

## Terry Plank

Department of Earth Sciences, 685 Commonwealth Ave., Boston University, Boston, MA 02215  
617/353-4213 tplank@bu.edu

### EDUCATION:

- 1985-1992 Lamont-Doherty Earth Observatory at Columbia University,  
Ph.D., Geosciences, *with distinction*, May 1993  
Thesis title: Mantle Melting and Crustal Recycling at Subduction Zones.  
Advisor: Charles H. Langmuir
- 1981-1985 Dartmouth College  
A.B., Earth Sciences, *summa cum laude*, 1985  
Sr Thesis: Magmatic Garnets from the Cardigan Pluton, NH  
Advisor: John B. Lyons

### PROFESSIONAL APPOINTMENTS

- 2005-present Professor of Earth Sciences, Boston University  
1999-2005 Associate Professor, Boston University  
2002 (summer) Visiting Professor, Universite Joseph Fourier, Grenoble, France  
1995-1999 Assistant Professor, University of Kansas  
1998 (summer) Visiting Professor, University of Rennes, Rennes, France  
1993-1995 Post-doctoral Fellow, Cornell University (W.M. White, supervisor)

### HONORS AND FELLOWSHIPS:

- 2006 MARGINS Distinguished Lecturer  
1998 Donath Young Scientist Medal, Geological Society of America  
1998 Fellow, Geological Society of America  
1998 Houtermans Young Scientist Medal, European Assoc'n Geochemistry  
1994-1995 Joint Oceanographic Institutions/USSAC Distinguished Lecturer  
1993-1994 National Science Foundation Postdoctoral Fellowship  
1992 University of California President's Postdoctoral Fellowship (declined)  
1991 Heezen Prize for Excellence in Research, Lamont-Doherty Earth Obs.  
1988-1990 JOI/USSAC Ocean Drilling Program Fellowship  
1985-1988 National Science Foundation Graduate Fellowship  
1985 John Ebers Geology Award, Dartmouth College  
1985 Upham Geology Prize, Dartmouth College  
1984 Summer Undergraduate Research Fellow, GSO, U. Rhode Island  
1984 Phi Beta Kappa, Dartmouth College

### FIELD WORK:

- 2005 Sample collecting, Akutan volcano, Aleutians  
1996 Sample collecting: Nicaragua volcanoes  
1989 Sample collecting: Popocatepetl volcano, Mexico.  
1987 Sample collecting: Zambales ophiolite and Bulusan volcano, Philippines  
1984-5 Sample collecting: Cardigan pluton, New Hampshire

SHIPBOARD EXPERIENCE:

- 1999 Co-Chief Scientist, JOIDES *Resolution.*, ODP Leg 185. Mariana-Izu  
1992 Shipboard Scientist, R/V *Atlantis II*. Dredging and rock coring the  
Mid Atlantic Ridge near the Azores (30-40°N).  
1989 Shipboard Scientist, R/V *Thomas Washington*.  
Dredging and Seabeam mapping of the East Pacific Rise 8-12°N.  
1988 Shipboard Scientist, SEDCO/BP 471, JOIDES *Resolution*.  
Igneous Petrologist, ODP Leg 123, Argo Abyssal Plain.  
1988 Shipboard Scientist, R/V *Moana Wave*. Dredging and SEAMARC II  
survey of the Australian-Antarctic Discordance, Indian Ocean.

PROFESSIONAL ACTIVITIES

- 2006-2008 Secretary, AGU, Volcanology-Petrology Section  
2006 MARGINS Distinguished Lecturer  
2005 Member, Evaluation Committee, IFM-GEOMAR, Kiel, Germany  
2005-2007 Member, SOTA (State of the Arc) 2007 program committee  
2004-2006 Member, USArray Advisory Committee to IRIS/EarthScope  
2005 Member, EarthChem Science Advisory Committee  
2005 Co-convener, Goldschmidt Conference Subduction Magmatism Session  
2004 Member, Review Panel, NSF GEO-MARGINS  
1997-present Advisory Editorial Board, *Earth and Planetary Science Letters*  
2003 Participant & invited speaker, CIDER (Coop. Instit. for Deep Earth Res.) Pt. Reyes  
2003 Session Chair, Gordon Conference on the Deep Earth, Mt. Holyoke  
2003 Member *SAMPLES* (Sample Archive and Management PLanning for the Earth Sciences)  
2002-2003 Bowen Award Committee, VGP Section, AGU  
2001-2003 Assoc. Editor, Oceanic Inputs to the Subduction Factory, Special Volume, *G3*  
2001 Participant & contributor to Science Plan: EARTHSCOPE Workshop, Utah  
2001 Co-convener, Processes within the Subduction Factory, AGU Fall Mtg.  
1999-2000 Co-convener, MARGINS T&E Institute: Inside the Subduction Factory, Oregon  
1997 -2000 Steering Committee Member, NSF MARGINS Initiative  
1997-1999 Editorial Board, *Geology*  
1997-1998 Member, Review Panel, NSF OCE-MG&G (Marine Geology & Geophysics)  
1995-1998 Member, USSAC (US Science Advisory Committee), Ocean Drilling Program  
1997 Judge, Outstanding Student Presentations, VGP, Fall AGU Meeting  
1997 Co-convener: "Fluxes at Subduction Zones," Goldschmidt Conference  
1997 Member, Review Panel, NSF-GEO POWRE (Prof. Opp. for Women in Research & Educ.)  
1996 Participant, FUMAGES (Future of Marine Geosciences at NSF), Oregon  
1994-1995 JOI/USSAC Distinguished Lecturer  
1994-1995 Member, Committee for the Study of the Earth's Deep Interior, AGU  
1994 Presider, Tectonics & Mafic Magmatism Through Time, St. Malo, France  
1994 Co-presider, JOI-USSAC Workshop: Scientific Drilling & Crustal Recycling  
1993 Participant, JOI-USSAC Workshop: Western Pacific Drilling  
1993 Participant, JOI/MARGINS Workshop: Magmatism & Mass Fluxes at Margins  
1993 Presenter, Symposium: Cooperative Studies of the Earth's Deep Interior  
1992 Participant, RIDGE Workshop: Hydrothermal & Magma Chamber Processes  
1990 Presenter, RIDGE Workshop on Mantle Flow and Melt Generation

1989 Participant, JOI-USSAC Workshop: Drilling Oceanic Lower Crust & Mantle

SERVICE TO BOSTON UNIVERSITY

2002-present Faculty Mentor to Prof. Ethan Baxter  
1999-present Director, BU ICP-MS and laser ablation facility  
2005-2006 Faculty Search Committee for Tectonics/Deformation  
2004-2006 Faculty Search Committee for Surface Process Position  
2000-2005 Director of Undergraduate Studies, Department of Earth Sciences  
2000-2003 CAS Natural Sciences Curriculum Committee (Chair, 2003)  
2002-2003 Faculty Mentor to Prof. Andrew Kurtz  
2001-2002 Earth Science Colloquium Coordinator  
2001-2002 Faculty Search Committee for Petrology Position  
2000-2001 Faculty Search Committee for Geodynamics Position  
1999-2001 Earth Sciences Liaison to Science & Engineering Library

KEYNOTE TALKS:

**2005** Developments in Isotope Geochemistry, Max Planck Inst-Geochimie, Mainz, Germany  
"Water Recycling from the Surface to the Solid Earth: The Fate of the Oceans"  
**2005** Gordon Conference on Chemical Oceanography, Tilton, NH  
"Crustal Recycling at Subduction Zones"  
**2004** Australian Geological Convention, Hobart Tasmania  
"Using Melt Inclusions to Probe the Mantle Melting Process at Subduction Zones"  
**2002** NSF-IREE MARGINS Izu-Bonin-Mariana Subduction Factory Workshop, Hawaii  
"Subduction Inputs to the IBM System"  
**2001** Intra-Oceanic Arcs Conference, Geological Society of London  
"Element Recycling at Subduction Zones: Constraints from Th/La"  
**1999** Lamont-Doherty Earth Observ.: "Women in Earth Science: The Next Fifty Years,"  
"Continents Formed from Arcs, or Arcs Inherit the Earth? Operation of the Subduction Factory"  
**1998** National Academy of Science, German-American Frontiers of Science  
"The ins and outs of arc volcanoes"  
**1997** State of the Arc Conference, Adelaide, Australia  
"The role of sediment input in arc lava compositions"  
**1996** Izu-Bonin-Mariana System Workshop, Hayama, Japan  
"Sediment subduction and the Mariana arc."  
**1996** Geochemical Earth Reference Model Workshop, Lyon, France  
"Mass, water and chemical fluxes during subduction"  
**1990** RIDGE Summer Institute, Boulder, Colorado, July, 1990  
"Petrological constraints on melt generation beneath ocean ridges"

INVITED DEPARTMENTAL LECTURES:

**2006** "Recycling of Water through the Subduction Factory"  
MARGINS lecture tour: University of Alaska; Humboldt State Univ.; Boise State Univ.

**2005** "The Effect of Water on Mantle Melting at Subduction Zones"

UC Los Angeles, Rutgers University, Syracuse University, IFM-GEOMAR (Kiel, Germany)  
"Sediment Subduction at the Lesser Antilles Margin"  
Grenoble, France

**2004** "The Effect of Water on Mantle Melting at Subduction Zones"

Rice University, UC Berkeley (Class of 1951 Lecture) Cornell University, Boston University,  
Montclair State University (NJ)

**2002** "Sediment Subduction at the Subduction Factory and Consequences for the Continents", " A mantle melting profile across the Basin and Range"

University of Arizona, University of Massachusetts, Yale University, University of Michigan,  
University Joseph Fourier Grenoble, Lamont-Doherty Earth Obs., Columbia Univ.

**2001** "Sediment Subduction at the Subduction Factory and Consequences for the Continents", " A mantle melting profile across the Basin and Range"

University of California Berkeley, University of Rhode Island, University of Bristol (UK)

**2000** "Sediment Subduction at the Subduction Factory and Consequences for the Continents"

Brown University • Woods Hole Oceanographic Institutions • Dartmouth College • Rutgers University

**1999** "Sediment Subduction and Consequences for the Continents"

Harvard University • Arizona State University • Massachusetts Institute of Technology • Rensselaer Polytechnic Institute

**1998** "Sediment Subduction and Consequences for the Continents"

University of Minnesota • Boston University • California Institute of Technology • CRPG-CNRS, Nancy, France • University of Rennes, France

**1997** "Mass, water and chemical fluxes during subduction"

Northern Illinois University • Australian National University, Canberra • Washington University, St. Louis

**1996** "Ins and outs of arc volcanoes: Sediment recycling"

University of Texas, Inst. Geophysics • Northwestern University • Duke University • University of Iowa

**1995** "Ins and outs of arc volcanoes: Sediment recycling"

Arizona State University • Woods Hole Oceanographic Institute • Kansas State University • University of Puerto Rico, Mayaguez, PR • Smith College • University of Massachusetts • Indiana University

**1994** "Ins and outs of arc volcanoes: Sediment recycling"

Humboldt State University, Calif. • Pennsylvania State University • Brown University • University of Pennsylvania • University of Kansas • Vrije University Amsterdam • Harvard University • University of South Florida, Tampa

**Pre-1993** "Mantle melting and crustal recycling at subduction zones"

California Institute of Technology • University of Chicago • GEOMAR, Kiel, Germany • Carnegie Institute of Washington • Wesleyan University • Harvard University • University of Delaware • Duke University • Rutgers University • UC Santa Cruz

PROFESSIONAL SOCIETIES:

American Geophysical Union  
Geological Society of America

STUDENTS:

Primary Advisor or Co-Advisor

**Lauren Cooper** (Ph.D.; Boston Univ., in progress)

**Mindy Zimmer** (Ph.D.; Boston Univ., in progress)

**Jennifer Wade** (Ph.D., Boston Univ., in progress)

**Kathryn Grover** (B.A., Boston Univ., senior thesis, in progress) "Measuring water in Okmok and its role in petrogenesis"

**Ezra Benjamin** (M.A., Boston Univ., 2004) "Water content of a hypothetically dry magma: The 1723 and 1963 eruptions of Irazu Volcano, Costa Rica" Now at: Environmental Resource Management, Boston.

**Katherine Kelley** (Ph.D.; Boston Univ., 2003) "Trench inputs and arc outputs in the Mariana-Izu-Bonin Subduction Factory" Now at: Graduate School of Oceanography, Univ. of Rhode Island, NSF-ADVANCE Faculty Fellow.

**Michael Hamilton** (B.A., Boston Univ., senior thesis, 2003) "Using phenocryst composition as a water proxy in Almaguan lavas, Marianas Islands" Now at: Univ. of Northern Arizona MA program

**Linda Farr** (M.S., Boston Univ., 2002) "Mineral hosts of uranium in the altered oceanic crust and mechanisms controlling its distribution: a laser ablation-ICPMS study. Now at: Miami Dade College, Faculty.

**Vaughn Balzer** (M.S.; Kansas; 1999) "Late Miocene history of sediment subduction & recycling as recorded in the Nicaraguan volcanic arc"

**Kefa Wang** (Ph.D., Kansas; 1999) "Crust-mantle interactions and mantle chemical systematics during Basin and Range extension, SW USA: Evidence from late Cenozoic volcanic rocks"

**Chris Spies** (B.S., Kansas, senior thesis, 1999) "Geochemical variations in recent Nicaragua and Costa Rica volcanics"

Thesis Committees

Leah Mehl (Ph.D., Boston, in progress), Festo Lugolobi (Ph.D., Boston, in progress), Ellen Syracuse (Ph.D., Boston, in progress), Laura Auger (Ph.D., Boston, in progress), Nahysa Martinez (Ph.D., Boston, in progress), Christa Ziegler (Ph.D., Boston, in progress), Brittina Argow (Ph.D., Boston, in progress), Louise Bolge (Ph.D., Rutgers, 2005); Giovannibattista Rossi

(M.S., Boston, 2004), Steve Whitmeyer (Ph.D., Boston, 2003), Lacie Quintin (M.A., Boston, 2003), Aaron Ferris (M.A., Boston, 2002), David Schlesinger (Ph.D., Boston, 2001), Steve Parman (Ph.D., MIT, 2001), Jesse Kidwell (M.S., Kansas, 1999), Sharon Stern (Ph.D., Kansas, 1998), Golam Sarkar (Ph.D., Kansas, 1998), Lina Patino (Ph.D., Rutgers University, 1997), Janet Baker (M.S., Kansas, 1995)

COURSES TAUGHT (n = students enrolled; X = average score for overall performance; 5.0 is highest score)

**Boston University:**

ES 574: Geochemical Modeling (w/ Kurtz&Baxter)	Spr 2006	n= 9	
ES 424: Igneous & Metamorphic Petrology	Spr 2006	n= 13	
ES 371/671: Geochemistry	Fall 2005	n= 21	
ES 836: Advanced Topics in Ign Petrology	Spr 2005	n = 8	X= 5.0
ES 101: The Dynamic Earth	Fall 2004	n= 110	
ES 371/671: Geochemistry	Fall 2004	n= 11	
ES 424: Igneous & Metamorphic Petrology	Spr 2004	n= 5	X= 5.0
ES 574: Geochemical Modeling (w/ Kurtz&Baxter)	Fall 2003	n= 12	X= 4.7
ES 371/671: Geochemistry	Fall 2003	n= 13	X= 4.5
ES 573: Analytical Methods (w/ Murray)	Fall 2003	n= 2	X = na
ES 371/671: Geochemistry	Spr 2003	n= 23	X= 4.8
ES 836: Volatiles in Magmas	Fall 2002	n= 4	X = 5.0
ES 101: The Dynamic Earth	Fall 2002	n= 41	X = 4.7
ES 424: Igneous and Metamorphic Petrology	Spr 2002	n= 7	X = 4.6
ES 371: Introduction to Geochemistry	Spr 2002	n= 17	X = 4.3
ES 587: Subduction Seminar (w/Abers)	Fall 2001	n= 6	X = 4.7
ES 573: Analytical Methods (w/ Kurtz)	Fall 2001	n= 7	X = 4.7
ES 101: The Dynamic Earth (w/ Raymo)	Fall 2000	n= 59	X = 4.6
ES 571: Adv. Geochem.: Solid Earth CO <sub>2</sub> Cycle	Fall 2000	n= 7	X = 4.2
ES 424: Igneous and Metamorphic Petrology	Spr 2000	n= 5	X = na
ES 371: Introduction to Geochemistry	Spr 2000	n= 18	X = 3.8
ES 573: Analytical Methods (w/ Murray)	Fall 1999	n= 14	X = 4.3

**University of Kansas:**

GEOL 512: Igneous and Metamorphic Petrology	Spr 1999	n= 12	X = na
GEOL 101: Introduction to Geology	Fall 1998	n= 115	X = 4.8
GEOL 101: Introduction to Geology	Fall 1998	n= 105	X = 4.9
GEOL 512: Igneous and Metamorphic Petrology	Spr 1998	n= 7	X = 4.7
GEOL 791: Geochemical Modeling	Fall 1997	n= 3	X = 5.0
GEOL 791: Analytical Geochemistry, ICP-AES	Fall 1997	n= 5	X = 5.0
GEOL 512: Igneous and Metamorphic Petrology	Spr 1997	n = 14	X = 4.7
GEOL 101: Introduction to Geology	Fall 1996	n= 99	X = 4.9
GEOL 791: Analytical Geochemistry, ICP-MS	Fall 1996	n= 7	X = 5.0
GEOL 512: Igneous and Metamorphic Petrology	Spr 1996	n = 13	X = 4.7
GEOL 512: Igneous and Metamorphic Petrology	Fall 1995	n = 9	X = 4.9
GEOL 791: Extensional Magmatism	Spr 1995	n= 4	X = 4.8

(performance based on student evaluations)

GRANTS/PROJECTS FUNDED:

Amount: \$80,000 (BU award) – verbal approval Jan 2006  
Title: "Technical Support: Laser ablation and inductively coupled plasma laboratories - Renewal"  
Agency: National Science Foundation (Instrumentation and Facilities).  
Period: 09/06-10/07  
PI: Plank, with R. Murray, A. Kurtz and E. Baxter

Amount: \$157,299 (BU award)  
Title: "Magmatic water along the Central America arc" OCE-0549051  
Agency: National Science Foundation (MARGINS).  
Period: 02/15/06-01/31/08  
PI: Plank

Amount: \$256,956 (BU award)  
Title: "Volatiles in Tonga Arc Magmas"  
Agency: National Science Foundation (OCE-MG&G) OCE-0526450  
Period: 9/1/05 – 8/31/08  
PI: Plank

Amount: \$683,770 (BU award)  
Title: "Acquisition & Development of a Thermal Ionization Mass Spectrometer Facility at Boston University"  
Agency: National Science Foundation (MRI – Major Research Instrumentation) EAR- 0521266  
Period: 09/15/05 - 8/31/06  
Lead PI: Ethan Baxter Co-PI's: Kurtz, Murray, Plank

Amount: \$62,192 (BU award) \$646,822 (total budget) –approval 12/04; defunded 11/05  
Title: "Collaborative Research: Geology, Geochronology and Geochemistry of Seamounts on the Westernmost Pacific Plate"  
Agency: National Science Foundation (OCE-Marine Geology & Geophysics).  
Period: 1/01/06 - 12/31/08  
Lead PI: H. Staudigel (Scripps Instit. Oceanog.) Co-PI's: Plank, (Boston) A. Koppers (Scripps) and B. Hanan (San Diego State).

Amount: \$87,892 (BU award) \$183,910 (total project budget)  
Title: "Collaborative Research: Volatiles in Aleutian-Alaska Arc Magmas"  
Agency: National Science Foundation (EAR – Petrology & Geochemistry) EAR- 0409495  
Period: 07/01/04 – 06/30/06  
PI: T. Plank Co-PI's: P. Kelemen (WHOI); E. Hauri (Carnegie)

Amount: \$210,000 (BU award)  
Title: "Technical Support: laser ablation and inductively coupled plasma laboratories – Phase I."  
Agency: National Science Foundation (EAR – Instrumentation & Facilities) EAR-0233712  
Period: 05/15/03 – 04/30/06  
PI: T. Plank Co-PI's: R. Murray, A. Kurtz

Amount: \$ 478,134 (BU award); \$ 758,175 (total project budget)  
Title: "Collaborative Research: Imaging the mantle in the Central American Subduction Factory"  
Agency: National Science Foundation (OCE-MARGINS) OCE-0203650  
Period: 04/01/02 - 03/31/07  
PI: G. Abers Co-PI's: T. Plank (BU) and Karen Fischer (Brown)

Amount: \$ 67,301 (BU award); \$ 197,250 (total project budget)  
Title: "Collaborative Research: Hf-Nd isotopic and trace element geochemistry of globally subducting sediments"  
Agency: National Science Foundation (OCE-MG&G) OCE-0137110  
Period: 02/15/02 - 02/28/05  
PI: T. Plank Co-PI's: J. Vervoort (Washington State) and J. Patchett (Arizona)

Amount: \$ 109,017 (BU award); \$ 138,572 (total project budget)  
Title: "Collaborative Research: Tracing Paleooceanographic Sources of Fe to the Central Pacific Ocean"  
Agency: National Science Foundation (OCE-MG&G) OCE-0136855  
Period: 06/01/02 - 05/31/05  
PI: R. Murray Co-PI's: T. Plank (BU) and S. Hemming (Lamont)

Amount: \$ 173, 544 (BU award) + \$14,419 (supplement); \$ 504,369 (total project budget)  
Title: "Collaborative Research: Volatiles (H<sub>2</sub>O and CO<sub>2</sub>) in Mariana and Izu Arc Magmas"  
Agency: National Science Foundation (OCE, MARGINS Initiative) OCE-0001897  
Period: 09/01/00 - 08/31/05  
PI: Plank Co-PI's: T. Grove (MIT) and E. Stolper/S. Newman (Caltech)

Amount: \$ 50,000 (BU award)  
Title: Purchase of an FTIR Microscope for Analysis of Art, Archeological and Geological Materials  
Agency: National Science Foundation (Social, Behavioral and Economic Science) BCS-0083555  
Period: 08/21/00 - 08/31/01  
PI: P. Goldberg (BU-Arch)  
Co-PI's: T. Plank & D.Coleman (BU-Earth), R. Laursen (BU-Chem)

Amount: \$ 39,128 (BU award)  
Title: Geochemical Fluxes at the Mariana-Izu Trenches: Constraints from ICP-AES, ICP-MS and LAM analyses of Leg 185 sediments and oceanic crust.  
Agency: Joint Oceanographic Institutions, US Science Support Program  
Period: 08/20/99 - 04/30/01  
PI: Plank and Kelley

Amount: \$ 78,827 (BU award)  
Title: Co-chief scientist participation on ODP Leg 185  
Agency: Joint Oceanographic Institutions, US Science Support Program  
Period: 9/99-8/02



PI: Plank

Title: "Fluid Flow, Seismic Cycling, and Pressure-Temperature Characteristics of the Costa Rica Subduction Zone "

Agency: Ocean Drilling Program

Period: Leg 203 scheduled for 9/02 – 11/02

Lead PI: E. Silver

Co-PI's: M. Kastner, J. Morris, K. McIntosh, T. Plank, D. Saffer

Title: "Crustal Fluxes and Mass Balances at the Mariana-Izu Convergent Margin"

Agency: Ocean Drilling Program

Period: Leg 185 took place 4/16/99 - 6/11/99

Lead PI: Plank

Co-PI's: R.L. Larson, J.B. Gill, R. Stern, J. Morris, T. Elliott, P. A. Floyd, J. Alt, L. Abrams

Amount: \$ 78,094 (KU award); \$161,000 (total project budget)

REU Supplement: \$3,008 (KU Award) "Laser Ablation Microprobe Study of Plagioclase"

Title: "A structural analysis of sediment subduction off Nicaragua: Why the 10Be anomaly"

Agency: National Science Foundation (Ocean Sciences Division, Ocean Drilling Program)

Period: 9/95-12/98 OCE-9521717

Lead PI: Plank Co-PI's: J. Morris (Washington Univ.) and M. Carr (Rutgers Univ.)

Amount: \$300,000 (KU award)

Title: "Acquisition of an Inductively Coupled Plasma Regional Facility for Geochemical Research"

Agency: W.M. Keck Foundation

Period: 7/95 - 7/99

Co-PI's: Plank and G.L. Macpherson

Amount: \$97,000 (KU award); \$227,000 (total project budget)

Title: "Collaborative Research: An Experimental Study of Sediment Dehydration and Melting in Subduction Zones"

Agency: National Science Foundation (EAR, Geochemistry and Petrology Program)

Period: 2/95 - 2/00 EAR-9506730

Co-PI's: Plank and M. Johnson (U.S. Military Academy, West Point, NY)

Amount: \$175,000 (KU award)

Title: "Acquisition of an Inductively Coupled Plasma Mass Spectrometer for Geochemical Research at the University of Kansas"

Agency: National Science Foundation (Academic Research Infrastructure Program).

Period: 9/94 - 9/98 EAR-9413547

Lead PI: Plank

Co-PI's: G.L. Macpherson, R.H. Goldstein, W.R. Van Schmus, J.D. Walker, L.W. McKenna

Amount: \$70,000 (Cornell award)

Title: "EAR Postdoctoral Fellowship: Behavior of high field strength elements during plate recycling "

Agency: National Science Foundation (EAR).

Period: 1/93 - 12/94 **EAR-9203151**

PI: Plank

PROPOSALS PENDING:

**NSF Proposal to EAR/CH.** "Collaborative Research: Volatiles In Aleutian Magmas" 6/1/06-5/31/08. Budget of \$217,834. with Erik Hauri (Carnegie Instit. Washington)

**NSF Proposal to EAR/CD.** "Collaborative Research: How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth?" 07/01/06 – 06/30/11. Budget of \$1,155,045. PI: (Boston Univ.) G. Abers; Plank (co-PI) Lead PI: Suzanne Baldwin (Syracuse)

PUBLICATIONS: [n] = number ISI citations as of 01/06 † denotes Plank's student

Prytulak, J., Vervoort, J.D., **Plank, T.**, and Yu, C. Astoria Fan sediments, DSDP Site 174, Cascadia Basin: Hf-Nd-Pb Constraints on Provenance and Outburst Flooding. *Chemical Geology*, accepted, March, 2006.

Chan, L-H., Leeman, W.P. and **Plank, T.** Lithium isotopic composition of marine sediments, *Geochem. Geophys. Geosyst.*, accepted, March, 2006.

Weins, D.A., Kelley, K. and **Plank, T.** Mantle temperature variations beneath back-arc spreading centers inferred from seismology, petrology and bathymetry. *EPSL*, in revision, March, 2006.

Feineman, M.D., Ryerson, F.J., DePaolo, D.J. and **Plank, T.** Mineral-fluid partitioning of trace elements in phlogopite and clinohumite at subduction zone pressures and temperatures: implications for fluid transport in the mantle wedge. *Contrib. Mineral. Petrol.*, submitted October 2005.

† Wade, J.A., **Plank, T.**, Melson, W.G., Soto, G.J. and Hauri, E. The volatile content of magmas from Arenal volcano. *J. Volcan. Geotherm. Res.*, accepted Feb 2006.

† Kelley, K.A., **Plank, T.**, Newman, S., Stolper, E. Grove, T.L. and Hauri, E. Mantle melting as a function of water content at subduction zones. I: Back-arc Basins. *J. Geophysical Research*, accepted, March 2006.

George, R., Turner, S., Morris, J.D, **Plank, T.**, Hawkesworth, C.J. and Ryan, J. (2005) Pressure-temperature-time paths of sediment recycling beneath the Tonga-Kermadec arc. *Earth and Planetary Science Letters*, 233: 195-211. [1]

†Wade, JA, **T Plank**, RJ. Stern, DL. Tollstrup, JB. Gill, JC.O'Leary, J Eiler, R B. Moore, JD

- Woodhead, F Trusdell, TP. Fischer, and DR. Hilton (2005) The May 2003 eruption of Anatahan volcano, Mariana Islands: geochemical evolution of a silicic island arc volcano. *J. Volcan. Geotherm. Res.*, v. 146: 139–170. [2]
- Hacker, B., Luffi, P., Lutkov, V., Minaev, V., **Plank, T.**, Ducea, M., Patino-Douce, A., McWilliams, M., and Metcalf, J. (2005) Near-ultrahigh pressure processing of continental crust: Miocene crustal xenoliths from the Pamir. *J. Petrology*, 46: 1661-1687. [1]
- †Kelley, K.A., **Plank T.**, †Farr, L., Ludden, J. and Staudigel, H. (2005) Subduction cycling of U, Th and Pb. *Earth & Planetary Science Letters*, 234: 369-383. [1]
- Plank, T.** (2005) Constraints from Th/La on sediment recycling at subduction zones and the evolution of the continents. *J. Petrology*, 46 (5), 921-44, doi:10.1093/petrology/egi005. [5]
- Staudigel, H., B. Tebo, A. Yayanos, H., H. Furnes, K. Kelley, **T. Plank**, K. Muehlenbachs (2005) The Oceanic Crust as a Bioreactor: Deep Subsurface Biosphere at Mid-Ocean Ridges, William S. D. Wilcock, Edward F. DeLong, Deborah S. Kelley, John A. Baross and S. Craig Cary (Eds.), AGU Geophysical Monograph Series 144, p 325-341. [1]
- †Kelley, K.A., **Plank, T.**, Ludden, J.N. and H. Staudigel (2003) The composition of altered oceanic crust at ODP sites 801 and 1149. *Geochem. Geophys. Geosyst.* 4 (6), doi: 10.1029/2002GC000435. [19]
- Abers, G.A., **Plank, T.** and Hacker, B.R. (2003) The wet Nicaragua slab. *Geophys. Res. Lett.*, 30(2), 1098, doi: 10.1029/2002GL015649, 2003. [8]
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