere: **P Käufel**, A Fichtner, H Igel

1615h **S44A-02** Full-3D Waveform Tomography for Southern California: **E Lee**, P Chen, T H Jordan, P J Maechling, M Denolle, G C Beroza

1630h **S44A-03** Time reversal seismic imaging using laterally reflected surface waves in southern California: **C Tape**, Q Liu, J Tromp, A Plesch, J H Shaw

1645h **S44A-04** 3D High-Resolution Seismic Tomography in the Upper Mantle of Gulf of California Region by SEM Seismogram Simulation and Adjoint Inversion: **Y Wang**, D W Forsyth, B Savage

1700h **S44A-05** High-resolution Three-dimensional Seismic Velocity and Attenuation Models in the Salton Trough, California: **G Lin**

1715h **S44A-06** Uppermost mantle velocity structure obtained from USArray regional phase data: **J S Buehler**, P M Shearer

1730h **S44A-07** Surface wave propagation across the USArray: **A E Foster**, G Ekstrom, V Hjorleifsdottir

1745h **S44A-08** Identifying wavefront complexity and minimizing systematic bias in surface wave tomography: the 1-psi anisotropy signal: **F Lin**, M H Ritzwoller

S44B Moscone West: 2009 Thursday 1600h
Developments in Statistical Seismology: Research and Education IV (*joint with ED, T*)

Presiding: **A J Michael**, USGS; **M J Werner**, Princeton University;
J Woessner, ETH Zurich

1600h **S44B-01** Quasi-Periodic Recurrence of Large Earthquakes on the San Andreas Fault (*Invited*): **K M Scharer**, G P Biasi, R J Weldon, T Fumal

1615h **S44B-02** Periodic, chaotic, and doubled earthquake recurrence intervals on the deep San Andreas Fault: Implications for large earthquakes? (*Invited*): **D R Shelly**

1630h **S44B-03** Time-dependent global seismicity forecasts with a tectonic component: Retrospective tests: **P Bird**, Y Y Kagan, D D Jackson

1645h **S44B-04** Bayesian forecasting of the recurrent earthquakes and its predictive performance for a small sample size: **S Nomura**, Y Ogata

1700h **S44B-05** Solving for Earthquake Rupture Rates on a Complex Fault Network: **M T Page**, E H Field

1715h **S44B-06** SEISMICITY-BASED PATTERN RECOGNITION APPROACH OF FAULT PATTERN RECONSTRUCTION AND STATISTICS OF SEISMICITY AT THE FAULT SEGMENT SCALE: G Ouillon, **D Sornette**

1730h **S44B-07** Are earthquake magnitudes clustered?: A Green, **J Davidsen**

1745h **S44B-08** Bayesian Estimation of the Spatially Varying Completeness Magnitude of Earthquake Catalogs: **A Mignan**, M Werner, S Wiemer, C Chen, Y Wu

Tectonophysics

T44A Moscone West: 2016 Thursday 1600h
Exploring the Temporal and Spatial Variability in Fault Slip Rates II (*joint with G, NS, S*)

Presiding: **R J Phillips**, University of Leeds; **N Houlie**, School of Earth and Environment; **T J Wright**, University of Leeds

1600h **T44A-01** From geodesy to geological, similar slip rates at different time scales: The Dead Sea Fault example (*Invited*):

Y Klinger, M Le Beon, B J Meade, E Hetland

1615h **T44A-02** Secular Variation in Slip (*Invited*): **E Cowgill**, R D Gold

1630h **T44A-03** Temporal patterns of slip rate on the Little Lake fault, eastern California shear zone, from terrestrial lidar, cosmogenic radionuclides, and InSAR analysis (*Invited*): **C B Amos**, R Burgmann, A S Jayko, G Fisher, III, D H Rood

1645h **T44A-04** Spatiotemporal Patterns of Fault Slip Rates Across the Central Sierra Nevada Frontal Fault Zone: **D H Rood**, D Burbank, R C Finkel

1700h **T44A-05** WITHDRAWN

1715h **T44A-06** Consistency and Inconsistency Between Geodetic and Geologic Fault Slip Rates in Central Japan: **T Sagiya**, K Ozawa, M Ohzono, T Nishimura, Y Hoso

1730h **T44A-07** Slip rate of the Húsavík-Flatey Fault, North Iceland, derived from GPS and InSAR Time Series: **S Metzger**, S Jonsson

1745h **T44A-08** EVALUATING HYPOTHESES FOR THE ORIGIN OF THE GEOLOGIC/GEODETTIC RATE DISCREPANCY ALONG THE NORTH ANATOLIAN FAULT: **J F Dolan**, B J Meade

T44B Moscone West: 2011 Thursday 1600h
What Controls Strong Versus Weak Coupling on Subduction Interface Faults? II (*joint with G, S*)

Presiding: **R E Bell**, Imperial College London; **H Sato**, Earthquake Research Institute

1600h **T44B-01** The “Weak Asperity” Alternative (*Invited*): **K Wang**

1615h **T44B-02** Simulations of Slip History on Faults with Heterogeneous Rate-Weakening and Rate-Strengthening Properties: **J Avouac**, **S Barbot**, N Lapusta

1630h **T44B-03** Along-Strike and Down-Dip Variations in Subduction Zone Slip Deficit: Persistent or Transient? (*Invited*): **J T Freymueller**

1645h **T44B-04** Variable coupling controls the seismic segmentation and transient creep on the central Chile subduction: **M Metois**, A Socquet, C Vigny

1700h **T44B-05** Interseismic Megathrust Coupling near Nicoya, Costa Rica Between 1994 and 2010: **L Feng**, A V Newman, M Protti, V M Gonzalez, T H Dixon, Y Luo, Y Jiang

1715h **T44B-06** Backthrust Earthquake Clusters Over Intermittently Coupled Portion of the Sunda Megathrust: **K A Grijalva**, P Banerjee, K E Sieh, R Burgmann, D H Natawidjaja

1730h **T44B-07** Seismic and aseismic slip on the “uncoupled” Tonga subduction megathrust: **R J Beavan**, X Wang, M G Bevis, R C Kautoke

1745h **T44B-08** Strain Partitioning Between the Slab and the Upper Plate: Implications for the Deformational Efficiency of Subduction: **K P Furlong**

Volcanology, Geochemistry, and Petrology

V44A Moscone West: 2018 Thursday 1600h
Diffusion in Minerals and Melts I (*joint with MR*)

Presiding: **Y Zhang**, Univ of Michigan; **D J Cherniak**, Rensselaer Polytechnic Inst

1600h **V44A-01** Controls on cation diffusion in periclase (*Invited*):

J A Van Orman, K L Crispin, S Saha, D Morgan

1615h **V44A-02** Diffusion in the Muscovite ⁴⁰K Decay System (*Invited*): **T M Harrison**

1630h **V44A-03** Diffusion of REEs and Other Trivalent Cations in Garnet: New Data on Rates and Mechanism: **W D Carlson**

1645h **V44A-04** A lattice-Boltzman model for noble gas diffusion: **W S Cassata**, C Huber, P R Renne

1700h **V44A-05** Theoretical insights on the mobility and diffusive fractionation of incompatible elements in mantle rocks (*Invited*):

R Dohmen

1715h **V44A-06** Kinetics of crystal-melt interaction in multicomponent partially molten silicates: **Y Liang**

1730h **V44A-07** Flux Decoupling and Chemical Diffusion in Redox Dynamics in Aluminosilicate Melts and Glasses (*Invited*): **R F Cooper**

1745h **V44A-08** A different approach to multicomponent diffusion: **Y Zhang**

V44B Moscone West: 2022 Thursday 1600h
Earth's First Few Hundred Million Years III (*joint with GP, MR, DI, P, S, T*)

Presiding: **J Badro**, Institut de Physique du Globe de Paris; **J Badro**, Institut de Physique du Globe de Paris; **M J Walter**, University of Bristol; **M J Walter**, University of Bristol

1600h **V44B-01** The Acasta Gneisses revisited: Evidence for an early depleted mantle: **E E Scherer**, P Sprung, W Bleeker, K Mezger

1612h **V44B-02** Isotopic Evidence for Internal Oxidation of the Earth's Mantle During Accretion: **H M Williams**, B J Wood, J Wade, D J Frost, J Tuff

1624h **V44B-03** Constraints on Fe isotope fractionation between liquid metal and liquid silicate from experiments at 1 GPa and 1250-1300°C: **R C Hin**, M W Schmidt, J G Wiederhold, B Bourdon

1636h **V44B-04** Diamond anvil cell experiments applied to the geochemistry of Earth's core formation (*Invited*): **J Siebert**, F J Ryerson, D Antonangeli, A Corgne, A Ricolleau, P K Weber, J Badro

1651h **V44B-05** WITHDRAWN

1703h **V44B-06** Remnants of Ultradense Silicate Melt From a Deep Terrestrial Magma Ocean: **M Murakami**, J D Bass

1715h **V44B-07** Turbulent particle cloud experiments - implications for metal-silicate mixing and chemical equilibration in a magma pool: **R Deguen**, P Olson

1727h **V44B-08** Fragmentation of metal diapirs in terrestrial magma oceans: **H Samuel**, D C Rubie, H J Melosh

1739h **V44B-09** Convective models in young terrestrial planets with semi permeable surface: F Dubuffé, Y R Ricard, **S Labrosse**, M Ulvrova

V44C Moscone West: 2020 Thursday 1600h
Looking Backward and Forward: Volcanology in 2010 and 2020 III

Presiding: **J H Fink**, Arizona State University; **J C Eichelberger**, US Geological Survey

1600h **V44C-01** Volcanology 2020: Will Remote Sensing Of Volcanic Activity Continue To Evolve In The Next Decade?:

M S Ramsey, A J Harris

1615h **V44C-02** InSAR Volcanology 2010: the Past and Coming Decade (*Invited*): **H A Zebker**

1630h **V44C-03** Volcanic Conduits: **R S Sparks**

1645h **V44C-04** Experimental Volcanology: 2010 and 2020: **D B Dingwell**

1700h **V44C-05** A decadal view of magma fragmentation: **K V Cashman**, A Rust

1715h **V44C-06** Ten years of Developing International Volcanology Graduate Study Programs: **W I Rose**

1730h **V44C-07** Collection and Dissemination of Volcanic Hazard Information for Emergency Managers: **P J Mouginitis-Mark**, K A Horton, H Garbeil

1745h **V44C-08** The future of volcanic ash-aircraft interactions from technical and policy perspectives: **T J Casadevall**, M Guffanti

Friday A.M.

Union

U51A Moscone South: Poster Hall Friday 0800h
Dynamic Earth: Plates, Plumes, and Mantle Convection III Posters

Presiding: **W F McDonough**, University of Maryland; **M Gurnis**, California Institute of Technology

0800h **U51A-0001** POSTER The Influence of Damage on Drip Instabilities in Continental Lithosphere: **K A Paczkowski**, D Bercovici, W Landuyt, M T Brandon

0800h **U51A-0002** POSTER Large Edge Continental Rifting due to Destabilization of Thick Depleted Lithosphere: **L Fourel**, L Milelli, C P Jaupart

0800h **U51A-0003** POSTER Onset and structure of small scale convection: **W Landuyt**, G Ierley

0800h **U51A-0004** POSTER Heat Flow Partitioning Between Continents and Oceans - from 2D to 3D: **L N Moresi**, C M Cooper, A Lenardic

0800h **U51A-0005** POSTER Fabric Development in Ductile Shear Zones as the Key to Plate Tectonics: **L G Montesi**

0800h **U51A-0006** POSTER Generation of Plate Tectonics via Grain-Damage: **D Bercovici**, Y R Ricard

0800h **U51A-0007** POSTER Subduction zone dynamics influenced by the mechanical buckling of spherical shell-like large-scale oceanic lithospheres into the mantle: **T Eguchi**

0800h **U51A-0008** POSTER Global Dynamic Numerical Simulations of Plate Tectonic Reorganizations: **G Morra**, L Quevedo, N Butterworth, K J Matthews, D Müller

0800h **U51A-0009** POSTER From GPlates to BEM-Earth: Tectonic Reconstruction Data Mining and Geodynamic Simulations: L E Quevedo, **G Morra**, N Butterworth, K J Matthews, D Müller

0800h **U51A-0010** POSTER The subduction reference framework: M Seton, D Müller, M Gurnis, N Flament, **J Whittaker**

0800h **U51A-0011** POSTER Dynamic Earth Models: Sea Level and Vertical Motion of Continents since the Late Cretaceous: S Spasojevic, **M Gurnis**

0800h **U51A-0012** POSTER Cellular Convection with a raft: **J A Whitehead**, E K Shea, M D Behn

0800h **U51A-0013** POSTER The Influence of Plate Boundary Motion on Planform and Heat Flux in Viscously Stratified Mantle Convection Calculations: **J P Lowman**, S D King, S J Trim

0800h **U51A-0014** POSTER What Is a Plume: An Experimental Perspective on Heads, Tails and Entrainment: **C R Lithgow-Bertelloni**, W Newsome, D Davies, A J Cotel, S R Hart, J A Whitehead

0800h **U51A-0015** POSTER Plume capture by a migrating mid-ocean ridge: **N X Farahat**, P Hall, R H Kingsley

0800h **U51A-0016** POSTER Plume capture by a migrating ridge: Analog geodynamic experiments: **J S Mendez**, P Hall

0800h **U51A-0017** POSTER Exceptional Volumes of Rejuvenated Volcanism in Samoa: **J G Konter**, M Jackson, L Storm

0800h **U51A-0018** POSTER Stochastic Modeling of Trace Elements and Isotope Ratios in Basalts from the Easter Salas y Gomez Seamount Chain - Easter Microplate System: **R H Kingsley**, P Hall

0800h **U51A-0019** POSTER Major element and volatile variations of volcanic glasses from Shatsky Rise, sampled from IODP Expedition 324: **K Shimizu**, T Sano, W W Sager, J Geldmacher, N Shimizu, I 3 Scientific Party, Title of Team: IODP Expedition 324 Scientific Party

0800h **U51A-0020** POSTER Mapping mineralogical phase transformations from global seismic data: **L Boschi**, T W Becker, F Cammarano, S Speziale

0800h **U51A-0021** POSTER Mantle P-wave Velocity Structure beneath the Hawaiian Hotspot: **C J Wolfe**, S C Solomon, G Laske, J A Collins, R S Detrick, J A Orcutt, D Bercovici, E H Hauri

0800h **U51A-0022** POSTER Thermochemical plume models can reconcile upper-mantle seismic velocity structure beneath Hawaii: **M D Ballmer**, G Ito, C J Wolfe, S C Solomon, G Laske

0800h **U51A-0023** POSTER Rapid Mantle Ascent Rates Beneath Brazil: Diamond Bullets from a Smoking Plume?: **M J Walter**, D J Frost

0800h **U51A-0024** POSTER Asymmetry in plume-ridge interaction generated by spreading ridge geometry: **O C Shorttle**, J Maclennan, S M Jones

0800h **U51A-0025** POSTER Asymmetry in the expression of the Azores mantle heterogeneity along the Mid-Atlantic Ridge: Results from a numerical model of plume-triple junction interaction: **J E Georgen**

0800h **U51A-0026** POSTER A Precise Linear Sampler of Convective Circulation: New Images of V-shaped Ridges South of Iceland: **N J White**, T Henstock, S M Jones, B J Murton, J Maclennan

0800h **U51A-0027** POSTER Asthenospheric Shear Controls Global Patterns of Intraplate Volcanism: C P Conrad, **T A Bianco**, E I Smith, P Wessel

0800h **U51A-0028** POSTER Time-Dependence of Intraplate Volcanism Caused by Shear-Driven Upwelling of Low-Viscosity Regions of the Asthenosphere: **T A Bianco**, C P Conrad, E I Smith

0800h **U51A-0029** POSTER Inferring Nonlinear Mantle Rheology From the Shape of the Hawaiian Swell: N Asaadi, **N M Ribe**, F Sobouti

0800h **U51A-0030** POSTER Plume-asthenosphere-lithosphere Interactions Within a Plume-fed Asthenosphere: Implications for Hawaii- and Iceland-type Plume-linked Topography, Melting and Geoid Anomalies: **C Shi**, J P Morgan, J Hasenclever

0800h **U51A-0031** *POSTER* Reconsideration of mantle plume head structure and the formation of large igneous provinces: **W Leng**, M Gurnis

0800h **U51A-0032** *POSTER* Reconciliation of the Geophysical and Geochemical Observations: Inferences from Numerical Models of Thermochemical Mantle Convection: **J Huang**

0800h **U51A-0033** *POSTER* Numerical Study on plumes and thermochemical piles in plate-mode convection: **C Stein**, K Brannaschke, U Hansen

0800h **U51A-0034** *POSTER* Reservoirs of dense primitive material in the deep mantle as partial source of Ocean Island Basalt: **F Deschamps**, E Kaminski, P J Tackley

0800h **U51A-0035** *POSTER* Thermal evolution of Earth's mantle and core: Influence of reference viscosity and concentration of radioactive elements in the mantle: **T Nakagawa**, P J Tackley

0800h **U51A-0036** *POSTER* An Analytic Parameterized Thermal Convection Model Predicting Multiple Convective Regimes and Transition Behavior: **J W Crowley**, R J O'Connell, T Höink

U51B Moscone South: Poster Hall Friday 0800h
Innovative Approaches to Planetary Seismology II Posters

0800h **U51B-0037** *POSTER* The use of deep moonquakes for constraining the internal structure of the Moon: **R C Weber**, R Garcia, C L Johnson, M Knapmeyer, P Lognonne, Y Nakamura, N C Schmerr

0800h **U51B-0038** *POSTER* A Lunar Broad Band Seismometer on SELENE-2 / LUNETTE missions: Focus on VBB technical improvements: **T Nebut**, J Gagnepain-Beyneix, P Lognonne, N Kobayashi, D Giardini, U R Christensen, S De Raucourt, M Bierwirth, D Mimoun, P Zweifel, S Tillier, O Robert, N Escande, T Gabsi, B Lecomte, O Pot, D Mance, R Roll, H Shiraishi, R F Garcia, R Yamada, A Mocquet, B Banerdt, S Tanaka

0800h **U51B-0039** *POSTER* Lunar BroadBand Seismometer System in the Japanese lunar landing mission SELENE-2: its science goals and instrument details: **H Shiraishi**, N Kobayashi, N Takeuchi, H Murakami, P Lognonne, D Giardini, U R Christensen, T Okamoto, K Kuge, D Zhao, A Mocquet, D Mimoun, S De Raucourt, T Nebut, S Tillier, T Kawamura, D Mance, P Zweifel, M Bierwirth, R Roll, Y Ishihara, E Araki, K Ogawa, R Yamada, K Shirai, Y Iijima, M Hayakawa, S Tanaka, H Kakuma, I Yamada

0800h **U51B-0040** *POSTER* Considerations of broadband seismic observation on Mars: **Y Nishikawa**, K Kurita, A Araya, T Hori, N Kobayashi, H Shiraishi, H Kakuma, Y Ishihara

0800h **U51B-0041** *POSTER* THE GEMS-2 SEIS EXPERIMENT: D Mimoun, **S De Raucourt**, P Lognonne, D Giardini, U R Christensen, J Gagnepain-Beyneix, T Pike, T Nebut, S Tillier, O Robert, T Gabsi, O Pot, B Lecomte, N Escande, A Mocquet, P Zweifel, D Mance, R Roll, M Bierwirth

0800h **U51B-0042** *POSTER* optimization of seismic network design: application to a geophysical international lunar network: **R Yamada**, R F Garcia, P Lognonne, M Calvet, J Gagnepain-Beyneix, M Le Feuvre

0800h **U51B-0043** *POSTER* Effects of impact angle and target structure on seismic efficiency: **A M Stickle**, P H Schultz

0800h **U51B-0044** *POSTER* Seismology on a small body: expected results for the BASiX Discovery Mission proposal: **O Robert**, P Lognonne, D J Scheeres, N Goujon, M Le Feuvre, A Izzet, C Blitz, L Bowman

0800h **U51B-0045** *POSTER* Using Impactors for Active Seismic Investigation of the Interior of Mars with a Single Seismic Station: **F Webb**, S Kedar, A Wolf, N Harvey, E Sklyanskiy, R Chu

Atmospheric Sciences

A51A Moscone South: Poster Hall Friday 0800h
Ocean-Cloud-Land-Atmosphere Interactions in the Southeastern Pacific I Posters (*joint with OS*)

Presiding: **M Mena-Carrasco**, Universidad Andres Bello; **C Wang**, NOAA/AOML

0800h **A51A-0046** *POSTER* Seasonal dynamics of the East Pacific Fresh Pool and Sea Surface Salinity front off Panama: **G Alory**, S Illig, C Maes, T Delcroix

0800h **A51A-0047** *POSTER* Upper-ocean turbulence beneath the stratus cloud deck of the Southeast Pacific: **C J Zappa**, J T Farrar, R A Weller, S P Bigorre, L St Laurent, F Straneo, C F Moffat

0800h **A51A-0048** *POSTER* Sea Surface Temperature Biases under the Stratus Cloud Deck in the Southeast Pacific Ocean in 19 IPCC AR4 Coupled GCMs: **Y Zheng**, T Shinoda, J Lin, G N Kiladis

0800h **A51A-0049** *POSTER* Southeast Pacific stratocumulus as depicted in two versions of the Community Atmosphere Model: **B Medeiros**

0800h **A51A-0050** *POSTER* Maintenance and Variations of Atmospheric Subsidence in the Southeast Pacific: **C Wang**, S Lee, C R Mechoso, D B Enfield

0800h **A51A-0051** *POSTER* Regional modeling studies on the diurnal and semidiurnal cycles of boundary layer off the west coast of South America: **F Sun**, T Toniazco, C R Mechoso, A D Hall

0800h **A51A-0052** *POSTER* Observations of the Diurnal Cycle of Marine Stratocumulus During the VOCALS Regional Experiment: **C D Burleyson**, S E Yuter

0800h **A51A-0053** *POSTER* Ubiquitous Drizzle from Marine Stratocumulus Clouds: **S P deSzoetze**, P Zuidema, C W Fairall, S E Yuter

0800h **A51A-0054** *POSTER* Estimating the stratocumulus-topped marine boundary layer's height using wind profilers: **A Piña**, L M Hartten, L Bianco

0800h **A51A-0055** *POSTER* Low Cloud Structure, Variability, and Patterns in the Primary Subtropical Stratocumulus Regimes Using MODIS and ECMWF Analysis/Re-Analysis Data: **T L Kubar**, D E Waliser, J F Li

0800h **A51A-0056** WITHDRAWN

0800h **A51A-0057** *POSTER* A climatological stratocumulus-to-cumulus transition model derived from the surface energy budget: **J Karlsson**, J Teixeira

0800h **A51A-0058** *POSTER* SIMULATION OF CLOUD AND AEROSOL PROPERTIES DURING VOCALS-REX: **A D Muehlbauer**, R Wood

0800h **A51A-0059** *POSTER* Characterizing anthropogenic sources of pollution and their influence on regional air quality and meteorology during the VOCALS-REX experiment: **M Mena-Carrasco**, G R Carmichael, S Spak, L T Molina, P Saide

0800h **A51A-0060** *POSTER* Evaluation of stratocumulus clouds in WRF-Chem simulations for VOCALS-REX: **Q Yang**, W I Gustafson, J D Fast

0800h **A51A-0061** *POSTER* Marine Stratocumulus during VOCALS: Comparing Microphysical Observations to Large-Eddy Simulation Results: **J Petters**, D L Rossiter, G Feingold, H Jiang, P Y Chuang

0800h **A51A-0062** *POSTER* A Case-study on Turbulence in a Stratocumulus Topped Marine Boundary Layer Observed during VOCALS-Rex: V P Ghate, **B A Albrecht**, C W Fairall, M A Miller, A Brewer

0800h **A51A-0063** *POSTER* Examining the Synchrony between Marine Stratus Cloud Development and the Relaxation of Coastal Upwelling in the Eastern North Pacific, in the Context of Large-scale and Local Atmospheric Forcing: **M Dunn**

0800h **A51A-0064** *POSTER* Dynamics of Clouds and Mesoscale Circulations over the Maritime Continent: **Y Jin**, S Wang, P Xian, J S Reid, J Nachamkin, Title of Team: yes

A51B Moscone South: Poster Hall Friday 0800h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere I Posters (*joint with GC*)

Presiding: **K P Bowman**, Texas A&M University; **M H Hitchman**, University of Wisconsin - Madison; **S M Davis**, NOAA Earth System Research Laboratory (ESRL), Chemical Sciences Division/Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado at Boulder

0800h **A51B-0065** WITHDRAWN

0800h **A51B-0066** *POSTER* Can we detect climate trends in tropical cold-point tropopause temperatures?: **J S Wang**, D J Seidel, E Jung

0800h **A51B-0067** *POSTER* Interannual variability and trends in tropical ozone derived from SAGE II satellite data and SHADOZ ozonesondes: **W J Randel**, A M Thompson

0800h **A51B-0068** *POSTER* An upper tropospheric and stratospheric water vapor data set produced by combining records from multiple satellite platforms: **K H Rosenlof**, S M Davis, J Anderson, D F Hurst, S J Oltmans

0800h **A51B-0069** *POSTER* Trends in Stratospheric Water Vapor over Boulder, Colorado: Revelations of the 30-year Boulder Record: **D F Hurst**, S J Oltmans, H Voemel, K H Rosenlof, S M Davis, E A Ray, E Hall, A Jordan

0800h **A51B-0070** *POSTER* Geoengineering: Impacts of Stratospheric Sulfur Injection Schemes on Aerosol Size Distribution Investigated with a Microphysical Model coupled with a General Circulation and Chemistry Model: **J M English**, O B Toon, M J Mills

0800h **A51B-0071** *POSTER* Impact of clouds on thermodynamic variables in the tropical tropopause layer (TTL): **J Chae**, D L Wu, W G Read, S C Sherwood

0800h **A51B-0072** *POSTER* Seasonal variations in convection and extratropical mixing in the Tropical Tropopause Layer: **M R Sargent**, E M Weinstock, J B Smith, D S Sayres, J Anderson, S C Wofsy, S Park, B C Daube, R Gao, T F Hanisco, J St. Clair, M Loewenstein, C R Webster

0800h **A51B-0073** *POSTER* Convection, thin cirrus, and dehydration in the tropical tropopause layer (TTL) observed by MLS and CALIPSO: **W G Read**, H Su, M L Santee, N J Livesey

0800h **A51B-0074** *POSTER* Role of Tropical Easterly Jet on Upper Tropical Cirrus: Observations inferred from CALIPSO, AURA-MLS and NCEP/NCAR data: **S K Das**, J Nee, C Chiang

0800h **A51B-0075** *POSTER* Characteristics of AIRS observed inertial gravity waves: Implications for cirrus formation near the tropical tropopause: **J Gong**, D L Wu, S D Eckermann

0800h **A51B-0076** *POSTER* Heterogeneous nucleation of ice particles on glassy aerosols modifies TTL cirrus: **T W Wilson**, B J Murray, S Dobbie, S M Al-Jumur, Z Cui, R Wagner, O Moehler, M Schnaiter, S Benz, M Niemand, H Saathoff, J Skrotzki, V Ebert, S Wagner, B Karcher

0800h **A51B-0077** *POSTER* Signification of the mean structure of water vapor isotopic composition in the uppermost troposphere: **M Bolot**, E J Moyer, B Legras

0800h **A51B-0078** *POSTER* SAGE II Upper Tropospheric/Lower Stratospheric aerosol in the post-Pinatubo period (1998-2005): **L W Thomason**, J Vernier

0800h **A51B-0079** *POSTER* Greenhouse gas relationships in the Indian summer monsoon plume observed by CARIBIC: **T J Schuck**, A K Baker, C A Brenninkmeijer, F Slemr, P F van Velthoven, A Zahn

0800h **A51B-0080** *POSTER* An analysis of transport pathways that contribute to water vapor and ozone profiles measured in the Asian monsoon anticyclone: **L A Munchak**, Q Fan, L Pan, J Bian, K P Bowman

0800h **A51B-0081** *POSTER* Stratospheric and tropospheric contributions to extreme ozone minimum events over the Tibetan Plateau during winters 1987-2001 (*Invited*): **Y Liu**, C Liu

0800h **A51B-0082** *POSTER* Inter-annual and Seasonal Variation of UT/LS Cloud Ice Water Content in the Asian Monsoon as Observed by CALIPSO: **M Avery**, D M Winker, A Heymsfield, S Young, M Vaughan, B Getzewich, Y Hu, J Kar, C R Trepte, J H Crawford, E J Jensen

0800h **A51B-0083** *POSTER* The Path Density of Interhemispheric Surface-to-Surface Transport through the Troposphere and Stratosphere: **M B Holzer**

0800h **A51B-0084** *POSTER* On the mechanism of the formation of the Brewer-Dobson circulation and the change in the age of air: **K Okamoto**, K Sato, H Akiyoshi

0800h **A51B-0085** *POSTER* TROPOPAUSE PRESSURE CONNECTION BETWEEN TROPICS AND EXTRATROPICS: **M Gomez-Escolar**, N CalvoFernandez, L Gimeno, R Garcia-Herrera

0800h **A51B-0086** *POSTER* The possible mechanism of the "stratospheric bridge": **K Wei**, E A Jadin

0800h **A51B-0087** *POSTER* Phase speed and period of equatorial Kelvin waves around the tropopause: **N Nishi**, J Suzuki, A Hamada, M Shiotani

0800h **A51B-0088** *POSTER* Horizontal Wave Analysis using COSMIC/FORMOSAT-3 Radio Occultation Data: A Haser, **T Schmidt**, A de la Torre, J Fischer

0800h **A51B-0089** *POSTER* Extratropical forcing of temperature change in tropical tropopause layer of January 2009: **K Yoshida**, K Yamazaki

0800h **A51B-0090** *POSTER* A Preferred Pattern of Variability in the Tropical Upper Troposphere and Lower Stratosphere and Its Relationship to Recent Trends: **K M Grise**, D W Thompson

0800h **A51B-0091** *POSTER* Seasonal and ENSO Influences of Tropical Convection on SH Ozone During the Winter to Spring Transition: **M H Hitchman**, M J Rogal

0800h **A51B-0092** *POSTER* Tropical Convective Influence: A 25-year Climatology of UTLS Anticyclones in the Southern Hemisphere: **M J Rogal**, M H Hitchman

0800h **A51B-0093** *POSTER* First Results from UCATS during the GloPac 2010 Mission: **E J Hints**, F L Moore, G S Dutton, B D Hall, J W Elkins

0800h **A51B-0094** *POSTER* Disaggregating global commercial aviation emissions by background static-stability in the upper-troposphere and lower-stratosphere: **D B Whitt**, J T Wilkerson, M Z Jacobson, A D Naiman, S K Lele

0800h **A51B-0095** *POSTER* Chemical and dynamical discontinuity at the tropopause based on START08 and WACCM trace gas analyses: **A Kunz**, L Pan, P Konopka, D E Kinnison, S Tilmes

0800h **A51B-0096** *POSTER* Extratropical Tropopause Transition Layer Characteristics from High-Resolution Sounding Data: K P Bowman, **C R Homeyer**, L Pan

0800h **A51B-0097** POSTER Evaluation of WACCM simulations of the extratropical upper troposphere and lower stratosphere using data from the Stratosphere-Troposphere Analyses of Regional Transport 2008 experiment (START08): **D G Stone**, K P Bowman, L Pan, D E Kinnison, E L Atlas, T L Campos, R Gao

0800h **A51B-0098** POSTER MLS and ACE-FTS measurements of UTLS Trace Gases in the Presence of Multiple Tropopauses: **M J Schwartz**, G L Manney, W H Daffer, K A Walker, M I Hegglin

0800h **A51B-0099** POSTER Model - Measurement Comparison of Coherent Variability in Tropospheric and Stratospheric Ozone: **J L Neu**, J Worden

0800h **A51B-0100** POSTER Merging Satellite Ozone Datasets via High Resolution Atmospheric Chemistry Modeling in the Lower Stratosphere and Upper Troposphere Region: **Q Tang**, M J Prather

0800h **A51B-0101** POSTER Correlation between subtropical jet and the Enhanced-Tropospheric Columnar Ozone (E-TCO) belt: **A Nakatani**, S Hayashida, T Nagashima, S Kondo, X Liu, K Sudo, I Hirota

0800h **A51B-0102** POSTER Validation and inter-comparison of EOS Ozone products against global ozone sondes: **Z Wei**, J X Warner

0800h **A51B-0103** POSTER A study of modulation of polar stratospheric clouds by atmospheric waves in the Southern Hemisphere using CALIPSO lidar data: **M Kohma**, K Sato

0800h **A51B-0104** POSTER Sarychev Volcanic Aerosol and Chemical measurements over Eureka, Canada: **C W Perro**, T J Duck, L Bitar, G J Nott, G B Lesins, N T O'Neill, E Eloranta, K Strong, S A Carn, R Lindenmaier, R Batchelor, A Saha, C Pike-thackray, J R Drummond

0800h **A51B-0105** POSTER Stratospheric Aerosol Layers in the High Canadian Arctic: K Olofson, **R J Sica**, K B Strawbridge, J R Drummond

A51C Moscone South: Poster Hall Friday 0800h
Remote Sensing of CO₂ Emissions and Atmospheric Transport I Posters (*joint with GC*)

Presiding: **M T Chahine**, JPL; **A M Michalak**, University of Michigan; **C E Miller**, California Institute of Technology

0800h **A51C-0106** POSTER On orbit Calibration and Characterization of TANSO onboard GOSAT and Level 1 products: **A kuze**, H Suto, K Shiomi, M Nakajima

0800h **A51C-0107** POSTER Correction of scan-speed instability of TANSO-FTS on GOSAT: **H Suto**, A kuze

0800h **A51C-0108** POSTER GOSAT lunar calibration in one year operation: **K Shiomi**, T Hashiguchi, F Kataoka, R Higuchi, S Kawakami

0800h **A51C-0109** POSTER Estimating Regional Sources and Sinks of CO₂ Inversely from GOSAT Level 2 Column Concentration Data - the Preparation of GOSAT Level 4 Data Products -: **H Takagi**, Y Koyama, T Saeki, T Oda, R Saito, M Saito, V Valsala, D Belikov, Y Yoshida, M Inoue, I Morino, O Uchino, T Yokota, S Maksyutov

0800h **A51C-0110** POSTER Rapid estimation of column averaged CO₂ concentration using a correlation algorithm: **I N Polonsky**, D M O'Brien

0800h **A51C-0111** POSTER PPDF-based GOSAT data processing: **S Oshchepkov**, A Bril, I Morino, T Yokota

0800h **A51C-0112** POSTER Coupled Interface Atmosphere - Ocean (CIAO) code to account for polarization effects in space-based observations of greenhouse gases: **V P Budak**, D A Klyuykov, S Oshchepkov

0800h **A51C-0113** POSTER ACOS Glint-mode Total Column CO₂ Retrievals from GOSAT: **F W Irion**, V Natraj, J McDuffie, C O'Dell

0800h **A51C-0114** POSTER Remote sensing of CO₂ from GOSAT: recent findings and preliminary validation: **A Butz**, O P Hasekamp, C Frankenberg, D Schepers, A Galli, I Aben

0800h **A51C-0115** POSTER Improvement of a retrieval method of the column-averaged dry air mole fractions of carbon dioxide and methane from Greenhouse gases Observing SATellite (GOSAT) observation: **Y Yoshida**, N Eguchi, Y Ota, I Morino, O Uchino, H Watanabe, T Yokota

0800h **A51C-0116** POSTER Seasonal cycles in total column CO₂: Where does the model-observation mismatch come from?: **S Basu**, S Houweling

0800h **A51C-0117** POSTER Sources/sinks analysis with satellite sensing for exploring global atmospheric CO₂ distributions: **C Shim**, R Nassar, J Kim

0800h **A51C-0118** POSTER The Measurement of Landfill Gas Emissions with the Orbiting Carbon Observatory and CarbonSAT Satellites: **S A Vigil**, H Bovensmann

0800h **A51C-0119** POSTER Observations of CO₂ and CH₄ enhancements over large point sources using GOSAT: **T Oda**, S Maksyutov, M Saito, V Valsala, A Ganshin, R J Andres, Y Yoshida, T Yokota

0800h **A51C-0120** POSTER CO₂ profiles in the middle and upper troposphere from GOSAT/TANSO-FTS TIR: **N Saitoh**, R Imasu

0800h **A51C-0121** POSTER CO₂ Vertical Profile Retrieval from TCCON Measurements: **L Kuai**, B J Connor, D Wunch, R Shia, C E Miller, G C Toon, P O Wennberg, Y L Yung

0800h **A51C-0122** POSTER Improved carbon dioxide characterization and estimates from the Tropospheric Emission Spectrometer (TES): **S S Kulawik**, J Worden, R Nassar, D B Jones, S C Wofsy, L V Gatti, J B Miller, M L Fischer, S C Biraud, T Machida, H Matsueda, Y Sawa

0800h **A51C-0123** POSTER New TES profile retrievals of Tropospheric Methane: **J Worden**, S S Kulawik, C Frankenberg, V Payne, D J Jacob, K W Bowman

0800h **A51C-0124** POSTER Inverse modeling of CO₂ sources and sinks using a combination of satellite and flask observations: **R Nassar**, D B Jones, S Kulawik, P Suntharalingam, J M Chen, R J Andres, T Conway, D E Worthy

0800h **A51C-0125** POSTER A new look at spatial gradients in Xco₂ from satellite and ground-based observations: **G Keppel-Aleks**, P O Wennberg, T Schneider, D Wunch, G C Toon, J Blavier, C M Roehl, B J Connor, V Sherlock, J Notholt, J Messerschmidt, C E Miller, C O'Dell

0800h **A51C-0126** WITHDRAWN

0800h **A51C-0127** POSTER Modeling Global Atmospheric CO₂ Fluxes and Transport Using NASA MERRA Reanalysis Data: **Y Liu**, S R Kawa, G J Collatz

0800h **A51C-0128** POSTER Regional Modeling Support for Planning Airborne Campaigns to Observe CO₂ and Other Trace Gases: **M Uliasz**, A E Schuh, A Denning

0800h **A51C-0129** POSTER Seasonal variations of CO₂ and CH₄ column abundances retrieved from SWIR of GOSAT TANSO-FTS: **N Eguchi**, Y Yoshida, I Morino, N Kikuchi, T Saeki, M Inoue, O Uchino, S Maksyutov, H Watanabe, T Yokota

0800h **A51C-0130** POSTER Influence of Tropical Biennial Oscillation on Carbon Dioxide: **J Wang**, X Jiang, M T Chahine, E Olsen, L Chen, Y L Yung

0800h **A51C-0131** POSTER GEOLAND2 global LAI, FAPAR Essential Climate Variables for terrestrial carbon modeling: principles and validation: **F Baret**, M Weiss, R Lacaze, F Camacho, B Smets, P Pacholczyk, H Makhmara

0800h **A51C-0132** *POSTER* Volcanic carbon dioxide emissions: observation strategies using GOSAT FTS SWIR data: **F M Schwandner**, S A Carn, E M Head, C G Newhall
0800h **A51C-0133** *POSTER* Development of a Herriot Cell for CO₂, 13CO₂, and 18CO₂ Flux Measurement In Situ from an Aircraft: **J B Munster**, D S Sayres, M F Witinski, C E Healy, J Anderson
0800h **A51C-0134** *POSTER* Design and Evaluation of an Inexpensive Sensor Package for Greenhouse Gas and Air Quality Monitoring: **V E Teige**, C Garland, K Duffey, P J Wooldridge, R C Cohen

A51D Moscone South: Poster Hall Friday 0800h
Troposphere Gaseous Composition in Regional and Global Perspective IV Poster (*joint with B*)

Presiding: **O A Tarasova**, World Meteorological Organization;
P C Novelli, NOAA/ESRL

0800h **A51D-0135** *POSTER* THE WMO GLOBAL ATMOSPHERE WATCH PROGRAMME: GLOBAL FRAMEWORK FOR ATMOSPHERIC COMPOSITION OBSERVATIONS AND ANALYSIS: **O A Tarasova**, L Jalkanen
0800h **A51D-0136** *POSTER* Measuring Carbon Dioxide and Methane Concentrations in Railroad Valley, Nevada to Support GOSAT Satellite Validation and Global Flux Research: **K A Schiro**, L T Iraci, M Loewenstein, E Yates, E Sheffner, Title of Team: NASA ARC Railroad Valley 2010 Research Team
0800h **A51D-0137** *POSTER* Regional-scale atmospheric inversions of greenhouse gas fluxes in Europe: **U Karstens**, C Roedenbeck, K Trusilova, C Gerbig, M Heimann
0800h **A51D-0138** *POSTER* Regional Inversion of European CH₄ and N₂O Emissions Using Continuous High Precision Atmospheric Observations: **A T Vermeulen**, P Bergamaschi, R Rodink, B Verheggen, R Neubert, J B Moncrieff, W Zahorowski, Title of Team: Data contributors
0800h **A51D-0139** *POSTER* High-resolution WRF/Chem-VPRM simulations of CO₂ in the Los Angeles Basin: **C Park**, Q Li, D CHEN, D Fu, S P Sander
0800h **A51D-0140** *POSTER* Using Boundary Layer Equilibrium to Reduce Uncertainties in CO₂ Flux Inversions: **I N Williams**, W J Riley, M S Torn, J A Berry, S C Biraud
0800h **A51D-0141** *POSTER* Trends of long-lived halocarbons, nitrous oxide and sulfur hexafluoride: **G S Dutton**, B D Hall, D Nance, D J Mondeel, J W Elkins
0800h **A51D-0142** *POSTER* Atmospheric trend and emission estimates for HFC-43-10mee (1999 to 2010): **T Arnold**, D J Ivy, J Muhle, C M Harth, P Salameh, R F Weiss
0800h **A51D-0143** *POSTER* Cyclo-octafluorobutane (PFC-318) in the global atmosphere: **J Muhle**, M K Vollmer, P J Fraser, T S Rhee, D J Ivy, T Arnold, C M Harth, P Salameh, S O'Doherty, D Young, P Steele, P B Krummel, M Leist, N Schmidbauer, C Lunder, J Kim, K Kim, S Reimann, P Simmonds, R G Prinn, R F Weiss
0800h **A51D-0144** *POSTER* Saturation state of methyl bromide after phaseout: **L Hu**, S A Yvon-Lewis
0800h **A51D-0145** *POSTER* Observations of inorganic bromine species (BrO, HOBr, Br₂ and BrCl) at Barrow, AK in spring 2009: **J Liao**, L G Huey, J Neuman, D Tanner, F M Flocke, J J Orlando, S J Sjostedt, J B Nowak, S R Hall
0800h **A51D-0146** *POSTER* A MOZAIC Tropospheric Study Over The Mid-Northern Latitudes : Climatology and Trends (1994-2009): **R M Zbinden**, V Thouret, J Cammas, G Athier, D Boulanger, J Cousin, P Nedelec, F Karcher

0800h **A51D-0147** *POSTER* Comparison of Ozone and Water Vapor Retrieved From Airbus In-Service Aircraft (MOZAIC) and AIRS data over Delhi: **R P Singh**, P S Bhattacharjee
0800h **A51D-0148** *POSTER* Airborne in situ measurements of NO₃ and N₂O₅ over Europe: **O J Kennedy**, B Ouyang, R Jones
0800h **A51D-0149** *POSTER* An original approach combining aircraft observations and 1D modelling to quantify the role of deep convection on formaldehyde in tropical UT: **A Borbon**, M Ruiz, J Bechara, C Afif, H Huntrieser, G Mills, C Mari, C Reeves, H Schlager
0800h **A51D-0150** *POSTER* Horizontal variability of trace gases over Houston, TX derived from airborne remote sensing, in-situ aircraft measurements and regional chemical models: **M B Follette-Cook**, K E Pickering, S J Janz, J H Crawford, M G Kowalewski
0800h **A51D-0151** *POSTER* Trace gas distributions and relationships in the remote atmosphere: Results from the HIAPER Pole to Pole Observations (HIPPO) flights: **K Smith**, E L Atlas, X Zhu, L Pope, R Lueb, B R Miller, F L Moore, S A Montzka, J W Elkins, D Nance, C Sweeney, S C Wofsy, B C Daube, E A Kort, R Jimenez, J V Pittman, R Hendershot, P Romashkin
0800h **A51D-0152** *POSTER* A Comparison of Different Methods in the Estimations of Source-Receptor Relationships for Tropospheric Ozone: **T Nagashima**, T Ohara, K Sudo, H Akimoto
0800h **A51D-0153** *POSTER* Vertical distribution and sources of tropospheric ozone over South China in spring 2004: Ozone sonde measurements and modeling analysis: **Y Zhang**, H Liu, J H Crawford, D B Considine, C Chan, Title of Team: Scientific Team of TAPTO
0800h **A51D-0154** *POSTER* Lightning NO_x influence on large scale NO_y and O₃ plumes observed over the northern mid-latitudes: B Sauvage, **J Cammas**, E Defer, A Volz-Thomas, J Vouzelaud, K Thomas, R L Holle, H M Smit
0800h **A51D-0155** *POSTER* Northern Hemisphere trends in carbon monoxide: effects of changing anthropogenic emissions and biomass burning: **P C Novelli**, G Petron, K Masarie, P Lang, C Granier
0800h **A51D-0156** *POSTER* Retrieval of Boundary Layer Carbon Monoxide with the Atmospheric Emitted Radiance Interferometer (AERI): **R C Wilson**, J X Warner, L Yurganov, Z Wei
0800h **A51D-0157** *POSTER* 20th century ethane variability from polar firn air and implications for the methane budget: **E S Saltzman**, K R Verhulst, K M Aydin, M O Battle, S A Montzka, Q Tang, M J Prather
0800h **A51D-0158** *POSTER* Measuring ammonia from space: limits and possibilities: **K E Cady-Pereira**, R W Pinder, J T Walker, J O Bash, M Luo, D K Henze, M W Shephard, J Zhu, C Rinsland
0800h **A51D-0159** *POSTER* The measurement of Peroxyacetyl nitrate (PAN) in the regional background marine boundary air, Baengyeong Island, South Korea: **G Lee**, H Choi, T Lee, D Lee, J Park, S Jang
0800h **A51D-0160** *POSTER* Peroxy acetyl nitrate (PAN) transport at Jungfraujoch from European planetary boundary layer: **S Pandey**, J Staehelin, S Henne, U Weers, T Peter, M Steinbacher, C Zellweger
0800h **A51D-0161** *POSTER* Long-Term Variation in Speciated Mercury at Marine, Coastal, and Inland Sites in New England: **H Mao**, R W Talbot, J D Hegarty
0800h **A51D-0162** *POSTER* Nested-grid Modeling of Mercury Wet Deposition over the Southeast U.S.: **Y Zhang**, L Jaegle, C Holmes, D J Jacob, A van Donkelaar, R V Martin
0800h **A51D-0163** *POSTER* Characterizing the unique photochemical environment in China: **Z Liu**, Y Wang, D Gu, C Zhao, L G Huey, R Stickel, J Liao

0800h **A51D-0164** POSTER AIR POLLUTION IN MOSCOW REGION AND KIEV DURING HEAT WAVE IN JULY-AUGUST 2010: **A M Zvyagintsev**, O A Tarasova, I B Belikov, O B Blum, N F Elansky, I N Kuznetsova, R A Shumsky

0800h **A51D-0165** POSTER Impact of an improved Cuban emissions inventory on air quality simulations: **M Sanchez Gacita**, M F Alonso, K M Longo, S R de Freitas

0800h **A51D-0166** POSTER Reactive Liquefied Petroleum Gas (LPG) is Prevalent in the Mumbai, India Urban Atmosphere: **D D Riemer**, E C Apel, C Venkataraman, E L Atlas

0800h **A51D-0167** POSTER Solar absorption Fourier Transform Infrared spectroscopy applied to detect SO₂ plumes above Mexico City: **A Aldana-Vazquez**, W Stremme, M Grutter

0800h **A51D-0168** POSTER Analysis of Mexico City urban air pollution using nitrogen dioxide column density measurements from UV/Visible spectroscopy: **D G Garcia Payne**, M Grutter, M L Melamed

0800h **A51D-0169** POSTER The Effect of Measured Ozone Profiles and Tropospheric Ozone on UV Photolysis Rate Coefficients in the Troposphere in Houston, TX: **K O Lantz**, I V Petropavlovskikh, C S Long

0800h **A51D-0170** POSTER Intercomparison of Nitrous Acid (HONO) Measurement Techniques during SHARP: **J P Pinto**, Q Meng, J E Dibb, B L Lefter, B Rappenglueck, X Ren, J Stutz, R Zhang

0800h **A51D-0171** POSTER Airborne measurements of NO₃ and N₂O₅ using broad band cavity enhanced absorption spectroscopy: **B Ouyang**, O J Kennedy, R Jones

0800h **A51D-0172** POSTER First Results of Atmospheric Trace Gases in and around New Delhi using mobile MAX-DOAS observations: **R Shaiganfar**, S Beirle, T Marbach, T Wagner, M Sharma, A Chauhan, R Singh

0800h **A51D-0173** POSTER Genesis and quantitative characteristics of long-tailed tracer anomaly probability distribution functions in the troposphere: **B R Lintner**, J Neelin, Q Li, L Zhang

0800h **A51D-0174** POSTER A Novel Algorithm Quantifying Pollutant Spatial Variability Using Flow Direction; Remote Retrieval and Surface-Network Applications: **R B Chatfield**, R Esswein, M B Follette-Cook

A51E Moscone South: Poster Hall Friday 0800h
Understanding Atmospheric and Terrestrial Hydrological Cycles With Isotopes in Water I Posters (joint with B, H, PP, V)

Presiding: **D C Noone**, University of Colorado; **C Risi**, CIRES; **K P Tu**, UC Berkeley

0800h **A51E-0175** POSTER Oxygen isotopes in seawater from the Texas-Louisiana shelf: N Slowey, **A J Wagner**

0800h **A51E-0176** POSTER D/H and δ¹⁸O-salinity relationships for Narragansett Bay, Rhode Island: Applications to Paleoenvironmental and Hydrology Studies: **K L Krawczyk**, S C Clemens, W L Prell, J R Orchardo, S Woolford

0800h **A51E-0177** POSTER Understanding surface-groundwater interactions through combined physical and chemical data analysis: tracing shallow groundwater recharge in Christchurch, New Zealand: **J M Blackstock**, T W Horton, P Zavar-Reza

0800h **A51E-0178** POSTER Climate controls on precipitation δ¹⁸O along the Andes: **N Insel**, C J Poulsen, T A Ehlers, C Sturm

0800h **A51E-0179** POSTER Deuterium excess anomaly of precipitation in Svalbard: C J Kuells, **M Ritter**

0800h **A51E-0180** POSTER Pacific/North American teleconnection controls on precipitation isotope ratios across the contiguous United States: **Z Liu**, G J Bowen

0800h **A51E-0181** POSTER A surface water Isoscape for Alaska reveals the climate, moisture source, and physiographic controls on δ¹⁸O, δD, and deuterium excess: **A R Sloat**, M S Lachniet, D E Lawson

0800h **A51E-0182** POSTER Correlation Between Stable Isotope Composition and Cloud Altitude (Radar Echo Tops) in Tropical Rainfall: Puerto Rico and Hawaii: **M A Scholl**, T B Coplen

0800h **A51E-0183** POSTER Intrastorm Isotopic Variation in Precipitation in Midlatitude Cyclones: **A M Faiia**, M Vishnevskiy, X Feng, E S Posmentier

0800h **A51E-0184** POSTER Atmospheric Vapor Isotope Variability on Timescales from an Hour to a Year: **E S Posmentier**, A Faiia, K Everhart, X Feng

0800h **A51E-0185** POSTER Atmosphere-surface water exchanges from measurements of isotopic composition at a tall tower in Boulder: **D C Noone**, C Risi, A Raudzens Bailey, D P Brown, N H Buenning, S A Gregory, J Nusbaumer, J Sykes, D P Schneider, B J Vanderwende, J Wong, D E Wolfe

0800h **A51E-0186** POSTER AUTONOMOUS INSTRUMENTATION FOR FAST, CONTINUOUS AND ACCURATE ISOTOPIC MEASUREMENTS OF WATER VAPOR (δ¹⁸O, δ²H, H₂O) IN THE FIELD: **J S Liem**, F Dong, T G Owano, D S Baer

0800h **A51E-0187** POSTER Hydrogen isotope measurement corrections for low water vapor concentrations: Mauna Loa Observatory, Hawaii: **L R Johnson**, Z D Sharp, J Galewsky, M H Strong, A D Van Pelt, F Dong, D C Noone

0800h **A51E-0188** POSTER Stable isotope tracers of water vapor sources in the Atacama Desert, Northern Chile: a pilot study on the Chajnantor Plateau: **K E Samuels**, J Galewsky, Z D Sharp, C Rella, D Ward

0800h **A51E-0189** POSTER Constraining large-scale mixing in the subtropical southern hemisphere free troposphere with stable isotopologues of water vapor: Results from the Chajnantor Plateau, Chile: **J Galewsky**, K E Samuels, D Ward

0800h **A51E-0190** POSTER Improved global atmospheric HDO/H₂O retrievals with SCIAMACHY: **R Scheepmaker**, C Frankenberg, A Gloudemans, I Aben, T Roeckmann, H Schrijver, S Fally

0800h **A51E-0191** POSTER Changes in the moistening properties of convection associated with variations in the ENSO and IOD from 2005 and 2006: **J Lee**, J Worden, D C Noone, Y Choi, J Chae, K W Bowman, C Frankenberg, A Eldering

0800h **A51E-0192** POSTER Sensitivity of stable water isotopic values on the convective parameterization schemes: **J Lee**, R T Pierrehumbert, A Swann, B R Lintner

0800h **A51E-0193** POSTER Isotope simulation for 140 years with Reanalysis atmospheric and its comparison with climate proxy data: **K Yoshimura**, L D Stott

A51F Moscone West: 3006 Friday 0800h
Atmospheric Rivers: A Grand Challenge for Hydrometeorology, Flood, and Water Sciences I (joint with H)

Presiding: **F M Ralph**, NOAA/ESRL; **M D Dettinger**, US Geological Survey

0800h **A51F-01** Landfalling Impacts of Atmospheric Rivers: From Extreme Events to Long-term Consequences (*Invited*): **P J Neiman**

0815h **A51F-02** The role of individual cyclones for atmospheric latent and sensible heat transport into the European Arctic: **H Sodemann**, A Stohl

0830h **A51F-03** The impact of atmospheric rivers on the cold season hydrology in California: **J Kim**, D E Waliser, B Guan, N P Molotch, J Ryoo, E Fetzer, P J Neiman
0845h **A51F-04** WRF Ensemble Model Performance during Atmospheric River Events in California: **E I Tollerud**, T Jensen, H Yuan, J Halley Gotway, P Oldenburg, I Jankov, W Clark, E Sukovich, G A Wick, R Bullock
0900h **A51F-05** Tropical Links to Atmospheric Rivers making landfall along the west coast of North America (*Invited*): **G N Kiladis**
0915h **A51F-06** Exploring oceanic source regions and moisture transport of extreme floods over large basins in the contiguous United States: J Nakamura, **U Lall**, Y Kushnir, A W Robertson
0930h **A51F-07** A 21st Century Observing System for Forcings of Extreme Precipitation and Flood Events in California: **A White**, M Anderson, M D Dettinger, A Hinojosa, F M Ralph, D R Cayan
0945h **A51F-08** Understanding and Forecasting Atmospheric Rivers (*Invited*): **D Reynolds**

A51G Moscone West: 3002 Friday 0800h
Biosphere-Atmosphere Exchange of Reactive Trace Gases and Their Role in the Chemistry of Ozone and Aerosols I

Presiding: **A H Goldstein**, University of California, Berkeley;
P B Shepson, Purdue University

0800h **A51G-01** Diurnal variability of isoprene and hydroxyl radical over tropical forests (*Invited*): **J Vila-Guerau Arellano**, E G Patton, T Karl, K vandenDries, M C Barth, J J Orlando, H Ouwersloot
0820h **A51G-02** OH and HO₂ Measurements in Blodgett Forest, CA during BEARPEX 2009: W H Brune, **D van Duin**, J Mao, X Ren
0836h **A51G-03** Investigation of HO_x radical chemistry under a forest canopy during CABINEX-2009: **S Dusanter**, S M Griffith, R F Hansen, P S Stevens, S Lee, N Wickramaratne, M E Erupe, V P Kanawade, X Zhou, B L Lefer, J H Flynn, N Grossberg, S B Bertman, M Carroll, B T Jobson, H W Wallace, M Erickson, M E Thurlow, A O'Brien, M M Galloway, F N Keutsch, P B Shepson
0852h **A51G-04** FILIF Measurements of HCHO Vertical Gradients and Flux via Eddy Covariance during BEACHON-ROCS 2010: **J P DiGangi**, E Boyle, S B Henry, F N Keutsch, Title of Team: BEACHON-ROCS Science Team
0908h **A51G-05** The Role of Chemistry in Atmosphere-Forest Exchange (*Invited*): **J A Thornton**, G M Wolfe, N C Bouvier-Brown, A H Goldstein, J Park, M McKay, D M Matross, J Mao, W H Brune, B W LaFranchi, E C Browne, K Min, P J Wooldridge, R C Cohen, J Crouse, I C Faloon, J B Gilman, W C Kuster, J A De Gouw, A J Huisman, F N Keutsch
0928h **A51G-06** Vertical Profiles of NO_x, O₃, and Volatile Organic Compounds in a Deciduous Forest Canopy: B T Jobson, **H W Wallace**, M H Erickson, S N Pressley, J L Rausch, K O'Donnell
0944h **A51G-07** Analysis of coherent structures during the 2009 CABINEX field campaign: Implications for atmospheric chemistry: S N Pressley, **A L Steiner**, S H Chung, S L Edburg, E Jones, A Botros

A51H Moscone West: 3008 Friday 0800h
Measuring Earth-Atmosphere Fluxes and Tropospheric Composition From Space I (*joint with B*)

Presiding: **D B Millet**, University of Minnesota; **D K Henze**, University of Colorado Boulder

0800h **A51H-01** Ten years of CO emissions as seen from MOPITT: **C Audrey**, F Chevallier, I Pison, P Bousquet, S Szopa, C Clerbaux, M N Deeter

0815h **A51H-02** Tropospheric Composition Change observed from Space (*Invited*): **A Richter**, A Hilboll, J Leita, M Vrekoussis, F Wittrock, J P Burrows
0835h **A51H-03** 4D-Var inversion of atmospheric methane fluxes by assimilating SCIAMACHY and AIRS satellite retrievals: J Tang, **Q Zhuang**, X Xiong
0850h **A51H-04** A new framework for the top-down estimate of aerosol emission: Integrated analysis with satellite (MODIS) reflectance and the adjoint of a chemistry transport model (GEOS-chem) (*Invited*): **J Wang**, X Xu, D K Henze
0910h **A51H-05** Quantifying spatial and temporal variability in atmospheric ammonia with in situ and space-based observations: **R W Pinder**, J T Walker, J O Bash, K E Cady-Pereira, D K Henze, M Luo, G B Osterman, M W Shephard
0930h **A51H-06** Glyoxal Vertical Column Retrievals from the GOME-2/METOP-A European Spaceborne Sensor and Comparisons with the IMAGESv2 CT Model: **C Lerot**, T Stavrakou, I De Smedt, J J Muller, M Van Roozendael
0945h **A51H-07** Quantifying Anthropogenic and Biospheric Fluxes of CO₂ Using Satellite Observations of CO, CO₂, and Methanol: **D B Jones**, D B Millet, J Worden, K Cady-Pereira, R Nassar, S Kulawik, K W Bowman, M Luo

A51I Moscone West: 3004 Friday 0800h
Progress and Uncertainty in Reanalysis Data Sets I (*joint with GC, H, OS*)

Presiding: **J Chen**, University of Maryland; **M G Bosilovich**, NASA GSFC; **P A Arkin**, University of Maryland; **W Ebisuzaki**, NOAA/NCEP

0800h **Introduction** *Phil Arkin*

0808h **A51I-01** The NCEP Climate Forecast System Reanalysis (*Invited*): **R Kistler**

0822h **A51I-02** MERRA: Progress, Applications, and Challenges for the Future (*Invited*): **S D Schubert**, H Wang, M G Bosilovich, M M Rienecker, M Suarez, R Gelaro, S Pawson

0836h **A51I-03** Status and plans for the ECMWF reanalysis activities: P Poli, **J Thepaut**, D Dee, P Berrisford, A Simmons

0850h **A51I-04** Evaluating the 20th Century Reanalysis Dataset (1871-2008) (*Invited*): **G P Compo**, J S Whitaker, P D Sardeshmukh

0904h **A51I-05** Atmospheric moisture transports from ocean to land in reanalyses (*Invited*): **J Fasullo**, K E Trenberth

0918h **A51I-06** A First Look at Surface Meteorology in the Arctic System Reanalysis: **A G Slater**, M C Serreze, A ASR-team

0932h **A51I-07** Comparisons and Assessments of Upper Tropospheric Water Vapor Fields of Modern Reanalyses: **L Wang**, M Goldberg, X Liu, L Zhou

0946h **A51I-08** Evaluation of the precipitation regime over South America through the new generation Reanalyses: M L Quadro, M A Silva Dias, **D L Herdies**, L Goncalves, E H Berbery

Biogeosciences

B51A Moscone South: Poster Hall Friday 0800h
Geochemistry and Geobiology of Terrestrial Thermal Systems II Posters (*joint with V*)

Presiding: **H E Hartnett**, Arizona State University; **B P Hedlund**, University of Nevada Las Vegas; **C Zhang**, University of Georgia

0800h **B51A-0331 POSTER** Microbial diversity in ten hot springs on the Tibetan Plateau, China: **Q Huang**, H Dong, H Jiang, C Zhang

0800h **B51A-0332** POSTER Microbiological Monitoring in Geothermal Plants: **M Alawi**, S Lerm, R Linder, A Vetter, A Vieth-Hillebrand, R Miethling-Graff, A Seibt, M Wolfgramm, H Wuerdemann

0800h **B51A-0333** POSTER Complex serpentinizing systems and the deep biosphere: metabolic opportunities depend on the geochemistry of mixing waters: **D Cardace**, D R Meyer-Dombard, T M Hoehler, N Uzunlar

0800h **B51A-0334** POSTER Microbial Community Diversity in Fault-Associated and Ophiolite-Hosted Springs: **D R Meyer-Dombard**, D Cardace, N Uzunlar, Y Gulecal, E N Yargicoglu, J N Carbone

0800h **B51A-0335** POSTER Diversity of Membrane-Bound Nitrate Reductase Genes in Geothermal Springs: **A T Poret-peterson**, R Schwegel, J J Elser, E Shock, A D Anbar

0800h **B51A-0336** POSTER Enrichment of Thermophilic Ammonia-Oxidizing Archaea from an Alkaline Hot Spring in the Great Basin, USA: **C Zhang**, Z Huang, H Jiang, J Wiegel, W Li, H Dong

0800h **B51A-0337** POSTER Factors affecting Archaeal Lipid Compositions of the Sulfolobus Species: **L He**, J Han, Y Wei, L Lin, Y Wei, C Zhang

0800h **B51A-0338** POSTER Diversity of Cultured Thermophilic Anaerobes in Hot Springs of Yunnan Province, China: **L Lin**, Y Lu, X Dong, X Liu, Y Wei, X Ji, C Zhang

0800h **B51A-0339** POSTER Detection and Isolation Techniques for Methanogens from Microbial Mats (in the El Tatio Geyser Field, Chile): **E Z Pearson**, M A Franks, P Bennett

0800h **B51A-0340** POSTER Microbial lifestyles that enable survival in lithifying habitats: **M Hirst**, L N Dossing, P Tamez, S Ziegler, K Hanselmann, A L Sessions, J R Spear, H Johnson, W Berelson, F A Corsetti, S Dawson, J R de la Torre, I USC Wrigley Institute

0800h **B51A-0341** POSTER Carbon uptake in low dissolved inorganic carbon environments: the effect of limited carbon availability on photosynthetic organisms in thermal waters: **K D Myers**, C R Omelon, P Bennett

0800h **B51A-0342** POSTER Free energy generation and transfers from Archean hydrothermal vents to the first metabolism: **E Simoncini**, A Kleidon

0800h **B51A-0343** POSTER Environmental consequences of geochemical change in hot spring ecosystems: **J R Havig**, E Shock

0800h **B51A-0344** POSTER Geochemical dynamics in selected Yellowstone hydrothermal features: **G Druschel**, A Kamyshny, A Findlay, D Nuzzio

0800h **B51A-0345** POSTER Strontium and oxygen isotopic profiles through 3 km of hydrothermally altered oceanic crust in the Reykjanes Geothermal System, Iceland: **N E Marks**, R A Zierenberg, P Schiffman

B51B Moscone South: Poster Hall Friday 0800h
Integrating Advances in Molecular Studies of Denitrification With Biogeochemistry at Larger Scales II Posters (joint with A, GC, OS, H)

Presiding: **M K Firestone**, University of California, Berkeley; **M A Voytek**, USGS; **D D Myrold**, Oregon State University; **E A Davidson**, Woods Hole Research Ctr

0800h **B51B-0346** POSTER Mapping spatial patterns of denitrifiers for bridging community ecology and microbial processes along environmental gradients: **D Bru**, J Cuhel, N Saby, D Cheneby, A Chronokova, D Arrouays, F Martin-Laurent, M Simek

0800h **B51B-0347** POSTER Are Isotopologue Signatures of N₂O from Bacterial Denitrifiers Indicative of NOR Type?: **R Well**, G Braker, A Giesemann, H Flessa

0800h **B51B-0348** POSTER Linking potential denitrification rates to microbial gene abundances in multiple boreal ecosystems: D G Petersen, S Blazewicz, D J Herman, M K Firestone, **M P Waldrop**

0800h **B51B-0349** POSTER Molecular and Stable Isotope Investigation of Nitrite Respiring Bacterial Communities Capable of Anaerobic Ammonium Oxidation (ANAMMOX) and Denitrifying Anaerobic Methane Oxidation (DAMO) in Nitrogen Contaminated Groundwater: **B Song**, M Hirsch, J Taylor, R L Smith, D Repert, C R Tobias

0800h **B51B-0350** POSTER Quantifying Temporal Autocorrelations for the Expression of *Geobacter* species mRNA Gene Transcripts at Variable Ammonium Levels during *in situ* U(VI) Bioremediation: **P J Mouser**

0800h **B51B-0351** POSTER Transcription of denitrification genes and kinetics of NO, N₂O and N₂ by soil bacteria as affected by pH: **B Liu**, L R Bakken, A Frostegard

0800h **B51B-0352** POSTER Quantifying Nitrogen Loss From Flooded Hawaiian Taro Fields: **J L Deenik**, C R Penton, G L Bruland, B N Popp, P Engstrom, J A Mueller, J Tiedje

0800h **B51B-0353** POSTER Denitrification in the karstic Floridan Aquifer: **M Fork**, A R Albertin, J B Heffernan, B G Katz, M J Cohen

0800h **B51B-0354** POSTER Using Transcripts Abundance to Identify the Origin of Nitrous Oxide Emissions During Soil Wet-Up: **S A Placella**, D J Herman, M K Firestone

0800h **B51B-0355** POSTER Mapping the distribution of the denitrifier community at large scales (Invited): **L Philippot**, D Bru, A Ramette, S Dequiedt, L Ranjard, C Jolivet, D Arrouays

0800h **B51B-0356** POSTER Groundwater denitrification and denitrifer gene abundances at varying hydrogeological settings in Ireland: **M M Jahangir**, M Barrett, P Johnston, V O'Flaherty, M I Khalil, K Richards

0800h **B51B-0357** POSTER Comparing spatial and temporal dynamics of anammox and denitrifying communities at Cape Fear River Estuary and New River Estuary, North Carolina: **J A Lisa**, M D Hirsch, K A Duernberger, C R Tobias, B Song

0800h **B51B-0358** POSTER Use of Novel Whole Core Incubations to Measure the Fate of Fertilizer N in a Flooded Agricultural System: **C R Penton**, G L Bruland, B N Popp, P Engstrom, J Tiedje, G A Brown, J L Deenik

0800h **B51B-0359** POSTER Greater absolute rates of N₂O production and consumption with soil warming dwarf variations in denitrification enzyme temperature sensitivities across seasons: **L K Tiemann**, S A Billings

B51C Moscone South: Poster Hall Friday 0800h
Metal and Radionuclide Transformation and Remediation in Biogeochemically Dynamic Subsurface Environments I Posters (joint with V)

Presiding: **M S Olson**, Drexel University; **K L Skubal**, U.S. Dept. of Energy; **E M Pierce**

0800h **B51C-0360** POSTER The benefits of competition: Rapid-scan FTIR reveals that goethite enhances initial As oxidation via Mn-oxides (Invited): **S J Parikh**, D L Sparks

0800h **B51C-0361** POSTER An Infrared Spectroscopy Study Of Pb(II) And Siderophore Sorption To Montmorillonite: **P A Maurice**, E L Hunter, A N Quicksall, E Haack, C T Johnston

0800h **B51C-0362** POSTER Simulation of in situ uranium bioremediation with slow-release organic amendment injection: **F Zhang**, J Parker, M Ye, G Tang, W Wu, T Mehlhorn, T M Gihring, C Schadt, D B Watson, S C Brooks

0800h **B51C-0363** POSTER Decision Framework for Applying Attenuation Processes to Metals and Radionuclides: **J Nyman**, D Goswami, C Spreng

0800h **B51C-0364** POSTER Radiotracer Imaging of Sediment Columns: **W W Moses**, J P O'Neil, R Boutchko, P S Nico, J L Druhan, N T Vandehey

0800h **B51C-0365** POSTER Calcium-Citrate-Phosphate Solution Injection for In Situ Strontium-90 Immobilization: J S Fruchter, **V Vermeul**, J Szecsody, M D Williams, B G Fritz

0800h **B51C-0366** POSTER Microbial impacts on the geochemistry evolution in a nuclear waste repository -Laboratory experiment of microbially mediated redox changes-: **T Nagaoka**

0800h **B51C-0367** POSTER Assessing the utility of mixed organic materials for removal of metals in mine drainage impacted waters: **H Song**, C Neculita, G Lee, J Jeong, D Cho, S Chang

0800h **B51C-0368** POSTER Biogeochemical dynamics of pollutants in Insitu groundwater remediation systems: **N Kumar**, R Millot, J Rose, P Négrel, F Battaglia-Brunnet, L Diels

0800h **B51C-0369** POSTER Oxidative Dissolution of Uraninite in the Presence of Mackinawite (FeS) under Simulated Groundwater Conditions: **Y Bi**, S Hyun, K F Hayes

0800h **B51C-0370** POSTER Enhanced Amendment Delivery to Subsurface Using Shear Thinning Fluid and Aqueous Foam for Metal, Radionuclide, and NAPL Remediation: **L Zhong**, J Szecsody, X Li, M Oostrom, M Truex

0800h **B51C-0371** POSTER Perspective of Using the Results of Monitoring and Modeling of the Chernobyl Nuclear Power Plant's Cooling Pond as Analogue for the US DOE Contaminated Sites: **B Faybishenko**, O V Voitsekhovich, D Bugay, A Skalskij, V M Shestopalov, M Zheleznyak, V A Kashparov, A S Antropov, S I Kireev, M D Bondarkov, Y Ivanov, B Oskolkov, J Marra, T Jannik, E Farfan, H Monken-Fernandes, T Hinton, J Smith, Y Onishi, A Konoplev

0800h **B51C-0372** POSTER Natural organic matter influences the dissolution and stability of reduced technetium(IV) and uranium(IV): **B Gu**, W Dong, L Liang, N Wall

0800h **B51C-0373** POSTER Chromium Isotopic Fractionation During Biogeochemical Cr (IV) Reduction in Hanford Sediment Column Experiments with Native Aquifer Microbial Communities: **L Qin**, J N Christensen, S T Brown, L Yang, M E Conrad, E L Sonnenthal, H R Beller

0800h **B51C-0374** POSTER Synchrotron X-ray characterization of mackinawite and uraninite relevant to bio-remediation of groundwater contaminated with uranium: **J Carpenter**, S Hyun, K F Hayes

0800h **B51C-0375** POSTER Geochemical Characteristics of the Contaminant Waste Plume in the F-Area of the Savannah River Site: From Kilometer to Micrometer Scales: **W Dong**, J Wan, M Denham, J C Seaman, S Rakshit, T K Tokunaga, N Spycher, S S Hubbard

0800h **B51C-0376** WITHDRAWN

0800h **B51C-0377** POSTER Spectroscopic analysis of chromium bioremediation products: **C Varadharajan**, P S Nico, L Yang, M A Marcus, C Steefel, J T Larsen, H R Beller, E L Brodie

0800h **B51C-0378** POSTER Kinetics of Abiotic Uranium(VI) Reduction by Sulfide: **S Hyun**, J A Davis, K F Hayes

0800h **B51C-0379** POSTER Growth rate characteristics of acidophilic heterotrophic organisms from mine waste rock piles: **T W Yacob**, J Silverstein, J Jenkins, B J Andre, H Rajaram

0800h **B51C-0380** POSTER Pilot Tests of Enhanced Denitrification Using Ethanol: **A K Borden**, K C Carroll, N H Akyol, J L Berkompas, Z Miao, W J Waugh, E P Glenn, M Brusseau

0800h **B51C-0381** POSTER Flow-through Column Experiments and Modeling of Microbially Mediated Cr(VI) Reduction at Hanford 100H: **L Yang**, S Molins, H R Beller, E L Brodie, C Steefel, P S Nico, R Han

0800h **B51C-0382** WITHDRAWN

B51D Moscone South: Poster Hall Friday 0800h
Metal Sorption on Organic and Inorganic Surfaces: From Laboratory to Model to Field II Posters (*joint with H, EP, V*)

Presiding: J Schijf, UMCES; **K H Johannesson**, Tulane University

0800h **B51D-0384** POSTER Effect of Transport and Aging Processes on Metal Speciation in Iron Oxyhydroxide Aggregates, Tar Creek Superfund Site, Oklahoma: **E R Estes**, L A Schaidler, J P Shine, D J Brabander

0800h **B51D-0385** POSTER Sorption behavior of heavy metal oxyanions on iron-oxyhydroxysulfate minerals: **E Jung**, G Keum, Y Kim

0800h **B51D-0386** POSTER Adsorption of Heavy Metals in Industrial Wastewater by Magnetic Nano-particles: **Y Tu**, C You

0800h **B51D-0387** POSTER Zinc Leaching from Tire Crumb Rubber: **E P Rhodes**, J Ren, D C Mays

0800h **B51D-0388** POSTER Competitive adsorption of copper and zinc ions in two natural soils: **E Bianchi Janetti**, M Riva, A Guadagnini, I Dror, B Berkowitz

0800h **B51D-0389** POSTER Cadmium sorption onto Natural Red Earth - An assessment using batch experiments and surface complexation modeling: **K Mahatantila**, O Minoru, Y Seike, M S Vithanage

0800h **B51D-0390** POSTER Use of synchrotron radiation to characterize metals in plants: the case of Cd in the hyperaccumulator *Arabidopsis halleri*: **M Isaure**, G Sarret, N Verbruggen

0800h **B51D-0391** POSTER Changes in the Kinetics of Uranium(VI) Sorption Reactions to Mineral Surfaces in the Presence of Fulvic Acid: B D Honeyman, **R M Tinnacher**

0800h **B51D-0392** POSTER Europium(III), Colloidal α -Al₂O₃ and Humic Acid Interactions: **N Janot**, M F Benedetti, P Reiller

0800h **B51D-0393** POSTER YREE sorption on hydrous manganese oxide (MnO_x) in 0.5 M NaCl: **K S Marshall**, J Schijf

0800h **B51D-0394** POSTER An Experimental Study of Germanium Sorption on Organic Matter and its Implications for Ge/Si Ratios in Natural Waters: **RL Parsons**, A Galy

0800h **B51D-0395** POSTER Fractionation of stable Sr isotopes during carbonate precipitation and surface sorption process: **H Liu**, C You, K Huang, Y Tu, C Chung

B51E Moscone South: Poster Hall Friday 0800h
Microbes and Organic Matter in Marine Environments Posters (*joint with OS, V*)

Presiding: J Bhaskar, Universidade do Algarve

0800h **B51E-0397** POSTER Archaeal Diversity in Marine Sediments in the South China Sea: **Y Wei**, P Wang, Z Liu, M Zhao, C Zhang

0800h **B51E-0398** POSTER Reactivity of Dissolved Organic Carbon in Santa Monica Basin Sediments: Clues From Carbon Isotope Signatures: **T Komada**, D J Burdige, S M Crispo, E R Druffel, S Griffin, L Johnson

0800h **B51E-0399** POSTER Archaeal diversity in surface sediments of the South China Sea: **P Wang**, Y Wei, C Zhang

0800h **B51E-0400** POSTER Methane Oxidation in the Eastern Tropical North Pacific: **M A Pack**, M B Heintz, W S Reeburgh, S Trumbore, D L Valentine, X Xu, E R Druffel
0800h **B51E-0401** POSTER Seasonal and tidal variations in primary and secondary productions in the Guadiana estuary, southeast of Portugal: **B V Parli**, H Galvao
0800h **B51E-0402** POSTER Photochemical Control of Organic Carbon Availability to Coastal Microbial Communities: **W L Miller**, H E Reader, L C Powers
0800h **B51E-0403** POSTER Rates and environmental controls of sediment N and S cycles in diverse aquatic ecosystems: **C Gu**, C E Pallud

B51F Moscone South: Poster Hall Friday 0800h
Paleoecology of Climate Change in Pre-Neogene Continental Environments II Posters (*joint with GC, PP, EP*)

Presiding: **A Jahren**, University of Hawaii at Honolulu;
J H Whiteside, Brown University

0800h **B51F-0404** POSTER Permian U-Pb (CA-TIMS) zircon ages from Australia and China: Constraining the time scale of environmental and biotic change: **S W Denyszyn**, R Mundil, I Metcalfe, B He
0800h **B51F-0405** POSTER Geologic mapping as a method for the construction of a detailed and testable lithostratigraphic model for the Upper Triassic Chinle Formation of Petrified Forest National Park, Arizona: **L A Skinner**, J W Martz, W Parker, J Raucci, P J Umhoefer
0800h **B51F-0406** WITHDRAWN
0800h **B51F-0407** POSTER Integrated Record of Terrestrial Biotic Change from the Upper Triassic Chinle Formation of northern New Mexico: **R B Irmis**, S Lindström, M Dunlavy, J H Whiteside
0800h **B51F-0408** POSTER Environmental Fluctuations during the Rise of Dinosaurs in Western North America: **M Dunlavy**, J H Whiteside, S Lindström, R B Irmis
0800h **B51F-0409** POSTER TIMING OF THE END-TRIASSIC EXTINCTIONS ON LAND: THE MOENAVE FORMATION ON THE SOUTHERN COLORADO PLATEAU, USA: **S G Lucas**, L H Tanner, J W Geissman, L L Hurlay, H Kozur, A Heckert, W Kuerschner, R Weems
0800h **B51F-0410** POSTER New Paleoenvironmental and Biotic Records from the Triassic-Jurassic Boundary Interval of the Algarve Basin, Portugal: **A H Kasprak**, J H Whiteside, F M Lopes, S L Brusatte, R J Butler, O Mateus
0800h **B51F-0411** POSTER Paleosol-derived estimates of atmospheric pCO₂ perturbations associated with the ~201.5 Ma Central Atlantic Magmatic Province: **M F Schaller**, J D Wright, D V Kent
0800h **B51F-0412** POSTER CLIMATIC INFERENCES FROM EXTANT AND FOSSIL REPTILES: TOWARD A METABOLIC PALEOTHERMOMETER: **J J Head**
0800h **B51F-0413** POSTER Changes in Non-Marine Vertebrate Assemblages from the Late Cretaceous of Southern Alberta, Canada and their Relationship to Changes in Mean Annual Temperature: **D B Brinkman**
0800h **B51F-0414** POSTER A Cretaceous terrestrial isotope record: implications for correlation and determining the link between terrestrial and marine biotic events (*Invited*): **D R Grocke**
0800h **B51F-0415** POSTER Astronomically forced paleoclimate change from middle Eocene to early Oligocene: continental conditions in central China compared with the global marine isotope record: C Huang, **L A Hinnov**

0800h **B51F-0416** POSTER A terrestrial Eocene stack: tying terrestrial lake ecology to marine carbon cycling through the Early Eocene Climatic Optimum: **D S Grogan**, J H Whiteside, D Musher, S Z Rosengard, M A Vankeuren, R D Pancost
0800h **B51F-0417** POSTER Biotic Response in Aquatic Reptiles (Testudines) during Earliest Eocene Climatic Warming: **P A Holroyd**, J H Hutchison
0800h **B51F-0418** POSTER Multi-proxy records of Eocene vegetation and climatic dynamics from North America: **N D Sheldon**, S Y Smith, C A Stromberg, E Hyland, L A Miller
0800h **B51F-0419** POSTER Characteristics and temporal significance of middle Eocene laminated sediments from the central Arctic: **C E Stickley**, N Koç, R B Pearce, A E Kemp
0800h **B51F-0420** POSTER Occurrence and distribution of bacterial tetraether lipids in the Eocene Canadian Arctic paleosols: paleoclimate implications (*Invited*): **S Mehay**, A Jahren, B Schubert, J J Eberle, R E Summons
0800h **B51F-0421** POSTER Total Summer Precipitation Estimated for the Early Eocene Arctic from High-Resolution Intra-ring Analyses of Fossil Wood: **B Schubert**, A Jahren

B51G Moscone South: Poster Hall Friday 0800h
Process-Based Approaches in Geobiology: Understanding Modern and Ancient Systems I Posters (*joint with GC, PP, V*)

Presiding: **D A Fike**, Washington University; **W W Fischer**, Caltech

0800h **B51G-0422** POSTER Recalibrating the concentration of Precambrian seawater sulfate: **D T Johnston**, A S Bradley, A Hoarfrost, P R Girguis
0800h **B51G-0423** POSTER Si isotopes in ancient marine cherts provide a test of hypotheses for the origin of banded iron formation: **W W Fischer**, J Eiler
0800h **B51G-0424** POSTER New Constraints on Archean Sulfur Cycling from the Spatial Variability of Mass-Dependent and Mass-Independent Isotopic Signatures: **D A Fike**, W W Fischer
0800h **B51G-0425** POSTER Constraints on Early Triassic carbon cycle dynamics from paired organic and inorganic carbon isotope records: **K M Meyer**, M Yu, J Payne
0800h **B51G-0426** POSTER On the geographic and stratigraphic variability of the Hirnantian positive carbon isotope excursion across Anticosti Island, Canada: **D S Jones**, D A Fike, S Finnegan, W W Fischer
0800h **B51G-0427** POSTER A Lipid Biomarker Stratigraphic Record through the Late Ordovician Mass Extinction: **M Rohrsen**, G D Love, D A Fike, S Finnegan, W W Fischer, D S Jones
0800h **B51G-0428** POSTER Reassessing The Recovery of Marine Primary Production After the Cretaceous-Paleogene Mass Extinction: **J Sepúlveda**, L Alegret, E Wootton, R E Summons
0800h **B51G-0429** POSTER An Integrated Organic-Inorganic Geochemical Study of the 1.64 Ga Barney Creek Formation in Australia (*Invited*): **A E Kelly**, G D Love, T W Lyons, A D Anbar
0800h **B51G-0430** POSTER Stable Chromium Isotopes as tracer of changes in weathering processes and redox state of the ocean during Neoproterozoic glaciation: **L N Dossing**, C Gaucher, P C Boggiani, R Frei
0800h **B51G-0431** POSTER Estimating environmental conditions of carbonate crystal fan formation: **K D Bergmann**, W W Fischer
0800h **B51G-0432** POSTER Biophysical basis for the geometry of coniform stromatolites: **A Petroff**, B Liang, T Wu, S P Templer, J Guerquin-Kern, H Vali, M Sim, D Rothman, T Bosak

0800h **B51G-0433** POSTER Influences of Biogenic Gas Production on Lamina-Scale Microbial Microfabrics in Modern and Ancient Stromatolites: **C L Harwood**, K G Eilers, S A Mata, N J Stork, F A Corsetti, J R Spear, Title of Team: The International Geobiology Course 2010

0800h **B51G-0434** POSTER Fossil evidence for life in post-Sturtian cap carbonates of the Rasthof Formation, northern Namibia: **S B Pruss**, T Bosak, L Dalton, D Lahr, F A Macdonald

0800h **B51G-0435** POSTER Tubular microfossils from the Sturtian cap carbonates of the Rasthof Formation: **E D Matys**, S B Pruss, L Dalton, D Lahr, F A Macdonald, T Bosak

0800h **B51G-0436** POSTER Organo-mineral imprints in fossil cyanobacterial mats of an Antarctic lake: **E J Javaux**, K Lepot, L Deremiens, Z Namsaraev, P Compere, E Gerard, E Verleyen, I Tavernier, D Hodgson, W Vyverman, A Wilmotte

0800h **B51G-0437** POSTER Biomineralization by a Newly-Isolated Stalk-Forming Fe-oxidizing Bacterium: Towards Interpretation of Putative Fe Microfossils: **S T Krepski**, C S Chan

0800h **B51G-0438** POSTER Facultative anoxygenic photosynthesis in cyanobacteria driven by arsenite and sulfide with evidence for the support of nitrogen fixation: **F Wolfe-Simon**, S E Hoeft, S M Baesman, R S Oremland

0800h **B51G-0439** POSTER Investigating the Formation Mechanisms and Inorganic Precursors of Formate and Acetate in Lost City Hydrothermal Fluids: **S Q Lang**, S M Bernasconi, G Früh-Green

0800h **B51G-0440** POSTER High-Resolution Magnetic Susceptibility Stratigraphy Spanning Late Devonian Global Change from a New Scientific Drillcore in Canning Basin, Northwest Australia: **M R Diamond**, T D Raub, J L Kirschvink, T E Playton, R M Hocking, P Haines, S Tulipani

0800h **B51G-0441** POSTER Field calibration of stable isotopes ($\delta^{18}\text{O}$) in coccoliths : Toward an accurate carbonate record-based reconstruction of the photic zone temperature: **Y Candelier**, F Minoletti, M Hermoso, I Probert

0800h **B51G-0442** POSTER RECONSTRUCTING AQUATIC ENVIRONMENT AND VOLCANIC CRATER LAKE EVOLUTION IN THE SIBERIAN TRAPS: **K Fristad**, H Svensen, N Pedentchouk, S Planke, A G Polozov

0800h **B51G-0443** POSTER Molecular analysis of benthic biofilms from acidic coal mine drainage, Pennsylvania, USA: **D B Mills**, D S Jones, W D Burgos, J L Macalady

0800h **B51G-0444** POSTER Composition of Microbial Communities in Blount Springs, Alabama and Assessment of their Chemolithotrophic Capabilities: **T Morrissey**, P Aharon, J Olson

B51H Moscone South: Poster Hall Friday 0800h
The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition, and Terrestrial and Aquatic Ecosystem Impacts II Posters (joint with A, H, OS)

Presiding: **E M Elliott**, University of Pittsburgh; **M G Hastings**, Brown University; **KE Altieri**, Princeton University

0800h **B51H-0445** POSTER The terrestrial nitrogen budget of the United Kingdom: **F Worrall**, T P Burt, N K Howden, M Whelan

0800h **B51H-0446** POSTER A nitrogen mass balance for California: **D Liptzin**, R A Dahlgren

0800h **B51H-0447** POSTER Gaseous N fluxes in Mediterranean catchments: from low elevation chaparral to high elevation subalpine ecosystems: **P M Homyak**, J O Sickman

0800h **B51H-0448** POSTER INPUTS OF NITROGEN TO BOGS OF ALBERTA, CANADA: THE IMPORTANCE OF BIOLOGICAL NITROGEN FIXATION VS. ATMOSPHERIC DEPOSITION FROM OIL SANDS MINING: **T Prsa**, M A Vile, R Wieder, D H Vitt

0800h **B51H-0449** POSTER IMPACT OF OILS SANDS MINING ON NITROGEN-LIMITED PEATLAND ECOSYSTEMS IN ALBERTA CANADA: **M A Vile**, R Wieder, K Scott, T Prsa, J Quinn, D H Vitt

0800h **B51H-0450** WITHDRAWN

0800h **B51H-0451** POSTER A 115-year $\delta^{15}\text{N}$ record of cumulative nitrogen pollution in California serpentine grasslands: **D Vallano**, E S Zavaleta

0800h **B51H-0452** POSTER Variation in Foliar Nitrogen and Albedo in Response to Elevated Nitrogen and Carbon Dioxide: **H F Wicklein**, S V Ollinger, M M Martin, D Y Hollinger, M K Bartlett, A D Richardson

0800h **B51H-0453** POSTER Low-rate nitrogen input can change the soil CH₄ uptake in an alpine meadow ecosystem on Qinghai-Tibetan Plateau: **H Fang**, S Cheng, G Yu, T Zhu, J Zheng

0800h **B51H-0454** POSTER Dual stable isotopic analysis of nitrogen and oxygen to evaluate sources and sinks of atmospheric anthropogenic nitrate in the Colorado Desert: **MD Bell**, E B Allen, J O Sickman

0800h **B51H-0455** POSTER Estimating ammonia volatilization and deposition from fertilized vegetation: M W Heuer, **L Myles**

0800h **B51H-0456** POSTER Quantifying Ammonia Emissions from High Elevation Grassland and Forest Soils: **JJ Stratton**, E J Levin, J M Ham, J L Collett, T Borch

0800h **B51H-0457** POSTER Geochemical and Isotopic Composition of Aerosols in Tucson: **K M Riha**, G M Michalski, K A Lohse, E L Gallo, P D Brooks, T Meixner

0800h **B51H-0458** POSTER Identifying organic nitrogen compounds in Rocky Mountain National Park aerosols: **K B Beem**, Y Desyaterik, M Z Ozel, J F Hamilton, J L Collett

0800h **B51H-0459** POSTER Tracing the fate of atmospheric nitrate deposited onto an oligotrophic lake in eastern Asia: **U Tsunogai**, S Daita, D D Komatsu, F Nakagawa, A Tanaka

0800h **B51H-0460** POSTER Characterization of Two Efficient Aerobic Denitrifying Strains Isolated from Shallow Aquifers in Suzhou City, China: **X Ruan**, X Zhu, H Sun, M Li

0800h **B51H-0461** POSTER *In situ* Detection and Habitat Characteristics Analysis of Anammox Bacteria in Sediments from River-network Area, Yangtze River Delta: **Y Zhang**, X Ruan, J Ao, T Ma

B51I Moscone South: Poster Hall Friday 0800h
The Ecosystem of Silicon-Utilizing Organisms Posters (joint with V)

Presiding: **S Das**, Peerless Hospital & B. K. Roy Research Centre; **P Das**, Das Research Centre & Clinical Laboratory

0800h **B51I-0462** POSTER Ecosystem of silicon utilizing organisms in the lost world: **S Das**

0800h **B51I-0463** POSTER Silicate Abundance and its Significance in the Hooghly-Matla Estuary, India (Invited): **T Ghosh**, A Akhand

0800h **B51I-0464** POSTER Silica distribution in various bamboos species and its effects on plant growth: **B Collin**, J Meunier, C Keller, E Doelsch, F Panfili

0800h **B51I-0465** POSTER Silicon Biomineralization on the Earth: **D Mitra**, S Das

0800h **B51I-0466** POSTER A general classification of silicon utilizing organisms: **P Das**, S Das

0800h **B51I-0467** POSTER Unperturbed ecosystem of silicon utilizing microorganisms in mass extinctions: **D Chakraborty**, S Das

B51J Moscone West: 2002 Friday 0800h
Active Remote Sensing Measurements of Vegetation 3-D Structure and Biomass: Assessing Accuracy and Sources of Uncertainty II (joint with G)

Presiding: **M Simard**, Jet Propulsion Laboratory; **B D Cook**, NASA Goddard Space Flight Center

0800h **B51J-01** From plot to province; scaling field mensuration to stand-level lidar to public GIS data in a hierarchical approach to map regional forest biomass: **C Hopkinson**, D Colville, D Bourdeau, S Monette, A Fox, R Maher

0815h **B51J-02** Mapping Canopy Height and Biomass Dynamics in the Sierra Nevada using Waveform Lidar: **A Swatantran**, R Dubayah, M A Hofton, B Blair

0830h **B51J-03** Predicted Canopy Height Retrieval Errors for the ICESat-2 mission (Invited): **A L Neuenschwander**, B Peterson, R Nelson

0845h **B51J-04** Combining high fidelity simulations and real data for improved small-footprint waveform lidar assessment of vegetation structure (Invited): **J A van Aardt**, J Wu, G P Asner

0900h **B51J-05** A Bayesian functional data model for predicting forest variables using high-dimensional waveform LiDAR over large geographic domains: **A O Finley**, S Banerjee, B D Cook

0915h **B51J-06** Linking tree size distribution to active remote sensing parameters: consequences for observation strategies and impacts on biomass retrieval (Invited): **N Pinto**, M Simard, K D Behrman, T H Keitt

0930h **B51J-07** Tropical Vegetation Height and Aboveground Biomass Derived from Field and Multi-Sensor Satellite Data (Invited): **A Baccini**, W S Walker, M Sun, C Stickler, N T Laporte, J M Kellndorfer, S J Goetz

0945h **B51J-08** Soil Moisture Differences Cause Variation in the Relationship Between L Band SAR Backscatter and Aboveground Biomass: **E S Kasischke**, M Tanase, L Bourgeau-Chavez, M Borr

B51K Moscone West: 2006 Friday 0800h
Carbon Sequestration in the Biosphere: Biogeochemistry and Biophysics II (joint with A, GC, H, OS)

Presiding: **N Zeng**, University of Maryland; **K Caldeira**, Carnegie Institution; **S D Wullschlegel**, Oar Ridge National Laboratory; **V L Bailey**, Pacific Northwest National Laboratory

0800h **B51K-01** Carbon Sequestration in Forests and Agricultural Soils (Invited): **W H Schlesinger**

0815h **B51K-02** Carbon sequestration and atmospheric CO₂ removal: climate consequence and long-term commitment: **L Cao**, K Caldeira

0830h **B51K-03** Carbon sequestration through wood burial and storage: practical potential and policy considerations (Invited): **B F Zaitchik**, A W King, N Zeng, S Hamburg, D Abbas, T West, G Marland, S D Wullschlegel

0845h **B51K-04** Management effects on carbon fluxes in boreal forests (Invited): **A Lindroth**, M Mölder, F Lagergren, P Vestin, M Hellström, E Sundqvist, Title of Team: The Norunda BGS team

0900h **B51K-05** The contribution of harvest residue to ecosystem carbon balance over the production cycle of managed forests: **A Noormets**, S McNulty, J domec, M J Gavazzi, E Treasure, G Sun, J S King, J Chen

0915h **B51K-06** Whole-system carbon balance for a regional temperate forest in Northern Wisconsin, USA: **S D Peckham**, S T Gower

0930h **B51K-07** Changes in Carbon Pools 50 Years after Reversion of a Landscape Dominated by Agriculture to Managed Forests in the Upper Southeastern Atlantic Coastal Plain: **Z Dai**, C Trettin, B R Parresol, C Li

0945h **B51K-08** Assessment of large-scale afforestation as a climate change mitigation strategy: **V Arora**, A Montenegro

B51L Moscone West: 2004 Friday 0800h
North American Carbon Program Synthesis Results and Similar Model-Data Comparisons II (joint with GC)

Presiding: **K M Schaefer**, National Snow and Ice Data Center; **S M Ogle**, Colorado State University; **D N Huntzinger**, University of Michigan; **L Goncalves**, NASA and University of Maryland

0800h **B51L-01** NACP Synthesis: Evaluating modeled carbon state and flux variables against multiple observational constraints (Invited): **P E Thornton**, Title of Team: NACP Site Synthesis Participants

0815h **B51L-02** Comparing Simulated and Observed Gross Primary Productivity: **K M Schaefer**, Title of Team: Site Synthesis Participants

0830h **B51L-03** North American Carbon Balance: Results from the Regional Synthesis Project of the North America Carbon Program (Invited): **M Post**, D N Huntzinger, K J Davis, B M Raczka, D J Hayes, A M Michalak, Y Wei, A R Jacobson, R B Cook, Title of Team: NACP Regional-Interim Synthesis Participants

0845h **B51L-04** The Influence of Surface Flux Distribution and Magnitude on the Atmospheric Concentration Signals at Towers within North America: **D N Huntzinger**, S M Gourdji, K L Mueller, A M Michalak

0900h **B51L-05** Top-down bottom-up comparisons of the Mid-Continental Intensive (MCI) Region. (Invited): **A E Schuh**, S M Ogle, K J Davis, A Denning, T LAUVAUX, N L Miles, S Richardson, A R Jacobson, A E Andrews, M Uliasz, L I Diaz Isaac, T O West, D S Cooley

0915h **B51L-06** Observed and modeled carbon and energy fluxes for agricultural sites under North American Carbon Program site-level interim synthesis: **E Y Lokupitiya**, A Denning

0930h **B51L-07** Results from the LBA Data-Model Intercomparison Project: **L Goncalves**, S R Saleska, N Restrepo-Coupe, I T Baker, B J Christoffersen, M N Muza, M H Costa, H da Rocha, D L Herdies, X Zeng, W J Shuttleworth, P A Arkin, Title of Team: The LBA-DMIP Scientific Team

0945h **B51L-08** Data filtering as a tool for model evaluation against uncertain flux data – application to LBA-DMIP model results (Invited): **M H Costa**, H A Imbuzeiro, V H Benezoli

Cryosphere

C51A Moscone South: Poster Hall Friday 0800h
Remote Sensing of the Cryosphere I Posters (joint with H, OS, G)

Presiding: **T H Painter**, Jet Propulsion Laboratory; **T Neumann**, NASA Goddard Space Flight Ctr.

0800h **C51A-0468** POSTER A POSSIBLE MECHANISM FOR INVERSE DEPENDENCE OF RADAR BACKSCATTER ON SNOW ACCUMULATION RATE: **B S Yurchak**, W Abdalati

- 0800h **C51A-0469** POSTER EVALUATION OF THE EFFECT OF WEATHER ON THE AMSR-E SNOW-DEPTH-ON-SEA-ICE PRODUCT IN THE ARCTIC: **L Brucker**, T Markus
- 0800h **C51A-0470** POSTER Monitoring Inland Ice Cover under All-weather Conditions with the Combined Use of Microwave and GOES-R Observations: **Y Liu**, J R Key, X Wang
- 0800h **C51A-0471** POSTER New Approaches for Soil Moisture Analysis over Complex Arctic Environments with PALSAR/ALOS: N Long  p  , **M Necsoiu**, T Tadono, M Shimada
- 0800h **C51A-0472** POSTER Winter MODIS observations of West Greenland fjord ice activity: **R K Cassotto**, M A Fahnestock, J M Amundson
- 0800h **C51A-0473** POSTER Effect of clouds on microwave brightness temperatures and derived products over sea ice: examples from AMSR-E observations in both polar regions: **D Fross**, J F Heinrichs
- 0800h **C51A-0474** POSTER Towards an automated lake ice monitoring system from SAR imagery: S Ochilov, **N A Svacina**, C R Duguay, D A Clausi
- 0800h **C51A-0475** POSTER Detection of glacier lake using ALOS PALSAR data at Bhutan: **T Yamanokuchi**, T Tadono, N Tomiyama
- 0800h **C51A-0476** POSTER Pan-Arctic land surface temperature from MODIS and AATSR: Product development and comparison with multi-source data: **A Soliman**, C R Duguay, S Hachem, W Saunders, K A Luus
- 0800h **C51A-0477** POSTER MODIS Data and Services at the National Snow and Ice Data Center (NSIDC): M McAllister, **D K Fowler**
- 0800h **C51A-0478** POSTER The dynamics of flow and sediment transport during Karakoram surge cycles: **D J Quincey**, M P Bishop, H Sevestre, N F Glasser
- 0800h **C51A-0479** POSTER A snow/atmosphere physical parameter algorithm for the GCOM-C1/SGLI sensor: **T Tanikawa**, N Chen, Y Fan, W Li, K H Stamnes
- 0800h **C51A-0480** POSTER Construction of Three Dimensional Geometry for Greenland Supraglacial Lake Basins and Estimation of Lake Water Volume from ICESat data: **L Li**, H A Fricker
- 0800h **C51A-0481** POSTER New Digital Glacier Database for Svalbard: M K  nig, C Nuth, **J Kohler**
- 0800h **C51A-0482** POSTER A study of the surface temperature and the thickness of the Arctic sea ice: R B Herman, **B Zhao**, D Blake
- 0800h **C51A-0483** POSTER A ground penetrating radar study of the Arctic sea ice near Barrow, Alaska: J M McLaughlin, **J McLarty**, R B Herman
- 0800h **C51A-0484** POSTER Identifying the Influence of Variable Ice Types on Passive and Active Microwave Measurements for the Purpose of SWE Retrieval: **G E Gunn**, C R Duguay, C Derksen
- 0800h **C51A-0485** POSTER Satellite optical feature tracking in southern Alaska: Ice surface velocity maps for Tustumena Glacier: **J B Turrin**, R R Forster, D K Hall
- 0800h **C51A-0486** POSTER InSAR Analysis of North American Periglacial Phenomena: **N Hopkins**, F G Gomez
- 0800h **C51A-0487** POSTER Placing recent changes in Greenland's outlet glaciers into a historical context: T Murray, **T D James**, K Scharrer, S L Bevan
- 0800h **C51A-0488** POSTER Annual Snow Assessments Using Multi-spectral and Passive Microwave Remote Sensing: **S F Daly**, C M Vuyovich, E J Deeb, S D Newman, T B Baldwin
- 0800h **C51A-0489** POSTER OCoc-from Ocean Colour to Organic Carbon: **B Heim**, R Doerffer, P P Overduin, H Lantuit, J A Hoelemann, H Kassens, C Wegner
- 0800h **C51A-0490** POSTER 1998-2010: Interannual variability of snow coverage in the Himalayan mountains: **P Maisongrande**, V Jelinski, E Berthier, A Lobo, B Duchemin
- 0800h **C51A-0491** POSTER Potential for hydrologic monitoring of deep mountain snowpack via passive microwave remote sensing: Kern River basin, Sierra Nevada, USA: **D Li**, M T Durand, S A Margulis
- 0800h **C51A-0492** WITHDRAWN
- 0800h **C51A-0493** POSTER Active and passive microwave remote sensing of springtime near-surface soil that at mid-latitudes: **L Han**, A Tsunekawa, M Tsubo
- 0800h **C51A-0494** POSTER NEAR SURFACE ACCUMULATION PATTERNS IN THE RECOVERY LAKES AREA AS REVEALED BY AN ULTRA-WIDEBAND GROUND BASED RADAR: **A K Sinisalo**, K M  ller, K Langley, H Ansch  tz, S Hamran, M Oyan, J M Hagen, J Kohler, G Melland, J R McConnell
- 0800h **C51A-0495** POSTER An analysis of the Amery Ice shelf, East Antarctica, ice flow system: **Y Liu**, X Cheng, F Hui
- 0800h **C51A-0496** POSTER Evaluating the Surface Conditions of Temperate Ice Cap Hofsj  kull, Central Iceland, using H/A/ α Decomposition of Fully-Polarimetric UAVSAR Data: **B M Minchew**, S M Buckley, S Hensley
- 0800h **C51A-0497** POSTER Comparison of 2-pass differential SAR interferometry (DInSAR) using two different elevation models to 4-pass DInSAR. A test study near Ny   lesund, Svalbard: **N J Schneevogt**, A K  ab, W S Bogren, M Sund, D J Weydahl
- 0800h **C51A-0498** POSTER Mass Balance of the Patagonian Icefields from Satellite Remote Sensing: A K Melkonian, **M J Willis**, M E Pritchard, J M Ramage, S Bernstein
- 0800h **C51A-0499** POSTER Impact of Increasing Air Temperature and Skin Temperature on Zhadang Glacier (Tibet): E Huintjes, **R P Singh**, C Schneider, M Buchroithner
- 0800h **C51A-0500** POSTER Temperate Ice Depth-Sounder: A proved concept for temperate ice sounding: **V A Jara-Olivares**, F Rodriguez-Morales, C Leuschen, H Ayyangar, P S Gogineni

C51B Moscone West: 3011 Friday 0800h
Ice Streams: Glaciological Mechanisms and Geological Records II

Presiding: **J B Anderson**, Rice University; **M Jakobsson**, Stockholm University

- 0800h **C51B-01** Paleo-ice stream types: **J Kleman**, H De Angelis, S Greenwood
- 0815h **C51B-02** The bumpy path to grounding-line (in)stability—past, present and future (*Invited*): **R B Alley**, S Anandakrishnan, B R Parizek, R T Walker, H J Horgan
- 0830h **C51B-03** Ice streaming and the demise of the Last British Ice Sheet: geomorphological evidence, modelling experiments, and cosmogenic nuclide chronology: **T Bradwell**, A Hubbard, D Fabel, N Gollledge, M Stoker, J Everest, A Finlayson, J Howe
- 0845h **C51B-04** Ice Streams as the Critical Link Between the Interior Ice Reservoir of the Antarctic Ice Sheet and the Global Climate System - a WISSARD Perspective (*Invited*): **S M Tulaczyk**, L Beem, J I Walter, S Hossainzadeh, K D Mankoff
- 0900h **C51B-05** Geomorphic signature of an Antarctic palaeo-ice stream: implications for understanding subglacial processes and grounding line retreat: **S J Livingstone**, S Jamieson, A Vieli, C O'Cofaigh, C R Stokes, C Hillenbrand
- 0915h **C51B-06** Spatial and temporal variability of ice streaming during deglaciation of the Laurentide Ice Sheet (*Invited*): **C R Stokes**

0930h **C51B-07** Origin of Periodic, Transverse Moraines of the Des Moines Lobe Ice Stream, Iowa: **S M Ankerstjerne**, N R Iverson, F Lagroix
0945h **C51B-08** Evidence of ice-stream stability during glacial cycles in the Weddell Sea sector, Antarctic Ice Sheet: **D E Sugden**, A S Hein, C J Fogwill

Education and Human Resources

ED51A Moscone South: Poster Hall Friday 0800h
Enhanced Geoscience Learning Through Community Interaction I Posters

Presiding: **E P Laine**, Bowdoin College; **S O'Connell**, Wesleyan University

0800h **ED51A-0501 POSTER** Teaching Service Learning in the Geosciences: An On the Cutting Edge Workshop Report: **M Z Bruckner**, E P Laine, D W Mogk, S O'Connell, K B Kirk
0800h **ED51A-0502 POSTER** Science in the Community: Pre-service Teachers Learning Science Through Service Learning: **S M Maes**, M Cosgrove, P Benzing, J A Smith, K Sturgess
0800h **ED51A-0503 POSTER** Engaging Non-Science Majors Through Citizen Science Projects In Inquiry-Based Introductory Geoscience Laboratory Courses: **RR Humphreys**, C Hall, M W Colgan, E Rhodes
0800h **ED51A-0504 POSTER** Radio Disaster: An Interdisciplinary Seminar Course on Natural Hazards and Practical Risk Communication Using Campus Radio and Podcasting: **A E Frappier**
0800h **ED51A-0505 POSTER** A Kinesthetic Learning Approach to Earth Science for 3rd and 4th Grade Students on the Pajarito Plateau, Los Alamos, NM: **H N Wershow**, M Green, A Stocker, D Staires
0800h **ED51A-0506 POSTER** Making an Impact with Public Outreach Activities on Asteroids, Comets, and Meteorites: **V White**, S Gurton, M Berendsen, P Dusenbery
0800h **ED51A-0507 POSTER** Does the weather influence public opinion about climate change?: **S D Donner**, J McDaniel
0800h **ED51A-0508 POSTER** Designing and Implementing Service Learning Projects in an Introductory Oceanography Course Using the "8-Block Model": **E P Laine**, C Field

ED51B Moscone South: I02 Friday 0800h
Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom I (*joint with A, B, C, IN, GP, GC, H, OS, P, S, SM, SH, T, V*)

Presiding: **C E Walker**, National Optical Astronomy Observatory; **G Scowcroft**, University of Rhode Island; **S M Pompea**, Natl Optical Astronomy Obs

0800h **ED51B-01** Research in the Classroom with the WISE Mission (*Invited*): **BJ Mendez**
0815h **ED51B-02** Seismology in Schools an integrated approach to funding developing and implementing a coordinated programme for teachers and high school students: **T A Blake**, A G Jones, G Campbell
0830h **ED51B-03** Research experience in Maine leads to teacher and student success in Texas: **D Slade-Redden**, L Incze, Title of Team: Census of Marine Life - Maine
0845h **ED51B-04** Connecting Teachers and Students with Science Experts: NASA's Expedition Earth and Beyond Program: **P V Graff**, W L Stefanov, K J Willis, S Runco, T McCollum, M Baker, M Mailhot, C F Lindgren

0900h **ED51B-05** Teacher Research Experience Programs = Increase in Student Achievement: **J Dubner**
0915h **ED51B-06** A Physics MOSAIC: Scientific Skills and Explorations for Students: **S May**, C Clements, P J Erickson, A Rogers
0930h **ED51B-07** Piles of Rocks Create Mountains of Understanding; The Fossil Finders Model for success in Earth Science Education: **M A Pella-Donnelly**, B Daley, B Crawford Ph.D
0945h **ED51B-08** Teacher/Researcher Projects: The Perfect Merger: **M Sutton**, K Achilles

Earth and Planetary Surface Processes

EP51A Moscone South: Poster Hall Friday 0800h
Algorithms, Methods, and Applications for Using Optical Imagery to Detect and Monitor Land Surface Processes Posters (*joint with NH, G*)

Presiding: **M Necsoiu**, Southwest Research Institute; **S Leprince**, California Institute of Technology

0800h **EP51A-0531 POSTER** Detecting Bedform Migration on Mars: A Review of Current Results and Plans for Sub-Pixel Detection Techniques (*Invited*): **N T Bridges**, F Ayoub, S Leprince, J Avouac, M Necsoiu, L K Fenton, R L Kirk, C Colon
0800h **EP51A-0532 POSTER** A method for constructing time series of dune mobility by optical cross correlation, with application to the Bodélé Depression of northern Chad (*Invited*): **P Vermeesch**
0800h **EP51A-0533 POSTER** Sensitivity of the Automatic Determination of Sand Transport Direction and Rate to Dune Morphology (*Invited*): **S P Scheidt**, N Lancaster
0800h **EP51A-0534 POSTER** Integrating airborne LiDAR and historical aerial photographs to assess the kinematics and evolution of a large, slow-moving landslide (*Invited*): **B H Mackey**, J J Roering, J Hollingsworth, M P Lamb
0800h **EP51A-0535 POSTER** A remote sensing study of regional variation in sinkhole morphology-Florida karst vs. Minnesota karst: **C L Ernst**, J Hadizadeh, J L McCarty
0800h **EP51A-0536 POSTER** Multi-Temporal Land Cover Analysis in the Mid-Willamette Basin, Oregon: Assessment of Riparian Forest Canopy Using Landsat Thematic Mapper Data: **RJ Stanley**, S B Taylor
0800h **EP51A-0537 POSTER** Mapping Arctic Ocean Coastline Change With Landsat Archive Data And Object-Based Image Analysis: **D Hulslander**
0800h **EP51A-0538 POSTER** Monitoring Subarctic Permafrost Changes Using Optical and Multi-Polarization SAR Imagery: **M Necsoiu**, D M Hooper, N Longépé, G R Walter
0800h **EP51A-0539 POSTER** Change Detection and Displacement Analysis in Optical Imagery of Volcanic Deposits: **D M Hooper**, M Necsoiu
0800h **EP51A-0540 POSTER** Integration of Multi-sensor Data for Desertification Monitoring: **S Lin**, J Kim

EP51B Moscone South: Poster Hall Friday 0800h
Earth and Planetary Surface Processes IV: Submarine, Coastal, Miscellaneous Posters (*joint with B, H*)

Presiding: **M P Lamb**, Caltech; **L S Sklar**, San Francisco State University

0800h **EP51B-0541 POSTER** Three Dimensional Geometries of Bank-attached Bar-forms in Sinuous Submarine Channels: **A M Fernandes**, D C Mohrig, S Henriksen, R J Steel, J L Buttles

0800h **EP51B-0542** *POSTER* Seafloor morphology south of Cyprus: Bathymetry and sediment echosounder profiles: **R Lutz**, A Ehrhardt, C P Huebscher, B Christiansen

0800h **EP51B-0543** *POSTER* A 2D numerical approach to predict sedimentary deposits of submarine gravity flows based on a Saint-Venant model with density variation effects. Example of Annot Basin (SE, France): **A Le Solleuz**, F Golfier, N Verdon

0800h **EP51B-0544** *POSTER* Linking onshore and offshore erosion and sediment transport in the Strait of Messina, Italy: **R Goswami**, N C Mitchell, S H Brocklehurst, A Argnani

0800h **EP51B-0545** *POSTER* Numerical simulations of the formation and destruction of fluvial terraces: **A Limaye**, M P Lamb

0800h **EP51B-0546** *POSTER* Strath terrace formation and knickpoint migration in a coastal watershed draining to the Cascadia subduction margin, Smith River, northern California: **D J Caldwell**, H M Kelsey

0800h **EP51B-0547** *POSTER* Numerical modelling of climatically-driven drainage capture and sediment flux, South Island, New Zealand: **A V Rowan**, M A Plummer, S H Brocklehurst, M A Jones

0800h **EP51B-0548** *POSTER* Decade-scale coastal bluff retreat from LiDAR data: Lake Erie coast of Pennsylvania, USA: **A M Foyle**, M D Naber

0800h **EP51B-0549** *POSTER* Lateglacial fluvial activity in an upland basin following deglaciation, River Tyne, Northumberland, UK: drivers, complications and chronology: **L Yorke**, B T Rumsby

0800h **EP51B-0550** *POSTER* Island Formation through Bar Deposition and Channel Cutoff in the Bedrock Controlled South River, Virginia: **D Jurk**, J E Pizzuto

0800h **EP51B-0551** *POSTER* Boron Isotopic Compositions in Mud Volcano Fluids: Implications for Volatiles Migration at Shallow Subduction Zones: **H Chao**, C You, B Wang, C Chung, K Huang

0800h **EP51B-0552** *POSTER* Erosion and filling of a glacially overdeepened trough in the northern Alpine Foreland of Switzerland during the last 300'000 years: **A Dehnert**, H A Kemna, F Anselmetti, R Drescher-Schneider, H R Graf, S Lowick, F Preusser, A Züger, H Furrer

0800h **EP51B-0553** *POSTER* Identification and Analysis of Fluvial Wood on a Basin Scale: What are the Primary Indicators of Large Wood Within the Queets River Basin, Olympic Peninsula, Washington?: **J B Atha**

0800h **EP51B-0554** *POSTER* Do Fungi Transport ¹⁰Be During Wood Degradation?: **G Conyers**, D E Granger

0800h **EP51B-0555** *POSTER* Investigating the role of climate change during the late Pleistocene on landscape evolution: a case study from New Mexico, USA: **O Yetemen**, J H Flores Cervantes, E Istanbuluoglu, E R Vivoni

0800h **EP51B-0556** *POSTER* Neogene-Quaternary Basin Filling and Deformation in the Quebrada de Humahuaca, NW Argentina: **R L Streit**, D W Burbank

0800h **EP51B-0557** *POSTER* Asymmetrical erosion and morphological development of the Ladakh Range, northern India: **J Dortch**, L M Schoenbohm, L A Owen, M Caffee

0800h **EP51B-0558** *POSTER* Evidence for the evacuation of fine sediment and fine gravel of the Colorado River below Glen Canyon Dam: **N E Kilham**, J C Schmidt, J M Wheaton, P E Grams

EP51C Moscone South: Poster Hall Friday 0800h
From Turbulence to Channel Pattern II Posters (*joint with H, NG*)

Presiding: **W M van Dijk**, Universiteit Utrecht; **M G Kleinmans**, Universiteit Utrecht; **W I van de Lageweg**, Universiteit Utrecht

0800h **EP51C-0559** *POSTER* Stability of River Bifurcations from Bedload to Suspended Load Dominated Conditions: T de Haas, **M G Kleinmans**

0800h **EP51C-0560** *POSTER* Anastomosing Rivers are Disequilibrium Patterns: E Lavooi, T de Haas, **M G Kleinmans**, B Makaske, D G Smith

0800h **EP51C-0561** *POSTER* Self-Formed Meandering and Braided Channel Patterns in a Numerical Model: **F Schuurman**, M G Kleinmans

0800h **EP51C-0562** *POSTER* Historic evidence for a link between riparian vegetation and bank erosion in the context of instream habitat restoration: **N Salant**, M B Baillie, J C Schmidt, Title of Team: Intermountain Center for River Rehabilitation and Restoration

0800h **EP51C-0563** *POSTER* Morphodynamic response of meandering channels to width variations: **R Luchi**, M Bolla Pittaluga, G Seminara

0800h **EP51C-0564** *POSTER* Functional classification of riparian roots for bank stability: **L E Polvi**, D M Merritt, E E Wohl

0800h **EP51C-0565** *POSTER* Highly Sinuous Terrestrial Mud Meanders as Martian Analogs: **Y Matsubara**, A D Howard, D M Burr, R M Williams, J M Moore

0800h **EP51C-0566** *POSTER* Long-term morphological evolution of a morphologically active man-made stream in the Netherlands: **J Eekhout**, T Hoitink

0800h **EP51C-0567** *POSTER* Application of Curvilinear Immersed Boundary Method to Simulate Sediment Transport Phenomena in Bend Flows: **A Khosronejad**, S Kang, I Borazjani, F Sotiropoulos

0800h **EP51C-0568** *POSTER* Flow Separation and Morphology in Sharp Meander Bends: K Blanckaert, **M G Kleinmans**, S J McLelland, W S Uijtewaal, B J Murphy, A van de Kruijs, D R Parsons

0800h **EP51C-0569** *POSTER* Stratification effects on flow field and bed topography in meandering rivers: **M Bolla Pittaluga**

0800h **EP51C-0570** *POSTER* Turbulent structures and scour development produced during small-scale stream restoration structure experiments: **C Hill**, S Kang, A Khosronejad, F Sotiropoulos, P Diplas

0800h **EP51C-0571** *POSTER* Method to Rapidly Collect Thousands of Velocity Observations to Validate Million-Element 2D Hydrodynamic Models: **J R Barker**, G B Pasternack, P Bratovich, D Massa, G Reedy, T Johnson

0800h **EP51C-0572** *POSTER* Prediction of Scour Around Bridge Piers Using Artificial Neural Networks Trained with Experimental Data: **C Halliday**, A Khosronejad

0800h **EP51C-0573** *POSTER* Scour and deposition patterns in complex flow around stream restoration structures in a meandering stream channel: **J L Kozarek**, J R Plott, P Diplas, F Sotiropoulos, A Lightbody

EP51D Moscone South: Poster Hall Friday 0800h
Lidar for Analysis of Earth-Surface Processes II Posters (*joint with G*)

Presiding: P Belmont, Utah State University; P Passalacqua, University of Minnesota

0800h **EP51D-0574 POSTER** Multi-temporal LiDAR change detection for terrain analysis using slope-based automatic co-registration (*Invited*): R Shrestha, N F Glenn, L Spaete

0800h **EP51D-0575 POSTER** Recognition of topographic signature of Earth-surface processes in high altitude regions: G Dalla Fontana, P Tarolli, P Passalacqua

0800h **EP51D-0576 POSTER** Fine-scale characterization of juniper expansion via lidar data and fusion with Landsat 5 TM: T T Sankey, N F Glenn, R Shrestha, S P Hardegree

0800h **EP51D-0577 POSTER** Plan View and Profile Relations: Measuring Correlation Between Channel Profile and Network Morphology: E Shelef, G E Hilley

0800h **EP51D-0578 POSTER** Evidence of spatial and temporal slip partitioning in the northern Central Nevada Seismic Belt from ground-based imaging of offset landforms: P O Gold, E Cowgill, O Kreylos

0800h **EP51D-0579 POSTER** Quantifying Differences in Beach Volume Change Between 2-D and 3-D Survey Methods: E J Theuerkauf, A B Rodriguez

0800h **EP51D-0580 POSTER** ASSESSING SURFACE TEXTURAL VARIATIONS ON THE PITON DE LA FOURNAISE VOLCANO USING L-BAND INSAR AND LIDAR FUSION STUDY: M Sedze, E Heggy, S Jacquemoud, F Bretar

0800h **EP51D-0581 POSTER** Leveraging LIDAR-derived Point Clouds for Topographic Characterization: C Velasquez, N F Glenn, D P Ames

0800h **EP51D-0582 POSTER** Evaluation of terrain datasets for LiDAR data thinning and DEM generation for watershed delineation applications: F Olivera, C Ferreira, D Djokic

EP51E Moscone South: Poster Hall Friday 0800h
Morphogenesis, From Micro-scale Experiments to Landscape Dynamics III Posters (*joint with NG, H*)

Presiding: C Narteau, Institut de Physique du Globe de Paris; E Lajeunesse; C Paola, University of Minnesota

0800h **EP51E-0583 POSTER** Morphogenesis of star dunes: D Zhang, C Narteau, O Rozier

0800h **EP51E-0584 POSTER** Size independent Bedload Transport in Braided Rivers: F Metivier, Y Liu, C Narteau, E Lajeunesse, O Devauchelle, B Ye, M Tal, P Meunier

0800h **EP51E-0585 POSTER** Experimental investigation of the influence of the sediment size distribution on bedload transport: M Houssais, E Lajeunesse, P Allemand

0800h **EP51E-0586 POSTER** From grain-size distribution to sediment transport conditions in the past: G Laure, L Barrier, F Metivier, C Narteau, E Lajeunesse, Y Liu, B Ye

0800h **EP51E-0587 POSTER** Toward a Reduced Complexity Channel Resolving Model for Sedimentary Delta Formation: M Liang, V R Voller, D A Edmonds, C Paola

0800h **EP51E-0588 POSTER** Scale dependant compensational stacking of channelized sedimentary deposits: Y Wang, K M Straub, E A Hajek

0800h **EP51E-0589 POSTER** Delta-foreset bedding reflecting the development of cyclic steps on the alluvial topset surface: Flume experiments: T Muto, T Sekiguchi, M Yokokawa

0800h **EP51E-0590 POSTER** Space-time Dynamics of Depositional Systems: Experimental Evidence for Heavy-tailed Statistics and Theoretical Modeling: V K Ganti, K M Straub, E Foufoula-Georgiou, C Paola

0800h **EP51E-0591 POSTER** Tip-splitting and spiral branching in the growth of channel networks, cut by seepage: H F Seybold, A P Petroff, O Devauchelle, D Rothman

0800h **EP51E-0592 POSTER** Hydrodynamic and suspended sediment transport controls on river mouth morphology: A Guerin, F Falcini, D J Jerolmack, C Paola

0800h **EP51E-0593 POSTER** Liquid drop impact cratering on a granular layer: H Katsuragi

0800h **EP51E-0594 POSTER** The role of fractures in controlling the size of landslides; Insights from Discrete Element Method computer simulations: O Katz, J K Morgan

0800h **EP51E-0595 POSTER** Why ice-field penitentes can only form in the tropics: L M Cathles, D S Abbot, D R MacAyeal

EP51F Moscone South: 309 Friday 0800h
Advances in Monitoring Fluvial Morphodynamics I (*joint with GC, H*)

Presiding: J Brasington, Aberystwyth University; C D Rennie, University of Ottawa; D Vericat, Forest Technology Centre of Catalonia, Spain

0800h **EP51F-01** Progress in measuring and monitoring morphodynamics in large rivers (*Invited*): D R Parsons, J Best

0815h **EP51F-02** Temporal Variations in the Roughness of Eroding River Banks Revealed by High-Resolution Digital Photogrammetry and Terrestrial Laser Scanning: S E Darby, J Leyland, M Rinaldi, L Teruggi, D Ostuni

0830h **EP51F-03** Quantifying the process-product relationship in the large sandy Rio Paraná: P J Ashworth, M Amsler, J Best, O Orfeo, D Parsons, A Reesink, G Sambrook Smith, R Szupiany

0845h **EP51F-04** Combining advanced and classic methods of bedload estimates: towards the identification of new gravel-bed river morphodynamics: G A Marquis, A G Roy

0900h **EP51F-05** CALIBRATION OF AN ACOUSTIC SENSOR (GEOPHONE) FOR CONTINUOUS BEDLOAD MONITORING IN MOUNTAINOUS STREAMS: A G Tsakiris, T Papanicolaou

0915h **EP51F-06** Spatial and Temporal Patterns of Bed Mobility Revealed Through the Use of Hydrodynamic Modeling and Motion-Sensing Radio Tagged Particles in a Large Gravel-Bed River: C L May, B Smith Pryor, T E Lisle, M M Lang

0930h **EP51F-07** The Dynamics of Coarse Sediment Transfer in an Upland Bedrock River: J Warburton, R J Hardy, R I Ferguson, A Cray

0945h **EP51F-08** Monitoring debris flow induced channel morphodynamics with terrestrial laser scanning, Chalk Cliffs, CO (*Invited*): T A Wasklewicz, D M Staley

EP51G Moscone South: 310 Friday 0800h
Transient Landscapes: Capturing Responses to Changing Boundary Conditions I (*joint with T*)

Presiding: D W Burbank, UCSB; J Chen, Institute of Geology, China Earthquake Administration (CEA); M E Oskin, University of California, Davis

0800h **EP51G-01** The Influence of Climate, Lithology and Subsidence on the Transient Evolution of Hawaiian River Channels: N M Gasparini, J A Menking, J Han, J P Johnson

0815h **EP51G-02** Transient Landscapes: Recorders of History and Engines of Discovery (*Invited*): K X Whipple

0830h **EP51G-03** Uplift Histories From River Profiles: Examples From Africa and the Colorado Plateau (*Invited*): **G G Roberts**

0845h **EP51G-04** Reaching erosion and topographic steady state in response to tectonic forcing (*Invited*): **F Herman**, J Champagnac

0900h **EP51G-05** Erosion from topography: Using airborne lidar to infer denudation rates from hillslopes, hilltops, and valley networks in transient landscapes: **J J Roering**, J D Stock

0915h **EP51G-06** Feedbacks Between Channel Adjustment, Sediment Calibre and Landscape Dynamics in Tectonically Perturbed Landscapes (*Invited*): **M Attal**, P A Cowie, A C Whittaker, G E Tucker, S M Mudd, M D Hurst

0930h **EP51G-07** Transient erosion rates predicted from topographic curvature of ridges (Feather River, California): **M D Hurst**, S M Mudd, R Walcott, K Yoo, M Attal

0945h **EP51G-08** Using topography to decipher the uplift history of the western San Gabriel Mountains, CA: **RA DiBiase**, K X Whipple, A M Heimsath

Geodesy

G51A Moscone South: Poster Hall Friday 0800h **Geophysical Remote Sensing With Current and Future Global Navigation Satellite Systems I Posters** (*joint with A, C, OS, SA*)

Presiding: **A J Mannucci**, Jet Propulsion Laboratory, California Institute of Technology; **E Cardellach**, Institut de Ciències de l'Espai/CSIC-IEEC

0800h **G51A-0651** *POSTER* GPS interferometric reflectometry: Forward and inverse modeling of GPS signal strength data applied to remote sensing of snow: **F G Nievinski**, K M Larson, V Zavorotny, M W Williams, E D Gutmann

0800h **G51A-0652** *POSTER* Centimeter-level group-delay altimetric precision using the new PARIS interferometric technique: **E Cardellach**, O Nogues-Correig, S Ribo, A Rius, A Camps, H van der Marel, M Martin-Neira

0800h **G51A-0653** *POSTER* Reflected GPS L1/L2 Observations used for Sea Ice Remote Sensing and Altimetry: **M Semmling**, G Beyerle, R Stosius, J Wickert, F Fabra, E Cardellach, S Ribo, A Rius, A Helm, S Yudanov, S d'Addio

0800h **G51A-0654** *POSTER* GPS snow-depth meter using geometry-free linear combination: Long-term comparison with conventional snow-depth meter: **M Ozeki**, K Heki

0800h **G51A-0655** *POSTER* Characteristics of atmospheric boundary layer structures over subtropical stratocumulus regions: **F Xie**, D L Wu, C O Ao, A J Mannucci, E R Kursinski

0800h **G51A-0656** *POSTER* Empirical Error Analysis of GPS RO Atmospheric Profiles: **B Scherllin-Pirscher**, A K Steiner, U Foelsche, G Kirchengast, Y Kuo

0800h **G51A-0657** WITHDRAWN

0800h **G51A-0658** *POSTER* NEAR REAL TIME GPS-BASED IONOSPHERIC MODELS : APPLICATION TO BELGIUM: **J Chevalier**, L Benoit, N Bergeot, C Bruyninx, J Legrand, R Burston, P Defraigne, E Pottiaux, Q Baire

0800h **G51A-0659** *POSTER* Spaced GPS Receiver Observations of Geomagnetic Storm-Induced Traveling Ionospheric Disturbances Manifested as Midlatitude TEC Variations: **B O'Hanlon**, P M Kintner

0800h **G51A-0660** *POSTER* Ionospheric Effects of Underground Nuclear Explosions: **J Park**, R R von Frese, D A G-Brzezinska, Y Morton

0800h **G51A-0661** *POSTER* Next Generation of Spaceborne GNSS Receiver for Radio Occultation Science and Precision Orbit Determination: **J Y Tien**, L Young, T Meehan, G Franklin, K J Hurst, S Esterhuizen, Title of Team: TriG GNSS Receiver Team

0800h **G51A-0662** *POSTER* Modeling GNSS Radio Occultation coverage from various satellite constellation configurations: **K J Hurst**, C Heeg, A J Mannucci

0800h **G51A-0663** *POSTER* Iridium NEXT: A Global access for your sensor needs: **O P Gupta**, C S Fish

G51B Moscone South: Poster Hall Friday 0800h **Identification and Mitigation of Systematic Errors in Space Geodetic Results I Posters** (*joint with A, OS, SM, SA*)

Presiding: **P Willis**, Institut Geographique National; **S D Desai**, Jet Propulsion Laboratory

0800h **G51B-0664** *POSTER* Evaluation of P2-C2 bias estimation: **M C Santos**, R van der Bree, H van der Marel, S Verhagen, C A Garcia

0800h **G51B-0665** *POSTER* In search of periodic signatures in IGS REPRO1 solution: **J D Mtamakaya**, M C Santos, M R Craymer

0800h **G51B-0666** *POSTER* Evaluation of Improved Spacecraft Models for GLONASS Orbit Determination: **J P Weiss**, A Sibthorpe, N Harvey, Y Bar-Sever, D Kuang

0800h **G51B-0667** *POSTER* Contribution of the new DORIS/DGXX instruments to the geodetic products: **L Soudarin**, H Capdeville, J Lemoine

0800h **G51B-0668** *POSTER* Benchmarking ray-traced tropospheric delays: V Nafisi, D Wijaya, J Boehm, **H Schuh**, T Hobiger, R Ichikawa, L Urquhart, M C Santos, F G Nievinski, F Zus, J Wickert, P Gegout, A A Ardan

0800h **G51B-0669** *POSTER* Which Reference Frame Should Be Chosen To Compute Ocean Tidal Loading, CE or CM?: **Y Fu**, J T Freymueller, T M van Dam

0800h **G51B-0670** *POSTER* Strategies to mitigate aliasing of loading signals while estimating GPS frame parameters: **X Collilieux**, T M van Dam, J Ray, D Coulot, L Metivier, Z Altamimi

0800h **G51B-0671** *POSTER* Earth rotation parameters determined over CONT08 VLBI campaign by the GRGS from the combination of space geodetic techniques: **J M Richard**, D H Gambis, Title of Team: IERS EOP Center, Earth Rotation and Spatial Geodesy

0800h **G51B-0672** *POSTER* The Puzzling 59-Day Altimeter Data Signal And Possible Causes: **N P Zelensky**, B D Beckley, F G Lemoine, R D Ray, S M Klosko, S A Holmes, D D Rowlands, S B Luthcke, D S Chinn, O Bordyugov

G51C Moscone South: Poster Hall Friday 0800h **Mass Transport and Mass Distribution in the Earth System II Posters** (*joint with A, C, GC, H, OS, EP*)

Presiding: **T M van Dam**, University of Luxembourg; **J Kusche**, Universität Bonn

0800h **G51C-0673** *POSTER* Global, barotropic ocean bottom pressure modeling: Sensitivity to spatial resolution and boundary conditions: **D Inazu**, R Hino, H Fujimoto

0800h **G51C-0674** *POSTER* Spatio-temporal Variability of El Niño Southern Oscillation from Geodetic Satellites and Model Data: **H Y Wu**, Y Li, B F Chao

0800h **G51C-0675** *POSTER* THE GRAVITATIONAL EFFECT OF THE OCEAN DENSITY CONTRAST FOR A DEPTH-DEPENDENT SEAWATER DENSITY MODEL: **P Novak**, R Tenzer, V Gladkikh

0800h **G51C-0676** *POSTER* Ocean mass transport estimates from GRACE, altimetry, and Argo: **E W Leuliette**, L Miller

0800h **G51C-0677** *POSTER* Mass and heat transport estimates by assimilation of geodetic dynamical ocean topography data: **T Janjic**, J Schroeter, A Albertella, R Savcenko, W Bosch, R Rummel

0800h **G51C-0678** *POSTER* A new mode of high frequency variability in Arctic Ocean bottom pressure and its possible effects on GRACE solutions: **A C Peralta Ferriz**, J H Morison, J M Wallace, J Zhang, J Bonin, D P Chambers

0800h **G51C-0679** *POSTER* Precipitation anomaly patterns associated with Arctic Oscillation as seen from GRACE gravimetry: **K Matsuo**, K Heki

0800h **G51C-0680** *POSTER* Arctic Ocean Tides from GRACE Satellite Accelerations: **B Killert**, J M Wahr, S D Desai, D Yuan, M M Watkins

0800h **G51C-0681** *POSTER* Simulation Study for Regional Mass Changes in the Cryosphere Observed by the GRACE Gravity Mission: **K Bentel**, C Gerlach

0800h **G51C-0682** *POSTER* Use of background de-aliasing models and error correlations to improve the regularized gravity solutions from GRACE: **H V Save**, S V Bettadpur, P B Nagel

0800h **G51C-0683** *POSTER* Signal separation: the quest for independent mass flux patterns in geodetic observations: **J Kusche**, R Rietbroek, E Forootan

0800h **G51C-0684** *POSTER* Time Variable Gravity from Weekly Solutions from 1993 to 2010 using SLR and DORIS data and Comparisons with GRACE: **D S Chinn**, F G Lemoine, K Le Bail, S B Luthcke, N P Zelensky, D D Rowlands, T J Sabaka

0800h **G51C-0685** *POSTER* A study on the capabilities of the multi-channel singular spectrum method for extracting the main water mass anomaly information from GRACE and hydrology models: E V Rangelova, **M G Sideris**, J Kim

0800h **G51C-0686** *POSTER* Regional inversion of GRACE data for continental water mass time-variations. Comparison with global hydrology models, classical spherical harmonics and “mascons” solutions: **L Seoane**, G Ramillien, F Frappart, R Biancale, S Gratton, S Bourgogne

0800h **G51C-0687** *POSTER* Constrained regional recovery of continental water mass time-variations from GRACE: G Ramillien, **L Seoane**, R Biancale, S Gratton, X Vasseur, S Bourgogne

0800h **G51C-0688** *POSTER* An interpretation of the interannual mass trend change over the Indochina Peninsula observed by GRACE data: **K Yamamoto**, Y Fukuda, T Nakaegawa, T Hasegawa, M Taniguchi

0800h **G51C-0689** *POSTER* Comparison of lake mass variations from GRACE high resolution mascon solutions and altimetry: **J Boy**, C C Carabajal, D D Rowlands, S B Luthcke, T J Sabaka, F G Lemoine

0800h **G51C-0690** *POSTER* Analytic models of the displacements and stresses in a long basin due to varying hydrological loading, with application to hydrogeological geodesy: **B Lipovsky**, G J Funning, K B Richards-Dinger, A Ferretti

0800h **G51C-0691** *POSTER* Mechanisms controls of terrestrial water budget changes over Siberian river basins from GRACE: **F W Landerer**, J O Dickey, A Guentner

0800h **G51C-0692** *POSTER* Seasonal geodetic signals observed by the Caltech-DASE-NGS cGPS network in Nepal: **J F Genrich**, K Chanard, J Avouac, T Ito, J E Galetzka, M Flouzat, N Team

0800h **G51C-0693** *POSTER* Modeling Elastic Uplift Associated with GRACE Hydrology Solutions for Southeast Alaska: **A A Arendt**, J T Freymueller, S B Luthcke, R Grapenthin

0800h **G51C-0694** *POSTER* Development of the Estimation Service of the Earth’s Surface Fluid Load Effects for Space Geodetic Techniques: **H Takiguchi**, T Gotoh, T Otsubo

0800h **G51C-0695** *POSTER* Determination of Atmospheric Pressure Loading at TU Vienna: M Schindelegger, **H Schuh**, J Boehm, D Wijaya, M Karbon

0800h **G51C-0696** *POSTER* Torques responsible for oscillations of the atmospheric equatorial angular momentum of the stratosphere and the entire atmosphere: **M Fang**, Y Zhou, D Salstein, B H Hager

0800h **G51C-0697** *POSTER* Validation of geophysical excitation functions by a rigorous combination with Earth orientation parameters and gravity field coefficients: **A Heiker**, H Kutterer

G51D Moscone West: 2008 Friday 0800h
Observing and Interpreting Regional Sea Level Change I (*joint with OS, PP, NH, PA*)

Presiding: **E W Leuliette**, NOAA/Lab for Satellite Altimetry;
M E Tamisiea, Proudman Oceanographic Lab.

0800h **G51D-01** Dynamic and static equilibrium sea level effects of Greenland Ice Sheet melt: An assessment of partially-coupled idealized water hosing experiments (*Invited*): **R E Kopp**, J X Mitrovica, S M Griffies, J Yin, C C Hay, R J Stouffer

0815h **G51D-02** The relationship between steric and total sea level variability in the presence of topography: **R J Bingham**, C W Hughes

0830h **G51D-03** Experiments in Reconstructing Twentieth-Century Sea Levels: **R D Ray**, B C Douglas

0845h **G51D-04** Coherent decadal sea level variations across gyre boundaries in the North Atlantic: **P R Thompson**, G T Mitchum

0900h **G51D-05** Regional Sea Level Rise Projections on the Northeast Coast of the United States (*Invited*): **J Yin**, S M Griffies, M Schlesinger, R J Stouffer

0915h **G51D-06** Decadal-Scale Barotropic Sea Level Changes in the North Pacific: **D P Chambers**

0930h **G51D-07** A shift in Pacific sea level trends during the 1990s: **M A Merrifield**

0945h **G51D-08** Contributions of 1990s – 2000s Abyssal Global Ocean and Deep Southern Ocean Warming to Local and Global Sea Level Budgets. (*Invited*): **S G Purkey**, G C Johnson

Global Environmental Change

GC51A Moscone South: Poster Hall Friday 0800h
Advances in Downscaling Methods and Models II Posters (*joint with A, B, IN, H, NH*)

Presiding: **B Thrasher**, Climate Central; **E P Maurer**, Santa Clara University; **E Cassano**, CIRES; **C Pagé**, CERFACS

0800h **GC51A-0729** *POSTER* New Daily Downscaled Information at the “Bias-Corrected Downscaled WCRP CMIP3 Climate Projections” online archive: **T Pruitt**, B Thrasher, T Das, E P Maurer, P Duffy, J Long, L D Brekke

0800h **GC51A-0730** *POSTER* Validation of the RegCM4-Subgrid module for the high resolution climate simulation over Korea: C Lee, **E Im**, K Chang, Y Choi

0800h **GC51A-0731** *POSTER* Downscaling of snow depth and river discharge in Japan by the Pseudo-Global-Warming Method: **F Kimura**, X Ma, M Hara, Title of Team: Advanced Atmosphere-Ocean-Land Modeling Program

0800h **GC51A-0732** *POSTER* Error Correction of Daily Temperature and Precipitation from Regional Climate Simulations in Europe and the Effects on Climate Change Signals: **M J Themessl**, A Gobiet, G Heinrich, Title of Team: Regional and Local Climate Modeling and Analysis Research Group

0800h **GC51A-0733** WITHDRAWN

0800h **GC51A-0734** *POSTER* Probabilistic Projection of Climatic and Agroclimatic Characteristics for Sites in Europe and U.S.A: **M Dubrovsky**, M Trnka, J Balek, Z Zalud

0800h **GC51A-0735** *POSTER* Superensemble of a Regional Climate Model for the Western US using Climateprediction.net: **P Mote**, A Salahuddin, M Allen, R Jones

0800h **GC51A-0736** *POSTER* Simulation of an ensemble of future climate time series with an hourly weather generator: E Caporali, **S Fatichi**, V Y Ivanov, J Kim

0800h **GC51A-0737** *POSTER* What's a billion cubic meters among friends: The impacts of quantile mapping bias correction on climate projections: **JJ Barsugli**

0800h **GC51A-0738** *POSTER* Stability of biases in daily climate model data: implications for downscaling: **E P Maurer**, T Das, D R Cayan

0800h **GC51A-0739** WITHDRAWN

0800h **GC51A-0740** *POSTER* Weather Typing Statistical downscaling with dsclim: diagnostics, and uncertainties in data provision for the impact community: **C Page**, E Sanchez, L Terray

0800h **GC51A-0741** *POSTER* Statistical downscaling of regional climate scenarios for the French Alps : Impacts on snow cover: **M Rousselot**, Y Durand, G Giraud, L Mérindol, M Déqué, E Sanchez, C Pagé, A Hasan

0800h **GC51A-0742** *POSTER* Statistical versus dynamical downscaling over the mountainous regions in France: a performance evaluation and comparison of several scenarios: **E SanchezGomez**, C Page, M Deque, L Terray

0800h **GC51A-0743** *POSTER* Bias correction of a Regional Climate Model in an orographically complex region: **R Bordoy**, P Burlando

0800h **GC51A-0744** *POSTER* Statistical downscaling of the urban heat island of Hamburg using a statistical model and regional climate model results: **P Hoffmann**, O Krueger, K H Schlünzen, R Schoetter

0800h **GC51A-0745** *POSTER* Statistical downscaling of future changes in European precipitation using Model Output Statistics: **J M Eden**, M Widmann

0800h **GC51A-0746** *POSTER* Statistical downscaling of Vancouver Island seasonal precipitation: **S R Sobie**, A J Weaver

0800h **GC51A-0747** *POSTER* The Use of Statistical Downscaling to Project Regional Climate Changes as they Relate to Future Energy Production: **D W Werth**, L O'Steen, K Chen, M S Altinakar, A Garrett, S Aleman, V Ramalingam

0800h **GC51A-0748** *POSTER* Downscaling extremes with EDS, TreeGen, and BCSD: **G Buerger**, T Murdock, A T Werner

0800h **GC51A-0749** *POSTER* Projections of Future Changes in Heavy Rainfall Frequency in Hawai'i Using a Statistical Downscaling Approach: **T W Giambelluca**, M Takahashi, O Elison Timm, H F Diaz

0800h **GC51A-0750** *POSTER* Comparing CMIP3 20th Century Experiments and Developing Dynamic Downscaling Method Using Numerical Weather Prediction Model: **K Taniguchi**, A Yamamoto

0800h **A41G-02** *POSTER* Downscaling and predictability of historical monthly mean surface winds over a region of complex terrain and marine influence: Western Canada: **C Curry**, D van der Kamp, A H Monahan

GC51B Moscone South: Poster Hall Friday 0800h
Challenges in Understanding and Modeling Global-Regional Climate Connections II Posters (*joint with A, C, OS, H, NG*)

Presiding: **P D Sardeshmukh**, CIRES Climate Diagnostics Center;
G P Compo, University of Colorado

0800h **GC51B-0751** *POSTER* An application of Demerit Point Approach in Selection of Most Suitable Climate Models to Characterise the Potential Climate Change Impact on Regional Australia: **R C Stone**, S Mushtaq

0800h **GC51B-0752** *POSTER* South Asian summer monsoon: Role of Plateau heating revisited: **M Ashfaq**, G Bisht

0800h **GC51B-0753** *POSTER* The 1960s abrupt climate shift over Eurasia and North Africa: **Y Liu**, J C Chiang

0800h **GC51B-0754** *POSTER* Simulating Global and Regional Climate over North America Using the Global Environmental Multiscale Model with a Variable Resolution Modeling Approach: **M Markovic**, H Lin, K Winger

0800h **GC51B-0755** *POSTER* Drought in the U.S. Southeast, Model Bias, and Climate Change: **L Briley**, R B Rood, D J Posselt, J Potter

0800h **GC51B-0756** *POSTER* Observed and Simulated Global Surface Heat Flux Feedback: **S Shin**, S Park

0800h **GC51B-0757** *POSTER* The role of linear interference in the Annular Mode response to Tropical SST forcing: **C G Fletcher**, P J Kushner

0800h **GC51B-0758** *POSTER* How Ocean Color Influences the Interplay Between Annual and Interannual Tropical Pacific Variability: **A C Hammann**, A Gnanadesikan

0800h **GC51B-0759** *POSTER* Impact of Tropical Instability Waves on ENSO characteristics: **Y Imada**, M Kimoto

0800h **GC51B-0760** *POSTER* Challenges in separating ENSO-related contributions to climate change: **G P Compo**, P D Sardeshmukh

GC51C Moscone South: Poster Hall Friday 0800h
Climate Variability in East Africa: The Wet Versus Dry Climate Roller Coaster Posters (*joint with PP, A, B*)

Presiding: **G M Ashley**, Rutgers University

0800h **GC51C-0761** *POSTER* Global Climate Change and Sedimentation Patterns in the Neogene Baringo Basin, Central Kenya Rift: **A L Deino**, J D Kingston, K E Wilson, A Hill

0800h **GC51C-0762** *POSTER* Isotopic ratios of rainfall in eastern Africa: insights into reconstructing past climate from terrestrial archives: **N E Levin**, T E Cerling, F H Brown, J Quade, J M Harris

0800h **GC51C-0763** *POSTER* Continental and sea surface temperature variability in southeast Africa (Zambezi River region) since MIS 3: **I S Castañeda**, R Tjallingii, Y V Wang, A Mets, J van der Lubbe, G Brummer, J S Sinninghe Damste, R R Schneider, S Schouten

0800h **GC51C-0764** *POSTER* Temperature and hydrologic variability of Lake Victoria, East Africa since the Late Pleistocene: **M A Berke**, T C Johnson, J P Werne, S Schouten, J S Sinninghe Damste

0800h **GC51C-0765** *POSTER* The palaeo-lake Suguta and its importance for understanding lake level fluctuations in the East African Rift System: **A Junginger**, D O Olago, M H Trauth

0800h **GC51C-0766** *POSTER* Fire activity in Eastern Africa during the last 4000 years: **N M Kehrwald**, R Zangrando, P Gabrielli, A Gambaro, L G Thompson, C Barbante

0800h **GC51C-0767** POSTER Determination of atmospheric trace elements in Kilimanjaro ice to reconstruct regional African aerosol history: **P Gabrielli**, N M Kehrwald, G Cozzi, C Barbante, L G Thompson

0800h **GC51C-0768** POSTER Diagnosing the causes of decadal-scale precipitation variability in northeastern sub-Saharan Africa: **P Williams**

0800h **GC51C-0769** WITHDRAWN

GC51D Moscone South: Poster Hall Friday 0800h
Ecosystem Responses to Fine-Scale Climate Variability in Mountainous Terrain I Posters (joint with B, H)

Presiding: **J A Hicke**, University of Idaho; **C Tague**, University of California, Santa Barbara; **G Greenwood**, University of Bern; **C I Millar**, USDA Forest Service

0800h **GC51D-0770** POSTER 20th Century Climate Change in the Sierra Nevada from PRISM Data: **D R Conklin**, J D Osborne-gowey

0800h **GC51D-0771** POSTER Complimentary And Dense Sensor Networks To Understand Climate Variability In Mountainous Terrain: D Isaak, Z Holden, **C Luce**, B Roper

0800h **GC51D-0772** POSTER Analyzing the Locations, Severity and Frequency of Cold Air Pools (CAP) in the Sierra Nevada, California: A Kunz, **J Helmschrot**, J D Lundquist

0800h **GC51D-0773** POSTER Stream Temperature Sensitivity to Climate Warming in California's Sierra Nevada: **S Null**, J H Viers, M Deas, S Tanaka, J Mount

0800h **GC51D-0774** POSTER Fire and Climate History of Mixed Conifer Woodlands in the Great Basin, USA: **F Biondi**, M Bradley, J Cheek, L Jamieson, M Kilpatrick, J Sibold, S D Strachan

0800h **GC51D-0775** POSTER A Top-down soil moisture and sap flux sampling design to capture the effect of inter-annual climate variability on ecohydrology in mountain catchments: **K Son**, C Tague

0800h **GC51D-0776** POSTER Dry season foliar fog uptake, reverse sapflow, and nighttime transpiration in the tropical montane cloud forests of Mexico: **S G Gotsch**, H Asbjornsen, F Holwerda, G R Goldsmith, T E Dawson

0800h **GC51D-0777** POSTER Subsurface Thermal and Hydrological Changes Between Forest and Clear-cut Sites in the Oregon Cascades: **M G Davis**, R S Waschmann, R N Harris, D S Chapman

0800h **GC51D-0778** POSTER Subalpine Conifer Seedling Demographics: Species Responses to Climate Manipulations Across an Elevational Gradient at Niwot Ridge, Colorado: **C Castanha**, M J Germino, M S Torn, S Ferrenberg, J Harte, L M Kueppers

0800h **GC51D-0779** POSTER Sensitivity of limber pine (*Pinus flexilis*) seedling physiology to elevation, warming, and water availability across a timberline ecotone: **A B Moyes**, C Castanha, S Ferrenberg, M J Germino, L M Kueppers

0800h **GC51D-0780** POSTER Geologic and geomorphic controls of altitudinal treeline in the Canadian Rocky Mountains: **M Macias Fauria**, E A Johnson

0800h **GC51D-0781** POSTER Building Topographically Modified Tree-Ring Chronologies from High Elevation Bristlecone Pine in the White Mountains of California, USA: **A G Bunn**, M K Hughes, M W Salzer

0800h **GC51D-0782** POSTER Mortality in Subalpine Forests of the Sierra Nevada, California, USA: Differential Response of Pines (*Pinus albicaulis* and *P. flexilis*) to Climate Variability: **C I Millar**, R D Westfall, D L Delany

0800h **GC51D-0783** POSTER Above treeline shrub-chronologies on the eastern Sierra Nevada crest, Mono Co., California, USA contain records of precipitation and large-scale ocean and atmospheric conditions: **R S Franklin**

0800h **GC51D-0784** POSTER A subalpine forb's response to natural and experimental climate variation: **A M Panetta**, J Harte, M Stanton

0800h **GC51D-0785** POSTER Fine-scale Phenology and Nitrogen-Fixing Microbes at a GLORIA Site in Southwestern Montana, USA: **M E Apple**, J Prince, S Morales, C Apple, J Gallagher

0800h **GC51D-0786** POSTER Alpine ecosystem vulnerability to climate change on the Tibetan Plateau: Global implications for carbon balance, regional consequences for local pastoralists: **K A Hopping**, J A Klein, J Hu, S Kang

0800h **GC51D-0787** POSTER Assessing stream temperature response to environmental change: **R J MacDonald**, S Boon, J M Byrne

0800h **GC51D-0788** POSTER Modeling the Response of Glaciers to Climate Change in the Upper North Saskatchewan River Basin: **E Booth**, J M Byrne, H Jiskoot, R J MacDonald

0800h **GC51D-0789** POSTER Soil moisture dynamics and forest fire risk in the Upper North Saskatchewan Watershed, Alberta: **S A Dalla Vicenza**, J M Byrne, M G Letts

0800h **GC51D-0790** POSTER Science Challenges in Supporting Adaptation Planning in Mountainous Terrain: Lessons from the NOAA climate assessment to inform the FWS Status Review of the American pika: **A J Ray**, J J Barsugli, J Eischeid, K Wolter

0800h **GC51D-0791** POSTER Climate contributes to zonal forest mortality in Southern California's San Jacinto Mountains: **A Fellows**, M Goulden

GC51E Moscone South: Poster Hall Friday 0800h
Regional Intersects of the Coupled Human and Environmental Earth System Posters (joint with A, B, PA, H)

Presiding: **K A Hibbard**, NCAR; **A C Janetos**; **L Leung**, Pacific Northwest National Laboratory; **A M Thomson**, Pacific Northwest National Lab

0800h **GC51E-0792** POSTER R-GCAM a New Regionally Disaggregated Integrated Assessment Model (*Invited*): **J Edmonds**

0800h **GC51E-0793** POSTER Application Evaluation of Air-Sparging and Aerobic Bioremediation in PAM(Physical Aquifer Model) with Advanced and Integrated Module: **U Hong**, J Ko, S Park, Y Kim, S Kwon, J Ha, J Lim, K Han

0800h **GC51E-0794** WITHDRAWN

0800h **GC51E-0795** WITHDRAWN

GC51F Moscone South: Poster Hall Friday 0800h
Remote Sensing and Geospatial Analysis of Ecosystem Services Posters (joint with PA, A, B, IN, ED)

Presiding: **A N Piant**, US EPA R&D; **D J Keith**, Atlantic Ecology Division

0800h **GC51F-0796** POSTER Using Hyperspectral Aircraft Remote Sensing to Support Ecosystems Services Research in New England Lakes and Ponds: **D J Keith**, B Milstead, H Walker, D Worthy, J Szykman, M Wusk, L Kagey, C Howell, H Snook, C Drueke

0800h **GC51F-0797** POSTER Integrated airborne lidar and multiple endmember spectral mixture analysis (MESMA) for plant species mapping across multiple functional groups: **K Dahlin**, G P Asner

0800h **GC51F-0798** POSTER Multi-temporal land cover classification of the Konya Basin, south-central Turkey, based on a LANDSAT TM-derived NDVI/NDMI time series: satellite remote sensing in support of landscape-scale soil biogeochemistry research: **M T Mayes**, M Ozdogan, E Marin-Spiotta

0800h **GC51F-0799** POSTER The Impact of Livestock Grazing on US Rangeland Productive Capacity from 1981 to 2009: **RA Washington-Allen**, R W Kulawardhana, M C Reeves, J E Mitchell

0800h **GC51F-0800** POSTER Mapping Urban Ecosystem Services Using High Resolution Aerial Photography: **A N Pilant**, A Neale, D Wilhelm

0800h **GC51F-0801** POSTER A fast yet accurate algorithm for retrieval of aerosol and marine parameters in coastal waters: **K H Stamnes**, W Li, Y Fan, N Chen, T Tanikawa, B Hamre, J J Stamnes

0800h **GC51F-0802** POSTER ECOSYSTEM FRAGMENTS MAPPING IN TROPICAL TERRAINS USING ASTER DATA: **L E Vicente**, C R Souza

0800h **GC51F-0803** POSTER Tracking Phragmites Australis Expansion in Bear River Migratory Bird Refuge using AggieAir Aircraft Data: **B Zaman**, M McKee

0800h **GC51F-0804** POSTER A Multi-Index Integrated Change Detection Method for Updating the National Land Cover Database: **S Jin**, L Yang, G Z Xian, P Danielson, C Homer

0800h **GC51F-0805** POSTER Challenges and Methodological Development for Comprehensive Assessment of Environmental Quality: application to military land management: **G Wang**, S Singer, H Howard, A Anderson

GC51G Moscone South: Poster Hall Friday 0800h
Tropical Cyclones in the Global Climate System II Posters
(joint with A, OS, PP, B)

Presiding: **D Swain**, University of California, Davis; **R L Sriver**, Penn State University; **C M Brierley**, Yale University

0800h **GC51G-0806** POSTER The Effect of Tropical Cyclones on the Mixed-Layer Ocean Heat Content: **J Wang**, W Han

0800h **GC51G-0807** POSTER Observational Evidence for Oceanic Controls on Hurricane Intensity: **I D Lloyd**, G A Vecchi

0800h **GC51G-0808** POSTER Effects of Tropical Cyclones on Ocean Heat Transport as simulated by a High Resolution Coupled General Circulation Model: **E Scoccimarro**, S Gualdi, A Bellucci, A Sanna, M Vichi, E Manzini, P Fogli, A Navarra, P Odde

0800h **GC51G-0809** POSTER Tropical Indian Ocean Influence on Northwest Pacific Tropical Cyclones Following Strong El Nino: **Y DU**, L Yang, S Xie

0800h **GC51G-0810** POSTER Recent Advances in Understanding Tropical Cyclone-Climate Interactions Using Climate Models of Varying Complexity: **R L Sriver**, M P Goes, M E Mann, M Huber, K Keller

0800h **GC51G-0811** POSTER Restratification of the upper ocean after the passage of a tropical cyclone: **W Mei**, C Pasquero

0800h **GC51G-0812** POSTER A 320-year AMM+SOI Index Reconstruction from Historical Atlantic Tropical Cyclone Records: M Chenoweth, **D Divine**

0800h **GC51G-0813** POSTER Tropical Cyclones at the Last Glacial Maximum: **C M Brierley**, K Emanuel, A V Fedorov

0800h **GC51G-0814** POSTER Investigating the Relationship between Precipitation in the Tropics and Tropical Cyclone Frequency and a Possible Feedback Mechanism between Tropical Cyclone Activity and Column Water Vapor: **A A Wing**, K Emanuel

0800h **GC51G-0815** POSTER Tropical Cyclones and the Carbon Cycle: **N L Zimmerman**, K Emanuel

0800h **GC51G-0816** POSTER Effect of Barrier Layers on Sea-Surface Temperature Response to Tropical Cyclones: **K Balaguru**, R Saravanan, P Chang, J Hsieh

0800h **GC51G-0817** POSTER TESTING COMPETING PROXIES FOR ASIAN MONSOON INTENSITY SINCE 14 KA IN THE SOUTH CHINA SEA: **D Hu**, P D Clift, C M Köhler, K Iijima, P Böning

0800h **GC51G-0818** POSTER Modulation of the South Asian monsoon in early summer over last decades: **T Tamura**, T Koike

0800h **GC51G-0819** POSTER TROPICAL CYCLONE IMPACT ON OCEAN HEAT BUDGET IN THE SOUTHWEST PACIFIC OCEAN: **S JULLIEN**, C Menkes, P Marchesiello, N Jourdain, M Lengaigne, J Lefevre, E M Vincent, V Faure, A Koch-Larrouy

GC51H Moscone South: Poster Hall Friday 0800h
Undiscovered Climates of Earth II Posters (joint with A, B, H, NG, PP)

Presiding: **M Huber**, Purdue University; **S C Sherwood**, University of New South Wales

0800h **GC51H-0820** POSTER Reconstruction of the 500 year ground surface temperature history of northern Awaji Island, southwest Japan: **S Goto**, M Yamano

0800h **GC51H-0821** POSTER Temperature Reconstruction and Biomarker Variation across the Cretaceous-Paleogene Boundary, Mid-Waipara River, New Zealand: **K W Taylor**, C J Hollis, R D Pancost

0800h **GC51H-0822** POSTER The feedback causing the high climate sensitivity of a version of the HadSM3 climate model: undiscovered or just unrealistic?: **M Joshi**, M Webb, A Maycock, M Collins

0800h **GC51H-0823** POSTER Initiation of a Marinoan Snowball Earth in a state-of-the-art atmosphere-ocean general circulation model: **A Voigt**, D S Abbot, R T Pierrehumbert, J Marotzke

0800h **GC51H-0824** POSTER Is the Future State of North American Hydroclimatology Controlled by Tropical Cyclones and the Evolution of El Niño?: **A P Goldner**, M Huber, R L Sriver

0800h **GC51H-0825** POSTER Is the Tibetan Plateau important for the Asian Monsoon?: **J R Buzan**, A P Goldner, M Huber

0800h **GC51H-0826** POSTER Abrupt transition to strong superrotation and hysteresis in an idealized GCM with MJO-like heat forcing: **N Arnold**, E Tziperman

0800h **GC51H-0827** POSTER A Coupled Ice-Atmosphere-Dust Model for a Neoproterozoic "Mudball Earth": **J C Goodman**, D Strom

GC51I Moscone South: Poster Hall Friday 0800h
Using Downscaled Climate Data in Impact and Adaptation Studies II Posters (joint with B, H, NH, A, IN)

Presiding: **P Duffy**, Climate Central; **LD Brekke**, U.S. Bureau of Reclamation; **B Thrasher**, Climate Central

0800h **GC51I-0828** POSTER Micro climate Simulation in new Town 'Hashtgerd' using downscaled climate data: **S Sodoudi**

0800h **GC51I-0829** POSTER A Regional Approach to Climate Change Planning: The Joint Front Range Climate Change Vulnerability Study: **L Kaatz**, M Woodbury, D Yates, M L Baldo

0800h **GC51I-0830** POSTER Accessible Tools for Evaluating Variability of Climate Change using Hydrologic Modeling: **M L Baldo**, L Kaatz, M Woodbury, G N Day

0800h **GC51I-0831** *POSTER* A Comprehensive Hydrologic Projections Resource to support Climate Change Vulnerability Assessments in the Western U.S.: **LD Brekke**, T Pruitt, S Gangopadhyay, D A Raff

0800h **GC51I-0832** *POSTER* Downscaled Climate Projections for the landslide risk triggered by heavy rains: **P Schiano**, E Bucchignani, L Comegna, E Damiano, P Mercogliano, L Olivares, L Picarelli

0800h **GC51I-0833** *POSTER* Potential Impacts of Precipitation Change on Large-Scale Patterns of Tree Diversity: **M Konar**, R Muneeppeerakul, S Azaele, E Bertuzzo, A Rinaldo, I Rodriguez-Iturbe

0800h **GC51I-0834** *POSTER* Hope for the Forests? Habitat Resiliency Illustrated in the Face of Climate Change Using Fine-Scale Modeling: **LE Flint**, A L Flint, S B Weiss, E R Micheli

0800h **GC51I-0835** *POSTER* Possible climate change impacts on the hydrological and vegetative character of Everglades National Park, Florida: **J Todd**, R Muneeppeerakul, F R Miralles-Wilhelm, A Rinaldo, I Rodriguez-Iturbe

0800h **GC51I-0836** *POSTER* The relationship between stream flow, riparian buffers, and climate change in an agricultural landscape: **H Chien**, J Knouft

0800h **GC51I-0837** *POSTER* Accounting for downscaling and model uncertainties in examining the impacts of climate change on hydrological systems: **M Franklin**, E Yan, Y Demissie

0800h **GC51I-0838** *POSTER* Adaptation to climate changes on a multipurpose hydrosystem in South-Central Chile with explicit regard of model uncertainty: **ÁLVARO Ayala**, J P McPhee

0800h **GC51I-0839** *POSTER* Retrieval of Hourly Records of Surface Hydrometeorological Variables using Satellite Remote Sensing Data: **S Moghim**, S Sarachi, J Wang, R L Bras

0800h **GC51I-0840** *POSTER* Change of flood risk under climate change based on Discharge Probability Index in Japan: **T Nitta**, K Yoshimura, S Kanae, T Oki

0800h **GC51I-0841** *POSTER* Impacts of Climate Change on Landscape Dynamics in the US Southeast: **JK Costanza**, T Earnhardt, A J Terando, J Hulcr, A McKerrow

0800h **GC51I-0842** *POSTER* An ecological channel classification framework for understanding the effects of climate change at a regional scale, Apalachicola-Chattahoochee-Flint River system, part of the Southeast Regional Assessment Project (SERAP): **C Elliott**, R B Jacobson

0800h **GC51I-0843** *POSTER* An integrated, multiscale approach to predicting the response of lotic biota to climate change in the Apalachicola, Chattahoochee, and Flint Basin: J Peterson, **MC Freeman**

0800h **GC51I-0844** *POSTER* Application of a Nested Modeling Approach Using the Precipitation Runoff Modeling System in the Apalachicola-Chattahoochee-Flint River Basin in the Southeastern USA: **J LaFontaine**, L Hay, R Viger, S L Markstrom

0800h **GC51I-0845** *POSTER* Enhancements to the Precipitation-Runoff Modeling System for simulating in-stream water temperature: **SL Markstrom**, L Hay

0800h **GC51I-0846** *POSTER* Development of Apalachicola-Chattahoochee-Flint hydrology and habitat model parameters through biophysical remote sensing: **J Jones**

0800h **GC51I-0847** *POSTER* Developing Regionally Downscaled Probabilistic Climate Change Projections for the Southeast Regional Assessment Project: **AJ Terando**, S Bhat, M Haran, K Hayhoe, K Keller, R Tonkonojnikov, N Urban

GC51J Moscone West: 3001 Friday 0800h
Biogeochemical Responses to a Changing Arctic II (*joint with B, C, H*)

Presiding: **AV Rocha**, Marine Biological Lab; **JW McClelland**, University of Texas at Austin; **RR Muskett**, University of Alaska Fairbanks; **A Balsler**, University of Alaska Fairbanks

0800h **GC51J-01** Sensitivity and Uncertainty of High-Latitude Terrestrial Methane Emissions in a Changing Climate: Application of a Methane Biogeochemical Model in CLM4: **WJ Riley**, Z Subin, D M Lawrence, S C Swenson, M S Torn, L Meng, N M Mahowald, P G Hess

0815h **GC51J-02** Quantifying Future Changes in High-Latitude Methane Emissions and potential climate feedback Under Regional Climate Change Uncertainty: **X Gao**, C A Schlosser, K Walter Anthony, A P Sokolov

0830h **GC51J-03** Ice Cover Enhances Methane Consumption in Alaskan Thermokarst Lakes: **MB Heintz**, J Pohlman, M J Wooller, M Elvert, C D Ruppel, D L Valentine

0845h **GC51J-04** Relative Importance of Multiple Factors on Terrestrial Loading of DOC to Arctic River Networks: **DW Kicklighter**, D J Hayes, J W McClelland, B J Peterson, A D McGuire, J M Melillo

0900h **GC51J-05** Potential dissolved organic matter release from permafrost soils upon thaw: **KP Wickland**, M P Waldrop, K Butler

0915h **GC51J-06** The Blazing Arctic? Linkages of Tundra Fire Regimes to Climatic Change and Implications for Carbon Cycling (*Invited*): **F Hu**, P E Higuera, J E Walsh, W Chapman, P Duffy, L Brubaker, M L Chipman

0930h **GC51J-07** Impacts of wildfire on biogeochemistry and energy balance of the North Slope of Alaska: **GR Shaver**, A V Rocha, G W Kling, M C Mack

0945h **GC51J-08** Impacts of a Large and Intense Tundra Wildfire on the Hydrological Export of Carbon, Nitrogen and Phosphorus: **WB Bowden**, C Maki, E Schuett, A R Allen, J R Larouche, G W Kling

GC51K Moscone West: 3005 Friday 0800h
Variability and Predictability of Weather and Climate Extremes II (*joint with A, H, NH, B, PA*)

Presiding: **Y Deng**, Georgia Institute of Technology; **X Huang**, University of Michigan

0800h **GC51K-01** Response of precipitation extremes to global warming in an aqua-planet climate model: towards robust projection from regional to global scales: **FLi**, W Collins, M F Wehner, D Williamson, J Olson

0812h **GC51K-02** Characteristic of blocking events over Siberia for the present and future climate conditions, and the implications for the regional climate in South China: **H Cheung**, W Zhou

0824h **GC51K-03** Forecasting Extreme Flooding in South Asia (*Invited*): **PJ Webster**

0839h **GC51K-04** Challenges in Estimating and Predicting Extreme Weather and Climate statistics (*Invited*): **PD Sardeshmukh**, G P Compo

0854h **GC51K-05** Extreme Heat and Human Health (*Invited*): **RB Rood**, M O'Neill

0909h **GC51K-06** Simulations of global hurricane climatology, interannual variability, and response to global warming using a 50km resolution GCM (*Invited*): **M Zhao**, I Held, S Lin, G A Vecchi

0924h **GC51K-07** Current Enhanced Atlantic Tropical Cyclone Frequency: A Climate-Change Impact?: **GJ Holland**, C Bruyere

0936h **GC51K-08** On the Increasing Intensity of the Strongest Atlantic Hurricanes: **J Elsner**, T Jagger
0948h **GC51K-09** Predictability of near-surface climate extreme events: **E J Becker**, H M Van den Dool, M Pena

Hydrology

H51A Moscone South: Poster Hall Friday 0800h
Climate Forcing of Surface and Subsurface Hydrology and Biogeochemistry: Processes, Models, Management I Posters
(joint with A, B, EP, GC)

Presiding: **S Arumugam**, NC State University; **S Floegel**, IFM-GEOMAR; **B Peucker-Ehrenbrink**, Woods Hole Oceanographic Institution; **R M Holmes**, Woods Hole Research Center; **T Wagner**, Newcastle University; **N A Chappell**, Lancaster University; **M T Coe**, The Woods Hole Research Center; **U Lall**, Columbia Univ; **G Parkin**, Newcastle University; **J Drake**, University of Tennessee; **M J Waterloo**, VU University

0800h **H51A-0848** *POSTER* GCM Projections and Rainfall-runoff Modelling: Relative Uncertainties: **J Teng**, J Vaze, F H Chiew

0800h **H51A-0849** *POSTER* The dynamic variability of dissolved and particulate organic matter and nutrients in a changing tropical rainforest: First results from a new geochemical program in northern Amazonia, Guyana: **R Pereira**, I Bovolo, G Parkin, T Wagner

0800h **H51A-0850** *POSTER* Impacts of changes in the dynamics of precipitation on global runoff: **F S Mpelasoka**

0800h **H51A-0851** *POSTER* Application of a macroscale hydrologic model to estimate streamflow across southeast Australia: **F Zhao**, F H Chiew, L Zhang, J Vaze

0800h **H51A-0852** *POSTER* Sensitivities of terrestrial water cycle simulations to the variations of precipitation and air temperature in China: **A Wang**, X Zeng

0800h **H51A-0853** *POSTER* Trading Space for Time: A non-stationary approach to probabilistic flow predictions in a changing climate: **R Singh**, T Wagener, K V Werkhoven, M E Mann, R Crane, L Ning

0800h **H51A-0854** *POSTER* Evaluation of pCO₂ change due to an enhanced sediment weathering in glacial periods: **H Ushie**, K Matsumoto

0800h **H51A-0855** *POSTER* Precessional induced changes of the subtropical highs as well as the tropical hydrological cycle: **D F Mantsis**, A C Clement, A J Broccoli

0800h **H51A-0856** *POSTER* Impacts of Hydrologic Model Decision to Water Management Within the San Juan River Basin Under Changing Climate Conditions: **T C Piechota**, W P Miller

0800h **H51A-0857** *POSTER* Month-Year Rainfall Maps of the Hawaiian Islands: **A G Frazier**, T W Giambelluca, H F Diaz

0800h **H51A-0858** *POSTER* Assessment of Spatial and Temporal Microclimatic Variability Using the HaleNet Climate Network on Haleakala Volcano, Maui, Hawai'i: **R Longman**, T W Giambelluca, M Nullet

0800h **H51A-0859** *POSTER* Assessment of Uncertainties Associated with Climate Change Scenario and Generation of Daily Rainfall/Temperature Scenario Using Multisite Downscaling Model in Korea: **H Kwon**, K Kim, J Lee, B So, Y Moon

0800h **H51A-0860** *POSTER* Statistical Downscaling of Extreme of Precipitation and Temperature and Their Effects on Local Hydrology: **M Alam**, A Bárdossy

0800h **H51A-0861** *POSTER* Simulating Climate Variability and Change in Central Asia using a layered Non-Homogenous Hidden Markov Model-Auto Regressive Model: **S L Sellars**, A W Robertson, T U Siegfried

0800h **H51A-0862** *POSTER* Land use change effects on stormflow generation in humid tropical montane cloud forests: **L E Munoz Villers**, J J McDonnell

0800h **H51A-0863** *POSTER* The magnitude, source, and implication of DIC flux from major pan-arctic rivers to the Arctic Ocean: **S E Tank**, P Raymond, B J Peterson, R M Holmes, J W McClelland, R G Striegl

0800h **H51A-0864** *POSTER* Investigating the Climatic Transition Zone in Guyana, South America: **C Bovolo**, R Pereira, G Parkin, C G Kilsby, T Wagner

0800h **H51A-0865** *POSTER* INTEGRATING THE CHEMICAL FLUXES OF TRANSPORTED SEDIMENTS IN LARGE RIVERS: AN ATTEMPT ON THE GANGA: **C France-Lanord**, M Lupker, J Lavé, J Bouchez, V Galy, J Gaillardet, F Metivier

0800h **H51A-0866** *POSTER* Seasonal variability of river geochemistry in the Fraser River, British Columbia: **B M Voss**, B Peucker-Ehrenbrink, T I Eglinton, D Montlucon, S L Gillies, S Marsh, A Janmaat, B Downey, J Fanslau, H Fraser, G Macklam-Harron

0800h **H51A-0867** *POSTER* Paleo-hydrological history in pore water extracted from sedimentary rocks in the coastal area: **R Ikawa**, I Machida, M Koshigai, S Nishizaki, A Marui, T Yoshizawa, N Ito

0800h **H51A-0868** *POSTER* Depth-integrated suspended sediment and geochemical fluxes in large rivers: the Amazon River system: **J Bouchez**, M Lupker, J Gaillardet, F Metivier, C France-Lanord, L Maurice

0800h **H51A-0869** *POSTER* Projecting Urban Water Demand in California: Effects of Climate, Demographics, Technology, Conservation, and Policy: **M G Heberger**, J Christian-Smith

0800h **H51A-0870** *POSTER* Analysis of Streamflow Predictive Uncertainty using Multiple Hydrologic Models in Climate Change Impact Study: **P Yang**, M Najafi, H Moradkhani

0800h **H51A-0871** *POSTER* Interannual to Decadal Variability in Hydroclimatic Data: Analyses and Implications to Water Management: **H Wang**, S Arumugam, R S Ranjithan

0800h **H51A-0872** *POSTER* Modifications in Soil Hydrology Due to Land-Use Changes in Southeastern Brazil: **N F Fernandes**, S Lawall, P Mota, R Henrique, C Brazão, L M Araújo

0800h **H51A-0873** *POSTER* An Eco-hydrologic Assessment of Small Experimental Catchments with Various Land Uses within the Panama Canal Watershed: Agua Salud Project: **T D Crouch**, F L Ogden, R F Stallard, Title of Team: Smithsonian Tropical Research Institute, Panama Canal Watershed Experiment, Agua Salud Project

0800h **H51A-0874** *POSTER* Optimal selection of MULTI-model downscaled ensembles for interannual and seasonal climate prediction in the eastern seaboard of Thailand: W Bejanonda, **M Koch**

0800h **H51A-0875** *POSTER* The impacts of climate changes on streamflow in the Salmon River Basin: **C Tang**, B T Crosby, D Chen

0800h **H51A-0876** *POSTER* Extension of classical hydrological risk analysis to non-stationary conditions due to climate change – application to the Fulda catchment, Germany: G Fink, **M Koch**

0800h **H31F-1067** *POSTER* Influence of El Nino and ITCZ on Brazilian River Streamflows: **A Lopes**, J A Dracup

H51B Moscone South: Poster Hall Friday 0800h
Isotopic and Chemical Approaches in Watershed/Ecosystem Interactions I Posters (joint with B)

Presiding: **J B Gates**, University of Nebraska - Lincoln; **C B Graham**, Penn State University; **K A Dressler**; **D Riveros-Iregui**, University of Nebraska; **C Duffy**, Penn State University; **L Wang**, Princeton University

0800h **H51B-0877 POSTER** A tale of two rivers: studies in the San Joaquin and Sacramento Rivers using a multi-isotope and chemical approach to investigate linkages between hydrology, nutrients, and algae (*Invited*): **C Kendall**, M B Young, S R Silva

0800h **H51B-0878 POSTER** Lattice Boltzmann simulations of oxygen- and hydrogen-isotope fractionation between water and ice: **G Lu**, D J Depaolo

0800h **H51B-0879 POSTER** Decadal Variation in Stable Isotopes ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) of Water in the Yukon River System during an Extended Period of Warming Air Temperatures: **J M Landwehr**, T B Coplen, P F Schuster

0800h **H51B-0880 POSTER** Travel time distributions, soil moisture dynamics and the old water paradox: G Botter, **E Bertuzzo**, A Rinaldo

0800h **H51B-0881 POSTER** Agroecosystem Impacts on Water Quality: **R C Reedy**, B R Scanlon

0800h **H51B-0882 POSTER** Spatial and temporal variability of catchment transit times: **M hrachowitz**, C Soulsby, D Tetzlaff, I A Malcolm

0800h **H51B-0883 POSTER** Evidence of mobile/immobile flow at the Susquehanna Shale Hills Critical Zone Observatory using the stable isotope network: **G Holmes**, C Duffy, E W Boyer, L Jin, D Andrews

0800h **H51B-0884 POSTER** Biogeochemistry of a mesotrophic lake and its carbon isotope geochemistry: **S Cheng**, W Ehresman, S E Sadurski

0800h **H51B-0885 POSTER** The Influence of Plants on the Isotopic Composition in Runoff: M Weiler, **K Gimbel**

0800h **H51B-0886 POSTER** ADVANCES IN HIGH-FREQUENCY LIQUID WATER ISOTOPE ANALYZER FOR HYDROLOGICAL MEASUREMENTS IN THE FIELD: **T G Owano**, E S Berman, J Leen, D S Baer

0800h **H51B-0887 POSTER** Using chemical and isotopic tracers to conceptualise hydrological function in a larger scale catchment draining contrasting geomorphic provinces: **R Capell**, D Tetzlaff, C Soulsby, A J Hartley, I A Malcolm

0800h **H51B-0888** WITHDRAWN

0800h **H51B-0889 POSTER** Assessing Variability and Uncertainty of Water Quality, Geomorphic, and Habitat Indicators to Evaluate Western New York Stream Restoration Projects: **C E Bronner**, A J Rabideau

0800h **H51B-0890** WITHDRAWN

0800h **H51B-0891 POSTER** Multitracer Study of Flow to Tile Drains in Irrigated Macroporous Soil: **J M Bishop**, M V Callaghan, E Cey, L R Bentley

H51C Moscone South: Poster Hall Friday 0800h
Mixing and Reactive Transport: From Pore to Field Scale I Posters (joint with A, OS)

Presiding: **M Willmann**, ETH Zurich; **T Le Borgne**, Geosciences Rennes; **A Englert**, Ruhr University Bochum; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC)

0800h **H51C-0892 POSTER** Reactive transport modeling of carbon dioxide sequestration via bicarbonate brine injection in the Rose Run sandstone formation: A comparison with traditional CCS: **P Lu**, T Kendall, R Seeker, B R Constantz

0800h **H51C-0893 POSTER** Fluid mixing from viscous fingering: **B Jha**, L Cueto-Felgueroso, R Juanes

0800h **H51C-0894 POSTER** Influence of Transverse Mixing on Stable Isotope Fractionation: Flow-through Microcosms and Reactive Transport Modeling Study: **M Rolle**, G Chiogna, R Bauer, C Griebler, P Grathwohl

0800h **H51C-0895 POSTER** Flux-related and Critical Dilution Indices: Quantitative Indicators of Mixing and Mixing-controlled Reactions in Heterogeneous Porous Media: **G Chiogna**, O A Cirpka, P Grathwohl, M Rolle

0800h **H51C-0896 POSTER** One dimensional multispecies solute transport in a Permeable Reactive Barrier-Aquifer system: H Chen, **E Park**, S Kim, M Gwon

0800h **H51C-0897 POSTER** A Markovian model for reaction and diffusion: analytical study of the Master Equation through the van Kampen system-size expansion: **P De Anna**, T Le Borgne, M Dentz, D Bolster, P Davy

0800h **H51C-0898 POSTER** Comparison of Pore Water Chemical Extracted by Different Forces with In-situ Properties: **N Ito**, I Machida, A Marui, T Scheytt, K H Hebig

0800h **H51C-0899 POSTER** Correlations Between Physical and Hydraulic Properties and Uranium Desorption in Contaminated, Intact Sediment Cores: **M L Rockhold**, M Oostrom, T W Wietsma, J M Zachara

0800h **H51C-0900 POSTER** Dynamic dissolution of halite rock during flow of diluted saline solutions: **N Weisbrod**, C Alon-Mordish, Y Yechieli

0800h **H51C-0901 POSTER** Effect of Grain Sizes on Uranium(VI) Adsorption/Desorption Kinetics and Rate Additivity: **J Shang**, C Liu, Z Wang, J M Zachara

0800h **H51C-0902 POSTER** Effect of Bacterial Motility on Contaminant Mixing in Porous Media: **R Singh**, M S Olson, Title of Team: Bioremediation at Drexel

0800h **H51C-0903 POSTER** PDF Equations for Reactive Transport in Heterogeneous Porous Media: **S V Broyda**, D M Tartakovsky

0800h **H51C-0904 POSTER** Definition of a mixing scale for transport in heterogeneous media: **T Le Borgne**, M Dentz, P Davy, D Bolster, J Carrera, J De Dreuzy, O Bour

0800h **H51C-0905 POSTER** Anomalous Mixing and Reaction induced by Superdiffusive Transport: **D Bolster**, D A Benson, M Dentz, T Le Borgne

0800h **H51C-0906 POSTER** Impact of Ethanol on Natural Attenuation of BTEX: Development of Models for Evaluating Field Experiments and Their Implications: **E Rasa**, D M Mackay, B A Bekins, K M Scow

0800h **H51C-0907 POSTER** A Single-well ("push-pull") test for investigation of mass transfer properties of deep groundwater in a coastal basin: **T Scheytt**, K H Hebig, N Ito, A Marui

0800h **H51C-0908** *POSTER* Transport upscaling of a fractured clay-rich sedimentary formation: **M Willmann**, W K Kinzelbach, F Stauffer

0800h **H51C-0909** *POSTER* Dynamics of Mineral Precipitation in Diffusion Controlled Mixing Zones: G D Redden, **T Gebrehiwet**, L Tu, D T Fox, H Huang, L Guo, J Henriksen

0800h **H51C-0910** *POSTER* Time-Dependent Calcite Dissolution in Laboratory Columns – The Impact of Grain Size Distribution: O Gharbi, Z Azimova, M J Blunt, **B Bijeljic**

0800h **H51C-0911** *POSTER* Reactive Transport Modeling of Induced Calcite Precipitation Reaction Fronts in Porous Media Using A Parallel, Fully Coupled, Fully Implicit Approach: **L Guo**, H Huang, D Gaston, G D Redden, D T Fox, Y Fujita

0800h **H51C-0912** *POSTER* Influence of density contrasts on the solute transport through a horizontal fracture: **J Bouquain**, Y Meheust, P Davy

0800h **H51C-0913** *POSTER* U(VI) transport under the condition of water table fluctuations: **J Yin**, R Haggerty, M L Rockhold, D B Kent, J D Istok, J M Zachara

0800h **H51C-0914** *POSTER* A Theory for Mixing and Reactions in Porous Media: **B D Wood**, F J Valdes-Parada

0800h **H51C-0915** *POSTER* Lagrangian simulation of mixing-controlled chemical reactions: **Y Zhang**

0800h **H51C-0916** *POSTER* Urea hydrolysis and calcium carbonate reaction fronts: **D T Fox**, G D Redden, J Henriksen, Y Fujita, L Guo, H Huang

0800h **H51C-0917** *POSTER* ANALYSIS OF MULTI-SPECIE REACTIVE TRANSPORT IN HETEROGENEOUS MEDIA UNDER KINETIC REACTIONS: **L D Donado-Garzon**, E F Espitia-Sarmiento

0800h **H51C-0918** *POSTER* Calcium carbonate precipitation rate as a function of ion ratio in the presence & absence of Sr²⁺: **T Gebrehiwet**, M S Beig, Y Fujita, G D Redden, R W Smith

H51D Moscone South: Poster Hall Friday 0800h
New Challenges for Ecohydrology and Water Quality Investigations at the Watershed Scale I Posters (*joint with B*)

Presiding: **E Daly**, Monash University; **M Rode**, Helmholtz Centre for Environmental Research UFZ; **M Wilkinson**, Newcastle University; **H Asbjornsen**, Heidi Asbjornsen

0800h **H51D-0919** *POSTER* Scenario-based water resources planning for utilities in the Lake Victoria region: **V K Mehta**, O Aslam, L Dale, N Miller, D Purkey

0800h **H51D-0920** *POSTER* Modeling Linkages Between Effective Impervious Surface and Urban Vegetation Productivity in Semi-arid Environments: **C A Shields**, C Tague

0800h **H51D-0921** *POSTER* Air Permeability and Infiltration Differences Associated with Grass and Gravel Streambeds in an Urban Environment: **B Witte**, C Ferlin, E L Gallo, K A Lohse, T Meixner, P D Brooks, T A Ferre

0800h **H51D-0922** *POSTER* Quantifying the Role of Bottomland Hardwood Forest Flood Attenuation in the Central U.S.: **J A Hubbard**, E A Bulliner, G W Freeman, D P Scollan, J Romine, P Chinnasamy, D Huang, J Schulz

0800h **H51D-0923** *POSTER* Climatic influences on the spatial distribution of ecosystem services and costs in the Los Angeles urban forest: **H R McCarthy**, D E Pataki, L T Weller, G D Jenerette

0800h **H51D-0924** *POSTER* Understanding the socio-demographic and climate impacts on total and landscape water use in the City of Los Angeles: **C Mini**, T S Hogue, S Pincetl

0800h **H51D-0925** *POSTER* Canopy carbon net assimilation of an urban, naturally assembled brownfield forest: **K V Schafer**, S Wadhwa, R Tripathee, F J Gallagher

0800h **H51D-0926** *POSTER* Stochastic modelling of water and nitrogen fluxes in stormwater biofiltration systems: **E Daly**, A Deletic, T D Fletcher, B E Hatt

0800h **H51D-0927** *POSTER* Impacts of land use on phosphorus transport in a river system: **J Wang**, H K Pant

0800h **H51D-0928** *POSTER* Non-Invasive Detection of Soil Water Content at Intermediate Field Scale Using Cosmic-Ray Neutrons: **C A Rivera Villarreyes**, G Baroni, S E Oswald

0800h **H51D-0930** *POSTER* Low Cost Stream Gaging through Analysis of Stage Height Using Digital Photography: C K Mui, **A A Royem**, M T Walter

0800h **H51D-0931** *POSTER* Effects Of Climate Change And Fire On Sediment In The Southern Rockies Ecoregion: **S E Litschert**, D M Theobald, T C Brown

0800h **H51D-0932** *POSTER* Spatially distributed lateral nitrate transport at the catchment scale: **M Rode**, U Franko, F Hesser

0800h **H51D-0933** *POSTER* Restoring Natural Streamflow Variability by Modifying Multi-purpose Reservoir Operation: **J SHIAU**

0800h **H51D-0934** *POSTER* Different Effects of Corn Ethanol and Switchgrass-Based Biofuels on Soil Erosion and Nutrients Loads in the Iowa River Basin: **Y WU**, S Liu

0800h **H51D-0935** *POSTER* EVALUATION OF THE CURRENT STATE OF INTEGRATED WATER QUALITY MODELLING: G B Arhonditsis, **C C Wellen**, Title of Team: Ecological Modelling Laboratory

0800h **H51D-0936** *POSTER* Inverse modelling of diffuse pollution risks in agricultural catchments: **D Milledge**, S N Lane, L Heathwaite, S Reaney

0800h **H51D-0937** *POSTER* Instream Attenuation of Nitrogen and Phosphorus in Non-Point Source Dominated Streams: Hydrologic and Biogeochemical Controls: **E N Bray**, X Chen, A A Keller

0800h **H51D-0938** *POSTER* Sustainable Management of Springs and Associated Wetlands in Aridland Regions: A Water Quality Perspective for Cibola National Forest, NM: **K Paffett**, L J Crossey, L Crowley, K E Karlstrom

0800h **H51D-0939** *POSTER* Temporal Inequality of Catchment Discharge and Load: **J W Jawitz**, J D Mitchell

H51E Moscone South: Poster Hall Friday 0800h
Stochastic Transport and Emergent Scaling on the Earth's Surface II Posters (*joint with EP, NG*)

Presiding: **R Schumer**, Desert Research Institute; **E Foufoula-Georgiou**, University of Minnesota

0800h **H51E-0940** *POSTER* A probabilistic definition of the bedload sediment flux: Experiments: **J C Roseberry**, M W Schmeckle, D J Furbish, P K Haff

0800h **H51E-0941** *POSTER* Static and dynamic Tokunaga stream networks: Statistical properties: **I Zaliapin**, E Foufoula-Georgiou, M Ghil

0800h **H51E-0942** *POSTER* Diffusion-dominated subdiffusion in repacked sand: A combined study of stochastic models and laboratory experiments: **W Atterberry**, Y Zhang, C Papelis, M Young, M Berli

0800h **H51E-0943** *POSTER* Investigating the evolution of gravel bar at river confluence during flood events using a 2D many-fraction river morphodynamic model: **Y Chen**, F Wu, Title of Team: Ecohydraulics Lab.

0800h **H51E-0944** POSTER Tracking Radio-Tagged Bedload in an Alpine Stream: **D N Bradley**, G E Tucker
0800h **H51E-0945** POSTER Statistical characteristics of fluvial displacements of individual particles: **P Cienciala**, M A Hassan, L Fraccarollo, H E Voepel
0800h **H51E-0946** POSTER Quantifying the effect of hydrologic variability on sediment transport in alluvial rivers: **T M Engelder**, J D Pelletier
0800h **H51E-0947** POSTER Intra-stream variability in tracer breakthrough curves: Geomorphic controls on tailing behaviors: **S Patil**, T P Covino, J D Drummond, A I Packman, R Schumer, R A Payn, B L McGlynn

H51F Moscone South: Poster Hall Friday 0800h
Transport of Particles and Biocolloids in Surfacewaters and Groundwaters: From Sediment-Sized Particles to Nanoparticles, Emerging Contaminants, and Microorganisms IV Posters (joint with B)

Presiding: **G S Bilotta**, University of Brighton; **J F Schijven**, National Institute of Public Health and the Environment; **W P Johnson**, University of Utah; **D M O'Carroll**, University of Western Ontario; **S A Bradford**, USDA, ARS, Salinity Laboratory; **P Owens**, University of Northern British Columbia; **P S Knappett**, Helmholtz Center for Environmental Health Munich; **C A Ramsburg**, Tufts University

0800h **H51F-0949** POSTER Contrasting Patterns of Fine Fluvial Sediment Delivery in Two Adjacent Upland Catchments: **M Perks**, L Bracken, J Warburton
0800h **H51F-0950** POSTER Metal content of road deposited sediment and fluvial channel-bed sediment in the City of Prince George, British Columbia, Canada: **P N Owens**, I G Droppo, K G Taylor, K Caley, S Campbell, M Rutherford
0800h **H51F-0951** POSTER Developing Meaningful Measures and Guidelines for Particulates in Aquatic Ecosystems: **G S Bilotta**, C Harrison, C Joyce, C Peacock
0800h **H51F-0952** POSTER Quantitative estimation of phosphorous and potassium originated from geology flowing inconstantly into marine areas: **G Park**, J Hwang, J Oh, M Jige, H Lee, J Kim
0800h **H51F-0953** POSTER An Investigation into Heavy Metal Contamination and Mobilization in the Lower Rouge River, Michigan: **M Shihadeh**, J Forrester, J A Napieralski
0800h **H51F-0954** POSTER GIS-based Mine Tailings Yield Mapping using RUSLE and Sediment Delivery Ratio: **S Kim**, Y Choi, H Park, H Kwon, S Yoon, W Go
0800h **H51F-0955** POSTER Effects of the First Floods on Water Quality and Sediment Transport in the Sierra Nevada Foothill Streams, California: **Z Wang**, J Baca, Z He, S Blunmenshine
0800h **H51F-0956** POSTER Biocolloid transport in water saturated columns packed with sand: V I Syngouna, **C Chrysikopoulos**
0800h **H51F-0957** POSTER Sorption of Pseudomonas putida onto differently structured kaolinite minerals: I A Vasiliadou, D Papoulis, **C Chrysikopoulos**, D Panagiotaras, E Karakosta, M Fardis, G Papavassiliou
0800h **H51F-0958** POSTER Effects of cell surface characteristics and manure-application practices on Escherichia coli populations in the subsurface: A three-farm study: **A E Salvucci**, M Elton, J D Siler, W Zhang, B K Richards, L D Geohring, L D Warnick, A G Hay, T Steenhuis
0800h **H51F-0959** POSTER Evaluating conceptual modeling frameworks for farm scale groundwater pathogen transport associated with animal farming and municipal wastewater recharge: **S J Cook**, X Li, N Watanabe, R Atwill, C E Puente, T Harter

0800h **H51F-0960** POSTER Bacterial Chemotaxis Toward A NAPL Source Within A Pore-Scale Model Subject to A Range of Groundwater Flow Velocities: **X Wang**, R M Ford
0800h **H51F-0961** POSTER Enumerating Pathogenic Microorganism Surrogates for Groundwater Experiments Using Solid-Phase Cytometry: **M E Stevenson**, A P Blaschke, A Kirschner
0800h **H51F-0962** POSTER A study of colloids in deep groundwater using spectroscopic analysis: **Y Yamamoto**, D Aosai, T Mizuno, K Watanabe, T Kogure, Y Suzuki
0800h **H51F-0963** POSTER A Mathematical Model for Simulating Remediation of Groundwater Contaminated by Heavy Metals using Bio-Carriers with Dead Bacillus sp. B1 and Polysulfone: **H Seo**, S Wang, M Lee
0800h **H51F-0964** POSTER Effect of ionic strength on Cr⁶⁺ removal in aqueous solution: **H Ahn**, H Jo
0800h **H51F-0965** POSTER Transport and Retention of Virus and Virus-sized Particle in a Variable-aperture Dolomite Rock Fracture under Unfavorable Attachment Conditions: **P K Mondal**, B E Sleep
0800h **H51F-0966** POSTER Pore-Scale Simulations to Determine the Applied Hydrodynamic Torque and Colloid Immobilization: **S A Bradford**, S Torkzaban, A Wiegmann
0800h **H51F-0967** POSTER Elucidating the effects of river fluctuation on microbial removal during riverbank filtration: **J Derx**, R Sommer, A H Farnleitner, A P Blaschke
0800h **H51F-0968** POSTER Effect of heavy metals on bacterial transport: **H Zhang**, M S Olson
0800h **H51F-0969** POSTER Colloid Retention in Porous Media in the Presence of Energy Barriers: Hemispheres-in-Cell Model with Heterogeneity: **H Ma**, E F Pazmino, W P Johnson
0800h **H51F-0970** POSTER On the Transport of Viable but Non-Culturable (VBNC) E.coli O157:H7 in Soil and Groundwater: **C R Kartz**, G Kachanoski, M F Dyck
0800h **H51F-0971** POSTER Effects of starvation on the transport of Escherichia coli K12 in saturated porous media are dependent on pH and ionic strength: **S Xu**, J J Walczak, L Wang, S L Bardy, J Li
0800h **H51F-0972** POSTER Transport of Multi-walled Carbon Nanotubes in Unsaturated Porous Media: **P Sharma**, D M O'Carroll
0800h **H51F-0973** POSTER Catalytic transformation of persistent contaminants using a new composite material based on nanosized zero-valent metal - field experiment results: **I Dror**, O Merom Jacov, B Berkowitz
0800h **H51F-0974** POSTER Colloid Mobilization by Displacement Fluid Fronts in Porous Media: **Y Jin**, D Or
0800h **H51F-0975** POSTER Simulation of nZVI Transport at a Push-Pull Field Trial: **D M O'Carroll**, A J Oleniuk, C M Kocur, B E Sleep, Z Xiong, P Bennett
0800h **H51F-0976** POSTER Impacts of Cation Type and Clay on Transport of Surface-modified Nanoparticles through Saturated Sand Columns: **S Torkzaban**, J Wan, T K Tokunaga
0800h **H51F-0977** POSTER Fate of Nanomaterials in Subsurface under Various Conditions: **Y Kim**, E Lee, J Kim
0800h **H51F-0978** POSTER Effects of Solution Chemistry on Quantum Dot Transport and Retention in Porous Media: **J Englehart**, Y Wang, H Zhu, V L Colvin, K D Pennell
0800h **H51F-0979** POSTER Modeling Quantum Dot Nanoparticle Fate and Transport in Saturated Porous Media under Varying Flow Conditions: **M D Becker**, Y Wang, J Englehart, K D Pennell, L M Abriola

0800h **H51F-0980** *POSTER* Hysteresis in the amount of colloids mobilized from intact cores of a fractured soil as a result of changes in the ionic strength of simulated rainfall: **S Mohanty**, J N Ryan, J E Saiers

0800h **H51F-0981** *POSTER* Geochemical characterization of the Mahawelli River, Sri Lanka, based on basement rock, soil and sediment compositions: **S M YOUNG**, H Ishiga, A Pitawala

H51G Moscone West: 3018 Friday 0800h
Agroecosystems and Water Resources I (*joint with B, GC, PA*)

Presiding: **B R Scanlon**, University of Texas at Austin; **C T Green**, US Geological Survey; **T Harter**, University of California Davis; **A M Porporato**, Duke University

0800h **H51G-01** Model based quantification of global virtual water trade and the sources of water withdrawal for major crops and livestock products (*Invited*): **T Oki**, N Hanasaki, T Inuzuka, S Kanae

0815h **H51G-02** "How low can it go?" - Scenarios for the future of water tables and groundwater irrigated agriculture in India: V Modi, **R Fishman**

0827h **H51G-03** Climate Change, Agriculture and Sustainable Groundwater Management: Groundwater Reserves as a Hedge Against Climate Change and Drought (*Invited*): **R Langridge**, A T Fisher

0842h **H51G-04** Sustainability, productivity, and profitability of agroecosystems under variable rainfall: **G Vico**, A M Porporato

0854h **H51G-05** Comparison of Groundwater Recharge under Irrigated Cropland versus Natural Land in Clayey Soils under Mediterranean Climate in Israel: **D Kurtzman**, B R Scanlon

0906h **H51G-06** Hydrologic studies at the savanna-agriculture interface in Burkina Faso (*Invited*): **M B Parlange**, N C Ceperley, T Mande, A Repetti, S W Tyler, N Van De Giesen

0921h **H51G-07** Climate Change Impact on the Hydrology and Water Quality of a Small Partially-Irrigated Agricultural Lowland Catchment: **A Visser**, J Kroes, M T van Vliet, S Blenkinsop, H Broers

0933h **H51G-08** Forecasting the effects of EU policy measures on the nitrate pollution of groundwater based on a coupled agro-economic - hydro(geo)logic model (*Invited*): **F Wendland**

0948h **H51G-09** Effects of the Biofuels Initiative on Water Quality and Quantity in the Mississippi Alluvial Plain: **H L Welch**, C T Green, R H Coupe

H51H Moscone West: 3022 Friday 0800h
Behavior and Remediation of Deep Vadose Zone Contaminants II (*joint with B*)

Presiding: **J C Marble**, U.S. Dept. of Energy; **D M Wellman**, Pacific Northwest National Laboratory

0800h **H51H-01** Tackling the Challenge of Deep Vadose Zone Remediation at the Hanford Site: **J G Morse**, D M Wellman, R Gephart

0820h **H51H-02** Optimization of Remediation Conditions using Vadose Zone Monitoring Technology: **O Dahan**, R Mandelbaum, Z Ronen

0840h **H51H-03** Deep Vadose Zone Flow and Transport Behavior at T-Tunnel Complex, Rainier Mesa, Nevada National Security Site: **R Parashar**, D M Reeves

0900h **H51H-04** Impact of Mobile-Immobile Water on the Transport of Technetium (Tc-99) in Unsaturated Sediments: **D P Jansik**, D M Wellman, E Cordova, D Wildenschild

0920h **H51H-05** Microbially Produced Organic Matter and Its Role in Facilitating Pu Transport in the Deep Vadose Zone: **J C Fisher**, R M Tinnacher, M Zavarin, A B Kersting, K Czerwinski, D P Moser

0940h **H51H-06** Development of a Screening Assay for Microbial Community Profiling: **A L Miracle**, F Tilton, G T Bonheyo, J McDermott

H51I Moscone West: 3014 Friday 0800h
Detecting and Predicting Change in Coupled Human-Water Systems II (*joint with GC, PA, B*)

Presiding: **J S Arrigo**, East Carolina University; **C M Hermans**, City University of New York; **B G Voigt**, University of Vermont; **A Munoz Hernandez**, City University of New York

0800h **H51I-01** Humans Transforming the Water Cycle: Implications for Society and Nature over a Multi-Century Timeframe through Synthesis Studies (*Invited*): **C J Vorosmarty**, C M Hermans, M Green, C L Pastore, J S Arrigo, A Parolari

0815h **H51I-02** Relationships between Human Water Use, Groundwater Persistence and Baseflow Contribution in New Jersey: **B Thomas**, R M Vogel, P Kanwar, J H Hoover, J S Arrigo

0830h **H51I-03** Alternatives to Dam Building: Deindustrialization and the Redevelopment of Waterways in the Northeast During the Twentieth Century: **J S Taber**, B J Pompeii, C Nicoletti, C A Lopez-morales

0845h **H51I-04** Tapping Water from the Atmosphere: The Bureau of Reclamation's Project Skywater (*Invited*): **K Harper**

0900h **H51I-05** Back-casting global water stress: Reconstruction of past water demand and climate variability: **Y Wada**, L P Van Beek, M F Bierkens

0915h **H51I-06** Applied Budyko curve analysis for county level water resources management: **Y E Yang**, Y F Lin

0930h **H51I-07** A Basin-Wide Integrated Analysis of Human Impacts on River Basins Using Horton-Strahler Stream Ordering: **H Miyamoto**, T Hashimoto, K Michioku

0945h **H51I-08** On the cause of the shrinking of Lake Chad: **H Gao**, T J Bohn, E Podest, D P Lettenmaier

H51J Moscone West: 3020 Friday 0800h
Emerging Topics in Interdisciplinary Hydrology: Biogeochemistry, Ecology, and Geomorphology I (*joint with B, A, C, EP*)

Presiding: **V Y Ivanov**, University of Michigan; **S Fatichi**, University of Firenze, Italy; **E Istanbuloglu**, University of Washington

0800h **H51J-01** Drivers of emergent vegetation pattern formation at hillslope scales in a central Kenya dryland: **K K Caylor**, T E Franz, E King, D Robinson

0815h **H51J-02** Precipitation controls on vegetation phenology in a temperate broadleaf forest estimated from MODIS vegetation index: **T Hwang**, C Song, P Bolstad, L E Band

0830h **H51J-03** Modeling Water and Nutrient Transport through the Soil-Root-Canopy Continuum: Explicitly Linking the Below- and Above-Ground Processes: **P Kumar**, J C Quijano, D Drewry

0845h **H51J-04** Modeling the integrated ecology, biogeochemistry, and hydrology of the global terrestrial biosphere in the Community Land Model (CLM4) (*Invited*): **G B Bonan**, P Lawrence, K W Oleson, S Levis

0900h **H51J-05** Shallow bedrock storm-flow, rock moisture, and consequences for geomorphic, ecologic and, possibly, climatic processes: **W E Dietrich**, J Oshun, D M Rempe, T E Dawson, K Simonin, R Salve, I Fung

0915h **H51J-06** Assessing the effects of hydrodynamic stresses on photosynthesis with natural and modified canopy structures (*Invited*): **G Bohrer**, K Maurer, A Matheny, K Meyer, S R Garrity

0930h **H51J-07** Ecohydrologic Investigations of Shallow Lateral Subsurface Flow in Tropical Soils using Time-Lapse Surface Electrical Resistivity Tomography: **F L Ogden**, A Mojica, N A Abebe, Title of Team: Smithsonian Tropical Research Institute, Panama Canal Watershed Experiment, Agua Salud Project
0945h **H51J-08** The effect of surface sealing on soil moisture dynamics in a semiarid hillslope: **S Sela**, T Svoray, S Assouline

H51K Moscone West: 3016 Friday 0800h
Flow and Transport in Complex Porous Media I

Presiding: **N Shokri**, Boston University; **L J Pyrak-Nolte**, Purdue University

0800h **H51K-01** New X-ray Computed Tomography Capability for Pore-Scale Flow and Transport Experimentation at EMSL: **N J Hess**, T A White, T Varga, C Zhang, M Oostrom, T W Wietsma

0815h **H51K-02** Imaging Multiphase Fluid Distribution in Three-dimensional Micro-models: **W Watterson**, Y Liu, L J Pyrak-Nolte

0830h **H51K-03** Enhanced PIV Measurement Methods Using Polarized Light in Porous Media Flows: **J Liburdy**, **V A Patil**, B D Wood

0845h **H51K-04** Permeability in Damaged Porous Rocks: **C F Arson**, J Pereira

0900h **H51K-05** Coupled multi-phase thermo-poromechanical effects. Case study: CO₂ injection at In Salah, Algeria: **M Preisig**, J H Prévost

0915h **H51K-06** Evaluation of Solitary Waves as a Mechanism for Oil Transport in Elastic Porous Media: Implications for the Eugene Island Field, Gulf of Mexico Basin: **A Joshi**, M S Appold, J A Nunn

0930h **H51K-07** Heated optical fiber to measure soil moisture: **F Ciocca**, M B Parlange, N Van De Giesen, I Lunati

0945h **H51K-08** Direct numerical simulation of inertial flows in porous media: **S Apte**, **J Finn**, B D Wood

Earth and Space Science Informatics

IN51A Moscone South: Poster Hall Friday 0800h
Earth and Space Science Informatics General Contributions II Posters

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **K Moe**, NASA

0800h **IN51A-1135** POSTER Services for the Analysis of the Greenland Environment (SAGE): **S Lewis**, D W Gallaher, S S Khalsa, R E Duerr

0800h **IN51A-1136** POSTER Automatic Temporal Tracking of Supra-Glacial Lakes: **Y Liang**, Q Lv, D W Gallaher, D Fanning

0800h **IN51A-1137** POSTER Mineral Detector for Igneous Rocks: S T Ishikawa, S D Hart, **V C Gulick**

0800h **IN51A-1138** POSTER New Space Weather and Space Environment Data Dissemination Tools from the Space Weather Laboratory and the Community Coordinated Modeling Center: **D Berrios**, R E Mullinix, M M Maddox, L Rastaetter, S Doria

0800h **IN51A-1139** POSTER Exploring Various Monte Carlo Simulations for Geoscience Applications: **R Blais**

0800h **IN51A-1140** POSTER Multi-Variate Time Series Modeling and Detection of Reconnection Exhausts in the Solar Wind: **T Sipes**, H Karimabadi, J T Gosling

0800h **IN51A-1141** POSTER Evaluation Of VIIRS Cloud And Aerosol Products For The NPOESS Preparatory Project: **G P Cureton**

0800h **IN51A-1142** POSTER Data Systems for the CERES FM5 Instrument on board the NPOESS Preparatory Project: **J L Gleason**

0800h **IN51A-1143** POSTER Best band selection of hyperspectral remote sensing image based on differential evolution algorithm: **Z Cai**, Z Li, A Jiang, X Chen

IN51B Moscone South: Poster Hall Friday 0800h
Information Technology Infusion Success Strategies Posters
(joint with A, B, EP, ED, GC, H, OS, P, V)

Presiding: **K K Benedict**, University of New Mexico; **B D Wilson**, Jet Propulsion Lab

0800h **IN51B-1144** POSTER Community-oriented Implementation of Interoperability Standards (Invited): **S R Falke**

0800h **IN51B-1145** POSTER Webification of Earth Science Data: **Z Xing**

0800h **IN51B-1146** POSTER A Toolbox for Organization-wide Infusion of Data Systems Technologies: **S W Olding**, K Moe, J M Glassy

0800h **IN51B-1147** POSTER Information Technology Infusion Case Study: Integrating Google Earth into the A-Train Data Depot: P M Smith, **S J Kempler**, G G Leptoukh, A Chen

0800h **IN51B-1148** POSTER Towards Simpler Custom and OpenSearch Services for Voluminous NEWS Merged A-Train Data (Invited): **H Hua**, E Fetzer, A J Braverman, S Lewis, M L Henderson, A Guillaume, S Lee, M de la Torre Juarez, H T Dang

0800h **IN51B-1149** POSTER Delivery of Forecasted Atmospheric Ozone and Dust for the New Mexico Environmental Public Health Tracking System – An Open Source Geospatial Solution: **W B Hudspeth**, R Sanchez-Silva, J A Caver

0800h **IN51B-1150** POSTER OpenSearch (ECHO-ESIP) & REST API for Earth Science Data Access: A Mitchell, M Cechini, **D Pilone**

0800h **IN51B-1151** POSTER The Cascading Impacts of Technology Selection: Incorporating Ruby on Rails into ECHO: **D Pilone**, M Cechini

0800h **IN51B-1152** POSTER Software Applications to Access Earth Science Data: Building an ECHO Client: A Cohen, **M Cechini**, D Pilone

Nonlinear Geophysics

NG51A Moscone South: Poster Hall Friday 0800h
Statistical Geophysics II Posters (joint with A, B, H, OS, EP, NH, G, S)

Presiding: **K F Tiampo**, University of Western Ontario; **D L Turcotte**, University of California, Davis; **W Klein**, Boston University

0800h **NG51A-1179** POSTER Stochastic modeling of soil salinity: **S Suweis**, A M Porporato, E Daly, S Van Der Zee, A Maritan, A Rinaldo

0800h **NG51A-1180** POSTER Effects of Surface Moisture on Precipitable Water and Precipitation in Southern Taiwan: **C Chiang**, M Hsieh, J Liou

0800h **NG51A-1181** POSTER Climate Data Homogenization and its Impact on Heatwave Changes in the Eastern Mediterranean: F G Kuglitsch, A Toreti, E Xoplaki, P M Della-Marta, C S Zerefos, M Turkes, **J Luterbacher**

0800h **NG51A-1182** POSTER Non-equilibrium statistical mechanics theory for the large scales of geophysical flows: **S Eric**, F Bouchet

0800h **NG51A-1183** WITHDRAWN

0800h **NG51A-1184** POSTER Relation between Coda-Q and stress loaded to an elastic body. -parameters of material conditions derived by stochastic measurement-: **K Okamoto**, H Mikada, T Goto, J Takekawa

0800h **NG51A-1185** POSTER The micromechanics and the slip size distribution in a granular model for Seismic Fault: **L de Arcangelis, C Godano, E Lippiello, M Pica Ciamarra**

0800h **NG51A-1186** POSTER How large will be the next earthquake? A dynamical scaling approach to seismic occurrence: **C Godano, E Lippiello, L de Arcangelis**

0800h **NG51A-1187** POSTER Stress Tensor and Stiffness Coefficients for EA Potentials in Earthquake Fault Systems: **A Tavakoli, K F Tiampo**

0800h **NG51A-1188** POSTER Re-Evaluation of Event Correlations in Virtual California Using Statistical Analysis: **M T Glasscoe, M B Heflin, R A Granat, M B Yikilmaz, E Heien, J Rundle, A Donnellan**

0800h **NG51A-1189** POSTER Nucleation in models of damage mechanics: **J D Gran, J B Rundle, W Klein, D L Turcotte**

0800h **NG51A-1190** POSTER A damage model for the absence of significant precursory seismicity: **Y Lee, D L Turcotte, J Rundle, C Chen**

0800h **NG51A-1191** POSTER A characteristic earthquake cycle: Parkfield 1971 to 2009: **D L Turcotte, M R Yoder, J B Rundle**

0800h **NG51A-1192** POSTER A fault and seismicity based composite simulation in northern California: **M B Yikilmaz, E Heien, D L Turcotte, J B Rundle, L H Kellogg**

0800h **NG51A-1193** POSTER Precursory Seismic Migration Patterns Examined by Improved Pattern Informatics Method: **Y Wu, C Chen, J B Rundle, J Wang**

0800h **NG51A-1194** POSTER Unified spectral behavior of regional and single-fault seismicity in Taiwan: **C Chen, L Telesca, K Ma, Y Lin**

0800h **NG51A-1195** POSTER Declustering seismicity using the Thirumalai-Mountain metric: **N Cho, K F Tiampo, P Bhattacharya, R Shcherbakov, C Chen, H Li, W Klein**

0800h **NG51A-1196** POSTER Earthquake nucleation mechanisms and periodic loading: Models, Experiments, and Observations: **K Dahmen, B Brinkman, G Tsekenis, Y Ben-Zion, J Uhl**

0800h **NG51A-1197** POSTER Statistical analysis of planetary calderas and terrestrial volcanic eruptions: **L Sanchez, K Scanlan, R Shcherbakov**

NG51B Moscone South: Poster Hall Friday 0800h
Turbulent Fluid Dynamics II Posters

Presiding: **E M King**, UCLA; **A Bracco**, Georgia Tech

0800h **NG51B-1198** POSTER Fluxes across double-diffusive interfaces: a one-dimensional-turbulence study: **E Gonzalez, A Kerstein, D Lignell**

0800h **NG51B-1199** POSTER Transitions in turbulent rotating Rayleigh-Benard convection: **A Tilgner, S Schmitz**

0800h **NG51B-1200** POSTER A quasigeostrophic model of zonal flow generation in the gas giants: **D Laycock, M Dumberry**

0800h **NG51B-1201** POSTER Investigation of boundary condition effects on the propagation of density current using direct numerical simulations: **X Liu**

0800h **NG51B-1202** POSTER Implementation of a combined compact difference scheme in problems of thermally driven convection and dynamo in rotating spherical shells: **F Takahashi**

0800h **NG51B-1203** POSTER High Spatial Resolution Measurements Of Atmospheric Turbulence Over The Altitude Range Of 0.5 To 23 Kilometers: **D T Kyrzasis, F Eaton**

0800h **NG51B-1204** POSTER Local relaxation processes and maximum entropy states in two-dimensional hydrodynamic turbulence: **L Primavera, S Servidio, M Wan, W H Matthaeus, V Carbone**

0800h **NG51B-1205** POSTER Vorticity and helicity of coherent turbulent structures in Taylor-Green and ABC flows: **J O McCaslin, M P Rast, P Mininni**

0800h **NG51B-1206** POSTER Reynolds-number dependency in homogeneous, stationary two-dimensional turbulence: **A Bracco, J C McWilliams**

0800h **NG51B-1207** POSTER Wavelet decomposition of Taylor-Green forced-turbulence: sensitivity of the incoherent component statistics to threshold value: **J Lord, M P Rast, C Mckinlay, J Clynne, P D Mininni**

0800h **NG51B-1208** WITHDRAWN

0800h **NG51B-1209** POSTER When can we expect statistical mechanics to help predict large scale atmospheric and oceanic features?: **B T Nadiga, F Bouchet**

0800h **NG51B-1210** POSTER Heat transport by turbulent rotating convection and magnetoconvection in liquid gallium: **E M King, J M Aurnou**

0800h **NG51B-1211** POSTER Generalized similarity in magnetohydrodynamic turbulence as seen in the solar corona and solar wind: **S C Chapman, E Leonardis, R M Nicol, C Foullon**

0800h **NG51B-1212** POSTER Reversals and the turbulent α -effect in simulations of natural and experimental dynamos: **A Giesecke, F Stefani, G Gerbeth**

0800h **NG51B-1213** POSTER Differential rotation and magnetic field in a spherical Couette flow experiment: **D Brito, T Alboussiere, P Cardin, D Jault, H Nataf, D Schmitt, J Masson, P La Rizza**

0800h **NG51B-1214** POSTER Broken ergodicity in ideal, homogeneous, incompressible turbulence: **L Morin, J V Shebalin, T Fu, P Nguyen, V Shum**

0800h **NG51B-1215** POSTER Patchy correlations and suppression of nonlinearity in a variety of systems: Solar wind observations, MHD simulation and pure electron plasma experiments: **T Aziz, M Wan, K Osman, D J Rodgers, S Servidio, T Mitchell, W H Matthaeus**

0800h **NG51B-1216** POSTER AN OVER-DRIVEN AXIAL DIPOLE DYNAMO MODEL: **J M Aurnou, M H Heimpel**

0800h **NG51B-1217** POSTER Magnetized Fluid Flow in an Earth-like Geometry: **M M Adams, D P Lathrop**

0800h **NG51B-1218** POSTER The role of system-scale turbulence on MHD activity in a spherical dynamo experiment: **K Rahbarnia, M Clark, E Kaplan, M Nornberg, A Rasmus, N Taylor, J Wallace, C Forest**

0800h **NG51B-1219** POSTER Nonlinear Dynamics of Banded Iron Formation Precipitation: **Y Wang, H Xu, E Merino**

NG51C Moscone South: 308 Friday 0800h
Turbulent Fluid Dynamics I

Presiding: **E M King**, UCLA; **A Bracco**, Georgia Tech

0800h **NG51C-01** Small-scale dynamo in solar surface simulations: **J P Graham, R Moll, R Cameron, M Schüssler**

0815h **NG51C-02** Turbulent Convection in the Zero Reynolds Number Limit (*Invited*): **U Hansen, M Breuer**

0830h **NG51C-03** On the Interaction of Buoyant Plumes With Ocean Mixed-Layer Fronts (*Invited*): **T M Ozgokmen, P F Fischer**

0845h **NG51C-04** Understanding Emergence of Coherent Structures from Turbulence Using Stochastic Structural Stability Theory: **B Farrell, P Ioannou**

0900h **NG51C-05** A Plasma Dynamo Experiment For Studying Astrophysically Relevant Flow Driven MHD Instabilities: **C Forest, E G Zweibel, N K Katz, E J Spence, M Nornberg, I Khalzov, C Collins, D Weisberg, J Wallace, J Jara-Almonte, M Clark**

0915h **NG51C-06** The Large-Scale Dynamo in a Shear Flow (*Invited*): **J C McWilliams**, T Heinemann, A Schekochihin
0930h **NG51C-07** Turbulent dispersion of balloons and drifters: **J H Lacasce**
0945h **NG51C-08** PDEs and Asymptotics for the Tropical Atmosphere (*Invited*): **J Biello**, A Majda

Natural Hazards

NH51A Moscone South: Poster Hall Friday 0800h
Artificial Intelligence for Prediction and Identification of Natural Hazards Posters (*joint with AE, H, GC, IN, NG, OS*)

Presiding: **F Chang**, National Taiwan University; **L Chang**, Tamkang University; **L Chang**, National Chiao Tung University

0800h **NH51A-1220** *POSTER* Comparison of empirical and data driven hydrometeorological hazard models on coastal cities of São Paulo, Brazil: A Koga-Vicente, **M J Friedel**

0800h **NH51A-1221** *POSTER* An enhanced two-step-ahead recurrent neural network for prediction of inflow in reservoir: **P Chen**, L Chang, F Chang

0800h **NH51A-1222** *POSTER* Estimation of evaporation at ungauged sites by combining ANFIS and Kriging methods: **C Chung**, Y Chiang, F Chang

0800h **NH51A-1223** *POSTER* A Model of Automatic Identification of Groundwater Parameters using an Expert System: **P Chang**, L Chang, C Jung, C Huang, J Chen, P J Tsai, Y Chen, Y Wang

0800h **NH51A-1224** *POSTER* Application of a Genetic Algorithm for Estimating Recharge Potential of the Choushui River Alluvial Fan: **S Yang**, L Chang, Y Chen, C Jung, C Huang, J Chen, P J Tsai

0800h **NH51A-1225** *POSTER* An investigation on the estimation of sediment concentration by artificial neural networks: **A Chen**, Y Chiang, S Chang, F Chang

0800h **NH51A-1226** *POSTER* Building Flood Inundation Warning Systems by Using Serial-Propagated Neural Networks: **L Chang**, Z Zhunag, H SHEN, Y Wang, C Yang

0800h **NH51A-1227** *POSTER* Estimating Typhoon Rainfall over Sea from SSM/I Satellite Data Using an Improved Genetic Programming: **K Yeh**, H Wei, L Chen, G Liu

0800h **NH51A-1228** *POSTER* Fuzzy Cognitive Maps for Glacier Hazards Assessment: Application to Predicting the Potential for Glacier Lake Outbursts: **R Furfaro**, J S Kargel, W Fink, M P Bishop

0800h **NH51A-1229** *POSTER* Quantitative precipitation estimation by merging multiple precipitation products using artificial neural networks: **Y Chiang**, M Tsai, F Chang

NH51B Moscone South: Poster Hall Friday 0800h
Climate Change, Impacts, and Hazards: System of Systems I Posters (*joint with A, GC, EP, C, OS*)

Presiding: **M Kafatos**, Schmid College of Science, Chapman Univ.; **G Asrar**

0800h **NH51B-1230** *POSTER* An Analysis of Heavy Rain Events in the Middle and Lower Reaches of Yangtze River in China during the recent 50 years: **B Jie**

0800h **NH51B-1231** *POSTER* The influence of coastal wetlands on hurricane surge in Corpus Christi, TX: **C Ferreira**, J L Irish, F Olivera

0800h **NH51B-1232** *POSTER* EMS adaptation for climate change: **C Pan**, Y Chang, J Wen, M Tsai

0800h **NH51B-1233** *POSTER* NASA Ames Research Center Climate Change Adaptation Research: **C Milesi**, M Loewenstein, L T Iraci, N Burroughs, K Pitts, A C Gonzales

0800h **NH51B-1234** *POSTER* NASA Ames Research Center Climate Change Effects and Adaptation Research: Hind- and Forecasting Flood Risk of NASA Ames Research Center Using the BASINS Model: A C Gonzales, **K Pitts**, M Loewenstein, L T Iraci, C Milesi
0800h **NH51B-1235** WITHDRAWN
0800h **NH51B-1236** *POSTER* Greenhouse Gas Emissions Reporting through Integrated Business Solutions: **D Smith**

NH51C Moscone South: Poster Hall Friday 0800h
Natural Hazards General Contributions Posters

Presiding: **C W Kreemer**, University of Nevada, Reno; **Y A Kontar**, University of Illinois at Urbana-Champaign

0800h **NH51C-1237** *POSTER* Climatic and hydrologic aspects of the 2008 Midwest floods: **D Budikova**, J Coleman, S A Strope

0800h **NH51C-1238** *POSTER* Active Volcano Monitoring using a Space-based Hyperspectral Imager: **J J Cipar**, R Dunn, T Cooley

0800h **NH51C-1239** *POSTER* FLOW DIRECION OF DEBRIS AVALANCHE AT AGUILUCHO-APACHETA VOLCANIC COMPLEX (AAVC), CENTRAL ANDES: **B E Godoy Neira**, F Aguilera, S Ahumada, J Mercado

0800h **NH51C-1240** *POSTER* Debris flow probability and extent vary with infiltration rate and intensity-duration of rainfall: Mt. Mayon, Philippines: **J C Maggio**, W I Rose, C G Newhall

0800h **NH51C-1241** *POSTER* Ship-based GPS sensing of the 27 Feb 2010 tsunami in the open ocean: **J H Foster**, D Wang, B A Brooks, G S Carter, M A Merrifield

0800h **NH51C-1242** *POSTER* The November 1st, 1755 Tsunami in Morocco: Can Numerical Modeling Clarify the Uncertainties of Historical Reports?: **R Omira**, M Baptista, S Mellas, F Leone

0800h **NH51C-1243** *POSTER* Emergency Satellite Image Delivery through International Charter 'Space and Major Disasters': **B K Jones**, **R M Lamb**

0800h **NH51C-1244** *POSTER* Development of an Integrated Model for the Assessment of Climate Change Adaptation Methods Relating to the Preservation of Urban Coastal Cultural Heritage: **B R Curran**, M Routhier, G K Mulukutla, G Gopalakrishnan

0800h **NH51C-1245** *POSTER* Late 20th Century Deep-seated Vertical Motions in New Orleans and implications for Gulf Coast Subsidence: **R K Dokka**

0800h **NH51C-1246** *POSTER* Water Induced Hazard Mapping in Nepal: A Case Study of East Rapti River Basin: **N Neupane**

0800h **NH51C-1247** *POSTER* Remote Sensing Based Flood Mapping for Disaster Management Applications: **F Policelli**, R Brakenridge, D P Ouzounov, J Sun, D A Slayback, L Fatoyinbo

0800h **NH51C-1248** *POSTER* Geomagnetic Effect Caused by 1908 Tunguska Event: **T V Losseva**, M Y Kuzmicheva

0800h **NH51C-1249** *POSTER* Multiple meteoroid impacts in Antarctica at 481,000ky: a possible cause for the mid-Brunhes Event/MIS 11 Stage via the disruption of the West Antarctic Ice Sheet?: **A R Rice**, J G Weihaupt, F van der Hoeven

0800h **NH51C-1250** *POSTER* Surrogate Models and Uncertainty Quantification for Hazard Map Construction: **A K Patra**, K Dalbey, E Pitman, E R Stefanescu, M I Bursik, M F Sheridan, E S Calder, M D Jones

NH51D Moscone West: 2005 Friday 0800h
Remote Sensing of Volcanic Aerosol and Gases Using Ground-Based, Aircraft, and Satellite Observations II (*joint with A, V*)

Presiding: **A A Kokhanovsky**, University of Bremen; **G De Leeuw**, Finnish Meteorological Institute

0800h **NH51D-01** Volcanic Ash Layers of the Eyjafjalla over Europe in April/May 2010 - Characterized by the DLR-Falcon Aircraft and by Ground-based Lidars (*Invited*): **B Weinzierl**, A Minikin, O Reitebuch, H Schlager, F Dahlkoetter, S Rahm, T Hamburger, J Gasteiger, V Freudenthaler, S Gross, M Wiegner, A Ansmann, M Tesche, K Lieke, K Kandler, J Gayet, U Schumann

0820h **NH51D-02** Detecting and quantifying volcanic ash, ice and sulfate aerosols with hyperspectral infrared sounders (*Invited*): **L Clarisse**, F Prata, C Clerbaux, D Hurtmans, P Coheur

0840h **NH51D-03** The Properties and Distribution of Eyjafjallajökull Volcanic Ash, as Observed with MISR Space-based Multi-angle Imaging, April-May 2010 (*Invited*): **RA Kahn**, B J Gaitley, D L Nelson, M J Garay, Title of Team: The MISR Team

0900h **NH51D-04** Eyjafjallajökull volcanic ash concentrations determined from CALIOP and SEVIRI measurements (*Invited*): **F Prata**, A Prata

0920h **NH51D-05** Detection and Characterization of Ash plumes from Eyjafjallajökull with Satellite Lidar: **D M Winker**, Z Liu, A H Omar, J L Tackett, T D Fairlie, J Pelon

0935h **NH51D-06** Physical and chemical properties of the volcanic ash aerosol from the Eyjafjoll volcano eruption (*Invited*): **U Baltensperger**, Title of Team: The Eyjafjoll Volcano Atmospheric Observation Consortium

0950h **NH51D-07** Characterization of volcanic material from combined IR-lidar observations in the frame of the CALIPSO mission: **J Pelon**, D Josset, A Garnier, P Dubuisson, M Faivre, D M Winker, Y Hu, J P Descloitres, L Doppler

Ocean Sciences

OS51A Moscone South: Poster Hall Friday 0800h
Biological, Chemical, and Physical Controls on the Gulf of Alaska Ecosystem I Posters

Presiding: **J Crusius**, US Geological Survey; **R W Campbell**, Prince William Sound Science Center; **Y Chao**, Jet Propulsion Laboratory; **F Chai**, University of Maine

0800h **OS51A-1260** POSTER Water Masses From Two NOAA/GFDL Coupled Climate Models (CM2G and CM2M) in the North Pacific: **Y Park**

0800h **OS51A-1261** POSTER What Controls the Temporal Variability of Oxygen in the Gulf of Alaska?: **Y Takano**, T Ito, C A Deutsch

0800h **OS51A-1262** POSTER Reactive Iron Delivery to the Central Gulf of Alaska via Two Mesoscale Eddies (*Invited*): **S M Lippiatt**, M T Brown, M C Lohan, K W Bruland

0800h **OS51A-1263** WITHDRAWN

0800h **OS51A-1264** POSTER Reconciling Phytoplankton Growth Rates and Standing Stocks in the Northern Gulf of Alaska: Evidence for a Physical-Biological Mosaic (*Invited*): R M Kudela, **T D Peterson**, M Blakely

0800h **OS51A-1265** POSTER Seasonal Changes in Productivity in the Copper River Plume and Coastal Gulf of Alaska: **R W Campbell**, A W Schroth, J Crusius

0800h **OS51A-1266** POSTER Abundant, seasonally variable supply of glacier flour-derived iron drives high nitrate consumption in Copper River plume and adjacent Gulf of Alaska continental shelf: **J Crusius**, A W Schroth, R W Campbell, J L Nielsen, I R Hoyer, W Brooks

0800h **OS51A-1267** POSTER Temporal and Spatial Variability in the Partitioning and Flux of Riverine Iron Delivered to the Gulf of Alaska: **A W Schroth**, J Crusius, K D Kroeger, I R Hoyer, C L Osburn

0800h **OS51A-1268** POSTER Modeling Impacts of Mesoscale Eddies on Iron Cycle and Biogeochemical Processes in the Gulf of Alaska: **F Chai**, P Xiu, H Xue, L Shi, Y Chao

0800h **OS51A-1269** POSTER Interannual lower trophic level ecosystem variability and nutrient limitation in the Coastal Gulf of Alaska from a data-assimilative, coupled physical-biological model (*Invited*): **J Fiechter**, G Broquet, A M Moore

0800h **OS51A-1270** POSTER A Data-Assimilative Modeling System for the Gulf of Alaska based on the Regional Ocean Modeling System (ROMS): **J Farrara**, Y Chao, Z Li, X Wang, X Jin, P Li

0800h **OS51A-1271** POSTER Biological productivity, phytoplankton community structure and air-sea CO₂ flux in the surface waters of the Gulf of Alaska: **H Palevsky**, F Ribalet, C E Cosca, P Quay, E V Armbrust, R A Feely

0800h **OS51A-1272** POSTER Time-series observations of phytoplankton productivity in the western North Pacific by an underwater profiling buoy system: **T Fujiki**, M C Honda, K Matsumoto, H Kawakami, M Wakita, T Saino, Title of Team: Marine Biogeochemical Cycle Research Team

0800h **OS51A-1273** POSTER Nutrient Stream in the Kuroshio region: **K Komatsu**, I Yasuda, S Itoh, T Ikeya, K Hidaka, M Yagi, T Nonomura, S Osafune, H Nishikawa, H Kaneko

0800h **OS51A-1274** POSTER Roles of mode waters on formation and maintenance of central water in the North Pacific: **K Toyama**, T Suga

OS51B Moscone South: Poster Hall Friday 0800h
Nearshore Processes III Posters (*joint with EP*)

Presiding: **C Chickadel**, University of Washington; **J W Long**, USGS; **H F Stockdon**, U.S. Geological Survey

0800h **OS51B-1275** POSTER A Numerical Study of Coupled Estuary-shelf Circulation Around the Pearl River Estuary: **T Zu**, J Gan, D Wang

0800h **OS51B-1276** POSTER The use of autonomous unmanned vehicles for measuring the mean flow field in riverine environments: **C Tuggle**, J H MacMahan, J Brown, A J Reniers

0800h **OS51B-1277** POSTER Quantifying Riverine Surface Velocities Using Thermal Infrared PIV: **C M Sutkowski**, J A Puleo, T E McKenna

0800h **OS51B-1278** POSTER Ground-Based Thermal Imaging of Coastal and Riverine Sediments: **T Sliwinski**, T E McKenna, J A Puleo, C L Meehan

0800h **OS51B-1279** POSTER Modelling the fate of the Tijuana River discharge plume: **M van Ormondt**, E Terrill, L F Hibler, A R Van Dongeren

0800h **OS51B-1280** POSTER NUMERICAL SIMULATION OF FLOW AND SEDIMENT TRANSPORT PATTERNS IN INDIAN RIVER INLET, DE, USA: **M Keshtpoor**, J A Puleo, N Kraus

0800h **OS51B-1281** POSTER A General Formulation for Wave-Current Interaction in Strongly Sheared Flows: **Z Dong**, J T Kirby, D Thompson

- 0800h **OS51B-1282** *POSTER* Concurrent remote and in situ wave and current observations at a tidal inlet: **D A Honegger**, M C Haller, J A Lerczak, P McEnaney
- 0800h **OS51B-1283** *POSTER* An experimental investigation of hyperpycnal flow: **T M Boland**, T Hsu
- 0800h **OS51B-1284** WITHDRAWN
- 0800h **OS51B-1285** *POSTER* MODELLING INFRAGRAVITY WAVES AND CURRENTS ACROSS A FRINGING REEF: NINGALOO REEF, WESTERN AUSTRALIA: **A R Van Dongeren**, T Duong Minh, R Lowe, J Roelvink, R Ranasinghe, G Symonds
- 0800h **OS51B-1286** *POSTER* MEASUREMENTS OF WAVE ATTENUATION THROUGH MODEL AND LIVE VEGETATION IN A WAVE TANK: **Y Ozeren**, D G Wren
- 0800h **OS51B-1287** *POSTER* Wave damping across the Louisiana shelf: **A Engelstad**, T T Janssen, G van Vledder, T H Herbers, S Elgar, B Raubenheimer
- 0800h **OS51B-1288** *POSTER* Resonant interactions between weakly nonlinear long surface and interfacial waves: **N Tahvildari**, J M Kaihatu
- 0800h **OS51B-1289** *POSTER* Wave-Induced Suspended Sand Transport Around Ripples in the Near Shore Zone: **A Ahmari**, H Oumeraci
- 0800h **OS51B-1290** *POSTER* Ripple migration and its implication in sediment transport: two series of wave-flume experiments: **N Yamaguchi**, H Sekiguchi
- 0800h **OS51B-1291** *POSTER* Development of "Smart Sediments" to Conduct In-Situ Measurements within Mobile Bed Layers: **D P Frank**, D Foster, P Chou
- 0800h **OS51B-1292** *POSTER* Determination of bedform resolution necessary to accurately resolve the flow field by comparing numerical simulations with field data: **G Margelowsky**, D Foster, P Traykovski, J A Felzenberg
- 0800h **OS51B-1293** *POSTER* High resolution field study of sediment dynamics on a strongly heterogeneous bed: P Bailly du Bois, **O Blanpain**, R Lafite, P Cugier, M Lunven
- 0800h **OS51B-1294** *POSTER* Experimental Recreation of Large-Scale Coastal Bedforms and Hummocky Cross-Stratification in Sheet Flow Conditions: T Vermaas, **M G Kleinhans**, C Huisman, J L Schretlen, J J van der Werf, J S Ribberink, G Ruessink
- 0800h **OS51B-1295** *POSTER* A comparison of measured and modeled suspended sediment concentration profiles during different types of meteorological events on the inner-shelf of Long Bay, South Carolina: **P A Wren**, Y Ma
- 0800h **OS51B-1296** *POSTER* Coastal sediment dynamics in Spitsbergen.; **J Deloffre**, R Lafite, A Baltzer, C Marlin, E Delangle, D Dethleff, F Petit
- 0800h **OS51B-1297** *POSTER* Hydrodynamic and Sediment Transport Processes in Long Bay of the Carolinas: Y Ma, **K Xu**, R He, P A Wren, Y Gong, B Quigley, D Tarpley
- 0800h **OS51B-1298** *POSTER* Observations of Longshore Currents at Cape Hatteras, NC: **S M Smallegan**, K A Haas, J C Warner, J H List
- 0800h **OS51B-1299** *POSTER* Big-Ass Holes in the Surfzone: Waves, Currents, and Sediment Transport in a Seafloor Perturbation Experiment: **M R Moulton**, S Elgar, B Raubenheimer
- 0800h **OS51B-1300** *POSTER* Waves and wave-driven currents over a barred beach during a sea-breeze cycle: **J Gunson**, G Symonds, S Contardo, N Mortimer
- 0800h **OS51B-1301** *POSTER* Observations of wave-driven surf-zone dynamics on a high-energy beach, Ocean Beach, San Francisco: **I S Jones**, T T Janssen, J E Hansen, P Barnard
- 0800h **OS51B-1302** *POSTER* Impact of high-resolution tidal forcing on the Navy Coastal Ocean Model: **S R Smith**, P A Martin, G Dawson, E D Zaron
- 0800h **OS51B-1303** *POSTER* A numerical study of nearshore circulation in a rip channel: **R Jalali Farahani**, R A Dalrymple
- 0800h **OS51B-1304** *POSTER* Cross-shore Exchange on a Rip-channelled Beach Using Fluorescent Dye: **J Brown**, J H MacMahan, A J Reniers
- 0800h **OS51B-1305** *POSTER* Alongshore Shear-Dispersion of Surfzone Drifters: The Effect of a Finite Lagrangian Time-Scale: **M S Spydell**, F Feddersen
- 0800h **OS51B-1306** *POSTER* Boussinesq modeling of HB06 tracer releases Part 1: Wave and current model-data comparisons: **F Feddersen**, D B Clark, R T Guza
- 0800h **OS51B-1307** *POSTER* Surfzone Tracer Transport and Dispersion during the IB09 Field Experiment: **K Hally-Rosendahl**, F Feddersen, D B Clark, R T Guza
- 0800h **OS51B-1308** *POSTER* Effects of wave and tidal forcing on conservative contaminant transport in coastal aquifers: **R Bakhtyar**, A Brovelli, D A Barry
- 0800h **OS51B-1309** WITHDRAWN
- 0800h **OS51B-1310** *POSTER* A Discretized Adjoint Model for SWAN: **M Orzech**, J Veeramony
- 0800h **OS51B-1311** *POSTER* A unified spectral parameterization for wave breaking: from the deep ocean to the surf zone: **J Filipot**
- 0800h **OS51B-1312** *POSTER* A High-Order Adaptive Time-Stepping TVD Solver for BOUSSINESQ Modeling of Breaking Waves and Coastal Inundation: **F Shi**, J T Kirby, B Tehranirad
- 0800h **OS51B-1313** *POSTER* Dissipation in shoaling nonlinear waves: **S Pak**, T T Janssen
- 0800h **OS51B-1314** *POSTER* Numerical study of large-scale turbulence and bubble entrainment under surfzone breaking waves: **G Ma**, J T Kirby, F Shi
- 0800h **OS51B-1315** *POSTER* Determination of Nearshore Surface Slope Field and Wave Heights Using Optical Polarimetry: **R D Russotto**, R A Holman, J Stanley, M L Palmsten
- 0800h **OS51B-1316** *POSTER* Pressure Gradients in the Inner Surf and Outer Swash Zone: **A Kidwell**, J A Puleo, A Torres-Freyermuth
- 0800h **OS51B-1317** *POSTER* Spatially dense kinematic maps in the swash zone using a continuity-based imaging technique: **T M Lanckriet**, J A Puleo
- 0800h **OS51B-1318** *POSTER* Swash-zone velocity profiles and bed stress on a natural beach: **J A Puleo**, T Lanckriet, P Wang
- 0800h **OS51B-1319** *POSTER* Lidar observations of run-up (*Invited*): **K M List**, B Raubenheimer, S Elgar
- 0800h **OS51B-1320** *POSTER* Interaction Between Transient Long Wave and Random Swell - Laboratory Investigations: **H M El Safty**, J M Kaihatu
- 0800h **OS51B-1321** *POSTER* Long Wave Inundation in Discontinuous Macro-Roughness with Application to Tsunamis in Forested Regions: **Y Song**, J L Irish, C Vittone, M Barkdull, Title of Team: Long Wave hydrodynamics and Vegetation field Research Team
- 0800h **OS51B-1322** *POSTER* Coastal Growth Patterns in Northern Sumatra as a Potential Tool in Seismic Hazard Assessment: **K Monecke**, W Finger, N Hood, B Houston, F Karmanocky, M Lavine, S Luthi, B G McAdoo, J Storms, S U Sudrajat
- 0800h **OS51B-1323** *POSTER* Rapid Response Measurements of Hurricane Waves and Storm Surge: **U gravois**

0800h **OS51B-1324** *POSTER* Climate change induced decadal variations in hydrodynamic conditions in the Eastern Baltic Sea: **U Suursaar**, T Kullas

0800h **OS51B-1325** *POSTER* SYNOPTIC VIEW OF A SWELL FIELD IN THE PACIFIC: FROM SPACEBORNE SAR MEASUREMENTS TO SEISMIC NOISE ON THE COAST: **R Husson**, F Collard, F Ardhuin, E Stutzmann, A Balanche

OS51C Moscone South: Poster Hall Friday 0800h
Ocean Sciences General Contributions: Biological Oceanography Posters

Presiding: **K Stocks**, Univ. of California San Diego

0800h **OS51C-1326** *POSTER* Effect of light and substrate availability on the primary nitrite maximum in the Gulf of Aqaba, Red Sea: **K R Mackey**, L A Bristow, M A Altabet, A Post, A Paytan

0800h **OS51C-1327** *POSTER* Spatial variability of dissolved phosphorous concentrations and alkaline phosphatase activity in the East China Sea: **H Liu**, J Chang, T Ho, G Gong

0800h **OS51C-1328** *POSTER* Biological production and f-ratio in the equatorial Pacific: **D Turk**, D ANTOINE, C S Meinen, M R Lewis

0800h **OS51C-1329** *POSTER* Phytoplankton Community Growth Rates in the World Ocean: J K Moore, **E Sherman**

0800h **OS51C-1330** *POSTER* Spatiotemporal distribution of Chl a in the Gulf of Mexico based on MODIS geophysical products: **S Chintalapudi**, H Xie, H O Sharif

0800h **OS51C-1331** *POSTER* Simulations of *Karenia Brevis* on the West Florida Shelf: **J M Lenés**, B P Darrow, F R Chen, J J Walsh, D A Dieterle, R H Weisberg

0800h **OS51C-1332** *POSTER* From the Nearshore and Back Again: Biological Implications of Coastal Mixing: **C S Harrison**, G A Glatzmaier, D A Siegel, S Mitarai

0800h **OS51C-1333** *POSTER* Quest for the building blocks of ocean ecosystems: micro-scale fluorescence patchiness: **H Yamazaki**, M Doubell, H Li, H Homma, Y Sagara, A Nimmo-Smith

0800h **OS51C-1334** *POSTER* Acquiring Peak Samples from Phytoplankton Thin Layers and Intermediate Nepheloid Layers by an Autonomous Underwater Vehicle with Adaptive Triggering: **Y Zhang**, R McEwen, J P Ryan, J G Bellingham, J Harvey, R Vrijenhoek

0800h **OS51C-1335** *POSTER* Adapting to life: simulating an ecosystem within an unstructured adaptive mesh ocean model: **J Hill**, M D Piggott, E E Popova, D A Ham, M A Srokosz

0800h **OS51C-1336** *POSTER* Hypoxia on the Oregon Shelf: a Modeling Study: **A O Koch**, Y H Spitz, H P Batchelder

0800h **OS51C-1337** WITHDRAWN

0800h **OS51C-1338** *POSTER* Investigating the contribution of mussel N regeneration to coastal primary production using stable isotope tracers: **S Pather**, M A Altabet, C A Pfister, D M Post

0800h **OS51C-1339** *POSTER* Advanced Whale Detection Methods to Improve Whale-Ship Collision Avoidance: **P A McGillivray**, B Tougher

0800h **OS51C-1340** *POSTER* The Census of Marine Life on Seamounts: results from a global science program: **K Stocks**, M Clark, A Rowden, M Consalvey

OS51D Moscone West: 3009 Friday 0800h
Fluid Flow and Gas Hydrates in Continental Margins III (*joint with GC, NH, PP, V*)

Presiding: **C Berndt**, IFM-GEOMAR; **S Planke**, Volcanic Basin Petroleum Rsch

0800h **OS51D-01** Dynamic Controls of Fluid and Gas Flow at North Alex Mud Volcano, West Nile Delta: **W Brueckmann**, J Bialas, M D Jegen, M R Lefeldt, S Hoelz, T Feseker

0815h **OS51D-02** Sedimentological Control on Hydrate Saturation Distribution in Arctic Gas-Hydrate-Bearing Deposits: **J Beheresht**, Y Peng, S L Bryant

0830h **OS51D-03** FluSO – The Fluid Flow Seabed Observatory; a first demonstration mission in a seismically active region in Greece: **V Huehnerbach**, C Berndt, D Masson, V Lykousis, G Papatheodorou, V Papadopoulos

0845h **OS51D-04** Development of the Methane Hydrate Burning Experimental Equipment: **S Aoyama**

0900h **OS51D-05** Experimental investigation of sediment control on the saturation level of gas hydrate in sediments: **H Lu**, T Ukita, S Noguchi, I Moudrakovski, T SHIMADA, J Ripmeester, C Ratcliffe

0915h **OS51D-06** Characterization of Diffusion-Controlled Growth and Dissolution of Methane Hydrate in Aqueous Solution by Raman Spectroscopy: **W Lu**, Y Ye, I Chou, C Liu, R C Burruss, F Wang, M Wang

0930h **OS51D-07** WITHDRAWN

0945h **OS51D-08** Quantifying Long-term Methane Flux Change by Coupling Authigenic Mineral Distribution and Kinetic Modeling at Southern Hydrate Ridge, Oregon: **W Hong**, M E Torres, J E Johnson, E Pinero, K Rose

OS51E Moscone West: 3007 Friday 0800h
Ocean Circulation Variability and Air-Sea Interactions in the Western Tropical Pacific II

Presiding: **C Maes**, IRD; **B Qiu**, Univ of Hawaii at Manoa; **K Ando**, Japan Agcy Mar Sci & Tech

0800h **OS51E-01** Is the Pacific warm pool too big to care about the Indonesian Throughflow? (*Invited*): **A L Gordon**

0815h **OS51E-02** Seasonal variation of the Indonesian Throughflow: Role of western Pacific wind variation: **T Shinoda**, W Han, E Metzger, H E Hurlburt

0830h **OS51E-03** The life of tropical Hot Event in November 2006 (HE0611) observed by advanced satellite sensors and the TAO/TRITON mooring array (*Invited*): **H Kawamura**, H Qin

0845h **OS51E-04** Argo measurements of Madden-Julian Oscillation mixed-layer variability: **K Drushka**, S Wijffels, J Sprintall, S T Gille

0900h **OS51E-05** Observations of the Mindanao Current and the North Equatorial Current (*Invited*): **D L Rudnick**

0915h **OS51E-06** Interannual-to-Decadal Variability in the Bifurcation of the North Equatorial Current off the Philippines: **B Qiu**, S Chen

0930h **OS51E-07** Variability of the surface and thermocline circulations in the Solomon Sea (*Invited*): **A Melet**, J A Verron, L Gourdeau, W S Kessler

0945h **OS51E-08** Observed features of the jets supplying the Coral Sea: **F Gasparin**, A S Ganachaud, C Maes

OS51F Moscone West: 3010 Friday 0800h
Turbulence, Mixing, and Multiscale Interactions in Rivers and Estuaries I

Presiding: **A T Jessup**, University of Washington; **A R Horner-Devine**, University of Washington; **S G Monismith**, Stanford University

0800h **OS51F-01** Hydraulic transitions, shear instability and mixing (*Invited*): **W R Geyer**, M E Scully

0815h **OS51F-02** ANALYSIS OF SHEAR INSTABILITY IN THE FRASER RIVER ESTUARY: **E W Tedford**, J Carpenter, R A Pawlowicz, R Pieters, G A Lawrence

0830h **OS51F-03** WITHDRAWN

0845h **OS51F-04** Bathymetric Controls on Local Stratification through Lateral Exchange and Straining: **L J MacVean**, M T Stacey

0900h **OS51F-05** Flow structure and mixing at the confluence of unequal density rivers (*Invited*): **J Best**, D R Parsons, M Amsler, R Kostaschuk, S N Lane, O Orfeo, R Szupiany, R J Hardy

0915h **OS51F-06** Surface Flow and Turbulence in an Estuarine River Channel (*Invited*): **C Chickadel**, S A Talke, A R Horner-Devine, A T Jessup

0930h **OS51F-07** Coherent structures and near-surface turbulence in a tidal river: **S A Talke**, A R Horner-Devine, C Chickadel, A T Jessup

0945h **OS51F-08** High-resolution numerical simulation of surface salinity variability over an abrupt sill in a salt-wedge estuary (*Invited*): **O B Fringer**, B Wang

Planetary Sciences

P51A Moscone South: Poster Hall Friday 0800h
Mars and Mercury Geophysics II Posters

0800h **P51A-1409** POSTER Hellas: A double-impact basin: **J Arkani-Hamed**

0800h **P51A-1410** POSTER Testing a two-stage tectonic model for the formation of closed basins in the northern Valles Marineris, Mars: **RA Lovdahl**, A Yin

0800h **P51A-1411** POSTER Experimental Constraints on the Composition and Depth of an Early Magma Ocean on Mars: **K Hutchins**, C B Agee, D S Draper

0800h **P51A-1412** POSTER Measuring Neutrons and Gamma Rays on Mars - The Mars Science Laboratory Radiation Assessment Detector MSL/RAD: **R F Wimmer-Schweingruber**, C Martin, O Kortmann, E Boehm, A Kharytonov, B Ehresmann, D M Hassler, C Zeitlin, Title of Team: and the RAD Team

0800h **P51A-1413** POSTER Global Conductivity Distributions in the Martian Ionosphere: **M Beharrell**, **J A Wild**, M Lester, H J Opgenoorth

0800h **P51A-1414** POSTER Self-consistent Model of Martian Dichotomy Formation and Tharsis Evolution?: **O Sramek**, S Zhong

0800h **P51A-1415** POSTER Spatial Analyses of Impact Craters Around Hellas Planitia, Mars: Implications for Fluvial and Lacustrine Environments: **C B Condit**, L F Bleamaster, D A Crown, S C Mest

0800h **P51A-1416** POSTER Refining the Geologic History of Deuteronilus Mensae, Mars Using CTX-based Crater Size-Frequency Distributions: **D C Berman**, D A Crown, E C Joseph, F Chuang

0800h **P51A-1417** POSTER Bouguer anomalies over medium-size Martian impact basins: **D Wenkert**, D C Nunes

0800h **P51A-1418** POSTER Solar Wind - Magnetosphere Coupling via Kelvin-Helmholtz Instability at Mercury: **S Lai**, Y Wang, W Ip

P51B Moscone South: Poster Hall Friday 0800h
Mars Surface, Mineralogy, and Polar Processes Posters

Presiding: **I H Leubner**, Rochester Institute for Fundamental Research; **T C Orloff**, University of California Santa Cruz

0800h **P51B-1419** POSTER Quantification of Rock Clustering on Martian Patterned Ground Terrains: **T C Orloff**, M A Kreslavsky, E I Asphaug

0800h **P51B-1420** WITHDRAWN

0800h **P51B-1421** POSTER Contrasting Flow Events in Chryse and Acidalia Planitiae, Mars, as Determined Through Landform Mapping and Spatial Analyses: **J A Skinner**, R L Ferguson

0800h **P51B-1422** POSTER A Structural Origin for the Warrego Rise, Thaumasia Highlands, Mars, and Implications for the Origin of Warrego Valles: **S M Som**, D R Montgomery

0800h **P51B-1423** POSTER Martian Pyroxenes in the Shergottite Meteorites; Zagami, SAU005, DAG476 and EETA79001: **N Stephen**, G K Benedix, P Bland, V E Hamilton

0800h **P51B-1424** POSTER The Location and most Viable Magnetic Mineral of the Magnetic Layer of Mars Crust: D Boutin, **J Arkani-Hamed**

0800h **P51B-1425** POSTER The Gas Chromatograph-Mass Spectrometer of the Sample Analysis at Mars experiment onboard the MSL 2011 rover for the search of organic molecules on Mars: **C Szopa**, P J Coll, M Cabane, D Coscia, F Stalport, A Buch, A Noblet, P R Mahaffy, D Glavin, C Freissinet, C Philippon, Title of Team: The SAM GC team

0800h **P51B-1426** POSTER Hypsometry of lobate debris aprons on the eastern rim of Hellas Basin, Mars: Implications for climate variations: **A M Rutledge**, P R Christensen

0800h **P51B-1427** POSTER Investigating the Cause of Moving Albedo Boundaries in the Oxia Palus Region of Mars: **P Mukherjee**, P E Geissler

0800h **P51B-1428** POSTER Recent Surface Changes on Mars: **P E Geissler**, P Mukherjee

0800h **P51B-1429** POSTER Geologic Mapping of Mawrth Vallis and Nili Fossae, Mars: **L F Bleamaster**, F Chuang

0800h **P51B-1430** POSTER Discrete Element Modeling of Landslides in Valles Marineris, Mars: K J Smart, **D M Hooper**, D W Sims

0800h **P51B-1431** POSTER Comparison of CRISM Analysis Techniques to Understand ILD Formation on Mars: **K S Hill**, J Bridges, K Smith, D G Tragheim, R M Ambrosi, S J Davies

0800h **P51B-1432** POSTER The Properties of Hrad Vallis are Consistent with Volcanic Origins: **J Hopper**, D W Leverington

0800h **P51B-1433** POSTER Post-formation Modification of Sinuous Ridges in the Aeolis-Zephyria Planum Region, Mars: **A Lefort**, D M Burr, R A Beyer, A D Howard

0800h **P51B-1434** POSTER Inconsistencies in Estimates of Near-Surface Water Abundance are Resolved by the Volcanic Origin of Martian Outflow Channels: **D W Leverington**

0800h **P51B-1435** POSTER Retrieval and Interpretation of 0.4 to 4.0 μm Lambert Albedos over Aram Chaos from Mars Express OMEGA Data: **Y Liu**, R E Arvidson, M J Wolff, M T Mellon

0800h **P51B-1436** POSTER Martian Surface Composition From Multiple Datasets, Part I: Statistical Analysis of Global Mineral Distributions From MGS-TES: **D Rogers**, V E Hamilton

0800h **P51B-1437** POSTER Martian Surface Composition From Multiple Datasets, Part II: Chemical Analysis of Global Mineral Distributions from MGS-TES: **V E Hamilton**, D Rogers

P51C Moscone South: Poster Hall Friday 0800h
Rethinking the Lunar Paradigm: New Observations and Implications III Posters (*joint with V*)

Presiding: **H Nekvasil**, Stony Brook University; **F M McCubbin**, Institute of Meteoritics

0800h **P51C-1438 POSTER** Limitations on Water in the Lunar Interior: **L T Elkins-Tanton**, T L Grove

0800h **P51C-1439 POSTER** Nickel, Cobalt and Chromium in early lunar magma ocean olivine: Constraints on the petrogenesis of the Mg-suite: **S M Elardo**, C Shearer, Jr., D S Draper

0800h **P51C-1440 POSTER** Thermal diffusion of the lunar magma ocean and the formation of the lunar crust: **D Zhu**, S Wang

0800h **P51C-1441 POSTER** Composition of the lunar upper crust estimated from Kaguya spectral data: **M Ohtake**, T Matsunaga, H Takeda, Y Yokota, S Yamamoto, T Moroda, Y Ogawa, T Hiroi, R Nakamura, J Haruyama

0800h **P51C-1442 POSTER** Mini-RF Observations of Lunar Impact Melt Flows: **L M Carter**, C Neish, B Bussey, P Spudis, M Robinson, W Patterson, J Cahill, E Heggy, R K Raney, Title of Team: The Mini-RF Team

0800h **P51C-1443 POSTER** Surface roughness and slope from the Lunar Orbiter Laser Altimeter: **M H Torrence**, E Mazarico, G A Neumann, J Buz, D E Smith, M T Zuber, O S Barnouin, M A Rosenburg

0800h **P51C-1444 POSTER** Modeling Topography Effects on Lunar Surface Heat Flow and Subsurface Temperature: **H Li**, H Jing, Y Shi

0800h **P51C-1445 POSTER** Interpreting LRO Diviner surface temperatures: Modeling three-dimensional lunar regolith thermophysical properties: **J Williams**, D A Paige, A R Vasavada

0800h **P51C-1446 POSTER** Preliminary Mapping of Permanently Shadowed and Sunlit Regions Using the Lunar Reconnaissance Orbiter Camera (LROC): **E Speyerer**, S Koeber, M S Robinson

0800h **P51C-1447 POSTER** Lighting Conditions for the Moon's Poles: Integrating Clementine, Kaguya, and Lunar Reconnaissance Orbiter Data Sets: **D P Quinn**, J Cahill, B Bussey, A McGovern, P Spudis, H Noda, Y Ishihara

0800h **P51C-1448 POSTER** The Transition from Complex Crater to Peak-Ring Basin on the Moon: New Observations from LOLA Global Topography and Constraints on Basin Formation Models: **D M Baker**, J W Head, C Fassett, S Kadish

0800h **P51C-1449 POSTER** The Colorado Center for Lunar Dust and Atmospheric Studies: **A Collette**, E Gruen, M Horanyi, T Munsat, A R Poppe, S H Robertson, R Srama, A J Shu, Z Sternovsky, X Wang, Title of Team: The CCLDAS Team

0800h **P51C-1450 POSTER** Radiative transfer modeling for quantifying lunar mineral abundance: **S Li**, L Li

0800h **P51C-1451 POSTER** Measurement of the disk-integrated polarization of the Moon in the ultraviolet: **G M Holsclaw**, M A Snow, A R Hendrix, W E McClintock

0800h **P51C-1452 POSTER** Comparison of Secondary Emission from Lunar Dust Simulants JSC, MLS, and LHT: **J Pavlu**, J Vaverka, M Beranek, I Richterova, Z Nemecek, J Safrankova

0800h **P51C-1453 POSTER** Dust transport and electric field distributions in planetary craters: **X Wang**, M Horanyi, S H Robertson, A R Poppe, A Likhanskii

0800h **P51C-1454 POSTER** 3D Particle-In-Cell (PIC) simulations of plasma sheath formation above lunar craters: **A Likhanskii**, A R Poppe, M Piquette, K Amyx, P Messmer, M Horanyi

0800h **P51C-1455 POSTER** AN ION ANALYZER FOR THE LUNAR SURFACE WITH E PARALLEL TO B: **S H Robertson**, A Collette, M Horanyi, T Munsat, Z Sternovsky

0800h **P51C-1456 POSTER** Metallic species, oxygen and silicon in the lunar exosphere: constraints from Mercury and prospects for LADEE measurements: **M Sarantos**, R M Killen, D A Glenar, M Benna, T J Stubbs

0800h **P51C-1457 POSTER** Did Clementine Observe Lunar Horizon Glow?: **D A Glenar**, T J Stubbs, J Hahn, R R Vondrak

0800h **P51C-1458 POSTER** Does the Surface of the Moon Really Charge to Extreme Positive Potentials in the Magnetotail Lobes? A Re-analysis of Apollo/CPLEE observations: **T J Stubbs**, W M Farrell, M R Collier, R R Vondrak

0800h **P51C-1459 POSTER** Vertical Extent of the Circumlunar Plasma Estimated by Natural Plasma Wave Observations: **Y Goto**, Y Kasahara, T Fujimoto, A Kumamoto, T Ono

0800h **P51C-1460 POSTER** Experimental Investigations of the Lunar Photoelectron Sheath: **A Dove**, Z Sternovsky, X Wang, S H Robertson, C LaPanse, M Horanyi, A Collette

0800h **P51C-1461 POSTER** Observation of the lunar ionosphere near the terminator by the dual-spacecraft radio occultation technique in SELENE: **H Ando**, T Imamura, T Iwata, Z Yamoto, N Mochizuki, Y Kono, K Matsumoto, L Liu, H Noda, H Hanada, Y Futaana, K Oyama, A Nabatov, A Saito, Title of Team: "Selene Radio Science Team"

0800h **P51C-1462 POSTER** PROGRESS REPORT ON LANDING SITE EVALUATION FOR THE NEXT JAPANESE LUNAR EXPLORATION PROJECT: SELENE-2: K Saiki, T Arai, H Araki, Y Ishihara, **M Ohtake**, Y Karouji, N Kobayashi, T Sugihara, J Haruyama, C Honda

0800h **P51C-1463 POSTER** Tides, Seismicity and Regularities in Orbital Motion of the Earth-Moon Binary Planet System: **L A Maslov**, Y Avsyuk

0800h **P51C-1464 POSTER** Why do We See the Man in the Moon?: **O Aharonson**, P Goldreich, R Sari

0800h **P51C-1465 POSTER** Precision Orbit Determination for the Lunar Reconnaissance Orbiter: orbit quality and gravity field estimation: **E Mazarico**, D D Rowlands, G A Neumann, F G Lemoine, M H Torrence, D E Smith, M T Zuber, D Mao

0800h **P51C-1466 WITHDRAWN**

0800h **P51C-1467 POSTER** A Lunar Laser Retroreflector for the FOR the 21ST Century (LLRRA-21): Selenodesy, Science and Status: **D G Currie**, G Delle Monache, S Dell'Agnello

P51D Moscone South: Poster Hall Friday 0800h
Science From Multispacecraft Observations: The Moon, Mars, and Jupiter I Posters (*joint with G*)

Presiding: **D A Senske**, Jet Propulsion Laboratory; **N Krupp**, MPI für Sonnensystemforschung

0800h **P51D-1468 POSTER** New Results in Jovian Mode Observations: **W Burr**, D J Thomson

0800h **P51D-1469 POSTER** Average Hapke parameters of the surface traversed by the Opportunity rover at Meridiani Planum, Mars: **A Shaw**, R E Arvidson, M J Wolff, F P Seelos, S M Wiseman, S Cull

0800h **P51D-1470 POSTER** Surface units of the Mars Exploration Rover landing sites analyzed with hyperspectral images: **J Combe**, W H Farrand, T B McCord

0800h **P51D-1471 POSTER** Climatic variation on Mars as seen from the polar region layered deposits: **K Akisato**, S Okano

0800h **P51D-1472 POSTER** Analysis of the Volatile Components of Caeus: **D M Hurley**, Title of Team: The LAMP Team

0800h **P51D-1473** POSTER First results from ARTEMIS lunar wake crossing: observations and hybrid simulation: **F Plaschke**, S Wiehle, V Angelopoulos, H Auster, E Georgescu, K Glassmeier, U M Motschmann, D G Sibeck

0800h **P51D-1474** POSTER Dynamic Hybrid Simulation of the Lunar Wake During ARTEMIS Crossing: **S Wiehle**, F Plaschke, V Angelopoulos, H Auster, K Glassmeier, H Kriegel, U M Motschmann, J Mueller

0800h **P51D-1475** POSTER Laser Ranging Experiment on Lunar Reconnaissance Orbiter: Clocks and Ranges: **D Mao**, D D Rowlands, J MCGarry, M T Zuber, D E Smith, M H Torrence, G A Neumann, E Mazarico, X Sun, T W Zagwodzki, J F Cavanaugh, L Ramos-Izquierdo

0800h **P51D-1476** POSTER Photometric normalization of LROC WAC images: **H Sato**, B Denevi, M S Robinson, B W Hapke, A S McEwen, Title of Team: LROC Science Team

0800h **P51D-1477** POSTER Identifying the erosion regime present during formation of lunar sinuous rilles: **D M Hurwitz**, J W Head, H Hiesinger, L Wilson

0800h **P51D-1478** POSTER Lunar Topography Modeling Using Laser Altimetry Data: **G Wu**, C Shum, H Fok, Y Yi, H Araki, S J Goossens, X Hu, H B Iz, K Matsumoto, G Neumann, J Ping, S Sasaki, J Wang

0800h **P51D-1479** POSTER Tracking of Mars Express and Venus Express spacecraft with VLBI radio telescopes: **G Molera Calvés**, S V Pogrebenko, J Wagner, G Cimò, L Gurvits, D Duev

P51E Moscone South: 306 Friday 0800h
The Atmosphere of Mars: New Findings From Modeling and Observations I (*joint with A*)

Presiding: **Y Moudden**, Colorado University; **E L Barth**, Southwest Research Institute

0800h **P51E-01** Modeling the Seasonal Water Cycle on Mars: Implications for Sources and Sinks (*Invited*): **R M Haberle**, Title of Team: The NASA/Ames Mars General Circulation Modeling Group

0820h **P51E-02** The Key Influence of Mesoscale Gravity Waves in the Formation of Mesospheric CO₂ Clouds on Mars: **A Spiga**, F Gonzalez-Galindo, F Forget, M A Lopez-Valverde, A Määttänen

0830h **P51E-03** Positive Radiative-Dynamic Feedback in Martian Dust Storms: **S C Rafkin**, A Rothchild, R A Pielke Sr.

0840h **P51E-04** Electric Fields within Martian Dust Storms: **E L Barth**, S C Rafkin, W M Farrell

0850h **P51E-05** Seasonal variations of planetary waves simulated by MarsWRF: **H Wang**, A D Toigo, M I Richardson

0900h **P51E-06** Local Dynamics of Baroclinic Waves in the Martian Atmosphere: **M J Kavulich**, I Szunyogh, G Gyarmati, R Wilson

0910h **P51E-07** Insights from Assimilation of Mars Climate Sounder Retrievals into a Mars Global Circulation Model: S J Greybush, **R Wilson**, M J Hoffman, E Kalnay, K Ide, T Miyoshi, R N Hoffman, J Eluszkiewicz, D Kass, A Kleinboehl

0920h **P51E-08** Data assimilation applied to Mars Climate Sounder observations: **Y Moudden**, J M Forbes

0930h **P51E-09** Forced and Traveling Waves in MRO MCS Atmospheric Temperature Retrievals: **D J Banfield**, R Wilson, D Kass, J T Schofield, A Kleinboehl

0940h **P51E-10** Water Ice Cloud Observations from Mars Climate Sounder: **J Benson**, N G Heavens, D Kass, Title of Team: MCS Science Team

0950h **P51E-11** Discoveries on the vertical distribution of water vapor in Mars' atmosphere as observed by the SPICAM-IR spectrometer: **L Maltagliati**, A Fedorova, F Montmessin, J Bertaux, O Korabiev, A Reberac

P51F Moscone South: 302 Friday 0900h
Characterizing Soils and Their Development on Mars, the Moon, and Other Extraterrestrial Bodies I (*joint with EP*)

Presiding: **M A Velbel**, Michigan State University; **M B Madsen**, University of Copenhagen; **M H Hecht**, Jet Propulsion Laboratory; **W Goetz**, MPI for Solar System Research

0900h **P51F-01** Nature and Composition of Planetary Surficial Deposits and Their Relationship to Planetary Crusts: **S M McLennan**

0915h **P51F-02** Characterizing Martian Soils: Correlating Orbital Observations with Chemistry and Mineralogy from Landed Missions: **J L Bishop**

0930h **P51F-03** Allophane on Mars: Evidence from IR spectroscopy and TES spectral models: **E B Rampe**, M D Kraft, T G Sharp, D C Golden, D W Ming, P R Christensen

0945h **P51F-04** Regional Lunar Surface Temperatures, Albedos, and Thermophysical Properties from LRO Diviner: **A R Vasavada**, D A Paige, J L Bandfield, B T Greenhagen, M A Siegler, J Williams, Title of Team: The LRO Diviner Team

Paleoceanography and Paleoclimatology

PP51A Moscone South: Poster Hall Friday 0800h
Paleoclimate Insights From Vegetation Proxies and Models II Posters (*joint with GC, B*)

Presiding: **I S Castañeda**, Royal Netherlands Institute for Sea Research; **A Henderson**, Pennsylvania State University; **M A Berke**, University of Minnesota

0800h **PP51A-1576** POSTER A new deposit with mummified plant material on Ellesmere Island, Canada: **J D Barker**, Y Chin, D H Elliot

0800h **PP51A-1577** POSTER Strontium isotopes in peat deposits of the Sacramento-San Joaquin Delta: Records of variable sediment sources and salinity over the past ~6,700 years: **C N Alpers**, J Z Drexler, J B Paces, L A Neymark, H E Taylor, L Windham-Myers, C C Fuller

0800h **PP51A-1578** POSTER Reconstructing paleosalinity in the Sacramento-San Joaquin Delta of California using major elements in peat: **J Z Drexler**, C N Alpers, H E Taylor, L Windham-Myers, L A Neymark, J B Paces

0800h **PP51A-1579** POSTER Calibration of $\delta^{13}\text{C}$ of Sphagnum N-alkanes to Long Term Methane and CO₂ Flux Data in Three Microhabitats Within a Cool Temperate Ombrotrophic Bog: **P D Isles**, J E Nichols, D M Peteet, B Tabanpour

0800h **PP51A-1580** POSTER Temporal trends of deglacial and Holocene peatland initiation: a new look at old ¹⁴C dates: **A Reyes**, C Cooke

0800h **PP51A-1581** POSTER Radiocarbon dating for paleoenvironmental peat archive: the case study using cellulose from peat core reached to 15ka in northern Japan: **T Shinozaki**, M Uchida, M Kondo, K Minoura, Y Shibata

0800h **PP51A-1582** POSTER Holocene Climate Variability in the Central North Pacific: An Organic Geochemical Record from Ka'au Crater Swamp, O'ahu, Hawai'i: **J H Street**, D Beilman, A Timmermann, E Gaidos, A Paytan

0800h **PP51A-1583** POSTER A Tree-Ring Reconstruction of Precipitation in the Tennessee Valley: **C Moser**, R Ogle, A Bowen, G A Tootle

0800h **PP51A-1584** POSTER Proxy records of climate variability in South Florida over the last 3,500 years: **C Rebenack**, C Saunders, C S Moses, F H Sklar, W T Anderson

0800h **PP51A-1585** POSTER A late Pleistocene and Holocene record of vegetation and climate from an alpine lake from west-central Colorado (USA): **G Jimenez-Moreno**, R S Anderson

0800h **PP51A-1586** POSTER Quantitative paleoclimatic reconstructions for the past 25,000 years in the western USA based on vegetation assemblages from packrat middens: **RS Thompson**, K H Anderson, L E Strickland, R T Pellier

0800h **PP51A-1587** POSTER Potential of $\delta^{13}\text{C}$ in Pollen to Serve as Paleotemperature Proxy: **D P King**, K Foelber, B Schubert, A Jahren

0800h **PP51A-1588** POSTER Early Pliocene vegetation distribution in Europe: **S Popescu**, S Warny, J Suc

0800h **PP51A-1589** POSTER Vegetation and climate history from Laguna de Río Seco, Sierra Nevada, southern Spain: **RS Anderson**, G Jimenez-Moreno

0800h **PP51A-1590** WITHDRAWN

0800h **PP51A-1591** POSTER 50,000 years of Environmental Change in West Tropical Africa: **W D Gosling**, C S Miller

0800h **PP51A-1592** POSTER Late Quaternary paleohydrology deduced from new marine sediment cores taken on the proximal Amazon continental margin: **T Nace**, P A Baker, G S Dwyer, D J Hollander, C G Silva

0800h **PP51A-1593** POSTER Climate and sea-level variation during MIS 21 from a sediment core in Osaka Bay, Japan: a sign of termination of the Mid-Pleistocene Climate Transition: **I Kitaba**, M Harada, M Hyodo, S Katoh, H Sato, M Matsushita

0800h **PP51A-1594** POSTER A multi-proxy record of volume in the Great Salt Lake over the Holocene: **KE Nielson**, G J Bowen, J L Toney, R Taroza, Y Huang, B Bowen

0800h **PP51A-1595** POSTER The Effect of Spatial Scale on Paleovegetation Data-Model Comparisons for 6 ka and 21 ka in the Western United States: **S L Shafer**, P J Bartlein, R S Thompson, L E Strickland

0800h **PP51A-1596** POSTER Diagnostic approaches for using global biome reconstructions in paleo data-model comparisons: **K Izumi**, P J Bartlein

0800h **PP51A-1597** POSTER Quantitative Hydraulic Models Of Early Land Plants Provide Insight Into Middle Paleozoic Terrestrial Paleoenvironmental Conditions: **J P Wilson**, W W Fischer

0800h **PP51A-1598** POSTER Assessment of using Imaging software Image J to determine percentage woody cover from half meter resolution satellite images: **W D Mace**, T E Cerling

0800h **PP51A-1599** POSTER A context for the 1930's Dust Bowl Drought in the Northern Great Plains, U.S. based on a rainfall reconstruction using H-isotopes of terrestrial leaf waxes: **J L Toney**, S C Fritz, E C Grimm, P A Baker, P E Nyren, Y Huang

0800h **PP51A-1600** POSTER 3,000 years of paleoclimate from Zaca Lake, California: M I Cheetham, **S J Feakins**, M E Kirby

0800h **PP51A-1601** POSTER Isotopic and Molecular Proxies for climate and vegetation shifts along the Portuguese and NW African margins since the last glacial period: the CHEETA Cruise Transect: **T Wagner**, O Eniola, P B DeMenocal, T I Eglinton

0800h **PP51A-1602** POSTER Novel Method for Estimating Variations in Salinity and River Discharge in the Hudson Estuary Using Stable Isotopes of Leaf Waxes: **B Tabanpour**, J E Nichols, P D Isles, D M Peteet

0800h **PP51A-1603** POSTER Changes in Vegetation Cover over the Indian Peninsula and Implications for the Indian Monsoon System during the Holocene: **C Ponton**, L Giosan, T I Eglinton, Title of Team: Scientific Team of Indian National Gas Hydrate Program Expedition 01

0800h **PP51A-1604** POSTER An assessment of leaf wax hydrogen isotopes as a climate proxy in proglacial arctic lake sediments: **E K Thomas**, Y Huang, J P Briner, S McGrane

0800h **PP51A-1605** POSTER Land-Ocean Correlation of Orbital-Scale Climatic Changes in the Western Mediterranean during MIS 1/2 and 11/12: **B Hambach**, Y Huang, A Rosell Mele

0800h **PP51A-1606** POSTER Plio-Pleistocene climate change in Asian: Evidence from terrestrial lipids at ODP Site 1143 in the South China Sea: **L Li**, H Wang, P Wang

PP51B Moscone West: 2003 Friday 0800h
Climate of the Common Era II: Proxy Perspectives (*joint with A, GC*)

Presiding: **K J Anchukaitis**, Columbia University; **E Cook**, Lamont-Doherty Earth Obs

0800h **PP51B-01** Tales from the South (and West) Pacific in the Common Era: A Climate Proxy Perspective (*Invited*): **T M Quinn**, F W Taylor, J W Partin, C R Maupin, K A Hereid, M K Gorman

0815h **PP51B-02** Reconstructing the history of the Atlantic Multidecadal Oscillation using high-resolution Mg/Ca paleothermometry from a Cariaco Basin core: **J B Wurtzel**, D E Black, S Rahman, R Thunell, L C Peterson, E Tappa

0830h **PP51B-03** Decadal and lower frequency changes in the South Pacific Convergence Zone (SPCZ) salinity front gradient over the last 210 years and relationship to Pacific-wide climate: **B K Linsley**, E P Dassie, H C Wu, G M Wellington

0845h **PP51B-04** Centennial-scale hydrological variations in East Java, Indonesia during the past 1400 years from paleolimnological records: **J R Rodysill**, J M Russell, S Bijaksana, L Safiuddin, H Eggermont

0900h **PP51B-05** Assessing ENSO variability over the past millennium: a western tropical Pacific perspective: **D Khider**, L D Stott, J Emile-Geay, R Thunell

0915h **PP51B-06** Megadroughts at the Dawn of Islam Recorded in a Stalagmite from Oman: **D Fleitmann**, M Mudelsee, R S Bradley, S J Burns, H Cheng, A Mangini, R Edwards, A Matter

0930h **PP51B-07** Rainfall Variability under the South Pacific Convergence Zone as Reconstructed from a Speleothem Record (1670-2005) from Vanuatu: **J W Partin**, T M Quinn, C Shen, C R Maupin, K Lin, F W Taylor, D J Sinclair, J L Banner

0945h **PP51B-08** Relative Amplitudes of Surface Temperature Anomalies for the Medieval Warm Period, Little Ice Age, and 20th Century Warming Determined from Borehole Temperatures: **D S Chapman**, R N Harris, M G Davis

SPA-Aeronomy

SA51A Moscone South: Poster Hall Friday 0800h
Atomic and Odd Hydrogen From the Mesosphere Through the Exosphere I Posters (*joint with A*)

Presiding: **G Crowley**, ASTRA; **D E Siskind**, Naval Research Lab; **E J Mierkiewicz**, Univ. of Wisconsin-Madison

0800h **SA51A-1607** POSTER Experimental Study of Exospheric Hydrogen Atom Distributions by Lyman-alpha Detectors on the TWINS Mission: **M Gruntman**, **J J Bailey**

0800h **SA51A-1608** *POSTER* The University of Wisconsin's Long-Term Geocoronal Hydrogen Data Set: **S M Nossal**, E J Mierkiewicz, F L Roesler, L M Haffner, R Reynolds

0800h **SA51A-1609** *POSTER* Molecular hydrogen as a mesospheric hydrogen reservoir; evidence from tracer-tracer interrelationships in descended air measured within the northern polar stratospheric vortex: **L K Meredith**, E A Ray, F L Moore, R A Plumb

0800h **SA51A-1610** *POSTER* Lyman alpha airglow observations from SORCE SOLSTICE: **E Dolinar**, M Snow, G Holsclaw, G E Thomas, T N Woods

SA51B Moscone South: Poster Hall Friday 0800h
Forecasting the Ionosphere and Thermosphere at Low Latitudes III Posters

Presiding: **O de la Beaujardiere**, Air Force Research Laboratory; **D N Anderson**, Univ of Colorado; **Y Su**, Air Force Research Laboratory; **C Y Huang**, AFRL

0800h **SA51B-1611** *POSTER* Low latitude electrodynamics in Global Ionosphere-Thermosphere Model: **G H Vichare**, A J Ridley, E Yigit
0800h **SA51B-1612** *POSTER* A Steady State Model of Low Latitude Electron and Ion Temperatures: **R H Varney**, D L Hysell, J D Huba, R A Heelis

0800h **SA51B-1613** *POSTER* Kinetic Simulations of Miniature Spread-F Bubbles: **M M Oppenheim**, Y Tambouret, Y S Dimant

0800h **SA51B-1614** *POSTER* Physics-Based Model Driven by Plasma Drifts Obtained From the C/NOFS Satellite: **Y Su**, J M Retterer, R Stoneback, O de la Beaujardiere, P A Roddy, R A Heelis, R F Pfaff

0800h **SA51B-1615** *POSTER* Equatorial-PRIMO (Problems Related to Ionospheric Models and Observations): T Fang, **D N Anderson**, T J Fuller-Rowell, R A Akmaev, M Codrescu, G H Millward, J J Sojka, L Scherliess, J V Eccles, J M Retterer, J D Huba, G R Joyce, A D Richmond, A I Maute, G Crowley, A J Ridley, G Vichare

0800h **SA51B-1616** *POSTER* Reconstructed Topside Ionospheric Profiles with C/NOFS and Ionosonde Data to compare with FORMOSAT-3/COSMIC observations and the IRI model: T Sudarsanam, **S Su**, C Liu

0800h **SA51B-1617** *POSTER* Response of the Topside Ionosphere to 27-Day Variations in Solar EUV Input Using C/NOFS: **W R Coley**, R A Heelis

0800h **SA51B-1618** *POSTER* Longitude and IMF By Effects on Stormtime Low-Latitude Prompt-Penetration Electric Fields: R W Spiro, **S Sazykin**, Y Song, F Toffoletto, R A Wolf

0800h **SA51B-1619** *POSTER* Solar Wind Effects on Plasma Density Depletions: C/NOFS Results with Related Observations from DMSP: W J Burke, **L C Gentile**, P A Roddy, J M Retterer, G R Wilson, O de la Beaujardiere, Y Su

0800h **SA51B-1620** *POSTER* The Night the Ionosphere Blew Away: **O de la Beaujardiere**, Y J Su, J M Retterer, W J Burke, L C Gentile, E V Dao, R F Pfaff, P A Roddy, N L Sterner

0800h **SA51B-1621** *POSTER* Observations of the Post-Sunrise Generation of Eastward Electric Fields in the Low Latitude Ionosphere and Their Possible Association with Deep Plasma Density Depletions Near Dawn: **M C Kelley**, R F Pfaff

0800h **SA51B-1622** *POSTER* Observations and simulation of equatorial irregularities at solar min: **E V Dao**, M C Kelley, J M Retterer, O de la Beaujardiere, Y Su, P A Roddy

0800h **SA51B-1623** *POSTER* Generation and evolution of equatorial ionospheric plasma bubbles measured by the C/NOFS satellite during deep solar minimum: **C Huang**, O de la Beaujardiere, P A Roddy, D E Hunton, R F Pfaff, C E Valladares, J O Ballenthin

0800h **SA51B-1624** *POSTER* A STUDY OF IONOSPHERIC LOW LATITUDE VELOCITY AND DENSITY IRREGULARITY CORRELATIONS DURING SOLAR MINIMUM: **R A Haaser**, G D Earle, R A Heelis, J H Klenzing, W R Coley, R A Stoneback, A B Burrell

0800h **SA51B-1625** *POSTER* Observations of low-latitude plasma density enhancements and their associated electric fields and plasma velocities using probes on the C/NOFS satellite: **J H Klenzing**, D E Rowland, R F Pfaff, G Le, A G Burrell, R A Haaser, W R Coley, R A Heelis

0800h **SA51B-1626** *POSTER* Equatorial electric field response during stormtimes using CINDI and DMSP data: **M R Hairston**, W R Coley, R A Stoneback, A B Burrell

0800h **SA51B-1627** *POSTER* Post-midnight low-latitude ionospheric irregularities during solar minimum observed simultaneously with probes on the C/NOFS satellite and the Equatorial Atmosphere Radar: **T Yokoyama**, R F Pfaff, P A Roddy, M Yamamoto, Y Otsuka

0800h **SA51B-1628** *POSTER* Range Spread-F over the Southern Anomaly Crest during Solar Minimum Activity: **C M Candido**, I S Batista, F Becker-Guedes, M A Abdu, J H Sobral

0800h **SA51B-1629** *POSTER* Coherent backscatter radar imaging in Brazil: Bottomside radar plumes: **F S Rodrigues**, E R de Paula, D L Hysell

0800h **SA51B-1630** *POSTER* Relationships Between Pre-sunset Electrojet Strength, Pre-reversal Enhancement and Equatorial Spread-F Onset: **J Uemoto**, T Maruyama, S Saito, M Ishii, R Yoshimura

0800h **SA51B-1631** *POSTER* Modeling the gravity and magnetic pressure driven currents in the F-region ionosphere: **P Alken**, S Maus, A D Richmond, A Maute

0800h **SA51B-1632** *POSTER* Electron and Ion Whistler Mode Waves Observed in the Low Latitude Ionosphere: **B S Burkholder**, M P McCarthy, A R Jacobson, R F Pfaff, R H Holzworth

0800h **SA51B-1633** *POSTER* Investigation of Ionospheric Disturbances Using Radio and Optical Observations in South-East Asia – The Initial Results of the ASI and FPI Observations in Chiang Mai, Thailand: M Kubota, **T Nagatsuma**, Y Otsuka, K Shiokawa, S Komonjinda, T Komolmis, E Somboon, T Tsugawa, T Maruyama, K T Murata

0800h **SA51B-1634** WITHDRAWN

0800h **SA51B-1635** *POSTER* LOW LATITUDE THERMOSPHERIC WINDS OBSERVED BY THE TIMED DOPPLER INTERFEROMETER (TIDI) DURING THE C/NOFS ERA: **R Niciejewski**, W R Skinner, M Cooper, A Marshall, D A Ortland, Q Wu

0800h **SA51B-1636** *POSTER* The three dimensional characteristics of the equatorial plasma bubbles retrieved from TIMED/GUVI nightglow images: **S Oh**, H Kil, L J Paxton

0800h **SA51B-1637** WITHDRAWN

0800h **SA51B-1638** *POSTER* A Statistical Nighttime Analysis of the Equatorial Ionization Anomaly: **P Suresh**, C Swenson, A B Christensen

0800h **SA51B-1639** *POSTER* Testing dayside ionospheric remote sensing methods using RAIDS measurements of the OII 83.4 and 61.7 nm dayglow: **A W Stephan**, R L Bishop, S A Budzien, A B Christensen, J Picone, L Cashman, S Chakrabarti, S M Smith, J H Hecht

0800h **SA51B-1640** *POSTER* Remote sensing the Ionosphere using RAIDS: Comparisons of 83.4 nm airglow to ground-based ion density profiles: **L Cashman**, A W Stephan, S Chakrabarti, S M Smith, R L Bishop, S A Budzien, A B Christensen, J H Hecht

0800h **SA51B-1641** POSTER Mapping the Ionosphere with Multiple Low-Cost Sensors: **R L Balthazor**, M G McHarg, L Enloe, A Clark, D Waite

SA51C Moscone South: Poster Hall Friday 0800h
Ion-Neutral Coupling in the Atmosphere I Posters

Presiding: **J H Clemmons**, The Aerospace Corporation; **R F Pfaff**, NASA/GSFC; **G Crowley**, ASTRA; **RA Heelis**, University of Texas at Dallas

0800h **SA51C-1642** POSTER Advancements in Understanding Auroral Ionosphere-Thermosphere Coupling from Infrared Remote Sensing: **C J Mertens**, X Xu, S Wellard, J Fernandez, M G Mlynczak

0800h **SA51C-1643** POSTER Uncertainty Associated with Modeling the Global Ionosphere: **J V Jenniges**, A O Acebal, R W Schunk, L C Gardner, L Scherliess, D C Thompson, L Zhu

0800h **SA51C-1644** POSTER POLAR CAP PATCHES AS TRACERS OF THERMOSPHERIC O₂ SCALE HEIGHT: **RA Doe**, E A Kendall

0800h **SA51C-1645** POSTER Ion - Neutral Interactions in the Polar E-region: **X Liu**, J P Thayer, C J Heinselman

0800h **SA51C-1646** POSTER Plasma-neutral coupling as revealed through analyses of CHAMP data: **T Matsuo**, G S Bust, T J Fuller-Rowell, N Maruyama

0800h **SA51C-1647** POSTER Heating of the Lower Thermosphere during Auroral Activity: Measurements and Analysis from the Joule Sounding Rocket Missions: **J H Clemmons**, J H Hecht, R L Walterscheid, R L Bishop, P L Slocum, R F Pfaff, D E Rowland, M F Larsen

SA51D Moscone South: Poster Hall Friday 0800h
Unique Equatorial Ionospheric Electrodynamics in the African Sector II Posters (*joint with SM*)

Presiding: **E Yizengaw**, Institute of Scientific Research; **K M Groves**, Air Force Research Laboratory; **T W Garner**, ARL:UT

0800h **SA51D-1648** POSTER Observations of Ionospheric Features over the Anatolian Plateau: **T W Garner**, C M Slack, A Scholze, K Mehta, A Mahrous

0800h **SA51D-1649** POSTER Digisonde Observation of April and August 2010 Magnetic Storm Effects on the Ionosphere over Ilorin, Nigeria: **J Adeniyi**, **B W Reinisch**, L H Krause, O A Oladipo, I A Adimula, A O Olawepo, M G McHarg, O Veliz

0800h **SA51D-1650** POSTER Current Status of MAGDAS Deployment in Africa: **G Maeda**, K Yumoto, Y Kakinami, T Tokunaga, A Fujimoto, A Ikeda, Y Yamazaki, S Abe, M Sakai, N Eto, M Shinohara, Title of Team: MAGDAS Project Team

0800h **SA51D-1651** POSTER On the Responses of Geomagnetic Field at African and Asian Longitudes during the Storm of April 2010: **E Falayi**, A Rabiou, K Yumoto, T Uozumi, M Magdas

0800h **SA51D-1652** POSTER Spatial and Temporal Variations of Solar Quiet Daily Sq Variation and Equatorial Electrojet Over Africa: Results From International Heliophysical Year: **A Rabiou**, K Yumoto, O Bello

0800h **SA51D-1653** POSTER Zonal plasma drift shear and low gravity effects on the 5-m irregularities in the equatorial F region over São Luís, Brazil: **E R de Paula**, A Kherani, R Y Cueva, L P de Camargo

0800h **SA51D-1654** POSTER Day-to-day longitudinal variation of bubble occurrence over South America: **R de la cruz cueva**, C E Valladares, I S Batista, E R de Paula

0800h **SA51D-1655** POSTER Electron Density and S₄ Index observed by FORMOSAT-3/COSMIC: **S Chen**, J G Liu

0800h **SA51D-1656** POSTER The Role of Ionosondes in Global Ionospheric Modeling: **L F McNamara**

0800h **SA51D-1657** POSTER Observation and Modeling of Nighttime Ion Temperature in the Low-latitude Topside Ionosphere: **C Chao**, S Su

SA51E Moscone South: 301 Friday 0800h
Remote Sensing of Ionospheric Disturbances II (*joint with NH, OS, S, G*)

Presiding: **J L Garrison**, Purdue University; **A Komjathy**, Jet Propulsion Laboratory; **G Occhipinti**, Institut de Physique du Globe de Paris

0800h **SA51E-01** GPS Remote sensing of seismic waves in the Ionosphere: interpretation and modeling with realistic seismic sources and Solid Earth/atmospheric/ionospheric models. (*Invited*): **P Lognonne**, L M ROLLAND, E Astafyeva, A Kherani, G Occhipinti, P Coisson

0815h **SA51E-02** Tsunamigenic Gravity Waves in the Thermosphere-Ionosphere System: Challenges and Opportunities (*Invited*): **M P Hickey**

0830h **SA51E-03** Monitoring tsunami propagation using OTH radar: **P Coisson**, G Occhipinti, P Lognonne, L M ROLLAND

0845h **SA51E-04** Detection and modeling of the acoustic perturbation produced by the launch of the Space Shuttle using the Global Positioning System: **T J Bowling**, E Calais, T Dautermann

0900h **SA51E-05** Observing the Ionospheric Signature of Ocean Tsunamis Using GPS Total Electron Content: **D A Galvan**, A Komjathy, M P Hickey, A J Mannucci

0915h **SA51E-06** VHF Observations of Small-scale Ionosphere TEC Fluctuations with an Astronomical Interferometer: **J Helmboldt**, J Lazio, H Intema, K Dymond

0930h **SA51E-07** Enhanced Specification of the Equatorial Ionospheric Scintillation Environment with Satellite Radio Beacons: **R G Caton**, K M Groves, M Verlinden

0945h **SA51E-08** The sub-Brunt-Väisälä period oscillations in the ionospheric total electron content and the red 630.0 nm line intensity under the influence of short-period AGW: **G G Didebulidze**, A Taori, N Dashora, L N Lomidze, N B Gudadze

SPA-Solar and Heliospheric Physics

SH51A Moscone South: Poster Hall Friday 0800h
Coronal Prominence Cavities I Posters

Presiding: **T A Kucera**, NASA/GSFC

0800h **SH51A-1658** POSTER Stereoscopic Analysis of 31 August 2007 Erupting Prominence: **P C Liewer**, J R Hall, E M De Jong, S F Martin, O Panasenco

0800h **SH51A-1659** POSTER Coronal Mass Ejections from Empty Filament Channels: **A A Pevtsov**, O Panasenco

0800h **SH51A-1660** POSTER Critical Height for the Unstabilization of Prominences: **K Liu**, Y Wang, C Shen

0800h **SH51A-1661** POSTER Simulations of Overexpanding CME Cavities: **B Kliem**, T Forbes, A Vourlidas, S Patsourakos

0800h **SH51A-1662** WITHDRAWN

0800h **SH51A-1663** POSTER Magnetic Structure of Twin Filaments Inside Pseudostreamers: **O Panasenco**, M M Velli

0800h **SH51A-1664** POSTER Greenhouse effect in quiescent prominences: **M Ryutova**, T E Berger, A M Title

0800h **SH51A-1665** POSTER A rising cool column associated with formation of prominence and coronal cavity: **T J Okamoto**, S Tsuneta, T E Berger

0800h **SH51A-1666** POSTER Space Based Observations of Coronal Cavities in Conjunction with the Total Solar Eclipse of July 2010: **T A Kucera**, T E Berger, P Boerner, M Dietzel, M Druckmuller, S E Gibson, S R Habbal, H Morgan, K K Reeves, D J Schmit, D B Seaton

0800h **SH51A-1667** POSTER Three-dimensional morphology of a coronal prominence cavity: **S E Gibson**, T A Kucera, D Rastawicki, J Dove, G de Toma, J Hao, S M Hill, H S Hudson, C Marque, P S McIntosh, L Rachmeler, K K Reeves, B Schmieder, D J Schmit, A Sterling, D Tripathi, D R Williams, M Zhang

0800h **SH51A-1668** POSTER Density Diagnostics in Cavities: Incorporating and Bypassing Projection Effects: **D J Schmit**, S E Gibson, T A Kucera

0800h **SH51A-1669** POSTER Morphology of a hot coronal cavity core as observed by Hinode/XRT: **K K Reeves**, S E Gibson, T A Kucera, H S Hudson

SH51B Moscone South: Poster Hall Friday 0800h
Cosmic Rays During the Recent Unusual Solar Minimum I Posters

Presiding: **J R Jokipii**, University of Arizona

0800h **SH51B-1670** POSTER Heliospheric Modulation of Galactic Cosmic Rays Observed at the L1 Lagrange Point in Solar Cycle 23: **A Fludra**

0800h **SH51B-1671** POSTER First Cosmic Ray Proton Albedo Map of the Moon: **J K Wilson**, H Spence, J Kasper, M Golightly, J Blake, J E Mazur, L Townsend, A Case, M D Looper

0800h **SH51B-1672** POSTER Ground-Level Neutron Rates during the Recent Solar Minimum: **J W Bieber**, S Oh, P A Evenson, J M Clem, Y Yi

0800h **SH51B-1673** POSTER Latitudinal and Radial Gradients of Galactic Cosmic Ray Protons and Electrons in the Inner Heliosphere - Pamela and Ulysses Observations: **J Gieseler**, B Heber, M Boezio, M Casolino, N De Simone, V Di Felice, P Picozza

0800h **SH51B-1674** POSTER Voyager Studies of Cosmic Ray Transport in the Heliosheath: **F B McDonald**, W R Webber, A C Cummings, E C Stone, B Heikkila, N Lal

0800h **SH51B-1675** POSTER Particle Flux Variations at Solar Minimum: Comparisons of ACE/CRIS Data with Model Calculations: G M Erickson, **P B Saganti**, B Cudnik, A Scott-Turner

0800h **SH51B-1676** POSTER The Highest Cosmic Ray Fluxes Ever Recorded: What Happened to the Earth's Deflector Shield?: **J Burkepile**, S W McIntosh, J B Gurman, R J Leamon

0800h **SH51B-1677** POSTER Galactic Cosmic Rays in the Outer Heliosphere: **V A Florinski**, H Washimi, N V Pogorelov, J H Adams, G P Zank

0800h **SH51B-1678** POSTER Stochastic Simulation of Galactic Cosmic Ray Modulation with 3D Wavy Heliospheric Current Sheet Drifts at Solar Minimum: **C Pei**, J W Bieber, R A Burger, J M Clem

0800h **SH51B-1679** POSTER Modulation of Galactic Cosmic Rays during the Last Solar Cycle: Modeling with Continuously Changing Heliospheric Current Sheet: **J Kota**

0800h **SH51B-1680** POSTER Modulation of Galactic cosmic rays during the unusual solar minimum of cycle 24: Z Lingling, **G Qin**, M Zhang

0800h **SH51B-1681** POSTER A Theory Exploring the Effect of Intermittent Slab Turbulence on Cosmic-ray Transport in Turbulence dominated by the 2D Component: **J A le Roux**, G M Webb

0800h **SH51B-1682** POSTER Calculation of Drift and Diffusion Coefficients for Cosmic Rays inside the Heliospheric Termination Shock: **R A Burger**, E Engelbrecht, D J Visser

0800h **SH51B-1683** POSTER Charged particles time-dependent transverse transport: **F Frascchetti**, J R Jokipii

SH51C Moscone South: Poster Hall Friday 0800h
Geoeffective Transients From the Sun to the Earth II Posters
(joint with SM)

Presiding: **C Moestl**, Space Research Institute; **I G Richardson**, NASA Goddard Space Flight Cent

0800h **SH51C-1684** POSTER Relationship between orientations of halo CMEs and the underlying filament / active regions: **A Kilcik**, V Yurchyshyn, V Abramenko, P R Goode

0800h **SH51C-1685** POSTER Partial Torus Instability in Initiating Coronal Mass Ejections: **O A Olmedo**, J Zhang

0800h **SH51C-1686** POSTER Relation between CME Speed and Magnetic Helicity in Solar Source Regions: **H Jung**, N Gopalswamy, S Akiyama, S Yashiro, H Xie

0800h **SH51C-1687** POSTER Structure and Dynamics of the Erupting Magnetic Flux in the May 12 1997 CME Event: **V S Titov**, Z Mikic, J A Linker, R Lionello

0800h **SH51C-1688** POSTER Streamer belt control of near-ecliptic ICME rate during the solar cycle 23 minimum: **E Kilpua**, J G Luhmann, C O Lee, Y Li

0800h **SH51C-1689** POSTER Multiple, Distant (40 deg) in situ Observations of a Magnetic Cloud and a Corotating Interaction Region Complex: **C J Farrugia**, D B Berdichevsky, C Moestl, A B Galvin, M Leitner, M Popecki, K D Simunac, A Opitz, B Lavraud, K Ogilvie, A Veronig, M Temmer, J G Luhmann, J Sauvaud

0800h **SH51C-1690** POSTER Modeling of Coronal Mass Ejections That Caused Particularly Large Geomagnetic Storms Using ENLIL Heliosphere Cone Model: **A Taktakishvili**, A Pulkkinen, P J MacNeice, M M Kuznetsova, M Hesse, D Odstrcil

0800h **SH51C-1691** POSTER Fast Method to Determine CMEs properties at 1 AU and Propositions for an Automated Detection of CME Fronts: **J Hernandez Charpak**, N Lugaz, C Perez Romanello, M Hernandez Hoyos, I I Roussev

0800h **SH51C-1692** POSTER The properties of geo-effective CMEs and SIRs in STEREO and THEMIS: **M L Mays**, O C St Cyr, D G Sibeck

0800h **SH51C-1693** POSTER Magnetic clouds observed by STEREO: **E Romashets**, M Vandas, T Howard

0800h **SH51C-1694** POSTER The deflection of 2008 December 12 CME: **C Shen**, Y Wang, J Liu, P Ye, S Wang

0800h **SH51C-1695** POSTER Importance of Heliospheric Evolution to Understand CME Geo-effectiveness: **N Lugaz**, I I Roussev, A Vourlidas, T I Gombosi

0800h **SH51C-1696** POSTER Nature of the Magnetic Fields in Magnetic Clouds: Twist or Writhe?: **N A Al-haddad**, I I Roussev, C Jacobs, C Moestl, N Lugaz

0800h **SH51C-1697** POSTER Development of Empirical Forecast Models of Geomagnetic Storms, Solar Proton Events, and Solar Flares based on Solar Information: **Y Moon**, R Kim, J Park

0800h **SH51C-1698** POSTER On the Origin of Coronal Mass Ejections: How Does the Emergence of a Magnetic Flux Rope Reorganize the Solar Corona?: I I Roussev, K Galsgaard, **N Lugaz**, I Sokolov

0800h **SH51C-1699** POSTER Dynamics of CMEs and Evolution of CME Magnetic Field From the Sun to 1 AU: J Chen, **V Kunkel**, R A Howard

SH51D Moscone South: Poster Hall Friday 0800h
Nonlinear Structures and Processes in the Solar Wind Plasma
I Posters

Presiding: **C W Smith**, University of New Hampshire

0800h **SH51D-1700** *POSTER* Results from the first lunar-wake flyby of ARTEMIS on wake potential, electron beams, and electrostatic waves: **J Tao**, R E Ergun, L Andersson, V Angelopoulos, J W Bonnell, D L Newman, J P McFadden, J S Halekas, C M Cully, K Glassmeier, A Roux, O LeContel, D E Larson, W Baumjohann, M V Goldman, H Auster

0800h **SH51D-1701** *POSTER* Size and Amplitude Distributions of Langmuir-Eigenmodes in the Solar Wind: **D Malaspina**, S Hess, R E Ergun

0800h **SH51D-1702** *POSTER* Multipoint study of waves and nonlinear structures in the solar wind: **O A Amariutei**, A P Dimmock, M A Balikhin, T Zhang, S N Walker

0800h **SH51D-1703** *POSTER* Computational and Theoretical study of the acceleration and heating of ions in the Solar Wind: **P S Moya**, A F Vinas, V Muñoz, J A Valdivia

0800h **SH51D-1704** *POSTER* Dispersive Filamentation for Magnetosonic Structures as a Source of Trains of Solitons: **M Strumik**, K Stasiewicz

0800h **SH51D-1705** *POSTER* Realistic Particle-in-Cell simulations of the two-component solar wind: **L Bettarini**, S Markidis, L Abbo, G Lapenta

0800h **SH51D-1706** *POSTER* High Time Resolution Observations of Langmuir Waves Associated with Type III Radio Bursts and Implications for Beam Stabilization and Emission Mechanisms: **T Golla**, R J MacDowall

0800h **SH51D-1707** *POSTER* Langmuir Waves of the August 18, 2010 Solar Radio Burst: **P J Kellogg**, K Goetz, S J Monson

0800h **SH51D-1708** *POSTER* Dynamics of Ion Sound Waves in the Front of the Terrestrial Bow Shock: **I Giagkiozis**, S N Walker, M Balikhin, V Krasnoselskikh

0800h **SH51D-1709** *POSTER* Quasi-isotropic electron distribution via nonlinear beam-plasma interaction: **J Pavan**, A F Vinas, P H Yoon, L F Ziebell, R Gaelzer

0800h **SH51D-1710** *POSTER* Interplanetary Field Enhancements: Dusty plasmas formed by meteoroid collisions in the solar wind: **H Lai**, C T Russell, G Delzanno, A Opitz, J G Luhmann

0800h **SH51D-1711** *POSTER* Linear modes in the solar wind plasma: M S Janaki, **D Shaikh**, B Dasgupta

0800h **SH51D-1712** *POSTER* Low Beta Inhomogeneous Whistler Turbulence: M K Verma, **D Shaikh**

0800h **SH51D-1713** *POSTER* Space-time statistics of isotropic MHD turbulence: the role of the sweeping effect: **P Dmitruk**, S Servidio, V Carbone, W H Matthaeus

0800h **SH51D-1714** *POSTER* The Radial Variation of the Solar Wind Temperature-Speed Relationship: **H A Elliott**, D J McComas

0800h **SH51D-1715** *POSTER* Scaling properties of the reduced magnetic helicity in the near Earth' space: **V Carbone**, E Yordanova, S Perri

0800h **SH51D-1716** *POSTER* Hot Flow Anomaly Structure Analysis: **A Shestakov**, O L Vaisberg

0800h **SH51D-1717** *POSTER* Third moments and the role of anisotropy from velocity shear in the solar wind: **C W Smith**, J E Stawarz, B J Vasquez, M A Forman

0800h **SH51D-1718** *POSTER* Plasma-neutral coupling in the heliospheric plasma based on kappa distribution sources: S Ghosh, **D Shaikh**, B Dasgupta

0800h **SH51D-1719** *POSTER* Time-dependent evolution of nonlinear MHD disturbances in the solar wind: **K Kim**, D Lee, K Kim, K Kim

0800h **SH51D-1720** *POSTER* Langmuir waves observed by S/WAVES in the solar wind: nonlinear effects of the inhomogeneous plasma: **P Guio**, A Zaslavsky

0800h **SH51D-1721** *POSTER* Numerical simulation of the solar wind disturbances propagating to the distant heliosphere: **E A Provornikova**, M Opher, V Izmodenov, G Toth

0800h **SH51D-1722** *POSTER* Attempts to Simulate Anisotropies of Solar Wind Fluctuations using MHD with a Turning Magnetic Field: **S Ghosh**, D Roberts

0800h **SH51D-1723** *POSTER* An Accurate Solar Wind Electron Database From the 3DP Experiment Onboard the Wind Spacecraft: **K I Horaites**, C S Salem, M Pulupa, S Bale

0800h **SH51D-1724** *POSTER* Results of a 3-D full particle simulation of quasi-perpendicular shock: **I Shinohara**, M Fujimoto

0800h **SH51D-1725** *POSTER* Nonlinear Steepening of Shock-like Structures in the Solar Wind: Wave-Particle Interaction: **E Lee**, G K Parks, M Wilber, N Lin, A F TESTE, J Hong, K W Min

0800h **SH51D-1726** *POSTER* Nonlinear Landau Damping and Formation of Magnetic Depressions: An IST Perspective: **R Hamilton**, R Meis, D Sifuentes

SH51E Moscone South: Poster Hall Friday 0800h
Specification, Prediction, and Observation of the Inner Solar
System's Radiation Environment I Posters

Presiding: **A Posner**, NASA Headquarters

0800h **SH51E-1727** *POSTER* The Lunar Radiation Environment: LRO/CRA TER Observations and Geant4 Modeling: **M D Looper**, J Mazur, J B Blake, H E Spence, M Golightly, A W Case

0800h **SH51E-1728** *POSTER* Galactic Cosmic Ray Variations at the Moon, as Measured by the CRA TER Instrument: **A W Case**, H E Spence, J C Kasper, M Golightly, J B Blake, J Mazur, L Townsend

0800h **SH51E-1729** *POSTER* GCR Dose Rate Observed in Lunar Orbit During the Transition from Solar Cycle 23 to Cycle 24: **M J Golightly**, N A Schwadron, H E Spence, J K Wilson, A Case, L Townsend, J C Kasper, J Blake, M D Looper, J Mazur

0800h **SH51E-1730** *POSTER* Simulation of Earth-Moon-Mars Environments for the Assessment of Organ Doses: **M Y Kim**, N A Schwadron, L Townsend, F A Cucinotta

0800h **SH51E-1731** *POSTER* Potential Use of NMDB for the real-time Observation and Specification of the near-Earth Radiation Environment: **C T Steigies**, Title of Team: NMDB team

0800h **SH51E-1732** *POSTER* Evolution of Piled Up Compressions in Modeled CME Sheaths and the Resulting Sheath Structures: **I Das**, M Opher, R M Evans, T I Gombosi

0800h **SH51E-1733** *POSTER* Modeling Relativistic Solar Protons in the Inner Solar System During the 2005 January 20 Event: **A Saiz**, D J Ruffolo, J W Bieber, P A Evenson

0800h **SH51E-1734** *POSTER* Spacecraft Solar Particle Event (SPE) Shielding: Shielding Effectiveness as a Function of SPE Model as Determined with the FLUKA Radiation Transport Code: **S L Koontz**, W A Atwell, B Reddell, K Rojdev

SH51F Moscone South: 307 Friday 0800h
Solar Wind Turbulence: Theory, Observations, and Future Mission Concepts III (*joint with NG, SM*)

Presiding: **J J Podesta**, Los Alamos National Laboratory; **G Li**, Univ Alabama Huntsville; **W H Matthaeus**, University of Delaware

- 0800h **SH51F-01** Coherent eigenmodes in homogeneous MHD turbulence: **J V Shebalin**
- 0815h **SH51F-02** Evidence for Inhomogeneous Heating in the Solar Wind: A Greco, K Osman, **W H Matthaeus**, S Servidio
- 0830h **SH51F-03** Scaling and anisotropy of magnetohydrodynamic turbulence in a strong mean magnetic field: **W Mueller**, R Grappin
- 0845h **SH51F-04** Turbulence in 2D kinetic simulations: Dependence on driving frequency (*Invited*): **T N Parashar**, S Servidio, M A Shay, W H Matthaeus
- 0900h **SH51F-05** Solar Wind Turbulence Cascade in the Ion-Kinetic Regime: Effect of Proton Temperature Anisotropy: **D Krauss-Varban**, C S Salem
- 0915h **SH51F-06** Parametric Decay of Obliquely Propagating Alfvén Waves: Transverse Coupling and Proton Parallel Acceleration: **L Matteini**, S Landi, L Del Zanna, M M Velli, P Hellinger
- 0930h **SH51F-07** Current Sheets Observed by ACE and Ulysses at Different Heliospheric Distances: **B Miao**, G Li
- 0945h **SH51F-08** Aspects of the theory of incompressible MHD turbulence with cross-helicity and applications to the solar wind: **J Podesta**

SPA-Magnetospheric Physics

SM51A Moscone South: Poster Hall Friday 0800h
Space Weather Forecasting: Present Status and Future Directions I Posters (*joint with SH*)

- Presiding:* **S L Young**, Air Force Research Laboratory; **J P McCollough**, Air Force Research Laboratory; **J Koller**, Los Alamos National Lab
- 0800h **SM51A-1735** POSTER Realtime Space Weather Forecasts Via Android Phone App: **G Crowley**, B Haacke, A Reynolds
- 0800h **SM51A-1736** POSTER Is geomagnetic activity increasing?: **J J Love**
- 0800h **SM51A-1737** POSTER Toward Constructing Operational Geomagnetic Activity Forecast Model: **T Nagatsuma**, M Kunitake, K T Murata
- 0800h **SM51A-1738** POSTER Forecasting geomagnetic activities from the Boyle Index: **R Bala**, P H Reiff
- 0800h **SM51A-1739** POSTER A New System Approach to Accurate Space Weather Prediction: **G V Khazanov**, W Lyatsky
- 0800h **SM51A-1740** POSTER Data derived Dst model: **R J Boynton**, M A Balikhin, S A Billings, H Wei
- 0800h **SM51A-1741** POSTER Comparison of Dst forecast models and their dependence on interplanetary structure: **E Ji**, Y Moon, D Lee
- 0800h **SM51A-1742** POSTER Analysis of Three Real-Time Dst Indices: **T L Carranza-fulmer**, J L Gannon, J J Love
- 0800h **SM51A-1743** POSTER USGS One-minute Dst: **J L Gannon**, J J Love, P A Friberg, W Tobiska
- 0800h **SM51A-1744** POSTER Dst index in the 2008 GEM Modeling Challenge - Model performance for Moderate and Strong Magnetic Storms: **L Rastaetter**, M M Kuznetsova, M Hesse, A Chulaki, A Pulkkinen, A J Ridley, T I Gombosi, A Vapirev, J Raeder, M J Wiltberger, M L Mays, M H Fok, R S Weigel, D T Welling

- 0800h **SM51A-1745** POSTER CEDAR Electrodynamics Thermosphere Ionosphere (ETI) Challenge for Systematic Assessment of Ionospheric Models: **J Shim**, M M Kuznetsova, L Rastaetter, M Hesse, D Bilitza, M Codrescu, B A Emery, B T Foster, T J Fuller-Rowell, J D Huba, A J Mannucci, A J Ridley, R W Schunk, D C Thompson, D N Anderson, J L Chau, J M Forbes, J J Sojka, E K Sutton, B Rideout
- 0800h **SM51A-1746** POSTER Space Weather Services at Goddard Space Flight Center: **M Hesse**, A Pulkkinen, Y Zheng, M Maddox, D Berrios, M M Kuznetsova, A Taktakishvili, L Rastaetter
- 0800h **SM51A-1747** POSTER AFWA-CCMC partnership to advance USAF space weather forecasting capabilities: **J P Reich**, J Cox, J Harris, A Pulkkinen, Y Zheng, M Hesse, M M Kuznetsova, P J MacNeice, M M Maddox, L Rastaetter, A Taktakishvili
- 0800h **SM51A-1748** POSTER The Flare Patrol Augmentation Tool (FPAT): **D E Holland**, J P Reich, J C Jones, J Bolding
- 0800h **SM51A-1749** POSTER WSA Derived Coronal Hole Comparison with STEREO EUVI Observations: **C N Arge**, C Henney, K Shurkin, J Koller, W A Toussaint, J W Harvey, S L Young
- 0800h **SM51A-1750** POSTER Present Status and Ongoing Developments of the Heliospheric Code ENLIL: **D Odstrcil**
- 0800h **SM51A-1751** POSTER Forecasting Solar EUV Irradiance, Validation and Automation: **J M Fontenla**, I Gonzalez Hernandez, E Quémerais, C Lindsey, J P Mason
- 0800h **SM51A-1752** POSTER Dependence of Empirical Models of Solar Wind Coupling on Solar Cycle, Season, and Dynamic Pressure: **R L McPherron**, T I Pulkkinen, D N Baker
- 0800h **SM51A-1753** POSTER The statistical relationship between solar wind parameters and geomagnetic activities during the maximum phase of the solar cycle 23(1999~2003): **G Moon**
- 0800h **SM51A-1754** POSTER Empirical Predictability of the Geo-Effectiveness of CMEs: A Solar Wind Perspective: **J Jahn**, H A Elliott
- 0800h **SM51A-1755** POSTER The Ensemble Space Weather Modeling System (eSWMS): Status, Capabilities and Challenges: **C D Fry**, J V Eccles, J P Reich
- 0800h **SM51A-1756** POSTER Parallel Event-Driven Global Magnetospheric Hybrid Simulations: **Y A Omelchenko**, H Karimabadi, E Saule, U V Catalyurek
- 0800h **SM51A-1757** POSTER Improving the physics models in the Space Weather Modeling Framework: **G Toth**, F Fang, R A Frazin, T I Gombosi, R Ilie, M W Liemohn, W B Manchester, X Meng, D J Pawlowski, A J Ridley, I Sokolov, B van der Holst, G Vichare, E Yigit, Y Yu, N Buzulukova, M H Fok, A Glocer, V K Jordanova, D T Welling, S G Zaharia
- 0800h **SM51A-1758** POSTER WINDMI-Magfield: A Dynamical magnetospheric magnetic field model: **S Patra**, E A Spencer, W Horton
- 0800h **SM51A-1759** POSTER Real-Time WINDMI Predictions of Geomagnetic Storms and Substorms: **W Horton**, M L Mays, E A Spencer
- 0800h **SM51A-1760** POSTER SWAGE and the Transpolar Potential as Related to Solar Wind Structure During 1998-2005: **P L Rothwell**, J R Jasperse, N J Grossbard
- 0800h **SM51A-1761** POSTER High-resolution empirical geomagnetic field model TS07D: Investigating run-on-request and forecasting modes of operation: **G K Stephens**, M I Sitnov, A Y Ukhorskiy, J D Vandegriff, N A Tsyganenko
- 0800h **SM51A-1762** POSTER AF-GEOSpace Version 2.5: Space Environment Software: **R V Hilmer**, T Hall, C Roth, A Ling, G P Ginet, D Madden

0800h **SM51A-1763** POSTER An Ensemble Forecast for Geosynchronous Radiation Belt Fluxes: **S G Nelson**, S L Young, A Ling, K L Perry, X Li

0800h **SM51A-1764** POSTER Long Term Radiation Belt Simulations with VERB-3D Code, Comparison with Multisatellite Observations Reanalysis: **D Subbotin**, Y Shprits, B Ni

0800h **SM51A-1765** POSTER Operational Advances in Ring Current Modeling Using RAM-SCB: S Morley, **D T Welling**, S G Zaharia, V K Jordanova

0800h **SM51A-1766** POSTER New Operational Algorithms for Particle Data from Low-Altitude Polar-Orbiting Satellites: **J L Machol**, J C Green, J V Rodriguez, T G Onsager, W F Denig

0800h **SM51A-1767** POSTER New Products from New Satellites – GOES NOP Satellite Series Space Weather Data and Their Archive for Retrospective Access: **D C Wilkinson**

0800h **SM51A-1768** POSTER Real-Time Delivery of Global Environmental Observation Data From Space-Based Sensors using the Inmarsat BGAN System: **C C McCormick**, C Lenz, T Yunc

0800h **SM51A-1769** POSTER Plasmaspheric Data Assimilation using LANL Satellite Plasmopause Crossings: **A M Jorgensen**, A J Ridley, A M Dodger, J Lichtenberger

0800h **SM51A-1770** POSTER A Physics-Based Data Assimilation Model for the High-Latitude Ionosphere: Importance of Data Assimilation Technique in Determining the Model Drivers: **L Zhu**, R W Schunk, L Scherliess, V Eccles

0800h **SM51A-1771** POSTER Assessing Diurnal Contributions of Data Sets Assimilated by Global Ionospheric Models: **G J Bishop**, J Welsh, L F McNamara

0800h **SM51A-1772** POSTER Forecasting Ionospheric Conditions with 4DVAR Assimilation Model: **C Wang**, V Akopian, X Pi, A J Mannucci, Title of Team: The USC/JPL GAIM Team

0800h **SM51A-1773** POSTER Possibility and Demonstrations of 27 Day Ionospheric Forecasting: **J J Sojka**, R W Schunk, M Nicholls, C J Heinselman

SM51B Moscone South: Poster Hall Friday 0800h SPA-Magnetospheric Physics Posters

Presiding: **L P Goncharenko**, MIT; **A J Ridley**, University of Michigan

0800h **SM51B-1774** POSTER Development of an APD With Large Area and Thick Depletion Layer for Energetic Electron Measurements in Space: **S Kasahara**, T Takashima, K Asamura, T Mitani

0800h **SM51B-1775** POSTER Recovery of evolution of Grad-Shafranov equilibria from single-spacecraft data: Benchmarking and application to a flux transfer event: B U Sonnerup, **H Hasegawa**, T Nakamura

0800h **SM51B-1776** POSTER Flow vortices inside the magnetopause associated with FTEs moving along the magnetopause: observations and an MHD simulation: **H Zhang**, M G Kivelson, K K Khurana, R J Walker, V Angelopoulos, Y Jia, J P McFadden, H Auster

0800h **SM51B-1777** POSTER A Statistical Study of the Spatial Scales of the Terrestrial Bow Shock: **S N Walker**, M Balikhin, V Krasnoselskikh, A P Dimmock, Y Hobara, M Gedalin

0800h **SM51B-1778** POSTER Development of a low energy electron spectrometer for SCOPE: **Y Tominaga**, Y Saito, S Yokota

0800h **SM51B-1779** POSTER Pressure Conversion in the Solar Wind-Magnetosphere Interaction: **J Shue**

0800h **SM51B-1780** POSTER A Comprehensive Study of Relationship Between Subsolar Standoff Distance of the Magnetopause and Cone Angle of Interplanetary Magnetic Field: **C Huang**, J Shue, W Hsieh, B Lee

0800h **SM51B-1781** POSTER A statistical study of atypical wave modes in the Earth's foreshock region: **W Hsieh**, J Shue, B Lee

0800h **SM51B-1782** POSTER A simple explanation for cross-field diffusion process by kinetic Alfvén waves: **T Izutsu**, M Fujimoto, H Hasegawa, T Nakamura

0800h **SM51B-1783** POSTER Statistical Study of Magnetosheath Temperatures: **A Sjogren**, K Nykyri

0800h **SM51B-1784** POSTER A Model to study Jupiter's Magnetosphere and the Ionosphere-Magnetosphere Coupling: **E Chané**, J Saur, S Poedts

0800h **SM51B-1785** POSTER A Statistical Study of the Magnitude of Cross Shock Electrostatic Potential: **A P Dimmock**, S N Walker, Y Hobara, M A Balikhin, M Gedalin

0800h **SM51B-1786** POSTER The 22-Year Solar Cycle Effect on Substorms: **T Hsu**, R L McPherron, X Chu, J Kissingner

0800h **SM51B-1787** POSTER Magnetosheath Coordinates: **M Schulz**, M W Chen

0800h **SM51B-1788** POSTER Ion Density Holes observed by Cluster satellite: Electromagnetic PIC Simulation: **J Hong**, E Lee, K W Min, G K Parks

0800h **SM51B-1789** POSTER Evidence of ion Foreshock in Full-particle 2-D Simulations of a Supercritical Curved Collisionless Shock: J Stienlet, **P Savoini**, B Lembege

0800h **SM51B-1790** POSTER Collision of two supercritical quasi-perpendicular nonstationary collisionless shocks: full particle simulations: **B Lembege**, Y Ma, X Deng

0800h **SM51B-1791** POSTER IMPACT OF SHOCK FRONT NONSTATIONARITY ON THE ACCELERATION OF HEAVY IONS BY PERPENDICULAR COLLISIONLESS SHOCKS: **Z Yang**, B Lembege, Q Lu

0800h **SM51B-1792** POSTER Nonstationarity of quasi-perpendicular shocks: magnetic structure, ion properties and micro-turbulence: **C X Mazelle**, B Lembege, A Morgenthaler, K Meziane

0800h **SM51B-1793** POSTER Investigation of Magnetospheric Conditions During Periodic Substorm Events with a Nonlinear Dynamical Model: **E A Spencer**, W Horton, S Patra, M L Mays

0800h **SM51B-1794** POSTER Energetic Electrons Near Jupiter's Current Sheet: **M Kokorowski**, H B Garrett, K K Khurana, H Leinweber, R W Evans

0800h **SM51B-1795** POSTER A Paradigm for Magnetospheric Visualization and Global Measurement: **A D Pembroke**, F Toffoletto

0800h **SM51B-1796** POSTER 2-D and 3-D Hall MHD Reconnection: **X Ma**, A Otto, K Nykyri

0800h **SM51B-1797** POSTER A Unifying Model of Substorms: Evolving Magnetic Field Line Shape in the Magnetotail: **G J Sofko**

0800h **SM51B-1798** POSTER Transfer Entropy And Conditional Redundancy As Measures Of Causality For Internal And External Substorm Triggers: **J Johnson**, S Wing, K Liou

0800h **SM51B-1799** POSTER Effects of plasma kinetic parameters on turbulent layer formation by the Kelvin-Helmholtz instability: **Y Matsumoto**, K Seki

0800h **SM51B-1800** POSTER Evolution of an MHD-scale Kelvin-Helmholtz vortex accompanied by magnetic reconnection: Two-dimensional particle simulations: **T Nakamura**, H Hasegawa, I Shinohara, M Fujimoto

0800h **SM51B-1801** POSTER Observations of extended magnetic reconnection X-lines at small field shear angles (or large guide field) in the solar wind: **M L Cartwright**, T Phan, V Angelopoulos, J P McFadden, D E Larson, K Glassmeier

0800h **SM51B-1802** *POSTER* Particle Simulations of the Guard Electrode Effects on the Photoelectron Distribution Around an Electric Field Sensor: **Y Miyake**, H Usui, H Kojima

0800h **SM51B-1803** *POSTER* Ultraviolet stimulated electron source for use with low energy plasma instrument calibration: **K Henderson**

0800h **SM51B-1804** *POSTER* Two Comments in Deep Dielectric Charging: **S T Lai**

0800h **SM51B-1805** *POSTER MESSSENGER* Plasma Wave Observations in Mercury's Magnetosphere: **S A Boardsen**, J A Slavin, B J Anderson, H Korth, J M Raines, S C Solomon, G Gloeckler, T Zurbuchen

0800h **SM51B-1806** *POSTER* Diffuse Ion Scattering in front of the Earth's Quasi-Parallel Bow Shock: What Can We Learn from Cluster Simultaneous Multipoint Observations?: **A Kis**, M Scholer, B Klecker, E A Lucek, H Reme, I Lemperger, V Wesztergom

0800h **SM51B-1807** *POSTER* The role of kinetic effects and parallel electric fields in collisionless reconnection: **J Egedal**, W S Daughton, A Le

0800h **SM51B-1808** *POSTER* Kelvin Helmholtz driven vortices on the dayside magnetopause- single spacecraft detection using Double star 1: **M G Taylor**, B Lavraud, H Hasegawa, M Dunlop, Y V Bogdanova, A L Borg, M Volwerk, J Berchem, D O Constantinescu, C P Escoubet, A N Fazakerley, H U Frey, E V Panov, C Shen, J Shi, D G Sibeck, Z Pu, J Wang, J A Wild

0800h **SM51B-1809** *POSTER* Electron diffusion region phase space distribution for collisionless antiparallel reconnection: **A Le**, J Egedal, J Ng, W S Daughton

0800h **SM51B-1810** *POSTER* Electron diffusion region scalings in antiparallel magnetic reconnection: **A V Divin**, G Lapenta, S Markidis, V Semenov, D Korovin

0800h **SM51B-1811** *POSTER* Modeling of "Stripe" Wave Phenomena Seen by the CHARM II and ACES Sounding Rockets: **M P Dombrowski**, J W Labelle

0800h **SM51B-1812** *POSTER* Potential reconnection sites at Jupiter's magnetopause: **M J Desroche**, F Bagenal, P A Delamere

0800h **SM51B-1813** *POSTER* A Two Fluid Code to Study Cross Scale Coupling in Collisionless Magnetic Reconnection: **N Jain**, A S Sharma

0800h **SM51B-1814** *POSTER* Measurement of Magnetotail Structures Using Multiple Spacecrafts and Nonlinear Dynamics Modeling: **D L Holland**, M E Presley, R F Martin, H Matsuoka

0800h **SM51B-1815** *POSTER* Determining the dynamic range of MCPs based on pore size and strip current: **C Hunt**, M L Adrian, F Herrero, P James, H H Jones, M Rodriguez, P Roman, M Shappirio

0800h **SM51B-1816** *POSTER* BATSUS with Anisotropic Ion Pressure: **X Meng**, G Toth, T I Gombosi

0800h **SM51B-1817** *POSTER* STEREO/IMPACT Observations of Foreshock Electrons from 10 eV-100 keV: **M Pulupa**, S Bale, R P Lin, D E Larson

0800h **SM51B-1818** *POSTER* Retrieval of ion distributions in RC from TWINS ENA images by CT technique: **S Ma**, W Yan, L Xu, J Goldstein, D J McComas

SM51C Moscone South: Poster Hall Friday 0800h
Turbulent Magnetic Reconnection in Space, Laboratory, and Astrophysical Systems III Posters (joint with SH)

Presiding: **G Lapenta**, KU Leuven; **T Intrator**, Los Alamos Natl Laboratory; **A Lazarian**, University of Wisconsin; **J Sears**, Los Alamos National Laboratory

0800h **SM51C-1819** *POSTER* Observational Characteristics of a secondary magnetic island in an ion diffusion region: **Q Lu**, R Wang, C Huang, S Wang

0800h **SM51C-1820** *POSTER* Kinetic modeling of asymmetric magnetic reconnection: **S Zenitani**, M Hesse, A J Klimas, M M Kuznetsova

0800h **SM51C-1821** *POSTER* Magnetic Correlation Functions in the Solar Wind in the Eulerian Reference Frame: **J M Weygand**, M G Kivelson, W H Matthaeus, S Dasso, C W Smith

0800h **SM51C-1822** *POSTER* Magnetic Reconnection in a Turbulent Space Plasma: Cluster Multi-Spacecraft Observations in the Magnetosheath: **M Andre**, G Stenberg, A Vaivads, Y V Khotyaintsev, A Retinò, E A Lucek

0800h **SM51C-1823** *POSTER* Influences of sub-Alfvénic shear flow on nonlinear evolution of magnetic reconnection: **Z Ma**

0800h **SM51C-1824** *POSTER* A Comparison of Fluid and Kinetic Models for Steady Magnetic Reconnection: **J U Brackbill**

0800h **SM51C-1825** *POSTER* Low Frequency Waves in the Reconnection Layer: **X Lu**, Y Lin, X Wang

0800h **SM51C-1826** *POSTER* Competing X-lines During Magnetic Reconnection: **A K Young**, N A Murphy

0800h **SM51C-1827** *POSTER* Three-dimensional MHD instability of spontaneous fast magnetic reconnection in geomagnetotail: **T Shimizu**, T Ogino, K Kondoh

0800h **SM51C-1828** *POSTER* Dynamics of secondary islands in collisional magnetic reconnection: **T Miyoshi**, K Kusano

0800h **SM51C-1829** *POSTER* The Effect of Shear Flow on the Scaling of 2D Magnetic Reconnection: **P Cassak**

0800h **SM51C-1830** *POSTER* The kinetic structure of collisionless slow shocks and reconnection exhausts- the effects of strong temperature anisotropy: **Y Liu**, J F Drake, M M Swisdak

0800h **SM51C-1831** *POSTER* The VASIMR® VF-200-1 ISS Experiment as a Laboratory for Astrophysics: T Glover, J P Squire, B W Longmier, M D Carter, A V Ilin, L D Cassady, C S Olsen, F Chang Díaz, G E McCaskill, E A Bering, D Garrison, S Girimaji, D Araya, L Morin, **J V Shebalin**

0800h **SM51C-1832** *POSTER* Comparison of Secondary Islands in Collisional Reconnection to Hall Reconnection: **L S Shepherd**, P Cassak

0800h **SM51C-1833** *POSTER* MULTISCALE ANISOTROPY AND INSTABILITIES IN A THIN ELECTRON CURRENT SHEET: SIMULATION RESULTS AND MEASUREMENT RECOMMENDATIONS: I G Khazanov, **V M Uritsky**, N Singh, E F Donovan, W Liu

0800h **SM51C-1834** *POSTER* Statistical study of the properties of the turbulent plasma sheet using the Cluster and Themis satellite data: **M V Stepanova**, E E Antonova, V A Pinto, J A Valdivia

0800h **SM51C-1835** *POSTER* Global Magnetohydrodynamic Simulations of Turbulence in the Plasma Sheet: **M El-Alaoui**, R L Richard, M Ashour-Abdalla, M L Goldstein, J M Weygand, R J Walker

0800h **SM51C-1836** *POSTER* High-Lundquist Number Resistive MHD Simulations of Turbulent Magnetic Reconnection with Secondary Island Formation and Enhanced Reconnection Rate: **S Ragunathan**, C Ng

0800h **SM51C-1837** *POSTER* Study of Lower Hybrid Frequency Turbulence in the Magnetic Reconnection Experiment (MRX): **S E Dorfman**, H Ji, V Roytershteyn, M Yamada, W S Daughton, J Yoo, E Oz, T Tharp, E E Lawrence, C Myers

0800h **SM51C-1838** *POSTER* Gyrokinetic Electron and Fully Kinetic Ion Particle Simulation of Instabilities in a Harris Current Sheet: **X Wang**, Y Lin, L Chen, W Kong, X Lv, W Zhang, Z Lin

0800h **SM51C-1839** *POSTER* Multiple Spacecraft Study of the Effect of Turbulence on Reconnection Rates: **D E Wendel**, M L Goldstein, A F Vinas, F Sahraoui, M L Adrian

0800h **SM51C-1840** *POSTER* On the accuracy of simulation of magnetohydrodynamic turbulence and magnetic reconnection: **M Wan**, S Oughton, S Servidio, W H Matthaeus

0800h **SM51C-1841** *POSTER* Super-Alfvénic propagation of reconnection energy flux: Kinetic PIC simulations compared to Satellite Observations: **M A Shay**, J F Drake, J P Eastwood, T Phan, M Oka

0800h **SM51C-1842** *POSTER* Cluster observations of solitary waves near the center of the current sheet in association with magnetic reconnection: **A Hupach**, C A Cattell, J R Wygant, S J Schwartz, C Mouikis

0800h **SM51C-1843** *POSTER* Study of turbulent spectra of the geomagnetic field using the data of the THEMIS satellite mission and ground magnetometers: **V A Pinto**, M V Stepanova, J A Valdivia, E E Antonova

0800h **SM51C-1844** *POSTER* Measurements of Line-tied Kink Eigenfunction in the Rotating Wall Machine and Comparison to Simulation: **M Brookhart**, C Paz-Soldan, D Hannum, A Clinch, C Sovinec, C Forest

0800h **SM51C-1845** *POSTER* Instabilities in the Reconnection Region from Simulations with Physical Mass Ratios: D L Newman, **G Lapenta**, M V Goldman, H Che, S Markidis

0800h **SM51C-1846** *POSTER* Coronal Loops Dynamics and Photospheric Forcing Patterns: A F Rappazzo, **M M Velli**

0800h **SM51C-1847** *POSTER* Laboratory Investigations of Impulsive Dynamics Of Flux Ropes In 3D: T Intrator, **J Sears**, T Weber, A Lazarian, X Sun, G Lapenta

0800h **SM51C-1848** *POSTER* An Electron Diffusion Region Resolved with Multiple Plasma Diagnostics by Polar: **J D Scudder**, S L Rodriguez, R Holdaway, V Roytershteyn, W S Daughton, H Karimabadi, C T Russell

0800h **SM51C-1849** *POSTER* Bursty Electromagnetic Waves Associated with Turbulent Magnetic Reconnection: **M L Adrian**, D E Wendel

0800h **SM51C-1850** *POSTER* 3D fully kinetic simulations of magnetic reconnection in asymmetric, anti-parallel configuration: **V Roytershteyn**, W S Daughton, H Karimabadi

0800h **SM51C-1851** *POSTER* Investigation of average electron properties during reconnection events in the Earth's magnetotail: **A L Borg**, M G Taylor, J P Eastwood

SM51D Moscone South: 305 Friday 0800h
Multipoint Perspective on the Auroral Acceleration Region and M-I Coupling II

Presiding: **A Masson**, European Space Agency; **J S Pickett**, The University of Iowa

0800h **SM51D-01** 2-D Convection and Electrodynamical Features of Substorms Revealed by Multiple Radar Observations (*Invited*): **S Zou**

0815h **SM51D-02** AURORAL ELECTROJETS AND SUBSTORM OCCURRENCE DURING SOLAR MINIMUM 2007-2009: K Kauristie, **T I Pulkkinen**, E I Tanskanen, A Viljanen, N J Partamies

0830h **SM51D-03** Midnight Sector Observations of Auroral Omega Bands: **J A Wild**, E E Woodfield, E F Donovan, R C Fear, A Grocott, M Lester, A N Fazakerley, E A Lucek, A Kadokura, K Hosokawa, C W Carlson, J P McFadden, K Glassmeier, V Angelopoulos, G Björnsson

0845h **SM51D-04** Remote observations of the Auroral Acceleration Region (*Invited*): **H U Frey**

0900h **SM51D-05** Multi-probing of the auroral acceleration region by Cluster (*Invited*): **G T Marklund**, S Sadeghi, R Karlsson, P Lindqvist, H Nilsson, J Pickett, A N Fazakerley, C Forsyth, A Masson

0915h **SM51D-06** Observations of auroral acceleration at magnetically conjugate spacecraft: A Cluster case study (*Invited*): **C Forsyth**, A N Fazakerley, A P Walsh, C E Watt, K J Garza, C J Owen, D O Constantinescu, I S Dandouras, K Fornacon, G T Marklund, S Sadeghi

0930h **SM51D-07** Cluster Multi-Spacecraft Observations of AKR in the Auroral Acceleration Region (*Invited*): **I Christopher**, R L Mutel, J S Pickett, A Masson, A N Fazakerley, E A Lucek

0945h **SM51D-08** Ground-Level Detection of Auroral Kilometric Radiation: **J W Labelle**, R R Anderson

Study of Earth's Deep Interior

DI51A Moscone South: Poster Hall Friday 0800h
Advances in Computational Modeling in Geoscience II Posters
(joint with A, C, OS)

Presiding: **J Brown**, ETH Zurich; **D May**, ETH Zurich; **L N Moresi**, Monash University

0800h **DI51A-1852** *POSTER* Development of a robust Stokes flow solver: toward a global simulation of the plate-mantle system: **M Furuichi**, D May, P J Tackley

0800h **DI51A-1853** *POSTER* Grid convergence study of the combined finite difference & Marker-In-Cell method for geodynamic applications: **T Duretz**, D May, T Gerya

0800h **DI51A-1854** *POSTER* Scalable Algorithms for Tightly-Coupled Hydro-mechanical Modeling of Geologic CO₂ Sequestration: **J A White**, L Chiamonte

0800h **DI51A-1855** *POSTER* The GeoClaw Software for Geophysical Flows: **RJ Leveque**, M J Berger, K T Mandli

0800h **DI51A-1856** *POSTER* A new dynamic model of divergent plate boundary: **C Yu**

0800h **DI51A-1857** *POSTER* Fluidity: a fully-unstructured adaptive mesh computational framework for geodynamics: S C Kramer, **D Davies**, C R Wilson

0800h **DI51A-1858** *POSTER* Challenges performing multi-scale, three-dimensional simulations of landslide generated tsunamis on adaptive unstructured meshes: **CR Wilson**, S C Kramer, G S Collins

0800h **DI51A-1859** *POSTER* Stabilising temporal instabilities in geodynamic models: **D May**, B J Kaus, H B Muhlhaus
0800h **DI51A-1860** *POSTER* Modeling the advection of discontinuous quantities in Geophysical flows using Particle Level Sets: V Aleksandrov, **H Samuel**, M Evonuk
0800h **DI51A-1861** *POSTER* Blankenbach 3 revisited: intricate time-dependent patterns in a simple model of mantle convection: **Z Hu**, P E Van Keken

DI51B Moscone South: Poster Hall Friday 0800h
Melts and Fluids in the Deep Mantle II Posters (*joint with MR, S, T, V*)

Presiding: **S Hier-Majumder**, University of Maryland; **J Revenaugh**, University of Minnesota

0800h **DI51B-1862** *POSTER* Structure of jadeite-diopside melts at high pressure by in situ x-ray diffraction: **T Sakamaki**, Y Wang, T Yu, C Park, G Shen

0800h **DI51B-1863** *POSTER* Carbonate melts in the Earth's mantle: **F Gygi**, R Caracas, R E Cohen

0800h **DI51B-1864** *POSTER* Effect of pressure and quench rate on V and Fe XANES spectra for synthetic basalt and andesitic glasses: **P Ardia**, C N Gerbode, M M Hirschmann, M Newville

0800h **DI51B-1865** *POSTER* Viscosity of Water at High Pressures and High Temperatures: **J S Pigott**, D M Reaman, W R Panero

0800h **DI51B-1866** *POSTER* Fluids in the Earth's Lower Mantle - Phase Relations in the System MgO-SiO₂-H₂O: **J Frost**, M J Walter, S Kohn, S M Clark

0800h **DI51B-1867** *POSTER* Melting temperature of MgO at high pressures: **Z Du**, K K Lee

0800h **DI51B-1868** *POSTER* Seismic Evidence for a Global Low Velocity Layer Within the Earth's Upper Mantle: E Debayle, **B Tauzin**, G Wittlinger

0800h **DI51B-1869** *POSTER* Constraining physical properties of ultra-low velocity zones using multiple seismic phases: **K J Jensen**, M S Thorne, S Rost, T Nissen-Meyer

0800h **DI51B-1870** *POSTER* Relationship between ULVZ topography and mantle convection: J DeSha-Overcash, **J Gaeman**, S Hier-Majumder

0800h **DI51B-1871** *POSTER* A Boundary Element Model of Three-Dimensional Melt Geometry: **J T Wimert**, S Hier-Majumder

0800h **DI51B-1872** *POSTER* The Influence of Dihedral Angle and Deformation on Contiguity of Partially Molten Rocks: **M E Abbott**, S Hier-Majumder

0800h **DI51B-1873** *POSTER* A Combined Study of the Influence of Melting, Temperature, and Chemical Composition on Seismic Wave Velocities: **S Hier-Majumder**, A M Courtier

DI51C Moscone South: Poster Hall Friday 0800h
The Transition Zone: Improved Scrutiny, Greater Complexity II Posters (*joint with S, MR, V*)

Presiding: **B Tauzin**, Utrecht University; **Y J Gu**, University of Alberta; **Q Williams**, UC Santa Cruz; **J F Lawrence**, Stanford University

0800h **DI51C-1874** *POSTER* Topography of the 660-km discontinuity beneath subducting slabs in the Western Pacific: **T Wang**, J Revenaugh

0800h **DI51C-1875** *POSTER* Tracing the Upper Mantle Discontinuities Beneath the Pacific-North America Plate Boundary, Mexico: **X Pérez-Campos**, R W Clayton

0800h **DI51C-1876** *POSTER* An analysis of SS precursors using 3D specfem synthetics: **J E Ritsema**, L Bai, Y Zhang

0800h **DI51C-1877** *POSTER* A study of upper mantle discontinuities beneath the Korean Peninsula using teleseismic receiver functions: **S Lee**, Y Park, K Kim, J Rhie

0800h **DI51C-1878** *POSTER* P and SH wave velocity structures in the upper mantle transition zone beneath northwestern Tibet: **R Zhang**, Q Wu, Y Li, C Hao, L Sun

0800h **DI51C-1879** *POSTER* Seismic Analysis of the Tonga Subduction Zone and Implications on the Thermo-Petrologic Evolution of Deep Subduction: **P R Karel**, M R Brudzinski, W Chen, H W Green, R Pilllet

0800h **DI51C-1880** *POSTER* Deep structure and origin of active volcanoes in China: **D Zhao**

0800h **DI51C-1881** *POSTER* Mantle Transition Zone Vp/Vs Ratio and Low Velocity Layers Under West US From P-to-S Conversions and Multiple Reverberations: **B Tauzin**, J Trampert, R D van der Hilst

0800h **DI51C-1882** *POSTER* Compression of Single-Crystal Orthopyroxene to 60GPa: **G J Finkelstein**, P K Dera, C M Holl, S M Dorfman, T S Duffy

0800h **DI51C-1883** *POSTER* Mantle transition zone structure beneath the Canadian Shield: **D A Thompson**, G R Helffrich, I D Bastow, J M Kendall, J Wookey, D W Eaton, D B Snyder

0800h **DI51C-1884** *POSTER* The effect of temperature and pressure on optical absorption spectra of transition zone minerals - Implications for the radiative conductivity of the Earth's interior: **S Thomas**, S D Jacobsen, C R Bina, A F Goncharov, D J Frost, C A McCammon

0800h **DI51C-1885** *POSTER* Azores Deep Structure as Revealed by P and S Receiver Functions: L Vinnik, **E Stutzmann**, M M Silveira, S Kiselev, V Farra, I Morais

0800h **DI51C-1886** *POSTER* Probing Mantle Transition Zone Heterogeneity with Topside Reflected SH Seismic Energy (*Invited*): **N C Schmerr**, C Chen, D Sun

0800h **DI51C-1887** *POSTER* Fine seismic velocity structure of the 410 km and 660 km discontinuities beneath eastern Asia: **Y Chen**, L Wen

Mineral and Rock Physics

MR51A Moscone South: Poster Hall Friday 0800h
Computational Advances and Applications in Mineral Physics II Posters (*joint with DI*)

Presiding: **B B Karki**, Louisiana State University

0800h **MR51A-1888** *POSTER* High-pressure phase relations in the composition of albite NaAlSi₃O₈ constrained by an ab initio and quasi-harmonic Debye model, and their implications: **L Deng**, X Liu, H Liu, J Dong

0800h **MR51A-1889** *POSTER* Understanding the Effects of Salt Precipitation on Rock Microstructure by Using Digital Rock Technology: **F Krzikalla**, T Vanorio, J P Dvorkin

0800h **MR51A-1890** *POSTER* Influence of iron on the elastic properties of wadsleyite and ringwoodite: **M Nunez Valdez**, R M Wentzcovitch, P da Silveira

0800h **MR51A-1891** *POSTER* Microstructures and rheology of the Earth upper mantle inferred from a multiscale approach: **O Castelnau**, P Cordier, S Merkel, P C Raterron, R Lebensohn

0800h **MR51A-1892** POSTER Elastic Properties of MgSiO₃-Perovskite under Lower Mantle Conditions Revisited: **Z Zhang**, L P Stixrude, J P Brodholt

0800h **MR51A-1893** POSTER *Ab initio* MD simulations of Mg₂SiO₄ liquid at high pressures and temperatures relevant to the Earth's mantle: **G B Martin**, B Kirtman, F J Spera

0800h **MR51A-1894** POSTER Does a Dielectric Double Layer Evolve in Partially Molten Rocks?: S Gurmani, S Jahn, H Brasse, **F R Schilling**

0800h **MR51A-1895** POSTER Scheduling Optimization for Bag-of-Task (BoT) Applications in the VLab cyberinfrastructure: **P R da Silveira**, R M Wentzcovitch

0800h **MR51A-1896** POSTER First principles thermal elasticity of crystals: quasiharmonic theory in the limit of isotropic thermal pressure: **Z Wu**, R M Wentzcovitch

0800h **MR51A-1897** POSTER A First-Principles Study of MgSiO₃ Glass at High Pressure: D B Ghosh, **B B Karki**

0800h **MR51A-1898** POSTER Cobalt spin states and hyperfine interactions in LaCoO₃ investigated by LDA+U calculations: C Leighton, **H Hsu**, P Blaha, R M Wentzcovitch

0800h **MR51A-1899** POSTER Multiscale modelling of MgO plasticity: **P CARREZ**, J Amodeo, B Devincere, P Cordier

0800h **MR51A-1900** POSTER A first-principles investigation of hydrous defect and IR frequencies in forsterite: The case for Si vacancies: **K Umemoto**, R M Wentzcovitch, M M Hirschmann, D L Kohlstedt, A C Withers

0800h **MR51A-1901** POSTER Elastic properties computation and fluid substitution simulation from X-ray CT scan images in Middle East carbonates samples: **M S Jouini**, D S Vega

0800h **MR51A-1902** POSTER A DISCRETE ELEMENT MODEL FOR THE STUDY OF FRACTURE BEHAVIOUR AND PATTERNS: **S Galindo-torres**, D Pedroso, L Li, D J Williams

MR51B Moscone West: 3024 Friday 0800h
Mind the Grain Boundaries! New Advances in Investigating Grain Boundaries and Their Impact on Mantle Processes II
(joint with DI)

Presiding: **S Demouchy**, Geosciences Montpellier -CNRS-; **T Hiraga**, ERI, Univ. Tokyo; **D L Kohlstedt**, University of Minnesota

0800h **MR51B-01** Doping Effect on High-Temperature Plastic Flow in Fine-grained Alumina (*Invited*): **H Yoshida**, Y Ikuhara, T Sakuma

0815h **MR51B-02** Mechanical Spectroscopy of Grain Boundaries: Insights into Grain and Phase Boundary Sliding (*Invited*): **M Sundberg**

0830h **MR51B-03** Mantle superplasticity and dynamic grain growth: **T Hiraga**, T Miyazaki, M Tasaka, H Yoshida

0845h **MR51B-04** Experimentally determined anelastic and plastic behaviors of melt-free and melt-bearing Earth analogue materials: implications for grain and phase boundary dynamics (*Invited*): **C McCarthy**, Y Takei, T Hiraga

0900h **MR51B-05** Reaction rim growth in the ternary system CaO-MgO-SiO₂: Diffusion pathways and the effect of water: **B Joachim**, E Gardés, R Abart, W Heinrich

0915h **MR51B-06** Composition dependence of grain boundary diffusivity of Cr in chromite spinel with application to kinetic demixing (*Invited*): **A M Suzuki**, D L Kohlstedt

0930h **MR51B-07** Structure and composition of pyroxene crystallites formed by grain boundary impurity partitioning and Fe-Mg interdiffusion along grain boundaries: **J B Thomas**, E B Watson, M D Frey

0945h **MR51B-08** Effect of Second-phase Particles on Static Adjustment of Calcite Grain Boundaries in Carbonate Mylonites: **J Ree**, S Lee, H Jung

Seismology

S51A Moscone South: Poster Hall Friday 0800h
Characterization and Simulation of Long-Period Earthquake Ground Motions I Posters (*joint with NH, G*)

Presiding: **K Koketsu**, University of Tokyo; **R W Graves**, US Geological Survey

0800h **S51A-1903** POSTER GPS Seismology: Using Precise Point Positioning for Resolving Surface Wave Displacements from Large Earthquakes: **H Dragert**, J A Henton, F Lahaye, J Kouba, K M Larson, G C Rogers

0800h **S51A-1904** POSTER Statistical Features of Short-Period and Long-Period Near-Source Ground Motions: **M Yamada**, A H Olsen, T H Heaton

0800h **S51A-1905** POSTER Characterization of Long-Period Ground Motions in the Georgia Basin Region, British Columbia, Canada: **S Molnar**, J Cassidy, S E Dosso, K Olsen

0800h **S51A-1906** POSTER Predicting Ground Motions In Seattle Using A New Shear Wave Velocity Model: **A A Delorey**, J E Vidale

0800h **S51A-1907** POSTER A Vs30-derived Near-surface Seismic Velocity Model: **G P Ely**, T H Jordan, P Small, P J Maechling

0800h **S51A-1908** POSTER Estimation of subsurface structure using microtremor H/V spectral ratio in the Shimabara peninsula: **N Itoya**, T Matsushima

0800h **S51A-1909** POSTER THE SITE RESPONSE IN THE PERIOD RANGE OF 2 TO 4S IN THE KANTO BASIN: **T Hayakawa**, K Tsuda, K Koketsu

0800h **S51A-1910** POSTER 3-D velocity structure model for long-period ground motion simulation of the hypothetical Nankai Earthquake: **T Kagawa**, A Petukhin, K Koketsu, H Miyake, S Murotani, M Tsurugi

0800h **S51A-1911** POSTER Scaling Relations of Earthquakes on Inland Active Mega-Fault Systems: S Murotani, **S Matsushima**, T Azuma, K Irikura, S Kitagawa

0800h **S51A-1912** POSTER Effect of Fault Segmentations on Simulation of Long-Period Earthquake Ground Motions and Seismic Load: **A Bykovtsev**, Title of Team: Research Team of Geotechnical and Structural Engineers

0800h **S51A-1913** POSTER Long-Period Ground Motion due to Near-Shear Earthquake Ruptures: **K Koketsu**, Y Yokota, K Hikima

0800h **S51A-1914** POSTER Frequency Dependence of Radiation Patterns and Directivity Effects in Ground Motion from Earthquakes on Rough Faults: H Cho, **J Hu**, Y Klinger, E M Dunham

0800h **S51A-1915** POSTER 3D dynamic rupture with anelastic wave propagation using an hp-adaptive Discontinuous Galerkin method: **J Tago**, V M Cruz-Atienza, V Etienne, J Virieux, M Benjema, F J Sanchez-Sesma

0800h **S51A-1916** POSTER Investigation on the radiation of super-shear rupturing seism source: **J Xu**, F Hu, X Shang, X Chen

0800h **S51A-1917** POSTER Study on the Effect of the Oceanic Water Layer on the Long Period Ground Motion Simulation: **A Petukhin**, T Iwata, T Kagawa

0800h **S51A-1918** POSTER Numerical representation of crustal structure for realistic synthetic seismograms: **I Molinari**, M Käser, A Morelli

0800h **S51A-1919** POSTER Long-Period Ground-Motion Simulations of the Mw 7.2 El Mayor-Cucapah Earthquake: **R W Graves**, B Aagaard

0800h **S51A-1920** POSTER Simulation of Long-Period Ground Motion in the Imperial Valley Area during the M_w 7.2 El Mayor-Cucapah Earthquake: **D Roten**, K B Olsen

0800h **S51A-1921** POSTER Earthquake simulations in the Salt Lake Basin for the validation of the Wasatch CVM: long period ($T > 1.0$ -s) seismic response: **M P Moschetti**, L Ramirez-Guzman

0800h **S51A-1922** POSTER Simulations of the strong ground motion for the Mw6.9 Yushu earthquake of 14 April 2010: **Z Zhang**, X Chen

0800h **S51A-1923** POSTER Three Dimensional Nonlinear Soil and Site-City Effects in Earthquake Simulations: **R Taborda**, J Bielak

0800h **S51A-1924** POSTER Effect Of Long-Period Earthquake Ground Motions On Nonlinear Vibration Of Shells With Variable Thickness: **R Abdikarimov**, A Bykovtsev, D Khodzhaev, Title of Team: Research Team of Geotechnical and Structural Engineers

0800h **S51A-1925** POSTER National Seismic Hazard Maps for Japan and Seismic Hazard Information Station, J-SHIS: **H Fujiwara**, Title of Team: J-map Project Team

0800h **S51A-1926** POSTER A CyberShake-Based System for Operational Forecasting of Earthquake Ground Motions: **K Milner**, T H Jordan, R W Graves, S Callaghan, P J Maechling, E H Field, P Small, Title of Team: CyberShake Working Group

S51B Moscone South: Poster Hall Friday 0800h Earthquake Strong Ground Motions I Posters

Presiding: **K L Pankow**, University of Utah

0800h **S51B-1927** POSTER Estimation of high-frequency ground shaking from rapidly accessible parameters: K Kieling, **S Hainzl**, R Wang

0800h **S51B-1928** POSTER Spectral Decay Characteristics in High Frequency Range of Observed Records from Crustal Large Earthquakes: **M Tsurugi**, T Kagawa, K Irikura

0800h **S51B-1929** WITHDRAWN

0800h **S51B-1930** POSTER Displacement Patterns of Cemetery Monuments in Ferndale, CA, During the M_w 6.5 Offshore Northern California Earthquake of January 10, 2010: **K S French**, S M Cashman, Title of Team: Structural Geology Class Spring 2010

0800h **S51B-1931** POSTER Liquefaction in the 15 April 2010 Mw 4.5 Randolph, Utah, Earthquake: C B DuRoss, **K L Pankow**

0800h **S51B-1932** POSTER The Puerto Rico 5.8 M_w Earthquake of May 16, 2010, and the Distribution of Peak Ground Motion in the Puerto Rico Island: **C I Huerta-Lopez**, J A Martínez-Cruzado, L E Suarez, R R López, J A Caro-Cortes, F M Upegui-Botero, G A Ramirez-Gaytan

0800h **S51B-1933** POSTER Do Strong Ground Motions in Subduction Zones Show Regional Dependence?: **D Garcia**, D J Wald

0800h **S51B-1934** POSTER Characterization of Earthquake-Induced Ground Motion from the L'Aquila Seismic Sequence of 2009, Italy: **L Malagnini**, A Akinci, K M Mayeda, I Munafo', R B Herrmann, A Mercuri

0800h **S51B-1935** POSTER Evidence of a complex site effect at FAGN, an on-fault seismological station near L'Aquila, central Italy: **G Calderoni**, A Rovelli, R Di Giovambattista

0800h **S51B-1936** POSTER Stochastic Strong Ground Motion Simulations on Eastern North Anatolian Fault Zone: A Sensitivity Study: **B Ugurhan**, A Askan

0800h **S51B-1937** POSTER Probabilistic Seismic Hazard assessment for Sultanate of Oman: **I W El Hussain**, A Deif, S El-Hady, M N Toksoz, K Al-Jabri, S Al-Hashmi, K I Al-Toubi, Y Al-Shijbi, M Al-Saifi

0800h **S51B-1938** POSTER Prediction of large peak ground acceleration with artificial neural network and support vector machine: **S K Hosseini**, H Sadeghi, A Nasrollah-nejad

0800h **S51B-1939** POSTER Ground-Motion Simulations of the 2008 Ms8.0 Wenchuan, China, Earthquake Using Empirical Green's Function Method: **W Zhang**, Y Zhang, X Yao

0800h **S51B-1940** POSTER Spatial Distributed Seismicity Model of Seismic Hazard Mapping in the North-China Region: A Comparison with the GSHAP: **Q Zhong**, B Shi, L Meng

0800h **S51B-1941** POSTER Prediction of near-source ground motion in Korean peninsula: **D Park**, K Yun, C Baag

0800h **S51B-1942** POSTER Soil Properties of Soft Ground Considering Geological Property and Assessment of Liquefaction Hazards using probability concept in Southern Korean Peninsula: **J Oh**, J Hwang, S Lee, G Park, J Kim

0800h **S51B-1943** POSTER Effects of DEM Resolutions for Site Classification in Southeastern Korea: **S Kang**, K Kim, B Suk

0800h **S51B-1944** POSTER Strong Ground Motion Simulation and Source Modeling of the April 1, 2006 Tai-Tung Earthquake Using Empirical Green's Function Method: **H Huang**, C Lin

0800h **S51B-1945** POSTER A Study of Site Effect on Strong Ground Motion Characteristics in Ilan, Taiwan: **K Liu**, Title of Team: Taiwan Earthquake Research Center

0800h **S51B-1946** POSTER GROUND MOTION ASSESSMENT BASED ON WEAK MOTION DATA IN TAIWAN Ground Motion Assessment Based on Weak Motion Data in Taiwan: **A Akinci**, S D'amico, L Malagnini

0800h **S51B-1947** POSTER Strong Motion Simulation of the Niigata-ken Chuetsu-oki Earthquake (2007), Japan: **Y Nitta**, S Matsushima, H Kawase

0800h **S51B-1948** POSTER Study on the nonlinear site response based on the Green's functions of a near-surface layer estimated for weak motion: **Y Tanaka**, S Kinoshita

0800h **S51B-1949** POSTER Non-linear vertical response characteristics of a near-surface layer recorded at the IWTH25 site for the 2008 Iwate-Miyagi Inland Earthquake: **S Kinoshita**

S51C Moscone West: 2007 Friday 0800h Crust and Mantle Seismic Structure II

Presiding: **N Rawlinson**, Australian National University; **S Kita**, RCPEV, Tohoku University

0800h **S51C-01** Structure of the southeast Australian lithosphere from a transportable seismic array experiment: **N Rawlinson**, H Tkalcic, S Pozgay, P Arroucau

0815h **S51C-02** Detailed seismic velocity structure beneath the Hokkaido corner, NE Japan: Collision process of the forearc sliver: **S Kita**, A Hasegawa, T Okada, J Nakajima, T Matsuzawa, K Katsumata

0830h **S51C-03** Detection of Seismic Bedrock at the Taipei Basin and the Chiayi Area, Taiwan Using the Receiver Function Method: **C Wu**, H Huang

0845h **S51C-04** Coda Q Attenuation and Source Parameters Analysis in North East India Using Local Earthquakes: **A K Mohapatra**, W K Mohanty, Title of Team: Earthquake Seismology

S51D Moscone West: 2009 Friday 0800h
Research and Development in Nuclear Explosion Monitoring I

Presiding: E Blanc, CEA; S Tsuboi, Japan Agency for Marine Sci & Tech; K Suyehiro, Integrated Ocean Drilling Program Management International; J W Given, CTBTO

0800h **S51D-01** Studies of infrasound propagation using the USArray seismic network (*Invited*): **M A Hedlin**, C D deGroot-Hedlin, K T Walker

0815h **S51D-02** Dispersion of infrasound signals excited by explosive eruptions of the Sakura-jima volcano (*Invited*): **N Arai**, Y Imanishi, S Watada, T Oi, T Murayama, K Murata, M Iwakuni, M Nogami

0830h **S51D-03** Czech Infrasonic Monitoring System – Measurements in an Earthquake Epicenter: **J Lastovicka**, J Chum, T Sindelarova

0845h **S51D-04** Towards an enhanced picture of the detection capability of the IMS infrasound network: **A LE PICHON**, J Vergoz, L Ceranna

0900h **S51D-05** The global radionuclide background and its impact on the detection capability of underground nuclear explosions (*Invited*): **A Ringbom**

0915h **S51D-06** Real-Time Cross-Correlation and Double-Difference Algorithms for Event Detection and Aftershock Screening (*Invited*): **F Waldhauser**, D P Schaff

0930h **S51D-07** The ISC Contribution to Monitoring Research: **D A Storchak**, I Bondar, J Harris, O Gaspà Rebull

0945h **S51D-08** Moment Magnitudes of Small to Moderate Size Regional Events from Coda in the Middle East: **R Gok**, M E Pasyanos, E Matzel, K M Mayeda, W R Walter

S51E Moscone West: 2007 Friday 0900h
Engaging Citizens in the Collection of Earthquake Observations Using the Internet II (*joint with NH*)

Presiding: R Bossu, EMSC; P S Earle, USGS

0900h **S51E-01** The USGS “Did You Feel It?” Internet-based Macroseismic Intensity Maps: Lessons Learned from a Decade of Online Data Collection (*Invited*): **D J Wald**, V R Quitoriano, M Hopper, S Mathias, J W Dewey

0915h **S51E-02** iShake: Mobile Phones as Seismic Sensors (*Invited*): **S Dashti**, J Reilly, J D Bray, A M Bayen, S D Glaser, E Mari

0930h **S51E-03** The NetQuakes Project – Research-quality Seismic Data Transmitted via the Internet from Citizen-hosted Instruments (*Invited*): **J H Luetgert**, D H Oppenheimer, J Hamilton

0945h **S51E-04** Flashsourcing or Real-Time Mapping of Earthquake Effects from Instantaneous Analysis of the EMSC Website Traffic: **R Bossu**, S Gilles, F Roussel

Tectonophysics

T51A Moscone South: Poster Hall Friday 0800h
Deformation Processes in Collisional Orogens I Posters (*joint with G, S*)

Presiding: A G Webb, Louisiana State University; K Larson, University of Saskatchewan; G Hetenyi, Swiss Federal Institute of Technology Zurich

0800h **T51A-1996** POSTER Active Arc-Continent Accretion in Timor-Leste: New Structural Mapping and Quantification of Continental Subduction: **G W Tate**, N McQuarrie, R Bakker, D J Van Hinsbergen, R A Harris

0800h **T51A-1997** POSTER Strain variation from borehole strainmeter and GPS array in eastern Taiwan: **Y Chang**, C Liu, Y Hsu, H Lee, A T Linde, S I Sacks, Y Chen

0800h **T51A-1998** POSTER 3D Vp and Vs Lithospheric Structures under the Taiwan Orogen: TAIGER project: **H Kuo-Chen**, F T Wu, S W Roecker, D A Okaya, C Wang, B Huang, Y Nakamura, W Liang

0800h **T51A-1999** POSTER Investigation of the crustal structure of the Manilla subduction zone offshore southern Taiwan using multi-channel seismic reflection and wide-angle refraction data: **D H Eakin**, K D McIntosh, H J Van Avendonk

0800h **T51A-2000** POSTER Strain Partitioning at the Huatung Ridge, Offshore Southeast Taiwan: Evidence from Seismotectonics: **J C Lewis**, D O'Hara, R Rau, T B Byrne

0800h **T51A-2001** POSTER Results from an onshore/offshore seismic transect of southern Taiwan: **K D McIntosh**, H J Van Avendonk, F T Wu, D A Okaya, C Wang

0800h **T51A-2002** POSTER THE CRITICAL ROLE OF A SUBDUCTED CONTINENTAL MARGIN FRACTURE ZONE IN THE TAIWAN ARC-CONTINENT COLLISION: **T B Byrne**, C Huang, Y Chan, R Rau, Y Lee

0800h **T51A-2003** POSTER Geophysical potential field data interpretations to study continental construction processes of the Central Asia Orogenic Belt: **A Guy**, K Schulmann, M Munsch, J Lehmann

0800h **T51A-2004** POSTER Thermochronologic Records of Intraplate Deformation in the Northern East Gobi Fault Zone, Mongolia: **L E Webb**, J P Taylor, M J Heumann, C L Johnson, M J Stypula, G A Hagen-Peter

0800h **T51A-2005** POSTER Collision and Rotation of the Yangtze block and Exhumation of HP/UHPM Rocks in the Dabie Shan orogen, China: **X Guo**, J P Encarnacion

0800h **T51A-2006** POSTER Magnetotelluric Data from the Tien Shan and Pamir Continental Collision Zones, Central Asia: **O Ritter**, P Sass, A Rybin, G Munoz, V Batalev

0800h **T51A-2007** POSTER Quaternary deformation of the Mushi thrust-related fold, northeastern margin of the Pamir: **T Li**, J Chen, D M Huang, J Thompson, P W Xiao, D Z Yuan, D W Burbank

0800h **T51A-2008** POSTER A REVIEW OF THE METHOD OF MOHO FOLD ESTIMATION: **Y Shin**, M Lim, Y Park, H Rim

0800h **T51A-2009** POSTER Rivers, re-entrants, and 3D variations in orogenic wedge development: a case study of the NW Indian Himalaya: **A G Webb**, H Yu, Z Hendershott

0800h **T51A-2010** POSTER Lithological Controls on 3D Fold Geometry in Mechanically Layered Rocks: **M A Pearce**, R R Jones, G Rock

0800h **T51A-2011** POSTER Cataclastic Zones within the Savcili Fault Zone, Central Turkey: **V ISIK**, G Seyitoglu, A Caglayan, T Uysal, J Zhao, K Sozeri, K Esat

0800h **T51A-2012** POSTER A Tilted and Dissected Relict Landscape on the east flank of the Sila Massif, Calabria, Southern Italy: Asymmetric Uplift in the Late Quaternary?: **M A Reitz**, L Seeber, J M Schaefer, M S Steckler

0800h **T51A-2013** POSTER Neogene stable isotope paleoaltimetry and paleoclimate records from the European Alps: **M Campani**, A Mulch

0800h **T51A-2014** POSTER Statistical investigation of the geochemical consequences of mylonitization in an alpine mid-crustal shear zone: **C Ganino**, J Schneider, Y Rolland, L Stehly, M Corsini, J Lardeaux

0800h **T51A-2015** POSTER Thermal and exhumation histories of the footwall and hanging wall of the Gavarnie thrust, West-Central Pyrenees: Implications for thrusting: **P G Fitzgerald**, J R Metcalf, S Baldwin, J Muñoz

0800h **T51A-2016** POSTER THE MECHANICS, GEOMETRY AND DISTRIBUTION OF STRIKE SLIP FAULTS IN A FOLD AND THRUST BELT, COUNTY CLARE, IRELAND: **F A Nenna**, A Aydin

0800h **T51A-2017** POSTER The Tiddiline Formation: An Enigmatic Pan African Molasse of the Anti-Atlas Mountains, Morocco: **K P Hefferan**, J D Inglis

0800h **T51A-2018** POSTER Timing of metamorphism in the Niggli Spids thrust sheet, Gaaseland, East Greenland Caledonides: **S M Johnston**, A R Kylander-Clark, J Salimbene

0800h **T51A-2019** POSTER The Role of Incision and Sedimentation in Continental Gravity Gliding – Insight from Numerical Modelling: H Riad, **G Messenger**, B Nivhire

0800h **T51A-2020** POSTER 3D Geomodeling of the Venezuelan Andes: B Monod, **D Dhont**, Y Hervouet, G Backé, S Klarica, J E Choy

0800h **T51A-2021** POSTER Retrodeformable cross sections for 3-dimensional structural analysis, Ouachita orogen, Arkansas: **H E Johnson**, D V Wiltschko

0800h **T51A-2022** POSTER Determining subsurface fault geometry from complex 3D fold patterns: formation of the Stillwell anticline, west Texas: **B Surpless**, K Quiroz

0800h **T51A-2023** POSTER The age and tectonic significance of differences in the succession of FIA trends from Central Colorado to Northern New Mexico: Accessing the history of deformation partitioning during orogenesis: **H Cao**, C Fletcher

0800h **T51A-2024** POSTER A Structural Analysis of the Lewiston Basin, Clarkston, WA: **M Alloway**, A Watkinson, S P Reidel

0800h **T51A-2025** POSTER Modern glacial outwash sand along the Denali Fault: Thermochronological constraints on strike-slip fault and glacier interaction: **J Benowitz**, P W Layer, P B O'Sullivan, S VanLaningham, S J Herreid

T51B Moscone South: Poster Hall Friday 0800h
Great Earthquakes and Active Fault Scientific Drilling I
Posters (*joint with S, NH*)

Presiding: **Z Xu**, **Z Wu**, Institute of Geophysics, CEA; **S Song**, National Taiwan University; **JJ Mori**, Kyoto University

0800h **T51B-2026** POSTER Performance of aftershock forecasts: problem and formulation: C Jiang, **Z Wu**, L Li

0800h **T51B-2027** POSTER Wenchuan Earthquake: A Great Quake in the GPS Deformation GAP?: **L Li**, C Yong

0800h **T51B-2028** POSTER Deep Seismic Probing Across Longmen Mountain Orogenic Belts: **M Jiang**, Y Wang, J Yang

0800h **T51B-2029** POSTER Co-seismic Crustal Deformation Model of the Wenchuan Earthquake (May 12, 2008, M8.0): Reconstructed with Data from Tiltmeters and Strainmeters: **G Fuwang**, L Li

0800h **T51B-2030** POSTER Characteristics of spatial distribution of seismicity parameters along the Longmenshan fault zone before the 2008 Wenchuan Ms8.0 earthquake: **G Yi**, X Wen, H Xin

0800h **T51B-2031** POSTER Temperature measurement and Heat signature on the Longmen shan fault zone associated with the May 12 Wenchuan earthquake, 2008, Sichuan, China: **Z Li**, H Peng, X Ma, J Jiang

0800h **T51B-2032** POSTER Location for aftershocks of 2008 Wenchuan earthquake and the active faults in Longmenshan region: **Z Ding**, P Lv, L Zhu

0800h **T51B-2033** POSTER Field measurements along the 2010 Ms 7.1 Yushu earthquake rupture shows strike-slip and dip-slip activities, resulting in mountains uplift: **W Fuyao**, H Li, J Pan, Z Xu, N Li, R Guo, W Zhang

0800h **T51B-2034** POSTER Structural and Lithologic Characteristics of the Wenchuan Earthquake Fault Zone and its Relationship with Seismic Activity: **H Wang**, H Li, J Pei, T Li, Y Huang, Z Zhao

0800h **T51B-2035** POSTER Overview of the Wenchuan Earthquake Fault Scientific Drilling (WFSD) Project: **W Zhang**, S Hu, T Liu, L Fan

0800h **T51B-2036** POSTER Wenchuan Fault Scientific Drilling Borehole No.1—Geophysical Features: **C Yu**, D Ma, H Li, W Yang, D Su

0800h **T51B-2037** POSTER WFSD fault monitoring using active seismic source: **W Yang**, H Ge, B Wang, S Yuan, L Song

0800h **T51B-2038** POSTER Determination of three-dimensional stress orientations in the Wenchuan earthquake Fault Scientific Drilling (WFSD) hole-1: A preliminary result by anelastic strain recovery measurements of core samples: **J Cui**, W Lin, L Wang, Z Tang, D Sun, L Gao, W Wang

0800h **T51B-2039** POSTER Stress measurement in WFSD-1: **X Ma**, H Peng, J Jiang, Z Li

0800h **T51B-2040** POSTER Geochemistry of soil gas in the seismic fault zone produced by the Wenchuan Ms 8.0 earthquake, southwestern China: **X Zhou**, J Du

0800h **T51B-2041** POSTER High Magnetic Susceptibility in Fault Rocks (Gouge) of the Wenchuan Earthquake (Ms8.0): **J Pei**, H Li, Z Sun, J Si, H Wang

0800h **T51B-2042** POSTER PERMEABILITY & GRAIN SIZE DISTRIBUTION OF WENCHUAN EARTHQUAKE FAULT ROCKS: **X Yang**, J Chen, S Ma

0800h **T51B-2043** POSTER Characteristics of Microstructure and Clay Minerals of Fault Gouges From Surface Rupture of Wenchuan Ms8.0 Earthquake: **Y Zhou**, J Dang, L Han, J Chen, S Ma, X Yang, C He

0800h **T51B-2044** POSTER Clay Minerals Anomalies In WFSD Drilling Core And Surface Fault Rocks And Their Significances: **J Si**, H Li, S Song, L Kuo, J Pei, H Wang

0800h **T51B-2045** POSTER The Finest Particles in the Sedimentary Environments and Fault Zone Rocks, and its implication: **P Chen**, S Song, T Tsao

0800h **T51B-2046** POSTER Pyrite alteration and neofomed magnetic minerals in the fault zone of Chi-Chi earthquake (Mw 7.6, 1999), Taiwan: **Y Chou**, S Song, C Aubourg, Y Song, A Boullier, T Lee, E Yeh, Title of Team: Taiwan Chelungpu-fault Drilling Program TCDP

0800h **T51B-2047** POSTER Grain size distribution and fracture energy of Chelungpu-fault gouge: **C Chen**, K Ma, K Kawabata, Y Iizuka, H Tanaka

0800h **T51B-2048** POSTER Microstructure and heterogeneity of the Chelungpu fault revealed by Taiwan Chelungpu fault Drilling project (TCDP) Hole C cores: **K Kawabata**, C Chen, K Ma, A Boullier, Y Iizuka, H Tanaka

0800h **T51B-2049** POSTER Fault Zone Q Structure discovered from the Taiwan Chelungpu fault borehole seismometers array (TCDPBHS): **Y Lin**, Y Wang, K Ma

0800h **T51B-2050** POSTER Preliminary geophysical, geohazard, and geomorphic mapping of the Alpine Fault Deep Fault Drilling Project (DFDP), Gaunt Creek, New Zealand: **G P De Pascale**, T Davies, D C Nobes, M Quigley, R Sutherland, V G Toy, R J Norris, R M Langridge, T Stahl, A Klahn, J Townend

T51C Moscone South: Poster Hall Friday 0800h
Understanding Continental Evolution From Innovative
Analysis of EarthScope Data III Posters (joint with G, S)

Presiding: **H J Gilbert**, Purdue University; **B A van der Pluijm**, Univ of Michigan; **L Astiz**, Scripps Institution of Oceanography; **B Tikoff**, University of Wisconsin; **G R Keller**, University of Oklahoma

0800h **T51C-2051** POSTER Anatomy of a Metamorphic Core Complex: Preliminary Results of Ruby Mountains Seismic Experiment, Northeastern Nevada: **K K Schiltz**, M Litherland, S L Klemperer

0800h **T51C-2052** POSTER Seismic structure of the North American lithosphere and upper mantle imaged using Surface and S waveform tomography: **A J Schaeffer**, S Lebedev

0800h **T51C-2053** POSTER Geometry and deformation history of the New Madrid seismic zone fault system, Central U.S. from high-resolution marine seismic reflection data, and implications for intraplate deformation: **L Guo**, M Magnani, K D McIntosh, B A Waldron, S Saustrup, X J Fave

0800h **T51C-2054** POSTER Testing the viability of 3-component active-source recording with single-component Ref-Tek 'Texans': **R R Burr**, K M Keranen, S L Klemperer, G R Keller

0800h **T51C-2055** POSTER High-Precision Measurement of Surface Wave Phase and Amplitude Across a Dense Seismic Array: **G Jin**, J B Gaherty

0800h **T51C-2056** POSTER Azimuthal Anisotropy in the High Lava Plains of Oregon From Rayleigh Wave Analyses: H S Feng, **C Beghein**

0800h **T51C-2057** POSTER Appraising the Reliability of Scattered Wave Imaging: Application to the 410 km and 660 km discontinuities: **X Liu**, G L Pavlis

0800h **T51C-2058** POSTER Crust and Upper mantle heterogeneity in the Mendocino Triple Junction from teleseismic P-to-S scattered waves: **Y Zhai**, J M Mackenzie, A Levander, A Cao, R W Porritt, R M Allen

0800h **T51C-2059** POSTER Imaging 2-D Structures With Receiver Functions Using Harmonic Stripping: **V Schulte-Pelkum**

0800h **T51C-2060** POSTER Refining the cratonic upper mantle: modeling North American upper mantle and crustal structure using the Spectral Element method: **H Yuan**, P Cupillard, S W French, B A Romanowicz

0800h **T51C-2061** POSTER Lithospheric disruption beneath the Columbia River Basalt province from Rayleigh wave seismic tomography: **C R Bilyeu**, D S Weeraratne

0800h **T51C-2062** POSTER Imaging the lithospheric structure of the High Lava Plains, Oregon with ambient noise tomography: **S Hanson-Hedgecock**, L S Wagner, M J Fouch

0800h **T51C-2063** POSTER How Deeply Divided? - The depth extent of the division between actively deforming North America and the stable interior: **M McMullen**, H J Gilbert

0800h **T51C-2064** POSTER Systematic mapping of the Moho beneath southern California: **P Zhang**, M S Miller, J F Dolan

0800h **T51C-2065** POSTER Data Quality Analysis for the Bighorn Arch Seismic Array Experiment: **N J Mancinelli**, Z Yang, W L Yeck, A F Sheehan

0800h **T51C-2066** POSTER An Integrated Approach to Estimating Crustal Thickness: **B Wallet**, B Jensen, G Keller

0800h **T51C-2067** POSTER BASE Flexible Array Preliminary Receiver Function Analysis: **W L Yeck**, A F Sheehan, V Schulte-Pelkum, Z Yang, M L Anderson, E Erslev

0800h **T51C-2068** POSTER Pervasive post-Eocene faulting and folding in unconsolidated sediments of the Mississippi River, Central U.S. as imaged by high-resolution CHIRP seismic data: **X J Fave**, M Magnani, B A Waldron, K D McIntosh, S Saustrup, L Guo

0800h **T51C-2069** POSTER High seismic velocity (7.x) lower crustal layers in cratonic North America: a view from xenoliths and EarthScope seismic data: **K H Mahan**, K R Barnhart, V Schulte-Pelkum, T Blackburn, S A Bowring, F O Dudas

0800h **T51C-2070** POSTER Preliminary Results of the Active Source Portion of the Bighorns Array Seismic Experiment (BASE), North-Central Wyoming, USA: **B R Terbush**, L L Worthington, K C Miller, S H Harder, E Erslev, M L Anderson, C S Siddoway

0800h **T51C-2071** POSTER IDOR (IDAHO-OREGON) EARTHSCOPE PROJECT: DEFORMATION AND MODIFICATION OF A STEEP CONTINENTAL BOUNDARY: **B Tikoff**, J A Hole, R M Russo, J D Vervoort, N Braudy, K Davenport, R M Gaschnig, V I Mocanu

0800h **T51C-2072** POSTER Regional conductivity structures of the northwestern segment of the North American Plate derived from 3-D inversion of USArray magnetotelluric data: **N M Meqbel**, G D Egbert, A Kelbert

0800h **T51C-2073** POSTER Persistent Seismicity and Energetics of the 2010 Earthquake Sequence of the Gros Ventre-Teton Area, Wyoming: **J Farrell**

0800h **T51C-2074** POSTER Implementing Dense Arrays of Single-Channel Seismic Recorders to Detect Global Teleseism Events: **C T O'rourke**, A F Sheehan, Z Yang, S H Harder, K C Miller, L L Worthington

0800h **T51C-2075** POSTER Looking beneath Snake River Plain using gravity and magnetic methods Murari Khatiwada and G. Randy Keller, ConocoPhillips School of Geology and Geophysics, University of Oklahoma, Norman, OK 73069: **M Khatiwada**, G Keller

T51D Moscone South: Poster Hall Friday 0800h
What Controls Strong Versus Weak Coupling on Subduction
Interface Faults? III Posters (joint with G, S)

Presiding: **S A Henrys**, GNS Science

0800h **T51D-2076** POSTER Heterogeneous coupling along Makran subduction zone: **Z zarifi**, M Raeesi

0800h **T51D-2077** POSTER Subduction of very rugged seafloor topography imposes stronger interplate coupling and elevated mean stress levels at the Western Solomon Islands forearc: **F W Taylor**, L L Lavier, M G Bevis, C A Frohlich, S Grand, A K Papabatu

0800h **T51D-2078** POSTER The 2009-10 SAHKE Experiment: Acquisition and Preliminary Results Across the Interseismically Locked Southern Hikurangi Margin, New Zealand: **S A Henrys**, R Sutherland, A Seward, M Henderson, T A Stern, M K Savage, J Townend, K Mochizuki, H Sato, T Iwasaki, D H Barker, D Bassett, R E Bell, Title of Team: SAHKE Field Deployment Team

0800h **T51D-2079** POSTER SAHKE experiment reveals seismic-reflection character of the source region of deep slow slip events, Hikurangi subduction zone, New Zealand: **R Sutherland**, S A Henrys, K Mochizuki, H Sato, T Iwasaki, T A Stern, M K Savage, J Townend, D H Barker, A Seward, M Henderson, D Bassett, R E Bell

0800h **T51D-2080** POSTER Offshore seismic survey and observation using OBSs across the locked southern Hikurangi margin, New Zealand: **K Mochizuki**, T Yamada, M Shinohara, H Sato, T Iwasaki, S A Henrys, R Sutherland, Title of Team: SAHKE Field Team

0800h **T51D-2081** POSTER The Effects of Material Heterogeneity and Topography on the Predicted Slip Distributions for Hikurangi Slow Slip Events: **C A Williams**, L M Wallace, R J Beavan, D M Eberhart-Phillips, M Reyners

0800h **T51D-2082** POSTER Deciphering crustal inhomogeneities in the Hikurangi forearc using fluid geochemistry: **A G Reyes**

0800h **T51D-2083** POSTER Along-strike Changes in Plate-bending Seismicity in the Mariana Islands: Implications for Strength of Interplate Coupling and Hydration of the Subducting Pacific Slab: **E L Emry**, D A Wiens, P Shore

0800h **T51D-2084** POSTER Analysis of Oblique Plate Convergence along the Manila Trench and the Philippine Trench: M W Hamburger, **G A Galgana**, T Bacolcol, R McCaffrey, S Yu

0800h **T51D-2085** POSTER Interplate coupling along the central Ryukyu Trench inferred from GPS/acoustic seafloor geodetic observation: **M Nakamura**, K Tadokoro, T Okuda, M Ando, T Watanabe, S Sugimoto, K Miyata, T Matsumoto, M Furukawa

0800h **T51D-2086** POSTER Spatial heterogeneity of the structure and stress field in Hyuga-nada region, southwest Japan, deduced from onshore and offshore seismic observations: **K Uehira**, H Yakiwara, T Yamada, K Umakoshi, S Nakao, R Kobayashi, K Goto, H Miyamachi, K Mochizuki, K Nakahigashi, M Shinohara, T Kanazawa, R Hino, M Goda, H Shimizu

0800h **T51D-2087** POSTER Lateral and downdip variations of interplate coupling inferred from a crustal anisotropy in the Kii Peninsula, SW Japan: **A Saiga**, A Kato, S Sakai, T Iwasaki, N Hirata

0800h **T51D-2088** POSTER Subducted bathymetric features linked to variations in earthquake apparent stress along the northern Japan Trench: **P A Moyer**, S L Bilek, W S Phillips

0800h **T51D-2089** POSTER Seismic velocity structure in the shallower part of the subducting Pacific lithosphere around the Japan Trench axial region: **R Azuma**, R Hino, Y Ito, Y Yamamoto, K Suzuki

0800h **T51D-2090** POSTER Persistent Tremor and Coupling Within the Northern Costa Rica Seismogenic Zone: **S Y Schwartz**, J I Walter, M Protti, V M Gonzalez

0800h **T51D-2091** POSTER Strong mechanical coupling along the central Andes: implications for trench curvature, shortening, and topography: F Funicello, **G Iaffaldano**, E Di Giuseppe, F CORBI, C Faccenna, H Bunge

0800h **T51D-2092** POSTER A Bayesian Approach for Apparent Inter-plate Coupling in the Central Andes Subduction Zone: **F H Ortega Culaciati**, M Simons, J F Genrich, J Galetzka, D Comte, B Glass, C Leiva, G Gonzalez, E O Norabuena

0800h **T51D-2093** POSTER The 2007 M7.7 Tocopilla northern Chile earthquake sequence - along and across strike rupture segmentation: **B Schurr**, G Asch, M Motagh, O Oncken, G Chong Diaz, S E Barrientos, J Vilotte

0800h **T51D-2094** POSTER Seismic variability of subduction thrust faults: insights from laboratory models: **F CORBI**, F Funicello, C Faccenna, G Ranalli, A HEURET

0800h **T51D-2095** POSTER Plate coupling strength inferred from aftershock area expansion patterns and associated plate age: **F C Tajima**

0800h **T51D-2096** POSTER A mechanical analysis of the correlation between forearc morphology and frictional properties of megathrust: **N Cubas**, J Avouac, Y M LEROY, P Souloumiac

T51E Moscone West: 2011 Friday 0800h
Characterization of the 4 April 2010 El Mayor-Cucapah Earthquake and Implications for Earthquake Preparedness in Southern California and Baja California I (*joint with G, NH, S*)

Presiding: **J J Gonzalez-Garcia**, CICESE; **J M Fletcher**; **R Arrowsmith**, Arizona State Univ; **A J Barbour**, Scripps Institution of Oceanography

0800h **T51E-01** The Surface Rupture of the 2010 El Mayor-Cucapah Earthquake and its Interaction with the 1892 Laguna Salada Rupture - Complex Fault Interaction in an Oblique Rift System (*Invited*): **T K Rockwell**, J M Fletcher, O Teran, K J Mueller

0815h **T51E-02** Earthquake Rupture Complexity Evidence from Field Observations (*Invited*): **K W Hudnut**, J M Fletcher, T K Rockwell, J J Gonzalez-Garcia, O Teran, S O Akciz

0830h **T51E-03** The 2010 Mw7.2 El Mayor-Cucapah Earthquake Sequence, Baja California, Mexico and Southernmost California, USA: Active Seismotectonics Along the Mexican Pacific Margin: **E Hauksson**, J Stock, K Hutton, W Yang, A Vidal-Villegas, H Kanamori

0845h **T51E-04** THE EL MAYOR-CUCAPAH EARTHQUAKE OF APRIL 4, 2010 (MW 7.2): MAIN SHOCK AND AFTERSHOCKS RELOCATION AND RELEVANT ASPECTS OF THE STRONG MOTION DATA RECORDED IN THE EPICENTER REGION. (*Invited*): **L Munguia**

0900h **T51E-05** Observations and Modeling of the Mw 7.2 2010 El Mayor-Cucapah Earthquake with Real-Time High-Rate GPS and Accelerometer Data: Implications for Earthquake Early Warning and Rapid Response (*Invited*): **Y Bock**, B W Crowell, S Kedar, D Melgar Moctezuma, M B Squibb, F Webb, E Yu, R W Clayton

0915h **T51E-06** The Slow and Bilateral Rupture Process of the 2010 M 7.2 El Mayor-Cucapah Earthquake Inferred from Local and Teleseismic Data: **T Uchide**, P M Shearer

0930h **T51E-07** Kinematic and Dynamic Analysis of the Mayor-Cucapah Earthquake: A Case for 3-D Strain Accommodation in a Single Earthquake Cycle: **J M Fletcher**, T K Rockwell, K Hudnut, O Teran, E Masana, G Faneros, R M Spelz, J J Gonzalez-Garcia, A Gonzalez, K J Mueller, L Chung, S O Akciz, J M Stock, J E Galetzka

0945h **T51E-08** Kinematic fault slip model from joint inversion of teleseismic, GPS, InSAR and subpixel-correlation measurements of the 2010 El Mayor-Cucapah earthquake and postseismic deformation (*Invited*): **E J Fielding**, S Wei, S Leprince, A Sladen, M Simons, J Avouac, R W Briggs, K W Hudnut, D V Helmberger, S Hensley, E Hauksson, J J Gonzalez-Garcia, T Herring, S O Akciz

T51F Moscone West: 2016 Friday 0800h
Linking Geodetic Observations to Mechanical Properties of the Lithosphere: New Methods and Models I (*joint with G*)

Presiding: **S Barbot**, California Institute of Technology; **R V Kanda**, Caltech

0800h **Introduction** Sylvain Barbot

0805h **T51F-01** The Variation of Viscosity with Depth as Seen From Geodetic Interseismic Deformation (*Invited*): **E A Hetland**, S B Moore

0820h **T51F-02** The resolution of mantle viscosity using nine years of GPS measurements following the 1999 M=7.1 Hector Mine, CA, earthquake (*Invited*): **F F Pollitz**, W R Thatcher, E H Hearn

0835h **T51F-03** Tomography of the Mojavian Lithosphere Viscosity from Space Geodetic data of the Landers and Hector Mine Earthquakes: **S Barbot**, Y Fialko

0845h **T51F-04** Persistence of Coseismic Rupture Asperities as Inferred from Interseismic Geodetic Observations from Northeastern Japan: **R V Kanda**, E Hetland, M Simons

0900h **T51F-05** Frictional properties of the Chihshang fault, eastern Taiwan, inferred from postseismic slip following the 2003 Mw 6.8 Chengkung earthquake: **K Ching**, K M Johnson, H Chung, R Rau, J Lee

0915h **T51F-06** A model for ductile shear initiated by shear fracture: Application to slow slip events and secular transients. (*Invited*): **L L Lavier**, R A Bennett

0930h **T51F-07** Postseismic Deformation Induced by Brittle Rock Damage of Aftershocks: **L Wang**, S Hainzl, M Özeren, Y Ben-Zion

0945h **T51F-08** Anisotropic mechanical behaviour of sedimentary basins inferred by advanced radar interferometry above gas storage fields: **P Teatini**, G Gambolati, A Ferretti

Volcanology, Geochemistry, and Petrology

V51A Moscone South: Poster Hall Friday 0800h
Diffusion in Minerals and Melts II Posters (*joint with MR*)

Presiding: **Y Zhang**, Univ of Michigan; **D J Cherniak**, Rensselaer Polytechnic Inst

0800h **V51A-2155** POSTER HIGH-RESOLUTION DIFFUSION CHRONOMETRY OF VOLCANIC PLAGIOCLASE CRYSTALS: **K Saunders**, J Blundy, R Dohmen, M Kilburn

0800h **V51A-2156** POSTER Equilibrium and Kinetic Isotopic Fractionation Processes Recorded in $\delta^7\text{Li}$ Values of Highly Evolved Granitic Pegmatites: **E M Barnes**, D A Weis, L A Groat

0800h **V51A-2157** POSTER An experimental study of Li partitioning between olivine and diopside at mantle conditions: **J L Yakob**, M D Feineman, S C Penniston-Dorland, D H Egger

0800h **V51A-2158** POSTER Peridotite Li and Mg isotope heterogeneity: recycling or diffusion?: **Y Lai**, T Elliott, P Pogge von Strandmann, R Dohmen, E Takazawa, Title of Team: Bristol Isotope Group

0800h **V51A-2159** POSTER Olivine Crystallization and Re-equilibration as a Function of Cooling Rate: Observations from Kilauea Iki Lava Lake, Hawaii: **R L Helz**

0800h **V51A-2160** POSTER Element diffusion ability in metasomatic agents and its effect on chemical characteristics of metasomatized peridotites: **J Yu**, S Y O'Reilly

0800h **V51A-2161** POSTER An improved analysis of coupled multicomponent diffusion of divalent cations in aluminosilicate garnet: An experimental and numerical study: **S A Borinski**, S Chakraborty, U Hoppe

0800h **V51A-2162** POSTER Application of Diffusion Data in Carbonates to Estimate Timescales and Conditions of Texture Forming Processes: **T Muller**, E B Watson, D J Cherniak

0800h **V51A-2163** WITHDRAWN

0800h **V51A-2164** POSTER The parent magma of the second Chassignite NWA 2737: Constraint from trapped melt inclusions: **Q He**, L Xiao, R Gao

0800h **V51A-2165** POSTER Grain Boundary Diffusion in Synthetic Forsterite: the Effect of Impurities: **M Sundberg**, D L Kohlstedt

0800h **V51A-2166** POSTER Role of Ferric Iron and Protons in Mg-Fe Interdiffusion in (Mg,Fe)O: **K Otsuka**, M Longo, C A McCammon, S Karato

0800h **V51A-2167** POSTER Diffusive Fe-Ti-O exchange at high temperature: A magnetic approach: **M Charilaou**, J F Löffler, A U Gehring

0800h **V51A-2168** POSTER Argon Diffusivity in 2x2 (hollandite), 2x3 (romanéchite), and 3x3 (todorokite) Tunnel Manganese Oxides: **K Waltenberg**, P M Vasconcelos, D Thiede

0800h **V51A-2169** POSTER Argon Diffusion in Shocked Pyroxene, Feldspar, and Olivine: **J Weirich**, C E Isachsen, J R Johnson, T Swindle

0800h **V51A-2170** POSTER THERMOCHRONOLOGIC IMPLICATIONS OF LOW-TEMPERATURE (100-300°C) Ar DIFUSION IN BASALTIC GLASS: M Grove, **S Manganelli**

0800h **V51A-2171** POSTER Solution of helium in SiO_2 glass and its effect on the glass structure at high pressure: **G Shen**, Q Mei

0800h **V51A-2172** POSTER H diffusion in diopside and anorthite glasses: **S Fanara**, H Becker, D Rogalla, S Chakraborty

0800h **V51A-2173** POSTER A Unified Theory of Soret Diffusion and Isotopic Fractionation of Elements in Silicate Melts: G A Wilkins, **G Dominguez**, M H Thiemens

0800h **V51A-2174** POSTER Diffusive isotope fractionation in silicate liquids: Dependence on liquid composition, cation bonding, and isotopic exchange: **J M Watkins**, D J Depaolo, F J Ryerson

V51B Moscone South: Poster Hall Friday 0800h
Innovations in Isotope Mass Spectrometry and Isotope Metrology in Geosciences I Posters

Presiding: **S Richter**, IRMM-JRC-EU; **C Shen**, Natl Taiwan Univ; **L E Borg**, Lawrence Livermore National Laboratory

0800h **V51B-2175** POSTER Overview of Uranium Isotopic Reference Materials at IRMM: **H Kuehn**, S Richter, A Alonso-Munoz, Y Aregbe, R Eykens, A Verbruggen

0800h **V51B-2176** WITHDRAWN

0800h **V51B-2177** POSTER New Approaches for Increased Precision and Accuracy of ID-TIMS U-Pb Geochronology: **N McLean**, S A Bowring

0800h **V53D-05** POSTER The preparation and calibration of calcium synthetic isotope mixtures: **M Berglund**, C Hennessy, S Richter, G Fortunato, S Wunderli

0800h **V51B-2179** POSTER Determination of U-isotope composition of silicate and carbonate reference materials for in-situ LA-ICPMS analysis by high precision MC-ICPMS: D Scholz, **J Krause**, K P Jochum, M O Andreae

0800h **V51B-2180** POSTER High precision Nd isotope measurements of nanogram to sub-nanogram size samples: initial results from magnetic microspherules from Younger Dryas Boundary: **Y Wu**, A West, M Sharma

0800h **V51B-2181** POSTER Mass dependent isotopic fractionation of Ce and Nd in carbonates: **T Ohno**, T Hirata

0800h **V51B-2182** POSTER Impact of matrix effects on Pb isotope ratio measurements by MC-ICP-MS: **E Ponzevera**, M Sollicc

0800h **V51B-2183** POSTER Zinc Finger Takes on a Whole New Meaning: Reducing and Monitoring Zinc Blanks in the Isotope Lab: **E B Wilkes**, L E Wasylenki, A D Anbar

0800h **V51B-2184** POSTER Silver isotope variation in ore deposits by MC-ICP-MS: **M Fukuyama**, D Lee

0800h **V51B-2185** POSTER High-temperature fractionation of stable iron isotopes in terrestrial and extra-terrestrial samples determined by ultra-precise measurements with a ^{57}Fe - ^{58}Fe double spike and MC-ICPMS: **M Millet**, J Baker

0800h **V51B-2186** POSTER Fast Scanning Single Collector ICP-MS for Low Level Isotope Ratio Measurements: **K Newman**, B Georg

0800h **V51B-2187** POSTER Precise isotopic analysis of boron by P-TIMS with sample preheating: **T Ishikawa**, K Nagaishi, J Matsuoka

0800h **V51B-2188** *POSTER* Developments in Noble Gas mass spectrometry: **D Hamilton**, J B Schwieters, N S Lloyd

0800h **V51B-2189** *POSTER* Carbon isotope characterization of organic intermediaries in hydrothermal hydrocarbon synthesis by Pyrolysis-GC-MS-C-IRMS: **R A Socki**, Q Fu, P B Niles

0800h **V51B-2190** *POSTER* Application of the Generalised Power Law To Double-Spike Measurements by MC-ICP-MS: **I J Parkinson**, P Bonnard, C R Pearce, M Fehr

0800h **V51B-2191** *POSTER* Experimental Study of Abiotic Organic Synthesis at High Temperature and Pressure Conditions: Carbon Isotope and Mineral Surface Characterizations: **Q Fu**, R A Socki, P B Niles

0800h **V51B-2192** *POSTER* SHRIMP SI- New Capabilities for in situ Stable Isotope Analysis: **T R Ireland**, S Clement, J Foster

0800h **V51B-2193** *POSTER* Improving stable carbon and oxygen isotope geochemical measurements in dolomite: reference material and acid fractionation factor: **V Vandeginste**, C M John, A Jourdan, S Davis

0800h **V51B-2194** *POSTER* Use of laser spectroscopy to measure the $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ compositions of carbonate minerals: **S L Barker**, G M Dipple, F Dong, D S Baer

0800h **V51B-2195** *POSTER* Nickel isotopes as a new geochemical tracer: **L Gall**, H M Williams, C Siebert, A Halliday

0800h **V51B-2196** *POSTER* Zn isotope fractionation in the komatiitic and tholeiitic lava flows of Fred's flow and Theo's flow (Ontario, Canada): **N D Mattielli**, P Haenecour, V Debaille

0800h **V51B-2197** *POSTER* The influence of solution stoichiometry on surface-controlled Ca isotope fractionation during Ca carbonate precipitation from Mono Lake, California: **L C Nielsen**, D J Depaolo

0800h **V51B-2198** *POSTER* Using Clumped Isotopes To Help Understand Isotopic Sector Zoning In Calcite: **A Jourdan**, C M John, A Inchenko, S Davis

0800h **V51B-2199** *POSTER* Inter-mineral iron isotope fractionation in San Carlos mantle xenoliths: **C A Macris**, E D Young, C E Manning, E A Schauble

0800h **V51B-2200** *POSTER* Simultaneous determination of stable isotopic compositions of nitrous oxide ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ of N_2O) and methane ($\delta^{13}\text{C}$ of CH_4) in nanomolar quantities from a single water sample: **A Hirota**, U Tsunogai, D D Komatsu, F Nakagawa

V51C Moscone South: Poster Hall Friday 0800h
Microanalysis in Geoscience: Advances and Challenges II
Posters (joint with MR, T)

Presiding: **J Fournelle**, University of Wisconsin; **B Jicha**, University of Wisconsin; **H Lowers**, USGS; **A Koenig**, USGS

0800h **V51C-2201** WITHDRAWN

0800h **V51C-2202** *POSTER* Submicron Quantitative Analysis by Field-emission Gun EPMA at low kV (*Invited*): **E Hellebrand**

0800h **V51C-2203** *POSTER* Analysis of Fine-Scale Feldspar Zoning and Groundmass by FE-EMPA: An Example from the Jemez Mountains Volcanic Field, New Mexico: **M C Rowe**, J A Wolff, S Cornelius

0800h **V51C-2204** *POSTER* Progress toward accurate high spatial resolution actinide analysis by EPMA: **M J Jercinovic**, J M Allaz, M L Williams

0800h **V51C-2205** *POSTER* Improving Accuracy and Precision for Trace Elements in EPMA: **J J Donovan**

0800h **V51C-2206** *POSTER* The Perils of Electron Microprobe Analysis of Apatite: **C E Henderson**, E J Essene, K L Wang, Y Zhang

0800h **V51C-2207** *POSTER* Electron Microprobe Analysis Techniques for Accurate Measurements of Apatite: **B A Goldoff**, J D Webster, D E Harlov

0800h **V51C-2208** *POSTER* An Electron Microprobe Study of Synthetic Aluminosilicate Garnets: **J Fournelle**, C A Geiger

0800h **V51C-2209** *POSTER* Determination of Fluorine in Fourteen Microanalytical Geologic Reference Materials using SIMS, EPMA, and Proton Induced Gamma Ray Emission (PIGE) Analysis: **S N Guggino**, R L Hervig

0800h **V51C-2210** *POSTER* A Development Strategy for Creating a Suite of Reference Materials for the *in-situ* Microanalysis of Non-conventional Raw Materials: **A D Renno**, S Merchel, P P Michalak, F Munnik, M Wiedenbeck

0800h **V51C-2211** *POSTER* Standard Materials for Microbeam Analysis of Lanthanides and Actinides: I Ellis, M Gorton, **J C Rucklidge**

0800h **V51C-2212** WITHDRAWN

0800h **V51C-2213** *POSTER* Improving Phyllosilicate Electron Backscatter Diffraction Data Using Ion Milling: **D E Ward**, S D Walck, K H Mahan, R Geiss

0800h **V51C-2214** WITHDRAWN

0800h **V51C-2215** *POSTER* The effect of SEM imaging on the Ar/Ar system in feldspars: **S Flude**, S Sherlock, M Lee, S P Kelley

0800h **V51C-2216** *POSTER* Influence of femtosecond laser ablation system parameters on the characteristics of induced particles: implications for LA-ICP-MS analysis of natural monazite: **F d'Abzac**, A Seydoux-Guillaume, J Chmeleff, L Datas, F Poitrasson

0800h **V51C-2217** *POSTER* Current Challenges for Laser Ablation ICP-MS: The Good, the Bad and the Ugly: **A Koenig**

0800h **V51C-2218** *POSTER* The Relationship Between Atomic and Oxide Ion Formation From Sputtered Particles During SIMS and The Chemistry of The Substrate Material. (*Invited*): **A J Fahey**, C Zeissler, D Newbury, J Davis, R Lindstrom

0800h **V51C-2219** *POSTER* Analysis of U-Pb, O, Hf, and trace elements of horizontally oriented outer and inner zones of zircons from the Boulder batholith, Montana: **J N Aleinikoff**, K Lund, E A du Bray, J L Wooden, R Kozdon, N Kita, J W Valley, G D Kamenov, P A Mueller

0800h **V51C-2220** *POSTER* Tracking the Mineralogical Fate of Arsenic in Weathered Sulfides from the Empire Mine Gold-Quartz Vein Deposit by using Microbeam Analytical Techniques: **T Burlak**, C N Alpers, A L Foster, A Brown, L C Hammersley, E Petersen

0800h **V51C-2221** *POSTER* In situ analysis of carbon isotopes in North American diamonds: **A D Van Rythoven**, E H Hauri, J Wang, T McCandless, S B Shirey, D J Schulze

V51D Moscone West: 2022 Friday 0800h
175 Years of Geological Research in the Galapagos II (joint with G, T, DI)

Presiding: **D Geist**, University of Idaho; **K S Harpp**, Colgate University; **E L Mittelstaedt**, Laboratoire FAST; **C W Sinton**, University of Redlands

0800h **Introduction** *Dennis Geist*

0810h **V51D-01** Measuring volcanic deformation of the Galapagos Islands with InSAR: **S Baker**, F Amelung, M Bagnardi

0825h **V51D-02** Upper mantle structure beneath the Galápagos Archipelago from joint inversion of body and surface waves (*Invited*): **D R Villagomez**, D R Toomey, E E Hooft, S C Solomon

0840h **V51D-03** Geochemical and Geophysical Estimates of Lithospheric Thickness Variation Beneath Galápagos: **S A Gibson**, D Geist

0855h **V51D-04** Multistage Melting and Mantle Flow in the Galapagos Plume-Ridge Province: **D Geist**

0910h **V51D-05** Sources of volatiles in basalts from the Galapagos Archipelago: deep and shallow evidence: **M E Peterson**, A E Saal, E H Hauri, R Werner, S F Hauff, M D Kurz, D Geist, K S Harpp

0925h **V51D-06** Hydrogeology of the Galapagos Islands: **N d'Ozouville**, A Pryet, S Violette, G de Marsily, B Deffontaines, E Auken

0940h **V51D-07** Tracing the Galapagos Volcanic Groundwater System Using Noble Gases and Stable Isotopes: **R B Warrior**, M C Castro, C M Hall, N d'Ozouville

0955h **Discussion** *Karen Harpp*

V51E Moscone West: 2018 Friday 0800h
Chemical, Physical, and Petrographic Perspectives on Magmatic Differentiation II (*joint with MR*)

Presiding: **A J Kent**, Oregon State University; **S Collins**, Durham University; **C L McLeod**, Durham University

0800h **V51E-01** An evaluation of spatial and temporal scales of differentiation in the Tuolumne Batholith, Central Sierra Nevada (*Invited*): **S R Paterson**, V Memeti, J Krause

0830h **V51E-02** Comparing batholith-source connections for the Cadiz Valley Batholith and a deeper sheeted intrusive complex in the Mojave Desert, CA through whole rock and pre-magmatic zircon geochemistry: **R C Economos**, A P Barth, J L Wooden, K A Howard, B A Wiegand

0845h **V51E-03** Putting zircon surface geochronology and geochemistry in textural context using 3D Xray tomography: Probing the magmatic history of Mount St. Helens: **L L Claiborne**, J L Wooden, C F Miller, G A Gualda, M A Clynne, D M Flanagan

0900h **V51E-04** Using crystal zoning to track crystal mush differentiation (*Invited*): **M Humphreys**

0930h **V51E-05** Co-eruption of extracted liquid and complementary cumulate mush following mafic intrusion: the case of the zoned Ammonia Tanks ignimbrite: **C D Deering**, O Bachmann, T A Vogel

0945h **V51E-06** Quartz Zoning and the Pre-eruptive Evolution of the ~340 ka Whakamaru Magma Systems, New Zealand: **N E Matthews**, D M Pyle, V Smith, C Huber, C J Wilson

V51F Moscone West: 2020 Friday 0800h
The Constraint of Magma and Gas Transport by Geophysical and Geochemical Data I (*joint with NS*)

Presiding: **F Witham**, University of Bristol; **J Biggs**, University of Bristol; **T Menand**, Université Blaise Pascal, Laboratoire Magmas & Volcans, IRD R 163, CNRS UMR 6524

0800h **V51F-01** 3D image of an active magma chamber beneath Montserrat, Lesser Antilles, from first-arrival travel-time tomography (*Invited*): **M Paulatto**, C Annen, T Henstock, E J Kiddle, T A Minshull, R S Sparks, R Foroozan

0815h **V51F-02** WITHDRAWN

0830h **V51F-03** A forward modeling approach to relate geophysical observables at active volcanoes to deep magma dynamics: **C P Montagna**, A Longo, P Papale, M Vassalli, G Saccorotti, A Cassioli

0845h **V51F-04** Magma Expansion and Fragmentation in a Propagating Dike (*Invited*): **C P Jaupart**, B Taisne

0900h **V51F-05** Imaging the dynamics of dike propagation using seismic swarms at Piton de la Fournaise volcano: **B Taisne**, F Brenguier, N M Shapiro, V Ferrazzini

0915h **V51F-06** The shapes of dykes: evidence for the influence of cooling and inelastic deformation: **K A Daniels**, J L Kavanagh, T Menand, R S Sparks

0930h **V51F-07** Dyke propagation and spatial distribution in dyke swarms: **T Menand**

0945h **V51F-08** Interaction of ascending magma with pre-existing crustal structures: Insights from analogue modeling: **N Le Corvec**, T Menand, J V Rowland

Union

U52A Moscone South: 104 Friday 1020h
Climate Change Adaptation

Presiding: **J M Byrne**, University of Lethbridge; **D B Fagre**, U.S. Geological Survey; **T F Pedersen**; **J A Tindall**, US DOI - USGS

1020h **U52A-01** State of Climate Change Science: Need for Adaptation and Mitigation (*Invited*): **J E Hansen**, P A Kharecha, M Sato

1050h **U52A-02** Ice in the Hot Box—What Adaptation Challenges Might We Face? (*Invited*): **R B Alley**

1110h **U52A-03** Adaptation to Impacts of Greenhouse Gases on the Ocean (*Invited*): **K Caldeira**

1130h **U52A-04** Geoengineering and adaptation: **A Robock**

1150h **U52A-05** Adaptation to heat health risk among vulnerable urban residents: a multi-city approach: **O Wilhelmi**, M Hayden, H Brenkert-Smith

1205h **U52A-06** An Accelerated Path to Assisting At-Risk Communities Adapt to Climate Change: **A Socci**

Atmospheric Sciences

A52A Moscone West: 3002 Friday 1020h
Biosphere-Atmosphere Exchange of Reactive Trace Gases and Their Role in the Chemistry of Ozone and Aerosols II

Presiding: **R C Cohen**, UC Berkeley; **P S Stevens**, Indiana University

1020h **A52A-01** Glyoxal as tracer of rural VOC oxidation chemistry: A Comparison of Three North American Forests (*Invited*): **F N Keutsch**, Title of Team: BEARPEX Science Team, CABINEX Science Team, BEACHON-ROCS Science Team

1040h **A52A-02** Sources and trends of Tropospheric Formaldehyde (HCHO) derived from GOME-1 and -2: **T Marbach**, S Beirle, M J Penning de Vries, T Wagner

1056h **A52A-03** Organic Nitrates from Isoprene during BEARPEX-2009: **M R Beaver**, J St. Clair, F Paulot, K M Spencer, J Crouse, K Min, S E Pusede, B W LaFranchi, E C Browne, R C Cohen, P O Wennberg

1112h **A52A-04** Understanding the impact of isoprene nitrates on regional air quality using recent advances in isoprene photooxidation chemistry: **Y Xie**, F Paulot, R W Pinder, W P Carter, C G Nolte, D Luecken, W T Hutzell, P O Wennberg, R C Cohen

1128h **A52A-05** Dimers and organosulfates derived from biogenic oxidation products in aerosols during the Biosphere Effects on Aerosols and Photochemistry Experiment (BEARPEX) in California 2007 and 2009 (*Invited*): **M Glasius**, D R Worton, K Kristensen, Q Nguyen, J Surratt, K L Enggrob, N C Bouvier-Brown, D Farmer, K S Docherty, S Platt, M Bilde, J K Nøjgaard, J Seinfeld, J L Jimenez, A Goldstein

1148h **A52A-06** Contributions of Individual Biogenic Volatile Organic Compounds to Secondary Organic Aerosol and Organic Nitrate Formation above a Mixed Forest: **K A Pratt**, L H Mielke, P B Shepson, A M Bryan, A L Steiner, D Helmig
1204h **A52A-07** Eddy fluxes of nuclei mode particles to pine forest during BEARPEX'09: **R J Vong**, D S Covert

A52B Moscone West: 3004 Friday 1020h
Climate Processes and Other Research Applications Enabled by Satellite Sounders, Imagers, and Profilers II (*joint with H*)

Presiding: **B H Kahn**, Jet Propulsion Laboratory; **B Tian**, Jet Propulsion Lab

1020h **A52B-01** Regional differences in tropical congestus populations as viewed by AIRS/CloudSat coincident scans (*Invited*): **S Casey**, E Fetzer, Q Yue

1035h **A52B-02** The Impact of Precipitating Ice and Snow on the Radiation Balance in Global Climate Models: **D E Waliser**, J F Li, T S L'Ecuyer

1050h **A52B-03** Structure Function Analysis of Scaling in Water Vapor Observations from AIRS: **K G Pressel**, W Collins

1105h **A52B-04** Analysis of the influence of Saharan air layer on tropical cyclone intensity using AIRS/Aqua data: **S Shu**, L Wu

1120h **A52B-05** A Multi-Sensor Perspective on the Tropical Interannual Variability of Humidity and Clouds: **C Liang**, A Eldering, B Tian, S Wong, A Gettelman, E Fetzer, K Liou

1135h **A52B-06** Variability of the Upper Troposphere and Lower Stratosphere observed with GPS Radio Occultation Temperatures: S Heise, **T Schmidt**, F Zus, G Michalak, G Beyerle, J Wickert, A Haser

1150h **A52B-07** Optically thin ice clouds in Arctic : Formation processes: **C Jouan**, E Girard, J Pelon, J Blanchet, W Wobrock, I Gultepe, J Gayet, J Delanoë, G Mioche, R Adam De Villiers

1205h **A52B-08** A determination of the cloud feedback from climate variations over the last decade: **A E Dessler**

A52C Moscone West: 3008 Friday 1020h
Measuring Earth-Atmosphere Fluxes and Tropospheric Composition From Space II (*joint with B*)

Presiding: **D K Henze**, University of Colorado Boulder; **D B Millet**, University of Minnesota

1020h **A52C-01** Global isoprene emissions constrained by OMI formaldehyde column measurements: **Y Wang**, J Nam, K Chance, T P Kurosu, A B Guenther

1034h **A52C-02** Application of Satellite Remote Sensing for Timely Updates to Emission Inventories and Constraints on Ozone Production (*Invited*): **R V Martin**, L N Lamsal, M J Cooper, A Padmanabhan, A van Donkelaar, T W Walker, Q Zhang, C Sioris, K A Walker, C Boone, P F Bernath, B Sauvage

1054h **A52C-03** Episodes of dust and pollution aerosols exported from East Asia to the Arctic: Satellite observations and model simulations: **M Di Pierro**, L Jaegle, T L Anderson

1108h **A52C-04** Interannual variability of CO and its relation to long-range transport and biomass burning as seen by SCIAMACHY: **C Dijkstra**, A Gloudemans, J de Laat, H Schrijver, G van der Werf, M Krol, I Aben

1122h **A52C-05** Aerosol Single-Scattering Albedo Derived from MODIS Reflectances over a Bright Surface: **K C Wells**, J Martins, L A Remer, S M Kreidenweis, G L Stephens

1136h **A52C-06** Observing the atmospheric composition with the IASI/MetOp satellite: emissions, composition and transport: **C Clerbaux**, P Coheur, M George, L Clarisse, D Hurtmans, J Hadji-Lazaro, A Razavi

1152h **A52C-07** ESTIMATING GLOBAL AEROSOL EMISSIONS BY ASSIMILATING SATELLITE OBSERVATIONS IN A FIXED-LAG ENSEMBLE KALMAN SMOOTHER: **N Schutgens**, M Nakata, T Takemura, T Nakajima

1206h **A52C-08** Wind-dependency of NO₂ Column Densities from Satellite: Estimating NO_x Emissions and Lifetimes: **S Beirle**, T Wagner

Biogeosciences

B52A Moscone West: 2006 Friday 1020h
Carbon Sequestration in the Biosphere: Biogeochemistry and Biophysics III (*joint with A, GC, H, OS*)

Presiding: **A Noormets**, North Carolina State University; **N Zeng**, University of Maryland

1020h **B52A-01** Is planting forests bad for the climate?: **P K Snyder**, M Williams

1035h **B52A-02** Trade-Offs Associated with Soil Carbon Sequestration in ecosystems as Climate Change Mitigation (*Invited*): **J W Six**, A Y Kong

1050h **B52A-03** Accelerated Sequestration of Terrestrial Plant Biomass in the Deep Ocean: **S E Strand**

1105h **B52A-04** Ecological and Historical Controls on Black Carbon Storage in Hawaiian Grassland Soils: **D F Cusack**, O Chadwick, T Ladefoged, P Vitousek

1120h **B52A-05** Carbon allocation belowground in *Pinus pinaster* using stable carbon isotope pulse labeling technique: **M Dannoura**, A Bosc, C Chipeaux, M Sartore, C Lambrot, P Trichet, M Bakker, D Loustau, D EPRON

1135h **B52A-06** Do differences in carbon allocation strategy account for large difference in productivity among four tropical *Eucalyptus* plantations?: **D EPRON**, Y Nouvellon, J Laclau, A Kinana, J Mazoumbou, J D Almeida, P Deleporte, J Gonçalves, J Bouillet

1150h **B52A-07** Productivity and carbon allocation in pure and mixed-species plantations of *Eucalyptus grandis* and *Acacia mangium* in Brazil: **Y Nouvellon**, J Laclau, D EPRON, G le Maire, J Gonçalves, J Bouillet

1205h **B52A-08** Reduced Deep Root Hydraulic Redistribution Due to Climate Change Impacts Carbon and Water Cycling in Southern US Pine Plantations: **J domec**, A Noormets, J S King, G Sun, S McNulty, M J Gavazzi, E Treasure, P Caldwell

B52B Moscone West: 2002 Friday 1020h
Drilling Deep Time: Windows Into Earth's Early Biosphere II

Presiding: **A D Anbar**, Arizona State University; **L Kump**, Pennsylvania State Univ; **H Ohmoto**, Penn State University; **R E Summons**, Massachusetts Institute of Technology

1020h **B52B-01** Multiple sulfur isotope characteristics of 3.46-2.7 Ga sedimentary rocks from drill cores of the Archean Biosphere Drilling Project (*Invited*): **Y Watanabe**, H Ohmoto

1040h **B52B-02** Biomarker evidence for Archean oxygen fluxes (*Invited*): **C HALLMANN**, J Waldbauer, L S Sherman, R E Summons

1100h **B52B-03** Environmental changes recorded by syngenetic and early diagenetic iron minerals in the late Archean Mt. McRae Shale: **R Raiswell**, C Reinhard, A Derkowski, A D Anbar

1115h **B52B-04** SEDIMENTARY ENVIRONMENT OF 3.2 GA DIXON ISALND AND CLEAVERVILLE FORMATIONS: DXCL-DRILLING, WEST PILBARA, AUSTRALIA: **S Kiyokawa**, T Ito, M Ikehara, K E Yamaguchi, H Naraoka, R Sakamoto, K Hosoi, Y Suganuma

1130h **B52B-05** Molybdenum Enrichment in the 3.2 Ga old Black Shales Recovered by Dixon Island-Cleaverville Drilling Project (DXCL-DP) in Northwestern Pilbara, Western Australia: **K E Yamaguchi**, S Kiyokawa, H Naraoka, M Ikehara, T Ito, Y Suganuma, R Sakamoto, K Hosoi

1145h **B52B-06** Carbon and Nitrogen Cycling Pursuant to the Great Oxidation Event: Evidence from the Paleoproterozoic of Fennoscandia: **L Kump**, C K Junium, M A Arthur, A Brasier, A E Fallick, V Melezhik, A Lepland, A Crne, G Luo, Title of Team: FAR-DEEP Drilling Team

1200h **B52B-07** Deep-Time drilling in the Australian Archean: the Agouron Institute geobiological drilling project. (*Invited*): **R Buick**

B52C Moscone West: 2004 Friday 1020h
Environmental Sensing Technologies for Improved Land Surface Characterization II (*joint with A, GC, H*)

Presiding: **O Sonnentag**, UC Berkeley; **Y Ryu**, UC Berkeley; **J A Gamon**, University of Alberta

1020h **B52C-01** Digital cameras as environmental sensors (*Invited*): **E A Graham**

1035h **B52C-02** Use of a cable-based system for observing the heterogeneity of vegetation communities in arctic tundra: **H E Ahrends**, S F Oberbauer, C Tweedie, R D Hollister

1050h **B52C-03** Comparing near-earth and satellite remote sensing based phenophase estimates: an analysis using multiple webcams and MODIS (*Invited*): **K Hufkens**, A D Richardson, M Migliavacca, S E Frolking, B H Braswell, T Milliman, M A Friedl

1105h **B52C-04** Network of Environmental Sensors in Tropical Rain Forests: **C Von Randow**, R D dos Santos, H da Rocha

1120h **B52C-05** Wireless Sensor Networks: Tools for improving the ecological characterization of land surfaces (*Invited*): **T E Dawson**, M P Hamilton

1135h **B52C-06** A generic algorithm for direct measurement of photosynthetic light-use efficiency from space (*Invited*): **T Hilker**, F G Hall, N C Coops, C J Nichol

1150h **B52C-07** Using Temporally Frequent Surface NDVI Observations to Determine Light Use Efficiency of High Latitude Ecosystems: **K F Huemmrich**, Y Harazono, W C Oechel, P Lafleur, E R Humphreys, L B Flanagan, J H McCaughey, E Middleton

1205h **B52C-08** PASTIS 57: Autonomous light sensors for PAI continuous monitoring. Principles, calibration and application to vegetation phenology: **R Lecerf**, F Baret, J Hanocq, O Marloie, M Rautiainen, M Mottus, J Heiskanen, P Stenberg

Cryosphere

C52A Moscone West: 301 I Friday 1020h
Advances in Glacier Seismology II (*joint with S, GC, EP*)

Presiding: **J M Amundson**, University of Chicago; **F T Walter**, Scripps Institution of Oceanography; **S O'Neel**, USGS; **R C Aster**, New Mexico Institute of Mining and Technology

1020h **C52A-01** Passive seismic imaging of the subglacial environment beneath West Antarctic Ice Streams: **J Winberry**

1035h **C52A-02** Quasi-Periodic Stick-Slip of Glaciers and Ice Streams (*Invited*): **S Anandkrishnan**, K A Christianson, L Zoet, J Winberry

1050h **C52A-03** Monitoring of glacial seismic events from Greenland at regional distances: experience from the POLENET/LAPNET experiment during the IPY 2007-2009: **E Kozlovskaya**, H Pedersen, J Plomerova, U Achauer, E H Kissling, I Sanina, T Jämsen, H Silvennoinen, C Pequegnat, R Hurskainen, H Hausmann, P Jedlicka, I Aleshine, E Bourova, R Bodvarsson, E P Brueckl, T Eken, P J Heikkinen, G A Houseman, H Johnsen, K Kari, H Munzarova, R Roberts, B Ruzek, Z Hosein Shomali, J Schweitzer, A Shaumyan, L Vecsey, S Volosov

1105h **C52A-04** Seasonality of Shallow Icequakes at Mount Erebus Volcano, Antarctica: **H A Knox**, R C Aster, P R Kyle

1120h **C52A-05** The many scales of glacier seismology (*Invited*): **M E West**, C F Larsen, S O'Neel, T C Bartholomaeus

1135h **C52A-06** Seismic and Acoustic Array Observations of Bering Glacier Calving (*Invited*): **J Richardson**, G P Waite

1150h **C52A-07** Ice quake source mechanisms explored with paired imagery and seismograms: **T C Bartholomaeus**, C F Larsen, S O'Neel, M E West

1205h **C52A-08** Constraints on Microseism Generation and Sea Ice Mechanical Strength from Observations of Alaskan Microseism Variability: **V C Tsai**, D E McNamara

C52B Moscone West: 301 O Friday 1020h
The Sea-Ice Ocean System II (*joint with GC, OS, B*)

Presiding: **M Jin**, University of Alaska Fairbanks; **J K Hutchings**, University of Alaska Fairbanks; **M M Holland**, NCAR

1020h **C52B-01** How Vulnerable is Perennial Sea Ice? Insights from Earth's Late Cenozoic Natural Experiments (*Invited*): **J Brigham-Grette**, L V Polyak, B Caissie, C J Sharko, S Petsch

1035h **C52B-02** Assessing ocean mixing under sea ice and lead in climate models: **M Jin**, D Qu, J K Hutchings, Y Kawaguchi, T Kikuchi

1050h **C52B-03** The Fresh Meltwater in the Sea Ice System: **C Polashenski**, D K Perovich, K Claffey, K E Frey, L D Trusel, C Wood

1105h **C52B-04** Pan-Arctic Simulation of Coupled Nutrient-Sulfur Cycling due to Sea Ice Biology: **S M Elliott**, C Deal, G Humphries, E C Hunke, N Jeffery, M Jin, M Lefebvre, J Stefels

1120h **C52B-05** Changes in the Timing of Phytoplankton Blooms Related to Diminished Ice Cover in the Arctic: **M Kahru**, V Brotas, M Manzano, B G Mitchell

1135h **C52B-06** Modelling the community life strategies in ice-covered oceans: **L Tedesco**, M Vichi

1150h **C52B-07** Large-Scale Modeling of Primary Production within Arctic Sea Ice: **C M Deal**, M Jin, S M Elliott, E C Hunke, M E Maltrud, N Jeffery

1205h **C52B-08** First year sea ice desalination throughout the entire column after the growth season : Observation and Modelling: **F P Jardon**, F Vivier, M Vancoppenolle, A Lourenco, P Bouruet-Aubertot, Y Cuypers

Education and Human Resources

ED52A Moscone South: 102 Friday 1020h Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom II

Presiding: C E Walker, National Optical Astronomy Observatory; G Scowcroft, University of Rhode Island; S M Pompea, Natl Optical Astronomy Obs

1020h **ED52A-01** Improving Geoscience Education through the PolarTREC Teacher Research Experience Model (*Invited*): J Warburton, K Timm, A M Larson

1035h **ED52A-02** Polar Science: From the Field to the Classroom (*Invited*): M O'Neill, K O'Brien

1050h **ED52A-03** Young Engineers and Scientists (YES) 2010 – Engaging Teachers in Space Research: D C Boice, P H Reiff

1105h **ED52A-04** STARRS in Yellowstone: Addressing Challenges Facing Student-Teacher-Scientist Partnerships: A Houseal, R Gallagher, B Fuhrmann, R Sanford

1120h **ED52A-05** Pacific CRYSTAL Teacher Professional Development Models: Lessons Learned: E Van der Flier-Keller, L Yore

1135h **ED52A-06** Using Participatory Exploration to Engage Classrooms in STEM Learning: A Case Study Using NASA's Mars Student Imaging Project: S L Klug, P R Christensen, P Graff, M Viotti, C Bowman

1150h **ED52A-07** Bringing Students out of the Classroom and into Research Projects: An Undergraduate Team Research (UTR) Program at the University of Southern California: I V Cox, M Quirk, K N Culbert, A S Whitesides, H Sun, C J Black, W Cao, T Zhang, S R Paterson, V Memeti, J L Anderson

1205h **ED52A-08** Scaffolding Pre-Service Teachers' Learning to Conduct Authentic Research with Real-Data: T F Slater, D J Lyons, S J Slater, Title of Team: Center for Astronomy & Physics Education Research CAPER Team

Earth and Planetary Surface Processes

EP52A Moscone South: 310 Friday 1020h Transient Landscapes: Capturing Responses to Changing Boundary Conditions II

Presiding: J Chen, Institute of Geology, China Earthquake Administration (CEA); D W Burbank, UCSB; M E Oskin, University of California, Davis

1020h **EP52A-01** The importance of downstream bed surface coarsening in predicting the wave of incision in response to a sudden base level drop at the mouth of a river: the Holocene Le Sueur River, Minnesota, USA: N J Finnegan, K Gran, A Johnson, P Belmont, P Wilcock, W E Dietrich

1035h **EP52A-02** Quantifying glacial landscape processes with numerical modeling and thermochronology: B J Yanites, T A Ehlers, G J Woodsworth

1050h **EP52A-03** Glacier erosional response to transient climate: M N Koppes, B Hallet

1105h **EP52A-04** Shrinking and splitting of drainage basins along the Aconquija Range (Argentina) from the migration of its main drainage divide: J Grimaud, S Bonnet, S Moyano

1120h **EP52A-05** PLACING ABSOLUTE TIMING ON BASIN INCISION ADJACENT TO THE COLORADO FRONT RANGE: RESULTS FROM METEORIC AND IN SITU ¹⁰BE DATING: M Duehnforth, R S Anderson, D Ward

1135h **EP52A-06** Erosional response to climate variability in NW Argentina: B A Clarke, B Bookhagen, M R Strecker, H Pingel

1150h **EP52A-07** Cenozoic migration of topography in the North American Cordillera: H T Mix, A Mulch, C P Chamberlain

1205h **EP52A-08** Transient response in longitudinal grain size to reduced gravel supply in a large river: M B Singer

Geodesy

G52A Moscone West: 2008 Friday 1020h Remote Sensing of Atmospheric Water Vapor Using Geodetic Techniques I (*joint with A*)

Presiding: I Thomas, Newcastle University; J Wang, NCAR; J J Braun, UCAR

1020h **G52A-01** GPS Occultation Profiling of Low Latitude Free Tropospheric Water Vapor (*Invited*): E R Kursinski, A L Kursinski

1035h **G52A-02** Global distribution of water vapor observed by COSMIC GPS RO: Comparison with GPS radiosonde, NCEP and JRA-25 reanalysis data sets (*Invited*): K Pangaluru

1050h **G52A-03** The West African Monsoon water cycle investigated with a ground-based GPS network (*Invited*): O Bock, R Meynadier, F Guichard, M Nuret, A Boone, S Nahmani, M Bouin, E Doerflinger

1105h **G52A-04** Using space geodetic techniques to estimate climate trends (*Invited*): T Nilsson, J Boehm, G Elgered, T Ning, H Schuh

1120h **G52A-05** Precipitable water extremes from ground-based GPS measurements and relationship with precipitation extremes over U.S.A: J Wang

1135h **G52A-06** Retrieval of atmospheric water vapor by geodetic VLBI: R Heinkelmann, H Schuh, J Boehm, T Nilsson

1150h **G52A-07** Validating the Moisture Analyses and Predictions of AMPS Using Ground-based GPS Measurements of Precipitable Water: D H Bromwich, J P Nicolas, I Thomas

1205h **G52A-08** Tropospheric correction of InSAR time-series with the weather research forecasting model: an application to volcanic deformation monitoring: W Gong, F Meyer, P Webley, Z Lu

Global Environmental Change

GC52A Moscone West: 300I Friday 1020h Biogeochemical Responses to a Changing Arctic III (*joint with B, C*)

Presiding: A V Rocha, Marine Biological Lab; A Balser, University of Alaska Fairbanks; A L Kholodov, Geophysical Institute UAF; R R Muskett, University of Alaska Fairbanks

1020h **GC52A-01** Detecting the Lit Fuse of the Arctic's Carbon Bomb: R M Holmes, E B Bulygina, J Vonk, S Davydov, A Davidova, P J Mann, R Spencer, N Zimov, S A Zimov

1035h **GC52A-02** Strength and Timing of the Permafrost Carbon Feedback: T Zhang, K M Schaefer, L Bruhwiler, A P Barrett

1050h **GC52A-03** EFFECTS OF EXPERIMENTAL WARMING OF THE DEEP SOIL AND PERMAFROST ON ECOSYSTEM CARBON BALANCE IN ALASKAN TUNDRA (*Invited*): E A Schuur, S Natali, C Trucco, C E Hicks, K G Crummer, A F Baron Lopez

1105h **GC52A-04** The Impacts of Thermokarst Failures on Lakes: Rapid Attenuation of Major Impacts gives way to Potential Long-term Effects on Benthic Processes: G W Kling, C Johnson, A Balser, T Coolidge, W B Bowden, A Giblin

1120h **GC52A-05** Nitrogen and phosphorus in Yedoma soils of Northeast Siberia: stocks, fluxes and the ecosystem consequences of nutrient release from permafrost thaw: **M C Mack**, J C Finlay, J DeMarco, F Chapin, E A Schuur, J C Neff, S A Zimov

1135h **GC52A-06** Availability of Fe(III) for Anaerobic Respiration across an Age Gradient of Drained Thaw Lake Basins in the Arctic Coastal Plain: **D Lipson**, T K Raab, F Bozzolo, C Emerson, I Hale, M Mauritz, K Miller

1150h **GC52A-07** Seasonal patterns in soil N availability in the arctic tundra in response to accelerated snowmelt and warming: **A Darrouzet-Nardi**, M D Wallenstein, H Steltzer, P Sullivan, C Melle, A Segal, M N Weintraub

1205h **GC52A-08** Pan-Arctic albedo variability among tundra vegetation types: implications for ecosystem carbon cycling (*Invited*): **M M Loranty**, Y Jin, P S Beck, S J Goetz

GC52B Moscone West: 2005 Friday 1020h
The North American Regional Climate Change Assessment Program: Studies Based on NARCCAP Simulations II (*joint with A, B, PA, H*)

Presiding: **L O Mearns**, NCAR; **W J Gutowski**, Iowa State University

1020h **GC52B-01** The North American Regional Climate Change Assessment Program: Overview of Climate Change Results: **L O Mearns**, Title of Team: NARCCAP Team

1035h **GC52B-02** A statistical approach for process-orientated analysis of regional climate models (*Invited*): **S R Sain**

1050h **GC52B-03** Analysis of the NARCCAP climate projection ensemble of Precipitation and 2m Temperature (*Invited*): **S Biner**

1105h **GC52B-04** Investigating the Atlantic Warm Pool Impact on Precipitation Variability Over the Continental United States (*Invited*): **A Nunes**, E Yulaeva

1120h **GC52B-05** Does Dynamical Downscaling Matter for Climate Change Adaptation on the Colorado River? (*Invited*): **J J Barsugli**, L O Mearns, J R Prairie, I Rangwala, L D Brekke, J Briggs

1135h **GC52B-06** Using NARCCAP results to assess the agricultural impacts of mean climate changes and new behavior of climate extremes in the Southeastern US: **A C Ruane**, R M Horton, J M Winter, J W Jones, G A Baigorria, C Rosenzweig

1150h **GC52B-07** WITHDRAWN

1205h **GC52B-08** Trends and Variability in the Wind Power Resource in the NARCCAP simulations: **D B Kirk-Davidoff**, D Barrie

GC52C Moscone West: 3005 Friday 1020h
Variability and Predictability of Weather and Climate Extremes III (*joint with A, H, NH, B, PA*)

Presiding: **M F Wehner**, Lawrence Berkeley National Laboratory; **A R Ganguly**, Oak Ridge National Laboratory

1020h **GC52C-01** An Overview of the IPCC Special Report on Extremes (*Invited*): **D R Easterling**

1035h **GC52C-02** Characterizing impact of local sea level rise through changes in extreme storm surges along the US coasts. (*Invited*): **C Tebaldi**, B Strauss, C Zervas

1050h **GC52C-03** Intensification of hot extremes in the United States in the next three decades (*Invited*): **N S Diffenbaugh**, M Ashfaq

1105h **GC52C-04** Spatial-temporal causal modeling: a data centric approach to climate change attribution (*Invited*): **A C Lozano**

1120h **GC52C-05** Studying Weather and Climate Extremes in a Non-stationary Framework: **Z Wu**

1132h **GC52C-06** Anthropogenic greenhouse gas contribution to UK autumn flood risk: a pilot application of a Probabilistic Event Attribution framework for weather extremes: **P Pall**, T Aina, D A Stone, P Stott, T Nozawa, A G Hilberts, D Lohmann, M Allen

1144h **GC52C-07** A General Perspective of Extreme Events in Weather and Climate: **P Sura**

1156h **GC52C-08** Impacts of Amazon deforestation on regional weather and climate extremes: **D Medvigy**, R L Walko, R Avissar

1208h **GC52C-09** Environments that Produce "Extreme" Convective Storm Behavior: Results from a Large Numerical Modeling Study: **C Kirkpatrick**, E W McCaul, Jr.

Hydrology

H52A Moscone West: 3014 Friday 1020h
Detecting and Predicting Change in Coupled Human-Water Systems III (*joint with GC, PA, B*)

Presiding: **M Huang**, Pacific Northwest National Laboratory; **C M Hermans**, City University of New York; **H Gao**, University of Washington; **M S Wigmosta**, Pacific Northwest National Laboratory

1020h **H52A-01** Representing human-water interactions in an integrated regional earth system modeling framework: **H Li**, M Huang, M S Wigmosta, Y Ke, A M Coleman, L Leung

1035h **H52A-02** Watershed Controls on the Proper Scale of Economic Markets for Pollution Reduction: **J Rigby**, M W Doyle, A Yates

1050h **H52A-03** Bridging the Gap: The 'Soft Path' for Improving Resilience and Adaptability of Water Systems (*Invited*): **P H Gleick**

1105h **Invited discussion with Dennis Lettenmaier:** *Predicting and managing the impacts of anthropogenic change on managed water systems*

1120h **H52A-04** DYNAMICS OF MEKONG RIVER RESERVOIR SIMULATION USING RESERVOIR-ROUTING MODEL FOR CURRENT AND FUTURE CLIMATE: **J E Richey**, T Beyene, D P Lettenmaier

1135h **H52A-05** The Future of Land-Use in the United States: Downscaling SRES Emission Scenarios: **B M Sleetter**, T L Sohl

1150h **H52A-06** Modeling Hydrological Services in Shade Grown Coffee Systems: Case Study of the Pico Duarte Region of the Dominican Republic: **J D Erickson**, L Gross, N Agosto Filion, K Bagstad, B G Voigt, G Johnson

1205h **H52A-07** A Conceptual Model for Coupled Human-Landscape Systems in Mountain Regions: **M Keiler**, R Poepll

H52B Moscone West: 3020 Friday 1020h
Emerging Topics in Interdisciplinary Hydrology: Biogeochemistry, Ecology, and Geomorphology II (*joint with B, A, C, EP*)

Presiding: **B P Mohanty**, Texas A&M University; **H Lin**, Penn State Univ; **B Cardenas**, University of Texas at Austin

1020h **H52B-01** Opportunities from hydrology for stream microbial ecology and biogeochemistry: **T J Battin**

1035h **H52B-02** Hydrological - pathological interactions: disease susceptibility, tree decline and ecohydrology: **S E Thompson**, S A Levin, I Rodriguez-Iturbe, C Gilligan

1050h **H52B-03** Application of thermodynamics to quantify the energetics of pedogenesis and critical zone evolution (*Invited*): **C Rasmussen**, P A Troch, P D Brooks, J D Pelletier, J Chorover

1105h **H52B-04** Use of the Entropy Method in Modeling Eco-hydro-geomorphological Processes (*Invited*): **J Wang**, R L Bras, V Nieves

1120h **H52B-05** Coupling of Groundwater Recharge and Biodegradation of Subsurface Crude-Oil Contamination (*Invited*): **B A Bekins**, F D Hostettler, G N Delin, W N Herkelrath, E Warren, P Campbell, R J Rosenbauer, I Cozzarelli

1135h **H52B-06** Evidence of linked biogeochemical and hydrological processes in homogeneous and layered vadose zone systems: **J T McGuire**, D J Hansen, B P Mohanty

1150h **H52B-07** Hydrological Perturbations Drive Biogeochemical Processes in Experimental Soil Columns from the Norman Landfill Site: **B Arora**, B P Mohanty, J T McGuire

1205h **H52B-08** Effects of river-floodplain exchange on water quality and nutrient export in the dam-impacted Kafue River (Zambia): R Zurbrugg, J Wamulume, N Blank, I Nyambe, B Wehrli, **D B Senn**

H52C Moscone West: 3016 Friday 1020h
Flow and Transport in Complex Porous Media II

Presiding: **N Shokri**, Boston University; **L J Pyrak-Nolte**, Purdue University

1020h **H52C-01** Multiphase flow, deformation and wave propagation in porous media: A Pazdniakou, **P M Adler**

1035h **H52C-02** Effective Permeability Revisited: The Role of the Geometric Mean: **A P Selvadurai**, P A Selvadurai

1050h **H52C-03** Probability distribution of biofilm thickness and effect of biofilm on the permeability of porous media: **S Ye**, B E Sleep, C Chien

1105h **H52C-04** 3D Modelisation of Monophasic Flow in Bimodal Porous Rocks: Darcy-Brinkman Solved by TRT Lattice-Boltzmann Method: **N F Gland**, L Talon, D Bauer, S Youssef, H auradou

1120h **H52C-05** Importance of Considering Intraborehole Flow in Solute Transport Modeling under Highly Dynamic Flow Conditions: **R Ma**, C Zheng, M J Tonkin, J M Zachara

1135h **H52C-06** The unsaturated hydraulic conductivity: measurement and non-equilibrium effects: **U Weller**, H Vogel

1150h **H52C-07** Estimating Unsaturated Hydraulic Conductivity: Comparison of Percolation Theory with Parallel Tubes Approach: **B Ghanbarian-Alavijeh**, A G Hunt

1205h **H52C-08** Modelling hysteretic flow through a slab of soil with a Preisach operator based on the van Genuchten equation: **D Flynn**

H52D Moscone West: 3018 Friday 1020h
Nutrient Sources and Cycling in Aquatic Systems II (*joint with B, GC*)

Presiding: **H K Pant**, Lehman College of the City University of New York; **C Kendall**, USGS; **R J Baker**, U.S. Geological Survey

1020h **H52D-01** Ecosystem metabolism and nutrient cycling linkages in stream ecosystems: a synthesis from studies at multiple temporal and spatial scales: **B J Roberts**, P J Mulholland

1035h **H52D-02** Nitrogen and Phosphorus Loads in an Agricultural Watershed Affected by Poultry Litter Application and Wastewater Effluent, Northeastern Oklahoma and Northwestern Arkansas, 2002-2009: **R Esralew**, R L Tortorelli

1050h **H52D-03** Geologic sources of nutrients for aquatic ecosystems (*Invited*): **R A Dahlgren**, C Jeffres, A L Nichols, M Deas, A Willis, J Mount

1105h **H52D-04** Sources and Quantities of Nitrogen Contributing to Eutrophication of Barnegat Bay-Little Egg Harbor Estuary, New Jersey: **C M Wieben**, R J Baker, R Nicholson

1120h **H52D-05** Probability distribution functions of $\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ in groundwater nitrate to probabilistically solve complex mixing scenarios: **A Chrystal**, J M Heikoop, P Davis, J Syme, S Hagerty, G Perkins, T E Larson, P Longmire, J E Fessenden

1135h **H52D-06** Spatial and temporal variations in nitrogen sources and cycling in north San Francisco Bay: Combining multi-isotope and hydrologic modeling approaches: **M B Young**, C Kendall, S R Silva, M Guerin, T E Kraus

1150h **H52D-07** One Year of Monthly N and O Isotope Measurements in Nitrate from 18 Streamwater Monitoring Stations Within the Predominantly Pastoral Upper Manawatu Catchment, New Zealand: **W T Baisden**, C Douence

1205h **H52D-08** Medically-derived I-131: a potential tool for understanding the fate of wastewater nitrogen in aquatic systems: **P S Rose**, J P Smith, R C Aller, J K Cochran, R L Swanson, S N Murthy, R B Coffin

H52E Moscone West: 3022 Friday 1020h
Pore-Scale Interfacial Processes in the Subsurface I

Presiding: **M Prodanovic**, University of Texas; **M L Porter**, Oregon State University

1020h **H52E-01** The Effect of Films on the Capillary Pressure – Saturation Hysteresis in a Smooth-walled Wedge Channel: Y Liu, D Nolte, **L J Pyrak-Nolte**

1035h **H52E-02** Extension of Kozeny-Carman Model for Estimating Unsaturated Hydraulic Conductivity: **R Khaleel**

1050h **H52E-03** A Pore Network Model Evaluation of the Types of Fluid/Fluid Interfacial Area Measured by Static and Dynamic Water-Phase Tracer Methods: **T C Kibbey**, L Chen

1105h **H52E-04** Lattice-Boltzmann modeling of experimental fluid displacement patterns, interfacial area and capillary trapped CO_2 : **M L Porter**, Q Kang, S Tarimala, A Abdel-Fattah, S Backhaus, J W Carey

1120h **H52E-05** Dual FIB-SEM 3D Imaging and Lattice Boltzmann Modeling of Porosimetry and Multiphase Flow in Chalk: **A J Rinehart**, H Yoon, T A Dewers, J E Heath, R Petrusak

1135h **H52E-06** An adaptive finite volume approach to simulation of precipitation and dissolution at the pore scale: **D Trebotich**, S Molins, G H Miller, C Steefel

1150h **H52E-07** Effects of Pore-Scale Heterogeneity and Solution Chemistry on Transverse Mixing Induced Calcium Carbonate Precipitation: **K Dehoff**, C Zhang, N Hess, M Oostrom, T W Wietsma

1205h **H52E-08** RHIZOSPHERE COMPACTION: MODELING A BED OF MULTIPLE AGGREGATES USING X-RAY MICRO-TOMOGRAPHY INFORMATION: **J E Aravena**, M Berli, S W Tyler

Earth and Space Science Informatics

IN52A Moscone South: 309 Friday 1020h
Collaborative Frameworks in Earth and Space Sciences I (*joint with GC, NH, PA, ED*)

Presiding: **C Lynnes**, NASA/GSFC; **R Devarakonda**, Oak Ridge Nat'l Lab-Env Scis.; **R Ramachandran**, University of Alabama in Huntsville

1020h **Introduction** *Christopher Lynnes*

1025h **IN52A-01** Incentives to Encourage Scientific Web Contribution (*Invited*): **A K Antunes**

1045h **IN52A-02** Uses of the Drupal CMS Collaborative Framework in the Woods Hole Scientific Community (*Invited*): **A R Maffei**, C L Chandler, T T Work, D Shorthouse, J Furfey, H Miller
 1105h **IN52A-03** Collaborative Science: Human Sensor Networks for Real-time Natural Disaster Prediction: **M Halem**, Y Yesha, O Aulov, J Martineau, S Brown, T Conte, Title of Team: The Center for Hybrid Multicore Productivity Research
 1120h **IN52A-04** Problem formulation, metrics, open government, and on-line collaboration: **C R Ziegler**, K Schofield, S Young, D Shaw
 1135h **IN52A-05** An Interactive Web System for Field Data Sharing and Collaboration: **Y Weng**, F Sun, J D Grigsby
 1150h **IN52A-06** GAIA: A Collaborative Organization for Climate Change Information and Decision Support: **R K Schaefer**, L J Paxton, S M Babin, C K Pikas, S Simpkins, W H Swartz, M Weiss
 1205h **IN52A-07** The Collaborative Heliophysics Events Knowledgebase: **N E Hurlburt**, D Schuler, C Cheung

Nonlinear Geophysics

NG52A Moscone South: 308 Friday 1020h
Nonlinear Geophysics General Contributions

Presiding: **Y Wang**

1020h **NG52A-01** A Macroscopic Relationship for Preferential Flow in the Vadose Zone (*Invited*): **H Liu**
 1035h **NG52A-02** Nonlinear geochemical dynamics and petrography: Burial dolomitization (*Invited*): **E Merino**
 1050h **NG52A-03** Convection-driven pattern formation in grass (*Invited*): **K E Daniels**, S E Thompson
 1105h **NG52A-04** Growth of river delta networks: Thresholds, periodicity, aging and self similarity (*Invited*): **D J Jerolmack**, M D Reitz
 1120h **NG52A-05** Icy Patterns; Collision, Eruption and Destruction (*Invited*): **J S Wettlaufer**
 1135h **NG52A-06** Macroturbulence in Very High Resolution Atmospheric Models: Evidence for Two Scaling Regimes: **D M Straus**
 1150h **NG52A-07** Universality of bursts in the solar wind?: **J Davidsen**, N Moloney
 1205h **NG52A-08** Stochastic Flux-Freezing and Turbulent Magnetic Dynamo: **G L Eyink**

Natural Hazards

NH52A Moscone West: 3006 Friday 1020h
Climate Change, Impacts, and Hazards: System of Systems II
(joint with A, EP, GC, C, OS)

Presiding: **M Kafatos**, Schmid College of Science, Chapman Univ.; **W K Lau**, NASA GSFC

1020h **NH52A-01** The Future of Climate Science (*Invited*): **R Bishop**
 1035h **NH52A-02** An Integrated Modeling and Observing System for Hazards and Regional Climate Simulations: **A K Prasad**, P Chan, H M El-Askary, N Hatzopoulos, J Kim, X Liu, D P Ouzounov, S K Park, C Tremback, M Kafatos
 1050h **NH52A-03** Climate Research: a Model for Holistic & Contextual Thinking: **W A Sprigg**
 1105h **NH52A-04** Hunza Landslide and Monsoon Flooding in Pakistan Call for International Attention to Transboundary Natural Hazards: **J S Kargel**, W Fink, R Furfaro, G J Leonard, M Patterson, Title of Team: GLIMS, GAPHAZ

1120h **NH52A-05** Climate Risk and Vulnerability in the Caribbean and Gulf of Mexico Region: Interactions with Spatial Population and Land Cover Change: **R S Chen**, M Levy, S Baptista, S Adamo
 1135h **NH52A-06** Atmospheric Ozone Perturbation from Oceanic Asteroid Impacts: Seasonal and Zonal Effects: **E Pierazzo**, R R Garcia, D E Kinnison, D R Marsh, J Lee-Taylor, M J Mills
 1150h **NH52A-07** WITHDRAWN
 1205h **NH52A-08** Tier-Scalable Reconnaissance Missions for Autonomous Exploration and Spatio-Temporal Monitoring of Climate Change with Particular Application to Glaciers and their Environs: **W Fink**, M A Tarbell, R Furfaro, J S Kargel

Ocean Sciences

OS52A Moscone West: 3007 Friday 1020h
Dynamics and Forecasting of Western Boundary Currents II

Presiding: **J G Richman**, Naval Research Laboratory; **J G Richman**, Naval Research Laboratory; **H E Hurlburt**, Naval Research Laboratory; **H Tsujino**, Meteorological Research Institute; **H Tsujino**, Meteorological Research Institute; **N Usui**, Meteorological Research Inst

1020h **OS52A-01** Western Boundary Current Systems in Strongly Eddying Models of the North Atlantic (*Invited*): **M W Hecht**
 1040h **OS52A-02** Dynamics of Gulf Stream separation and its pathway to the east: **H E Hurlburt**, P J Hogan
 1055h **OS52A-03** Impact of Resolution on the Gulf Stream Representation: E Chassignet, **A Bozec**
 1110h **OS52A-04** The North Atlantic Deep Western Boundary Current off Cape Farewell: **S Bacon**, P Saunders
 1125h **OS52A-05** Development of the Ensemble Kalman Filter for the analysis and prediction of the Kuroshio variations south of Japan (*Invited*): **Y Miyazawa**, T Miyama, S M Varlamov, X Guo, T Waseda
 1145h **OS52A-06** Decay mechanism of the 2004/05 Kuroshio large meander revealed by MOVE/MRI.COM: **N Usui**, H Tsujino, H Nakano, Y Fujii, M Kamachi
 1200h **OS52A-07** The Effect of Kosshu Seamount on the Formation of the Kuroshio Large Meander South of Japan: **T Endoh**, H Tsujino, T Hibiya

OS52B Moscone West: 3009 Friday 1020h
Fluid Flow and Gas Hydrates in Continental Margins IV *(joint with GC, NH, PP, V)*

Presiding: **C Berndt**, IFM-GEOMAR; **S Planke**, Volcanic Basin Petroleum Rsch

1020h **OS52B-01** Character and Fate of Methane Plumes from Sediments on the North Cascadia Margin: **M J Whiticar**, R Wania, A Price, G Spence, M Riedel
 1035h **OS52B-02** In situ Measurement of Pore-Water pH in Anoxic Sediments Using Laser Raman Spectrometry: **E T Peltzer**, M Luna, P M Walz, X Zhang, P G Brewer
 1050h **OS52B-03** Flux rates and sulfur isotopic composition of pore fluids from three mud volcanoes in the northern Gulf of Mexico: **W P Gilhooly**, C D Ruppel, G R Dickens, P Berg, S A Macko
 1105h **OS52B-04** Gas Composition of Cored Sediments from Gas Hydrate Potential Area Offshore SW Taiwan: **T F Yang**, P Chuang, H Chen, N Chen, S Lin, Y Wang, S Chung
 1120h **OS52B-05** The fate of aureole gas from the Karoo volcanic basin, South Africa: **S Polteau**, S Planke, I Aarnes, H Svensen

- 1135h **OS52B-06** Hydrocarbon formation and migration in the volcanic Møre and Vøring basins offshore Norway: **S Planke**, I Aarnes, H Svensen, S Polteau
- 1150h **OS52B-07** Role of in situ organic matter degradation and fluid flow in the global gas hydrate distribution: application of general functions: **E Pinero**, C Hensen, M Marquardt, M Haeckel, K J Wallmann
- 1205h **OS52B-08** METHANE CONTRIBUTION TO SHALLOW SEDIMENT CARBON CYCLING ACROSS THE ALASKAN SHELF, BEAUFORT SEA: **R B Coffin**, L J Hamdan, J P Smith, R E Plummer, L C Millholland, W Wood, Title of Team: MITAS 1

Planetary Sciences

P52A Moscone South: 306 Friday 1020h **The Atmosphere of Mars: New Findings From Modeling and Observations II** (*joint with A*)

Presiding: **R V Gough**, University of Colorado

- 1020h **P52A-01** Mapping Water Ice Clouds with MRO/MARCI: **M J Wolff**, R T Clancy, B A Cantor
- 1030h **P52A-02** MARs Color Imager (MARCI) Daily Global Ozone Column Mapping from the Mars Reconnaissance Orbiter (MRO): A Survey of 2006-2010 Results: **R T Clancy**, M J Wolff, M C Malin, B A Cantor
- 1040h **P52A-03** Can rapid loss and high variability of Martian methane be explained by surface H₂O₂?: **R V Gough**, J Turley, G Ferrell, K Cordova, S Wood, D O De Haan, C P McKay, O B Toon, M A Tolbert
- 1050h **P52A-04** A Deep Search for Biomarker Gases on Mars in 2009 - 2010: The Campaign and a Few Preliminary Results: **M J Mumma**, G L Villanueva, R Novak, Y L Radeva, H Kaufl, A Smette, P Hartogh, T Encrenaz
- 1100h **P52A-05** Water on Mars: global maps of H₂O, HDO and D/H obtained with CRIRES at VLT and NIRSPEC at Keck II: **G L Villanueva**, M J Mumma, R Novak, Y L Radeva, H Kaufl, A Smette, P Hartogh, T Encrenaz
- 1110h **P52A-06** The Vertical Distribution of Dust in the Martian Atmosphere: The Haze in the Clear Season and the Haze After the Storm: **N G Heavens**, M I Richardson, A Kleinboehl, D Kass, D J McCleese, Title of Team: Mars Climate Sounder Science Team
- 1120h **P52A-07** Exospheric Temperatures at Mars Derived from SPICAM Dayglow Measurements: **S W Bougher**, C Simon, G Gronoff, O Witasse, F Leblanc, J Bertaux
- 1130h **P52A-08** Ground to exobase modeling of the Martian atmosphere using M-GITM: **D J Pawlowski**, S W Bougher
- 1140h **P52A-09** Modeling Mars' Ionosphere with Constraints from Same-Day Observations by Mars Global Surveyor and Mars Express: **A Lollo**, M Mendillo, P Withers, M Matta, M Paetzold, S Tellmann
- 1150h **P52A-10** Magnetic fluctuations in the Martian ionosphere: **J R Espley**
- 1200h **P52A-11** Long Term Evolution of volatiles in the Martian Atmosphere Constrained by Isotopic Ratios: Degassing and Atmospheric Escape: **C Gillmann**, P Lognonné, M A Moreira
- 1210h **P52A-12** Interactions Between the Early Martian Dynamo, Surface Water, Atmosphere and Solar Wind: **K P Lawrence**, S H Brecht, S A Ledvina, C S Paty, C L Johnson

P52B Moscone South: 302 Friday 1020h **Characterizing Soils and Their Development on Mars, the Moon, and Other Extraterrestrial Bodies II** (*joint with EP, V, C*)

Presiding: **M B Madsen**, University of Copenhagen; **M H Hecht**, Jet Propulsion Laboratory; **W Goetz**, MPI for Solar System Research

- 1020h **P52B-01** Photometric Properties of Phobos Derived from CRISM and OMEGA Observations: **A A Fraeman**, R E Arvidson, B Gondet, J Bibring, S L Murchie, T Choo, D C Humm, N Manaud
- 1035h **P52B-02** Soils in Gusev Crater, Mars: What We Can And Cannot Learn From Surface Sediments (*Invited*): **H Y McSween**, I McGlynn, C Fedo
- 1050h **P52B-03** Seismic shaking effects on grain size and density sorting with implications for constraining lunar regolith bulk composition: **L R Ostrach**, M S Robinson
- 1105h **P52B-04** Evidence for Intense Space Weathering on Mercury: **P G Lucey**, M A Riner
- 1120h **P52B-05** EROSION INDUCED MINERAL ALTERATION ON MARS (*Invited*): **J P Merrison**, H P Gunnlaugsson, S Knak-Jensen, N Per
- 1135h **P52B-06** New insights into chemical processes within martian high latitude soils: **B Horgan**, J F Bell
- 1150h **P52B-07** Weathering of olivine and pyroxene on Mars: Evidence from missions, meteorites, and terrestrial mineral analogs: **M A Velbel**
- 1205h **P52B-08** Ice Lens Formation and Frost Heave at the Phoenix Landing Site: **A Zent**, H G Sizemore, A W Rempel

Paleoceanography and Paleoclimatology

PP52A Moscone West: 2003 Friday 1020h **Climate of the Common Era III: Statistical and Dynamical Models** (*joint with A, GC*)

Presiding: **J Emile-Geay**, Univ. of Southern California; **J E Smerdon**, Columbia University

- 1020h **PP52A-01** The Role of Paleo-Drought Atlases in Climate Change Research Over the Common Era: **E Cook**
- 1035h **PP52A-02** Reading the bass line: How well do moisture-sensitive tree rings track decadal variability?: **S St George**, T R Ault
- 1050h **PP52A-03** Potential of treeline bristlecone pine as a late Holocene climate record: M W Salzer, **M K Hughes**, A G Bunn, K F Kipfmüller
- 1105h **PP52A-04** Bidecadal climate variability in the Northern Hemisphere winter associated to strong tropical volcanic eruptions during the Last Millennium: **D Zanchettin**, C Timmreck, S Lorenz, J H Jungclauss
- 1120h **PP52A-05** Simulation of climate and carbon cycle variability over the last millennium (*Invited*): **V Brovkin**, J H Jungclauss, S Lorenz, T Raddatz, C Timmreck, C Reick, J Segsneider, K Six
- 1135h **PP52A-06** Influence of human and natural forcing on European seasonal temperatures over the past centuries (*Invited*): **J Luterbacher**, G C Hegerl, F J Gonzalez-Rouco, S F Tett, T J Crowley, E Xoplaki
- 1150h **PP52A-07** Piecing together the past: Statistical insights into paleoclimatic reconstructions: **M P Tingley**, P F Craigmile, M Haran, B Li, E Mannshardt-Shamseldin, B Rajaratnam
- 1205h **PP52A-08** Reconstructions of paleoclimate: Beyond the hockey stick. (*Invited*): **D W Nychka**, B Li

SPA-Aeronomy

SA52A Moscone South: 301 Friday 1020h
Chemistry and Temperatures in the Upper Mesosphere and Lower Thermosphere II (*joint with A*)

Presiding: **R L Bishop**, The Aerospace Corporation; **S A Budzien**, Naval Research Laboratory; **A W Stephan**, Naval Research Laboratory; **G Crowley**, ASTRA

1020h **SA52A-01** Examining the response of the lower thermosphere to solar activity and geomagnetic disturbances (*Invited*): **L J Paxton**, Y Zhang, Title of Team: GUVI Science Team

1035h **SA52A-02** N₂ Density and Temperature in the Lower Thermosphere Measured by RAIDS: **S A Budzien**, R L Bishop, A W Stephan, A B Christensen, J H Hecht, K M Bell

1047h **SA52A-03** TITLE: Remote sensing of lower thermospheric temperatures with the RAIDS experiment on the International Space Station (*Invited*): **A B Christensen**, S A Budzien, A W Stephan, R L Bishop, J H Hecht, G Crowley

1102h **SA52A-04** Empirical Neutral Thermosphere Models; Then and Now (*Invited*): **D P Drob**, J T Emmert, S E McDonald

1117h **SA52A-05** Composition changes in the lower thermosphere (*Invited*): **A G Burns**

1132h **SA52A-06** New Measurements of Thermospheric Nitric Oxide from the Remote Atmospheric and Ionospheric Detection System (RAIDS): **K R Minschwaner**, K Jaffa, S M Bailey, C Y Lin, S A Budzien, A W Stephan, R L Bishop, A B Christensen, J H Hecht

1144h **SA52A-07** "ALTITUDE VARIATION" OF THE CO₂(V₂)-O QUENCHING RATE COEFFICIENT IN MESOSPHERE AND LOWER THERMOSPHERE: **A Feofilov**, A Kutepov, C She, A K Smith, W D Pesnell, R A Goldberg

1156h **SA52A-08** Discovery of a new orange feature from FeO in the night airglow with the OSIRIS spectrograph: **W F Evans**, R Gattinger, E J Llewellyn, D A Degenstein, T G Slanger

1208h **SA52A-09** Studying Mesospheric Chemistry Using Ground Based Resonance Lidars at the Arecibo Observatory: **S Raizada**, C A Tepley, B P Williams, D Janches

SPA-Solar and Heliospheric Physics

SH52A Moscone South: 307 Friday 1020h
Extreme Space Weather Events in the Solar System II (*joint with P, SM, SA*)

Presiding: **Y Ma**, IGPP, UCLA; **M Zhang**, Florida Institute Technology

1020h **SH52A-01** Causes, Occurrences, and Consequences of Extreme Solar Particle Events (*Invited*): **R A Mewaldt**, C M Cohen, G M Mason, A Vourlidas

1035h **SH52A-02** Diffusive shock acceleration and Extreme Solar Energetic Particle Events (*Invited*): **G Li**

1050h **SH52A-03** Aspects of Coronal Mass Ejections Related to Space Weather: **N Gopalswamy**

1105h **SH52A-04** Extreme Space Weather at Venus and Mars: What We Know and Don't Know (Yet) (*Invited*): **J G Luhmann**, T McEnulty, D Ulusen, D A Brain, G T Delory, Y Ma, L Jian, C T Russell, T Zhang, Y Futaana, E Dubinin, A Fedorov, B M Jakosky

SH52B Moscone South: 307 Friday 1120h
Heliospheric Imaging of Solar Wind Structure II

Presiding: **M M Bisi**, Aberystwyth University; **T A Howard**, Southwest Research Institute; **C Moestl**, Space Research Institute

1120h **SH52B-01** A unique view of the inner heliosphere from the STEREO Heliospheric Imagers (*Invited*): **C J Davis**, R A Harrison, J A Davies, S R Crothers, C J Eyles

1135h **SH52B-02** Heliospheric Observations of CMEs with STEREO/SECCHI: A Modeler's Perspective (*Invited*): **N Lugaz**

1150h **SH52B-03** Imaging Coronal Mass Ejections and Large-Scale Solar Wind Structure Using IPS and Thomson-Scattered Sunlight (*Invited*): **J M Clover**, B V Jackson, A Buffington, P P Hick, M M Bisi, M Tokumaru, K Fujiki

1205h **SH52B-04** Tracking ICMs from combining modeling, remote-sensing, and in-situ observations (*Invited*): **S Dasso**, P Demoulin

SPA-Magnetospheric Physics

SM52A Moscone South: 305 Friday 1020h
Magnetotail Transients and Their Ionospheric Signatures II (*joint with SA*)

Presiding: **A Runov**, University of California Los Angeles; **R L Lysak**, University of Minnesota; **J Birn**, Los Alamos Nat. Lab.

1020h **SM52A-01** Oscillatory braking of BBFs and associated ionospheric response (*Invited*): **E Panov**, R Nakamura, W Baumjohann, V Angelopoulos, K Glassmeier, O Amm, J M Weygand, A A Petrukovich, V A Sergeev, M Volwerk, A Retinò, T Takada, J P McFadden, D E Larson, E F Donovan, C T Russell, I R Mann, H U Frey

1041h **SM52A-02** Multi-scale Observations of the Near-Earth Flow Braking Region: B Zieger, **A Retinò**, R Nakamura, A Vaivads, Y V Khotyaintsev, M Fujimoto, W Baumjohann

1054h **SM52A-03** Interchange Oscillations: **R A Wolf**, C Chen, F Toffoletto

1107h **SM52A-04** Entropy Properties of Bubble Penetration in the Plasma Sheet: **E R Sanchez**, S Wing, E L Spanswick

1120h **SM52A-05** 2D Hall-MHD simulations of multiple dipolarization fronts: P N Guzdar, **M M Swisdak**, A Hassam, M I Sitnov

1133h **SM52A-06** Interchange Modes in the Magnetotail and Their Role in Generating N-S Auroral Streamers and Plasma Sheet Disruption (*Invited*): **P L Pritchett**, F V Coroniti

1154h **SM52A-07** Bursty Bulk Flows in 3D MHD Simulations: **J Birn**, K Schindler, M Hesse

1207h **SM52A-08** Flow bursts and dipolarization flux bundles: elements of global substorm evolution: **V Angelopoulos**, A Runov, X Zhou, X Zhang, S Li

Study of Earth's Deep Interior

DI52A Moscone West: 3024 Friday 1020h
Mantle Heterogeneities II (*joint with MR, S, T, V*)

Presiding: **R Caracas**, Ecole Normale Supérieure; **L Boschi**, ETH Zurich; **F Albarede**, Ecole Normale Supérieure de Ly

1020h **DI52A-01** Continental lids and mantle convective stirring efficiency: B Deo, V Aleksandrov, **H Samuel**

1035h **DI52A-02** The X Discontinuity: A Probe of Upper Mantle Heterogeneity: **B M Kelly**, N C Scharrer

1050h **DI52A-03** Mantle metasomatism by alkali-rich Ca-carbonatites generated from carbonated pelites at 8-22 GPa and the EM I and EM II flavors of the mantle: **M W Schmidt**, D Grassi, D Guenther

1105h **DI52A-04** Global Thermochemical Models of the Upper Mantle (*Invited*): **F Cammarano**, P J Tackley, L Boschi, T Nakagawa

1120h **DI52A-05** The upper and lower mantle under Yellowstone: Lots of slab, but where is the plume?: A Gassner, **K Sigloch**, R Esposito

1135h **DI52A-06** Estimating mantle temperature from a global comparison of seismic models and the petrology of mid-ocean-ridge basalts: **C A Dalton**, A Gale, C H Langmuir

1150h **DI52A-07** Developing Regional Seismological Reference Models for Mineral Physics Interpretations: **A M Dziewonski**, V Lekic, C T Houser, J Matas, B A Romanowicz

1205h **DI52A-08** Radial and Lateral Variations in Mantle Heterogeneity from Scattered Seismic Waves (*Invited*): **S Rost**, M S Thorne

Seismology

S52A Moscone West: 2009 Friday 1020h
Advances in Signal Processing Methods for Seismology I (*joint with T*)

Presiding: **P Chen**, University of Wyoming; **F J Simons**, Princeton University

1020h **S52A-01** Shear wave imaging with seismic interferometry of traffic noise (*Invited*): **R Snieder**, N Nakata, T Tsuji, T Matsuoka

1035h **S52A-02** Scales and scattering strengths of lower mantle heterogeneities using PKP-ab, PKP-bc and PKIKP waves (*Invited*): **Y Zheng**, M C Fehler

1050h **S52A-03** Combining High Rate GPS and Strong Motion Data: A Kalman Filter Formulation for Real-Time Displacement Waveforms: **D Melgar Moctezuma**, Y Bock, B W Crowell

1105h **S52A-04** Angle-domain imaging condition for elastic reverse time migration: **R Yan**, X Xie, R Wu

1120h **S52A-05** Array-conditioned deconvolution of multiple-component teleseismic recordings: **C Chen**, D E Miller, H Djikpesse, J B Haldorsen, S Rondenay

1135h **S52A-06** WITHDRAWN

1150h **S52A-07** Inversion Strategies in Adjoint Tomography (*Invited*): **Y Luo**, J Tromp

1205h **S52A-08** Principal Component Tomography in Anisotropic Media (*Invited*): **J Trampert**, A Sieminski, J Tromp

S52B Moscone West: 2007 Friday 1020h
Earthquake Source Processes: What Have We Learned From Recent Large Earthquakes? II (*joint with T*)

Presiding: **B Duan**, Texas A&M University; **A V Newman**, Georgia Institute of Technology

1020h **S52B-01** Stress interaction of strike-slip and thrust faults associated with the 2010 M=7.0 Haiti earthquake: **J Lin**, R S Stein, V Sevilgen, S Toda

1035h **S52B-02** The 2010 Qinghai, China earthquake: a moderate supershear earthquake: **D Wang**, J Mori

1050h **S52B-03** Constraints from Satellite Ocean Altimetry and Wave Dynamics on Splay Faulting in the 2004 Indian Ocean Earthquake: **J R Rice**, N DeDontney

1105h **S52B-04** Slip History of the 2008 Mw 7.9 Wenchuan Earthquake Constrained by Jointly Inverting Seismic and Geodetic Observations: **G Shao**, C Ji, Z Lu, K Hudnut, J Liu, W Zhang, Q Wang

1120h **S52B-05** Investigation of Dynamic Interaction and Slip Partitioning Between the Beichuan and Pengguan Faults in the 2008 Wenchuan Earthquake Using Dynamic Source Models: **B Duan**

1135h **S52B-06** Shallow Megathrust Rupture Propagation of Some Large and Giant Earthquakes: Its Tsunami Potential and Identification from Spectral Energy Content: **A V Newman**, J A Convers

1150h **S52B-07** Rupture initiation of the large subduction earthquakes: are the durations and moments of nucleation phases correlated with the final seismic moments? (*Invited*): **C Ji**, X Li, G Shao

1205h **S52B-08** Combining Seismic Arrays to Image Detailed Rupture Properties of Large Earthquakes: Evidence for Frequent Triggering of Multiple Faults: **M Ishii**, E Kiser

Tectonophysics

T52A Moscone West: 2016 Friday 1020h
Advances in 2-D and 3-D Numerical and Analog Modeling of Mountain Building and Plate Deformation I (*joint with G, S*)

Presiding: **S S Haq**, Purdue University; **L Cruz**, Stanford University; **M L Cooke**, University of Massachusetts

1020h **T52A-01** Benchmarking the Sandbox: Quantitative Comparisons of Numerical and Analogue Models of Brittle Wedge Dynamics (*Invited*): **S Buiter**, G Schreurs, Title of Team: The GeoMod2008 Team

1040h **T52A-02** Predicting triangular zones at the termination of fold-and-thrust belts: **Y M LEROY**, C Liu, M Pubelier

1055h **T52A-03** The Capabilities and Limitations of Linear Elastic Models to Simulate Inelastic Fault-Related Deformation: **P J Lovely**, D D Pollard

1110h **T52A-04** Décollement and its formation in subduction zones: **T Hori**, H Sakaguchi

1125h **T52A-05** Faulting and its surrounding topographic undulations in analogue models revealed by optical measurements and image correlation techniques (*Invited*): **Y Yamada**, T Matsuoka

1145h **T52A-06** Normal fault growth in analog models and on Mars: **D Y Wyrick**, A P Morris, D A Ferrill

1200h **T52A-07** MODELING FOLD-AND-THRUST BELTS USING NUMERICAL SIMULATIONS AND PHYSICAL EXPERIMENTS: THE ACONCAGUA AND MEXICAN FOLD-AND-THRUST BELTS: **L Cruz**, G E Hilley, E Fitz, P J Hudleston, J Malinski, M Hernandez, A Take

T52B Moscone West: 2011 Friday 1020h
Latest Results From EarthScope's San Andreas Fault Observatory at Depth II (*joint with S, MR*)

Presiding: **S Hickman**, U.S. Geological Survey; **W L Ellsworth**, U. S. Geological Survey

1020h **T52B-01** Crustal Structure and Seismicity Around SAFOD: A Ten-Year Perspective (*Invited*): **C H Thurber**, S W Roecker, H Zhang, N L Bennington, D Peterson

1035h **T52B-02** Source properties of microearthquakes revealed by near-source observation at SAFOD (*Invited*): **K Imanishi**, W L Ellsworth

1050h **T52B-03** Structure of the San Andreas Fault at SAFOD (*Invited*): **J S Chester**, F M Chester, D W Sills, B Heron, R V Almeida, R N Guillemette

1105h **T52B-04** PHYSICAL PROPERTIES AND MECHANICAL BEHAVIOR OF THE ACTIVE SAN ANDREAS FAULT ZONE: INSIGHTS FROM LABORATORY STUDIES (*Invited*): **C Marone**, B M Carpenter, A P Rathbun, D M Saffer

1120h **T52B-05** SAFOD Core Reveals Low Strength of Deep San Andreas Fault Gouge and Provides Explanation for Low Heat Flow in Creeping Section of Fault: C A Morrow, **D A Lockner**, D E Moore, S Hickman

1135h **T52B-06** The microstructural character and evolution of fault rocks from SAFOD and potential weakening mechanisms along the San Andreas Fault: E van Diggelen, R E Holdsworth, **J H De Bresser**, C Spiers, S A Smith, R J Walker, L Bowen

1150h **T52B-07** Low-temperature deformation in calcite veins of SAFOD core samples (San Andreas Fault) – microstructural analysis and implications for fault strength: **E Rybacki**, C Janssen, R Wirth, R Wenk, G Dresen

1205h **T52B-08** The permeability structure at depth of the San Andreas Fault deduced from online mud gas monitoring while SAFOD-III drilling and pipe tripping: **T Wiersberg**, J Erzinger

Volcanology, Geochemistry, and Petrology

V52A Moscone West: 2022 Friday 1020h
175 Years of Geological Research in the Galapagos III (*joint with G, T, DI*)

Presiding: **D Geist**, University of Idaho; **K S Harpp**, Colgate University; **E L Mittelstaedt**, Laboratoire FAST; **C W Sinton**, University of Redlands

1020h **V52A-01** Galapagos Tectonics and Evolution (*Invited*): **R N Hey**

1035h **V52A-02** Seismic Constraints on the Formation of the Galápagos and Iceland Platforms: **E E Hooft**, B Brandsdottir, D R Toomey, R S Detrick, R Mjelde, S C Solomon, H Shimamura, Y Murai

1050h **V52A-03** Perspectives on Plume-Ridge Interaction in The Northern Galápagos Province: **K S Harpp**, E L Mittelstaedt, D Geist, D J Fornari, M D Kurz, C W Sinton, A M Koleszar, S Soule, Title of Team: The R/V Melville MV1007 FLAMINGO Cruise Scientific Party

1105h **V52A-04** Petrology and Geochemistry of the Northeast Seamounts of the Galapagos Platform: **C W Sinton**, K S Harpp, D M Christie

1120h **V52A-05** Noble gas tracers of mantle processes beneath the Galápagos archipelago (*Invited*): **M D Kurz**, K S Harpp, D Geist, D J Fornari, J Curtice, D E Lott, W J Jenkins

1135h **V52A-06** Volcanic Eruptions on the Western Galápagos Spreading Center: Connecting Magma Supply at Depth to Eruption Rate on the Surface: **J M Sinton**, S M White, A Colman, K H Rubin, J A Bowles

1150h **V52A-07** Resolving Volcanic Eruptions: New Fine-scale Mapping by AUV Sentry of Galápagos Spreading Center 92°W and 95°W: **S M White**, J T McClinton, J M Sinton, K H Rubin, A Colman, J A Bowles, M D Behn, D R Yoerger, Title of Team: GRUVEE Science Party

1205h **V52A-08** Seamounts South of the Galapagos Spreading Center Provide New Constraints on Plume-Ridge Interaction and Evidence for a Depleted Plume Component: **K Hoernle**, S F Hauff, B B Hanan, R Werner, D Christie, C Garbe-Schoenberg

V52B Moscone West: 2018 Friday 1020h
Chemical, Physical, and Petrographic Perspectives on Magmatic Differentiation III (*joint with MR*)

Presiding: **A J Kent**, Oregon State University; **S Collins**, Durham University; **C L McLeod**, Durham University; **G W Bergantz**, Univ. Washington

1020h **V52B-01** The Production and Detection of Magmatic Compositional Gaps: A Consideration of Nested Probabilities in Crustal Evolution (*Invited*): **J Dufek**, O Bachmann

1050h **V52B-02** The 'Daly Gap' and implications for magma differentiation in composite shield volcanoes: A case study from Akaroa Volcano, New Zealand: **E Hartung**, B Kennedy, C D Deering, A Trent, J Gane, R E Turnbull, S Brown

1105h **V52B-03** Evolution of silicic magmas in the Kos-Nisyros volcanic center: cycles associated with caldera collapse: J S Ruprecht, **O Bachmann**, C D Deering, C Huber, A Skopelitis, C Schnyder

1120h **V52B-04** Magmatic processes that generate chemically distinct silicic magmas in NW Costa Rica and the evolution of juvenile continental crust in oceanic arcs: **T A Vogel**, C D Deering, L C Patino, G E Alvarado, D W Szymanski

1135h **V52B-05** Processes and timescales of magma evolution prior to the 1815 eruption of Tambora volcano, Sumbawa, Indonesia: **R Gertisser**, S Self, L E Thomas, H K Handley, P W Van Calsteren, J A Wolff

1150h **V52B-06** Magma Development and Disaggregation in Basaltic Plumbing Systems: Evidence from Large Icelandic Fissure Eruptions: **J MacLennan**, E Passmore, J G Fitton, T Thordarson

1205h **V52B-07** Phase equilibrium constraints on the depth of crystallization beneath the rift zones of Iceland: An experimental study of the Borgarfjörður lava: **G A Gaetani**, J MacLennan

V52C Moscone West: 2020 Friday 1020h
The Constraint of Magma and Gas Transport by Geophysical and Geochemical Data II (*joint with NS*)

Presiding: **F Witham**, University of Bristol; **J Biggs**, University of Bristol; **T Menand**, Université Blaise Pascal, Laboratoire Magmas & Volcans, IRD R 163, CNRS UMR 6524; **J O Hammond**, University of Bristol

1020h **V52C-01** Geochemical and petrological observations of gas transport at arc volcanoes: **M Edmonds**, R A Herd, M Humphreys, A Aiuppa, G Giudice, R Guida, R Moretti, T E Christopher, H Rawson

1035h **V52C-02** Magma and volatile supply to post-collapse renewed volcanism and block resurgence in Siwi caldera (Tanna, Vanuatu arc): **N Metrich**, P Allard, A Aiuppa, P Bani, A Bertagnini, O Belhadj, A Di Muro, E Garaebiti, F Parello, H Shinohara

1050h **V52C-03** Magma degassing: novel experiments with multiple volatile species on H₂O, CO₂, S and Cl and development of a new thermodynamic model: **P Lesne**, F Witham, S Kohn, J Blundy, R E Botcharnikov, H Behrens

1105h **V52C-04** Magma Mixing, Melt Inclusion Trends and Permeable Gas Flow at Degassing Volcanoes: **F Witham**

1120h **V52C-05** Rapid Gas Transport from Deep Magma Chambers. (*Invited*): **S I Sacks**, S Hautmann, A T Linde, D Hidayat

1135h **V52C-06** The degassing fluctuation concerning sealing process before eruptions at Sakurajima volcano, Japan: **R Kazahaya**, T Mori, M Iguchi

1150h **V52C-07** The role of unsteady buoyancy flux on transient eruption plume velocity structure and evolution: **K N Chojnicki**, A B Clarke, J C Phillips
1205h **V52C-08** Insights into gas transport mechanisms from measurements and modelling of quiescent and explosive degassing at Stromboli (*Invited*): **M R Burton**

Friday P.M.

Atmospheric Sciences

A53A Moscone South: Poster Hall Friday 1340h Arctic Supercooled Clouds as Buffered Systems Posters

Presiding: **J Y Harrington**, Penn State University; **H Morrison**, NCAR; **G Feingold**, NOAA/ESRL; **K J Sulia**, Penn State University

1340h **A53A-0194** *POSTER* Boundary-layer and aerosol/cloud interaction in central Arctic summer observed during ASCOS (*Invited*): **M K Tjernstrom**, T Mauritsen, J Sedlar, Title of Team: ASCOS Science Team

1340h **A53A-0195** *POSTER* Cloud Super-Cooled Liquid Water Estimation from Satellite Data: **J K Roskovensky**, M Ivey, W Porch, N Beavis, R Herrman

1340h **A53A-0196** *POSTER* Why bother with Arctic clouds? A climate perspective. (*Invited*): **J E Kay**

1340h **A53A-0197** *POSTER* On the Role of Ice Formation Mechanisms and Habit Growth in the Maintenance of Mixed Phase Arctic Stratus: **B Ervens**, G Feingold, K J Sulia, J Y Harrington

1340h **A53A-0198** *POSTER* The variation of the microphysical properties of arctic stratus clouds as a function of aerosol concentration: results from ISDAC: **G M McFarquhar**, R Jackson, P Liu, M E Earle, S D Brooks

1340h **A53A-0199** *POSTER* Dynamical Equilibrium States in Low Temperature Cirrus: **D Barahona**, A Nenes

1340h **A53A-0200** *POSTER* The Importance of Habit Evolution for Maintaining Supercooled Liquid in Arctic Clouds: **K J Sulia**, J Y Harrington

1340h **A53A-0201** *POSTER* Intercomparison of cloud model simulations of Arctic mixed-phase boundary layer stratus: Process interactions, self-maintenance, and rapid transition between states: **H Morrison**, P Zuidema, A S Ackerman, A Avramov, G de Boer, J Fan, A M Fridlind, J Y Harrington, T Hashino, Y Luo, M Ovchinnikov, B Shipway

1340h **A53A-0202** *POSTER* Dynamics of Arctic Mixed Phase Clouds: A focus on the effects of ice crystal habits and nucleation: **M Komurcu**, J Y Harrington

1340h **A53A-0203** *POSTER* Estimation of ice activation parameters within a particle tracking Lagrangian cloud model using the ensemble Kalman filter to match ISCDAC golden case observations: **J M Reisner**, M K Dube

A53B Moscone South: Poster Hall Friday 1340h Atmospheric Rivers: A Grand Challenge for Hydrometeorology, Flood, and Water Sciences II Posters (joint with H)

Presiding: **F M Ralph**, NOAA/ESRL; **M D Dettinger**, US Geological Survey

1340h **A53B-0204** *POSTER* Evolution of Sierra Barrier Jets that occur simultaneously with atmospheric river events in a high resolution dynamical downscaling of the North American Regional Reanalysis: **M R Hughes**, P J Neiman, E Sukovich

1340h **A53B-0205** *POSTER* Diagnosis of Systematic Errors in Atmospheric River Forecasts Using Satellite Observations of Integrated Water Vapor: **G A Wick**, P J Neiman, F M Ralph

1340h **A53B-0206** *POSTER* The Impact of Atmospheric Rivers on Soil Moisture in California's Russian River Basin: **R J Zamora**, F M Ralph, T Coleman, P J Neiman, M D Dettinger

1340h **A53B-0207** *POSTER* GFS water vapor forecast error evaluated over the 2009-2010 West Coast cool season using the MET/MODE object analyses package: **W L Clark**, E Sukovich, E I Tollerud, T Jensen, H Yuan, G A Wick, R Bullock, Title of Team: HMT-DTC Collaboration Project

1340h **A53B-0208** *POSTER* A study of storm tracks and the cold season precipitation characteristics in California using trajectory model: J Ryoo, **J Kim**, E Fetzer, D E Waliser

1340h **A53B-0209** *POSTER* W-band spaceborne radar observations of atmospheric river events: **S Y Matrosov**

1340h **A53B-0210** *POSTER* Improved Characterization and Monitoring of Moisture Associated With Atmospheric Rivers: **S I Gutman**, S C Albers, J Forsythe, A S Jones, S Q Kidder, B Ward, A White, G A Wick, Title of Team: Hydrometeorological Testbed Program

1340h **A53B-0211** *POSTER* A climatology of Atmospheric Rivers based on NCEP reanalysis and variability associated with ENSO: **J Nusbaumer**, D C Noone

1340h **A53B-0212** *POSTER* Does the Madden-Julian Oscillation influence the frequency and precipitation of wintertime atmospheric rivers in California?: **B Guan**, D E Waliser, N P Molotch, E Fetzer, P J Neiman

1340h **A53B-0213** *POSTER* Rapid Response to the Howard Hanson Dam Crisis: **F M Ralph**, G Carter, A White, P J Neiman, C King, I Jankov, B Colman, K Cook, T Buehner

1340h **A53B-0214** *POSTER* Diagnosing Time Scales of Atmospheric Moisture Transport: **M Newman**, G N Kiladis, F M Ralph

1340h **A53B-0215** *POSTER* Measurement of Turbulent Water Vapor Fluxes from Lightweight Unmanned Aircraft Systems: **R M Thomas**, V Ramanathan, H Nguyen, K Lehmann*

A53C Moscone South: Poster Hall Friday 1340h Biosphere-Atmosphere Exchange of Reactive Trace Gases and Their Role in the Chemistry of Ozone and Aerosols III Posters

Presiding: **P S Stevens**, Indiana University; **P B Shepson**, Purdue University; **A H Goldstein**, University of California, Berkeley; **R C Cohen**, UC Berkeley

1340h **A53C-0216** *POSTER* GLOBal Organic Emissions NETwork (GLOBOENET) tools and strategies for quantifying canopy-scale biogenic volatile organic compound emissions (*Invited*): **A B Guenther**, T Duhl, T Karl, S Kim, S Shertz, A Turnipseed

1340h **A53C-0217** *POSTER* Scaling biogenic VOC emissions from canopy to region: One-dimensional canopy modeling and the influence of leaf temperature (*Invited*): **A L Steiner**, A M Bryan

- 1340h **A53C-0218** WITHDRAWN
- 1340h **A53C-0219** POSTER VOC Emission and Deposition Eddy Covariance Fluxes above Grassland using PTR-TOF: T M Ruuskanen, M Müller, R Schnitzhofer, T Karl, M Graus, I Bamberger, L Hörtnagl, F Brilli, G Wohlfahrt, **A Hansel**
- 1340h **A53C-0220** POSTER BVOC and tropospheric ozone fluxes from an orange orchard in the California Central Valley: **S Fares**, D R Gentner, J Park, R Weber, J F Karlik, A H Goldstein
- 1340h **A53C-0221** POSTER Isoprene Fluxes from a Tundra Ecosystem: **M Potosnak**, B Baker, S Disher, K Griffin, S Bret-Harte
- 1340h **A53C-0222** POSTER VOC Emissions from the Potential Biofuel Crop, Switchgrass: **M Graus**, A S Eller, R Fall, J B Gilman, W C Kuster, J A De Gouw, Y Qian, K Sekimoto, R K Monson, C Warneke
- 1340h **A53C-0223** POSTER Evidence for significant C-5 alkene emissions from car traffic: **G W Schade**, C Park
- 1340h **A53C-0224** POSTER Emissions of volatile organic compounds from hybrid poplar depend on CO₂ concentration and genotype: **A S Eller**, J A De Gouw, R K Monson
- 1340h **A53C-0225** POSTER BVOC emission pattern from *Quercus robur* under field conditions: **O Pokorska**, J Dewulf, ÉVA Joó, M Šimpraga, K Steppe, C Amelynck, N Schoon, J J Muller, H Van Langenhove
- 1340h **A53C-0226** POSTER Investigating the direct and indirect influences of light on short-term changes in methanol production and emission in *Lycopersicon esculentum*: **P Oikawa**, L Li, M Timko, J E Mak, M Lerdau
- 1340h **A53C-0227** POSTER Seasonal biogenic volatile organic compound emission trends of four coniferous tree species: **R W Daly**, D Helmig, A B Guenther, R Baghi, C Baroch, C Borke
- 1340h **A53C-0228** POSTER Individual Tree Variation of Biogenic Volatile Organic Compounds from Needles of White Pine (*Pinus strobus*) in Northern Michigan: **S Toma**, S B Bertman
- 1340h **A53C-0229** POSTER Effects of Acute Ozone Exposure and Methyl Jasmonate Treatment on White Pine Monoterpene and Sesquiterpene Emission Rates: **C L Faiola**, D Wagner, E Allwine, P C Harley, T M VanReken
- 1340h **A53C-0230** POSTER Soil moisture controls on inter-annual variability of biogenic isoprene emissions and ozone: **A B Tawfik**, A Shalaby, A L Steiner, A Zakey
- 1340h **A53C-0231** POSTER Measurements of BVOC fluxes Above Mixed Hardwood Forest Canopy During the 2009 CABINEX Field Campaign: **G D Edwards**, D K Martins, T Starn, P B Shepson
- 1340h **A53C-0232** POSTER Observations of BVOC (Biogenic Volatile Organic Compound) Fluxes and Vertical Gradients in a Ponderosa Pine Forest during BEARPEX 2009: **J Park**, S Fares, R Weber, A Goldstein
- 1340h **A53C-0233** WITHDRAWN
- 1340h **A53C-0234** POSTER Overview of CABINEX/PROPHET 2009: **S B Bertman**, M Carroll, P B Shepson, P S Stevens
- 1340h **A53C-0235** POSTER Turbulent exchange and segregation of HOx radicals and volatile organic compounds above a deciduous forest: **A Hofzumahaus**, R J Dlugi, M Zelger, M Berger, M Siese, F Holland, A Wisthaler, W Grabner, A Hansel, R Koppmann, G Kramm, M Moellmann-Coers, A Knaps
- 1340h **A53C-0236** POSTER Above canopy OH and HO₂ during PROPHET 2008 and CABINEX 2009: Measurement and theory: **S M Griffith**, R F Hansen, S Dusanter, P S Stevens, M E Thurlow, A O'Brien, M M Galloway, J Hottle, A Kammrath, F N Keutsch, L H Mielke, M Alaghmand, P B Shepson, N Zhang, J Hou, X Zhou, S B Bertman, M Carroll, M H Erickson, H W Wallace, B T Jobson, N Grossberg, B L Lefer
- 1340h **A53C-0237** POSTER COMBINING AMBIENT MEASUREMENTS OF OH RADICALS AND OH REACTIVITY IN A TROPICAL RAINFOREST DURING THE OP-3 PROJECT: RESOLVING THE MAGNITUDE OF THE MISSING OH SOURCES AND SINKS: L K Whalley, P Edwards, K L Furneaux, A Goddard, **I J George**, M J Evans, D E Heard, Title of Team: Team OP-3
- 1340h **A53C-0238** POSTER Total Hydroxyl Radical Reactivity Above and Below a Forest Canopy During CABINEX 2009: **R F Hansen**, S Dusanter, S M Griffith, P S Stevens, M H Erickson, W Wallace, B T Jobson, M Carroll, P B Shepson, S B Bertman
- 1340h **A53C-0239** POSTER Towards constraining sources of Unexplored VOC and their oxidation products in the forest environments: **S Kim**, A B Guenther, T Karl, J Greenberg, P C Harley
- 1340h **A53C-0240** POSTER Ozone reactivity of biogenic volatile organic compounds emitted from the four dominant tree species at PROPHET - CABINEX: D Helmig, **R Daly**, S B Bertman
- 1340h **A53C-0241** POSTER Chemical Ozone Fluxes: Sensitivity to Very Reactive Biogenic VOC Emissions and Implications for In-Canopy Radical Production: **G M Wolfe**, J A Thornton
- 1340h **A53C-0242** POSTER Vertical profiles of HOx chemistry within a mixed hardwood forest during the 2009 CABINEX field campaign: Evaluations with a one-dimensional canopy-chemistry model: **A M Bryan**, A L Steiner, A B Guenther, J J Orlando, G S Tyndall, S H Chung, S B Bertman, M Carroll, S Dusanter, M H Erickson, M M Galloway, S M Griffith, R F Hansen, B T Jobson, F N Keutsch, S Kim, B L Lefer, A O'Brien, P B Shepson, P S Stevens, M E Thurlow, W Wallace, X Zhou
- 1340h **A53C-0243** POSTER Utilization of satellite-derived canopy heights in dry deposition computations to improve surface O₃ simulations: **Y Choi**, D Byun, P Lee, R Saylor, H Kim, M Lefsky
- 1340h **A53C-0244** POSTER Identifying the environmental factors that effect within canopy BVOC loss using a multilevel canopy model: **W S Chan**, J D Fuentes, M Lerdau
- 1340h **A53C-0245** POSTER Radical Production from Alkene Ozonolysis: **W J Bloss**, M S Alam, M Camredon, T Carr, K Wyche, K E Hornsby, P S Monks, A R Rickard
- 1340h **A53C-0246** POSTER Molecular characterization of monoterpene ozonolysis products using ultrahigh-resolution Fourier transform ion cyclotron resonance mass spectrometry: **S Kundu**, R Fisseha, A Putman, T Rahn, L R Mazzoleni
- 1340h **A53C-0247** POSTER Measurements of HONO Above and Within a Mixed Hardwood Forest Canopy During the 2009 CABINEX Field Campaign: **X Zhou**, J Hou, S B Bertman, B T Jobson, B L Lefer, P S Stevens, P B Shepson, M Carroll
- 1340h **A53C-0248** POSTER Flux-gradient relationships of nitrogen oxides over a ponderosa pine plantation during BEARPEX-2009: **K Min**, B W LaFranchi, S E Pusede, E C Browne, P J Wooldridge, R C Cohen
- 1340h **A53C-0249** POSTER Explaining a Consistent Morning NO_x Maximum in the Clean Air Forest Boundary Layer: **P B Shepson**, M Alaghmand, S B Bertman, M Carroll, S L Edburg, B T Jobson, F N Keutsch, B K Lamb, T Starn, P S Stevens, W Wallace, X Zhou
- 1340h **A53C-0250** POSTER What is causing morning nitric oxide "pulse" above the canopy at a forested site in northern Michigan?: **B Seok**, D Helmig, M W Williams, L Ganzeveld, C S Vogel
- 1340h **A53C-0251** POSTER Significance of Nitric Acid Photolysis in low NO_x troposphere: Model Simulations: **H Gao**, X Zhou, X Ren, K Civerolo
- 1340h **A53C-0252** POSTER α -Pinene Nitrates: Synthesis, Identification and Yields: **S Ma**, P B Shepson, J Rindelaub, B Nault

1340h **A53C-0253** POSTER A Comparison of HCHO and CHOCHO Concentrations and Profiles in Three North American Forests: M M Galloway, **J P DiGangi**, S B Henry, A Kamrath, M E Thurlow, A O'Brien, E Boyle, F N Keutsch, Title of Team: BEARPEX Science Team, CABINEX Science Team, BEACHON-ROCS Science Team

1340h **A53C-0254** POSTER Analysis of Glyoxal Gradient Measurements at CABINEX 2009: **A O'Brien**, M E Thurlow, M M Galloway, S Dusanter, S M Griffith, R F Hansen, P S Stevens, M H Erickson, B T Jobson, F N Keutsch

1340h **A53C-0255** POSTER Quantification of Glycolaldehyde and Hydroxyacetone using Tandem Chemical Ionization Mass Spectrometry: **K M Spencer**, M R Beaver, J M St Clair, J Crouse, F Paulot, P O Wennberg

1340h **A53C-0256** POSTER Temperature dependence of the yields of methacrolein and methyl vinyl ketone from the OH-initiated oxidation of isoprene under NO_x free conditions: **M A Navarro**, S Dusanter, P S Stevens, R A Hites

1340h **A53C-0257** POSTER Insights into anthropogenic influences on biogenic secondary aerosol production from measurements of sulfate esters and organic nitrates derived from biogenic precursors: **D R Worton**, A H Goldstein, B J Williams, N M Kreisberg, S V Hering, G Bench, N C Bouvier-Brown, D Farmer, K S Docherty, J B Gilman, W C Kuster, J A De Gouw, M Glasius, K Kristensen, J Surratt, J Seinfeld

1340h **A53C-0258** POSTER Estimations of nitrogen deposition due to heterogeneous hydrolysis of N₂O₅ at high latitudes: **P L Joyce**, W R Simpson, R von Glasow

1340h **A53C-0259** POSTER Temporal variations of nitrogen wet deposition over Japan during 1989-2008: **Y Morino**, T Ohara, J Kurokawa, M Kuribayashi, I Uno, H Hara

1340h **A53C-0260** POSTER Prevalence of ketonic carbonyl groups in submicron particles from a boreal forest in Hyytiälä, Finland during HUMPPA-COPEC 2010: **A L Corrigan**, L M Russell, J Auld, W Song, J Williams, T T Petdjd

1340h **A53C-0261** POSTER A Novel Method for Analyzing Microbially Affiliated Volatile Organic Compounds in Soil Environments: **C V Ruhs**, K S McNeal

1340h **A53C-0262** POSTER Soil Terpene Emissions in a Subalpine Coniferous Forest: Tree Species, Soil Temperature and Moisture Effects: **D Asensio**, T Duhl, J Greenberg, A B Guenther, R K Monson

1340h **A53C-0263** POSTER Continuous soil VOCI measurements with automated flux chambers and micro-ECD gas chromatography coupled with the thermal desorption and cooled injection systems: **M S Molodovskaya**, T Svensson, A Pitts, J DelMonte, Z Nestic, G Oberg

A53D Moscone South: Poster Hall Friday 1340h
Measuring Earth-Atmosphere Fluxes and Tropospheric Composition From Space III Posters (joint with B)

Presiding: **D B Millet**, University of Minnesota; **D K Henze**, University of Colorado Boulder

1340h **A53D-0264** POSTER Quantifying water vapor in the upper troposphere and lower stratosphere from volcanic and pyro-convective clouds using the Atmospheric Infrared Sounder: **E B McCarthy**, M I Watson, M D Fromm

1340h **A53D-0265** POSTER Comparisons of Aura TES V005 Water Vapor and Temperature Retrievals with Radiosonde Measurements: **R L Herman**, B Fisher, V Payne, K Cady-Pereira, S S Kulawik, A Eldering

1340h **A53D-0266** POSTER Correction of NOAA-16 AMSU-A Channel-5: **J Lee**, H Meng

1340h **A53D-0267** POSTER Panchromatic Fourier Transform Spectrometer (PanFTS) for the Geostationary Coastal and Air Pollution Events (GEO-CAPE) Mission: **S P Sander**, R Beer, J Blavier, K W Bowman, A Eldering, D Rider, G C Toon, W A Traub, J Worden

1340h **A53D-0268** POSTER A feasibility study for the monitoring of diurnal variations of the tropospheric NO₂ over Tokyo from a geostationary satellite: **K Noguchi**, H Irie, Y Morino, S Hayashida, A Richter, H Bovensmann, A Hilboll, J P Burrows

1340h **A53D-0269** POSTER The geostationary environment measurement spectrometer (GEMS) mission in view of ozone detection: Possibility analysis and comparison with the geosynchronous orbit: **S J Park**, J H Kim

1340h **A53D-0270** POSTER The observing requirements for the prediction of ozone: **P D Hamer**, K W Bowman, D K Henze

1340h **A53D-0271** POSTER Constraints on urban VOC emissions from day of week measurements of column NO₂: **L C Valin**, A R Russell, R C Cohen

1340h **A53D-0272** POSTER Evaluation of an Improved Retrieval of OMI NO₂ Column Using Within Boundary Layer Aircraft Observations: **A R Russell**, L C Valin, A E Perring

1340h **A53D-0273** POSTER Stratospheric and tropospheric NO₂ from OMI: New approaches using cloudy data: **E J Bucsele**, S Beirle, P K Bhartia, E A Celarier, R Dirksen, J F Gleason, A Hilboll, N A Krotkov, K E Pickering, A Richter, M Wenig, K Yang

1340h **A53D-0274** POSTER Evaluation of satellite-derived NO₂ and HCHO over East Asia using statistical methods: **K Baek**, J H Kim

1340h **A53D-0275** POSTER Measurements and Models of SO₂ over Central China: **R R Dickerson**, H He, N A Krotkov, Z Li

1340h **A53D-0276** POSTER A performance evaluation of CMAQ using different satellite data: **C Song**, J Lee, S Lee, Y Hong, D Kim, K Moon, S Kim, S Hong, J Choi, H Lee, J Lee, W Choi

1340h **A53D-0277** POSTER Characteristics of Aerosol indices distribution followed by Aerosol types: **S Park**, J Kim, J Lee, M KIM, S Lee, C Song

1340h **A53D-0278** POSTER Inverse Modeling of Urban and Regional Emissions of CO in China using Observations from the MOPITT Instrument: **Z Jiang**, D B Jones, J Kar, Y Wang, M Kopacz, D K Henze, K Singh, C Shim, J R Drummond

1340h **A53D-0279** POSTER Comparison between model and satellite observations using Geos-CHEM and TES carbon monoxide and ozone products: **R Dupont**, J Worden

1340h **A53D-0280** POSTER Development of the Carbon Cycle Column Radiometer (C³R) for ASCENDS CO and CH₄ Measurements: **G S Diskin**, J H Crawford, G W Sachse, L L Gordley, J Burton, M J McHugh

1340h **A53D-0281** POSTER Atmospheric methane observed from space over the Asian monsoon: implications for emission from Asian rice paddies: **S Hayashida**, S Yoshizaki, C Frankenberg, X Yan

1340h **A53D-0282** POSTER Using GMD Data, AIRS Measurements, and the NASA Chemistry-Climate Model to Reveal Regional and Seasonal Variation of Methane: **K J Steele**, B N Duncan, J X Warner, J E Nielsen

1340h **A53D-0283** POSTER Mapping methane from marine and terrestrial hydrocarbon seepage using AVIRIS: **A K Thorpe**, E S Bradley, C Funk, D A Roberts, I Leifer, P E Dennison, J Margolis

1340h **A53D-0284** POSTER Comparing surface and mid-troposphere CO₂ concentration and fluxes from central U.S. grasslands: **F V Cochran**, N A Brunzell, A T Quick

1340h **A53D-0285** POSTER Deriving Algorithms for the Remote Sensing of Carbon Dioxide Fugacity at the Ocean Surface: **P J Minnett**, K Wickramaratna, M Kubat

1340h **A53D-0286** *POSTER* Methanol Measurements From TES: A Top-Down Constraint on Biogenic Emissions: **D B Millet**, K E Cady-Pereira, M Luo, J Worden

1340h **A53D-0287** *POSTER* Formaldehyde columns from the Ozone Monitoring Instrument: Urban versus background levels and evaluation using aircraft data and a global model: N Boeke, J Marshall, S Alvarez, K Chance, A Fried, T P Kurosu, B Rappenglueck, D Richter, J Walega, P Weibring, **D B Millet**

1340h **A53D-0288** *POSTER* Airborne Detection of Iodine Oxide and Glyoxal in the Free Troposphere over the Remote Tropical Pacific Ocean: **B K Dix**, R Volkamer

1340h **A53D-0289** *POSTER* Observation of global, seasonal cycle of regional-scale chlorophyll fluorescence from space using GOSAT: J Joiner, Y Yoshida, Y Yoshida, A P Vasilkov, L Corp, E Middleton, **K F Huemmrich**, Title of Team: GOSAT project

1340h **A53D-0290** *POSTER* Observation of bromine monoxide during volcanic eruptions from space using the GOME-2 instrument: **C Hoermann**, H Sihler, N Bobrowski, C Kern, M J Penning de Vries, L Vogel, U Platt, T Wagner

1340h **A53D-0291** *POSTER* Global observations of BrO in the troposphere using GOME-2 satellite data: **N Theys**, M Van Roozendaal, F Hendrick, Y Xin, D Isabelle, A Richter, B Mathias, E Quentin, P V Johnston, K Kreher, D Martine

A53E Moscone South: Poster Hall Friday 1340h
Progress and Uncertainty in Reanalysis Data Sets II Posters
(joint with GC, H, OS)

Presiding: **J Chen**, University of Maryland; **P A Arkin**, University of Maryland; **W Ebisuzaki**, NOAA/NCEP

1340h **A53E-0292** *POSTER* Uncertainties in model derived mixed-layer heights over North America: **M G Kim**, J C Lin

1340h **A53E-0293** *POSTER* Evaluation of Cloud Fraction and Radiative Fluxes in Recent Reanalyses over the Arctic using Surface and Satellite Observations: **B Zib**, X Dong, B Xi, A D Kennedy

1340h **A53E-0294** *POSTER* The Sensitivity of Simulated Ocean Biogeochemistry to Forcing Fields Derived from NCEP and MERRA Reanalysis Products: **W W Gregg**

1340h **A53E-0295** *POSTER* Evaluation of MERRA land surface estimates in preparation for the Soil Moisture Active Passive (SMAP) mission: **Y Yi**, J S Kimball, L A Jones, R H Reichle, K C McDonald

1340h **A53E-0296** *POSTER* A Comparison of MERRA and NARR Reanalyses with the DOE ARM SGP Continuous Forcing data: **A D Kennedy**, X Dong, B Xi, S Xie, Y Zhang, J Chen

1340h **A53E-0297** *POSTER* Evaluation of Reanalysis and TRMM Products Using a New Gauge-Based Analysis of Daily Precipitation over China: **T Zhao**, A I Yatagai, K Aili

1340h **A53E-0298** *POSTER* A Comparison of the Climate Forecast System Reanalysis (CFSR) with the ERA-40, JRA-25, NCEP/NCAR, NCEP/DOE and MERRA Reanalyses: **W Ebisuzaki**, L Zhang

1340h **A53E-0299** *POSTER* Ozone profiles retrieved from SCIMACHY Chappuis-Wulf limb scatter measurements using MART: **S Chen**

1340h **A53E-0300** *POSTER* Statistical error estimation and optimal merging of MERRA and AMSR-E soil moisture and temperature datasets in preparation for SMAP: **L A Jones**, J S Kimball, R H Reichle, E F Wood

1340h **A53E-0301** *POSTER* Centennial and Decadal Scale Changes of Synoptic Activity in 20C Reanalysis (1871-2008): Reliability and Evaluation: **Y Zyuilyaeva**, I Rudeva, S K Gulev

1340h **A53E-0302** WITHDRAWN

1340h **A53E-0303** *POSTER* Evaluation of Summer Rainfall Over Mainland China in Three Reanalysis Datasets: **J Li**

1340h **A53E-0304** *POSTER* Evaluation of Reanalysis Surface Air-sea Fluxes Using Probability Distributions and Extreme Flux Estimates: **S K Gulev**, K Belyaev

1340h **A53E-0305** WITHDRAWN

1340h **A53E-0306** WITHDRAWN

1340h **A53E-0307** *POSTER* Assessment of water budgets from NWP model analyses and reanalyses over West Africa: **O Bock**, R Meynadier, F Guichard, J Redelsperger, A Boone, M Nuret, P Roucou, A Agusti-Panareda, A Beljaars

1340h **A53E-0308** *POSTER* A Reconstructed Historical MJO Index from 1871 to 2008: **E C Oliver**, K R Thompson

1340h **A53E-0309** *POSTER* Hadley Cell Variability and Extremes in Reanalysis Data: Links to Tropical and Subtropical Precipitating Systems: **J P Stachnik**, C Schumacher

1340h **A53E-0310** *POSTER* Uncertainties Evaluation of Temperature Trends from Multiple Radiosondes, Microwave Sounding Units and Reanalyses Products: **A M Powell**, J Xu

1340h **A53E-0311** *POSTER* Temporal climate inhomogeneity in reanalyses and an ongoing effort on homogenization of MERRA reanalysis: **J Chen**, M G Bosilovich, E Kalnay, Y Zhou, F R Robertson

1340h **A53E-0312** *POSTER* Outgoing Longwave Radiation Spectrum simulations from ERA-Interim: **C Belotti**, R Bantges, H Brindley, J E Harries

1340h **A53E-0313** *POSTER* Evaluating ERA-Interim Performance using recalibrated AMSU-A Observations: **C Zou**

1340h **A53E-0314** *POSTER* Biases in Global Reanalysis Datasets Undermine Intraseasonal Prediction Skill Xiouhua Fu1, Bin Wang, June-Yi Lee, Wanqiu Wang, and Li Gao International Pacific Research Center (IPRC), SOEST, University of Hawaii at Manoa:

J X Fu

1340h **A53E-0315** *POSTER* The Effect of Satellite Observing System Changes on MERRA Water and Energy Fluxes: **F R Robertson**, M G Bosilovich, J Chen, T L Miller

1340h **A53E-0316** *POSTER* A MERRA based analysis of the Climate Variability and Summer Temperature-Rainfall Relationships over India: **S Fall**, D Niyogi, C M Kishtawal, V Mishra, M G Bosilovich, J K Entin

1340h **A53E-0317** *POSTER* Evaluation of NARR precipitation data in the South Saskatchewan River Basin: **A Q Liu**, C Mooney, M Mekonnen, B Davison, B M Toth, A Pietroniro

A53F Moscone South: Poster Hall Friday 1340h
Short-Lived Climate Forcing Agents: Modeling, Observations, and Prediction Posters (joint with GC)

Presiding: **K W Bowman**, Jet Propulsion Laboratory; **J Lamarque**, NCAR

1340h **A53F-0318** WITHDRAWN

1340h **A53F-0319** *POSTER* Shortlived climate compounds: Their distribution and contribution to climate forcing (*Invited*): **I S Isaksen**

1340h **A53F-0320** *POSTER* Changes in tropospheric aerosol and reactive gases burdens and concentrations under IPCC-AR5 emission scenarios for 1850-2100: **S Szopa**, Y Balkanski, A Cozic, D Cugnet, C Déandris, J Dufresne, D Hauglustaine, M Foujols, J Lathière, N de Noblet-Ducoudré, M Schulz, N Yan

1340h **A53F-0321** *POSTER* Impact of Reducing Short-Lived Air Pollutants on Atmospheric Composition and Climate: **V Naik**, L W Horowitz, A M Fiore, H Levy

1340h **A53F-0322** POSTER Climate Response to US Aerosol Sources: 1950-2050: **E M Leibensperger**, L J Mickley, D J Jacob, W A Chen, A Nenes, P J Adams, J Seinfeld, N Kumar

1340h **A53F-0323** POSTER The influence of short-lived ozone precursor emissions on radiative climate forcing: **M M Fry**, V Naik, J J West, M D Schwarzkopf, A M Fiore, Title of Team: The Task Force on Hemispheric Transport of Air Pollution Modeling Team

1340h **A53F-0324** POSTER Satellite observational constraints on ozone radiative forcing in chemistry-climate models: **K W Bowman**, A M Aghedo, H M Worden, S S Kulawik, D T Shindell, J Lamarque, G Faluvegi, M Parrington, D B Jones, S Rast, V Naik, L W Horowitz

1340h **A53F-0325** POSTER Earth System Modeling of Ozone, Methane, and DMS: **P J Cameron-Smith**, J Lamarque, S M Elliott, D J Bergmann, C Chuang, D J Erickson, M E Maltrud, A A Mirin, R L Jacob, J Tithof

1340h **A53F-0326** POSTER Evidence that the efficiency of wet removal of Arctic aerosols is controlled by atmospheric temperature: **K Tietze**, T J Garrett, J Riedi, C Zhao, A Stohl

1340h **A53F-0327** POSTER Halogen-driven Ozone Radiative Forcing in the Tropical Marine Atmosphere: **D E Kinnison**, A Saiz-Lopez, J Lamarque, S Tilmes

1340h **A53F-0328** POSTER Long term measurements of condensation nuclei and cloud condensation nuclei in the megacity of Seoul during 2004-2010: **W Kim**, J Kim, S Shim, S S Yum

1340h **A53F-0329** POSTER The General Situation of Sounding Data Drift Error in China: **Z Chen**, P Xie

1340h **A53F-0330** POSTER Characterizing the Hygroscopicity of Asian Continental Outflow Aerosols Measured During Four Field Campaigns at Island Coastal Sites in Korea: **J Kim**, S Shim, W Kim, S S Yum

A53G Moscone West: 3004 Friday 1340h
Climate Processes and Other Research Applications Enabled by Satellite Sounders, Imagers, and Profilers III (joint with H)

Presiding: **B H Kahn**, Jet Propulsion Laboratory; **B Tian**, Jet Propulsion Lab

1340h **A53G-01** Studying Earth's Climate from Satellite Observations (*Invited*): **W B Rossow**

1410h **A53G-02** Impact of atmospheric composition on climate: perspective from the Tropospheric Emission Spectrometer (*Invited*): **K W Bowman**

1425h **A53G-03** Integrating past and present: Satellite observations and the NVAP-M global water vapor dataset: **J L Bytheway**, J M Forsythe, T H Vonder Haar

1440h **A53G-04** The ESA DUE GlobVapour Project: **M Schröder**, Title of Team: ESA DUE GlobVapour Project Team

1455h **A53G-05** Recalibration of Historical HIRS Level 1b data for Climate Studies: C Cao, **R Chen**, W P Menzel, L Shi

1510h **A53G-06** Multivariate Analysis of Hyperspectral Earth-reflected Solar Radiance: **Y Roberts**, P Pilewskie, B C Kindel, G Kopp

1525h **A53G-07** Observed Differences in Spectral Microphysical Retrievals from MODIS: **S E Platnick**, Z Zhang, B C Maddux, S A Ackerman

A53H Moscone West: 3008 Friday 1340h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere II (joint with GC)

Presiding: **T Birner**; **J L Neu**, JPL / Caltech

1340h **A53H-01** Impact of the Asian monsoon on the chemical composition of the tropical tropopause layer (TTL): (*Invited*): **P Konopka**, F Ploeger, J Grooss, G Guenther, R Mueller, J Bian, H Voemel, L Pan

1355h **A53H-02** Simultaneous lidar observations of the water vapor and ozone signatures of a stratospheric intrusion during the MOHAVE-2009 campaign: **T Leblanc**, I S McDermid, K Pérot

1410h **A53H-03** Dynamical and Chemical Characteristics of Tropospheric Intrusions Observed during START08: **C R Homeyer**, K P Bowman, L Pan, E L Atlas, R Gao, T L Campos

1425h **A53H-04** Ice Supersaturated Regions Formed by the Inhomogeneities of Water Vapor Field in the Upper Troposphere in START08 and HIPPO Global Campaigns: **M Diao**, M A Zondlo

1440h **A53H-05** Observational Characteristics of the Tropopause Inversion Layer derived from CHAMP/GRACE Radio Occultations and MOZAIC Aircraft Data: **T Schmidt**, J Cammas, S Heise, J Wickert, A Haser

1455h **A53H-06** DOUBLE TROPOPAUSE FORMATION IN IDEALIZED BAROCLINIC CYCLES: **L M Polvani**, S Wang

1510h **A53H-07** Aircraft observations of Asian pollution transported into the Arctic UTLS: **A Roiger**, H Schlager, F Arnold, A Schäfler, H Aufmhoff, O R Cooper, M A Lazzara, A Stohl, H Sodemann, C Schiller, G Guenther

1525h **A53H-08** The Global Hawk Pacific Mission (April-May, 2010) (*Invited*): **P A Newman**, D W Fahey, Title of Team: The Global Hawk Pacific Experiment Science Team

A53I Moscone West: 3006 Friday 1340h
Remote Sensing of CO₂ Emissions and Atmospheric Transport II (joint with GC)

Presiding: **M T Chahine**, JPL; **A M Michalak**, University of Michigan; **C E Miller**, California Institute of Technology

1340h **A53I-01** The GOSAT level 2 and other upper-level data products: **T Yokota**, Y Yoshida, N Eguchi, I Morino, O Uchino, N Kikuchi, H Takagi, S Maksyutov, T Saeki, K Hayashi, K Hiraki, T Matsunaga, H Watanabe

1355h **A53I-02** Contributions to GOSAT Data Analysis by the NASA Atmospheric Carbon Observations from Space (ACOS) Team (*Invited*): **D Crisp**, Title of Team: The Atmospheric Carbon Observations from Space (ACOS) Team

1410h **A53I-03** Validation of zonal averaged XCO₂ and XCH₄ derived from SWIR of GOSAT TANSO-FTS using ground-based high-resolution FTS and aircraft measurement data: **M Inoue**, I Morino, O Uchino, T Yokota, D Wunch, P O Wennberg, C M Roehl, G C Toon, T Warneke, J Notholt, J Messerschmidt, D W Griffith, N M Deutscher, V Sherlock, R Sussmann, T Machida, Y Sawa, H Matsueda, C Sweeney, P P Tans

1425h **A53I-04** A Preliminary Validation of the ACOS/GOSAT Xco₂ Product Using TCCON Data: **D Wunch**, P O Wennberg, G Keppel-Aleks, B J Connor, B Fisher, G B Osterman, D R Thompson, F A Oyafuso, G C Toon, C M Roehl, C E Miller, C O'Dell, R J Salawitch, D Crisp, R Castano, L Mandrake, V Sherlock, N M Deutscher, D W Griffith, R Macatangay, M Rettinger, R Sussmann, J Messerschmidt, J Notholt, T Warneke

1440h **A53I-05** Shorter time intervals, better insights? Global CO₂ distributions inferred from GOSAT observations for three-day intervals: **D Hammerling**, A M Michalak, D Crisp, C E Miller, Title of Team: GOSAT team, ACOS team

1455h **A53I-06** AirCore, a New Tool for Validating Satellite Retrievals of the Mole Fraction of Greenhouse Gases in the Atmospheric Column: **P P Tans**, C Sweeney, A Karion

1510h **A53I-07** CARVE: The Carbon in Arctic Reservoirs Vulnerability Experiment: **C E Miller**, S J Dinardo, Title of Team: CARVE Science Team

1525h **A53I-08** Improving Carbon Flux Estimates with Diurnal Profiling of Greenhouse Gases from Geostationary Orbit: **A Eldering**, S P Sander, J Blavier, D Rider, J Worden, K W Bowman, J L Neu, V Natraj

A53J Moscone West: 3002 Friday 1340h
Understanding Atmospheric and Terrestrial Hydrological Cycles With Isotopes in Water II (*joint with B, H, PP, V*)

Presiding: **D C Noone**, University of Colorado; **C Risi**, CIRES; **K P Tu**, UC Berkeley

1340h **A53J-01** Spatiotemporal Trends in Late 20th Century Precipitation Isotope Ratios Reflect Hemispheric Water Balance: **G J Bowen**, T Zhang, Z Liu

1355h **A53J-02** Re-investigation on the potential of paleoclimate proxies using Reanalysis of oxygen isotopic composition of seawater with an isotope incorporated AGCM: **K Kojima**, K Yoshimura, A Oka, A Suzuki, H Kawahata, T Oki

1410h **A53J-03** The effects of post-condensation exchange on the isotopic composition of water in the atmosphere (*Invited*): **R D Field**, D B Jones, D P Brown

1425h **A53J-04** WITHDRAWN

1440h **A53J-05** Validation of water cycle in GCM using water isotope data (*Invited*): **N Kurita**

1455h **A53J-06** Controls on Synoptic Scale Variability in Atmospheric Water Vapor Stable Isotopologues from Mauna Loa Observatory, Hawaii (*Invited*): **J V Hurley**, J Galewsky, D C Noone, J Worden, L R Johnson

1510h **A53J-07** Are general circulation models representing processes controlling tropical and subtropical free tropospheric relative humidity properly? The added value of water vapor isotope measurements: **C Risi**, D C Noone, J Worden, C Frankenberg, G Stiller, M Kiefer, B Funke, K A Walker, P F Bernath, M Schneider, D Wunch, P O Wennberg, V Sherlock, S Bony, J Lee, D P Brown, R Uemura, C Sturm

1525h **A53J-08** Isotopic Fractionations in the Tropical Tropopause Layer in cloud-resolving simulations of an idealized tropical circulation (*Invited*): **Z Kuang**, P N Blossey, D M Romps

Biogeosciences

B53A Moscone West: 2006 Friday 1340h
Metal and Radionuclide Transformation and Remediation in Biogeochemically Dynamic Subsurface Environments II (*joint with V*)

Presiding: **K L Skubal**, U.S. Dept. of Energy; **E M Pierce**

1340h **B53A-01** Biogeochemical Dynamics in a Shallow Alluvial Aquifer: Impact on Uranium and Other Redox-sensitive Contaminants Over Time and Space (*Invited*): **P E Long**, K H Williams, S Yabusaki, A Peacock, J Bargar, M Wilkins, J A Davis, P M Fox, R Dayvault, Title of Team: Rifle IFRC Science Team

1400h **B53A-02** Challenges and opportunities of mercury remediation in East Fork Poplar Creek, Oak Ridge, Tennessee (*Invited*): **L Liang**, B Gu, S C Brooks, C L Miller, F He, D Elias, D B Watson, M J Peterson

1420h **B53A-03** Evaluation of the removal of Strontium-90 from groundwater using a zeolite rich-rock permeable treatment wall: **S M Seneca**, A J Rabideau, K Bandilla

1440h **B53A-04** In Situ Remediation of ¹²⁹I in a Multiple Contaminant Plume (*Invited*): **M Denham**, R Nichols, M Whiteside, C Bickmore, M Millings, G Blount, J Thibault

1500h **B53A-05** The Scenarios Approach to Attenuation-Based Remedies for Inorganic and Radionuclide Contaminants (*Invited*): **M Truex**, P Brady, C J Newell, M Denham, K Vangelas

1520h **B53A-06** Nano-scale mechanisms of metal rhizostabilization in mine tailings: **J Chorover**, R R Rushforth, S Hayes, R Root, R Maier

B53B Moscone West: 2002 Friday 1340h
Process-Based Approaches in Geobiology: Understanding Modern and Ancient Systems II (*joint with GC, PP, V*)

Presiding: **D A Fike**, Washington University; **W W Fischer**, Caltech

1340h **B53B-01** Towards understanding the biological function of hopanoids (*Invited*): **D M Doughty**, R Hunter, R E Summons, D K Newman

1355h **B53B-02** Physiological, evolutionary, and genetic experiments with hopanoids in *Methylobacterium*: probing the function of geologically stable molecules: **A S Bradley**, E Muller, F Bringel, S Vuilleumier, A Pearson, C J Marx

1410h **B53B-03** Carbon Monoxide Cycling in Hot Spring Microbial Communities and Links to the Composition of the Archean Atmosphere: **A S Colman**, S Techtmann, B He, F Robb

1425h **B53B-04** Micron-scale Fe₂₊/Fe₃₊, intermediate sulfur species and O₂ gradients across the biofilm – water – sediment interface control biofilm organization: **S Ma**, J F Banfield

1440h **B53B-05** High-pressure geomicrobial experimentation: narrowing the in situ-in vitro gap (*Invited*): **B Thomas**, R J Rosenbauer

1455h **B53B-06** Where's the glass? Biomarkers, molecular clocks, and microRNAs suggest a 200-Myr missing Precambrian fossil record of siliceous sponge spicules: **E A Sperling**, J Robinson, D Pisani, K Peterson

1510h **B53B-07** Atmospheric oxygen concentration controls the size history of foraminifers: **J Payne**, A B Jost, X Ouyang, J M Skotheim, S C Wang

1525h **B53B-08** Singular Blow-up in the End-Permian Carbon Cycle: **D Rothman**

B53C Moscone West: 2004 Friday 1340h
Remote Sensing of Terrestrial Carbon Fluxes II (*joint with EP*)

Presiding: **K F Huemmrich**, University of Maryland Baltimore County; **A F Rahman**, Indiana University

1340h **B53C-01** Tower based Photochemical Reflectance Index (PRI) from a new automated spectrometer system for the estimation of seasonal canopy light use efficiency (LUE) in boreal Finland: **C J Nichol**, G Drolet, T Hilker, N C Coops, F G Hall, T J Wade, A Porcar-Castell, E Nikinmaa, T Vesala, P Kolari, J Levula

1355h **B53C-02** Shifting Trends in Phenology of a Temperate Deciduous Forest in the US Midwest: **D Dragoni**, A F Rahman

1410h **B53C-03** WITHDRAWN

- 1425h **B53C-04** Estimates of ecosystem productions from coordinated flux measurements and satellite data: **G Jia**, H Wang, A Zhang
- 1440h **B53C-05** Remote estimation of crop gross primary productivity: from close range to satellites: **A A Gitelson**, Y Peng, T Sakamoto, G P Keydan, D C Rundquist
- 1455h **B53C-06** Linking Carbon Fluxes with Remotely-Sensed Vegetation Indices for Leaf Area and Aboveground Biomass Through Footprint Climatology: **C Wayson**, K Clark, D Y Hollinger, N Skowronski, H E Schmid
- 1510h **B53C-07** Five Years of Land Surface Phenology in a Large Scale Hydrological Manipulation Experiment in an Arctic Tundra Landscape: **S Goswami**, J A Gamon, C E Tweedie
- 1525h **B53C-08** Satellite derived estimates of NEE for North American tundra ecosystems from 2003 – 2005 (*Invited*): **M M Loranty**, S J Goetz, E R Humphreys, P Lafleur, A V Rocha, P S Beck, E Rastetter, G R Shaver

Cryosphere

C53A Moscone West: 301 I Friday 1340h **Remote Sensing of the Cryosphere II** (*joint with H, OS, G*)

Presiding: **T H Painter**, Jet Propulsion Laboratory; **T Neumann**, NASA Goddard Space Flight Ctr.

- 1340h **C53A-01** Arctic Sea Ice Deformation in Satellite Remote Sensing Data and in a Coupled Sea Ice-Ocean Model: **G Spreen**, R Kwok, D Menemenlis, A T Nguyen
- 1355h **C53A-02** LONG-TERM SEA ICE DRIFT DATASETS FROM SATELLITES: **F Girard-Ardhuin**, D Croize-Fillon
- 1410h **C53A-03** Mapping Antarctica Using China's HJ-1A/1B Small Satellites Data—a Preliminary Result: **F Hui**, X Cheng, Y Liu, F Wang, Z Liu
- 1425h **C53A-04** Polar Ice Characterization from Unmanned Aircraft Observations: **R I Crocker**, J A Maslanik
- 1440h **C53A-05** Changing dynamics in the Arctic sea ice system: **W Meier**, C Fowler, J A Maslanik, J C Stroeve
- 1455h **C53A-06** China's effort to map Antarctica using multi-source remote sensed data: **X Cheng**, F Hui, Y Liu
- 1510h **C53A-07** Modeling of Microwave Emissions from the Marie-Byrd Antarctic Region: A Stable Calibration Target in the L-band: **S Misra**, S Brown
- 1525h **C53A-08** Large-area Ice Sheet and Sea Ice mapping from High-altitude Aircraft: Examples from the LVIS Sensor: **J B Blair**, M A Hofton, D L Rabine

C53B Moscone West: 301 O Friday 1340h **The Arctic Atmosphere-Sea-Ice-Land-Hydrology Interface: Observations and Modeling II** (*joint with A, H, OS*)

Presiding: **W Maslowski**, Naval Postgraduate School; **D K Perovich**, U. S. Army Corp of Engineers

- 1340h **C53B-01** Sea Surface Temperatures and their Relationship to Melt and Freeze Onset in the Central Arctic: **L Boisvert**, T Markus, C Parkinson
- 1355h **C53B-02** Observed Forcing-Feedback Processes between Northern Hemisphere Atmospheric Circulation and Arctic Sea Ice Coverage: **Q Wu**, X Zhang
- 1410h **C53B-03** Ice-Ocean Interactions to the North-West of Greenland: Glaciers, Straits, Ice Bridges, and the Rossby Radius (*Invited*): **A Muenchow**, K K Falkner, H Melling, H L Johnson, H S Huntley, P Ryan, Title of Team: Friends of Petermann

- 1425h **C53B-04** Understanding changes in the Arctic basin sea ice mass budget as simulated by CCSM4: Implications from melt season characteristics and the surface albedo feedback: **D A Pollak**, M M Holland, D A Bailey
- 1440h **C53B-05** Scaling of sea ice deformation and related feedbacks (*Invited*): **J K Hutchings**, A Roberts
- 1455h **C53B-06** Ocean-to-Ice Heat Flux and Diminished Arctic Sea Ice Cover (*Invited*): **W J Shaw**, T P Stanton
- 1510h **C53B-07** Summer Sea ice in the Pacific Arctic sector from the CHINARE-2010 cruise: **S F Ackley**, H Xie, R Lei, W Huang, Title of Team: CHINARE 2010 Arctic Sea Ice Group
- 1525h **C53B-08** The Effect of Warming Arctic Climate on Coupling Between the Sea Ice Cover and the Upper Ocean: **W Maslowski**, J Clement Kinney, J E Haynes, S R Okkonen, R Osinski

Education and Human Resources

ED53A Moscone South: Poster Hall Friday 1340h **Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom III Posters** (*joint with A, B, C, IN, GP, GC, H, OS, P, S, SM, SH, T, V*)

Presiding: **C E Walker**, National Optical Astronomy Observatory; **G Scowcroft**, University of Rhode Island; **S M Pompea**, Natl Optical Astronomy Obs

- 1340h **ED53A-0509** POSTER Students As Researchers In An Inquiry Based Classroom: **D L Quintero**
- 1340h **ED53A-0510** POSTER The ARMADA Project: Bringing Oceanography and the Arctic to the Midwest: **J Pazol**
- 1340h **ED53A-0511** POSTER URI's ARMADA Research Experience Leads to Inspiring Middle School Students to Become Ocean Stewards: **M Barrett**
- 1340h **ED53A-0512** POSTER The "Adopt A Microbe" project: Web-based interactive education connected with scientific ocean drilling: **B N Orcutt**, D Bowman, A Turner, K E Inderbitzen, A T Fisher, L W Peart, Title of Team: IODP Expedition 327 Shipboard Party
- 1340h **ED53A-0513** POSTER Deep ocean research meets the special education classroom: **A Turner**, M Turner, K J Edwards, Title of Team: Scientific Team of IODP Expedition 327
- 1340h **ED53A-0514** POSTER Trials at Sea: Successful Implementation of a Unique Two-Month Professional Development Program: **L W Peart**, B N Orcutt, A T Fisher, T Tsuji, K E Petronotis, Title of Team: IODP Expedition 327 Participants
- 1340h **ED53A-0515** POSTER A Virtual ANDRILLian Experience for Your Classroom: **M Sutton**
- 1340h **ED53A-0516** POSTER NSF RET in Southern Africa: community and research experiences in soil science: **N Mladenov**, A Pollard, R Wellbeloved-Stone, H Riffel, D Chavarro, P D'Odorico
- 1340h **ED53A-0517** POSTER Making Accurate Topographic Maps of the Schoolyard Using Ideas and Techniques Learned and Adapted from Multi-beam Sonar Mapping of the Arctic Ocean: **S I Fuerst**, J D Roberts
- 1340h **ED53A-0518** POSTER The Examining Your Environment through the Power of Data Project (EYE-POD) Project at NAU: Professional Development for Secondary Education Teachers Using Earth Sciences and GIS: **J C Sample**, L Rubino-Hare, J Claesgens, K Fredrickson, M Manone, M White
- 1340h **ED53A-0519** POSTER Starting with Teachers: Bringing GIS technology to the secondary classroom: **J Claesgens**, L Rubino-Hare, J C Sample, K Fredrickson, M Manone

1340h **ED53A-0520** *POSTER* Geospatial Education: Working with the NASA Airborne Science Program: **C M Lockwood**, L Handley, N Handley

1340h **ED53A-0521** *POSTER* Inspired by Fieldwork: A Teacher Research Experience Energizes and Ignites a Group of Elementary Students: **C H Munroe**

1340h **ED53A-0522** *POSTER* Short-term data collection projects: A means to increase teacher content knowledge and bring authentic research experiences into the classroom: **M Gaboardi**, W Parker, D Rodriguez

1340h **ED53A-0523** *POSTER* Monitoring Anthropogenic Carbon, A Classroom Research Project: **D Reese**, K Wedel, T P Guilderson

1340h **ED53A-0524** *POSTER* Preparing K-8 Teachers to Conduct Inquiry Oriented Science Education: **N A Gross**, P Garik, M D Nolan, C Winrich, D DeRosa, A Duffy, M Jariwala, B Konjoian

1340h **ED53A-0525** *POSTER* Master of Science Teaching: Encouraging Teachers and their Students in Research: **P H Reiff**

1340h **ED53A-0526** *POSTER* Rescuing Middle School Astronomy: **L A Mayo**, D Janney

1340h **ED53A-0527** *POSTER* GAVRT and Radio Jove: Partners in K-12 Science Teacher Training: C A Higgins, **J R Thieman**, B Nakamura, R Dorsey

1340h **ED53A-0528** *POSTER* Using Telescopic Observations to Explore the Science of AGN with High School Students: **K M McLin**, L R Cominsky

1340h **ED53A-0529** WITHDRAWN

1340h **ED53A-0530** *POSTER* The Impact of Positive Role Models on the Success of Students Involved in Original Scientific Research: **J M Danch**

ED53B Moscone South: 102 Friday 1340h
Enhanced Geoscience Learning Through Community Interaction II

Presiding: **S O'Connell**, Wesleyan University; **E P Laine**, Bowdoin College

1340h **Introduction** *Ed Laine*

1345h **ED53B-01** A Step Into Service Learning Is A Step Into Higher Order Thinking: **S O'Connell**

1400h **ED53B-02** "I Didn't Realize that Science Could Be So Useful": Integrating Service Learning and Student Research on Water-Quality Issues within an Undergraduate Geoscience Curriculum (*Invited*): **P D Lea**, J Urquhart

1415h **ED53B-03** WITHDRAWN

1430h **ED53B-04** Teaching Environmental Geochemistry as a Service-Learning Course (*Invited*): **T C Ku**

1445h **ED53B-05** WITHDRAWN

1500h **ED53B-06** Analysis of Student Service-Learning Reflections for the Assessment of Transferable-Skills Development: **D M Rizzo**, M Dewoolkar, N Hayden, L Oka, A R Pearce

1515h **ED53B-07** Integrating Emotion and Cognition in Successful Service Learning: A Complex System Approach (*Invited*): **F Raia**

1530h **Discussion** *Suzanne O'Connell*

Earth and Planetary Surface Processes

EP53A Moscone South: Poster Hall Friday 1340h
Advances in Monitoring Fluvial Morphodynamics II Posters
(*joint with GC, H*)

Presiding: **J Brasington**, Aberystwyth University; **C D Rennie**, University of Ottawa; **D Vericat**, Forest Technology Centre of Catalonia, Spain

1340h **EP53A-0596** *POSTER* Multi-Instrumental Measurement of Bedload Transport and Turbulent Resuspension over Lateral Sand Bars in the Lower Mississippi River: **M T Ramirez**, M A Allison, E A Meselhe, D D Duncan

1340h **EP53A-0597** *POSTER* Through-water terrestrial laser scanning of gravel beds at the plot scale: a preliminary investigation: **M W Smith**, D Vericat, C G Gibbins

1340h **EP53A-0598** *POSTER* Accounting for uncertainty when distinguishing geomorphic change in DoDs using historic contour maps: **J K Carley**, G B Pasternack

1340h **EP53A-0599** *POSTER* A New Method for Tracking Individual Particles During Bed Load Transport in a Gravel-Bed River: **M Tremblay**, G A Marquis, A G Roy, Title of Team: Chaire de recherche du Canada en dynamique fluviale

1340h **EP53A-0600** *POSTER* Cyclic Steps and Antidunes : Relating Their Features to a Suspension Index: **M Yokokawa**, Y Kishima, G Parker

1340h **EP53A-0601** *POSTER* The utility of Terrestrial Laser Scanning for monitoring and modelling braided river evolution at the reach- and multiple-event scales: **R D Williams**, J Brasington, D Vericat, M Hicks

1340h **EP53A-0602** *POSTER* Computation of boundary shear stress distributions throughout river cross-sections: a comparison among four geometrical methods and aDcp measurements: **K El Kadi Abderrezak**, J Le Coz, S Moore

1340h **EP53A-0603** *POSTER* Automatic River Bed Grain Size Measurement Using Image Processing and Support Vector Machines: **D Bellugi**, P A Nelson, W E Dietrich

1340h **EP53A-0604** *POSTER* Bedload transport from spectral analysis of seismic noise near rivers: **L Hsu**, N J Finnegan, E E Brodsky

1340h **EP53A-0605** *POSTER* Closure of sediment budgets: tractable task or elusive goal?: **S O Erwin**, J M Wheaton, J C Schmidt

1340h **EP53A-0606** *POSTER* Objective Delineation of River Bed Surface Patches from High-Resolution Spatial Grain Size Data: **P A Nelson**, D Bellugi, W E Dietrich

1340h **EP53A-0607** *POSTER* BRIDGE SCOUR MEASUREMENTS USING THE RFID TECHNOLOGY: **I Moustakidis**, A G Tsakiris, T Papanicolaou

EP53B Moscone South: Poster Hall Friday 1340h
Landscape Evolution in Response to Active Faulting III Posters
(*joint with T*)

Presiding: **N M Gasparini**, Tulane University; **N H Dawers**, Tulane University

1340h **EP53B-0608** *POSTER* Exhumational and incisional response to active faulting in the Japanese forearc, northeast Honshu: **C Regalla**, E Kirby, D M Fisher, P R Bierman, D H Rood

1340h **EP53B-0609** *POSTER* Assessing average slip rates of strike-slip faults in Japanese mountains based on geomorphic analyses of lidar DEMs: **Z Lin**, H Kaneda, Y Matsushi, T Maruyama

1340h **EP53B-0610** *POSTER* LiDAR and Field Observations of Earthquake Slip Distribution for the central San Jacinto fault: **J B Salisbury**, T K Rockwell, T Middleton, K W Hudnut

1340h **EP53B-0611** *POSTER* Structural and Geomorphic Control on Landscape Evolution by the Kern Canyon Fault, Southern Sierra Nevada, California: **K I Kelson**, C B Amos, D T Simpson, J N Baldwin, R Rose, M Ticci, J Kelson, E Salesky, J W Chipman

1340h **EP53B-0612** *POSTER* Late Pleistocene displacement and slip rate for the Breckenridge fault, Walker Basin, southern Sierra Nevada, California: **C C Brossy**, J N Baldwin, K I Kelson, D H Rood, B Kozlowicz, D Simpson, M Ticci, C B Amos, O Kozaci, A Lutz

1340h **EP53B-0613** *POSTER* A Record of Late Pleistocene and Holocene Surface-rupturing Earthquakes Along the Lake Isabella Section of the Kern Canyon Fault, California: **A Lutz**, O Kozaci, K I Kelson, D Simpson, J N Baldwin, C B Amos, R Turner, R Rose

1340h **EP53B-0614** *POSTER* Tilted lake shorelines record the onset of motion along the Hilton Creek fault adjacent to Long Valley caldera, CA, USA: **J P Perkins**, N J Finnegan, P F Cervelli, J O Langbein

1340h **EP53B-0615** *POSTER* Using remote sensing and GIS techniques to determine the tectonic significance of small-scale surface water runoff in Canyonlands National Park: **M A Levoir**, K J Mueller

1340h **EP53B-0616** *POSTER* The role of antecedent drainage networks and isolated normal fault propagation on basin stratigraphy: **E Finch**, S H Brocklehurst, R Gawthorpe

1340h **EP53B-0617** *POSTER* The influence of interacting normal faults on drainage network evolution and basin stratigraphy: **S H Brocklehurst**, E Finch, R Gawthorpe

1340h **EP53B-0618** *POSTER* Landscape Response to Active Extensional Faulting and Multiple Local Base Levels: The Perachora Peninsula, Eastern Gulf of Corinth, Greece: **O Bujanowski-Duffy**, S H Brocklehurst, R L Gawthorpe, E Finch

1340h **EP53B-0619** *POSTER* Active Tectonics of the Chersky Fold and Thrust Belt, NE Russia, From Fluvial Geomorphology: **B G Johnson**, B A Hampton, K Fujita, K G Mackey

1340h **EP53B-0620** *POSTER* Range-front deformation on the northern limb of the Manastash Anticline, Yakima Fold Belt, Washington: **T C Ladinsky**, H M Kelsey, B L Sherrod, T L Pratt

1340h **EP53B-0621** *POSTER* Ongoing lateral growth of the southern central Andes in Argentina: **B Niviere**, G Messenger, S S Carretier

1340h **EP53B-0622** *POSTER* Hanging-wall topographic expression in oblique contractional orogens: **K L Frankel**, K W Wegmann

1340h **EP53B-0623** *POSTER* Quaternary estimates of average slip-rates for active faults in the Mongolian Altay Mountains: the advantages and assumptions of multiple dating techniques: **L C Gregory**, R T Walker, A L Thomas, T Amgaa, G Bayasgalan, B Amgalan, A West

1340h **EP53B-0624** *POSTER* Drainage evolution on the eastern piedmont of Central Apennines (Italy): clues about local tectonics and regional uplift: **T Piacentini**, E Miccadei

1340h **EP53B-0625** *POSTER* Long-term expression of the Paganica Fault system vs. 2009 LAquila Earthquake surface ruptures: looking for a better understanding of its seismic behavior: **R Civico**, S Pucci, P De Martini, D Pantosti, S Pierdominici, L Cucci, P Del Carlo, C Brunori, A Patera, S Pinzi

1340h **EP53B-0626** *POSTER* Rapid Crustal Uplift at Birch Bay, Washington: **B L Sherrod**, H M Kelsey, R J Blakely

1340h **EP53B-0627** *POSTER* Mapping Indications of Neotectonic Activity and Related Seismic Hazards by Fusing Radar and Optical Satellite Data: **C L Denny**, F Meyer, M Braun, W K Wallace

EP53C Moscone South: Poster Hall Friday 1340h
Source to Sink Insights Into Integrated Sedimentary System Evolution I Posters (*joint with H, OS*)

Presiding: **J A Covault**, USGS; **A Fildani**, R&D - Chevron

1340h **EP53C-0628** *POSTER* Evidence of Wave-Induced Sediment-Gravity Flows on the Continental Shelf, East Coast New Zealand: **R P Hale**, A S Ogston, J P Walsh, C A Nitttrouer

1340h **EP53C-0629** *POSTER* Quantifying the transfer of sediment from terrestrial source to deep-sea sink over millennial timescales: **B Romans**, J A Covault, A Fildani, G E Hilley

1340h **EP53C-0630** *POSTER* The Influence of Sediment Supply & Caliber on Submarine Canyon Morphology and Turbidity-Flow Character: **Z Jobe**

1340h **EP53C-0631** *POSTER* Temporal Changes in Lead Bioaccessibility in Newly Deposited, Floodplain Sediments: **C P Morrow**, D Strawn, L Baker

1340h **EP53C-0632** *POSTER* Linking Basin Sedimentation to Source Exhumation: Insights from Detrital-zircon Thermochronology in the Magallanes Basin, Patagonia: **J C Fosdick**, B Romans, M Grove, J K Hourigan

1340h **EP53C-0633** *POSTER* Linking margin morphology to sedimentary processes along the US East Coast passive continental margin: **D S Brothers**, U S Ten Brink, B Andrews, D Twichell

1340h **EP53C-0634** *POSTER* Linking deltaic and submarine sedimentary processes: a preliminary bathymetric and sub-bottom survey of the Stehekin Delta, Lake Chelan, WA: **B A Sheets**, A Fricke

1340h **EP53C-0635** *POSTER* Tracing Organic Carbon from the Terrestrial to Marine Environment via Coupled Stable Carbon Isotope and Lignin Analyses: **L B Childress**, N E Blair, E L Leithold

1340h **EP53C-0636** *POSTER* PATTERNS OF SEDIMENT TRANSPORT AND DEPOSITION DURING A FLOOD EVENT IN A RIVER DOMINATED WETLAND: **C R Esposito**, I Y Georgiou, A S Kolker

EP53D Moscone South: Poster Hall Friday 1340h
Transient Landscapes: Capturing Responses to Changing Boundary Conditions III Posters (*joint with T*)

Presiding: **D W Burbank**, UCSB; **J Chen**, Institute of Geology, China Earthquake Administration (CEA); **M E Oskin**, University of California, Davis

1340h **EP53D-0637** *POSTER* Transience beyond the catchment: large-scale evolution of the Hawaiian landscape: **C A Riihimaki**, N M Gasparini

1340h **EP53D-0638** *POSTER* From transient landscape to transient stratigraphy: Characterising the response of sediment routing systems to tectonic and climatic perturbations: **A C Whittaker**, J J Armitage, R Duller, P A Allen

1340h **EP53D-0639** *POSTER* Surface Uplift and Erosion of the Southernmost Argentine Precordillera Range, constrained two ways: **A A Walcek**, G D Hoke

1340h **EP53D-0640** *POSTER* Timing of uplift in the Argentine Frontal Cordillera (34-32.5°S), through (U-Th)/He Thermochronology: **N R Graber**, G D Hoke, J R Metcalf

1340h **EP53D-0641** *POSTER* Post 3.3 Ma Incision Response to Range Uplift in the American River Drainage, Northern Sierra Nevada: **A J Shriver**, J Wakabayashi

1340h **EP53D-0642** *POSTER* Long-term erosion rates from focused fluvial incision into extensive surface remnants preserved in the hyper-arid Atacama desert, northern Chile: **G D Hoke**, T E Jordan

1340h **EP53D-0643** *POSTER* Do Neogene foreland basin sediments of the Orán Group, northwestern Argentina record changing conditions in the Eastern Cordillera?: **K Staffo**, J M Rahl, D J Harbor, C Galli, C Bovay

1340h **EP53D-0644** *POSTER* Valley fill in the Andean Eastern Cordillera: a response to transient incision of the Río Iruya, NW Argentina: **C Bovay**, D J Harbor, J M Rahl, K Staffo, C Galli

1340h **EP53D-0645** *POSTER* Response of denudation in the transient landscape of the Washington Cascades: **S Moon**, C P Chamberlain, K Blisniuk, N M Levine, D H Rood, G E Hilley

1340h **EP53D-0646** *POSTER* Seepage erosion of Arctic coastal bluffs driven by thawing permafrost in Northwest Alaska: **C B Phillips**, D J Jerolmack, B T Crosby

1340h **EP53D-0647** *POSTER* Rock uplift and transient landscape development in response to subduction of the Cocos Ridge, Central American Volcanic Arc: **K D Morell**, E Kirby, D M Fisher, M C Van Soest

1340h **EP53D-0648** *POSTER* Post-Pleistocene relief production and isostatic compensation within the Xining-Guide-Xunhua Basins (NE Tibetan Plateau) and their significances to plateau uplift and landscape evolution: **H Zhang**, P Zhang, J Champagnac, S Liu

1340h **EP53D-0649** *POSTER* The Ebro River and margin (NW Mediterranean): transient subaerial landscapes of the Messinian from 3D seismic reflection data: A Camerlenghi, **R Urgeles**, D Garcia-Castellanos, B De Mol, M Garces, J Verges, I Haslam, M Hardman

1340h **EP53D-0650** *POSTER* The Enigmatic Transient Landscapes of Bhutan: **B A Adams**, K X Whipple, A M Heimsath, M C Van Soest, K Hodges

EP53E Moscone South: I03 Friday 1340h
EPSP Robert P. Sharp Lecture (Webcast) (*joint with B, C, H, GC, NH, NG*)

Presiding: **A D Howard**, Univ of Virginia; **D C Mohrig**; **C Paola**, University of Minnesota

1340h **Introduction by Dan Mohrig, University of Texas**

1345h **EP53E-01** Noise is the new signal: Moving beyond zeroth-order geomorphology (*Invited*): **D J Jerolmack**

Geodesy

G53A Moscone South: Poster Hall Friday 1340h
Observing and Interpreting Regional Sea Level Change II Posters (*joint with OS, PP, NH, PA*)

Presiding: **E W Leuliette**, NOAA/Lab for Satellite Altimetry; **M E Tamisiea**, Proudman Oceanographic Lab.

1340h **G53A-0698** *POSTER* Geophysical Causes Contributing to Present-Day Sea Level Rise: **C Kuo**, C Shum, J Guo

1340h **G53A-0699** *POSTER* Detecting the Sea-Level Fingerprint of Polar Ice Mass Changes: **C Hay**, J Mitrovica, R E Kopp, S M Griffies, J Yin, R J Stouffer

1340h **G53A-0700** *POSTER* Relative Sea-Level Change in Western Iceland during the Last Half-Millennium and its Relation to Global Sea Level Patterns: **M H Saher**, R W Gehrels, N Barlow, A J Long, W L Marshall

1340h **G53A-0701** *POSTER* De-confounding of Relations Between Land-Level and Sea-Level Change, Humboldt Bay, Northern California: Uncertain Predictions of Magnitude and Timing of Tectonic and Eustatic Processes: **W Gilkerson**, T H Leroy, J R Patton, T B Williams

1340h **G53A-0702** *POSTER* Quantifying the respective contribution of different oceanic layers to steric sea level at global and basin scales, from the last decades to the recent years: **W LLOVEL**, B Meyssignac, A A Cazenave

1340h **G53A-0703** *POSTER* Geographic Variability of Global Sea Level Change: **I Fukumori**

1340h **G53A-0704** *POSTER* Regional variability in sea level trends since 1950: comparison between sea level hindcasts from the CNRM coupled climate model with different forcings, past sea level reconstructions and observed steric sea level: **B Meyssignac**, W LLOVEL, D Salas-y-méla, A A Cazenave

1340h **G53A-0705** *POSTER* Investigations at regional scales of reconstruct sea level variability over the past 50 years: **M Becker**, B Meyssignac, W LLOVEL, A A Cazenave, P Rogel

1340h **G53A-0706** *POSTER* SEA LEVEL TREND AND LOW-FREQUENCY VARIABILITY IN THE GULF OF MEXICO DERIVED FROM SATELLITE ALTIMETRY AND TIDE-GAUGES RECORDS: **M Karpytchev**, S Barbosa, C Letetrel, G Wöppelmann

1340h **G53A-0707** *POSTER* RATES OF VERTICAL LAND MOVEMENT INFERRED FROM COASTAL ALTIMETRY, TIDE GAUGES AND GPS IN THE GULF OF MEXICO: C Letetrel, **M Karpytchev**, G Wöppelmann

1340h **G53A-0708** *POSTER* The Determination of Absolute Sea level Rise in New Zealand: **J Hannah**, P H Denys, R J Beavan

1340h **G53A-0709** *POSTER* A Study on Sea Level Variations of the Korean Peninsula and Surrounding Areas Based on Tide Gauge, GPS and Satellite Altimeter Measurements: K Kim, **K Park**, J Won

1340h **G53A-0710** *POSTER* Interdecadal variability and linear trend of sea level along the Japanese coast: **T Yasuda**, M Sueyoshi

1340h **G53A-0711** *POSTER* Observation of the Ocean Surface Height along the Drake (Antarctica) Passage with Four Onboarded 1Hz GPS Antennas: **F Fund**, F Perosanz, R Biancale, Title of Team: CNES

1340h **G53A-0712** *POSTER* Regional Sea level change in the Arctic Ocean from a combination of radar and laser altimetry, tide gauges and ocean models: **O B Andersen**, T BONDO, Y Cheng

1340h **G53A-0713** *POSTER* The Eastern Mediterranean Altimeter Calibration Network – eMACnet: Anticipating JASON-3 and SWOT: **K D Evans**, E C Pavlis, P Milas, D Paradissis, B A Massinas, X Frantzis

1340h **OS43A-1589** *POSTER* Winter Sea Level and Storm Surge Anomalies: U.S. East Coast and the 2009/2010 El Niño: **W Sweet**, C Zervas

G53B Moscone South: Poster Hall Friday 1340h
Remote Sensing of Atmospheric Water Vapor Using Geodetic Techniques II Posters (*joint with A*)

Presiding: **I Thomas**, Newcastle University; **J Wang**, NCAR; **J J Braun**, UCAR

1340h **G53B-0714** *POSTER* Meteorology and GNSS? What is the benefit?: **P Drummond**, S Grünig

1340h **G53B-0715** *POSTER* Near real-time estimation of tropospheric water vapor content from ground based GNSS data and its potential contribution to weather now-casting in Austria: **A Karabatic**, R Weber, T Haiden

1340h **G53B-0716** *POSTER* Determination of Precipitable Water Vapors by Combining Ground-based GPS Measurements and Automatic Weather Station Observations: D Kim, J Won, H Kim, K Kim, **K Park**

1340h **G53B-0717** WITHDRAWN

1340h **G53B-0718** POSTER 10 years ground-based GPS derived water vapour determination, towards real-time processing and 3-d modelling: **M Ramatschi**, M Bender, G Dick, M Ge, J Wickert

1340h **G53B-0719** POSTER Determining the Optimal Sampling of Atmospheric Water Vapor from GNSS Observations: **JJ Braun**, T M Van Hove

1340h **G53B-0720** POSTER Correlating the Transport of Precipitable Water Vapor with Rainfall in a Complex Orographic Environment Before, During and After a Tropical Storm: Case Study of Typhoon Morakot: **V D Almanza**, JJ Braun, Y Kuo, W S Schreiner

1340h **G53B-0721** POSTER Comparison of tropospheric delays from Raman lidar, radiosondes, GPS and DORIS during the MANITOU experiment: **P Bosser**, O Bock, C Thom, J Pelon, P Willis, O Martin, S Nahmani, O Garrouste

1340h **G53B-0722** POSTER Climate monitoring using NCAR global, 2-hourly, GPS-derived atmospheric precipitable water dataset: Value and Challenge: **L Zhang**, J Wang, P Thorne, C A Mears

1340h **G53B-0723** POSTER Climatological signals from long term behaviors of atmospheric zenith delays and their gradients from the Japanese dense GPS array: **K Yoshida**, K Heki

1340h **G53B-0724** POSTER Concentrated Heavy Rain Detected by InSAR: a Case Study of the August 2008 Episode in Central Japan: **Y Kinoshita**, M Shimada, M Furuya, T Hobiger, R Ichikawa

1340h **G53B-0725** POSTER Evaluation of Tropospheric Zenith Delays Estimated from GPS Data and Derived from Weather Model Water Vapor Data, in the Context of InSAR Tropospheric Correction: **A W Moore**, S Kedar, F Webb, Z Liu, Y Bock, P Fang

1340h **G53B-0726** POSTER Kashima RAY-Tracing Service (KARATS) for high accurate GNSS positioning: **R Ichikawa**, T Hobiger, S Hasegawa, M Tsutsumi, Y Koyama, T Kondo

1340h **G53B-0727** POSTER Validation of tropospheric parameters estimating from VLBI data analysis: **S Bolotin**, J M Gipson, D Gordon, K Le Bail, D MacMillan

1340h **G53B-0728** POSTER Impact of erroneous meteorological data on VLBI processing: **J M Gipson**, K Le Bail, S Bolotin, D Gordon, D MacMillan

G53C Moscone West: 2008 Friday 1340h
Geophysical Remote Sensing With Current and Future Global Navigation Satellite Systems II (joint with A, C, OS, SA)

Presiding: **A J Mannucci**, Jet Propulsion Laboratory, California Institute of Technology; **E Cardellach**, Institut de Ciències de l'Espai/CSIC-IEEC

1340h **G53C-01** GPS Ground Networks As Remote Sensing Tools (Invited): **K M Larson**, E E Small, JJ Braun, V Zavorotny, F G Nievinski, M W Williams, E D Gutmann, C Chew, C M Shreve, A L Bilich, N Whitney

1355h **G53C-02** Recent Results from GNSS-Reflections Remote Sensing (Invited): **S Lowe**

1410h **G53C-03** Measurements of Ocean Surface Waves Using Airborne GNSS Multistatic Radar: **V Zavorotny**, D Akos, H Muntzing

1425h **G53C-04** Towards Sea Ice Remote Sensing with Space Detected GPS Signals: Demonstration of Technical Feasibility and Initial Consistency Check Using Low Resolution Sea Ice Information: **S Gleason**

1440h **G53C-05** Monitoring the depth of the atmospheric boundary layer by GPS radio occultation (Invited): **S V Sokolovskiy**, D H Lenschow, Z Zeng, C Rocken, W S Schreiner, D Hunt, Y Kuo, R A Anthes

1455h **G53C-06** Characteristics of stratospheric gravity waves using GPS radio occultation data (Invited): **T Tsuda**

1510h **G53C-07** Convective towers detection using GPS radio occultations: **R Biondi**, T Neubert, S Syndergaard, J Nielsen

1525h **G53C-08** Characteristics of ionospheric scintillation measured using GPS receivers onboard the COSMIC satellites: **X Pi**, A J Mannucci

Global Environmental Change

GC53A Moscone West: 3005 Friday 1340h
Ecosystem Responses to Fine-Scale Climate Variability in Mountainous Terrain II (joint with B, H)

Presiding: **C I Millar**, USDA Forest Service; **J A Hicke**, University of Idaho; **G Greenwood**, University of Bern; **C Tague**, University of California, Santa Barbara

1340h **GC53A-01** Mechanisms Controlling the Effects of Weather and Climate on California's Ecosystems (Invited): **M Goulden**, A E Kelly, A Fellows, G Winston

1355h **GC53A-02** Modeling plant species distributions under future climates: how fine-scale do climate models need to be? (Invited): **F W Davis**, J Franklin, M Ikegami, A D Syphard, A L Flint, L Hannah

1410h **GC53A-03** Climate and Floristic Variation in Great Basin Mountain Ranges (Invited): **D A Charlet**, P Leary

1425h **GC53A-04** Sensitivity of subalpine tree seedlings and alpine plants to natural and manipulated climate variation: Initial results from an Alpine Treeline Warming Experiment (Invited): **L M Kueppers**

1440h **GC53A-05** Do plant species interactions reflect small-scale abiotic gradients in the alpine zone?: **S S Whitecloud**

1455h **GC53A-06** Effects of overcast and foggy conditions on transpiration rates of Pinus patula trees along a chronosequence within the cloud belt of the Sierra Madre Oriental, central Veracruz, Mexico: **M S Alvarado-Barrientos**, F Holwerda, H Asbjornsen, T Sauer, T E Dawson, L A Bruijnzeel

1510h **GC53A-07** The upper mountain forest and tree response to climate change in south Siberian Mountains: **V Kharuk**, J Ranson

1525h **GC53A-08** Forest responses to increasing aridity and warmth in the southwestern United States: C J Still, **P Williams**, C D Allen, C I Millar, T W Swetnam, J Michaelson, S W Leavitt

GC53B Moscone West: 3001 Friday 1340h
Greening of the Arctic II (joint with B, A, C, H)

Presiding: **H E Epstein**, University of Virginia; **I H Myers-smith**, University of Alberta

1340h **GC53B-01** Greening of the Arctic: Spatial and temporal (1982-2009) variation of circumpolar tundra NDVI and aboveground biomass: **D A Walker**, H E Epstein, U S Bhatt, M K Reynolds, G Jia, J C Comiso, J Pinzon, C J Tucker

1352h **GC53B-02** What is driving productivity changes at high northern latitudes? (Invited): **S J Goetz**

1404h **GC53B-03** Decadal Time Scale change in terrestrial plant communities in North American arctic and alpine tundra: A contribution to the International Polar Year Back to the Future Project (Invited): **C E Tweedie**, D Ebert-May, R D Hollister, D R Johnson, M J Lara, S Villarreal, M Spasojevic, P Webber

- 1416h **GC53B-04** Using Long-Term Experimental Warming To Distinguish Vegetation Responses To Warming From Other Environmental Drivers Related To Climate Change: **W A Gould**, J M Welker, J A Mercado-Díaz, A Anderson, M Menken
- 1428h **GC53B-05** Assessments of recent tundra change based on repeated vegetation surveys: **S Elmendorf**, G Henry, Title of Team: theTundra Vegetation Change Group
- 1440h **GC53B-06** Primary Productivity in the High Arctic: Measurements and Predictions for Climate Change: **VL St.Louis**, C Emmerton, J D Barker, E R Humphreys, P Lafleur, C Tarnocai
- 1452h **GC53B-07** Shrub growth response to climate change and feedbacks of vegetation change to permafrost thaw in the Siberian arctic tundra (*Invited*): **D Blok**, G Schaeppman-Strub, U Sass-Klaassen, M Heijmans, H Bartholomeus, F Berendse
- 1504h **GC53B-08** Deciduous shrub growth and the greening of the Arctic in West Siberia: **B C Forbes**, M Macias Fauria, P Zetterberg, T Kumpula
- 1516h **GC53B-09** SHRUB EXPANSION ALONG ARCTIC ALASKAN STREAMS AND GULLIES REDUCES EROSION SINCE 1980: **K D Tape**, D Verbyla, J M Welker
- 1528h **GC53B-10** Shrub line advance in Arctic and alpine tundra of the Yukon Territory: **I H Myers-smith**, D Hik

GC53C Moscone West: 2005 Friday 1340h
Use of Observations for Evaluating CMIP5/IPCC Simulations II (*joint with A, IN*)

Presiding: J Teixeira, Jet Propulsion Laboratory

- 1340h **GC53C-01** Facilitating the Use of Satellite Observations for Evaluating CMIP5/IPCC Simulations: **J Teixeira**, D E Waliser, R Ferraro, G L Potter, D J Crichton, D N Williams, P J Gleckler, A J Braverman, S Lee, K E Taylor
- 1355h **GC53C-02** Uncertainty in Comparing Climate Model Predictions with Climate Observations (*Invited*): **B A Wielicki**, D F Young, Y Hu, Title of Team: The CLARREO Science Team
- 1410h **GC53C-03** Interpreting relationships between present-day fidelity and climate change projections (*Invited*): **R Pincus**, D Klocke, J Quaas
- 1425h **GC53C-04** Climate Change Time-to-Detection Simulations using IPCC Models for Shortwave Forcings and Feedbacks: **W Collins**, D Feldman, C Algieri, J Ong
- 1440h **GC53C-05** Using the Radiative Kernel Technique to Evaluate Physical Climate Feedbacks in CMIP5 Models: **K M Shell**, A K Jonko, M M Flink
- 1455h **GC53C-06** The Use of the Data Assimilation Research Testbed for Initializing and Evaluating IPCC Decadal Forecasts: **K Raeder**, J L Anderson, P H Lauritzen, T J Hoar, N Collins
- 1510h **GC53C-07** Defining and weighting for model dependence in ensemble prediction: **G Abramowitz**, C H Bishop
- 1525h **GC53C-08** Inter-Comparison of Temperature Variability from Multiple Radiosondes, Reanalyses Products and CMIP5/IPCC Climate Model Simulation: **J Xu**, A M Powell

Hydrology

H53A Moscone South: Poster Hall Friday 1340h
Agroecosystems and Water Resources II Posters (*joint with B, GC, PA*)

Presiding: B R Scanlon, University of Texas at Austin; **C T Green**, US Geological Survey; **T Harter**, University of California Davis; **A M Porporato**, Duke University

- 1340h **H53A-0982 POSTER** An optimization model to design and manage subsurface drip irrigation system for alfalfa: **M Kandelous**, T Kamai, J A Vrugt, J Simunek, B Hanson, J W Hopmans
- 1340h **H53A-0983 POSTER** EFFECTIVENESS OF PERENNIAL VEGETATION STRIPS IN REDUCING RUNOFF IN ANNUAL CROP PRODUCTION SYSTEMS: **V Hernandez-santana**, X Zhou, M Helmers, H Asbjornsen, R K Kolka
- 1340h **H53A-0984 POSTER** Mitigating agricultural impacts on groundwater using distributed managed aquifer recharge ponds: **C M Schmidt**, T A Russo, A T Fisher, A J Racz, C G Wheat, M Los Huertos, B S Lockwood
- 1340h **H53A-0985 POSTER** Designing hybrid grass genomes to control runoff generation: **C Macleod**, A Binley, M Humphreys, I P King, S O'Donovan, A Papadopoulos, L B Turner, C Watts, W R Whalley, P Haygarth
- 1340h **H53A-0986 POSTER** A Distributed Water Circulation Model Incorporating Large Irrigation Schemes for Paddy Areas: **T Yoshida**, T Masumoto, R Kudo, N Horikawa
- 1340h **H53A-0987 POSTER** Basin-wide Projection for Paddy Irrigation in Monsoon Asia Based on a Distributed Hydrological Model and Climate Change Scenarios: **R Kudo**, T Masumoto, T Yoshida, N Horikawa
- 1340h **H53A-0988 POSTER** Evaporation over a Heterogeneous Mixed Savanna-Agricultural Catchment using a Distributed Wireless Sensor Network: **N C Ceperley**, T Mande, G Barrenetxea, M Vetterli, H Yacouba, A Repetti, M B Parlange
- 1340h **H53A-0989 POSTER** Current Agriculture Expansions and the Risk of Dryland Salinization in Central Argentina: **D Jayawickreme**, C S Santoni, M Nosetto, J H Kim, S Ballesteros, E G Jobbagy, R B Jackson
- 1340h **H53A-0990 POSTER** Investigating the impact of global climatic and landuse changes on groundwater resources in hard rock areas of South India: **S Ferrant**, J Perrin, J Marechal, B Dewandel, S Aulong, S Ahmed
- 1340h **H53A-0991 POSTER** Land use effects on green water fluxes from agricultural production in Mato Grosso, Brazil: **M J Lathuilliere**, M S Johnson, S D Donner
- 1340h **H53A-0992 POSTER** Surface hydrology-climate interdependency in the Central Valley Agrosystem: **F Munoz-Arriola**, R T Hanson, Q Tang, M D Dettinger, T Das, D R Cayan
- 1340h **H53A-0993 POSTER** Impact of Irrigated Agroecosystems on Groundwater Resources in the US High Plains and North China Plain: **B R Scanlon**, L Longuevergne, G Cao, Y Shen, J B Gates, R W Reedy, C Zheng
- 1340h **H53A-0994 POSTER** Assessing the Influence of Human Activities on Global Water Resources Using an Advanced Land Surface Model: **Y Pokhrel**, N Hanasaki, S Koirala, S Kanae, T Oki
- 1340h **H53A-0995 POSTER** Human Impacts on the Hydrologic Cycle: Comparing Global Climate Change and Local Water Management: **I M Ferguson**, R M Maxwell

- 1340h **H53A-0996** POSTER A coupled hydrologic and process-based crop dynamics model for studying climate change impacts on water resources and agricultural production: **K Chinnayakanahalli, J C Adam, C O Stöckle, R L Nelson, M E Barber**
- 1340h **H53A-0997** WITHDRAWN
- 1340h **H53A-0998** POSTER Ecohydrological feedbacks between soil salinity and vegetation dynamics as mediated by interactions with the water table: **C Runyan, P D'Odorico**
- 1340h **H53A-0999** POSTER Determining Environmental Impacts of Large Scale Irrigation in Turkey: **K Simpson, E M Douglas, J F Limbrunner, G Ozertan**
- 1340h **H53A-1000** POSTER Water Use Conservation Scenarios for the Mississippi Delta Using an Existing Regional Groundwater Flow Model: **J R Barlow, B R Clark**
- 1340h **H53A-1001** POSTER Subsurface Drainage Contribution to Streamflow in Subsurface Drained Agricultural Watersheds: **S Ale, L C Bowling**
- 1340h **H53A-1002** POSTER Spatial Variation Scales of Rainfall Characteristics and Bromide Leaching: **O O Wendroth, V Vasquez, C Matocha**
- 1340h **H53A-1003** POSTER The Fate and Transport of Glyphosate and AMPA into Surface Waters of Agricultural Watersheds: **R Coupe, S Kalkhoff, P Capel, C Gregoire**
- 1340h **H53A-1004** POSTER Hydrogeologic controls on water quality at a university dairy farm: **L D McKay, R W Hunter, J Lee**
- 1340h **H53A-1005** POSTER Distribution of reduction-oxidation conditions and relation to trends in nitrate in groundwater, Central-Eastside San Joaquin Valley, California: **M K Landon, C T Green, K Belitz**
- 1340h **H53A-1006** POSTER Selection of Worst-Case Pesticide Leaching Scenarios for Pesticide Registration: **H Vereecken, A Tiktak, J Boesten, J Vanderborght**
- 1340h **H53A-1007** POSTER Dissolved Phosphorus Concentrations in the Mississippi River Valley Alluvial Aquifer, Northwestern Mississippi: **C E Rose, H L Welch**

H53B Moscone South: Poster Hall Friday 1340h
Emerging Topics in Interdisciplinary Hydrology:
Biogeochemistry, Ecology, and Geomorphology III Posters
(joint with B, A, C, EP)

Presiding: **J T McGuire**, University of St. Thomas; **V Y Ivanov**, University of Michigan

- 1340h **H53B-1008** POSTER Evaluation of Ecohydrologic Model Parsimony at Local and Regional Scales in a Semiarid Grassland Ecosystem: **E Istanbuluoglu, T Wang, D Wedin**
- 1340h **H53B-1009** POSTER Connectivity and degradation in semi-arid systems: patterns, thresholds and feedback effects: **P M Saco, M Moreno de las Heras, G R Willgoose**
- 1340h **H53B-1010** POSTER A tree-shrub-grass competition model and its evaluation in a semiarid savanna landscape with complex morphology: **X Zhou, E Istanbuluoglu**
- 1340h **H53B-1011** POSTER Vegetation influences on hillslope-stream connectivity in a forested northern Rocky Mountain watershed: **A R George Hazen, R E Emanuel, K G Jencso, B L McGlynn**
- 1340h **H53B-1012** POSTER Spatial and Temporal Dynamics of Vegetation and Hydrological Properties at Shale Hills Critical Zone Observatory in Central Pennsylvania: **K J Naithani, K Gaines, D Baldwin, H Lin, D Eissenstat**

- 1340h **H53B-1013** POSTER Effects of Terrain-modulated Radiation and Moisture Convergence on Grass Dynamics in a Semiarid Highly Seasonal Climate: Data Analysis and Numerical Model Experiments: **J H Flores Cervantes, E Istanbuluoglu, R L Bras**
- 1340h **H53B-1014** POSTER Emerging Technologies for Ecohydrological Studies during the North American Monsoon in a Chihuahuan Desert Watershed: **R C Templeton, E R Vivoni, L A Mendez-barroso, A Rango, A Laliberte, S Saripalli**
- 1340h **H53B-1015** POSTER Measurement and Modeling of Surface Energy Fluxes of Rangeland Ecosystems: **G N Flerchinger, D G Marks, M L Reba**
- 1340h **H53B-1016** POSTER Ecosystem Rain-Use Efficiency in the North American Monsoon Region: **G Forzieri, F Catani, F Castelli, E R Vivoni**
- 1340h **H53B-1017** POSTER Effects of climate change and hydrological signals on streamflow characteristics: **J Kim, A M Warnock, V Y Ivanov, N Katopodes, P Webb, S Fatichi**
- 1340h **H53B-1018** POSTER The relationship between rainfall characteristics and bedrock groundwater responses in Mt. Wanzuka, Miyazaki, Japan: an implication of the occurrence of deep-seated landslides: **Y Onda, T Uchida, K Tanaka, S Takahashi, C Padilla**
- 1340h **H53B-1019** POSTER The Interplay Between Soil Moisture and Water Repellency as a Control on the Temporal Trends in Infiltration Properties of Burnt Forest Soils, south-east Australia: **P Nyman, G J Sheridan, P N Lane**
- 1340h **H53B-1020** POSTER Hydrologic controls on the development of equilibrium soil depths: **L Nicotina, D G Tarboton, T K Tesfa, A Rinaldo**
- 1340h **H53B-1021** POSTER The geomorphological origin of recession curves: **B Biswal, M Marani**
- 1340h **H53B-1022** POSTER Geomorphology of the Trinity River floodplain in Dallas County, Texas: **B D Haugen, C Roig-Silva, A R Manning, D W Harrelson, R S Olsen, J P Dunbar, M L Pearson**
- 1340h **H53B-1023** POSTER Ground cover variation effect on sediment transport mechanism over steep hillslope; modeling of transport: **A Ghahramani, Y Ishikawa, T Gomi**
- 1340h **H53B-1024** POSTER FLUVIAL EROSION MEASUREMENTS OF STREAMBANK USING PHOTO-ELECTRONIC EROSION PINS (PEEP): **T Sutarto, T Papanicolaou, C G Wilson, F Bertrand**
- 1340h **H53B-1025** POSTER Entropy Flux Reflects Ecosystem Succession and Characteristics: **H Lin, L Graboski**
- 1340h **H53B-1026** POSTER INTERPLAY BETWEEN MEP, HYDRAULIC REDISTRIBUTION AND RESOURCE USE EFFICIENCY IN DETERMINING THE STRUCTURE OF PLANT ROOTS: **J C Quijano, P Kumar, D Drewry**
- 1340h **H53B-1027** WITHDRAWN
- 1340h **H53B-1028** WITHDRAWN
- 1340h **H53B-1029** POSTER Quantification of physical weathering rates using thermodynamics: **F Gans, S Arens, S J Schymanski, A Kleidon**
- 1340h **H53B-1030** POSTER Spatio-temporal Variability of Nitrate Across Scales in Texas Aquifers: **D Dwivedi, B P Mohanty**
- 1340h **H53B-1031** POSTER The Delivery Of Dissolved Organic Carbon From Forest Soils To A Head Water Stream: **Y Mei, G M Hornberger, L Kaplan, J D Newbold, A K Aufdenkampe**
- 1340h **H53B-1032** POSTER Rates of BTEX Biodegradation under Nitrate Reducing Conditions in Wetland Sediments Impacted by Contaminated Groundwater: **L K Olson, J T McGuire, I Cozzarelli, E W Smith, T Kneeshaw**

1340h **H53B-1033** POSTER A Coupled Hydrological and Biogeochemical Process Model for Fate and Transport of Nitrate in Agricultural Areas of Texas: **I Mendoza Sanchez**, B P Mohanty
 1340h **H53B-1034** POSTER On Fluid Flow in a Heterogeneous Medium Under Nonisothermal Conditions: **D W Vasco**
 1340h **H53B-1035** WITHDRAWN
 1340h **H53B-1036** POSTER Solute contributions from precipitation to the compositions of soil waters in a marine terrace chronosequence: **D V Vivit**, A F White, T D Bullen, J Fitzpatrick
 1340h **H53B-1037** POSTER Heavy metal release from serpentine soil dissolution; Fractional speciation of Ni and Mn: **A U Rajapaksha**, M S Vithanage, A Bandara, R Weerasooriya
 1340h **H53B-1038** POSTER Experimental Determination of the Effects of Dissolved CO₂ in Alkaline Dissolution rates of Enstatite at Earth Surface Conditions: **S Halder**, J V Walther
 1340h **H53B-1039** POSTER 3D distribution and evolution of porosity during albitization and patch perthitization of alkali feldspars: **N Norberg**, G Neusser, R Wirth, D E Harlov

H53C Moscone South: Poster Hall Friday 1340h
Flow and Transport in Complex Porous Media III Posters

Presiding: **N Shokri**, Boston University; **L J Pyrak-Nolte**, Purdue University

1340h **H53C-1040** POSTER Characterization of nutrient transport below the root zone of a willow plantation irrigated with municipal waste water in the Boreal-Parkland transition zone, Alberta, Canada: **A E Gainer**, M F Dyck, G Kachanoski
 1340h **H53C-1041** POSTER Using General-Head Boundary Condition in Groundwater Flow Model Eddy Teasdale, PG; Jim Zhang, PhD, PE; and Liz Elliot, PG: **E Teasdale**
 1340h **H53C-1042** POSTER Permeability Evolution of Shale and Coal Under Differential Sorption of He, CH₄ And CO₂: **H Kumar**, D Elsworth, C J Marone, J Mathews
 1340h **H53C-1043** POSTER A Simple Infiltration Method for Determining Hydraulic Conductivities at Various Depths: **C Chen**, K Hsu
 1340h **H53C-1044** POSTER Insights into the interaction among hydrodynamic, chemical and electrical forces in porous media: micro-scale simulations: **V Joekar-Niasar**, R Schotting
 1340h **H53C-1045** POSTER Vaporization plane dynamics at the onset of stage-2 evaporation from porous media: D Or, **N Shokri**
 1340h **H53C-1046** POSTER Experimental and Numerical Analysis of Capillary Imbibition in Fractured Sandstone under Controlled Fracture Flow Conditions: **C Lee**, Z T Karpyn
 1340h **H53C-1047** POSTER Surface wetness limit high evaporation rates from porous media into convective air flows: **E Shahraeeni**, D Or
 1340h **H53C-1048** POSTER Visualization of Fluid Flow through in a Rough-Walled Fracture Using micro-PIV Technique: **S Lee**, I Yeo, H Song, J Yoo, K Lee
 1340h **H53C-1049** POSTER Estimation of Physical Property Changes by Oil Saturation in Carbonates and Sandstone Using Computational Rock Physics Methods: **M Lee**, Y Keehm
 1340h **H53C-1050** POSTER Chitosan-coated Sorbents for In Situ Treatment of Nonpoint Source Contaminants in Urban Runoff: **P R Olson**, E Lee, U Solpuker, F W Schwartz, Y Kim, B Jeon
 1340h **H53C-1051** POSTER Effect of Various Enhanced-Solubilization Agents on Multi-Component Immiscible Liquid Dissolution and Mass Flux in Homogeneous Porous Media: **G R Tick**, D Slavic

1340h **H53C-1052** POSTER Estimating the hydraulic conductivity of two-dimensional fracture networks: **C T Leung**, R W Zimmerman
 1340h **H53C-1053** POSTER The influence of heterogeneity and spill conditions on NAPL dissolution fingering: M A Tsang, **S E Gasda**, M W Farthing, C E Kees, P T Imhoff, C T Miller
 1340h **H53C-1054** POSTER Impact of mineral isoelectric point on subsurface/NAPL wettability: **I L Molnar**, D M O'Carroll, J Gerhard, C S Willson
 1340h **H53C-1055** POSTER Remediation of Former Manufactured Gas Plant Tars Using Alkaline Flushing: **S Hauswirth**, S Rylander, P S Birak, C T Miller
 1340h **H53C-1056** POSTER Remediation of Polycyclic Aromatic Hydrocarbons in Soil Using Cosolvent Flushing: **P S Birak**, S Hauswirth, C T Miller
 1340h **H53C-1057** POSTER The Chemistry and Flow Dynamics of Molecular Biological Tools Used to Confirm In Situ Bioremediation of Benzene, TBA, and MTBE: **K P North**, D M Mackay, K M Scow
 1340h **H53C-1058** POSTER Characterizing In Situ Uranium and Groundwater Flux: **J Cho**, M A Newman, V Stucker, A Peacock, J Ranville, S Cabaniss, K Hatfield, M D Annable, H Klammler, I V Perminova
 1340h **H53C-1059** POSTER Analysis of Contaminant Transport through the Vadose and Saturated Zones for Source Screening: **V Bedekar**, C J Neville, M J Tonkin
 1340h **H53C-1060** POSTER Thickness of Residual Wetting Film in Liquid-Liquid Displacement in Capillary Channels: **I A Beresnev**, W Gaul, D Vigil

H53D Moscone South: Poster Hall Friday 1340h
Pore-Scale Interfacial Processes in the Subsurface II Posters

Presiding: **M Prodanovic**, University of Texas; **M L Porter**, Oregon State University

1340h **H53D-1061** POSTER Designer-Wet Micromodels for Studying Potential Changes in Wettability during Microbial Enhanced Oil Recovery: **R T Armstrong**, D Wildenschild
 1340h **H53D-1062** POSTER Tomographic investigation of the influence of initial wetting saturation, wettability and geometry of porous media on residual NAPL/water interfacial area: **RI Al-Raoush**
 1340h **H53D-1063** POSTER Pore-Scale Modeling of the Real and Imaginary Electrical Properties of Unconsolidated Porous Media: **N Hasan**, A L Ward
 1340h **H53D-1064** POSTER Fate and Transport of Agricultural Nutrients in Macro-porous Soils: **A A Royem**, M T Walter
 1340h **H53D-1065** POSTER Characterizing the Impact of Enhanced Solubilization Reagents on Organic-Liquid Morphology and Organic-Liquid/Water Interfacial Area Using Synchrotron X-ray Microtomography: **M Narter**, M Brusseau
 1340h **H53D-1066** POSTER Comparison of methods for measuring air-water interfacial area in porous media: **J B Araujo**, M Narter, J Mainhagu, J C Marble, M Brusseau
 1340h **H53D-1067** POSTER Pore-Scale Flow and Transport Experimental Research Opportunities for EMSL Users: **M Oostrom**, C Zhang, T W Wietsma, N Hess
 1340h **H53D-1068** POSTER Stochastic Modeling of Buoyancy driven Gas Flow Pattern: Can Continuum Models describe Channelized Gas Flow?: H W Geistlinger, **S Samani**
 1340h **H53D-1069** POSTER Long-term Groundwater Contamination after Source Removal: Role of Sorbed Carbon and Nitrogen at Cape Cod, MA: **RL Smith**, D Repert, L B Barber, G Fairchild, D R LeBlanc

H53E Moscone South: Poster Hall Friday 1340h
Uncertainty in Model Parameter Estimates and Impacts on Risk and Decision Making in the Subsurface III Posters

Presiding: **D Bolster**, UPC; **S A McKenna**, Sandia National Laboratories; **W Nowak**, University of Stuttgart; **S Srinivasan**, University of Texas Austin

1340h **H53E-1070** *POSTER* A new Markovian velocity process model for tracer dispersion in highly heterogeneous porous media: **D W Meyer**, H A Tchelepi, P Jenny

1340h **H53E-1071** *POSTER* Effective Transport in Lattice Fracture Networks with Uncorrelated and Correlated Velocity Field: **P K Kang**, M Dentz, R Juanes

1340h **H53E-1072** *POSTER* Uncertainty Quantification of Sequentially Reactive Transport Systems: Calibrating First-Order Reaction Rates: **Y Sun**

1340h **H53E-1073** *POSTER* The effect of error models in the multiscale inversion of binary permeability fields: **J Ray**, B V BloemenWaanders, S A McKenna, Y M Marzouk

1340h **H53E-1074** *POSTER* Effect of Porosity Correlations on Sensitivity of Contaminant Travel Time: **K F Pohlmann**, J Zhu, J B Chapman, C E Russell, D S Shafer, R W Carroll

1340h **H53E-1075** *POSTER* On the Inclusion of Surface-Water Observations in the Groundwater Model Calibration Process: **J White**, J D Hughes

1340h **H53E-1076** *POSTER* Estimating parameters and uncertainty for three-dimensional flow and transport in a highly heterogeneous sand box experiment: **H Yoon**, S A McKenna, D B Hart

1340h **H53E-1077** *POSTER* A New Scaled Inverse Modeling Method to Estimate Hydraulic Parameter Variations in a Deep Vadose Zone: **Z Fang**, M G Schaap

1340h **H53E-1078** *POSTER* A quantitative methodology to assess the risks to human health from CO₂ leakage into groundwater: **E Siirila**, A Stichler, R M Maxwell, J E McCray

1340h **H53E-1079** WITHDRAWN

1340h **H53E-1080** *POSTER* Hydrogeological characterization of a potential CO₂ injection site in Ottawa County, Michigan: **H Deng**, C A Peters, J P Fitts, M Pollak, E Wilson

1340h **H53E-1081** *POSTER* Comparison of Parameter Estimates and Uncertainty Calculated with Correlated Versus Uncorrelated Observation Errors: **C R Tiedeman**, C T Green

1340h **H53E-1082** *POSTER* Multi-dimensional Likelihood Estimation Techniques in conjunction with the Method of Anchored Distributions (MAD): **M W Over**, H Murakami, M S Hahn, Y Yang, Y Rubin

1340h **H53E-1083** *POSTER* A Bayesian Approach to Integrate Real-Time Data into Probabilistic Risk Analysis of Remediation Efforts in NAPL Sites: **D Fernandez-Garcia**, X Sanchez-Vila, D Bolster, D M Tartakovsky

1340h **H53E-1084** *POSTER* A Probabilistic Risk Assessment of Groundwater-Related Risks at Excavation Sites: **A Jurado**, F De Gaspari, V Vilarrasa, X Sanchez-Vila, D Fernandez-Garcia, D M Tartakovsky, D Bolster

1340h **H53E-1085** *POSTER* Optimization of monitoring networks based on uncertainty quantification of model predictions of contaminant transport: **V V Vesselinov**, D Harp

1340h **H53E-1086** *POSTER* Sensitivity analysis of tracer transport in variably saturated soils at USDA-ARS OPE3 field site: A Guber, **F Pan**, Y A Pachepsky, A Yakirevich, T Gish, T J Nicholson, R E Cady

1340h **H53E-1087** WITHDRAWN

1340h **H53E-1088** *POSTER* Evaluating Prediction Uncertainty of Uranium Transport in Small Scale Tracer Tests: **G P Curtis**, M Ye, M Kohler, P M Fox, J A Davis

1340h **H53E-1089** *POSTER* Capture zone delineation in hard-rock aquifers: Theoretical insights: **E Bresciani**, P Davy, J De Dreuzy

1340h **H53E-1090** *POSTER* Uncertainty Quantification for Uranium Migration at the Hanford 300 Area: **G E Hammond**, X Chen, P C Lichtner

1340h **H53E-1091** *POSTER* Deriving and Evaluating a Reduced Complexity Model for PRA of Groundwater Contamination: C Winter, **D Mao**, T J Yeh

1340h **H53E-1092** *POSTER* Applications of a Complimentary Modeling Framework to Improve Regional-Scale Groundwater Prediction: **A J Valocchi**, Y Demissie

1340h **H53E-1093** *POSTER* Parameter sensitivity to groundwater-surface water flow observations in an integrated land surface, groundwater and surface water simulation model: **C F Brush**, E C Dogrul, T Kadir, F Chung

1340h **H53E-1094** *POSTER* Reduced Order Models for Uncertainty Quantification and Parameter Estimation in Subsurface Flows: **P Constantine**, J E Kozdon, M G Gerritsen

H53F Moscone South: Poster Hall Friday 1340h
Water Quality of Hydrologic Systems Posters

Presiding: **T Meixner**, University of Arizona; **B T Neilson**, Utah State University

1340h **H53F-1095** *POSTER* Remote Sensing of Water Quality in a Tropical Freshwater Impoundment: **G Campbell**, S R Phinn, A G Dekker, V E Brando

1340h **H53F-1096** *POSTER* Investigating water quality response to wind-driven upwelling events in the Salton Sea, CA using multi-temporal MODIS satellite imagery: **V W Chu**, L C Smith, S J Hook

1340h **H53F-1097** *POSTER* Major Ion Chemistry of Shark River Slough, Everglades National Park: **N M Neira**, F A Matthews, D Lagomasino, R M Price

1340h **H53F-1098** *POSTER* A 2002-2008 hydrological budget and phosphorus residence times for Shark River Slough, Everglades National Park: **A K Saha**, R M Price, H Fitz, V Engel

1340h **H53F-1099** *POSTER* Perturbations in major ion chemistry of Taylor Slough, Everglades National Park, Florida, USA: **E Sandoval**, R M Price

1340h **H53F-1100** *POSTER* MULTI-ISOTOPIC (O, H, Sr, Li) TRACING OF THE FLUXES INVOLVED IN THE WATER STATUS OF A PEATLAND (LA SAUVETAT, MASSIF CENTRAL, FRANCE): B Agnès, **P J Negrel**, R Millot, B Clotilde

1340h **H53F-1101** *POSTER* Hurricane Katrina Impact on Water Quality in the East Pearl River, Mississippi: **A M Shiller**, M Shim, L Guo, T S Bianchi, R W Smith, S Duan

1340h **H53F-1102** *POSTER* Hydrologic and Chemical Controls of Water Quality in the Lower Missouri River: **F Liu**, J Yang

1340h **H53F-1103** *POSTER* Intercomparison of SWAT models in simulating hydrology of Cannonsville Reservoir Watershed: **S M Pradhanang**, Z M Easton, E Schneiderman, M S Zion, T S Steenhuis

1340h **H53F-1104** *POSTER* Changes in contaminant loading and hydro-chemical storm behavior after the Station Fire: **M P Burke**, T S Hogue, J Barco, C J Wessel

1340h **H53F-1105** *POSTER* Nitrogen fate and Transport in Diverse Agricultural Watersheds: **H Essaid**, K A McCarthy, N T Baker

1340h **H53F-1106** POSTER Atmospheric deposition and corresponding variability of throughfall and stemflow chemistry across temporal scales in a mid-Atlantic broadleaved deciduous forest: **D F Levia**, J T Van Stan, C M Siegert, S P Inamdar, M J Mitchell, S M Mage, P McHale

1340h **H53F-1107** POSTER Geochemical Differences between two adjacent streams in the Tenaya Lake region of Yosemite National Park: **R Antweiler**, E D Andrews

1340h **H53F-1108** POSTER Suspended Sediment Transport Dynamics in the Esopus Creek Watershed, New York: **R Mukundan**, D C Pierson, E Schneiderman, D O'Donnell, A H Matonse, M S Zion

1340h **H53F-1109** POSTER Stable Isotope Fractionation during Chromium(III) Oxidation by δ -MnO₂: **D T Wang**, D C Fregoso, A S Ellis, T M Johnson, T D Bullen

1340h **H53F-1110** POSTER Theoretical Analysis of the Influence of Process Parameters on Pathogen Transport and Fate in a Recreational Beach: **L Liu**, X Fu

1340h **H53F-1111** POSTER Assessment of zinc loading in an acid rock drainage alpine catchment using a tracer-injection and synoptic-sampling study: **C M Crouch**, D M McKnight, A Todd

1340h **H53F-1112** POSTER Comparison of low cost materials to remove fluoride from drinking water in Sri Lanka; Response to health problems associated with contiguous hydrogeochemistry: **M S Vithanage**, S Randiligama

1340h **H53F-1113** POSTER Major Ion Geochemistry of Horseshoe Lake, Mammoth Lakes, California: Water Quality in a Region with Elevated CO₂ from Sub-Surface Leakage: **R Santilena**, D Szutu, A S Ellis, C S Khachikian

1340h **H53F-1114** POSTER Water Quality in an Elevated CO₂ Region: a Field Study at Mammoth Lakes, CA: **C D Dwyer**, A S Ellis, C Khachikian, Title of Team: Center for Energy and Sustainability

1340h **H53F-1115** POSTER Quantifying the net benefit impacts of the Troy Waste Water Treatment Plant on Steelhead Habitat in the West Fork Little Bear Creek drainage: **R Sanchez-Murillo**, E S Brooks, J Boll

1340h **H53F-1116** POSTER Lead and arsenic bioremoval by aquatic plants sampled up and downstream from a wastewater discharge: **S P Sternberg**, M Roberts

1340h **H53F-1117** POSTER Characteristics and applications of UV/controlled-release H₂O₂ for urban runoff treatment: **S Sun**, E Lee, F W Schwartz, Y Kim

1340h **H53F-1118** POSTER SIDESTREAM ELEVATED POOL AERATION, A TECHNOLOGY FOR IMPROVING WATER QUALITY IN URBAN RIVERS: D Motta, **T Garcia**, J D Abad, F A Bombardelli, A Waratuke, M H Garcia

1340h **H53F-1119** POSTER Laboratory Feasibility Evaluation of a New Modified Iron Product for Use as a Filter Material to Treat Agricultural Drainage Waters: **B J Allred**

1340h **H53F-1120** POSTER Laboratory investigation of the potential influence of CO₂ migration on trace element release from natural aquifer sediments: **J LeBel**, A Hakala, E H Keating, D E Allen

1340h **H53F-1121** POSTER The effect of sea-water intrusion due to the large scale construction in a coastal region: **S Hyun**, S Jin, N C Woo, J Lee, H Lee, Y Kim

1340h **H53F-1122** POSTER Groundwater Quality in the North San Francisco Bay Groundwater Basins, CA: **J T Kulongoski**, K Belitz

1340h **H53F-1123** POSTER Nitrous oxide production and consumption processes in a groundwater contaminated by nitrogen compounds in Kathmandu Valley, Nepal: a study using nitrogen and oxygen isotopes ratio of nitrous oxide and nitrate: **K Osaka**, T Nakamura, S Chapagain, K Nishida, K Koba, M Yoh, F Kazama, Title of Team: ICRE

1340h **H53F-1124** POSTER Presence of faecal indicator bacteria in groundwaters in Kathmandu Valley, Nepal: **K Nishida**, S Shrestha, Y Tanaka, E Haramoto, T Nakamura, K Osaka, S Chapagain

1340h **H53F-1125** POSTER Groundwater recharges and interaction between groundwater and river water in Kathmandu valley, Nepal: **T Nakamura**, K Osaka, K Nishida, S Chapagain, S Shrestha, F Kazama, Title of Team: ICRE

1340h **H53F-1126** POSTER Factors Controlling Nitrogen Fluxes in Groundwater in Agricultural Areas: **L Liao**, C T Green, B A Bekins, J K Bohlke

1340h **H53F-1127** POSTER Characterization of nitrate contamination in groundwater in Gosan, western part of Jeju Island: **E Koh**, D Kaown, B Kang, S Oh, H Moon, K Lee

1340h **H53F-1128** POSTER The assessment of groundwater nitrate contamination by using logistic regression model in a representative rural area: **K Ko**, B Cheong, D Koh

1340h **H53F-1129** WITHDRAWN

1340h **H53F-1130** POSTER Assessment of the groundwater chemistry of a complex aquifer system in the context of urbanization in Sub-Saharan Africa: case study in semiarid southwest Niger: **A Boubakar Hassane**, G Favreau, C Leduc, B Ousmane, A Soumaila

1340h **H53F-1131** POSTER Possible Causes of Decreasing Benzene Concentrations in an Oil-Contaminated Aquifer: **D Drennan**, B A Bekins, E Warren, M J Baedecker, R P Eganhouse

1340h **H53F-1132** POSTER Modeling Dioxane Transport in a Heterogeneous Glacial Aquifer System (Washtenaw County, Michigan) Using Publicly Available Models and Data: **R Benjakul**, J S Gierke

1340h **H53F-1133** POSTER Composition Dependent Evolution in Mass Flux from Binary Trichloroethene/Tetrachloroethene-DNAPL Source Zones: **D I Walker**, N L Cápiro, E K Granbery, K D Pennell

1340h **H53F-1134** POSTER Effect of Gas Bubble Mobilization on Contaminant Transport during Thermal Remediation: **M M Krol**, K G Mumford, R L Johnson, B E Sleep

H53G Moscone West: 3014 Friday 1340h
Climate Forcing of Surface and Subsurface Hydrology and Biogeochemistry: Processes, Models, Management II (*joint with A, B, EP, GC*)

Presiding: **S Arumugam**, NC State University; **S Floegel**, IFM-GEOMAR; **B Peucker-Ehrenbrink**, Woods Hole Oceanographic Institution; **R M Holmes**, Woods Hole Research Center; **W A Robinson**, North Carolina State University; **T Wagner**, Newcastle University; **N A Chappell**, Lancaster University; **M T Coe**, The Woods Hole Research Center; **U Lall**, Columbia Univ; **G Parkin**, Newcastle University; **J Drake**, University of Tennessee; **M J Waterloo**, VU University

1340h **H53G-01** What do we know about large river input to the ocean and what should we do? (*Invited*): **J Gaillardet**, J Bouchez, C France-Lanord, C Hillaire-Marcel

1355h **H53G-02** Global river nutrient export: scenario analysis of past and future trends (*Invited*): **S Seitzinger**, E Mayorga, L Bouwman, A Beusen, J Harrison, C Kroeze, E Dumont

1410h **H53G-03** Submarine Groundwater Discharge of Trace Elements and Isotopes from Karst Systems (*Invited*): **M A Charette**, P B Henderson, M E Gonnee, C Breier, J Murray, J W Jenson, S Morales, J Herrera-Silveira

1425h **H53G-04** Climate change impacts on water resources in tropical mountain regions: an Andean perspective (*Invited*): **W Buytaert**, M Vuille, A V Karmalkar, R Urrutia, R Celleri

1440h **H53G-05** Impacts of human activity and climate on the hydrology and ecosystem services of forests in the Guianas on the northern rim of Amazonia: **G Parkin**, T Wagner, I Bovolo, R Pereira

1455h **H53G-06** Groundwater as a Source of Evapotranspiration in the Dry Season in Amazonia: Simulations with the LEAFHYDRO LSM: **G Miguez-Macho**, Y Fan

1510h **H53G-07** New methodology for quantifying the relative impacts on hydrological ecosystem services of tropical rain forest disturbance for long-term timber production or oil palm production: **N A Chappell**, W Sinun

1525h **H53G-08** Hydrometeorological and Epidemiological Time Markers for Urban Malaria in Niamey, Niger (*Invited*): **E Williams**

H53H Moscone West: 3018 Friday 1340h
Data, Information Systems, Interoperability, Cloud Computing, and Community Modeling in Hydrology II (*joint with IN*)

Presiding: **D G Tarboton**, Utah State University; **M Piasecki**, Drexel University; **R P Hooper**, CUAHSI

1340h **H53H-01** Hydro-Meteorology Research and ICT at CIMA Foundation: DEWETRA and DRIHMS experiences. (*Invited*): **A Parodi**, G Boni, L Ferraris, R Rudari, F Siccardi

1355h **H53H-02** A Cyber-Infrastructure for a Virtual Observatory and Ecological Informatics System -VOEIS: **C Izurieta**, G Poole, B L McGlynn, W F Cross, L A Marshall, G A Jacobs, S Cleveland, I Judson, F R Hauer, B Kucera

1410h **H53H-03** The HydroServer Platform for Sharing Hydrologic Data: **D G Tarboton**, J S Horsburgh, K Schreuders, D R Maidment, I Zaslavsky, D W Valentine

1425h **H53H-04** EML, VEGA, ODM, LTER, GLEON - considerations and technologies for building a buoy information system at an LTER site: **C Gries**, L Winslow, P Shin, P C Hanson, D Barseghian

1440h **H53H-05** NWS-CHPS, the Community Hydrologic Prediction System is operational (*Invited*): **P Gijbers**, C Brunner, L Cajina, J Roe, E Welles

1455h **H53H-06** Challenges and Solutions in Implementing Hydrological Models within Scientific Workflow Software: **J Perraud**, P G Fitch, Q Bai

1510h **H53H-07** Component-based Hydrologic and Landscape Evolution Models: Interoperability, Standards, and New Algorithms: **S D Peckham**

1525h **H53H-08** Data-intensive hydrologic modeling: A Cloud strategy for integrating PIHM, GIS, and Web-Services: **L N Leonard**, C Duffy, G Bhatt

H53I Moscone West: 3016 Friday 1340h
Mixing and Reactive Transport: From Pore to Field Scale II (*joint with A, OS*)

Presiding: **M Willmann**, ETH Zurich; **T Le Borgne**, Geosciences Rennes; **A Englert**, Ruhr University Bochum; **M Dentz**, Institute of Environmental Assessment and Water Research (IDAEA-CSIC)

1340h **H53I-01** Mixing and spreading are complementary non-Fickian. (*Invited*): **J Carrera**, T Le Borgne, M Dentz, D Bolster, J De Dreuzy, P Davy

1410h **H53I-02** Hybrid simulations of reactive transport in porous media (*Invited*): D M Tartakovsky, **I Battiato**, A M Tartakovsky, T D Scheibe

1440h **H53I-03** Validity of macroscopic models of mean concentration for predicting mixing-controlled reactive transport: **J Luo**, O A Cirpka

1455h **H53I-04** Intra-grain Pore-Scale Reactive Diffusion of Uranium and Upscaling in Subsurface Sediments: **C Liu**, J Shang, S Kerisit, Z Wang, J M Zachara

1510h **H53I-05** On the Equivalence of Purely Lagrangian Reaction Algorithms and Eulerian (Continuum) Reaction Equations: Required Adjustments to the Classical Theory: **D A Benson**, D Bolster

1525h **H53I-06** Modeling bimolecular irreversible reactive transport in porous media: A Guadagnini, **X Sanchez-Vila**, D Fernandez-Garcia

H53J Moscone West: 3020 Friday 1340h
New Challenges for Ecohydrology and Water Quality Investigations at the Watershed Scale II (*joint with B*)

Presiding: **M Rode**, Helmholtz Centre for Environmental Research UFZ; **M Wilkinson**, Newcastle University; **H Asbjornsen**, Heidi Asbjornsen; **E Daly**, Monash University

1340h **H53J-01** Evaluation of Physically and Empirically Based Models for the Estimation of Green Roof Evapotranspiration: **K A DiGiovanni**, F A Montalto, S Gaffin, C Rosenzweig

1355h **H53J-02** Stomatal sensitivity of irrigated urban trees is constrained by xylem vulnerability to cavitation: **E Litvak**, H R McCarthy, D E Pataki

1410h **H53J-03** Ecohydrological implications of shallow water uptake by plants in a seasonal tropical montane cloud forest (*Invited*): **G R Goldsmith**, F Holwerda, L Munoz-Villers, H Asbjornsen, J J McDonnell, C S Wong, T E Dawson

1425h **H53J-04** Multi-scale linkages between forest water use, catchment storage, and streamflow dynamics (*Invited*): **C Hale**, J J McDonnell

1440h **H53J-05** Integrated simulation of daily isotope variability at two spatial scales in a nested agricultural catchment: **C Birkel**, D Tetzlaff, S M Dunn, C Soulsby

1455h **H53J-06** Assessing Spatial and Temporal Variability of Ephemeral Streamflow in Southern Ontario: **R Bhamjee**, J B Lindsay

1340h **H53J-07** WITHDRAWN

1510h **H51D-0929** Science in the clouds: UAVs and cloud computing methods for spatial diffuse pollution risk assessment (*Invited*): **S M Reaney**

1525h **H53J-08** Uncertainty in BMP optimization to improve watershed scale water quality: **I Chaubey**, C Maringanti

H53K Moscone West: 3022 Friday 1340h
Recent Advances in Process-Based/Physically Based Distributed Hydrologic Modeling II (*joint with B, EP, GC, A*)

Presiding: **M S Phanikumar**, Michigan State University; **C Shen**, Michigan State University

1340h **Introduction** *Mantha S Phanikumar and Chaopeng Shen*

1341h **H53K-01** Parameterizing a Large-scale Water Balance Model in Regions with Sparse Data: The Tigris-Euphrates River Basins as an Example: **A L Flint**, L E Flint

1356h **H53K-02** Simulating Hydrologic Interactions With a Model Formulation Based on DEM-Derived Surface Flow Paths and Boundary Condition-Resolved Exchange Fluxes (*Invited*): **C Paniconi**, M Camporese, C Dages, S Orlandini, M Putti, M Sulis, S Weill

1411h **H53K-03** Development of a Continental Scale Water Balance Model and its Application in Projecting Water Supply Stress in the Conterminous U.S. Under Future Climate Scenarios: **P Caldwell**, G Sun, S McNulty, E Cohen, J Moore Meyers, A Noormets, J domec

1426h **H53K-04** Beyond Passing Variables: Thinking Like a Coupled Surface-Atmosphere Model (*Invited*): **B M Lofgren**

- 1441h **H53K-05** A Process-Based, Distributed Hydrologic Model Based on a Large-Scale Method for Surface – Subsurface Coupling: **C Shen**, M S Phanikumar
- 1456h **H53K-06** Distributed Watershed Models: Back to the Basics (*Invited*): **T Steenhuis**, Z Easton, J Boll, L A Caballero, H E Dahlke, E S Brooks, S A Tilahun, D R Fuka
- 1511h **H53K-07** Utilizing geophysics to identify reactive facies and to spatially distribute reactive transport parameters (*Invited*): **D S Sassen**, S S Hubbard, N Spycher, M Denham, J Wan, M Millings
- 1526h **H53K-08** A Comprehensive Analysis of Parameter Sensitivity and Land Surface Model Optimization for the Amazon Basin: **R Rosolem**, W J Shuttleworth, H V Gupta, L Goncalves, X Zeng, N Restrepo-Coupe

Earth and Space Science Informatics

IN53A Moscone South: Poster Hall Friday 1340h Collaborative Frameworks in Earth and Space Sciences II Posters (*joint with GC, NH, PA, ED*)

Presiding: **C Lynnes**, NASA/GSFC; **R Devarakonda**, Oak Ridge Nat'l Lab-Env Scis.; **R Ramachandran**, University of Alabama in Huntsville

- 1340h **IN53A-1153** WITHDRAWN
- 1340h **IN53A-1154** *POSTER* The USA National Phenology Network's Model for Collaborative Data Generation and Dissemination: A Rosemartin, **A Lincicome**, E G Denny, L Marsh, B E Wilson
- 1340h **IN53A-1155** *POSTER* SeTES, a Self-Teaching Expert System for the analysis, design and prediction of gas production from shales and a prototype for a new generation of Expert Systems in the Earth Sciences: **H A Kuzma**, K Boyle, S Pullman, M T Reagan, G J Moridis, T A Blasingame, J W Rector, M Nikolaou
- 1340h **IN53A-1156** *POSTER* The development of a new database of gas emissions in Italy: a collaborative web environment for collecting and publishing data on natural gas emissions: C Cardellini, **A Frigeri**, F Frondini, G Chiodini
- 1340h **IN53A-1157** *POSTER* Application of the U.S. Geoscience Information Network to deploying a National Geothermal Data System: **M L Allison**, S M Richard, R J Clark, W Grunberg
- 1340h **IN53A-1158** *POSTER* C3: A Collaborative Web Framework for NASA Earth Exchange: **E Foughty**, C Fattarsi, C Hardoyo, D Kluck, L Wang, B Matthews, K Das, A Srivastava, P Votava, R R Nemani
- 1340h **IN53A-1159** *POSTER* Scientist-Teacher-Student Interactions: Experiences around the Fall 2010 A-Train Symposium: **L H Chambers**, M A Rogers, D J Charlevoix, T Kennedy, D H Oostra
- 1340h **IN53A-1160** *POSTER* Libre: A Framework for Sharing and Discovering Science Data: **J Lacy**, R E Duerr
- 1340h **IN53A-1161** *POSTER* NASA Earth Exchange: A Collaborative Earth Science Platform: **R R Nemani**, P Votava, A Michaelis, F S Melton, H Hashimoto, C Milesi, W Wang, S Ganguly
- 1340h **IN53A-1162** *POSTER* GRIP Collaboration Portal: Information Management for a Hurricane Field Campaign: **H Conover**, A Kulkarni, M Garrett, T Smith, H M Goodman
- 1340h **IN53A-1163** *POSTER* A Modular Framework for Transforming Structured Data into HTML with Machine-Readable Annotations: **E W Patton**, P West, E Rozell, J Zheng
- 1340h **IN53A-1164** *POSTER* A Drupal-Based Collaborative Framework for Science Workflows: **P Pinheiro da Silva**, A Gandara

- 1340h **IN53A-1165** *POSTER* Development of a Unique Web2.0 Interface for Global Collaboration in Land Cover Change Research: **M Dunham**, S Boriah, V Mithal, A Garg, M Steinbach, V Kumar, C S Potter, S Klooster, J Castilla-Rubio

IN53B Moscone South: Poster Hall Friday 1340h Experiences in Open Source and Software Reuse for Earth Science Remote Sensing and Environmental Mapping and Analysis Posters (*joint with B, EP, ED, GC, G*)

Presiding: **A N Pilant**, US EPA R&D; **K K Benedict**, University of New Mexico; **R R Downs**, Columbia University; **C A Mattmann**, NASA Jet Propulsion Laboratory & USC

- 1340h **IN53B-1166** *POSTER* Enhancing interdisciplinary collaboration and decisionmaking with J-Earth: an open source data sharing, visualization and GIS analysis platform: **L C Prasad**, P R Christensen, J H Fink, S Anwar, S Dickenshied, E Engle, D Noss
- 1340h **IN53B-1167** *POSTER* Interactive Analysis of Hyperspectral Data under Linearity Constraints: **A Schmidt**, E Treguier, F Schmidt, S Moussaoui, C Pelloquin
- 1340h **IN53B-1168** *POSTER* An Open Source Platform for Earth Science Research and Applications: **S H Hiatt**, S Ganguly, F S Melton, A Michaelis, C Milesi, R R Nemani, P Votava, W Wang, G Zhang, Title of Team: NASA Ecological Forecasting Lab
- 1340h **IN53B-1169** *POSTER* Application of Unmanned Aerial Vehicle (UAV) for establishing a three-dimensional model in urban environment: **F Liou**, F Tseng, J Wen, K Chang
- 1340h **IN53B-1170** *POSTER* Packaging Software Assets for Reuse: **C A Mattmann**, J J Marshall, R R Downs
- 1340h **IN53B-1171** *POSTER* Earthworm - reusing a single (open source) software system to study the earth from its core to its magnetosphere: **S Lisowski**, S B Hellman, P A Friberg, I G Dricker, L D Dietz, M A Garces, J J Love, A T Weatherwax
- 1340h **IN53B-1172** *POSTER* Developing Software Product Lines for Science Data Systems (*Invited*): **D J Crichton**, J S Hughes, C A Mattmann, E Law, S Hardman
- 1340h **IN53B-1173** *POSTER* Software Reuse Through Libraries and Web Service in NSIDC Searchlight: **B Billingsley**, M Savoie, S Reed
- 1340h **IN53B-1174** *POSTER* The EOSDIS Reference Architecture: E J Sofinowski, **J Behnke**
- 1340h **IN53B-1175** *POSTER* Smartphones for Geological Data Collection- an Android Phone Application: F Sun, **Y Weng**, J D Grigsby
- 1340h **IN53B-1176** *POSTER* Experiences and Challenges in Earth Science Software Reuse: **J Werpy**
- 1340h **IN53B-1177** *POSTER* Software Release and Distribution of the NASA Land Information System: Legacy and Lessons Learned: **J Geiger**, C D Peters-Lidard, S Kumar, Y Tian
- 1340h **IN53B-1178** *POSTER* Recent Improvements in Writing and Using Gridded Data with the GRIDSPEC Conventions in the LibCF Library: **E J Hartnett**, D Kindig, A Pletzer

Natural Hazards

NH53A Moscone South: Poster Hall Friday 1340h **Remote Sensing and Modeling of Dust Storms: Monitoring and Forecasting Posters** (*joint with A, GC*)

Presiding: **H M El-Askary**, Chapman Univ; **W A Sprigg**, The University of Arizona; **A K Prasad**, Chapman University; **M Kafatos**, Schmid College of Science, Chapman Univ.

1340h **NH53A-1251** *POSTER* Saharan dust, transport processes, and possible impacts on hurricane activities. (*Invited*): **W K Lau**, K Kim

1340h **NH53A-1252** *POSTER* Aerosol-radiation-cloud and precipitation processes during dust events (*Invited*): **G B Kallos**, S Solomos, J Kushta, C Mitsakou, P Athanasiadis, C Spyrou, C Tremback

1340h **NH53A-1253** *POSTER* Remote sensing of Saharan Dust: A Multi-sensor Perspective (*Invited*): **C M Ichoku**, M Petrenko

1340h **NH53A-1254** *POSTER* Mineral composition in arid soils: A global distribution (*Invited*): **S Nickovic**, A Vukovic, M Vujadinovic, G Pejanovic, V Djurdjevic, M Dacic

1340h **NH53A-1255** *POSTER* Similarities and differences between Asian and Saharan dust from models, satellite- and ground-based data: **L Su**, O B Toon

1340h **NH53A-1256** *POSTER* Investigating playa surface textures: The impact of chemistry and environment on surface morphology and dust: **H J Tollerud**, M S Fantle

1340h **NH53A-1257** *POSTER* Dust Long-Range Transport and the Dust-Radiation Effects on the Modification of the SAL Environment: **S Chen**, S Wang, M Waylonis, Title of Team: SC

1340h **NH53A-1258** *POSTER* Adapting WRF-CHEM GOCART for Fine-Scale Dust Forecasting: **S L Jones**, G A Creighton, E L Kuchera, K D George, A J Elliott

1340h **NH53A-1259** *POSTER* Case study of Asian dust optical and deposition properties over the Yellow Sea of China by shipboard and ground-based photometers, along with Satellite remote sensing: **D Yang**, Y Liu, W Chen

Ocean Sciences

OS53A Moscone South: Poster Hall Friday 1340h **Fluid Flow and Gas Hydrates in Continental Margins V Posters** (*joint with GC, NH, PP, V*)

Presiding: **C Berndt**, IFM-GEOMAR; **S Planke**, Volcanic Basin Petroleum Rsch

1340h **OS53A-1341** *POSTER* Isotopic fractionation of hydrate-bound hydrocarbons in the sub-bottom sediments of Lake Baikal: **A Hachikubo**, O Khlystov, H Sakagami, H Minami, S Yamashita, N Takahashi, H Shoji, G Kalmychkov, J Poort

1340h **OS53A-1342** *POSTER* Classification and Comparison of Fluid flow Systems in the SW Barents Sea: **S Vadakkepuliambatta**, S Buenz, J Mienert, S Chand

1340h **OS53A-1343** *POSTER* Zonation of North Alex Mud Volcano Highlighted by 3-D Active and Passive Seismic Data: J Bialas, M R Lefeldt, D Klaeschen, C A Papenberg, **W Brueckmann**

1340h **OS53A-1344** *POSTER* Crustal structure and fluid migration studies in the southwestern Taiwan convergent zone using seismic tomography: **W Cheng**, T K Wang, S Hsu, C Lee, C Liu

1340h **OS53A-1345** *POSTER* Topographic features of gas hydrate mounds of shallow gas hydrate areas in Joetsu Basin, eastern margin of Japan Sea: **M Hiromatsu**, H Machiyama, R Matsumoto

1340h **OS53A-1346** *POSTER* Measuring in situ dissolved methane concentrations in gas hydrate-rich systems, Part 1: Investigating the correlation between tectonics and methane release from sediments:

L Lapham, R M Wilson, C K Paull, J Chanton, M Riedel

1340h **OS53A-1347** *POSTER* Pore water geochemistry of active methane venting sites, Umitaka Spur and Joetsu Knoll, eastern margin of the Japan Sea: **H Tomaru**, Y Muramatsu, H Anzai, G T Snyder, R Matsumoto

1340h **OS53A-1348** *POSTER* Boron isotope geochemistry to reveal evolutionary process of the Wakamiko submarine hydrothermal systems, south Kyushu, Japan: **S Hirao**, J Ishibashi, T Oono, C You, S Wu, B Wang, T Yamanaka

1340h **OS53A-1349** *POSTER* Occurrence and origin of gas hydrates of the eastern margin of Japan Sea as revealed by deep piston and gravity coring of R/V Marion Dufresne: **M Tanahashi**, R Matsumoto, Title of Team: MD179 Shipboard Scientists

1340h **OS53A-1350** *POSTER* Authigenic carbonates from the Northern South China Sea: petrographic and geochemical characterization: **S Wang**, W Yan, V H Magalhães, Z Chen, L F Fuentefria De Menezes Pinheiro

1340h **OS53A-1351** *POSTER* Measuring In situ Dissolved Methane Concentrations in Gas Hydrate-Rich Systems. Part 2: Investigating Mechanisms Controlling Hydrate Dissolution: **R M Wilson**, L Lapham, M Riedel, J Chanton

1340h **OS53A-1352** *POSTER* Possible migration front of gas-related fluid inferred from 3D seismic in the eastern Nankai Trough: **H Otsuka**, S Morita, M Tanahashi, J Ashi, S Nagakubo

1340h **OS53A-1353** *POSTER* Can in situ methanogenesis explain a 3 m-thick gas hydrate-filled sand in Walker Ridge Block 313, Gulf of Mexico?: **A Cook**, A Malinverno

1340h **OS53A-1354** *POSTER* Three-dimensional gas migration and gas hydrate systems of south Hydrate Ridge, offshore Oregon: **E M Graham**, N L Bangs, M J Hornbach, C Berndt

1340h **OS53A-1355** *POSTER* Free gas in the regional hydrate stability zone: Implications for hydrate distribution and fracturing behavior: **H Daigle**, B Dugan

1340h **OS53A-1356** *POSTER* Seismic characterisation of gas hydrates in the Pegasus sub-basin, Southern Hikurangi Margin, New Zealand: **J Cooper**, A R Gorman, I A Pecher, T Golding, S A Henrys

1340h **OS53A-1357** *POSTER* NUMERICAL SIMULATIONS OF DEPRESSURIZATION-INDUCED GAS PRODUCTION FROM THE GULF OF MEXICO, THE BLUE AND ORANGE WALKER RIDGE 313 AND THE GREEN CANYON 955 HYDRATE DEPOSITS:

E M Myshakin, B J Anderson, K Rose, R M Boswell

1340h **OS53A-1358** *POSTER* Time Dependent Fluid Occurrence Offshore Taiwan: **L Chen**

1340h **OS53A-1359** *POSTER* High-resolution seafloor features related to potential gas-hydrate formation off SW Taiwan: **S Hsu**, C Tsai, S Chen, T Shih

1340h **OS53A-1360** *POSTER* Understanding gas distribution beneath Hydrate Ridge, offshore Oregon: combining high-resolution 3D seismic data with various 2D seismic profiles acquired at different frequencies: **G Crutchley**, C A Papenberg, D Klaeschen, C Berndt, N L Bangs, M Hornbach

1340h **OS53A-1361** *POSTER* Comparison of effective medium models for marine gas hydrate templates: **D A Terry**, C C Knapp, J H Knapp

1340h **OS53A-1362** *POSTER* Observations and coupled models of flow, salinity, and hydrate formation in deepwater Gulf of Mexico vents: **A J Smith**, P B Flemings, P M Fulton

1340h **OS53A-1363** *POSTER* Dissociation Heat of Methane-Carbon Dioxide Hydrate Mixtures: **T Kwon**, T J Kneafsey, E V Rees

1340h **OS53A-1364** POSTER Cyclic formation and dissociation of methane hydrate within partially water saturated sand: **T J Kneafsey**, S Nakagawa

1340h **OS53A-1365** POSTER Tracking and Quantifying Methane Bubble Plumes on the North Cascadia Margin: **T A Zyla**, G Spence, M Riedel, M J Whitarcar

1340h **OS53A-1366** POSTER Synthesising Uniform Gas Hydrate in Natural Porous Media under Partially Saturated and Fully Water Saturated Conditions: **E V Rees**, T J Kneafsey, T Kwon

1340h **OS53A-1367** POSTER Large-Scale Pockmarks on the West Margin of Baja California: **J W Kluesner**, P Lonsdale

1340h **OS53A-1368** POSTER Resistivity and seismic structure at southern Hydrate Ridge: **P K Kannberg**, A M Trehu, K A Weitemeyer, S Constable, M A Arsenault

1340h **OS53A-1369** POSTER Provenance and Paleoenvironment of Sandy Sediments Possibly Hosting Gas Hydrate in the Eastern Margin of Japan Sea: **T Uchida**, I Takashima, T Ito, R Matsumoto

1340h **OS53A-1370** POSTER Slope Failure Records in Gas Hydrate Bearing Regions of the Cascadia Margin: **J E Johnson**, M E Torres, W Hong, C Disenhof, E Miranda, K Rose

1340h **OS53A-1371** POSTER Discrepancies in thermal gradients from BSR depth and seafloor thermometry on the Hikurangi Margin, New Zealand - possible implications for gas hydrate formation and subduction-zone processes: **I A Pecher**, W Wood, R Funnell, S J Toulmin, L J Hamdan, R B Coffin, S A Henrys, N Kukowski

1340h **OS53A-1372** POSTER New Isotopic Measurements of Carbonate Minerals from the Cascadia Accretionary Prism Confirm Indications of Past Warm Fluid Flow and Reveal Complex Spatial Variations in Fluid Isotopic Patterns: **J C Sample**, A K Tripathi

1340h **OS53A-1373** POSTER Sulfur Isotopic Inferences of the Controls on Porewater Sulfate Profiles in the Northern Cascadia Margin Gas Hydrate System: **T Bui**, J Pohlman, L Lapham, M Riedel, B A Wing

1340h **OS53A-1374** POSTER Pervasive barite deposits at cold seeps from the northern Gulf of Mexico continental slope: Geochemical characteristics and formation mechanism: **D Feng**, H H Roberts

1340h **OS53A-1375** POSTER Methane Hydrates inventory for a warm Paleogene Ocean: **R Kahana**, A J Ridgwell

1340h **OS53A-1376** POSTER Evaluation of Heat Induced Methane Release from Methane Hydrates: **J Leeman**, M Elwood-Madden, T J Phelps, C J Rawn

1340h **OS53A-1377** POSTER Modelling Changes in the Global Methane Hydrate Inventory: **S J Hunter**, D Goldobin, A M Haywood, J G Rees, A J Ridgwell, N Brilliantov, P Jackson, C Rochelle, M Lovell, J Levesley

OS53B Moscone South: Poster Hall Friday 1340h
The Southern Ocean: Variability in Ocean, Ice, and Climate II Posters (joint with C, G)

Presiding: **C Boening**, Jet Propulsion Laboratory; **M Schodlok**, UCLA

1340h **OS53B-1378** POSTER Sea Ice Thickness Variability in the Southern Ocean: **C L Wiederwohl**, B P Morgan, A H Orsi

1340h **OS53B-1379** POSTER Antarctic Circumpolar Current variability in the southwestern Atlantic: **Y Kim**, A H Orsi

1340h **OS53B-1380** POSTER On the outflow of Weddell Sea Deep Water over the South Scotia Ridge: observations from a high-resolution hydrographic survey: **M Flexas**, D Gomis, M Palmer, A H Orsi

1340h **OS53B-1381** POSTER Seasonal Potential-Vorticity Anomaly Pigs Propagating in the Subantarctic Mode Water Python: **S Schmidtko**, G C Johnson

1340h **OS53B-1382** POSTER Subtropical dipole mode in the Southern Hemisphere: **F Wang**

1340h **OS53B-1383** POSTER Surface forcing of ocean heat content in Drake Passage: **G R Stephenson**, S T Gille, J Sprintall

1340h **OS53B-1384** POSTER The Transient Response of the Southern Ocean Pycnocline to Changing Atmospheric Winds: **D C Jones**, T Ito, N S Lovenduski

1340h **OS53B-1385** WITHDRAWN

1340h **OS53B-1386** POSTER The model atmospheric response to the meso-scale SST variations along the Polar Front in Drake Passage: **C Jiang**, S T Gille, J Sprintall, K Yoshimura, M Kanamitsu

1340h **OS53B-1387** POSTER The Step-Like Structure of Potential Vorticity in the Southern Ocean and its Stability: **C Wilson**, A F Thompson, C W Hughes

1340h **OS53B-1388** POSTER Antarctic Circumpolar Current transport along the Campbell Plateau responds to South Pacific winds: **M M Bowen**

1340h **OS53B-1389** POSTER The Influence of the Antarctic Ice Sheet on the Southern Hemisphere Westerly Winds and Ocean Circulation: **T Silva**, A Schmittner, K Fraedrich, E Kirk, F Lunkeit

1340h **OS53B-1390** POSTER Changes in the CFC distributions between Tasmania and Antarctica over 1991-2008: **M J Warner**, J L Bullister, S R Rintoul, R Sonnerup, A Reed

1340h **OS53B-1391** WITHDRAWN

1340h **OS53B-1392** POSTER Water Mass Formation in an eddy-resolving state estimate ECCO2: **M Schodlok**, D Menemenlis, H Zhang, A H Fetter, V Zlotnicki

1340h **OS53B-1393** POSTER Freshwater Flux from Sea Ice in the Southern Ocean: **L Ren**, K G Speer

OS53C Moscone South: Poster Hall Friday 1340h
Turbulence, Mixing, and Multiscale Interactions in Rivers and Estuaries II Posters

Presiding: **A T Jessup**, University of Washington; **A R Horner-Devine**, University of Washington; **S G Monismith**, Stanford University

1340h **OS53C-1394** POSTER COHSTREX: The Coherent Structures in Rivers and Estuaries Experiments: **A T Jessup**

1340h **OS53C-1395** POSTER Bathymetric Sensitivity/Inversion in a River Model: **G Wilson**, H T Ozkan-Haller

1340h **OS53C-1396** POSTER The generation of coherent flow structures in a gravel bed river: **R J Hardy**, J Best, D Parsons, K Christensen

1340h **OS53C-1397** POSTER Coherent Turbulent Flow Structures in a Gravel-Bed River: **W Ashley**, J H MacMahan, A J Reniers, E B Thornton, J Brown, W A Swick

1340h **OS53C-1398** POSTER Mechanisms of turbulence production and dissipation within an idealised permeable bed revealed using endoscopic PIV: J Lead, G Sambrook Smith, J Best, R J Hardy, **G Blois**

1340h **OS53C-1399** POSTER Small-scale instability of a river plume front: **A R Horner-Devine**, C Chickadel

1340h **OS53C-1400** WITHDRAWN

1340h **OS53C-1401** POSTER Estimates of Turbulent Mixing in Strongly Stratified Yellow Sea in Summer: J Wang, **H Wei**, Y Lu

1340h **OS53C-1402** POSTER On the erosion of cold intermediate layers: A case study in the Gulf of St. Lawrence: **F Cyr**, D Bourgault, P S Galbraith

1340h **OS53C-1403 POSTER** Can Atmospheric Boundary Layer Similarity Scaling Represent Turbulent Spectra and Cospectra in Estuarine Flows?: **R K Walter**, N J Nidzieko, S G Monismith
 1340h **OS53C-1404 POSTER** Nested-grid models for simulating saltwater intrusion in the Pearl River Estuary: **W Zhou**, D Wang
 1340h **OS53C-1405 POSTER** Turbulence Statistics in the Coastal Ocean Bottom Boundary Layer: **A R Nayak**, E E Hackett, L Luznik, J Katz, T R Osborn
 1340h **OS53C-1406 WITHDRAWN**
 1340h **OS53C-1407 POSTER** Modeling gas bubbles and dissolved gases in a turbulent ocean boundary layer: **J Liang**, J C McWilliams, P P Sullivan, B Baschek
 1340h **OS53C-1408 POSTER** Integral Length and Time Scales of Velocity, Heat and Mass At and Near a Turbulent Free Surface: **G M Curtis**, C J Zappa, E A Variano

OS53D Moscone West: 3007 Friday 1340h
Nearshore Processes IV (*joint with EP*)

Presiding: **C Chickadel**, University of Washington; **J W Long**, USGS; **D Foster**, University of New Hampshire; **G R Pawlak**, University of Hawaii

1340h **OS53D-01** Kootenai River Experiment: An overview of river flow observations and modeling (*Invited*): **A J Reniers**, J H MacMahan, W Swick, W Ashley, J Brown, C Tuggle, P Rynne, E B Thornton, K Holland
 1355h **OS53D-02** Transverse Mixing in a Natural River Channel: **W A Swick**, J H MacMahan, A J Reniers, E B Thornton, J Brown
 1410h **OS53D-03** Boussinesq modeling of HB06 tracer releases Part 2: Tracer plumes: **D B Clark**, F Feddersen, R T Guza
 1425h **OS53D-04** Modal analysis of rip current cell oscillations: **J Geiman**, J T Kirby, A J Reniers, J H MacMahan
 1440h **OS53D-05** A new 3D fully wave-current model MARS-WAVEWATCH : development, validation and application to the rip currents: **A Bennis**, F Ardhuin, F Dumas, P Bonneton
 1455h **OS53D-06** Coupled Wave-Current Numerical Simulation of Cohesive Sediment Transport in San Francisco Bay using SUNTANS: **Y Chou**, O B Fringer
 1510h **OS53D-07** Investigation of muddy seafloor response to energetic waves on the Louisiana Shelf: **C Sahin**, I Safak, A Sheremet, T Hsu, M A Allison
 1525h **OS53D-08** Laboratory study of spectral waves over a muddy bottom: **E Maxeiner**, R A Dalrymple

OS53E Moscone West: 3009 Friday 1340h
Satellite Studies of Ocean-Atmosphere Coupling From Mesoscale to Basin Scale II (*joint with A*)

Presiding: **M A Bourassa**, Florida State University; **W Liu**, Jet Propulsion Laboratory

1340h **OS53E-01** Climatology and interannual variability of high-wind occurrence over ocean (*Invited*): **S Xie**, X Cheng, T Sampe, H Tokinaga
 1355h **OS53E-02** Recent improvements in retrieving near-surface air temperature and humidity using microwave remote sensing (*Invited*): **J B Roberts**
 1410h **OS53E-03** Modulation of Environmental Factors on Abnormal Track and Intensity of Tropical Cyclone Nargis (2008): **D Wang**, C Wang, L Yang, W Li
 1425h **OS53E-04** Observations of Decadal-Scale Salinity Changes in the North Pacific Ocean (*Invited*): **L Ren**, S Riser

1440h **OS53E-05** High-resolution satellite-derived ocean surface winds in the Nordic-Barents seas region: Implications for ocean modeling (*Invited*): **D S Dukhovskoy**, M A Bourassa, P J Hughes
 1455h **OS53E-06** Record warming in the South Pacific and western Antarctica associated with the 2009-10 El Niño: atmospheric and oceanic processes and coupling: **T Lee**
 1510h **OS53E-07** Atmospheric Wind Relaxations and the Oceanic Response in the California Current Large Marine Ecosystem: **M R Fewings**, C E Dorman, L Washburn, W Liu
 1525h **OS53E-08** Comparison of Radon-222 and satellite-wind-based estimates of gas exchange in the Eastern Tropical South Pacific ocean: **W Berelson**, L Y Yeung, D E Hammond, C I Wolfe, N Rollins, M G Prokopenko

Planetary Sciences

P53A Moscone South: Poster Hall Friday 1340h
Characterizing Soils and Their Development on Mars, the Moon, and Other Extraterrestrial Bodies III Posters (*joint with EP, C, NS, V*)

Presiding: **M A Velbel**, Michigan State University; **M B Madsen**, University of Copenhagen; **M H Hecht**, Jet Propulsion Laboratory; **W Goetz**, MPI for Solar System Research

1340h **P53A-1480 POSTER** The History of Dirt at the Phoenix Site: **M H Hecht**
 1340h **P53A-1481 POSTER** Subsurface ices at the Mars Phoenix Landing Site: Assessing emplacement mechanisms: **S Cull**, R E Arvidson, M T Mellon, P A Skemer, A Shaw, R V Morris
 1340h **P53A-1482 POSTER** Spectral Properties of Soil Grains as Inferred from Images of the Optical Microscope onboard the Phoenix Mars Lander: **W Goetz**, M H Hecht, M B Madsen, S F Hviid, T Pike, U Staufer, K Leer, M Elmaarry, H U Keller, W J Markiewicz
 1340h **P53A-1483 POSTER** Multispectral and Textural Properties and Diversity of Soils in Gusev Crater and Meridiani Planum from Mars Exploration Rover Pancam and MI Data: **J F Bell**, A A Fraeman, L Grossman, K E Herkenhoff, R J Sullivan, Title of Team: The MER/Athena Science Team
 1340h **P53A-1484 POSTER** Local Chemistry and Mineralogy of Martian Soils Measured by In-Situ Instruments of the two Mars Exploration Rovers: Implications for Global Geochemistry: **J Brueckner**, I Fleischer, R Gellert, G Klingelhoefer, Title of Team: Athena Science Team
 1340h **P53A-1485 POSTER** Sulfur, Chlorine, and Bromine Variations in the Soil Profile at Gusev Crater, Mars: **S Karunatillake**, Y Zhao, S M McLennan
 1340h **P53A-1486 POSTER** Geochemical Modeling of Hot Spring Chemistries with Applications to Martian Silica Formation: **G M Marion**, D C Catling, J K Crowley, J S Kargel
 1340h **P53A-1487 POSTER** Allophane on Mars: Significance for Chemical Weathering and Soil Development: **M D Kraft**, E B Rampe, T G Sharp, D W Ming, D C Golden, P R Christensen
 1340h **P53A-1488 POSTER** Alteration Assemblages in Martian Meteorite MIL 03346: Terrestrial, Pre-terrestrial, and Inferences for Martian Surface Fluids: **L Hallis**, J Stopar, J Taylor, M A Velbel, E P Vicenzi
 1340h **P53A-1489 POSTER** Aeolian Grain Evolution on Mars: Implications for Regolith Origins: **R J Sullivan**, N A Cabrol, M Golombek, K E Herkenhoff, G Landis, Title of Team: MER Athena Science Team

1340h **P53A-1490** POSTER Continuous Particle Size Mapping of Alluvial Fan Material in Mojave Crater from HiRISE Imagery: **P Carboneau**, K Goddard, A L Densmore, S Gupta

1340h **P53A-1491** POSTER Testing Planetary Radiative Transfer Models via Remote Sensing of Gypsum Sands in White Sands National Monument: **K L Siebach**, R E Arvidson, J Boettger, S Bova, P Murrey, M Rudd, S Spera, T Stein, M Witchger

1340h **P53A-1492** POSTER Implications for the Daily Variation and the Low Value of Thermal Inertia at Arabia Terra on Mars: **T Toyota**, T Saruya, K Kurita

1340h **P53A-1493** POSTER Temperature Effects on Triboelectric Charging in the Martian Environment: **W D Smythe**, S F Demarco, L W Beegle, R C Anderson

1340h **P53A-1494** POSTER Seeking organic compounds on Mars : in situ analysis of organic compounds by Gas Chromatography-Mass Spectrometry on MOMA experiment: **A Buch**, C Freissinet, R Sternberg, V Pinnick, C Szopa, P J Coll, C Rodier, C Garnier, H Steininger, Title of Team: MOMA team

1340h **P53A-1495** POSTER Map of Upper Regolith Layer Hydrogen Content Measured Using the Mars Odyssey Neutron Spectrometer: **W C Feldman**, S Maurice, A Pathare

1340h **P53A-1496** POSTER Mobilization of H₂O by humidity-dependent solid-state mineral transformations under Mars-like conditions: **S A Wilson**, D L Bish

1340h **P53A-1497** POSTER X-Ray Diffraction and Fluorescence Measurements for In-situ Planetary Instruments: G Hansford, **K S Hill**, D Vernon, R M Ambrosi, J Bridges, I Hutchinson

1340h **P53A-1498** POSTER Spectrogoniometric Measurements and Modeling of Apollo 16 Soil 68810: **J R Johnson**, M K Shepard, D A Paige, E J Foote, W M Grundy

1340h **P53A-1499** POSTER Apollo 11 and 16 Soil Bi-directional Solar Reflectance Measurements, Models and LRO Diviner Observations: **E J Foote**, D A Paige, M K Shepard, J R Johnson, S F Biggar, B T Greenhagen, C Allen

1340h **P53A-1500** POSTER Lunar Regoliths: Solving Geochemical Mysteries Using Lunar Impact Glasses: **N Zellner**, J Delano, T Swindle

1340h **P53A-1501** POSTER Comparison of three different statistical methods for retrieving the lunar mineral abundance: L Li, **S Li**

1340h **P53A-1502** POSTER Noninvasive Prospecting for Lunar Ores and Minerals: Laboratory Experimentation and Fieldwork: **H J Al-Shukri**, M Su, H H Mahdi, A Biris, S Trigwell

1340h **P53A-1503** POSTER Measuring Regolith Depth across the Lunar Surface: **M T Lawder**, G D Bart, R D Nickerson

1340h **P53A-1504** POSTER Measurement of the dielectric constant of lunar minerals and regolith: **S Trigwell**, J Starnes, C Brown, C White, T White, M Su, H H Mahdi, H J Al-Shukri, A Biris, Title of Team: Non invasive prospecting for lunar ores and minerals

1340h **P53A-1505** POSTER Characterization of Lunar Soils Using a Thermal Infrared Microscopic Spectral Imaging System: **S T Crites**, P G Lucey

1340h **P53A-1506** POSTER Thermal infrared emissivity measurements in a simulated lunar environment of major silicate minerals on the Moon: **K L Donaldson Hanna**, M B Wyatt, I R Thomas, N E Bowles, B T Greenhagen

1340h **P53A-1507** POSTER Spectra of volcanic rocks glasses as analogues of Mercury surface spectra: **C Carli**, F Capaccioni, M De sanctis, G Filacchione, M Sgavetti, D Di Genova, A Vona, D Visonà, E Ammannito

1340h **P53A-1508** POSTER An Experimental Approach to Thermal and Solar Weathering of Mercury's Surface: **S M Brown**, L T Elkins-Tanton

1340h **P53A-1509** POSTER Simulating airless and/or hot planetary surfaces in the Planetary Emissivity Laboratory (PEL): A Maturilli, **J Helbert**, M D'Amore

1340h **P53A-1510** POSTER Reduced gravity causes larger and lower-angle granular avalanches with less stratification: S J de Vet, **M G Kleinhans**, H Markies, A C in 't Veld, F N Postema

P53B Moscone South: Poster Hall Friday 1340h Exploring Venus II Posters (joint with A, SA)

Presiding: J Helbert, DLR; **S E Smrekar**, Jet Propulsion Laboratory; **H F Parish**, University of California Los Angeles

1340h **P53B-1511** POSTER Venus and Earth, false twins: really different rotational properties: **L Cottreau**

1340h **P53B-1512** POSTER Observations of Low Frequency Waves in the Magnetosheath of Venus: **M A Balikhin**, S N Walker, M Gedalin

1340h **P53B-1513** WITHDRAWN

1340h **P53B-1514** POSTER Spectrometric searching for the trace constituents in the atmospheric clouds on Venus: **M I BLECKA**, G Piccioni, P Drossart, R Carlson

1340h **P53B-1515** POSTER Estimation of the energy transport of Venusian atmospheric turbulence by the spectral analysis of the VEX/VMC UV images: **T Teraguchi**, Y Kasaba, N Hoshino, Y Takahashi, S Watanabe, M Yamada, Y Matsuda, D Titov, W J Markiewicz

1340h **P53B-1516** POSTER The Stratospheric Observatory for Infrared Astronomy – A New Tool for Planetary Science: **M J Ruzek**, E Becklin, M J Burgdorf, W Reach

1340h **P53B-1517** POSTER Cooperative Planetary Image Data Center and Venus Cooperative Observation supporting Akatsuki: **T Nakakushi**, H Tanaka, A Mizutani, M Okyudo, A Tomita, M Adachi, K Yunoki, N Tokimasa, Y Takahashi, T Imamura

1340h **P53B-1518** POSTER Investigating Martian and Venusian hyperspectral datasets through Positive Source Separation: **E Tréguier**, F Schmidt, A Schmidt, S Moussaoui, N Dobigeon, S Erard, A Cardesín, P Pinet, P Martin

1340h **P53B-1519** POSTER Modeling ionospheric ions encountered by Venus Express and implications for atmospheric escape measurements: **T McEnulty**, D Ulusen, J G Luhmann, I De Pater, Y Ma, A Fedorov, E Dubinin

1340h **P53B-1520** POSTER Stability of basalt+anhydrite+calcite at HP-HT: implications for Venus, the Earth and Mars: **A M Martin**, K Righter, A H Treiman

1340h **P53B-1521** POSTER Investigations of Variability on Multi-Year Timescales in a Venus Atmosphere GCM: **H F Parish**, G Schubert, C C Covey, A Grossman, S Lebonnois

P53C Moscone South: Poster Hall Friday 1340h Mineralogical Studies of Impact Craters: Exhumed Crust, Hydrothermal Processes, and Postimpact Weathering II Posters (joint with EP, MR)

Presiding: J R Michalski, Planetary Science Institute; **P B Niles**, NASA JSC; **S P Wright**, University of New Mexico

1340h **P53C-1522** POSTER THE EJECTA EVOLUTION OF DEEP IMPACT: INSIGHT FROM EXPERIMENTS: **B Hermalyn**, P H Schultz, J T Heineck

1340h **P53C-1523** POSTER Alteration products of shock metamorphosed basalt from a range of shock pressures: **S P Wright**

1340h **P53C-1524** POSTER THERMAL FORENSICS OF ZIRCONS FROM THE MESOPROTEROZOIC SUDBURY IMPACT STRUCTURE (ONTARIO, CANADA): **D Prado**, S J Mojzsis

1340h **P53C-1525** POSTER An unusual circular depression in Samangan province, northern Afghanistan: impact crater, diatreme, salt diapirism or karst related?: **B E Hubbard**, J R Sanfilippo

1340h **P53C-1526** POSTER Possible Impact Origin for the Late Ordovician Bear Swamp Structure in the Finger Lakes Region of New York: **D Leiphart**

1340h **P53C-1527** WITHDRAWN

1340h **P53C-1528** POSTER A New Experimental Approach for Investigating Ballistic Ejecta Emplacement: **C M Ernst**, O S Barnouin

1340h **P53C-1529** POSTER Detailed Analysis of the Intra-Ejecta Dark Plains of Caloris Basin, Mercury: **D Buczkowski**, K D Seelos

1340h **P53C-1530** POSTER Geologic History of a Felsic and Hydrated Mineral Suite in Syrtis Major: **M R Smith**, J L Bandfield, A Gillespie

1340h **P53C-1531** POSTER Mafic high inertia crater floors in the southern highlands: Implications for a widespread post-impact modification process on Mars: **C S Edwards**, J L Bandfield, D Rogers, P R Christensen

1340h **P53C-1532** POSTER The Role of Impact Excavation in Distributing Clays Over Noachian Surfaces: **C J Barnhart**, F Nimmo

1340h **P53C-1533** POSTER Pluvial shorelines in Nevada and Oregon as analogs for features in crater lakes on Mars: **J R Zimelman**, W B Garry, R P Irwin, S P Scheidt

1340h **P53C-1534** POSTER Numerical modeling of a desiccation mechanism for formation of Crater Floor Polygons on Mars: **M Elmaarry**, J Kodikara, W J Markiewicz, W Goetz, A Pack

1340h **P53C-1535** POSTER Ejecta-Excavated Subsurface Clays Detected in SW Arabia Terra, Mars: **M Wilhelm**, C J Barnhart, J M Moore

1340h **P53C-1536** POSTER Retention time of rays around small lunar craters: **S Suzuki**, C Honda, N Hirata, N Asada, H Demura, K Kitazato, Y Ogawa, J Terazono, T Moroda, M Ohtake, J Haruyama, T Matsunaga

1340h **P53C-1537** POSTER Asymmetric impacting on the Moon and its dependence on debiased NEA models: **T Ito**, R Malhotra

1340h **P53C-1538** POSTER Distributions of Superposed Impact Craters on Lunar Basins: **M R Kirchoff**, K M Sherman, C R Chapman

1340h **P53C-1539** POSTER Nonuniform cratering of the Moon, porous lunar megaregolith and a revised crater chronology: **M Le Feuvre**, M A Wieczorek

1340h **P53C-1540** POSTER Impact melt volume estimates in small-to-medium sized craters on the Moon from the Lunar Orbiter Laser Altimeter (LOLA) and Lunar Reconnaissance Orbiter Camera (LROC): **O S Barnouin**, K D Seelos, A McGovern, B W Denevi, M T Zuber, D E Smith, M S Robinson, G A Neumann, E Mazarico, M H Torrence

1340h **P53C-1541** POSTER Whipple Crater at the lunar North Pole: A smaller version of Shackleton at the lunar South Pole?: **D E Smith**, M T Zuber, E Mazarico, G A Neumann, J W Head, M H Torrence, O S Barnouin, P G Lucey

1340h **P53C-1542** POSTER The Thickness of Proximal Ejecta from the Orientale Basin as revealed by the Lunar Orbiter Laser Altimeter (LOLA): **C Fassett**, J W Head, D E Smith, M T Zuber, G A Neumann

1340h **P53C-1543** POSTER Depths, Diameters, and Profiles of Small Lunar Craters From LROC NAC Stereo Images: **J D Stopar**, M Robinson, O S Barnouin, T Tran

P53D Moscone South: Poster Hall Friday 1340h
South Pole-Aitken Basin: New Insights II Posters (*joint with EP*)

Presiding: **N E Petro**, NASA\GSFC; **E Mazarico**, NASA GSFC / ORAU NPP; **R L Klima**, Johns Hopkins University Applied Physics Laboratory

1340h **P53D-1544** POSTER Anorthosite distribution and its implication in the Lunar South Pole-Aitken basin based on data derived from SELENE Multiband Imager: **K Uemoto**, M Ohtake, J Haruyama, S Yamamoto, Y Yokota, T Matsunaga, R Nakamura, T Moroda, T Iwata

1340h **P53D-1545** POSTER Compositional Survey of Central Peaks in the South Pole-Aitken Basin from Moon Mineralogy Mapper (M³) data: **P Isaacson**, J Nettles, J W Boardman, N E Petro, R L Klima, L A Taylor, C M Pieters, L Cheek, R N Clark, J W Head, J Whitten, S Tompkins, S Besse, D Dhingra, D Moriarty, Title of Team: Moon Mineralogy Mapper Team

1340h **P53D-1546** POSTER Reconciling Differences in Global Iron Estimates Using Gamma-ray/Neutron and Reflectance Spectroscopy: **J Cahill**, J J Hagerty, D J Lawrence

1340h **P53D-1547** POSTER The GIS-based geologic investigation of the South Pole-Aitken basin region of the Moon using SELENE elemental information: **K J Kim**, J M Dohm, J Williams, J Ruiz, B Yu, T M Hare, N Hasebe, N Yamashita, Y Karouji, S Kobayashi, M Hareyama, E Shibamura, M Kobayashi, C d'Uston, O Gasnault, O Forni, R C Reedy

1340h **P53D-1548** POSTER The Swirls at SPA: **G Y Kramer**, S Besse, J W Boardman, B J Buratti, R N Clark, J Combe, D Dhingra, R L Klima, T B McCord, J W Nettles, N E Petro, C M Pieters

1340h **P53D-1549** POSTER High Resolution Mapping of the Lunar South Pole-Aitken Basin Interior: **B A Archinal**, L R Gaddis, T M Hare, M Rosiek, E Howington-Kraus, E Lee, L Weller, R L Kirk, K Edmundson, T Becker, B L Jolliff, T Tran, M Robinson, Title of Team: LROC Science Team

1340h **P53D-1550** POSTER LRO Camera Imaging of Potential Landing Sites in the South Pole-Aitken Basin: **B L Jolliff**, S M Wiseman, K E Gibson, C Lauber, M Robinson, L R Gaddis, F Scholten, J Oberst, Title of Team: LROC Science and Operations Team

1340h **P53D-1551** POSTER Detection and Extent of Ancient, Buried Mare Deposits in South Pole-Aitken Basin (SPA): Implications for Robotic Sampling: **N E Petro**, B L Jolliff, L R Gaddis, C M Pieters

1340h **P53D-1552** WITHDRAWN

1340h **P53D-1553** POSTER What is the South Pole-Aitken basin hiding?: **I Garrick-Bethell**, F Nimmo, M A Wieczorek

P53E Moscone South: Poster Hall Friday 1340h
The Atmosphere of Mars: New Findings From Modeling and Observations III Posters (*joint with A*)

Presiding: **K Ishikawa**, Tokyo Metropolitan University; **M A Kahre**, BAER Institute / NASA Ames

1340h **P53E-1554** POSTER Observations of Planetary and Tidal Waves as seen by the Mars Climate Sounder: **S D Guzewich**, E R Talaat, D W Waugh

1340h **P53E-1555** POSTER CROSS-INSTRUMENT CALIBRATION OF ATMOSPHERIC TEMPERATURES OBSERVED BY MARS GLOBAL SURVEYOR: **D P Hinson**, M D Smith

1340h **P53E-1556** POSTER The influence of higher atmospheric pressure on the Martian surface and sub-surface radiation environment - implications for Martian habitability in the Noachian era: **B Ehresmann**, R F Wimmer-Schweingruber, G Reitz, E Boehm, S Burmeister, O Kortmann, C Martin

1340h **P53E-1557** POSTER 1½ Dimensional Model of the Martian Ionosphere: **M Matta**, P Withers, A Lollo, M Mendillo

1340h **P53E-1558** POSTER Energy transfer in O collisions with He isotopes and helium escape from Mars: **S Bovino**, P Zhang, V Kharchenko, A Dalgarno

1340h **P53E-1559** POSTER Dust Accumulation and Cleaning of the MER Solar Arrays: **J A Herman**, M T Lemmon, P Stella, K B Chin, E G Wood

1340h **P53E-1560** POSTER MAPPING OF OZONE ON MARS AT INFRARED WAVELENGTHS USING CRIRES AT VLT: **Y L Radeva**, M J Mumma, G Villanueva, R Novak, P Hartogh, T Encrenaz, H Kaufl, A Smette

1340h **P53E-1561** POSTER Modeling Mars' Ionospheric Electrodynamics: **C S Paty**, M O Fillingim, R J Lillis, S England, C Carrera

1340h **P53E-1562** POSTER The effect of airborne dust on the stabilization of the early Mars atmosphere against atmospheric collapse: **M A Kahre**, R M Haberle, J Hollingsworth, C B Leovy

1340h **P53E-1563** POSTER Initial results from Ensemble Data Assimilation of radiances and retrieved temperatures from TES and MCS in an Martian GCM: **C Lee**, M I Richardson

1340h **P53E-1564** POSTER Thermal structure over the North Pole in the middle atmosphere of Mars during northern summer from MCS measurements: **P M Wolkenberg**, Title of Team: D. J. McCleese, J. H. Shirley, J. T. Schofield, W. A. Abdou, J. L. Benson, D. M. Kass, A. Kleinböhl, and N. Heavens

1340h **P53E-1565** POSTER Investigaion of X-ray emission from Martian exosphere at solar minimum with Suzaku: **K Ishikawa**, Y Ezoe, T Ohashi, N Terada, Y Futaana

1340h **P53E-1566** POSTER Comparison of FFSM Transient Eddies and MOC Storms, MY 24-26: **J Noble**, J R Barnes, R M Haberle, B A Cantor

1340h **P53E-1567** POSTER Time-of-day variations of atmospheric temperature and water ice opacity observed by Mars Climate Sounder: **A Kleinboehl**, J T Schofield, D Kass, D J McCleese

1340h **P53E-1568** POSTER CO₂ Clouds on Mars: New Constraints from CRISM Data: **M Vincendon**, B Gondet, C Pilorget, S L Murchie, J Bibring

1340h **P53E-1569** POSTER Rosetta-Alice Observations of Exospheric Hydrogen and Oxygen on Mars: **P D Feldman**, A J Steffl, J Parker, M F A'Hearn, J Bertaux, S A Stern, H A Weaver, D Slater, M Versteeg, H Throop, N Cunningham, L M Feaga

1340h **P53E-1570** POSTER Three Martian years of observations with SPICAM on Mars Express: **F Montmessin**, J Bertaux, O Korabiev, L Maltagliati, A Fedorova, F Lefevre, F Forget, E Marcq, C Listowski, A E Maattanen, A Reberac

1340h **P53E-1571** POSTER 3D, multi-fluid, MHD calculations of Mars interaction with the solar wind: **D Najib**, G Toth, A F Nagy, S Curry, Y Ma

1340h **P53E-1572** POSTER Monitoring Atmospheric Dust Opacity at High Latitudes on Mars by Imaging Spectroscopy: **S Doute**, M Vincendon, Y Langevin, A Spiga, J Bibring, Title of Team: The OMEGA Team

1340h **P53E-1573** POSTER Water Ice Clouds and Thermal Structure in the Martian Tropics as Revealed by Mars Climate Sounder: **R Wilson**, A Kleinboehl, J T Schofield, D P Hinson, J H Shirley, D Kass

1340h **P53E-1574** POSTER Meteorological Predictions in Support of the Mars Science Laboratory Entry, Descent and Landing: A Rothchild, **S C Rafkin**, R A Pielke Sr.

1340h **P53E-1575** POSTER Radiatively-Active Aerosols Within Mars' Atmosphere: Influences on the Weather and Climate as Simulated by the NASA ARC Mars GCM: **J Hollingsworth**, M A Kahre, R M Haberle, F Montmessin, R Wilson, J Schaeffer

P53F Moscone South: 306 Friday 1340h
Mars Polar Processes

Presiding: **S M Milkovich**, Jet Propulsion Laboratory; **M Masse**, Laboratoire de Planetologie

1340h **P53F-01** Candidate ice-rich material within equatorial craters on Mars: **D E Shean**

1355h **P53F-02** HiRISE Monitoring of Ongoing Activity in the North Polar Region of Mars: **K E Herkenhoff**, P S Russell, S Byrne, M E Banks, C J Hansen, Title of Team: the HiRISE Team

1410h **P53F-03** SHARAD Radar investigations into the initiation of spiral troughs on Planum Boreum, Mars: **I B Smith**, J W Holt

1425h **P53F-04** Planum Boreum Basal Unit Topography and its Influence on Surface Structures: **T C Brothers**, J W Holt, K L Tanaka

1440h **P53F-05** Quantitative Mapping of Surface Texture on the Northern Polar Residual Cap of Mars: **S M Milkovich**, S Byrne, P S Russell

1455h **P53F-06** Polar gypsum on Mars : wind-driven exhumation from the North Polar Cap and redistribution in the Circumpolar Dune Field: **M Masse**, O Bourgeois, S Le Mouélic, C Verpoorter, L Le Deit, E Mercier, J Bibring

1510h **P53F-07** Can the Solid State Greenhouse Effect Produce ~ 100 Year Cycles in the Mars South Polar Residual CO₂ Ice Cap?: **M R Line**, A P Ingersoll

1525h **P53F-08** Thermal properties of heterogeneous granular materials - control of grain porosity, packing porosity, and paste-phase -: **K Kurita**, A Iwasaki, T Toyota, D Baratoux

Paleoceanography and Paleoclimatology

PP53A Moscone West: 2003 Friday 1340h
Studying Uncertainty in Paleoclimate Reconstruction II (*joint with A, B, GC, OS, V*)

Presiding: **C E Buck**, University of Sheffield; **W E Austin**; **M N Evans**, University of Maryland; **B Wohlfarth**, Stockholm University

1340h **PP53A-01** Uncertainties in climate proxies (*Invited*): **P D Jones**

1400h **PP53A-02** Testing teleconnections - chronological uncertainties of independently dated and tuned past climate events (*Invited*): **M Blaauw**, B Wohlfarth

1420h **PP53A-03** The use of perturbed physics ensembles and emulation in palaeoclimate reconstruction (*Invited*): **T L Edwards**, J Rougier, M Collins

1440h **PP53A-04** Comparison of century-long regional climate experiments with proxy based climate reconstructions over the Iberian Peninsula (*Invited*): **J Luterbacher**, J Gomez Navarro, J P Montavez, F J Gonzalez-Rouco, J G Werner, E Zorita

1500h **PP53A-05** Intercomparison of 20th century tropical climate model hindcasts and coral δ¹⁸O data using a forward proxy system model: **D M Thompson**, T R Ault, M N Evans, J E Cole, J Emile-Geay

1520h **PP53A-06** Studying Uncertainty in Palaeoclimate Reconstruction: a framework for research: **C E Buck**, Title of Team: SUPRAnet

SPA-Aeronomy

SA53A Moscone South: 302 Friday 1340h
Atomic and Odd Hydrogen From the Mesosphere Through the Exosphere II (*joint with A*)

Presiding: **G Crowley**, ASTRA; **D E Siskind**, Naval Research Lab; **E J Mierkiewicz**, Univ. of Wisconsin-Madison

1340h **SA53A-01** Water vapor and odd hydrogen in the middle and upper atmosphere: an overview of current observations and modeling (*Invited*): **E R Talaat**, G Crowley, D R Marsh, H Liu, M G Mlynczak, J Russell

1355h **SA53A-02** Geocoronal Balmer-alpha Doppler Widths and Effective Temperatures Near Solar Maximum: **E J Mierkiewicz**, F L Roesler, S M Nossal

1407h **SA53A-03** Global Spatial and Climatological Dependencies of the Hydrogen Geocorona Inferred From TIMED/GUVI Measurements of Lyman α Radiance: **L S Waldrop**, L J Paxton

1419h **SA53A-04** Investigating Mesospheric Hydroxyl Using SHIMMER Data (*Invited*): **C R Englert**, D E Siskind, M H Stevens, J Harlander

1434h **Break** *Change of session and chairs*

SA53B Moscone South: 302 Friday 1440h
Ion-Neutral Coupling in the Atmosphere II

Presiding: **J H Clemmons**, The Aerospace Corporation; **R F Pfaff**, NASA/GSFC; **G Crowley**, ASTRA; **RA Heelis**, University of Texas at Dallas

1440h **SA53B-01** Lithium Release Experiment in the Thermosphere (*Invited*): **S Watanabe**, T Abe, H Habu, M Yamamoto

1455h **SA53B-02** Radar and optical observations of irregular midlatitude sporadic E layers and MSTIDs (*Invited*): **D L Hysell**, E Nossa, M F Larsen, J Munro, S J Smith, M P Sulzer, S A Gonzalez

1510h **SA53B-03** In-situ Measurements Within and Above the Ion-Neutral Coupling Region: Sounding Rocket versus Satellite Measurements (*Invited*): **D J Knudsen**, J K Burchill, M F Larsen, R F Pfaff, D E Rowland, L Sangalli

1525h **SA53B-04** The Global Implications and Grand Challenge of Neutral-Ion Interactions in the Polar Regions (*Invited*): **J P Thayer**

SPA-Solar and Heliospheric Physics

SH53A Moscone South: 307 Friday 1340h
Nonlinear Structures and Processes in the Solar Wind Plasma II

Presiding: **D Shaikh**, The University of Alabama in Huntsville; **A Lazarian**, University of Wisconsin

1340h **SH53A-01** Nonlinearity, structure, and the role of higher order statistics: What kind of universality can be expected in MHD and plasma turbulence? (*Invited*): **W H Matthaeus**, M Wan, K Osman, S Servidio, S Oughton, P Dmitruk, A Greco

1359h **SH53A-02** Third-Moment Studies of Cascade Dynamics in Solar Wind Turbulence (*Invited*): **C W Smith**, J E Stawarz, B J Vasquez, M A Forman, B T MacBride

1418h **SH53A-03** The magnetohydrodynamic turbulent cascade in polar solar wind: the role of local dynamic alignment: **L Sorriso-Valvo**, R Marino, R Bruno, V Carbone, A Noullez

1430h **SH53A-04** Magnetohydrodynamic modeling of the solar wind in the outer heliosphere: Effects of pickup protons: **A V Usmanov**, M L Goldstein, W H Matthaeus, B A Breech

1442h **SH53A-06** Proton beam-core system in the expanding solar wind: Hybrid simulations: **P Hellinger**, P Travnicek

1454h **SH53A-07** Transport of Solar Wind Fluctuations: A two-component model: **S Oughton**, W H Matthaeus, C W Smith, B A Breech

1506h **SH53A-08** Evidence for a single stochastic physical process for fast solar wind magnetic field magnitude fluctuations at 1AU across 'turbulent' and '1/f' temporal scales: B Hnat, **S C Chapman**, K H Kiyani

1518h **SH53A-09** MHD Fluctuations in the Presence of Large Scale Flows: **D Shaikh**

SH53B Moscone South: 309 Friday 1340h
Solar and Heliospheric Physics General Contributions IV: Sunspots, Active Regions, and Flares

Presiding: **A Y Shih**, NASA Goddard Space Flight Center; **A Caspi**, Space Sciences Laboratory

1340h **SH53B-01** The Solar Cycle Dependence of Active Region Properties: **P Higgins**, P T Gallagher, D Bloomfield

1355h **SH53B-02** The free energy of NOAA active region AR 11029: **S A Gilchrist**, M S Wheatland

1410h **SH53B-03** OBJECTIVE CALIBRATION OF SUNSPOT NUMBERS: **L Svalgaard**

1425h **SH53B-04** What is the relationship between solar torsional oscillations and solar activity?: **R C Altrock**

1440h **SH53B-05** The Solar Oblateness at Solar Minimum as Observed by RHESSI/SAS: **M D Fivian**, H S Hudson, R P Lin

1455h **SH53B-06** A magnetohydrodynamic model of a solar penumbral microjet: **T Magara**

1510h **SH53B-07** Temporal Variability of Ion Acceleration and Abundances in Solar Flares: **A Y Shih**, D M Smith, R P Lin

1525h **SH53B-08** Thermal Imaging of Multi-Temperature Flare Plasma with RHESSI Visibilities: **A Caspi**, S Krucker, G J Hurford, J M McTiernan

SH53C Moscone South: 308 Friday 1340h
Specification, Prediction, and Observation of the Inner Solar System's Radiation Environment II

Presiding: **K A Kozarev**, Boston University; **L Townsend**, The University of Tennessee; **C Zeitlin**, Southwest Research Institute; **M A Dayeh**, Southwest Research Institute

1340h **SH53C-01** Two Years into Verification and Validation of the Relativistic Electron Alert System for Exploration (RELeASE): An Update into Rising Solar Activity: **A Posner**, O M Rother, B Heber, R Müller-Mellin, J Lee

1355h **SH53C-02** Assessing the Space-Radiation Hazard in Ground-Level Enhanced (GLE) Solar Particle Events (*Invited*): **A J Tylka**, W F Dietrich, W A Atwell

1410h **SH53C-03** HZETRN2010 – A Space Radiation Analysis Tool for Research and Engineering Applications (*Invited*): **T C Slaba**, S R Blattig, F F Badavi, R B Norman, A M Adamczyk, L Townsend, S I Sriprisan, J W Norbury

1425h **SH53C-04** An Overview of First-Year Results from the Lunar Reconnaissance Orbiter (LRO) Cosmic Ray Telescope for the Effects of Radiation (CRaTER) (*Invited*): **H E Spence**, M Golightly, N A Schwadron, J K Wilson, A Case, J C Kasper, J Blake, M D Looper, J Mazur, L Townsend, C Zeitlin, T J Stubbs, Title of Team: The CRaTER Science Team

SH53D Moscone South: 308 Friday 1440h
Cosmic Rays During the Recent Unusual Solar Minimum II

Presiding: **V A Florinski**, University of Alabama, Huntsville; **J Kota**, University of Arizona

1440h **SH53D-01** Galactic and Anomalous Cosmic Rays at 1 AU During the Recent Unusual Solar Minimum (*Invited*): **RA Leske**, A C Cummings, R A Mewaldt, E C Stone

1455h **SH53D-02** PAMELA MEASUREMENTS OF GALACTIC AND SOLAR COSMIC RAYS IN THE 23rd SOLAR MINIMUM (*Invited*): **M Casolino**, Title of Team: The PAMELA collaboration

1510h **SH53D-03** Understanding Cosmic-Ray Acceleration and Transport in the Heliosphere (*Invited*): **J R Jokipii**

1525h **SH53D-04** Anomalous Cosmic Rays in the Outer Heliosphere During the Present Solar Minimum (*Invited*): **A C Cummings**, E C Stone, F B McDonald, B Heikkila, N Lal, W R Webber

SPA-Magnetospheric Physics

SM53A Moscone South: 301 Friday 1340h
Magnetotail Transients and Their Ionospheric Signatures III
(*joint with SA*)

Presiding: **J Birn**, Los Alamos Nat. Lab.; **P L Pritchett**, UCLA; **A Runov**, University of California Los Angeles

1340h **SM53A-01** Parallel Electric Fields in the Magnetotail (*Invited*): **R E Ergun**

1401h **SM53A-02** Nonlocal Acceleration of Electrons During Substorms: **M Ashour-Abdalla**, M Zhou, M El-Alaoui, D Schriver, R L Richard, R J Walker, M L Goldstein, M G Kivelson, K Hwang

1414h **SM53A-03** Particle Source For Auroral Electrons From Proposed Substorm Onset Processes: **A Lui**

1427h **SM53A-04** The Magnetospheric Source Location of the Proton Aurora: E L Spanswick, **E F Donovan**, J P McFadden, B J Jackel, A Lui, V Angelopoulos

1440h **SM53A-05** MHD Wave Propagation And The Ionospheric Signatures Of Fast Plasma Sheet Flows (*Invited*): **R L Lysak**, Y Song, N Lin

1501h **SM53A-06** The Auroral and Ground-Magnetic Response to Different Magnetotail Drivers: **J Rae**, I R Mann, K R Murphy, A P Walsh, D K Milling, V Angelopoulos

1514h **SM53A-07** Formation of nongyrotropic current sheets in the magnetotail during substorm growth phases and their possible role in magnetospheric/auroral connection: **K Schindler**, M Hesse, J Birn

1527h **SM53A-08** Space-borne and ground-based observations of transient processes occurring around substorm onset: **E L Kepko**, E L Spanswick, V Angelopoulos, E F Donovan

SM53B Moscone South: 305 Friday 1340h
Space Weather Forecasting: Present Status and Future Directions II (*joint with SH*)

Presiding: **J P McCollough**, Air Force Research Laboratory; **J Koller**, Los Alamos National Lab

1340h **SM53B-01** A Modeler's Perspective on Space Weather Forecasting (*Invited*): **M J Wiltberger**

1350h **SM53B-02** Space weather specification and geospace forecasting (*Invited*): **D N Baker**

1400h **SM53B-03** SM20: Space Weather Forecasting: Present Status and Future Directions (*Invited*): **J Harris**

1410h **SM53B-04** Opportunities and Challenges for Space Weather Forecasting (*Invited*): **T G Onsager**

1420h **Panel Discussion** A panel consisting of the invited authors will have a moderated discussion on the current status and future directions of space weather forecasting.

1455h **SM53B-05** ESA SSA Programme in support of Space Weather forecasting: **J Luntama**, A Glover, A M Hilgers

1510h **SM53B-06** A Baseline Space Weather Forecast Capability: **S L Young**, J Quinn, J C Johnston, Title of Team: The Space Weather Forecasting Laboratory

1525h **SM53B-07** A coordinated effort to address space weather and environment needs: J I Minow, **J F Spann**, D Edwards, D Burns, D L Gallagher, M Xapsos, K De Groh

Seismology

S53A Moscone South: Poster Hall Friday 1340h
Advances in Signal Processing Methods for Seismology II
Posters (*joint with T*)

Presiding: **Y Sun**, MIT; **L Chen**, Institute of Geology and Geophysics, Chinese Academy of Sciences

1340h **S53A-1950** POSTER Model-oriented deconvolution: adapting receiver-function suites to structural problems: **A W Frederiksen**

1340h **S53A-1951** POSTER Efficient Signal Extraction From Ambient Noise Data From a Local to a Global Scale: **M Schimmel**, E Stutzmann, J Gallart

1340h **S53A-1952** POSTER mb(Pn) SCALING FOR THE KOREAN PENINSULA: **K Lee**, T Hong

1340h **S53A-1953** POSTER Ocean-bottom cable seismic data calibration using median filters for waveform separation: **S S Haines**, M W Lee, P E Murray, B A Hardage

1340h **S53A-1954** POSTER An automated waveform window selection algorithm based on continuous wavelet transforms: **P Chen**, E Lee

1340h **S53A-1955** POSTER Dynamic Neural Networks for Classification of Volcanic Earthquakes: **C P Bruton**, M E West

1340h **S53A-1956** POSTER AN ADAPTIVE ALGORITHM FOR DETECTION OF ONSET TIMES OF LOW AMPLITUDE SEISMIC PHASES BASED ON TIME SERIES ANALYSIS: **V V Gravurov**, K V Kislov, T Ovchinnikova

1340h **S53A-1957** POSTER Earthquake magnitudes based on Coda-Derived Moment-Rate Spectra in Taiwan: **F Tu**, Y Gung, S Yoo, J Rhee

1340h **S53A-1958** POSTER The characteristics recognition of preseismic groundwater fluctuation in Dor-Her station, Taiwan: **F Chiu**, K Hsu, C Wang

1340h **S53A-1959** WITHDRAWN

1340h **S53A-1960** POSTER 3D prestack generalized-screen migration for VSP data: **H Song**, S Shin, S Seol, J Byun

1340h **S53A-1961** *POSTER* Using Regional Deep-Focused Earthquakes to Investigate Crustal Structure: A Special Application of Conventional Receiver Function: **W Lee**, T Tseng, E Chang
 1340h **S53A-1962** *POSTER* Wavelet-Based Measurements of Surface Wave Phase Velocity Beneath Southern Taiwan: **H Yang**, L Zhao, S Hung, B Huang
 1340h **S53A-1963** *POSTER* Using Back-Projection of Surface Waves for Near Real-Time Determination of Global Earthquake Locations, Magnitudes and Mechanisms: **J Polet**, H K Thio, P S Earle
 1340h **S53A-1964** *POSTER* Battlefield Seismology from Baghdad, Iraq: **G I Aleqabi**, M E Wyssession, H A Ghalib
 1340h **S53A-1965** *POSTER* Local Earthquake Detection in Marine Environments Using Seismic Signal Parameters: **M C Williams**, A M Trehu, J Braunmiller
 1340h **S53A-1966** *POSTER* Automatic Determination of Focal Depth Phases by Integrating the Cepstral Stacking Method (CSM) Calculations and IRIS Tools: R Cakir, **L Meng**, S S Alexander

S53B Moscone South: Poster Hall Friday 1340h
Research and Development in Nuclear Explosion Monitoring II Posters

Presiding: **S Tsuboi**, Japan Agency for Marine Sci & Tech

1340h **S53B-1967** *POSTER* Toward an Empirically-based Parametric Explosion Spectral Model: **S R Ford**, W R Walter, S Ruppert, E Matzel, T F Hauk, R Gok
 1340h **S53B-1968** *POSTER* Studing Regional Wave Source Time Functions Using A Massive Automated EGF Deconvolution Procedure: **J “ Xie**, D P Schaff
 1340h **S53B-1969** *POSTER* SALSA3D – A Global 3D P-Velocity Model of the Earth’s Crust and Mantle for Improved Event Location: **S Ballard**, M L Begnaud, C J Young, J R Hipp, M Chang, A V Encarnacao, C A Rowe, W S Phillips, L Steck
 1340h **S53B-1970** *POSTER* Seismic Radiation from Material Damage During Explosions: **A J Rodgers**, Y Ben-Zion
 1340h **S53B-1971** *POSTER* Numerical Simulation of Shallow Explosions Demonstrates How Topographic Scattering Generates High-Frequency Shear Waves: N A Petersson, **A J Rodgers**, B Sjogreen
 1340h **S53B-1972** *POSTER* Effects of Inhomogeneous Structure and Damaged Zone on the P Wave Seismograms A Numerical Study: **C K Saikia**, A Pitarka, G Ichinose, J J Dwyer
 1340h **S53B-1973** *POSTER* Global-scale multiple-event location and travel-time analysis using BayesLoc: **G Johannesson**, S C Myers
 1340h **S53B-1974** *POSTER* A Regional Seismic Travel Time Model for North America: **S C Myers**, M L Begnaud, S Ballard, A L Ramirez, W S Phillips, M E Pasyanos, H Benz, R P Buland
 1340h **S53B-1975** *POSTER* A Global-scale P-wave Tomography Model for Regional and Telesismic Event Monitoring: **N A Simmons**, S C Myers, G Johannesson
 1340h **S53B-1976** *POSTER* 3D Structure of Iran and Surrounding Areas From The Simultaneous Inversion of Complementary Geophysical Observations: **C J Ammon**, M Maceira, M Cleveland
 1340h **S53B-1977** *POSTER* Adjoint tomography of the Middle East: **D B Peter**, B Savage, A J Rodgers, J Tromp
 1340h **S53B-1978** *POSTER* Lithospheric Velocity Models of Eurasia and the Middle East From the Joint Inversion of P- and S-Wave Receiver Functions and Dispersion Velocities: **J Julia**, E Matzel, A Nyblade, A J Rodgers
 1340h **S53B-1979** *POSTER* Nuclear Explosion Monitoring Research and Development in the Middle East: **M E Pasyanos**, W R Walter, S C Myers, E Matzel, R Gok, N A Simmons, S R Ford, A J Rodgers, S Ruppert, T F Hauk, D Dodge, M Ganzberger, A L Ramirez, F Ryall

1340h **S53B-1980** *POSTER* Surface Wave Attenuation and Blockages in the Area of the Great Caucasus Mountains and the Caspian Sea: **A F Stroujkova**, J Bonner
 1340h **S53B-1981** *POSTER* Detection of unidentified events through T-phase observed by the Dense Oceanfloor Network System for Earthquakes and Tsunamis (DONET): **T Nakamura**, A To, M Nakano, S Tsuboi, T Watanabe, Y Kaneda
 1340h **S53B-1982** *POSTER* CHARACTERISTICS OF REGIONAL SEISMIC WAVES FROM THE 2006 AND 2009 NORTH KOREAN NUCLEAR EXPLOSIONS: **T Hong**, S Rhee
 1340h **S53B-1983** *POSTER* Effects on Infrasonnd Propagation from a Self Consistent Spectral Gravity Wave Model: **N Winslow**, R Gibson, D P Drob, D Broutman
 1340h **S53B-1984** *POSTER* Infrasonnd Sensor Coverage at Regional Ranges as driven by the Atmospheric State: **D Norris**
 1340h **S53B-1985** *POSTER* Infrasonnd analysis of I18DK, northwest Greenland: L G Evers, **C Weemstra**

S53C Moscone South: Poster Hall Friday 1340h
Source Inversion Validation (SIV): Quantifying Uncertainties in Earthquake Source Studies II Posters

Presiding: **P M Mai**, Division of Physical Science and Engineering; **M T Page**, USGS Pasadena; **D Schorlemmer**, USC

1340h **S53C-1986** *POSTER* Multiple Moment Tensor Inversions For the December 26, 2004 Sumatra Earthquake Based Upon Adjoint Methods: **L Ren**, Q Liu, V Hjörleifsdóttir
 1340h **S53C-1987** *POSTER* Source complexity of the 4 March 2010 JiaSian, Taiwan, Earthquake determined by joint inversion of teleseismic and near field data: **S Lee**, W Liang, L Mozziconacci, B Huang
 1340h **S53C-1988** *POSTER* Refinement of the velocity model of the Eastern Mediterranean based on waveform inversion and their tectonic implications: **M Giveon**, A Hofstetter, Z Ben-Avraham
 1340h **S53C-1989** *POSTER* Modeling Events in the Lower Imperial Valley Basin: **X Tian**, S Wei, Z Zhan, E J Fielding, D V Helmberger
 1340h **S53C-1990** *POSTER* Waveform inversion for seismic source processes with uncertainty of Green’s function: **Y Yagi**, Y Fukahata
 1340h **S53C-1991** *POSTER* Kinematic Source Inversion Using Smoothly Curved Fault Model: **W Suzuki**, S Aoi, H Sekiguchi
 1340h **S53C-1992** *POSTER* Adjoint Inversion for Extended Earthquake Source Kinematics From Very Dense Strong Motion Data: J P Ampuero, **S Somala**, N Lapusta
 1340h **S53C-1993** *POSTER* SOURCE INVERSION VALIDATION - GREEN’S FUNCTIONS TEST: M Causse, **P M Mai**
 1340h **S53C-1994** *POSTER* What Exercise of the Source Inversion Validation BlindTest I didn’t Tell You?: **C Ji**, G Shao
 1340h **S53C-1995** *POSTER* Investigation on the Rupture dynamics of non-planner seismic fault: **F Hu**, Q Liu, J Xu, X Chen

S53D Moscone West: 2009 Friday 1340h
Characterization and Simulation of Long-Period Earthquake Ground Motions II (*joint with NH, G*)

Presiding: **K Koketsu**, University of Tokyo; **R W Graves**, US Geological Survey

1340h **S53D-01** Low-Frequency Amplitudes Observed in a Set of the Strongest Recorded Ground Motions (*Invited*): **J G Anderson**, K Koketsu, H Miyake

1355h **S53D-02** Characteristics of Long-Period (3 to 10 s) Strong Ground Motions Observed in and around the Los Angeles Basin during the Mw7.2 El Mayor-Cucapah Earthquake of April 4, 2010: **K Hatayama**, E Kalkan

1410h **S53D-03** Testing the USGS 3D San Francisco Bay Area Seismic Velocity Model using Observations of 0.5 to 2 s Surface Waves from Local and Regional Earthquakes (*Invited*): **T M Brocher**, A D Frankel, D H Oppenheimer, J B Fletcher, J H Luetgert

1425h **S53D-04** Estimation of Three-dimensional Boundary Shape of the Osaka Sedimentary Basin, Japan, Based on Waveform Modeling of Multi-event Ground Motion Data: **A Iwaki**, T Iwata

1440h **S53D-05** Testing the Double Corner Source Spectral Model for Long- and Short-Period Ground Motion Simulations: **H Miyake**, K Koketsu

1455h **S53D-06** EARTHQUAKE GROUND MOTION SIMULATIONS IN THE CENTRAL UNITED STATES: **L Ramirez Guzman**, O S Boyd, S Hartzell, R A Williams

1510h **S53D-07** Seismic Hazard and Risk Posed by the Mentawai Segment of the Sumatran Megathrust: **K Megawati**, X Han

1525h **S53D-08** Probabilistic Seismic Hazard Maps of Seattle, Washington, Including 3D Sedimentary Basin Effects and Rupture Directivity: Implications of 3D Random Velocity Variations (*Invited*): **A D Frankel**, W J Stephenson, D Carver, J Odum, R A Williams, S Rhea

S53E Moscone West: 2007 Friday 1340h
Earthquake Source Processes: What Have We Learned From Recent Large Earthquakes? III (*joint with T*)

Presiding: **D P Schaff**, Columbia University; **T Lay**, Univ. California Santa Cruz

1340h **S53E-01** Rapid Reoccurrence of Large Earthquakes due to Depth Segmentation of the Seismogenic Crust: **J R Elliott**, B E Parsons, J A Jackson, X Shan, R Sloan, R T Walker

1355h **S53E-02** Slip-length scaling and near-field ground motions of large earthquakes partly depend on segmentation and maturity of broken faults: **I Manighetti**, M Campillo, F Cotton, M Radiguet, D Zigone, J Douglas

1410h **S53E-03** Breakdown of Self-Similarity at $M_w \sim 5.5$ in 18 Seismic Sequences from Various Tectonic Environments. Implications for Dynamic Fault Weakening: S B Nielsen, **L Malignini**, I Munafo', K M Mayeda, E Boschi

1425h **S53E-04** Role of Triggering Processes in Great Earthquake Ruptures: **T Lay**

1440h **S53E-05** ANALYSIS OF REPEATING EVENTS AND IMPLICATIONS FOR FAULT ZONE BEHAVIOR BENEATH THE ACEH BASIN, NORTHERN SUMATRA: **S A Barrett**, C J Ammon

1455h **S53E-06** WITHDRAWN

1510h **S53E-07** Correlation of Foreshock Occurrence with Mainshock Depth, Rake, and Magnitude from the High Precision Catalog for Northern California: **D P Schaff**, F Waldhauser, A Lerner-Lam

1525h **S53E-08** Statistical signatures of aftershock sequences generated by supershear mainshocks: **P Bhattacharya**, R Shcherbakov, K F Tiampo, L Mansinha

S53F Moscone West: 3024 Friday 1340h
The Seismic Wavefield

Presiding: **L A Preston**, Sandia National Laboratories; **S Wenk**, Munich University

1340h **S53F-01** Rayleigh Wave Numerical Dispersion in a 3D Finite-Difference Algorithm: **L A Preston**, D F Aldridge

1355h **S53F-02** THE DISCONTINUOUS GALERKIN FINITE ELEMENT METHOD AND ITS APPLICATION TO GLOBAL WAVE PROPAGATION: **S Wenk**, M Kaeser, H Igel

1410h **S53F-03** Finite-difference Modeling of Global Seismic Wave Propagation on a Cross Section of Self-gravitating Earth: **G Toyokuni**, H Takenaka

1425h **S53F-04** Spectral-Element Simulations of Seismic Waves and Coseismic Deformations generated by the 2009 L'Aquila Earthquake: **E Casarotti**, F Magnoni, A Michelini, A Piersanti, D Komatitsch, J Tromp

1440h **S53F-05** Frequency Dependent Polarization Analysis of Ambient Seismic Noise Recorded at Broadband Seismometers: **K Koper**, V Hawley

1455h **S53F-06** A New Global Group Velocity Dataset for Constraining Crust and Upper Mantle Properties: **Z Ma**, G Masters, G Laske, M E Pasyanos

1510h **S53F-07** Observations of Long-Period Rotational Ground Motions: From Ambient Noise to Earth's Free Oscillations: **H Igel**, D Kurrle, A M Ferreira, J M Wassermann, P Gaebler, K U Schreiber

1525h **S53F-08** The Airy phase in oceanic Rayleigh and Scholte waves: **L M Dorman**

Tectonophysics

T53A Moscone South: Poster Hall Friday 1340h
Advances in 2-D and 3-D Numerical and Analog Modeling of Mountain Building and Plate Deformation II Posters (*joint with G, S*)

Presiding: **S S Haq**, Purdue University; **L Cruz**, Stanford University; **M L Cooke**, University of Massachusetts

1340h **T53A-2097 POSTER** Kinematic Modeling of Deformation Near a Ridge-Transform Intersection in the Troodos Ophiolite, Cyprus: **C P Scott**, S J Titus, J R Davis

1340h **T53A-2098 POSTER** Modeling the Evolution of a Transform Fault in the Mantle Section of the New Caledonia Ophiolite: **S J Titus**, J R Davis

1340h **T53A-2099 POSTER** Non-orogenic mountain building due to slab breakoff in northcentral Taiwan: **W Wang**

1340h **T53A-2100 POSTER** MECHANICS OF FORMATION OF FOREARC BASINS OF INDONESIA AND ALASKA: **T Cassola**, S Willett, H Kopp

1340h **T53A-2101 POSTER** Mechanical Models of Bed-Perpendicular Fractures in Layered Rocks Subjected to Extensional Strain: **P Sanz**, D D Pollard, R I Borja

1340h **T53A-2102 POSTER** Dynamic coupling between the San Jacinto Fault and the San Andres Fault in Southern California: **G Luo**, M Liu

1340h **T53A-2103 POSTER** Recent structure of the lithosphere beneath Siberia and surrounding areas based on the results of seismic tomography and numerical thermo-gravity modeling: N Bushenkova, V Chervov, **I Koulakov**

1340h **T53A-2104 POSTER** Constraints from Field Geology for Numerical Modeling of the Crustal Overturn Processes During the Cretaceous High-Magma-Flux Episode in the Central and Southern Sierra Nevada, USA: **W Cao**, S R Paterson, B J Kaus, J L Anderson, V Memeti

1340h **T53A-2105 POSTER** Gamr: A Free, Parallel, Adaptive Tectonics and Mantle Convection Code: **W Landry**

1340h **T53A-2106** POSTER Integrative model of the crust and upper mantle for understanding of intra-plate deformations in Central and Northern Asia: **W Stolk**, M K Kaban, M Tesauero, F Beekman, S Cloetingh

1340h **T53A-2107** POSTER The Impact of Partial Melting in the Orogenic Cycle: **P F Rey**, C Teysier, D L Whitney

1340h **T53A-2108** POSTER Simultaneous development of compressional and extensional tectonic activities and stress regimes in the thin-skinned fold-and-thrust belt of Himalaya: a finite element approach: **G R Joshi**, Title of Team: Daigoro Hayashi

1340h **T53A-2109** WITHDRAWN

1340h **T53A-2110** POSTER Mechanical Controls on Fault Vergence and Fold and Thrust Belt Kinematics Based on Discrete Element Simulations: **J K Morgan**

1340h **T53A-2111** POSTER Analysis of Oblique Wedges Using Analog and Numerical Models: **S S Haq**, K Koster, R S Martin, L M Flesch

1340h **T53A-2112** POSTER Glacial Erosion in Brittle Wedges: Insights Using Quantified Analog Models: **Z Umperovitch**, S S Haq

1340h **T53A-2113** POSTER Effects of side wall friction in compressional analog experiments with sand: **P Souloumiac**, B Maillot, Y M LEROY

1340h **T53A-2114** POSTER Analogue experiments applied to active tectonics studies: the case of seismogenic normal faults: **S Seno**, L Bonini, G Toscani

1340h **T53A-2115** POSTER Why Wet Kaolin can be used as a Crustal Analog and its Application to Fault Evolution at Restraining Bends: **M L Cooke**, N van der Elst, M T Schottenfeld

1340h **T53A-2116** POSTER Folding in Regions of Extension: **F Levy**, C P Jaupart

T53B Moscone South: Poster Hall Friday 1340h
Characterization of the 4 April 2010 El Mayor-Cucupah Earthquake and Implications for Earthquake Preparedness in Southern California and Baja California II Posters (joint with G, NH, S)

Presiding: **JJ Gonzalez-Garcia**, CICESE; **J M Fletcher**; **R Arrowsmith**, Arizona State Univ; **E J Fielding**, Jet Propulsion Lab Caltech; **A J Barbour**, Scripps Institution of Oceanography; **B W Crowell**, Scripps Institution of Oceanography

1340h **T53B-2117** POSTER Seismotectonics of the 2010 El Mayor Cucupah - Indiviso Earthquake and its Relation to Seismic Hazard in Southern California: **JJ Gonzalez-Garcia**, A Gonzalez Ortega, Y Bock, Y Fialko, E J Fielding, J M Fletcher, J E Galetzka, K W Hudnut, L Munguia, S M Nelson, T K Rockwell, D T Sandwell, J Stock

1340h **T53B-2118** POSTER Precise Relocation of the Northern Extent of the Aftershock Sequence Following the 4 April 2010 M7.2 El Mayor-Cucupah Earthquake Kayla A. Kroll (UCR) and Elizabeth S. Cochran (UCR): **K Kroll**, E S Cochran

1340h **T53B-2119** POSTER Infrasonic Observations of Ground Shaking along the 2010 Mw 7.2 El Mayor Rupture: **C D deGroot-Hedlin**, K Walker

1340h **T53B-2120** POSTER SPECTRAL ANALYSIS OF PORE PRESSURE DATA RECORDED FROM THE 2010 SIERRA EL MAYOR (BAJA CALIFORNIA) EARTHQUAKE AT THE NEES@ UCSB WILDLIFE FIELD SITE: **S H Seale**, D Lavallee, J H Steidl, H Ratzesberger, P Hegarty

1340h **T53B-2121** POSTER Validating and refining distributed source models for the El Mayor-Cucupah Earthquake: **S Wei**, Z Zhan, R Chu, D V Helmberger

1340h **T53B-2122** POSTER The Obsidian Creep Project: Seismic Imaging in the Brawley Seismic Zone and Salton Sea Geothermal Field, Imperial County, California: **R D Catchings**, M J Rymer, M Goldman, R B Lohman, J J McGuire

1340h **T53B-2123** POSTER Rupture process of the 4 April 2010 Baja California Earthquake estimated from high-rate GPS data: **Y Nakamura**, M Hashimoto

1340h **T53B-2124** POSTER GPS coseismic and postseismic surface displacements of the El Mayor-Cucupah earthquake: **A Gonzalez**, J J Gonzalez-Garcia, D T Sandwell, Y Fialko, D C Agnew, B Lipovsky, J M Fletcher, F A Nava Pichardo

1340h **T53B-2125** POSTER Static Rupture Model of the 2010 M7.2 El Mayor-Cucupah Earthquake from ALOS, ENVISAT, SPOT and GPS Data: **Y Fialko**, A Gonzalez, J J Gonzalez-Garcia, S Barbot, S Leprince, D T Sandwell, D C Agnew

1340h **T53B-2126** POSTER Deformation associated with the 2010 Sierra El Mayor earthquake from GPS and InSAR: **G J Funning**, M A Floyd, D Ben-Zion

1340h **T53B-2127** POSTER GPS Measurements of crustal motion associated with the 2010 Mw 7.2 Sierra El Mayor-Cucupah Earthquake, Baja California, Mexico: **J C Spinler**, R A Bennett, J J Gonzalez-Garcia, C P Walls, S Lawrence

1340h **T53B-2128** POSTER UNAVCO Response to the M7.2 El Mayor-Cucupah Earthquake: **C P Walls**, S Lawrence, A Bassett, D Mann, A A Borsa, M E Jackson, K Feaux

1340h **T53B-2129** POSTER UAVSAR and GPS Observations of Crustal Deformation in Southern California and Implications for Earthquake Risk: **A Donnellan**, J W Parker, G A Lyzenga, J B Rundle, L Grant Ludwig, R A Granat, M T Glasscoe, M B Heflin

1340h **T53B-2130** POSTER Coseismic Offsets on PBO Borehole Strainmeters: Real, or Spurious?: **A J Barbour**, D C Agnew

1340h **T53B-2131** POSTER Coseismic Deformations Associated with the M=7.2, April 04, 2010, El Mayor-Cucupah Earthquake, Observed from Leveling Survey, Geotechnical Instruments and Water Level Changes in the Mexicali Valley: **E Glowacka**, B Robles, R Vázquez, O Sarychikhina, F Suárez-Vidal, J Ramirez, F A Nava Pichardo, F Farfan, G Diaz de Cossio

1340h **T53B-2132** POSTER Triggered Fault Slip in Southern California Associated with the 2010 Sierra El Mayor-Cucupah, Baja California, Mexico, Earthquake: **M J Rymer**, J A Treiman, K J Kendrick, J J Lienkaemper, M Wei, R J Weldon, R G Bilham, E J Fielding

1340h **T53B-2133** POSTER Distributed fault rupture in the Yuha Desert, California, associated with the El Mayor-Cucupah earthquake, and the contribution of InSAR imagery to its documentation: **J A Treiman**, K J Kendrick, M J Rymer, E J Fielding

1340h **T53B-2134** POSTER Slip on faults in the Imperial Valley Triggered by the 4 April 2010 Mw 7.2 El Major earthquake as revealed by InSAR: **M Wei**, D T Sandwell, Y Fialko, R G Bilham

1340h **T53B-2135** POSTER Airborne and terrestrial lidar imaging and analysis of the 4 April 2010 El Mayor-Cucupah earthquake rupture: **M E Oskin**, P O Gold, A Hinojosa, R Arrowsmith, A J Elliott, M H Taylor, A J Herra, M Sartori, J J Gonzalez-Garcia, A Gonzalez, O Kreylos, E Cowgill

1340h **T53B-2136** POSTER Effects of the El Mayor Cucupah April 4, 2010 earthquake and water management decisions on the Colorado River Delta tidal inundation patterns: implications for shorebirds habitat availability: **M Gomez-Sapiens**, K W Flessa, E P Glenn, S M Nelson

1340h **T53B-2137** POSTER Damage from the El Mayor-Cucapah earthquake, April 2010: Why society cannot afford to ignore seismic risks to agricultural regions: **H D Stenner**, E L Mathieson, S Okubo, R Anderson, M A Rodriguez C.

1340h **T53B-2138** POSTER Agricultural Damage and Recovery Notes Regarding the El Mayor - Cucapah Earthquake of April 4, 2010: **R Anderson**, R McCarthy, E L Mathieson, H D Stenner, E Macari, L Mendoza

T53C Moscone South: Poster Hall Friday 1340h
Linking Geodetic Observations to Mechanical Properties of the Lithosphere: New Methods and Models II Posters (*joint with G*)

Presiding: **S Barbot**, California Institute of Technology; **R V Kanda**, Caltech

1340h **T53C-2139** POSTER Earthquake generation cycle modeling and estimation of the ocean bottom deformation in the Nankai subduction zone (*Invited*): **T Hori**, M Hyodo, S Miyazaki

1340h **T53C-2140** POSTER Investigating frictional properties of the Longitudinal Valley fault from dynamic modeling of pre- and postseismic slip associated with the 2003, Mw 6.8 Chengkung earthquake: **S Chang**, M Y Thomas, J Lee, S Barbot, J Avouac

1340h **T53C-2141** POSTER Modeling dynamic processes of the Wenchuan earthquake with finite element method: **S Zhu**, P Zhang

1340h **T53C-2142** POSTER Trapped seismic fault zone energy recorded by a high-rate GPS station: **A Avallone**, A Rovelli, Y Ben-Zion

1340h **T53C-2143** POSTER The effects of depth-dependent viscosity in the lithosphere on post-seismic viscous relaxation: **T Yamasaki**, G A Houseman

1340h **T53C-2144** POSTER Can lateral contrasts in viscosity structure explain asymmetric interseismic deformation around strike-slip faults?: **A Vaghri**, E H Hearn

1340h **T53C-2145** POSTER Long-term postseismic deformation following the 2008 Iwate-Miyagi inland earthquake (M7.2), NE Japan, inferred from GPS time-series: **M Ohzono**, S Miura, Y Ohta, T Inuma

1340h **T53C-2146** POSTER Relative Contribution of Stable Afterslip and Viscoelastic Relaxation Following the 2004 Parkfield Earthquake: **L Bruhat**, S Barbot, J Avouac

1340h **T53C-2147** POSTER 2000-2008 GPS measurements of postseismic deformation following the June 2000 earthquakes in South Iceland: **J DECRIEM**, T Arnadóttir, H Geirsson

1340h **T53C-2148** POSTER Crustal effects of the Háslón water reservoir, Iceland: A three-dimensional model of the Earth's response: **B Jónbjarnarson**, F Sigmundsson, B G Ofeigsson, E C Sturkell, P Einarsson, A J Hooper, F G Sigtryggsdóttir, H Geirsson

1340h **T53C-2149** POSTER Strain accumulation across strike-slip faults: Investigation of the influence of laterally varying lithospheric properties: **W Huang**, K M Johnson

1340h **T53C-2150** POSTER Cyclic Brittle and Ductile Deformation During Nappe Decoupling Along a Propagating Thrust Fault: J A Nuechter, **S Wassmann**, B Stoeckhert

1340h **T53C-2151** POSTER The age, extent, and origin of Quaternary uplift of the Atlantic coast of Morocco: **R T Walker**, A B Watts, M Telfer, S Gibson, J R Elliott, E Nissen, J Biggs

1340h **T53C-2152** POSTER Constraints on Lithospheric Rheology from Observations of Seamount-induced Deformation: From the Plate Interiors to Plate Boundaries: **S Zhong**, A B Watts

1340h **T53C-2153** WITHDRAWN

1340h **T53C-2154** POSTER The Importance of Elastic Property Contrast at Continent-Ocean Margins on Subduction Initiation: **B So**, D A Yuen, K Regenauer-Lieb, S Lee

T53D Moscone West: 2016 Friday 1340h
Deformation Processes in Collisional Orogens II (*joint with G, S*)

Presiding: **A G Webb**, Louisiana State University; **K Larson**, University of Saskatchewan; **G Hetenyi**, Swiss Federal Institute of Technology Zurich

1340h **T53D-01** Two strands of the South Tibetan Fault System in NW Bhutan: Insights from field mapping, ASTER imagery, and U-Pb geochronology: **F J Cooper**, K Hodges, R R Parrish, B A Adams

1355h **T53D-02** SYN-CONVERGENT OROGEN-PARALLEL LOW-ANGLE NORMAL-SENSE FAULTS: ONE PROCESS OR SEVERAL?: **D A Kellett**, D Grujic

1410h **T53D-03** Spatial and Temporal Relationships Between Anateix and Deformation in the Himalayan Mid-Crust (*Invited*): **J M Cottle**, M J Jessup

1425h **T53D-04** Comparing thin-sheet with fully 3D models for the India-Asia collision: **S M Lechmann**, S M Schmalholz, B J Kaus, D May, G Hetenyi

1440h **T53D-05** Deformation Processes In SE Tibet: How Coupled Are The Surface And The Deeper Lithosphere? (*Invited*): **P K Zeitler**, A Meltzer

1455h **T53D-06** Wedge deformation and erosional exhumation in the Spanish Pyrenees: erosion rates track deformation: **J M Rahl**, S H Haines, B A van der Pluijm

1510h **T53D-07** Development of a crustal budget for the Bolivian Central Andes through 3-D palinspastic restoration: **N W Eichelberger**, N McQuarrie

1525h **T53D-08** Problems with the concept of deformation phases as illustrated for the Goantagab Domain, NW Namibia: **C W Passchier**

T53E Moscone West: 2011 Friday 1340h
Great Earthquakes and Active Fault Scientific Drilling II (*joint with S, NH*)

Presiding: **Z Wu**, Institute of Geophysics, CEA; **S Song**, National Taiwan University

1340h **T53E-01** New Results from the Wenchuan Earthquake Fault Scientific Drilling Project (WFSD) (*Invited*): **Z Xu**, H Li

1355h **T53E-02** Characteristics of the Fault-Related Rocks, Fault Zone Structures and the Principal Slip Zone of the Wenchuan Earthquake in WFSD Drilling Cores: **H Li**, Z Xu, J Si, J Pei, T Li, Y Huang, H Wang

1410h **T53E-03** Temperature Measurements in the WFSD-1 Borehole Following the 2008 Wenchuan Earthquake (Mw7.9): **J J Mori**, H Li, H Wang, Y Kano, J Pei, Z Xu, E E Brodsky

1425h **T53E-04** The nature of deeply crustal-derived fluids in core samples from the WFSD-1 Borehole: **L Zeng**, J Chen, G Lie

1440h **T53E-05** Monitor and Characteristics of Fluids during Chinese Wenchuan Fault Scientific Drilling: **L Luo**, L Tang, Z Xu, L Haibin

1455h **T53E-06** Characteristics of Total Mercury and Its Geochemical Implication Derived from Borehole WFSD-1 at the Wenchuan Fault: **Y Liu**, D Yang, F Xie, H Ren, Y Zhang, Z Guan

1510h **T53E-07** Borehole Strain Observation Array in WFSD at Longmen Shan Faults, Sichuan, China: **H Peng**, X Ma, J Jiang, Z Li

1525h **T53E-08** The Relationship Between Preserved Fault Zone Thickness and Total Displacement (*Invited*): **E E Brodsky**, A Sagy, H M Savage, J J Gilchrist

Volcanology, Geochemistry, and Petrology

V53A Moscone South: Poster Hall Friday 1340h
Earth's First Few Hundred Million Years IV Posters (*joint with GP, MR, DI, P, S, T*)

Presiding: **J Badro**, Institut de Physique du Globe de Paris; **J Badro**, Institut de Physique du Globe de Paris; **M J Walter**, University of Bristol; **M J Walter**, University of Bristol

1340h **V53A-2222 POSTER** Mineral inclusion thermobarometry in >4 Ga Jack Hills zircons provide further constraints on Hadean geodynamics: **M Hopkins**, T M Harrison, C E Manning

1340h **V53A-2223 POSTER** Depth Profiling Hadean Zircons for Evidence of the Late Heavy Bombardment: **S S Abbott**, T M Harrison, S J Mojzsis

1340h **V53A-2224 POSTER** A Change in Igneous Activity of the Jack Hills Zircon Sources ca. 3.9 Ga: **E A Bell**, T M Harrison

1340h **V53A-2225 POSTER** GEOLOGY OF QUARTZITES HOSTING PRE-3.9 Ga ZIRCONS IN THE HELLROARING PLATEAU, BEARTOOTH MOUNTAINS (MONTANA): **A C Maier**, N L Cates, S J Mojzsis

1340h **V53A-2226 POSTER** Discovery of Eoarchean rocks in Gaaseland, northeast Greenland: **M Eastlick**, S M Johnston, A R Kylander-Clark

1340h **V53A-2227 POSTER** Temperature-dependent thermal transport properties of Archean rocks: **J D Merriman**, A Hofmeister, P I Nabelek, A G Whittington, K Benn

1340h **V53A-2228 POSTER** Progressive removal of an upper-mantle KREEP component by TTG magmatism through the Archean: **M GUITREAU**, J Blichert-Toft, M Herve, S J Mojzsis, F Albarede

1340h **V53A-2229 POSTER** Heat Partitioning by Metal-Silicate Plumes during Earth Differentiation and Core Formation: **C A King**, P Olson

1340h **V53A-2230 POSTER** Lead is probably not in the core after all: **F Albarede**

1340h **V53A-2231 POSTER** SILICATE PEROVSKITE AND THE TERRESTRIAL NOBLE GAS SIGNATURE: **S S Shcheka**, H Keppler

1340h **V53A-2232** WITHDRAWN

1340h **V53A-2233** WITHDRAWN

1340h **V53A-2234 POSTER** Marangoni effect in metal-silicate self separation: **S Labrosse**, H Terasaki, Y R Ricard

1340h **V53A-2235 POSTER** Polybaric critical melting with high melt retention explains the compositions of Barberton komatiites: **C Robin**, N Arndt, C Chauvel, G R Byerly, A Wilson

1340h **V53A-2236 POSTER** Oxygen and silicon partitioning between molten iron and silicate melts: **A Ricolleau**, Y Fei, J Siebert, A Corgne, J Badro

1340h **V53A-2237 POSTER** Decoupling of Hf-Nd isotope ratios in early Archean rocks from southern West Greenland - primary or secondary disturbance?: **J Hoffmann**, C Munker, A Polat, M Rosing

1340h **V53A-2238 POSTER** New experimental constraints for Hadean zircon source melts from Ce and Eu anomalies in zircon: **D Trail**, E B Watson, N Tailby

1340h **V53A-2239 POSTER** Limits Imposed on Heat Produced during Core Formation by Radiative Transfer Processes and Thermodynamic Laws: R E Criss, **A Hofmeister**

1340h **V53A-2240 POSTER** Self consistent model of core formation and the effective metal-silicate partitioning: **H Ichikawa**, S Labrosse, M Kameyama

V53B Moscone South: Poster Hall Friday 1340h
The Constraint of Magma and Gas Transport by Geophysical and Geochemical Data III Posters (*joint with NS*)

Presiding: **F Witham**, University of Bristol; **J Biggs**, University of Bristol; **T Menand**, Université Blaise Pascal, Laboratoire Magmas & Volcans, IRD R 163, CNRS UMR 6524; **J O Hammond**, University of Bristol

1340h **V53B-2241 POSTER** The implications of re-melting and crystallization for estimating magma fluxes from geodetic observations: **L Caricchi**, C Annen, J D Blundy, J Biggs, J Gottsmann

1340h **V53B-2242 POSTER** Broadband Seismic Monitoring of Mayon Volcano, the Philippines: **D Hidayat**, E Laguerta, A Baloloy, S Marcial, C Widiwijayanti

1340h **V53B-2243 POSTER** Ground Deformation at Effusively Erupting Volcanoes from Physics-Based Models: **K R Anderson**, P Segall

1340h **V53B-2244 POSTER** The control of extensional stress field on the intensity of explosive volcanic eruptions through dykes: **A Costa**, J Gottsmann, O E Melnik, R S Sparks

1340h **V53B-2245 POSTER** An Experimental Investigation of Sill Formation in Layered Elastic Media: Rigidity Contrasts and the Strength of an Interface: **J L Kavanagh**, R S Sparks, T Menand, J Blundy

1340h **V53B-2246 POSTER** Bi-Directional Flow Experiments and Implications for Degassing Processes at Basaltic Volcanoes: **F Beckett**, H Mader, J C Phillips, A Rust

1340h **V53B-2247 POSTER** Bingham fluid behavior of plagioclase-bearing basaltic magma: Approach from laboratory viscosity measurements: **H Ishibashi**, H Sato

1340h **V53B-2248 POSTER** EVOLUTION OF CRUST- AND CORE-DOMINATED LAVA FLOWS USING SCALING ANALYSIS: **A Castruccio**, A Rust, R S Sparks

1340h **V53B-2249 POSTER** The partitioning behaviour of trace metals between melts and H-O-C-Cl fluids: an experimental study: **A Teague**, J D Blundy, C Coath

1340h **V53B-2250 POSTER** Integrated geochemical modelling of magmatic degassing and hydrothermal interaction: a case study from Kawah Ijen volcano, Indonesia: **N Vigouroux-Caillibot**, G Williams-Jones, K Berlo, V van Hinsberg, S Palmer, S Scher, W Williams-Jones, P J Wallace

1340h **V53B-2251 POSTER** Barometric pressure forcing on radon-222 and temperature in fumarolic gases: a tool to describe flow-rate dynamics: **P Richon**, A SALAUN, G Boudon, B VILLEMANT, O Crispi, J Sabroux

1340h **V53B-2252 POSTER** Radon and thoron emission from high and low porosity rocks under increasing deformation: An experimental study: **S Vinciguerra**, S Mollo, P Tuccimei, M J Heap, M Soligo, M Castelluccio, P Scarlato, D B Dingwell

1340h **V53B-2253 POSTER** Variation in OMI SO₂ measurements between extrusive and non-extrusive periods of Soufrière Hills volcano, Montserrat: **C Hayer**, G Wadge, M Edmonds

1340h **V53B-2254 POSTER** In-situ, high spatio-temporal resolution measurements of CO₂ flux and isotopic composition on Mammoth Mountain, CA: **J L Lewicki**, G E Hilley, B Marino, D Bergfeld, M L Fischer, J Hancyk, L Xu

1340h **V53B-2255** POSTER Investigating the trigger mechanism of low-intensity explosive activity at Santiaguito Volcano with a UV camera: **P Holland**, M I Watson, J C Phillips

1340h **V53B-2256** POSTER Gas-driven eruptions at Mount Ruapehu, New Zealand: towards a coherent model of eruption: **G N Kilgour**, H M Mader, M Mangan, J Blundy

1340h **V53B-2257** POSTER Linking conduit and surface activity at Arenal volcano using broadband seismometers and Doppler radar: do we need a new conduit model?: **S Valade**, F R Donnadieu, P Lesage, M Mora Fernandez, A J Harris, G E Alvarado

1340h **V53B-2258** POSTER Volcano Inflation prior to Gas Explosions at Semeru Volcano, Indonesia: **T Nishimura**, M Iguchi, R Kawaguchi, S Surono, M Hendrasto, U Rosadi

1340h **V53B-2259** WITHDRAWN

1340h **PA21D-1659** POSTER Sealing the deal? Vent dynamics and strombolian eruptions recorded with broadband seismic, acoustic and gas observations at Fuego Volcano, Guatemala: **JJ Lyons**, G P Waite, P A Nadeau

V53C Moscone South: Poster Hall Friday 1340h
Volatiles in Magmas: Breath of the Deep Earth V Posters (*joint with MR, DI*)

Presiding: S Demouchy, Geosciences Montpellier -CNRS-;
P Ruprecht, Lamont-Doherty Earth Observatory

1340h **V53C-2260** POSTER Volatile contents in olivine-hosted melt inclusions from primitive magmas in the Northern Cascade arc: **S D Shaw**, S M DeBari, P J Wallace, T W Sisson

1340h **V53C-2261** POSTER Experimental Determination of the Partitioning Behavior of Noble Gases Between Carbonate and Silicate Liquids: **P Burnard**, K T Koga

1340h **V53C-2262** POSTER Characterizing the helium isotope signatures of the mantle beneath the Society Islands, French Polynesia: **D M Huckle**, M Jackson

1340h **V53C-2263** POSTER Water in the oceanic lithosphere: Salt Lake Crater xenoliths, Oahu, Hawaii: **A H Peslier**, M Bizimis

1340h **V53C-2264** POSTER Effect of water on mantle melting and magma differentiation, as modeled using *Adiabat_1ph 3.0*: **P M Antoshechkina**, P D Asimow, E H Hauri, P I Luffi

1340h **V53C-2265** POSTER Melt inclusion re-equilibration with complex shapes: **P Ruprecht**, T Plank, A S Lloyd

1340h **V53C-2266** POSTER Composition and volatile contents of melt inclusions from Mayon Volcano, Philippines: **RR Maximo**, J A Walker

1340h **V53C-2267** POSTER Eruption and Degassing Processes in a Supervolcanic System: The Volatile Record Preserved in Melt Inclusions from the 3.49Ma Tara Ignimbrite in the Central Andes: **S Grocke**, S L de Silva, A K Schmitt, P J Wallace

1340h **V53C-2268** POSTER Is there excess argon in the Fish Canyon magmatic system?: **C M Wilkinson**, S Sherlock, S P Kelley, B L Charlier

1340h **V53C-2269** POSTER The Role of Volatiles During Historical Eruptions of Kilauea Volcano, Hawaii: Constraints on Source to Surface Processes Using Melt Inclusions: **I Sides**, M Edmonds, J Maclennan, D Swanson

1340h **V53C-2270** POSTER Halogen/sulphur variations over the active lava lake of Nyiragongo: G Giuffrida, **N Bobrowski**, D Tedesco, M Yalire, S Arellano, C Balagizi, B Galle

1340h **V53C-2271** POSTER Implications of Pt crucibles - H₂O vapour interaction on past ΔD measurements in silicate glasses and minerals: **M Clog**, P Cartigny, C P Aubaud

1340h **V53C-2272** POSTER Experimental Phase Relations of Hydrous, Primitive Melts: Implications for variably depleted mantle melting in arcs and the generation of primitive high-SiO₂ melts: **S Weaver**, P J Wallace, A Johnston

1340h **V53C-2273** POSTER Temperature- and fO₂-Dependence of the Volatility and Condensation Behavior of Volatile Elements: Experimental Results: **W Ertel**, D B Dingwell

1340h **V53C-2274** POSTER Experimental Insights Into the Formation of High-Mg Andesites in the Trans-Mexican Volcanic Belt: **R M Weber**, P J Wallace, A Johnston

1340h **V53C-2275** POSTER Behavior of Volatile Metals in Basaltic Systems: Insights from Kilauea Iki and Loihi Volcanoes, Hawaii: **M Loewen**, A J Kent

1340h **V53C-2276** POSTER Geochemistry and Petrogenesis of the Wengeqi Mafic-Ultramafic Complex and Associated PGE Mineralization, Guyang County, Inner Mongolia, China: **S Su**, C Leshar

1340h **V53C-2277** POSTER Calibration for Infrared Measurements of OH in Apatite: **KL Wang**, F Naab, Y Zhang

1340h **V53C-2278** WITHDRAWN

1340h **V53C-2279** POSTER The degassing and crystallisation behaviour of basaltic lavas: L J Applegarth, **H Tuffen**, H Pinkerton, M R James

1340h **V53C-2280** POSTER Real-time radon measurements at Stromboli volcano: new insights on gas transport process to the surface: **C Cigolini**, M Laiolo, G Gervino

1340h **V53C-2281** POSTER Source mechanism regimes for the acoustic signals generated during the expansion of rising and bursting gas slugs in low-viscosity magmas: S J Lane, S B Corder, **M R James**

1340h **V53C-2282** POSTER BrO formation in the plume of Pacaya volcano, plume chemistry at high resolution plume ages: **N Bobrowski**, L Vogel, V R Cáceres Espinosa, C Kern, U Platt

1340h **V53C-2283** POSTER The shallow degassing system of Stromboli volcano: insights from geochemical and geophysical data: **M Laiolo**, G Olivieri, C Cigolini, M Ripepe

1340h **V53C-2284** POSTER CO₂ emission from lake-filled Katanuma crater, Narugo volcano, Japan: **E Padron**, P A Hernandez Perez, T Mori, N Perez

1340h **V53C-2285** POSTER Soil CO₂ Efflux Monitoring at Izu-Oshima Volcano, Japan: **P A Hernandez Perez**, T Mori, E Padron, K Notsu, N Perez, G Virgili

1340h **V53C-2286** POSTER Geochemical signatures of the diffuse CO₂ emission from Brava volcanic system, Cape Verde: **F Rodriguez**, Z Bandomo, I Barros, J Dias Fonseca, P Fernandes, J Rodrigues, G Melian Rodriguez, E Padron, S Dionis, S Sonia, A A. Gonçalves, A Fernandes, P A Hernandez Perez, N Perez

1340h **V53C-2287** POSTER Tree-ring ¹⁴C and CO₂ emissions at Mammoth Mountain and Yellowstone, USA: D Bergfeld, J P McGeehin, J King, H Heasler, **W C Evans**

1340h **V53C-2288** POSTER Dynamic of diffuse CO₂ emission from Deception volcano, Antarctica: **D Nolasco**, E Padron, P A Hernandez Perez, F Christian, M Kusakabe, H Wakita

V53D Moscone West: 2018 Friday 1340h
Innovations in Isotope Mass Spectrometry and Isotope Metrology in Geosciences II

Presiding: S Richter, IRMM-JRC-EU; **C Shen**, Natl Taiwan Univ; **A Nestler**, European Commission, Joint Research Centre, Institute for Reference Materials and Measurements

1340h **Introduction** *Stephan Richter, IRMM*

1341h **V53D-01** Sr – an element shows the way – Applications of Sr isotopes for provenance, tracing and migration (*Invited*): **T Prohaska**, J Irrgeher, A Zitek, M Teschler Nicola

1356h **V53D-02** Precise Sr isotopic compositions determination by the double-spike technique (*Invited*): **D Lee**, Y Liu, L Lin

1411h **V53D-03** CERTIFICATION OF THE URANIUM ISOTOPIC RATIOS IN NBL CRM 112-A, URANIUM ASSAY STANDARD (*Invited*): **K J Mathew**, P Mason, U Narayanan

1426h **V51B-2178** Concordant ²⁴¹Pu-²⁴¹Am Dating of Environmental Samples: Results from Forest Fire Ash: **S J Goldstein**, W J Oldham, M T Murrell, D Katzman

1441h **V53D-04** Uranium and Calcium Isotope Ratio Measurements using the Modified Total Evaporation Method in TIMS: **S Richter**, H Kuehn, M Berglund, C Hennessy

1455h **V53D-06** Calcium Isotope Analysis by Mass Spectrometry: **S Boulyga**, S Richter

1510h **V53D-07** Isotopes for improved management of nitrate pollution in aqueous resources: review of surface water field studies: **A Nestler**, M Berglund, F Accoe, S Duta, D Xue, P F Boeckx, P Taylor

1525h **V53D-08** Innovations in Mass Spectrometry for Precise and Accurate Isotope Ratio Determination from Very Small Analyte Quantities (*Invited*): **N S Lloyd**, C Bouman, M S Horstwood, R R Parrish, J B Schwieters

V53E Moscone West: 2020 Friday 1340h
Quantifying Magma Mixing Processes II

Presiding: **B J Andrews**, UC Berkeley; **B L Browne**, Cal State Fullerton

1340h **V53E-01** Toward a more quantitative understanding of open magmatic systems (*Invited*): **M A Dungan**

1355h **V53E-02** Homogeneous crystal-rich vs. zoned crystal-poor ignimbrites: how much strain accumulates in large magma reservoirs between a new magma recharge and eruption? (*Invited*): **C Huber**, O Bachmann, J Dufek, M Manga

1410h **V53E-03** Thermo-mechanical reactivation of locked crystal mushes: melting-induced internal fracturation and assimilation processes in magmas: **O Bachmann**, C Huber, J Dufek

1425h **V53E-04** Combined Petrological and Numerical Modeling Approach to Address Highly Crystalline Magma Remobilization Prior to Eruption at Volcán Llaima (Chile, 38.7°S): **C Bouvet de Maisonneuve**, M A Dungan, A Burgisser, O Bachmann, F Costa Rodriguez

1440h **V53E-05** Strontium Isotopes and Magma Dynamics: **J A Wolff**, B S Ellis, F C Ramos

1455h **V53E-06** Diffusive Fractionation of Trace Elements During Mixing of Magmas: a New Petrological Clock for Measuring Time-Scales of Volcanic Eruptions: M Petrelli, **D Perugini**, C P De Campos, G Poli, D B Dingwell

1510h **V53E-07** Preferential eruption of andesitic magmas through recharge filtering at Mount Hood, Oregon: **A J Kent**, C Darr, A M Koleszar, M J Salisbury, K M Cooper, G R Eppich

1525h **V53E-08** Hybridisation during magma ascent at Soufrière Hills Volcano, Montserrat: **M Humphreys**, M Edmonds, T E Christopher, V Hards

V53F Moscone West: 2022 Friday 1340h
The 2010 Eruption of Eyjafjallajökull: A Landmark Event for Volcanic Cloud Hazards III (*joint with A, NH*)

Presiding: **S A Carn**, Michigan Technological University; **F Prata**, NILU; **S Karlsdottir**, Icelandic Meteorological Office

1340h **V53F-01** The Eyjafjallajökull eruption in April-May 2010; course of events, ash generation and ash dispersal (*Invited*): **M T Gudmundsson**, T Thordarson, A Hoskuldsson, G Larsen, I Jónsdóttir, B Oddsson, E Magnusson, T Hognadottir, G Sverrisdottir, N Oskarsson, T Thorsteinsson, K S Vogfjord, H Bjornsson, G N Pedersen, S Jakobsdottir, S Hjaltadottir, M J Roberts, G B Gudmundsson, S Zophoniasson, F Hoskuldsson

1355h **V53F-02** INTRUSION TRIGGERING OF EXPLOSIVE ERUPTIONS: LESSONS LEARNED FROM EYJAFJALLAJÖKULL 2010 ERUPTIONS AND CRUSTAL DEFORMATION STUDIES: **F Sigmundsson**, S Hreinsdottir, A J Hooper, T Arnadottir, R Pedersen, M J Roberts, N Oskarsson, A Auriac, J DECRIEM, P Einarsson, H Geirsson, M Hensch, B G Ofeigsson, E C Sturkell, H Sveinbjornsson, K Feigl

1410h **V53F-03** Near-field monitoring of the Eyjafjallajökull eruption cloud: **H Bjornsson**, G N Pedersen, P Arason, S Karlsdottir, K S Vogfjord, H Thorsteinsson, B Palmason, A Sigurdsson

1425h **V53F-04** On-land distribution and modes of deposition of the Eyjafjallajökull 2010 tephra: G Larsen, **T Thordarson**, A Hoskuldsson, M T Gudmundsson, G Sverrisdottir, B Oddsson, B V Oskarsson, I Jonsdottir, B Oladottir, T Thorsteinsson, M E Hartley, R Meara

1440h **V53F-05** Aircraft-borne Measurements of Emissions from the Eyjafjallajökull Eruption (*Invited*): **H Schlager**, U Schumann, B Weinzierl, A Minikin, O Reitebuch, T Sailer, R Baumann

1455h **V53F-06** Volatile budget of Eyjafjallajökull magmas: **H Sigurdsson**, C W Mandeville

1510h **V53F-07** Chemistry and fluxes of magmatic gases powering the explosive trachyandesitic phase of Eyjafjallajökull 2010 eruption: constraints on degassing magma volumes and processes: **P Allard**, M R Burton, N Oskarsson, A Michel, M Polacci

1525h **V53F-08** Sulfur Budget of the 2010 Eyjafjallajökull Eruption Derived From Satellite Observations: **S A Carn**, J Wang, K Yang, N A Krotkov

Atmospheric Sciences

A54A Moscone West: 3004 Friday 1600h
Climate Processes and Other Research Applications Enabled by Satellite Sounders, Imagers, and Profilers IV (*joint with H*)

Presiding: **B H Kahn**, Jet Propulsion Laboratory; **B Tian**, Jet Propulsion Lab

1600h **A54A-01** The Observed Sensitivity of High Clouds to Mean Surface Temperature Anomalies in the Tropics: M D Zelinka, **D L Hartmann**

1615h **A54A-02** Relationship between oceanic boundary layer clouds and lower tropospheric stability observed by AIRS, CloudSat and CALIOP: **Q Yue**, B H Kahn, E Fetzer, J Teixeira

1630h **A54A-03** Deriving Climate Quality Products from Hyper-Spectral Satellite Data: **X Liu**, D K Zhou, A Larar, W Wu, H Li, P Yang

1645h **A54A-04** Multispectral cloud-clearing using IASI sounding and collocated AVHRR imager measurements: **E S Maddy**, T S King, H Sun, W Wolf, C Barnet, A K Heidinger, Z Cheng, A Gambacorta

1700h **A54A-05** Passive multiangle imaging of clouds, aerosols, and atmospheric dynamics: Broadening our vision from MISR to WindCam and MSPI: **D J Diner**, D L Wu, R Chipman, A Davis, Title of Team: MISR Science Team

1715h **A54A-06** Boundary layer remote sensing with combined active and passive techniques: GPS radio occultation and high-resolution stereo imaging (WindCam) small satellite concept: **A J Mannucci**, D L Wu, J Teixeira, C O Ao, F Xie, D J Diner, D F Young

1730h **A54A-07** From Aircraft to GEO: Using Microwave Sounders to Observe the Atmosphere: **B Lambrigtsen**, S Brown, T Gaier, A Tanner, P Kangaslahti, B Lim, J Tanabe

1745h **A54A-08** Cloud-climate feedbacks and climate models: using satellite observations to probe the boundary layer and improve parameterizations (*Invited*): **J Teixeira**, H Kawai, J P Martins, J Karlsson, B H Kahn, S Lee

A54B Moscone West: 3002 Friday 1600h
Ocean-Cloud-Land-Atmosphere Interactions in the Southeastern Pacific II (*joint with OS*)

Presiding: **P Zuidema**, RSMAS/U of Miami; **J D Fast**, Pacific Northwest National Laboratory

1600h **A54B-01** The South "West" Pacific Convergence Zone: Large-scale feedback on atmospheric subsidence to the east: **M J Widlansky**, P J Webster, C Hoyos

1615h **A54B-02** Eddies in the Southeast Pacific and their influence on the upper ocean (*Invited*): **F Straneo**, C F Moffat, R A Weller, J T Farrar

1630h **A54B-03** A discussion on the processes that maintain a cool ocean surface under the stratus decks of the Southeastern Pacific: **C R Mechoso**, T Toniazzo, J C McWilliams, F Colas

1645h **A54B-04** The Open-Cellular Cloud System as a Coupled Oscillator (*Invited*): **G Feingold**, I Koren, H Wang, H Xue, A Brewer

1700h **A54B-05** Characterization of sub-cloud vertical velocity distributions and precipitation-driven outflow dynamics using a ship-based, scanning Doppler lidar during VOCALS-Rex: **A Brewer**, G Feingold, S C Tucker, D S Covert, R Hardesty

1715h **A54B-06** Aerosol buffering of marine boundary layer cloudiness: **J Kazil**, G Feingold, H Wang

1730h **A54B-07** Simulating contemporary and preindustrial atmospheric chemistry and aerosol radiative forcing in the Southeast Pacific (*Invited*): **S Spak**, M Mena-Carrasco, G R Carmichael

1745h **A54B-08** VOCALS-UK: An overview of UK VOCALS science (*Invited*): **H Coe**, Title of Team: The VOCALS-UK Science Team

A54C Moscone West: 3008 Friday 1600h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere III (*joint with GC*)

Presiding: **W J Randel**; **K H Rosenlof**, NOAA ESRL CSD

1600h **A54C-01** Seasonal and regional variation in UTLS convective water transport from ACE isotopic measurements (*Invited*): **E J Moyer**, W Randel, M Park, E J Jensen, P F Bernath, K A Walker, C Boone

1615h **A54C-02** The Roles of Deep Convection in the Tropical Tropopause Layer (*Invited*): **C Liu**

1630h **A54C-03** Aerosol, Clouds and Water Vapor Transport across the Tropopause: Observations and Model Results: **H Su**, J H Jiang, X Liu, W G Read

1645h **A54C-04** CALIPSO Observations of a TTL Aerosol Feature Associated with the Asian Monsoon: **J Vernier**, L W Thomason, J Kar

1700h **A54C-05** Transport analysis and source attribution of seasonal and interannual variability of CO in the tropical upper troposphere and lower stratosphere: **J Liu**, J A Logan

1715h **A54C-06** The impact of TTL processes on VLSL contribution to stratospheric ozone depletion: **S Tegtmeier**, K Krueger, B Quack

1730h **A54C-07** The Relationship of Cloud Top to the Tropopause/ Jet Structure from CALIPSO Data: **L Pan**, L A Munchak

1745h **A54C-08** Dynamically forced upwelling in the tropical lower stratosphere: climatology, trends and response to ENSO: **H Garny**, M Dameris, W Randel, G E Bodeker, R Deckert, E Leuthold

A54D Moscone West: 3006 Friday 1600h
Remote Sensing of CO₂ Emissions and Atmospheric Transport III (*joint with GC*)

Presiding: **M T Chahine**, JPL; **A M Michalak**, University of Michigan; **C E Miller**, California Institute of Technology

1600h **A54D-01** Tropical Mid-Tropospheric CO₂ Variability driven by the Madden-Julian Oscillation: **K Li**, B Tian, D E Waliser, Y L Yung

1615h **A54D-02** Interannual Variability of Mid-tropospheric CO₂ from Atmospheric Infrared Sounder: **X Jiang**, M T Chahine, E Olsen, L Chen, Y L Yung

1630h **A54D-03** Spatial interpolation of carbon dioxide using Fixed Rank Kriging: **H M Nguyen**, N Cressie, A J Braverman, E Olsen

1645h **A54D-04** Spatial patterns and time variability of CO₂ from AIRS: **A Ruzmaikin**, H H Aumann, B Moghaddam

1700h **A54D-05** Comparing Global Atmospheric CO₂ Flux and Transport Models with Remote Sensing (and Other) Observations (*Invited*): **S R Kawa**, G J Collatz, S Pawson, P O Wennberg, S C Wofsy, A E Andrews

1715h **A54D-06** High-resolution global CO₂ modeling: a comparison to GOSAT column CO₂ retrievals: **D F Baker**

1730h **A54D-07** Using High-Resolution Forward Model Simulations of Ideal Atmospheric Tracers to Assess the Spatial Information Content of Inverse CO₂ Flux Estimates: **S Pawson**, J E Nielsen

1745h **A54D-08** A comprehensive carbon dioxide analysis system for estimating CO₂ emissions: **A Denning**, N Parazoo, R S Lokupitiya, D F Baker

Biogeosciences

B54A Moscone West: 2006 Friday 1600h
Metal and Radionuclide Transformation and Remediation in Biogeochemically Dynamic Subsurface Environments III (*joint with V*)

Presiding: **K L Skubal**, U.S. Dept. of Energy; **E M Pierce**

1600h **B54A-01** Novel Insights Into Microbial Uranium Reduction and Immobilization: **F E Loeffler**, K Fletcher, S Thomas, K M Kemner, M Boyanov, R Sanford

1620h **B54A-02** Post-Biostimulation Biogenic U(IV) Stability and Microbial Community Structure that Affects its Dynamics: **P R Jaffe**, P E Long, H Moon, L N'Guessan, A Peacock, M Sinha, H Tan, D Traub, K H Williams

1640h **B54A-03** Whole-sediment speciation of U(IV) in acetate-bioreduced aquifer sediments at the Rifle, CO, IFRC site: **J Bargar**, K H Williams, K M Campbell, P E Long, J E Stubbs, L Blue, E Suvorova, J Lezama-Pacheco, R Bernier-Latmani, D Giammar

1700h **B54A-04** Sulfur isotope fractionation as an early indicator of microbial sulfate reduction under conditions of stimulated subsurface metal bioremediation: **J L Druhan**, M E Conrad, K H Williams, C Steefel, D J Depaolo

1720h **B54A-05** Meta-Transcriptomic Analysis of a Chromate-Reducing Aquifer Microbial Community: H R Beller, **E L Brodie**, R Han, U Karaoz

1740h **B54A-06** Microbial respiration and dissolution precipitation reactions of minerals: thermo-kinetics and reactive transport modelling: **M M Azaroual**, M Parmentier, L Andre, N Croiset, M Pettenati, S Kremer

B54B Moscone West: 2002 Friday 1600h
Process-Based Approaches in Geobiology: Understanding Modern and Ancient Systems III (*joint with GC, PP, V*)

Presiding: **D A Fike**, Washington University; **W W Fischer**, Caltech

1600h **B54B-01** What they eat is how they fractionate: controls on sulfur isotope fractionations during microbial sulfate reduction in culture and nature (*Invited*): **T Bosak**, M Sim, K Donovan, J D Grabenstatter, S Ono

1615h **B54B-02** Using Stable Isotopes to Trace Microbial Hydrogen Production Pathways: **J Moran**, E Hill, R Bartholomew, H Yang, L Shi, N E Ostrom, H Gandhi, E Hegg, H Kreuzer

1630h **B54B-03** Impact of large atmospheric CO₂ decline on marine life and sedimentation 375-325 million years ago: **R Riding**

1645h **B54B-04** Constraints on the duration and magnitude of Late Ordovician-Early Silurian glaciation and its relationship to the Late Ordovician mass extinction from carbonate “clumped” isotope paleothermometry: **S Finnegan**, K D Bergmann, J Eiler, D S Jones, D A Fike, I L Eisenman, N Hughes, A K Tripathi, W W Fischer

1700h **B54B-05** Sedimentary talc in Neoproterozoic carbonate successions: **N J Tosca**, F A Macdonald, J V Strauss, D T Johnston, A H Knoll

1715h **B54B-06** Molecular fossils in modern genomes provide physiological and geochemical insights to the ancient earth (*Invited*): **C Dupont**, G Caetano-Anolles

1730h **B54B-07** Genetic and geological imprints of evolutionary advance: A trace metal view: **R E Rickaby**, B J Williams

1745h **B54B-08** Iron and Carbon Isotope Evidence for Microbial Iron Respiration Throughout the Archean: **P R Craddock**, N Dauphas

B54C Moscone West: 2004 Friday 1600h
Remote Sensing of Terrestrial Carbon Fluxes III (*joint with EP*)

Presiding: **K F Huemmrich**, University of Maryland Baltimore County; **A F Rahman**, Indiana University

1600h **B54C-01** Model development for estimations of northern forest GPP from MODIS time series data: **P Schubert**, F Lagergren, A Lindroth, M Aurela, A Grelle, L Klemetsson, T Vesala, L Eklundh

1615h **B54C-02** An Ecophysiological Model for Remote Sensing of GPP: **K P Tu**

1630h **B54C-03** Parameterization of a Diagnostic Carbon Cycle Model for Continental-Scale Application: **D P Turner**, D A King, W D Ritts

1645h **B54C-04** DEVELOPING A DATA DRIVEN PROCESS-BASED MODEL FOR REMOTE SENSING OF ECOSYSTEM PRODUCTION: **B Elmasri**, A F Rahman

1700h **B54C-05** Impact of Fire Disturbance on Regional Net Ecosystem Exchange for a Sub-Humid Woodland and Grassland Ecosystem: **J Yao**, J D White

1715h **B54C-07** Assessing the Impact of Droughts on Tropical Forests Using Spaceborne Microwave and Optical Observations: **S Asefi-Najafabady**, S S Saatchi

1730h **B54C-08** Monitoring Amazon Rain Forest Drought Using MODIS Land Surface Temperature Data: **M P Toomey**, D A Roberts

B54D Moscone West: 2003 Friday 1600h
Role of Methane Hydrates in the Earth System: “Burps of Death” or Seductive Irrelevance? (*joint with OS, PP*)

Presiding: **A J Ridgwell**, University of Bristol

1600h **B54D-01** Global Inventory of Methane Hydrate: How Large is the Threat? (*Invited*): **B A Buffett**, J M Frederick

1615h **B54D-02** Constraining the global inventory of methane hydrates in marine sediments (*Invited*): **K J Wallmann**, E Burwicz, L Rupke, M Marquardt, E Pinero, M Haeckel, C Hensen

1630h **B54D-03** Large methane reserves beneath Antarctica?:

J L Wadham, S M Tulaczyk, M Stibal, S Arndt, J Telling, G Lis, E C Lawson, A Dubnick, M Tranter, M J Sharp, A Anesio

1645h **B54D-04** A 2-D basin-scale methane hydrate model: equilibrium and transient sensitivity to ocean temperature. (*Invited*): **D E Archer**, P C McGuire, B A Buffett

1700h **B54D-05** The Great Escape? Assessing the efficiency of the sedimentary AOM barrier and its implications for past climate change: **S Arndt**, A Dale, P Regnier, A Ridgwell

1715h **B54D-06** Ice core $\delta D(CH_4)$ record precludes marine hydrate CH₄ emissions at the onset of Dansgaard-Oeschger events: **M Bock**, J Schmitt, L Möller, R Spahni, T Blunier, H Fischer

1730h **B54D-07** WITHDRAWN

Cryosphere

C54A Moscone West: 3010 Friday 1600h
ANDRILL (Antarctic Drilling Program): Scientific Outcomes of the Two Inaugural Projects II (*joint with GP, PP*)

Presiding: **F Florindo**, INGV; **D M Harwood**, Univ. Nebraska-Lincoln; **R D Powell**, Northern Illinois Univ.

1600h **C54A-01** Hysteresis in Cenozoic East Antarctic ice sheet variations: model-dependent or real?: **D Pollard**, R DeConto

1615h **C54A-02** The Offshore New Harbor (ONH) Seismic Expedition: Revealing the Stratigraphic History in the Southern McMurdo Sound Region, Ross Sea, Antarctica from the Greenhouse to Icehouse Worlds: **S F Pekar**, M A Speece, G S Wilson, D A Sunwall, K J Tinto

1630h **C54A-03** Estimating Last Glacial Maximum Ice Thickness Using Porosity and Depth Relationships: Examples from AND-1B, McMurdo Sound, Antarctica: **T G Hayden**, M A Kominz, F Niessen, D Magens

1645h **C54A-04** McMurdo Dry Valleys Climate Response to Pliocene-Warm Interglacial Climate Forcing: **D E Kowalewski**, R DeConto, A Seth, D Pollard

1700h **C54A-05** Pliocene Antarctic sea-ice reconstruction based on the diatom record the ANDRILL 1B core: **R P Scherer**, C M Sjunneskog, D Winter, C Riesselman

1715h **C54A-06** Antarctic Paleoclimate and Ice Sheet Behavior During the Early and Middle Miocene: Results from the ANDRILL AND-2A Drillcore: **D M Harwood**, F Florindo, R H Levy, Title of Team: SMS Project Science Team <http://andrill.org/projects/sms/team.html>

1730h **C54A-07** The Role of Antarctica in Global Late Pliocene Cooling Scenarios - Insights from AND-1B: **R M Mckay**, T Naish, L Carter, C Riesselman, C M Sjunneskog, D Winter, R B Dunbar, R H Levy, R P Scherer, R D Powell

1745h **C54A-08** Downhole logs of natural gamma radiation and magnetic susceptibility and their use in interpreting lithostratigraphy in AND-1B, Antarctica: **T Williams**, R H Morin, R D Jarrard, C L Jackolski, S A Henrys, F Niessen, D Magens, G Kuhn, D Monien, R D Powell

C54B Moscone West: 301 I Friday 1600h
Remote Sensing of the Cryosphere III (*joint with H, OS, G*)

Presiding: **T H Painter**, Jet Propulsion Laboratory; **T Neumann**, NASA Goddard Space Flight Ctr.

1600h **C54B-01** Spectral variability of debris covered glaciers via optical remote sensing: examples from Iceland, Khumbu Himalaya, New Zealand and Norway: **K Casey**, A Kääh

1615h **C54B-02** Development of ice thickness retrieval algorithms for large northern lakes from AMSR-E brightness temperature measurements: **K Kang**, C R Duguay, J Lemmetyinen, Y Gel

1630h **C54B-03** MICROWAVE RADAR RETRIEVAL OF SNOW WATER EQUIVALENT: **S H Yueh**, H Rott, T F Nagler, D W Cline, C R Duguay, R Essery, P Etchevers, I Hajsek, M Kern, G Macelloni, E Malnes, J T Pulliainen, L Tsang, X Xu, H Marshall, K Elder

1645h **C54B-04** Mapping ice dynamics from multi-mission SAR satellite data: **M Braun**

1700h **C54B-05** Scale and sensor dependency of measurements of dust radiative forcing in snow: **A C Bryant**, T H Painter

1715h **C54B-06** An evaluation of the transferability of a coupled snow hydrology and microwave emission model for data-sparse regions: **D Kang**, A P Barros

1730h **C54B-07** Assessing Forest Cover Effects on Passive Microwave Snow Retrievals Using 2009 Snow Observations from NASA's Airborne Earth Science Microwave Imaging Radiometer (AESMIR): **E J Kim**

1745h **C54B-08** SIMPL Laser Altimeter Measurements of Lake Erie Ice Cover: a Pathfinder for ICESat-2: **D J Harding**, P Dabney, S R Valett, A Kelly

Earth and Planetary Surface Processes

EP54A Moscone South: 310 Friday 1600h
Source to Sink Insights Into Integrated Sedimentary System Evolution II (*joint with H, OS*)

Presiding: **J A Covault**, USGS; **A Fildani**, R&D - Chevron

1600h **EP54A-01** Source-to-Sink System Evolution as Recorded in Clastic Facies in Two New Zealand Examples: the Bounty System of South Island and the Waipaoa System of North Island: **K M Marsaglia**

1615h **EP54A-02** Source to Sink Tectonic Fate of Large Oceanic Turbidite Systems and the Rupturing of Great and Giant Megathrust Earthquakes (*Invited*): **D W Scholl**, S H Kirby, R von Huene

1630h **EP54A-03** Climate and Provenance Evolution Recorded in the Sub-aqueous Indus Delta since the Last Glacial Maximum: **D R Limmer**, P D Clift, C Koehler, L Giosan, C Ponton, T Henstock, A Tabrez

1645h **EP54A-04** Long-lived sediment dispersal pathways of the U.S. Cordillera in southwest Montana: Evidence from Paleogene intermontane basin deposits and relationship to regional structure: **A L Weislogel**, R Schwartz, J L Rothfuss, T Schwartz

1700h **EP54A-05** Cenozoic North American Drainage Basin Evolution, Sediment Yield, and Accumulation in the Gulf of Mexico Basin: **W Galloway**, P E Ganey-Curry

1715h **EP54A-06** Anatomy of La Jolla Canyon: **C K Paull**, D W Caress, W Ussler, E Lundsten, M L McGann, J E Conrad, B D Edwards, J A Covault

1730h **EP54A-07** Fluvial backwater zones as filters on source to sink sediment transport (*Invited*): **M P Lamb**, J A Nittrouer, D C Mohrig, J B Shaw

1745h **EP54A-08** The role of tectonic depressions in floodplain development and in influencing the Source to Sink paradigm (*Invited*): **J P Syvitski**

EP54B Moscone South: 103 Friday 1600h
Terrestrial Response to Abrupt Global Warming Events (*joint with B, GC, H, PP*)

Presiding: **M A Ellis**, British Geological Survey; **H D Sinclair**

1600h **EP54B-01** Erosion and voluminous mass movements during episodes of climate variability: landscape evolution in the southern-central Andes and the NW Himalaya. (*Invited*): **M R Strecker**, B Bookhagen

1615h **EP54B-02** WITHDRAWN

1630h **EP54B-03** Comparison of bulk and *n*-alkane PETM carbon isotope trends from the Bighorn Basin, Wyoming: **A A Baczynski**, F A McInerney, M J Kraus, S Wing

1645h **EP54B-05** THE IMPACT OF SEA ICE LOSS ON WAVE DYNAMICS AND COASTAL EROSION ALONG THE ARCTIC COAST: **I Overeem**, R S Anderson, C W Wobus, N Matell, F E Urban, G D Clow, T P Stanton

1700h **EP54B-06** Modeling the rate and style of Arctic coastal retreat along the Beaufort Sea, Alaska: **K R Barnhart**, R S Anderson, I Overeem, C W Wobus, G D Clow, F E Urban, T P Stanton

1715h **EP54B-07** Basalt Weathering, Nutrient Uptake, And Carbon Release By An Exotic And A Native Arizona Grass Species Under Different Temperature Conditions: **G Gallas**, K Dontsova, J Chorover, E Hunt, S Ravi

1730h **EP54B-08** Geomorphic response of rivers to glacial retreat and increasing peak flows downstream from Mount Rainier, Washington: **J A Czuba**, C R Barnas, C S Magirl, F D Voss

Geodesy

G54A Moscone West: 2008 Friday 1600h
Identification and Mitigation of Systematic Errors in Space Geodetic Results II (*joint with A, OS, SM, SA*)

Presiding: **S D Desai**, Jet Propulsion Laboratory; **P Willis**, Institut Geographique National

1600h **G54A-01** Accuracy of SLR Observations and Stability of its Analysis Products: **E C Pavlis**, M Kuzmich-Cieslak, N Wolford

1615h **G54A-02** Systematic errors in VLBI analysis: H Spicakova, L Plank, T Nilsson, A Pany, J Boehm, **H Schuh**

1630h **G54A-03** Systematic Errors in the DORIS System: Lessons learned from ITRF2008 and Future Possibilities (*Invited*): **F G Lemoine**, J Valette, G Moreaux, L Soudarin, P Stepanek, K Le Bail, M K Ziebart

1645h **G54A-04** Empirical Modeling of Solar Radiation Pressure Forces Affecting GPS Satellites: **A Sibthorpe**, J P Weiss, N Harvey, D Kuang, Y Bar-Sever

1700h **GC54A-05** Improved Models of the GPS Satellite Antenna Phase- and Group-Delay Variations Using Data from Low-Earth Orbiters (*Invited*): **B Haines**, W Bertiger, S D Desai, N Harvey, J P Weiss

1715h **GC54A-06** Extending the GPS satellite antenna patterns of the IGS to nadir angles beyond 14° using LEO data: R Dach, **A Jaeggi**, H Bock, G Beutler, O Montenbruck, R Schmid

1730h **GC54A-07** Effects of atmospheric variability and non-tidal ocean loading on GPS position coordinates (*Invited*): **T M van Dam**, X Collilieux, Z Altamimi, J Ray

1745h **GC54A-08** Effects of modelling higher-order ionospheric terms on global GPS solutions: **E J Petrie**, M King, P Moore, D A Lavallee

Global Environmental Change

GC54A Moscone West: 3001 Friday 1600h
Greening/Sustainable Arctic III (*joint with B, A, C, H*)

Presiding: **M S Murray**, University of Alaska Fairbanks; **P Schlosser**, Columbia University; **M K Tjernstrom**, Stockholm University

1600h **GC54A-01** Understanding drivers of recent Arctic tundra vegetation changes: **U S Bhatt**, D A Walker, M K Reynolds, P A Bieniek, H E Epstein, J C Comiso, J Pinzon, C J Tucker, I Polyakov, Y Liu, R Gens, C E Tweedie, P Webber, G Jia

1612h **GC54A-02** Will a large-scale expansion of Arctic shrub extent increase or decrease permafrost vulnerability to climate change?: **D M Lawrence**

1624h **GC54A-03** Spatio-temporal trends in vegetation structure and NDVI in Low Arctic northwest Siberia: evidence from the satellite record and ground observations: **G V Frost**, H E Epstein, D A Walker

1636h **GC54A-04** Modeling dynamics of tundra plant communities on the Yamal Peninsula, Russia: **Q Yu**, H E Epstein, D A Walker

1648h **GC54A-05** Arctic Social Indicators: Measuring Change in Arctic Human Systems (*Invited*): **L Hamilton**

1700h **GC54A-06** Ice Roads in the Northwest Territories: The Intersection of Climate, Economics, and Transportation Policy (*Invited*): **H Huntington**, M Sturm, M Goldstein, T A Douglas

1712h **GC54A-07** State of the Arctic Coast 2010: Scientific Review and Outlook: **V Rachold**, D L Forbes, H Kremer, H Lantuit

1724h **GC54A-08** WITHDRAWN

1736h **GC54A-09** Monitoring Sea Ice Conditions and Use in Arctic Alaska to Enhance Community Adaptation to Change: **M L Druckenmiller**, H Eicken

1748h **GC54A-10** Current and Projected Changes in Permafrost and Societal Impacts of Permafrost Degradation (*Invited*): **V E Romanovsky**, S S Marchenko, M Brubaker

GC54B Moscone West: 3005 Friday 1600h
Regional Patterns of Global Warming: Models, Mechanisms, and Observations III (*joint with A, H, OS*)

Presiding: **A C Clement**, RSMAS, University of Miami; **K B Karnauskas**, Woods Hole Oceanographic Institution

1600h **GC54B-01** The Challenge of Low-Frequency ENSO Variability (*Invited*): **J E Cole**, T R Ault, D M Thompson

1615h **GC54B-02** Tropical Pacific Ocean Mean Circulation: A Model-Data Intercomparison and Implications for Climate Change Projections (*Invited*): **K B Karnauskas**, G C Johnson, R G Murtugudde

1630h **GC54B-03** Increasing intensity of El Niño in the central equatorial Pacific: **M J McPhaden**, T Lee

1645h **GC54B-04** Weather-forced variations of Central and East Pacific ENSO events: **M A Alexander**, M Newman, S Shin

1700h **GC54B-05** Role of Natural Variability in the Low Cloud Response to Increasing CO₂ in Climate Models: **M Watanabe**, Title of Team: Team “MIROC climate sensitivity”

1715h **GC54B-06** Variability and trends in area, location, cloudiness and cloud top temperature of the ITCZ in the east to central Pacific over the past 30 years: **G Magnusdottir**, C Bain, P Smyth, H Stern, K Knapp

1730h **GC54B-07** Experiments on the Southern Oscillation with CAM3 coupled to a Mixed Layer Ocean: **E Monier**, A P Sokolov

1745h **GC54B-08** At What Temporal and Spatial Scales Are the Coupled Climate Model Hindcasts in the 20th Century Reliable?: **K Sakaguchi**, X Zeng

GC54C Moscone West: 2005 Friday 1600h
Use of Observations for Evaluating CMIP5/IPCC Simulations III (*joint with A, IN*)

Presiding: **A J Braverman**, Jet Propulsion Laboratory; **G L Potter**, NASA GSFC

1600h **GC54C-01** Towards routine quantitative assessment of climate model performance (*Invited*): **P J Gleckler**, K E Taylor, D N Williams

1615h **GC54C-02** Necessary but Not Sufficient Conditions for Constraining Climate Model Simulations (*Invited*): **A Gettelman**, J E Kay

1630h **GC54C-03** A Bayesian Approach to Evaluating Consistency between Climate Model Output and Observations: **A J Braverman**, N Cressie, J Teixeira

1645h **GC54C-04** Improve Multi-model Ensemble Climate Prediction by Using Observation Data: A Bayesian Approach: **Y Huang**, S S Leroy, R Goody, J Anderson

1700h **GC54C-05** Removing the spatial scale dependence of simulated high-impact weather and climate extremes in the CMIP/IPCC climate models: **C Chen**, Y Tung, S Luo

1715h **GC54C-06** Thinking about metrics: adequacy, performance & quality: **W Parker**

1730h **GC54C-07** On the optimal combination of multi-model results using observational constraints: **B M Sanderson**

1745h **GC54C-08** Requirement and technique for the application of satellite observations for multi-model evaluations: **A M Aghedo**, K W Bowman

Hydrology

H54A Moscone West: 3014 Friday 1600h
Climate Forcing of Surface and Subsurface Hydrology and Biogeochemistry: Processes, Models, Management III (*joint with A, B, EP, GC*)

Presiding: **S Arumugam**, NC State University; **S Floegel**, IFM-GEOMAR; **B Peucker-Ehrenbrink**, Woods Hole Oceanographic Institution; **R M Holmes**, Woods Hole Research Center; **NA Chappell**, Lancaster University; **M T Coe**, The Woods Hole Research Center; **U Lall**, Columbia Univ; **G Parkin**, Newcastle University; **J Drake**, University of Tennessee; **M J Waterloo**, VU University

1600h **H54A-01** Will hydrologists learn from the world around them?: Empiricism, models, uncertainty and stationarity (*Invited*): **U Lall**

1615h **H54A-02** Utility of stochastic decadal simulations in water resource planning (*Invited*): **A M Greene**, L M Goddard, P L Gonzalez

1630h **H54A-03** Multi-Model Estimate of the Historic and Future Global Water Balance: A Model Intercomparison Using Multiple Global Hydrological Models and Multiple Climate Models: **F Ludwig**, I Haddeland, D Clark, F Voss, M T van Vliet, S Hagemann, P Kabat

1645h **H54A-04** THE CRUCIAL ROLE OF PARTICULATE MATTER IN FLUVIAL DEGRADATION OF THAW-RELEASED ARCTIC CARBON: **J Vonk**, W V Sobczak, P J Mann, E B Bulygina, S A Zimov, R M Holmes

1700h **H54A-05** Future extreme precipitation events in the Southwestern US: climate change and natural modes of variability (*Invited*): **F Dominguez**, E Rivera-Fernandez, C L Castro, X Zhang

1715h **H54A-06** Managing Colorado River Water Resources In a Nonstationary Climate (*Invited*): **B Rajagopalan**, K C Nowak, J R Prairie, E A Zagona

1730h **H54A-07** Modelling climate impact on water in Australia: issues, methods and uncertainty (*Invited*): **F H Chiew**

1745h **H54A-08** Hydrometeorological basis for the geographic distribution of tropical wet forests in the Western Ghats of southwest India: V MANOHARAN, **D K Ray**, R M Welch

H54B Moscone West: 3018 Friday 1600h
Isotopic and Chemical Approaches in Watershed/Ecosystem Interactions II (*joint with B*)

Presiding: **J B Gates**, University of Nebraska - Lincoln; **C B Graham**, Penn State University; **K A Dressler**; **D Riveros-Iregui**, University of Nebraska; **C Duffy**, Penn State University; **L Wang**, Princeton University

1600h **H54B-01** Examining the linkages between forest water use, hydrology, and climate using dual-isotope approaches: insights and challenges in headwater catchments (*Invited*): **H R Barnard**, J R Brooks, T G Pypker, J J McDonnell, B J Bond, D G Williams

1615h **H54B-02** Biogeochemical controls on seasonal variations of the stable isotopes of dissolved oxygen and dissolved inorganic carbon in Castle Lake, CA: **J M Brown**, S R Poulson

1630h **H54B-03** WITHDRAWN

1645h **H54B-04** Carbon cycling in floodplain ecosystems: excess pCO₂, extreme δ¹³C, and snail shell proxies: D P Gray, **T W Horton**

1700h **H54B-05** Lessons learned from 25+ years of piggybacking environmental isotope studies onto large-scale federal and state water quality monitoring programs (*Invited*): **C Kendall**, S R Silva, M B Young

1715h **H54B-06** Biological N Demand and the Interpretation of δ¹⁵N in soils and sediments. (*Invited*): **P Inglett**

1730h **H54B-07** Seasonal and elevational variation of δ¹⁸O and δ²H in the Willamette River basin (*Invited*): **J R Brooks**, P J Wigington, C Kendall, R Coulombe, R Comeleo

1745h **H54B-08** Evaluating The Utility Of Stable Isotopes Within Environmental Observatories In The Colorado Front Range To Quantitatively Estimate The Age Of Water And Determine The Time And Spatial Dynamics Of Hydrologic Processes: **M W Williams**, R M Cowie

H54C Moscone West: 3016 Friday 1600h
Mixing and Reactive Transport: From Pore to Field Scale III (*joint with A, OS*)

Presiding: **M Willmann**, ETH Zurich; **T Le Borgne**, Geosciences Rennes; **A Englert**, Ruhr University Bochum; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC)

1600h **H54C-01** Efficient Simulation of Mixing-Controlled Steady-State Bioreactive Transport (*Invited*): **O A Cirpka**

1630h **H54C-02** Effect of Non-Perfect Correlation of Particle Velocities in Soil Layers with Different Sorption and Decay on Reactive Transport: **J Vanderborght**, H Hardelauf, H Vereecken

1645h **H54C-03** Contrasting Advective Spreading and Dispersive Mixing in Groundwater: **A N Piscopo**, D C Mays, R M Neupauer

1700h **H54C-04** Modeling Dissolution and Precipitation Dynamics During Dedolomitization: Y Edery, H Scher, **B Berkowitz**

1715h **H54C-05** Effective Behavior of Hydraulic Conductivities and Mixing Coefficients at Different Scales in Heterogeneous Porous Media without Scale Separation: **K Ross**, S Attinger

1730h **H54C-06** Enhanced dilution and transverse mixing due to flow focusing: a stochastic-analytical approach: **W Nowak**, F de Barros, O A Cirpka

1745h **H54C-07** The effect of viscous fingering on mixing in porous media flows: **J Chui**, M Szulczewski, R Juanes

Ocean Sciences

OS54A Moscone West: 3007 Friday 1600h
Nearshore Processes V (*joint with EP*)

Presiding: **C Chickadel**, University of Washington; **J W Long**, USGS; **D Foster**, University of New Hampshire; **G R Pawlak**, University of Hawaii

1600h **OS54A-01** Hydrodynamic roughness for wave and current flow over irregular beds (*Invited*): **G R Pawlak**, M D Bandet, S Jaramillo

1615h **OS54A-02** Vertical structure of fluid velocity for flow through vegetation under waves: **H Yoon**, D Cox, D Albert, N Mori, H D Smith

1630h **OS54A-03** Sediment Resuspension and Bed Morphology in Highly Turbulent Flows: **B A Johnson**, E A Cowen

1645h **OS54A-04** Bedform Initiation and Development under Combined Flows: **M M Perillo**, E W Prokocki, J Best, M H Garcia

1700h **OS54A-05** Laboratory Experiments of Sand Ripples with Bimodal Size Distributions Under Asymmetric Oscillatory Flows: **J Calantoni**, B J Landry

1715h **OS54A-06** Quantifying Bottom Friction over Rippled Beds with High Resolution Observations: **D L Foster**, S Rodriguez-Abudo, L W Henry

1730h **OS54A-07** Stress Partitioning in the Wave Bottom Boundary Layer with the Double-Averaged Navier Stokes Equations: **S Rodriguez-Abudo**, D Foster

1745h **OS54A-08** Numerical investigation of lutocline in oscillatory boundary layer: **C E Ozdemir**, T Hsu, S Balachandrar

OS54B Moscone West: 3009 Friday 1600h
Water Masses, Circulation, and Variability of the North Atlantic Ocean From Observations and Models II

Presiding: **I Yashayaev**; **H L Bryden**, National Oceanography Centre

1600h **OS54B-01** The effect of composition anomalies on the conductivity and density of seawater: **RA Pawlowicz**, D Wright, F J Millero

1615h **OS54B-02** Fifty Years of Water Cycle Change expressed in Ocean Salinity: **P J Durack**, S Wijffels

1630h **OS54B-03** Spatial and Temporal Variability of Temperature and Salinity in the Deep and Abyssal Layers of the Subpolar North Atlantic: **I Yashayaev**, S Bacon, F de Jong, S Dye, J Fischer, N P Holliday, D Kieke, D R Quadfasel, M Rhein, A Sarafanov, H Valdimarsson, H M Van Aken

1645h **OS54B-04** Interannual to Decadal Variability of Outflow from the Labrador Sea: **M Visbeck**, J Fischer, R Zantopp, N Nunes

1700h **OS54B-05** 50 years of Atlantic hydrographic changes at 24°N: **C P Atkinson**, H L Bryden, S A Cunningham, B A King

1715h **OS54B-06** A Simple Model of the Nordic Sea Circulation and Outflows: **L J Pratt**, J Yang

1730h **OS54B-07** Deep convection in the Labrador Sea, as captured by a global ocean reanalysis and regional downscalings: **N C Jourdain**, B Barnier, J Molines, J Chanut, N Ferry, G Garric, L Parent, Title of Team: Mercator-Ocean team

1745h **OS54B-08** An Interdecadal Oscillatory Mode of the Atlantic Meridional Overturning Circulation: **F Sevellec**, **A V Fedorov**

Planetary Sciences

P54A Moscone South: 306 Friday 1600h
Mars Surface and Mineralogy (joint with MR)

Presiding: **R E Arvidson**, Washington University; **N K McKeown**, Grant MacEwan University

1600h **P54A-01** Potential scientific objectives for a 2018 2-rover mission to Mars and implications for the landing site and landed operations: **J A Grant**, F Westall, D Beatty, S L Cady, M H Carr, V Ciarletti, A Coradini, A Elfving, D Glavin, F Goesmann, J A Hurowitz, G G Ori, R J Phillips, C Salvo, M Sephton, M Syvertson, J L Vago

1615h **P54A-02** Opportunity Mars Rover Mission: Overview and Selected Results from Leaving Purgatory Ripple to Traverses Toward Endeavour Crater: **R E Arvidson**, Title of Team: The Athena Team

1630h **P54A-03** Discovery of Carbonate-Rich Outcrops in the Gusev Crater Columbia Hills by the MER Rover Spirit: **R V Morris**, S W Ruff, R Gellert, D W Ming, R E Arvidson, B C Clark, D C Golden, K L Siebach, G Klingelhofer, C Schroeder, I Fleischer, A S Yen, S W Squyres

1645h **P54A-04** Hydrated Silica at Mawrth Vallis and Implications for Past Environment: **N K McKeown**, J L Bishop, J Cuadros, S Hillier, M Parente

1700h **P54A-05** Mini-TES Observations of Comanche Carbonate and its Distribution: **S W Ruff**, R V Morris

1715h **P54A-06** Estimated Optical Constants of Calcite at visible to mid-infrared wavelengths (0.3-6 μm): **T L Roush**

1730h **P54A-07** Geochemical Predictions of Elemental Compositions using Remote LIBS under Mars Conditions: **M D Dyar**, J Tucker, S Humphries, S M Clegg, R C Wiens, M L Carmosino

1745h **P54A-08** Possible smectites identified by MGS-TES at Thaumasia Planum, Mars: **J Huang**, S W Ruff, C S Edwards, P R Christensen, L Xiao

P54B Moscone South: 302 Friday 1600h
Science From Multispacecraft Observations: The Moon, Mars, and Jupiter II (joint with G)

Presiding: **J Lebreton**, ESA/ESTEC; **D A Senske**, Jet Propulsion Laboratory

1600h **P54B-01** The Europa Jupiter System Mission: Synergistic Science Enabled by JEO and JGO: **D A Senske**, R T Pappalardo, L M Prockter, J Lebreton, R Greeley, E J Bunce, M K Dougherty, O GRASSET, D Titov

1615h **P54B-02** Global ENA Imaging of the Jovian Magnetosphere: A Tool for Global Exploration of the Giant Accelerator of Energetic Particles and Their Interaction with the Torus Region and Moons (*Invited*): **P C Brandt**, D G Mitchell, B H Mauk, C Paranicas, N Krupp

1630h **P54B-03** Potential Spacecraft-to-Spacecraft Radio Observations with EJSM: Wave of the Future? (*Invited*): **E A Marouf**, P Tortora, S W Asmar, W M Folkner, D Hinson, L Less, I R Linscott, R D Lorenz, I C Mueller-Wodarg

1645h **P54B-04** Constraining Martian Water Abundance via Combination of MONS and CRISM data: **L A Teodoro**, V R Eke, R C Elphic, T L Roush, G Marzo, A J Brown, W C Feldman

1700h **P54B-05** Analysis of Multi-Satellite Tracking Data of the Kaguya Satellites for Orbit and Gravity Field Determination:

S J Goossens, K Matsumoto, F Kikuchi, Q Liu, H Hanada, F G Lemoine, D D Rowlands, Y Ishihara, Y Jianguo, H Araki, H Noda, N Namiki, T Iwata

1715h **P54B-06** Lunar altimetric datasets: Global comparisons with the Lunar Orbiter Laser Altimeter elevation model: **G A Neumann**, T C Duxbury, F G Lemoine, E Mazarico, J Oberst, M S Robinson, D E Smith, M H Torrence, M T Zuber

1730h **P54B-07** Anomalous deformation of the Earth's bow shock in the lunar wake: Joint observations by Chang'E-1 and SELENE: **M N Nishino**, X Wang, M Fujimoto, H Tsunakawa, Y Saito, S Yokota, W Bian, C Li, H Shibuya, M Matsushima, H Shimizu, F Takahashi, T Terasawa

1745h **P54B-08** Non-monotonic potentials above the lunar surface: implications for electron reflectometry measurements: **A R Poppe**, J S Halekas, M Horanyi

SPA-Solar and Heliospheric Physics

SH54A Moscone South: 309 Friday 1600h
Coronal Prominence Cavities II

Presiding: **S E Gibson**, NCAR; **T E Berger**, Lockheed Martin Solar and Astrophysics Laboratory; **T A Kucera**, NASA/GSFC

1600h **SH54A-01** A ring of polarized light: evidence for twisted coronal magnetism in cavities (*Invited*): **J Dove**, L Rachmeler, S E Gibson, P G Judge, S Tomczyk

1615h **SH54A-02** Review of Models for Solar Prominences and Coronal Cavities (*Invited*): **A A Van Ballegoijen**

1630h **SH54A-03** Hot Prominence Shrouds (*Invited*): **S R Habbal**, M Druckmuller, H Morgan, Title of Team: Solar Wind Sherpas

1645h **SH54A-04** Prominence Cavities from Differential Emission Measure Tomography: A M Vasquez, R A Frazin

SH54B Moscone South: 307 Friday 1600h
Nonlinear Structures and Processes in the Solar Wind Plasma III

Presiding: D Shaikh, The University of Alabama in Huntsville;
A Lazarian, University of Wisconsin

1600h **SH54B-01** Ion/electron heating associated with low-frequency turbulence (*Invited*): W Dorland, T Tatsuono, R Numata, G Howes, M Barnes

1619h **SH54B-02** Strong MHD Turbulence (*Invited*): A Beresnyak

1638h **SH54B-03** Anisotropic Third-Moment Estimates of the Energy Cascade in Solar Wind Turbulence using Multispacecraft Data: K Osman, M Wan, W H Matthaeus, J M Weygand, S Dasso

1650h **SH54B-04** Highly Alfvénic Slow Solar Wind: D Roberts

1702h **SH54B-05** Are Solar Wind Reconnection Events Fossil Sites?: H X Vu, H Karimabadi, J D Scudder, V Roytershteyn, W S Daughton, J T Gosling, J Egedal

1714h **SH54B-06** Proton heating by pick-up proton-generated waves in the expanding solar wind: Hybrid simulations: P M Travnicek, P Hellinger

1726h **SH54B-07** Problems of Collisionless Shocks Physics: Theory and Multipoint Measurements Versus PIC Simulations: M Gedalin, M Balikhin, V Krasnoselskikh

1738h **SH54B-08** Transport of Turbulence in the Time-dependent Solar Wind: N V Pogorelov, I Kryukov, G P Zank, S Borovikov

1749h **SH54B-09** Solar Wind Electron Thermodynamics: C S Salem, M Pulupa, K I Horaites, S Bale

SH54C Moscone South: 308 Friday 1600h
Solar and Heliospheric Physics General Contributions V: Corona, Radio Bursts, Interplanetary Dust

Presiding: I H Cairns, University of Sydney; J C Kasper, Smithsonian Astrophysical Obse

1600h **SH54C-01** Constraints on Solar Coronal Abundances from MESSENGER X-ray Solar Monitor Data: L Nittler, R D Starr, C Schlemm III, R L McNutt, S C Solomon

1615h **SH54C-02** Current Sheet Formation and Reconnection Dynamics in the Closed Corona Due to Intragranular Flow Lanes: J K Edmondson, M M Velli, C R DeVore

1630h **SH54C-03** Evidence for Gently Sloping Plasma Density Profiles in the Deep Corona: Type III Observations: I H Cairns, V Lobzin, P A Robinson, A Warmuth, G J Mann, R Gorgutsa, V Fomichev

1645h **SH54C-04** Type III Radio Bursts at Long Wavelengths: Statistics from STEREO/Waves 2007-2010: V Krupar, O Santolik, M Maksimovic, B Cecconi

1700h **SH54C-05** Type III Solar Radio Bursts Observed by Multiple Spacecraft: M Bergamo, T Golla, R J MacDowall

1715h **SH54C-06** Relationship between solar radio type-I noise storm and Coronal Mass Ejection: K Iwai, S Masuda, Y Miyoshi, M Shimojo, H Misawa, F Tsuchiya, A Morioka

1730h **SH54C-07** Type II Solar Radio Bursts : Extraction of Shock Parameters and Detailed Comparison of Theory with Observations: D Hillan, I H Cairns, P A Robinson

1745h **SH54C-08** Interplanetary dust fluxes measurements using the Waves instrument on STEREO: A Zaslavsky, N Meyer-Vernet, I Mann, A CZECHOWSKI, K Issautier, G Le Chat, M Maksimovic, J C Kasper

SH54D Moscone South: 309 Friday 1700h
Short-Term (Transitional) Precursors of Transient Solar Phenomena II

Presiding: J C Johnston, AFRL; K S Balasubramaniam, USAF/AFRL

1700h **SH54D-01** The Role of Short-Term Precursors in a Hybrid CME Forecast: J C Johnston, T A Kuchar, D F Webb

1710h **SH54D-02** Solar flare prediction: A worthy goal, or a foolish pursuit? (*Invited*): R mcateer, Title of Team: "All Clear Workshop", "Solarmonitor.org team"

1722h **SH54D-03** Type III Metric Radio-Wave Activity Prior to and During Active Region Flaring and CMEs (*Invited*): B V Jackson, P P Hick, A Buffington, D Oberoi, L D Matthews

1734h **SH54D-04** 24-Hour Forecasting of CME/Flare Eruptions from Active-Region Magnetograms (*Invited*): D A Falconer, A Barghouty, I G Khazanov, R L Moore

1746h **SH54D-05** Forecasting Earth Arrivals of CMEs with Heliospheric Imagers (*Invited*): D F Webb, J C Johnston, T A Kuchar, J Tappin, T A Howard

SPA-Magnetospheric Physics

SM54A Moscone South: 305 Friday 1600h
Space Weather Forecasting: Present Status and Future Directions III (joint with SH, SA)

Presiding: S L Young, Air Force Research Laboratory;
J P McCollough, Air Force Research Laboratory; J Koller, Los Alamos National Lab

1600h **SM54A-01** The Radiation Belt Storm Probes (RBSP): Using A Fundamental Physics Mission to Support Practical Applications: N J Fox, B H Mauk, M Weiss, R J Barnes, R Kessel, D G Sibeck

1615h **SM54A-02** Current Operations and Future Plans for Forecasting Products Based on NOAA LEO Satellite Observations: J C Green, J L Machol, W F Denig, R A Viereck, R Rutledge, J Kunches

1630h **SM54A-03** Long-Term Space Weather Forecasting: Parameters and Accuracy Needed for the Ionosphere/Thermosphere: R W Schunk, L Scherliess, J J Sojka, D C Thompson, L Zhu

1645h **SM54A-04** Modeling and forecasting geomagnetically induced currents in Hokkaido, Japan: A Pulkkinen, R Kataoka, S Watari, M Ichiki

1700h **SM54A-05** Modeling the Penetration and Trapping of Solar Energetic Particles in the Magnetosphere: R L Richard, M El-Alaoui, M Ashour-Abdalla, R J Walker

1715h **SM54A-06** An improved forecast system for relativistic electrons in Earth's outer radiation belt: D L Turner, X Li

1730h **SM54A-07** Solar Active Region Classification and Flare Forecasting: M Crown, K S Balasubramaniam, K Cooley, A Daniels, J Mara, M Valdez

1745h **SM54A-08** Application of data assimilation to solar wind forecasting models: M Innocenti, G Lapenta, B Vrsnak, M Temmer, A Veronig, L Bettarini, E Lee, S Markidis, M Skender, F Crespon, C Skandrani, Title of Team: Soteria Space-Weather Forecast & Data Assimilation Team

SM54B Moscone South: 301 Friday 1600h
The Dungey Cycle and Its Role in Auroral and Inner Magnetospheric Dynamics II (*joint with SA*)

Presiding: **J W Gjerloev**, JHU-APL; **L R Lyons**, UCLA; **W Lotko**, Dartmouth College

1600h **SM54B-01** Auroral Electric Fields and Currents: Local Manifestations and Global Consequences (*Invited*): **G Lu**

1618h **SM54B-02** Identification of substorm onset location and pre-onset sequence using Reimei, THEMIS GBO, PFISR and Geotail (*Invited*): **S Zou**, M Moldwin, Y Nishimura, L R Lyons, M Hirahara, T Sakanoi, K Asamura, M J Nicolls, Y Miyashita, S B Mende, C J Heinselman

1636h **SM54B-03** Polar Spacecraft Analysis of Poynting Flux and Kinetic Energy Flux Measurements at Different Structures within and above the Auroral Acceleration Region and Their Comparison to Space-based Images (*Invited*): **J R Wygant**, S A Thaller, A Hamre, C A Cattell, L Dai, R L Lysak, Y Song, F S Mozer, G K Parks, M O Fillingim, S B Mende, H U Frey, J D Scudder, C T Russell, J B Sigwarth, G A Germany

1654h **SM54B-04** OpenGGCM Simulation of Ballooning and Axial MHD Mode at Substorm Onset (*Invited*): **J Raeder**, P Zhu, Y Ge, G L Siscoe

1712h **SM54B-05** Magnetotail-Ionosphere Coupling in a Steady Magnetospheric Convection Flow Brake: **W Lotko**, B Zhang, O J Brambles

1724h **SM54B-06** Signature of the Polar Cap in Ionospheric Currents and Electron Temperature as Observed by CHAMP: **P Ritter**, H Luhr, A T Aikio, T Pitkanen

1736h **SM54B-07** Characteristics of the Field-Aligned Current System: **J W Gjerloev**, S Ohtani, K Takahashi, G Le, J A Slavin

1748h **SM54B-08** Aurora and its Relations to Interplay of Large and Mesoscale Flow Structures of the Coupled Magnetosphere-Ionosphere System: **L R Lyons**, T Nishimura, S Zou, M Gkioulidou, C Wang, Y Shi, X Xing, V Angelopoulos, S B Mende, H Kim, C J Heinselman, M J Nicolls, J M Ruohoniemi

Seismology

S54A Moscone West: 2007 Friday 1600h
Earthquake Source Processes: What Have We Learned From Recent Large Earthquakes? IV (*joint with T*)

Presiding: **B Aagaard**, U.S. Geological Survey; **D D Oglesby**, University of California, Riverside

1600h **S54A-01** Surface roughness of ancient seismic faults exhumed from 10 km depths (Gole Larse Fault, Italian Alps) characterized over five orders of magnitude: **A Bistacchi**, W A Griffith, S B Nielsen, S A Smith, G Di Toro, R R Jones

1615h **S54A-02** Slip Trajectories and Absolute Traction from Analysis of Slickensides: **J D Kirkpatrick**, E E Brodsky

1630h **S54A-03** Self-affine fault surface roughness: implications for the slip distribution and the amount of static stress drop after an earthquake: **T Candela**, F Renard, M P Bouchon, J Schmittbuhl, E E Brodsky

1645h **S54A-04** Extracting seismological parameters from laboratory data: results from high velocity friction experiments in the melt-lubricated regime: **A R Niemeijer**, G Di Toro, S B Nielsen

1700h **S54A-05** Micromechanics of friction studied nanoseismically on laboratory faults: **G C McLaskey**, S D Glaser

1715h **S54A-06** Numerical Models of Thrust Earthquakes on Homalite Faults: **D D Oglesby**, N Lapusta, V Gabuchian, A Rosakis

1730h **S54A-07** Thermal Pressurization During the Transition From Quasi-Static Nucleation to Dynamic Rupture: **S V Schmitt**, E M Dunham, A M Bradley, P Segall

1745h **S54A-08** Adaptive Mesh Refinement for Dynamic Rupture Simulations: **J E Kozdon**, E M Dunham

S54B Moscone West: 2009 Friday 1600h
Earthquake Strong Ground Motions II

Presiding: **A Yong**, US Geological Survey; **J H Steidl**, Crustal Studies - UCSB

1600h **S54B-01** Shaking Table Experiment of Trampoline Effect: **S Aoi**, T Kunugi, H Fujiwara

1615h **S54B-02** Source properties, site amplification and seismic attenuation in Japan from spectral analysis of K-and KiK-net data: **A Oth**, S Parolai, D Bindi, D Di Giacomo

1630h **S54B-03** Simultaneous Estimation of Earthquake Source Parameters and Site Response from Inversion of Strong Motion Network Data in Kachchh Seismic Zone, Gujarat, India: **U Dutta**, P Mandal

1645h **S54B-04** Vertical and Horizontal Ground-Motion Prediction Equation for Taiwan: **P Lin**, P Hsieh, C Cheng, Y Wu, Y Chien

1700h **S54B-05** Ground Motion Prediction Trends For Eastern North America Based on the Next Generation Attenuation East Ground Motion Database: **C H Cramer**, J Kutliroff, D Dangkua

1715h **S54B-06** ARRA-FUNDED GEOTECHNICAL CHARACTERIZATION OF SEISMOGRAPHIC STATION SITES: W S Leith, **A Yong**, K H Stokoe, J Diehl, A J Martin, S Jack

1730h **S54B-07** DOES CASING MATERIAL INFLUENCE DOWNHOLE ACCELEROMETER RECORDINGS? A CONTROLLED STUDY OF EARTHQUAKE AND EXPERIMENTAL DATA RECORDED AT THE NEES@UCSB WILDLIFE LIQUEFACTION ARRAY: **D A Huthsing**, S H Seale, J H Steidl, H Ratzesberger, P Hegarty, Title of Team: NEES@UCSB

1745h **S54B-08** THE 2010 OCOTILLO SWARM: A SITE RESPONSE STUDY USING DATA RECORDED AT THE NEES@UCSB WILDLIFE LIQUEFACTION ARRAY: **J H Steidl**, S H Seale, D A Huthsing, H Ratzesberger, P Hegarty, Title of Team: NEES@UCSB

Tectonophysics

T54A Moscone West: 2016 Friday 1600h
Deformation Processes in Collisional Orogens III (*joint with G, S*)

Presiding: **A G Webb**, Louisiana State University; **K Larson**, University of Saskatchewan; **G Hetenyi**, Swiss Federal Institute of Technology Zurich

1600h **T54A-01** A Tectonic Tear Of The Philippine Sea Plate Under The Taiwan Orogen: **F T Wu**, H Kuo-Chen, Title of Team: US and Taiwan TAIGER teams

1615h **T54A-02** Thermal structure of southern Taiwan by the regional heat flow and fission track thermochronometry: **C Liu**, S Song, E Yeh, T Wang

1630h **T54A-03** Collisions on a curved Earth (*Invited*): **R O Bendick**, L Mahadevan

1645h **T54A-04** WITHDRAWN

1700h **T54A-05** Development of an arcuate fold-thrust belt as a result of basement configuration: an example from the Rocky Mountain Front Range, Montana: **C M Burberry**, D L Cannon, T Engelder, J W Cosgrove

1715h **T54A-06** Application of the Orogenic Float Model for the Structural Evolution of the Venezuelan Andes: **D Dhont**, B Monod, Y Hervouet, S Klarica

1730h **T54A-07** Exhumation of the Baltoscandian continental margin during late-stage (Early Devonian) Caledonian contraction, northern Norway: **M Anderson**, M G Steltenpohl, W E Hames, T B Key, A Andresen

1745h **T54A-08** Deep crustal structures of the Cape Fold Belt, South Africa: **U Weckmann**, O Ritter, X Chen, K Tietze, M De Wit

T54B Moscone West: 201 I Friday 1600h
Great Earthquakes and Active Fault Scientific Drilling III (*joint with S, NH*)

Presiding: **Z Xu**, **J J Mori**, Kyoto University

1600h **T54B-01** Monitoring and modeling the multi-time-scale seismic hazard of the southern Longmenshan fault: an experimental design of the 'monitoring and modeling for prediction' system: **Z Wu**, L Li, G Liu, C Jiang, H Ma

1615h **T54B-02** Current Results Of The Taiwan Chelungpu-Fault Drilling Project (*Invited*): **E Yeh**, S Song, K Ma, W Lin, J Hung, A Boullier, C Wang

1630h **T54B-03** The state of stress near the Chelungpu Fault, Taiwan, post Chi-Chi earthquake – a new interpretation of test data: **B C Haimson**

1645h **T54B-04** Temperature estimates of coseismic heating in clay-rich fault gouges, the Chelungpu-fault zones, Taiwan: **L Kuo**, S Song, L Huang, E Yeh, H Chen

1700h **T54B-05** Earthquake mechanism studies by active-fault drilling: Chi-Chi Taiwan to Wenchuan earthquakes: T Togo, **T Shimamoto**, S Ma, H Noda, T Hirose, W Tanikawa

1715h **T54B-06** a case of casing deformation and fault slip for the active fault drilling: **H Ge**, L Song, S Yuan, W Yang

1730h **T54B-07** Combining Borehole and Laboratory Observations to Explain the Stress State of the San Andreas Fault at SAFOD (*Invited*): T Wong, **D A Lockner**, S Tembe, C A Morrow, D E Moore

1745h **T54B-08** Surface Rupture Characteristics and Rupture Mechanics of the Yushu Earthquake (Ms7.1), 14/04/2010: **J Pan**, H Li, Z Xu, N Li, F Wu, R Guo, W Zhang

Volcanology, Geochemistry, and Petrology

V54A Moscone West: 2018 Friday 1600h
Chemical, Physical, and Petrographic Perspectives on Magmatic Differentiation IV (*joint with MR*)

Presiding: **A J Kent**, Oregon State University; **S Collins**, Durham University; **C L McLeod**, Durham University; **G W Bergantz**, Univ. Washington

1600h **V54A-01** Sr isotopic microsampling of magmatic rocks; a review (*Invited*): **J P Davidson**

1630h **V54A-02** Understanding Crystal Populations; Looking Towards 3D Quantitative Analysis: **D A Jerram**, D J Morgan

1645h **V54A-03** Skaergaard vs Sudbury: Solidification Times and Crystal Sizes: **B D Marsh**, T Mittal, R M Currier, E Jordon

1700h **V54A-05** Decoding low dihedral angles in gabbroic layered intrusions: **M B Holness**, M Humphreys, I V Veksler

1715h **V54A-06** Enhancement of Magma Mixing Efficiency by Chaotic Dynamics: an Experimental Study: **D Perugini**, C P De Campos, W Ertel, D B Dingwell, G Poli

1730h **V54A-07** High-Ni Olivines and the Mantle Origin of Arc Andesites in the Central Mexican Volcanic Belt: **S M Straub**, A Gomez-Tuena, F Stuart, G F Zellmer, Y Cai, R Espinasa-Perena

V54B Moscone West: 2020 Friday 1600h
Magmatic Architecture During Flow: Constraints on Timescales and Dynamics of Magma Ascent II

Presiding: **L Caricchi**, University of Bristol; **J M Castro**, Monash University; **Y Lavallee**, LMU Munchen; **H Tuffen**, Lancaster University

1600h **V54B-01** Sub-Volcanic Plumbing Systems Imaged Through Crystal Size Distributions (*Invited*): **O E Melnik**, J D Blundy, A Rust, D D Muir

1615h **V54B-02** Evolution of microstructure of bubbles and gas permeability in sheared rhyolite (*Invited*): **S Okumura**, M Nakamura, T Fujioka, A Tsuchiyama, S Takeuchi, T Nakano, K Uesugi

1630h **V54B-03** Description of flow microstructure of a phenocrystal-bearing magmatic dyke swarm from Southern Mexico (*Invited*): **M J Chavez Alvarez**, M Cerca

1645h **V54B-04** Field and experimental constraints on the deformation and break-up up of injected magma (*Invited*): **K F Hodge**, G Carazzo, M Jellinek

1600h **V54B-05** WITHDRAWN

1700h **V43B-2375** Pahoehoe lavas at arc volcanoes with >50% crystals. How and why?: **M A Dungan**, C Bouvet de Maisonneuve, A Burgisser, O Bachmann, H Moreno

1715h **V54B-06** Rheology of Magma at Tungurahua, from the Magma Chamber to the Eruption: **J B Hanson**, F Goldstein, Y Lavallee, U Kueppers, K Hess, J M Castro, D B Dingwell

1730h **V54B-07** Multiple magma fracturing events: rhyolite degassing and defusing explosive eruptions at the Mt Pilato-Rocche Rosse eruptions, Italy: A P Cabrera, **R F Weinberg**, H M Wright, R A Cas

1745h **V54B-08** Mechanisms of Strain Localization within the 2004-2008 Mt. St. Helens lava domes: The role of effusion rate?: **B Friedlander**, L Kennedy, J K Russell, J S Pallister

V54C Moscone West: 2022 Friday 1600h
The 2010 Eruption of Eyjafjallajökull: A Landmark Event for Volcanic Cloud Hazards III (*joint with A, NH*)

Presiding: **S A Carn**, Michigan Technological University; **F Prata**, NILU; **S Karlsdottir**, Icelandic Meteorological Office

1600h **V54C-01** Automated Infrared Retrievals of Eyjafjallajökull Volcanic Ash Cloud Properties (*Invited*): **M J Pavolonis**, J Sieglaff

1615h **V54C-02** NAME predictions of ash dispersion from Eyjafjallajökull: **B Devenish**

1630h **V54C-03** Why do models predict such large ash clouds? An investigation using data from the Eyjafjallajökull eruption, Iceland: **L G Mastin**, H Schwaiger, R P Denlinger

1645h **V54C-04** Reconstructing the volcanic eruption source term for Eyjafjallajökull using inverse modeling and satellite retrievals: **F Prata**, A Stohl, S Eckhardt, N Kristiansen, K Stebel, L Clarisse, P Seibert, H E Thomas

1700h **V54C-05** Multiphase Dynamics in the Eyjafjallajökull Eruption: **J Miers**, **J Dufek**

1715h **V54C-06** Thermal Stability of Volcanic Ash versus Turbine Ingestion Test Sands: an Experimental Investigation: **C Cimarelli**, U Kueppers, K Hess, D B Dingwell, D S Rickerby, P C Madden

1730h **V54C-07** Observation of the volcanic plume of Eyjafjallajökull over continental Europe by Multi-Axis Differential Optical Absorption Spectroscopy (MAX-DOAS): **S Yilmaz**, U Friess, C Kern, L Vogel, C Hoermann, T Wagner, U Platt

1745h **V54C-08** Ash and dust together in the UTLS: April 2010 Eyjafjallajökull volcano eruptions and Taklimakan Desert dust storms: **M D Fromm**, D L Westphal, J Campbell, R Servranckx, G P Kablick