

Hoya Chimica

Georgetown Chemistry News - Spring 2007

Number 22

Message from the Chair

There has been much that has happened since I wrote my message in the last *Hoya Chimica* in Spring 2006!

Three faculty members in the Department have heard since the last newsletter that they have been promoted. Two, Profs. YuYe Tong and Christian Wolf have been promoted to Associate Professor and have been granted tenure; the third, Prof. Paul Roepe, already has tenure; he has been promoted from Associate Professor to Professor. Join me in congratulating them for these significant steps in their careers as academics recognizing the major accomplishments in their research and as teachers and good citizens.

Our new Assistant Professor Bahram Moasser, who joined the Department in August 2006, has hit the ground running, and already has recruited three of the new first year graduate students to work in his research laboratory. He has come to us after spending 10 years as a research chemist at General Electric and had already established a significant reputation in inorganic chemistry. Another new faculty member in the Department is Visiting Assistant Professor Milena Shahu, who joined us in Fall 2006 to help coordinate our general chemistry laboratories, and to handle upper level analytical and physical chemistry measurements labs.

The Fall 2006 semester also brought two new additions of another kind to the Departmental family, as Professor Jennifer Swift delivered a baby boy, Jacob Carter Swift Kelly, in September, and Prof. Angel DeDios's son Alexander Gabriel arrived in September. [News flash!!: new arrival Joshua Harold emerged on March 9th to keep Prof. Timothy Warren and his wife Jenny busy.] Notice of other newly delivered additions for graduate students and post-docs can be found inside this issue, as can more detail on many of the positive developments in this message.

Summer has always been a time when faculty and graduate students have been able to concentrate on their research. But increasingly, summers for the chemistry department at Georgetown have been abuzz with wide ranging activity, including a very much higher presence of undergraduates working in research labs. This is in part the result of increased emphasis on the role of guided inquiry in our undergraduate lab experience, which can then lead to a significant research experience for our undergraduate majors. Last Spring, of our 19 undergraduate degree recipients in chemistry and biochemistry, 9 completed their degrees with honors, which culminates with a thesis based on their research and a public presentation of their results.

Our GU undergraduates are part of the enhanced summer activity in the Department by increasingly taking advantage of the opportunity to stay here in the summer to do research, with funding provided for some by the recently enhanced GUROP (Georgetown Undergraduate Research Opportunities Program) funded by the Provost, and the Department's internally funded Adams Fellowships. This one place that funds received from annual giving that designate the Chemistry Department to receive the funds are put to good use.



Prof. Bates attending a wedding

Table of Contents

Undergraduate News	3
Graduate Student News	3
Group News	6
Prof. Moasser Joins the Faculty	8
Faculty News	8
New Grants	11
Departmental News	12
Conferences, Talks, & Travels	15
Catching Up	18

Continued on page 2

In summer 2006 we also brought in for the first time nine undergraduates from other institutions to work in our laboratories as part of a program funded by the National Science Foundation. These Research Experiences for Undergraduates (REU) students have both a seminar based exposure to research as well working in the laboratory of a faculty member for 10 weeks. We had a great group of REU students in summer 2006, and look forward to continuing success this year.

Two conferences during the summer also served to highlight the research activity in the Department. Professor Warren organized the first regional meeting of Inorganic Chemists at Georgetown on Wednesday, August 16th. Also in August the 5th Annual Georgetown Synthesis Symposium was held, highlighting the work by students involved in synthesis-based projects. Originated by the faculty whose labs are in White-Gravenor, this year's symposium included, among the twelve graduate and undergraduate student presenters, seven from the White-Gravenor groups, two students who work with mentors in Reiss, and, for the first time this year, speakers from research groups in the Medical Center.

There have been several exciting recent developments in space and new buildings. For the first 30+ years I had been at Georgetown, there was almost no change in space available at GU for Chemistry. There was a closet here and there, and a lab in Physics and one in the Medical Center were made available to us, at least temporarily. But there was no new space to enable us to address the significant space crunch that has developed. But that has now changed in several significant ways. Should you be on campus, please stop by. But look for the Chemistry Department offices on the 2nd floor of Reiss in room 240. This arose when the Chemistry departmental offices and the research lab and faculty offices for Professor Ichiye and her group moved to over 2800 sq ft of renovated space on 2nd Reiss, freeing up space on 6th Reiss to fit out a new instrumentation lab to support the Reiss based members of the department, and a new teaching lab with instrumentation for Biochemistry. This also allowed us to expand the space available to the research groups of Professors Kertesz and Tong, as well as to relieve some of the space pressure on the groups of Professors Warren and Wolf in White-Gravenor. In a second step the research groups of Professors Holman, Warren and Wolf, as well as the undergraduate organic teaching labs will be moving in November 2007 to the fully renovated first floor of the

Basic Sciences building. The third step is planned for 2010 when the new Science Center should come on line and is targeted to house most of the activities of the Department. Details of this expanded space are included inside this newsletter. As indications of the progress, the date for starting construction has been moved forward by a year, architects have been hired, and plans for the new building next to the new Business School center have been developed. The location will be on what used to be the baseball field.

Georgetown College has recently developed a website based newsletter highlighting the sciences, including individual faculty and their research and progress reports on the plans for the new Science Building. The second issue has just been posted with Prof. Toshiko Ichiye highlighted. [The first issue highlighted Prof. Roepe.] I encourage each reader to go to the website and see first-hand this exciting way to see what is going on at Georgetown. <http://college.georgetown.edu/research/science/>

You might also want to have a look at the newly revised Chemistry Department home page at: <http://www8.georgetown.edu/departments/chemistry/>

Back issues of the *Hoya Chimica* can be enjoyed by clicking on the "News and Events" entry on the Department page. Sorry but you cannot get to these sites by clicking on the url the paper version of the *Hoya Chimica*.

Finally, I would like to take this opportunity to thank those who have made contributions to the Department, through annual giving by designating the Chemistry Department or directly to us. We try to use the funds where they are most needed, and will always try to follow the wishes of the donor. Most commonly, the funds 1) support undergraduate research students in the summer through the Adams' Fellowships, 2) help in the purchase of instrumentation, and 3) create endowment for fellowships for graduate students in their final semester and for awards such as the Martire Award in Physical Chemistry and the Pope Award in Inorganic Chemistry, which have been funded primarily from gifts from the former students and colleagues of Professor Martire and Pope. For all who have thought of us you have our deep appreciation.

— Professor Bates

undergraduate news

GUROP Fellowship Recipients Named

Paul (PJ) Lukac (C'07), who is working in the **Weiss lab**, was awarded GUROP fellowships for the Fall 2006 and Spring 2007 semesters. Two **Tong lab** undergraduate researchers, **Kevin Browne** (C'08) and **Thuy Nguyen** (C'08), were awarded GUROP fellowships for the Spring 2007 semester.

American Institute of Chemists Names Awardess

Rhia Martin (C'07) and **Karina Vivar** (C'07) received the student award of the American Institute of Chemists for Chemistry and Biochemistry majors, respectively. The American Institute of Chemists Award is given to a senior majoring in either Chemistry or Biochemistry on the basis of the student's demonstrated record of leadership, ability, character, and scholastic achievement.

The Chemical Society of Washington Names Awardees

Paul (PJ) Lukac (C'07) and **Caitlyn Faller** (C'07) received the College Chemistry Achievement Award from the Chemical Society of Washington. The award is given to the outstanding students who are majoring in chemistry or biochemistry and have accomplished a significant amount of research.



Caitlyn & PJ at the CSW reception

graduate student news

The Department offers its sincerest congratulations and best wishes to the following students who completed their Ph.D. or M.S. from June 2006 to February 2007.

Jingsong Huang of the **Kertesz group** was awarded his Ph.D. in August 2006 for his work on "Multicenter covalent pi-pi bonding interaction and its role in the solid-state properties of phenalyenyl-based organic radical materials."

The **Roepe group** bade a fond farewell to **Tyler Bennett** in September 2006 following his successful defense of his Ph.D. dissertation, "pH Regulation is Linked to Quinoline Resistance in the Malaria Parasite *Plasmodium falciparum*."

Also in September, **Georgeta "Cami" Lica** of the **Tong lab** received her Ph.D. with her thesis on "Synthesis and Characterization of Organic and Inorganic Ligand-Protected Coinage Metal Nanoparticles."

In October 2006, **Xiao Huang** of the **Weiss lab** earned his Ph.D. with his dissertation, "I. Structures and Kinetics of Formation of Molecular Organogels of Steroid-Based Gelators II. Synthesis of Porous Silica Using Self-Assembled Fibrillar Networks of Molecular Organogels as Templates."

Kristen N. Hargett, who performed research in the **Rubinson lab**, received her M.S. with thesis ("Optimization



Xiao Huang reflecting as Prof. Weiss listens

of Conditions for the Production of Conducting Polymer Fiber and Smooth Films") in August 2006.

Also in August, the **Ichiye group's** **Laurentia "Laura" Lucan** earned her M.S. with thesis, "Solvation Properties of the Soft=Sticky Dipole-Quadrupole-Octupole Water Model."

In December 2006, **Anne Kinuthia**, also of the **Rubinson lab**, was awarded her M.S. with thesis, "Analytical Applications of Conducting Polymers: Electrochemical Detection of Neurotransmitters for High Performance Liquid Chromatography (HPLC)."



Prof. Kertesz & Jingsong Huang celebrating



Prof. Tong congratulating Cami Lica

New Graduate Students

Joseph Cho, a self-affirmed “awesome person,” wants everyone to know that chemistry runs his life, and he’d have it no other way. He joined the **Moasser group** in pursuit of curing cancer after an epiphany that it is a bad disease. In his spare time, he likes to think up great pick-up lines. Joe received his bachelor’s from the University of Virginia and completed post-bac work at the University of Maryland. He also worked in Miami for two years as part of the Teach for America program.

Before coming to Georgetown and joining the **Moasser group**, **Sudeep Das**, a native of Kolkata (aka Calcutta and “The City of Joy”), completed his M.S. (Chemistry) from the Indian Institute of Technology, Kharagpur, India. His hobbies include playing cyber games—especially Counter Strike—and, as Sudeep writes, “I am sad to say that I am quite addicted to it.” He formed his own clan last December, and they are participating in Cyberathlete Amateur League (<http://www.caleague.com/>); the link to his team is <http://www.caleague.com/?page=teams&steamid=134816>. Sudeep really likes Georgetown and Washington and finds the people to be very receptive, polite, and helpful.

A recent addition to the **Rubinson lab**, **Kathleen Ford** graduated from Loyola College in Baltimore in 2006 where she received a B.S. in Chemistry and minored in Sociology. Before the bright lights of Baltimore, she grew up in Exton, Pennsylvania, a suburb of Philadelphia. Kathleen is an avid Philadelphia sports fan. Season after season has taught her many valuable life lessons that every Philly fan knows:

Kim Yearick, Marie Melzer Awarded Luce Fellowship

Keeping the recent departmental tradition alive, **Kimberly Yearick** was awarded a Clare Booth Luce Fellowship for the 2006–2007 academic year. **Marie Melzer**, a recipient of the fellowship for the 2005–2006 academic year, was reappointed as a Clare Boothe Luce Fellow for the 2006–2007 academic year. The Clare Boothe Luce Foundation was established “to encourage women to enter, study, graduate, and teach” in the sciences, and it serves as the greatest source of private support for women in science, engineering, and mathematics. Kim joins fellow graduate students **Christina Capacci** and **Leah Casabianca**, who have also been Clare Boothe Luce awardees.



New Graduate Students, Fall 2006. Front Row (L to R): Joe Cho, Ray Gephart, Ilana Goldberg, Yongjing Li, Oksana Zaluzhna, Kathleen Ford. Back Row (L to R): Mengping Zhu, Anthony Kammerich, Ed Zuñiga, Tao Yu, Sudeep Das, Garrett Kocher. Not pictured: Brad Slepetz

winning isn’t everything; there is always next season; booing at iconic characters, such as Santa Claus, is a completely valid reaction to frustration; and there is no better way to display your disapproval of someone’s behavior than by throwing batteries at them.

Another native of the Philadelphia suburbs, **Ray Gephart** claims that he is from the South, though he lived there only two years while earning his M.S. in Chemistry from UNC Wilmington. A new member of the **Warren group**, he earned his B.A. in Math and Chemistry from Gettysburg College. An avid trainer and runner in triathlons and road races, Ray enjoys watching all sports and watching “the Phillies [in Washington] beat up on the Nationals.”

Ilana Goldberg is excited to be living in D.C. She normally tells people she’s from D.C. since few outside the area have heard of Gaithersburg. She received her B.S. in Chemistry from Brandeis University with a minor in Near Eastern and Judaic Studies. She then spent a year in Israel on a Fulbright,

continued on page 5

Leah Casabianca Wins ARCS Fellowship

Leah Casabianca of the **de Dios lab** was named an Achievement Rewards for College Scientists (ARCS) Fellow for the 2006–2007 academic year by the metro Washington section of the ARCS Foundation. The ARCS Foundation is a national volunteer women’s organization dedicated to providing financial support to academically outstanding students majoring in the fields of natural science, medicine, and engineering. **Scott Mough** of the **Holman group** was a recent recipient of an ARCS fellowship.

studying crystal engineering and polymorphism. She recently joined the **Swift lab**.

Anthony Kammerich of the **Rubinson lab** is originally from Sedalia, Missouri. He graduated in May 2006 with a B.S. in Chemistry from Central Missouri State University. When not in the lab, he enjoys being outside—exploring D.C. or having fun at the lake.

A native of Ohio, **Garrett Kocher** received his B.S. in Chemistry from Pepperdine University. While at Pepperdine, Garrett enjoyed the impeccable weather and the sun, surf, and sand of the Pacific coast, in stark contrast to the cold winter of Washington. He recently joined the **de Dios lab**.

Yongjing Li graduated from Tianjin University with a B.S. in Chemistry. She recently joined the **Yang lab**.

Brad Slepetz is a Washington D.C. area native, having been born and raised in Northern Virginia and having received his B.S. in Chemistry from George Mason University. He joined the **Kertesz group**, because the interpretation of structure in molecules is what he finds most interesting. In his free time, he enjoys both spending time with his girlfriend and their dog and, when he can, simulating flight. He really likes Washington, because there are plenty of interesting things to see and do around town.



Brad Slepetz

Originally from Hangzhou, China, **Tao Yu** received his B.S. degree in Chemistry from Fudan University in Shanghai. He joined the **Weiss group** and is going to work on the development of functional gels. He doesn't want his life consumed by gels, so he enjoys watching basketball games and movies in his spare time. He occasionally can be found at the Verizon Center seeing Hoyas basketball games.

Oksana Zaluzhna grew up in Lviv, Ukraine and moved to the U.S. five years ago. She graduated from the University of North Carolina at Asheville with a B.S. in Chemistry. When not in the **Tong lab**, she likes discovering new things about D.C., yoga, and going back to the beautiful Asheville, NC.

Born in Linyi, Shandong Province, **Mengping Zhu** received his Master's degree in Physical Chemistry from Xiamen University, one of the most beautiful and distinguished universities in China. He enjoys exercising in the gym, swimming, watching movies, and traveling. A member of the **Moasser group**, Mengping likes studying at Georgetown.

Prior to beginning his studies at Georgetown, **Edward Zuñiga** graduated from George Mason University with a B.S. in Chemistry and a Physics minor. Ed recently joined the **Stoll group**.

Shujiang Yang Given Doctoral Research Fellowship

Shujiang Yang, a graduate student in the **Kertesz group**, was awarded a Doctoral Dissertation Research Fellowship from Georgetown's Graduate School of Arts and Sciences for the 2006-2007 academic year. The non-service fellowship includes a \$20,000 stipend and is rewarded on the basis of academic merit. According to the Graduate School, the award is "intended for doctoral candidates who are in the final stages of the researching and writing."

Ed Zuñiga Wins Espenscheid Fellowship

Georgetown's Department of Chemistry awarded **Edward Zuñiga** of the **Stoll group** an Espenscheid Fellowship. The Department offers an Espenscheid Fellowship to any graduate student who (1) has not previously been enrolled in a graduate degree program in chemistry and (2) reaches excusing level on four Phase I examinations taken in the first attempt. An Espenscheid Fellowship recipient is not required to teach during the summer after the first year and can afford more time to conducting research.

Yonghui Tian, Kefeng Ma Win Summer School Fellowships

Yonghui Tian from the **Kertesz group** obtained a competitive full scholarship for travel and participation in the "Ab Initio Simulation of Crystalline Systems 2006" Summer School hosted by Michigan Tech University, Washington State University, and the Theoretical Chemistry Group of the Torino University. This school is usually held overseas, but was held for the first time in the US during September 17-22, 2006 in Washington state.

Kefeng Ma from the **Weiss group** was selected to attend an NSF Summer School on "Porous Materials" at the International Center for Materials Research (ICMR), University of California at Santa Barbara, Santa Barbara, CA, 30 July-12 August 2006. Airfare, registration, and all living expenses for participation in the summer school were granted to Kefeng by ICMR. He also presented a poster there entitled, "Ionic Liquid Crystals (ILCs) Based on Phosphonium Salts."

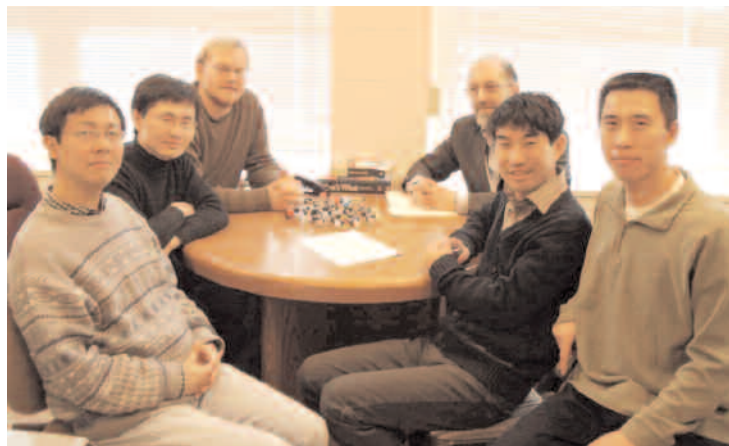
group news

The **Holman group** congratulates **Onome Ugono** on being awarded the *Crystal Growth & Design* best “small molecule” poster prize at the 2006 meeting of the American Crystallographic Association. The group welcomes the return of **Robert Fairchild** from his 2006 East Asia Pacific Summer Institute trip to Kyoto, Japan. His collaborative work with the research group of Prof. Susumu Kitagawa has fostered a new project on metal-organometallic materials. New graduate students, **Kyle Baumstein** and **Barb Casavant**, and honors-track undergraduate researchers, **Mark Russo** (C'08) and **Marion-Vincent Mempin** (C'08), have joined the Holman group.



Onome Ugono presenting his award winning poster

Dr. Takashi Yumura completed his postdoctoral fellowship of 18 months in the **Kertesz group** supported by the Japanese government. He has been working on his computational modeling project regarding the properties of carbon nanotubes, fullerenes and other nanomaterials especially looking at unique chemical reactions inside the restricted spaces of carbon nanotubes. **Prof. Gyoosoon Park** completed his sabbatical in the Kertesz group with work on polythiophene analogues including spiral molecules. He has returned to his native Korea. **Shujiang Yang** just informed us about a momentous event in his family: he has become the father of a baby boy. **Jingsong Huang** has obtained a postdoctoral fellowship at Oak Ridge National Laboratory. The Kertesz group also welcomed **Brad Slepetz** as a new member.



The Kertesz group, Winter 2006 (L to R): Jingsong Huang, Yonghui Tian, Brad Slepetz, Prof. Kertesz, Takashi Yumura, & Shujiang Yang

The **Rubinson group** bid a fond farewell to **Kristen Hargett** when she completed her M.S. thesis. Kristen will be working as an Associate for Wargo & Company, Inc., a private investment company in Long Island City, NY. **Anne Kinuthia** is presently making use of her M.S. (“Analytical

Applications of Conducting Polymers: Electrochemical Detection of Neurotransmitters for High Performance Liquid Chromatography (HPLC)”) as an instructor at Montgomery College in Rockville, Maryland. The group also was sad to see the departure of **Brian Konzman**, an REU student from University of Scranton who worked in the group this past summer on synthesis of polymerizable metal chelates.



**The Warren group atop White-Gravenor, Summer 2006
Front Row (L to R): Prof. Warren, Yosra Badiei, Ashley Bartell, Corwin Ward, Marie Melzer
Back Row (L to R): Kevin Murphy (between Yosra and Ashley), Robert Palomino, Stefan Wiese, Matt Varonka, Ken Vaz**

The **Swift group** welcomed two new members, graduate student **Ilana Goldberg** and **Katrina Heyrana** (C'08). The youngest member of the Swift group, Jacob Carter Swift Kelly, was born on September 19, 2006.

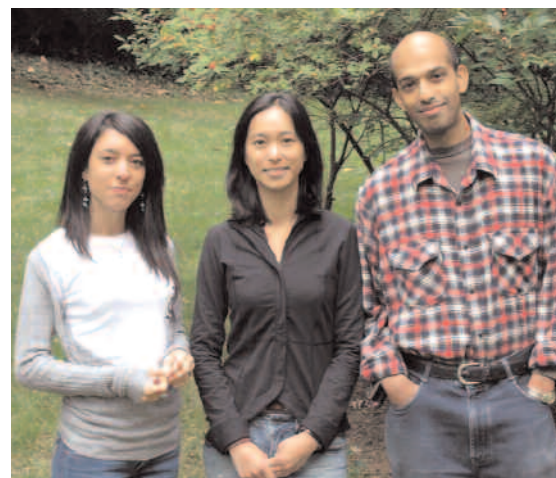
In July, **Marie Melzer** and **Matthew Varonka** from the **Warren group** presented posters at the Inorganic Gordon Conference in Salve Regina, RI. Marie’s poster involved “Reductive Cleavage of RS-NO, R₂N-NO, and RO-NO Bonds by Ni(I) and Cu(I) Complexes,” and Matt’s poster was entitled “NO and S-Nitrosothiol Reactivity at Zinc Thiulates.”

Continued on page 7



Juan Morales
enjoying winter
on campus

Paul (PJ) Lukac who has been performing research on ionic liquid crystals with **Dr. Taisuke Yamada** in the **Weiss lab**. PJ presented some of his research, "Ionic Liquids: Our Future Solvation?", at the 9th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences, University of Maryland at Baltimore County, Baltimore, MD, 14 October 2006, where he won first prize in his group. His research involves the development of ionic liquids which can be reconverted to 'normal' liquids (that is not ionic) simply by bubbling carbon dioxide or nitrogen gas through them. **Juan Angel Morales** is spending 8 months to investigate edible molecular gels. He is a Ph.D. student in the Facultad de Ciencias Quimicas of the Universidad Autonoma de San Luis Potosi in Mexico. His Ph.D. advisor is Prof. Jorge F. Toro-Vasquez. His project, to develop margarine substitutes which contain no trans-fats, is progressing nicely. Juan is a soccer fanatic. He is looking for a game at Georgetown. **Scilla Grassi**, a Ph.D. student from the University of Florence, is spending 8 months in the lab as part of a triangular collaboration with the National Gallery of Art. Scilla is concentrating on new gels for cleaning stone objects. She has already cleaned part of the marble floor of the west wing of the Gallery with two of our new gels! This work is being funded in part by a grant from the National Center for Preservation Technology and Training, entitled, "Use of Rheoreversible Gels for the Preservation of Cultural and Artistic Heritage." The person who is collaborating at the National Gallery, Dr. Barbara Berrie, is a Ph.D. from Joe Early's (Emeritus Professor) group. Barbara's superb research to analyze the paints used by 16th century Venetian painters was featured in the Sept 11 issue of *C&E News*. **Dr. Ajaya Mallya** joined the group after a spending postdoc at the City University of New York. He received his Ph.D. degree from



Scilla Grassi,
Chang Yihwa,
& **Ajaya Mallya**

the Regional Research Laboratory in Trivandrum, India (the same place where Mathew George received his Ph.D.). **Dr. Chang Yihwa** came from the University of Victoria in Canada where she was a postdoc. She received her Ph.D. degree from the Instituto de Quimica of the Universidade de Sao Paulo in Brazil. For family reasons, Chang had to return to Brazil recently. **Dr. Mathew George** took a position at Sepax Technologies, Inc. in New Jersey where he is developing new packing materials for HPLC columns. Mathew will be sorely missed but all in the Weiss group are extremely happy for him. **Xiao Huang** (after defending his Ph.D. thesis on October 12) started his job in the research division of Waters Associates in Milford, Mass....developing new packing materials for HPLC columns!! His research at Georgetown on sol-gel chemistry using gel networks as templates is useful in his current work. **Dr. Satyen Saha**, another postdoc in the group, accepted a position as Lecturer at Banaras Hindu University in Varanasi, India. This is one of the oldest and most prestigious universities in the country. We wish him every success there.

Xuefeng Mei from the **Wolf group** completed his Ph.D. thesis entitled "Enantioselective Sensing Using Axially Chiral Diacridyl naphthalenes" in the Spring. He is now involved in the development of pharmaceuticals and is earning big bucks at Novartis Pharmaceuticals in New Jersey. **Jayakumar K. Natarajan**, who has a shared postdoctoral position in both the Wolf and Roepe labs, and his wife, Thenmozhi, gave birth to their son Arjun on August 13. **Hanhui Xu** joined the Wolf Pack in the Summer. Hanhui, who has earned a Masters at George Washington University, is currently developing palladium-catalyzed cross-coupling reactions for the synthesis of sterically crowded biaryls.



faculty news

Bahram Moasser Joins Department as Tenure-Track Faculty

Bahram Moasser joined the department as an assistant professor in the summer of 2006. Bahram has moved into Professor Pope's old office and labs on the sixth floor of Reiss where he is hoping to channel some of the excellent karma from Professor Pope's legacy of scholarship and education to launch his own academic career.

A native of Iran, Bahram immigrated to the US in 1978 and became a naturalized US citizen in 1995. After graduating from Cornell University and receiving his M.S. from the University of Wisconsin -Madison, he went on to the



Bahram & Marcie

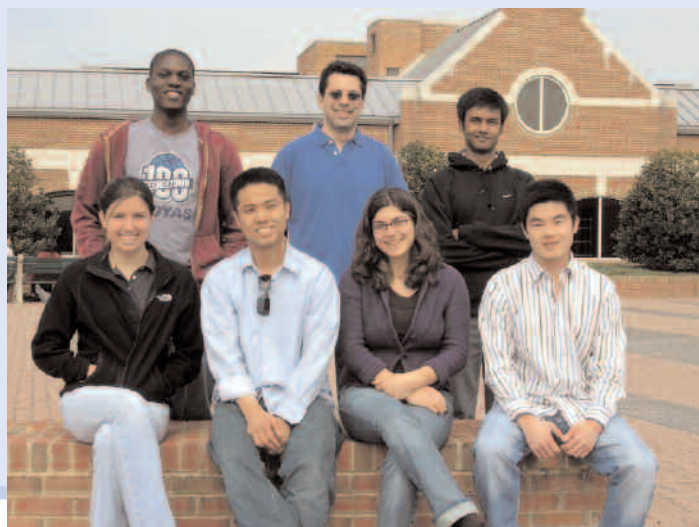
University of Minnesota in the Twin Cities. There he received his Ph.D. degree under the tutelage of Professor Wayne L. Gladfelter where his research

involved the mechanistic

study of a highly regioselective Rh-hydroformylation catalysis. Bahram worked at the General Electric Global Research Center in Niskayuna, NY (Albany area) for ten years prior to joining Georgetown. He hopes to draw from his eclectic scientific background to shape his research program at Georgetown, which revolves around the studies of synthetic and mechanistic inorganic/organic chemistry and chemical biology, the design and discovery of novel diagnostic imaging probes, drug delivery systems and biological sensors, and chemical approaches to elucidating fundamental structure/function properties in chemical biology. His projects include developing chemical strategies for conjugation of macromolecules to each other or to small molecules; targeted drug delivery using biocompatible and/or biodegradable macromolecules or functionalized nanoparticles, emphasizing the functionalization chemistry and targeting mechanism; and employing targeted Magnetic Resonance Imaging (MRI) contrast agents for the visualization of biochemical processes, specifically visualizing enzymatic activity associated with signal transduction in cancer.

Bahram and his wife, Marcie, live in Gaithersburg, MD with their two cats, Gobi and Tweeter. Moving to the DC area from upstate NY has brought about many changes, including transitioning to townhouse living. Also, after spending years learning the art of eating pasta with a twirling spoon, Bahram and Marcie are now dealing with the challenges of dissecting crab. Besides spending time with Marcie and the cats, Bahram enjoys listening to music, watching hockey (go Islanders!), reading and taking walks.

An intrepid group of ambitious students have already joined the Moasser research group. They include graduate students Joseph Cho, Sudeep Das, and Mengping Zhu and undergraduates Kamilla Esfahani (C'10), Ayodele Ogunkoya (C'08), and Louisa Warren (C'10). Bahram and his group can be found toiling away in Reiss 632, 636, and 638.



The Moasser Group, Spring 2007

Front row (L to R): Louisa Warren, Joe Cho, Kamilla Esfahani, Mengping Zhu. Back row (L to R): Ayo Ogunkoya, Prof. Moasser, Sudeep Das

The cover for the August issue of *Accounts of Chemical Research* was an optical micrograph of a gel made in the **Weiss lab** by **Mathew George**.

Department Welcomes Prof. Milena Shahu



Matt Varonka & Prof. Warren

Warren Recognized as One of 40 Under 40

The international inorganic chemistry journal *Inorganica Chimica Acta* recognized **Prof. Tim Warren** in its special 40th anniversary edition "Inorganic Chemistry – The Next Generation". Prof. Warren's contribution was co-authored by graduate student **Matthew S. Varonka**. The editors of this journal, with valuable input from senior inorganic chemists around the world, identified and invited contributions from approximately 40 inorganic chemists worldwide under the age of 40. This issue features highlights from their research programs, suggesting some of the new directions that inorganic chemistry is likely to take in the 21st century. "These young scientists were carefully chosen and promise to be among the leaders of the next generation of outstanding inorganic chemists," states editor Prof. Richard Puddephatt in his preface to the special edition.

Milena Shahu, a native of Albania, joined the Department as a Visiting Assistant Professor in August 2006. In 1996, she received her Doctor of Science Degree in Chemistry from Tirana University in Albania, where she taught for several years. In 1999, she started her Ph.D. at the American University, Washington D.C. in the field of physical chemistry, spectroscopy and computational chemistry under the guidance of Prof. Charles D. Pibel. After she received her Ph.D. in 2003, she worked as Director of Chemistry Teaching Laboratories at American University.



Prof. Shahu assisting students in the General Chemistry for Majors Lab
L to R: Michael Manas (C'10), graduate student TA Clare Yannette, Prof. Shahu, & Steven Cuculich (C'10)

During the Fall semester at Georgetown, she taught Analytical Chemistry Methods and Physical-Chemical Measurements, both classes for Majors. Both laboratories were a combination of regular lab sessions and a project-based laboratory. She says that the junior and senior students here are passionate about science. She finds them to be motivated, dedicated, and capable of handling independent projects very well with minimal guidance.

This semester, she is teaching General Chemistry II Lecture and Laboratory for Majors, as well as General Chemistry II Laboratory for non-majors. In the laboratory for majors, she has included a couple of guided inquiry experiments. These labs help the students to develop their critical thinking skills, which is important for the chemistry/bio-chemistry majors in their future studies and careers. In addition to teaching, she is enjoying working with an outgoing group of teaching assistants. At the end of the Spring semester, her General Chemistry class for majors will present their research work (mostly literature based) at the General Chemistry Poster Conference. Everyone in the Department is invited!

Prof. Shahu comments that she is enjoying her time at Georgetown, adding that it has been a great experience so far in terms of teaching, work experience and collaborations with other faculty in the department. She is happy to continue her contribution to the Department.

Professor Emeritus Joe Earley was the organizer of the Biology/ Chemistry Section of the Sixth International Whitehead Conference held at the University of Salzburg, Austria in July. He also participated in the International Conference on the History of Alchemy and Chymistry held at the Chemical Heritage Foundation in Philadelphia during July. He was quoted at the end of the New York Times article that described that Conference (http://www.parsintl.com/12089_elink.pdf). Joe was elected recently the Vice President and President-elect of the GU Association of Main Campus Retired Faculty.



Prof. Kertesz leading the discussion in his "Ignatius Seminar"

Kertesz Invited to Give Ignatius Seminar

Prof. Kertesz was invited by the Dean of the College to give a freshman seminar "Ignatius Seminar" as part of an experiment to provide a choice of new courses for ambitious incoming freshman. The seminar is centered on the Energy Crisis and is primarily targeting non-science majors. The seminars follow the same textbook that Prof. Kertesz used in his Energy Crisis course before, supplemented by 12 basic experiments chosen in the area of physics and chemistry related to the basic forms of energy and their transformations. The seminar format allows more student participation and is part of broader efforts by the College to enhance the freshman experience.

Department says Farewell to Visiting Profs. Belai & Sattar

At the 2006 Holiday Party on December 18th, the Department said farewell and cheers for a job well done to Visiting Professor Simeen Sattar who joined the Department for a year beginning with the Spring semester 2006. On sabbatical from Bard College in New York's Hudson River valley where she is a member of a three-person chemistry department, she joined Prof. Swift's research group, and was active in teaching a course for non-science majors on the "Chemistry of Cooking." She says that cooks and chemists have much in common. Both stock their shelves with chemicals that they heat and cool and mix and separate with specialized tools and both use scientific principles to achieve their ends. Why broccoli turns green when it is boiled, why scrambled eggs become granular and watery when overcooked, why fish and beef are so different, and why some cake recipes call for baking soda and

others for baking powder are examples of questions that can be answered by understanding the physical and chemical properties of the molecules that constitute food. Her course began with a primer on the structure and properties of small molecules and proceeded to a survey of the major classes of molecules that make up food (carbohydrates, fats and proteins) and how their properties affect preparation of relatively simple foods such as jams, salad dressings, and meringues. Prof. Sattar also played a significant role in running the general chemistry laboratory courses.

Earlier in 2006 we had said goodbye to Neely Belai who was appointed as a visiting assistant professor for a year following receipt of her Ph.D. degree, having worked with Prof. Pope. She left to pursue her career goals in research to work as a post-doc with Prof. Christopher Cahill at George Washington University.

Promotions

Congratulations to Paul Roepe, YuYe Tong, and Christian Wolf, who were promoted as of 1 August 2006. Roepe was promoted to full Professor in both the Department of Chemistry and the Department of Biochemistry and Molecular and Cellular Biology. Tong and Wolf were promoted to Associate Professor with tenure in the Department of Chemistry.

New Grants

The Department has been awarded \$28,000 from the Graduate School for **Prof. Travis Holman's** Research Infrastructure proposal to support the purchase of a 700 Series Oxford Cryocooler low temperature apparatus for the SMART single crystal X-ray diffractometer. The equipment is to arrive in March of 2007.

Dr. Takashi Yumura obtained with **Prof. Miklos Kertesz** a grant from the National Supercomputer Center at Pittsburgh supporting their very large-scale calculations on carbon nanotubes and their reactivities. The National Center for Supercomputing Applications (NCSA) at the University of Illinois has provided a substantial amount of supercomputing time to study the electronic properties of nanopeapods where fullerenes are encapsulated inside nanotubes. The 20,000 units of supercomputer time allow the determination of the motion of hundreds of atoms at very high level of accuracy with the goal to interpret the reaction of defected fullerenes encapsulated inside a nanotube.

A \$26,350 Graduate School Infrastructure Grant, "Acquisition of a Raman Spectroscopy and Imaging System," was awarded to **Prof. Faye Rubinson**.

Prof. Jennifer Swift was awarded a \$9,500 GU Summer Academic Grant from the Graduate School for her work on "Uric Acid Crystallization Studies."

A Grant in Aid in the amount of \$1,975 was awarded to the **Warren group** by the Graduate School for pur-

chase of a molecular computational workstation to allow for "pre-synthesis" theoretical modeling of organometallic and bioinorganic catalysts under development and synthetic study.

Prof. Richard Weiss has been awarded a new grant from the Petroleum Research Fund of the American Chemical Society in the amount of \$80,000 for the period of 1 June 2006-31 August 2008. The title of the grant is "Chiral and Prochiral Singlet Radical Pairs as Probes of Reaction Cages in Polymer Films".

Prof. Weiss received a grant from the National Science Foundation for planning visit in the amount of \$3,451 for the time period of 1 May 2006-31 April 2007. The project title is "U.S.-Brazil Planning Visit for Studying Network Fiber Formation in Gels". It allowed Dr. Weiss to spend more than one month of his sabbatical at the State University of Campinas, working on methods to follow the growth of molecular gel fibrillar networks by fluorescence microscopy.

The Faculty Committee for International Initiatives (GU) awarded \$1,570 to Professor Weiss to be used in the Summer-Fall 2007 for the project of "Edible Organogels as an Alternative to Margarine and other High trans-Fat Containing Cooking Ingredients". This grant will allow Prof. Weiss to perform some experiments in the labs of Prof. Toro at the Universidad Autonoma of San Luis Potosi, Mexico. The Toro-Weiss collaboration is trying to develop edible gels.

Carl Wamser and Richard Weiss were guest editors of a memorial issue of *Photochemical and Photobiological Sciences*, a journal of the Chemical Society of Britain, which contains contributions from Prof. Hammond's former students and colleagues. It appeared in October 2006 and marked the 1st anniversary of Prof. Hammond's death.

Prof. Christian Wolf taught an elective summer course "Career Perspectives for Ph.D. Chemists" which was attended by eleven students. This graduate course familiarized Ph.D. students with the professional world, addressing career opportunities in academia, government, and industry. The course included an excursion to NIST in Gaithersburg and a visit of Dr. Patrick Spence from Novartis who spent a full day on campus to discuss industrial job opportunities with the students.



departmental news

Department Welcomes Expansion and New Laboratory Space

Plans to renovate the first floor of the Basic Science Building located in the Medical Center for the organic chemistry teaching laboratories and research labs for the Holman, Warren, and Wolf groups are moving forward, with a move-in date of August 2007. This much-needed upgrade in both size and quality for the organic teaching laboratory means that we will be able to offer two laboratory sections at a time to keep up with ever increasing enrollments in organic chemistry. The upgrade also provides a better home for “Synthetic Methods”, an upper level undergraduate course covering advanced aspects of organic, organometallic, and inorganic synthesis. In addition, the increased space for chemical instrumentation allows us to introduce a wider array of technologies into the undergraduate curriculum. Students will have the opportunity to gain experience with first-class research grade instrumentation provided in the renovation such as NMR spectrometers, thus allowing hands-on experience with the tools of modern synthetic chemistry.

The **Holman, Warren, and Wolf research groups**, currently housed in White-Gravenor, are moving over to this new extension of the Chemistry Department where they will enjoy significantly more space and hoods for their researchers – graduate, postdoctoral and undergraduate students alike. The move to the Basic Science Building, which is in the Medical Center, will also enhance their interactions with other chemists at Georgetown. Prof. Paul Roepe from Chemistry and Biochemistry has laboratory space on the third floor of Basic Sciences. Also, Prof. Milton Brown of the Lombardi

Cancer Center and Director of the Georgetown University Drug Discovery Program, is a synthetic organic chemist located in the Research Building adjacent to the Basic Sciences Building on the Medical Campus. “The move will allow us to better benefit from synergies between the Chemistry Department and our colleagues in the Medical Center,” states Prof. Wolf.

“This is an important first step the University’s master plan for the sciences to offer top-notch facilities for the sciences”, Prof. Warren notes. By providing first-rate facilities for organic laboratory students and synthetic researchers, not only will the quality of teaching and research be enhanced, but also aid in the recruitment of science students. The new synthesis space in Basic Sciences is an exciting kick-off for the University’s plans to build the New Science Center on the space behind Reiss where the baseball field once was. President de Gioia has committed to a \$100M building to house teaching and research laboratories from Chemistry, Biology, and Physics. This serious investment in the sciences at Georgetown is expected to raise the profile of scientific research, and the education of both science majors and non-science majors at the undergraduate level as well as at the graduate level. The New Science Center is slated to break ground in 2008, with an expected completion date of August 2010. Renovation of the Reiss Science Building is to follow, providing additional space for the planned expansion in the size of the Chemistry, Biology, and Physics faculty. Construction of the New Science Center is a major goal of the new fundraising campaign and contributions have the opportunity to expand the scope of this new facility for science.

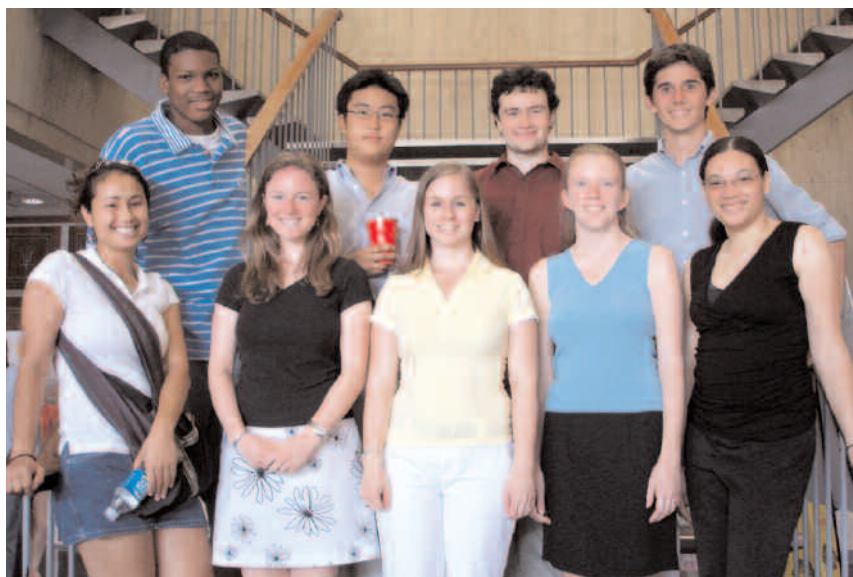


Department Welcomes Inaugural Group of REU Researchers

Thanks to a three-year NSF-REU grant awarded to Profs. Jennifer Swift and Sarah Stoll (co-PIs), the Department welcomed its first wave of undergraduate student researchers who are not students at Georgetown University. The intensive ten-week program—30 May-4 August 2006—included extensive research and laboratory experience, weekly professional development workshops, and it culminated in a poster session where each student presented his or her results. Out-of-lab

activities included a Washington Nationals game, a tour of the U.S. Capitol, and a tour of the Library of Congress.

The nine participants—whose home schools, years of graduation, Georgetown research labs, and research projects are listed—were selected from an extremely competitive pool of over 170 applicants. Each student received a stipend, reasonable travel expenses, and if applicable, on-campus housing.



Summer 2006 REU Participants
Front Row (L to R): Michelle Corder, Lauren Katkish, Laura Grande, Lauren Ligon, Nicole Honesty. Back Row (L to R): Robert Palomino, Ryuk Byun, Andrew Daab, Brian Konzman



REU participants & Georgetown students at the U.S. Capitol
Front Row (L to R): Nicole Honesty, Laura Grande, Lauren Ligon
Back Row (L to R): Ryuk Byun, Dr. Javier Marti-Rujas, Kevin Murphy, Joe Reilly, Andrew Daab, Brian Konzman

Ryuk Byun

Swift lab

University of Virginia (2008)

“Kinetic Analysis of Solution Mediated Transformation of Uric Acid Dihydrate to Uric Acid”

Michelle Corder

Wolf lab

Bryn Mawr College (2008)

“Total Synthesis of 1,8-Diacridylnaphthalene”

Andrew Daab

Metallo lab

Gordon College (2007)

“Effectors of Myc and Max DNA Binding”

Laura Grande

Stoll lab

LaSalle University (2007)

“Synthesis and Luminescence Study of a Series of Copper(I)-Halide-Ligand Coordination Solids”

Nicole Honesty

Tong lab

Texas A&M University (2007)

“Synthesis and characterization of polyoxometalate-protected Pt nanoparticles”

Lauren Katkish

Holman lab

College of William and Mary (2008)

“Towards the Use of Dynamic Covalent Chemistry in the Construction of Large Molecular Arrays”

Brian Konzman

Rubinson lab

University of Scranton (2008)

“Polymerizable Dibenzotetraaza[14] annulene Derivatives”

Lauren Ligon

Roepe lab

Virginia Tech (2007)

“Expressing Malarial PH1 PFRCT Protein in Yeast”

Robert Palomino

Warren lab

St. John's University (2007)

“A Study of Cu(I) and Ni(I) beta-diketamate Catalyzed Cyclopropanation with Sulfur Ylides”

New Equipment

In a collaboration between the Chemistry Departments at George Washington University and Georgetown University, the National Science Foundation has awarded \$358,250 for the acquisition of a SQUID magnetometer to be located and maintained at GWU. Profs. Mike Wagner, Chris Cahill, Lawrence Bennett, and Martha Pardavi-Horvath at GWU along with **Profs. Sarah Stoll** and **Tim Warren** at Georgetown contributed to this joint effort. This instrument will allow for detailed magnetic characterization of new materials synthesized in these departments, as well as catalyze inter-campus scientific discussion among faculty and students separated by no more than a 30 minute walk.

New Face in the Department



John Ndiritu in the White-Gravenor stockroom

John Ndiritu joined the Department as Manager of the White-Gravenor laboratories and stockroom in August 2006. John is a native of Kenya. He graduated from Nairobi University with a bachelor's degree in geology and chemistry and a master's in geology. He worked in the Kenyan civil service before coming to this country in 2000.

New Office & Lab Space in Reiss



Preparing for the administrative move from Reiss 606

As a result of the renewal of space commitment to the sciences, the Chemistry Department obtained more space in the Reiss building as a result of Computer Science moving to St. Mary's Hall. The new Chemistry office on the second floor of Reiss makes the impression of a 20th century departmental office, unlike the old one which was more reminiscent of older times, or at least the way we imagine those older times. We invite alumni to visit the new office!

As a result of the new office space, the group of Prof. Ichiye has moved to the second floor of Reiss, and the Kertesz group moved to a renovated space on the 6th floor of Reiss. Prof. Tong has expanded his operations into an additional lab also due to these expansions in Reiss. These groups enjoy now lab spaces that are more up to date helping the members to be more productive. The old Chemistry Department office on the sixth floor has been turned into a renovated undergraduate biochemistry teaching lab designed by Dr. Hannum and Prof. Metallo. The room next to main office, formerly the office of the Academic Executive Assistant, was expanded into the adjoining lab to create an instrument room. Initially this will house new UV-Vis and FTIR spectrophotometer

Project SEED

Corwin Ward has spent two summers in the **Warren lab** under the direct tutelage of **Kevin Murphy** (C'07) and **Ashley Bartell** (C'09) as a participant in the Project SEED program sponsored by the American Chemical Society. Project SEED promotes opportunities in science for minority students from economically disadvantaged households. Corwin has now been accepted at several universities to begin his undergraduate studies, and continues to keep his eye on orthopedics and sports medicine.

Conferences, Talks, and Travels

In July of 2006, **Prof. Travis Holman** co-organized, with Prof. Christopher Cahill of GWU, a symposium on *Metal-Organic Hybrids* at the 2006 Annual Meeting of the ACS in Honolulu, HI. Group members **Stephen Drake**, **Onome Ugono**, and **Sayon Kumalah** also attended and presented at the meeting, earning some well-deserved recognition for their work. In August of 2006, Prof. Holman delivered a keynote address in the *Metals in Self Assembly and Supramolecular Systems* symposium at the 37th International Conference on Coordination Chemistry, in Cape Town, South Africa. Prof. Holman also gave invited talks at the 232nd National Meeting of the ACS in San Francisco (9/06) and the Northeast Regional ACS meeting, in Binghamton, NY (10/06).

Prof. Miklos Kertesz gave an invited plenary talk at the National Meeting of the Electrochemical Society, Denver, CO, May 7-11, 2006 on “Structure, Electronic and Vibrational Properties of Carbon-Chain (Polyne) Filled Carbon Nanotubes”. The talk was based on collaborative work with Jenő Kürti, Viktor Zólyomi, and Georgetown graduate student **Shujiang Yang**.

Prof. Faye Rubinson and the whole **Rubinson group** piled into a car and headed for Hershey, PA this summer where **Anne Kinuthia** and **Kristen Hargett** presented their research at the Mid-Atlantic Regional Meeting. Their posters (“Electrochemical Detection of Neurotransmitters” and “Conducting Polymer Microfiber Electrodes”) stimulated a good deal of interest.

Georgetown Hosts MASIS

Approximately seventy-five regional inorganic chemists converged on Georgetown for the Mid-Atlantic Seaboard Inorganic Symposium (MASIS) on Wednesday August 16. This symposium brought together research groups working on aspects of synthetic inorganic chemistry, very broadly defined, from regional universities including the University of Delaware, University of Maryland - College Park and Baltimore, Johns Hopkins, Howard, George Washington, and Georgetown. Sixteen talks were held during the day, with over thirty posters presented at a poster session deliciously catered with BBQ. The Department supported this event, and we hope that this event will take place again at a regional university in the years to come.

Prof. Jennifer Swift co-organized (with Prof. Margaret Giesen, Jülich Germany) a 2-day session on “Nucleation and Growth in Solution” at the *20th Conference on Crystal Growth and Epitaxy (AACGE/West)* held in June 2006 in Fallen Leaf Lake, CA. She presented two posters at the conference: “Atomic Force Microscopy Characterization of Cholesterol Crystal Dissolution in the Presence of Bile Acid Salts” (co-author **Richard S. Abendan**) and “Conformational Polymorphism in meta-Substituted Diphenyl Ureas” (co-authors **Shoaleh Dehghan**, **Christina A. Capacci**, **Victoria M. Wurster** and **Rupa Hiremath**). Members of the **Swift group** embarked on a road trip to attend the *16th Midwest Organic Solid State Chemistry Symposium*, held in Iowa City, IA on June 9-10, 2006. Four talks were presented: “Solution Aggregates in Ageing Model Bile Solutions Monitored With Dynamic Light Scattering” by **Javier Mart-Rujas**, “Dehydration of Uric Acid Dihydrate Under Different Environmental Conditions” by **Amanuel Zellelow**, and “Polymorphism of meta-Substituted Phenyl Ureas: Parts I and II” by Christina and Shoaleh.

Prof. Tim Warren gave his talk on “Later, First Row Oxo, Nitrene and Carbene Complexes: Insights into Group Transfer Catalysis” at the University of Vermont, the University of Pennsylvania, the University of California at Irvine, the University of California at San Diego, the University of California at Berkeley. Prof. Warren also delivered this talk at the University of North Texas where he visited his collaborator, Prof. Tom Cundari, an expert in the theoretical modeling of organometallic catalysts. In November, Prof. Warren presented “Nitric Oxide Reactivity at Co, Ni, Cu, and Zn: Catalytic Converters to Metalloenzymes” at St. Joseph’s University in Philadelphia.

In India, **Prof. Richard Weiss** spoke on “Molecular Gels. What your parents didn’t tell you about Jell-O” at the Department of Chemistry, University of Delhi, New Delhi, and the Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur, UP. A general interest talk, “Life and Science in the US for High School and College Students”, was presented at Dai-ni Science high School, Kumamoto in Kyushu, Japan to 80 high school students and their teachers. This is a special high school where students take an extensive and intensive science-math curriculum. Also in Japan, he spoke on “Molecular Gels. What are they and how do they form?” as plenary lecturer at the 2nd International Forum on New Waves in Supramolecular Chemistry and Superstructured Materials, Kumamoto University in Kumamoto and at the Department of Chemistry and Biochemistry, Kyushu University in Fukuoka, the Department of Chemistry, Kita-Kyushu University in Kita-Kyushu, and the Nanoarchitectronics Research Center, National Institute of Advanced Industrial Science and

Technology in Tsukuba (Ibaraki). He presented a talk (coauthored by **Carlos A. Chesta**, Jyoti Mohanty, Werner M. Nau, and **Urbashi Bhattacharjee**), “New insights into the mechanism of triplet radical-pair recombination processes. What appears to be in-cage may not be” at the XXI IUPAC Symposium on Photochemistry in Kyoto. In Beijing, China, he presented “New insights into the mechanism of triplet and singlet radical-pair recombination processes” at the Technical Institute of Physics and Chemistry (CAS) and “Structure and Kinetics of Formation of some Molecular Organogels and an Application to Art Conservation” at the Institute of Chemistry (CAS). He spoke on “The ‘Retired’ George Hammond” at the Hammond Memorial Symposium, Bowling Green State University in Ohio. In Brazil at the 29^a Reuniao Annual of the Sociedade Brasileira de Quimica at Aguas de Lindoia, he lectured on “Photochemistry and Photophysics in and of Polymer Films” at a workshop entitled, “A Interacao entre experimento e teoria em fotoquimica,” and gave a plenary lecture on “Structural and Dynamic Aspects of Molecular Organogels.” He spoke on “Geis organicos moleculares. De estudos estruturais e dinamicos a restauração de peças de arte” at the Institutes of Chemistry of the Universidade de Sao Paulo and the Universidade Federal de Rio de Janeiro. He presented a poster (coauthored by Carlos A. Chesta, **Mathew George**, and **Chuping Luo**), “Medium Effects on Zwitterionic-Biradical Intermediates from Two α -Ketoamides in the Solid, Smectic, and Isotropic Phases of a Completely Saturated Phosphonium Salt and in the Solid and Melt Phases of Sorbitol,” and was a member of the scientific organizing committee at the 17th Inter-American Photochemical Society Conference in Salvador, Bahia.

As the Spring 2006 part of his sabbatical, Prof. Weiss spent one month in India at the Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPIMS) in Lucknow, working with Prof. C. L. Khetrpal on NMR investigations of ionic liquid crystals, and at the Department of Chemistry of the Indian Institute of Technology at Kanpur, working with Prof. J. N. Moorthy on photochemical reaction mechanisms. He spent five weeks in Japan, at Kyoto for the XXI IUPAC Symposium on Photochemistry and at Kumamoto University where he was a Visiting Professor. He was in Beijing for one week at the Institute of Chemistry and the Technical Institute of Physics and Chemistry (both of the Chinese Academy of Sciences). During six weeks in Brazil, he was Visiting Professor in the laboratory of Prof. Teresa Atvars at the State University of Campinas, participated in the annual meeting of the Brazilian Chemical Society (Sociedade Brasileira de Quimica) in Aguas de Lindoia, and spent several days at the Institutos de Quimica of the Universidade de São Paulo and the Universidade Federal de Rio de Janeiro. In Salvador de Bahia, he participated in a meeting of the Inter-American

Photochemical Society (I-APS) and in an NSF sponsored workshop on the interface between theory and practice in photochemistry.

In August 2006, Rachel Lerebours of Prof. **Christian Wolf's** group presented a talk about “Cross-coupling Reactions Using Palladium-phosphinous Acids” at the Mid-Atlantic Seaboard Inorganic Symposium in Washington, D.C. Later in August, Shuanglong Liu discussed “Bisoxazolidine-catalyzed Enantioselective Alkynylation of Aldehydes” at the Fifth Annual Georgetown Synthesis Symposium. Also at the Georgetown Synthesis Symposium, Dr. J. K. Natarajan delivered a talk about “Synthesis of New Antimalarial Drugs Derived from Chloroquine,” based on the

continued on page 17

Moasser Chairs 2006 Inorganic Gordon Research Conference

Professor Bahram Moasser chaired the 2006 Inorganic Gordon Research Conference (GRC) that was held in July at the Slave Regina University in Newport, RI. That conference year marked the 75th anniversary of the Gordon Conferences, of which the Inorganic conference has been a part of for more than 50 years. The 2006 Inorganic GRC was noted by many attendees for being one of the most diverse in terms of scientific topics, as well as, the overall profile of speakers and attendees. Talks and posters from the cutting edge of inorganic chemistry were presented and, for the first time, dedicated sessions on *Bioinspired Inorganic Chemistry* and *Biomedical Inorganic Chemistry* were included as emerging areas within the field. The diversity of participants, and the highly interactive nature of the conference, made the 75th birthday of the GRC a special occasion for the Inorganic community.



Prof. Moasser receiving his award from GRC Director Nancy Gray

research of Kekeli Ekoue-Kovi, Kimberly Yearick, and Profs. Paul Roepe and Christian Wolf. Many posters were presented in 2006 with the following group members presenting them:

Ekoue-Kovi; K. A.; Yearick; K. S.; Natarajan; J. K.; Alumasa; J. N.; Roepe; P. D.; Wolf, C. "Development of New Anti-malarial Drugs Derived from Chloroquine," CID Conference, Washington, DC, February 27, 2006.

Ekoue-Kovi, K. A.; Wolf, C. "Suzuki Coupling of Aryl Halides Using Pd-Phosphinous Acid Catalysts," MASIS, Washington, DC, August 16, 2006.

Kekeli Ekoue-kovi, John N. Alumasa, Jayakumar K. Natarajan, Paul D. Roepe, Christian Wolf, and Kimberly S. Yearick; "Development of New Anti-malarial Drugs Derived from Chloroquine," 232nd National ACS meeting, San Francisco, 11 and 13 September 2006.

Yearick, Kimberly S.; Alumasa, John N.; Natarajan, Jayakumar K.; Roepe, Paul; Wolf, Christian; "Systematic Investigation of the Effect of Sidechain Basicity and Length on the Antimalarial Activity of 7-Chloroquinolines," 232nd National ACS meeting, San Francisco, 13 September 2006 .

Prof. **David Yang** traveled to China during June 2006 and gave talks at the Department of Chemistry, Nanjing University, Nanjing, on "Genomics, Proteomics and Combinatorial Chemistry." He also gave two talks at Lutong University, Shandong: one on "Genomics and Proteomics" and another on "Gene assembly, expression, and inhibitor development."

Warren Attends Schrock Nobel Reunion

Prof. Warren attended the "Schrock Nobel Reunion". This was a conference organized by Prof. Schrock's former students to gather at MIT to honor their mentor on the occasion of winning the 2005 Nobel Prize in Chemistry. Prof. Schrock, along with Prof. Grubbs from Caltech and Dr. Chauvin of the French Petroleum Institute, were lauded for their seminal discoveries on olefin metathesis, a valuable reaction for the interchange of C=C double bonds. In addition to giving old and new colleagues an update on chemistry projects, former Schrock students shared real gems of stories from "back in the day" – some not appropriate for print in this family-oriented newsletter! At the end of the event, Prof. Schrock showed off the gold medal and gave a slide show of the grand ceremony that took place in Stockholm in December 2005.



Profs. Schrock & Warren (MIT, Ph.D. '97)

Georgetown Chemistry 50 Years Ago

Alex Slonicki, Ph.D., DACC, FACB, an alumnus Prof. Earley remembers well, wrote to us. He enjoys reading about all the accomplishments of the Chemistry Department, "even though I do not know a soul in the Department presently. In my days, it was a very small Department and it was in a constant turmoil. If I recall correctly, during my tenure of six years, I had 4 to 6 department heads and the rules for graduation were changing almost every semester[...] Most of us had to carry an outside job in order to survive [...]"

Dr. Slonicki's comments provide one recollection of the department predating the arrival of Professors Lou Baker and Michael Pope: "Even if the size of the department was rather small, it had some great teachers: M. X. Sullivan (Harvard 1900) also known as 'cysteine Sullivan' since he was the first person to suggest that sulfur must be in the protein lattice in

order to account for certain configurations; Eugene Kovach, an organic chemist who got his degree under Woodworth at Harvard and was head of the scientific office at the State Department; Martin Rubin who was an inspiration to many organic chemist but I guess was labeled as a 'persona non-grata' by the Department when he moved to the GU Medical Center. Dr. [Bill] Clinton...taught Physical Chemistry and came from the Bureau of Standards. He was also an inspiration to many students since he was very involved with the struggling students who wanted to master thermodynamics."

Dr. Slonicki then called our attention to the passing, Dr. Martin Rubin. He ends his letter with well wishes to our current students and the faculty.

catching up

David Abdallah (Ph.D. '00, Weiss) and his wife, Houda, report the birth of their son, Zachary.

A feature article in Chemical and Engineering News of September 11, 2006 dealt with the research on the colors used in sixteenth-century Venetian paintings that has been carried out by **Barbara Berrie** (Ph.D. '82, Earley), senior conservation scientist at the U. S. National Gallery of Art.

In December 2006, **Kate Campbell** (C'01) received her Ph.D. in Environmental Engineering from Cal Tech. Kate will begin working at the U.S. Geological Survey as a National Research Council Fellow.

Norman V. Duffy (Ph.D. '66, Earley) was named "West Virginia Professor of the Year for 2006" by the Carnegie Foundation for the Advancement of Teaching (http://www.usprofessorsoftheyear.org/POY_Display.cfm?contentItemID=6507&pid=PR_Resources). After receiving his Ph.D. at Georgetown, he served as a NATO fellow at University College, London. Dr. Duffy began his career in academia in 1966 at Kent State University where he worked until 1996. While at Kent State, he achieved the rank of full professor, served as Chairman of the Department of Chemistry, and worked as both an Assistant and an Associate Dean in the College of Arts and Sciences. In 1996, Dr. Duffy joined the faculty of Wheeling Jesuit University as a Professor of Chemistry and Chairman of the Department of Biology and Chemistry.

Zhiqiang He (Ph.D. '91, Weiss) writes that he left King Industries and returned to China four years ago to set up a resin company with a friend. After finishing the plant and starting production about one and a half years ago, he and his partner formed a joint venture with a famous European resin company, Sapici. In the meantime, Zhiqiang's former company, King Industries, lured him away from the joint venture to set up a marketing/technical support base in China. Currently, Zhiqiang has set up a technical lab and is providing marketing and technical service support for King's business in Asia. His wife, Dawei, and his two daughters also returned China about two and a half years ago. They live in Zhongshan, a nice city about one and a half hours away (by ferry) from Hong Kong.



Zachary with his big sister, Hanaa

Dr. **Abul Hussam**, who worked as a postdoctoral fellow in the Martire lab and currently serves an Associate Professor in the Department of Chemistry and Biochemistry at George Mason University, won a one million dollar Grainger Challenge Prize for developing an inexpensive means of

filtering arsenic from well water. His solution to a major health problem is simple, easy to apply, and is being used already in his native Bangladesh. For full details of the story in the Washington Post, please see http://www.washingtonpost.com/wp-dyn/content/article/2007/02/01/AR2007020101874_pf.html.

Elzbieta Kogut (Ph.D. '05, Warren) had a baby girl in April! She, her husband Rahul, and little Maya live in Toronto, Canada.

Andrej Krzan (Ph.D. '96, Horak and Crist) who graduated in 2006 with **Professors Vaclav Horak and DeLanson Crist**, continued his work at the National Institute of Chemistry in Ljubljana, Slovenia



Andrej Krzan & Charlotte C.W. Taft with their son, Benjamin

(www.ki.si), where he is now a senior researcher in the Laboratory for Polymer Science and Technology. He is mainly concerned with the environmental aspects of polymers and plastics and cover plastics recycling, biodegradable plastics, and more recently, the use of renewable resources as a feedstock for polymer production. Andrej is also acting as a consultant to the program on Environmentally Degradable Plastics at the International Centre for Science and Technology in nearby Trieste, Italy, which is a technical unit of the United Nations Industrial Development Organization. Andrej recently married his long-time partner, Charlotte C.W. Taft, also a Georgetown graduate, and in 2005 they were joined by their first-born son, Benjamin.

Katie Mar (C'02) is completing her Ph.D. in Chemistry at University of California - Berkeley and continues to expand her interest in atmospheric science through having attended the "Atmospheric Brown Clouds Training School" in Thailand and the Maldives in December 2006. The program involved spending a week in Bangkok attending lectures about aspects of atmospheric science and a week in the Maldives at a climate observatory learning about radiation and aerosol monitoring instrumentation.

Ellen Priest (Ph.D. '02, Roepe), formerly Ellen Howard, recently married **Chris Priest** (MBA, '02), though they didn't meet while at Georgetown, but instead in New York.

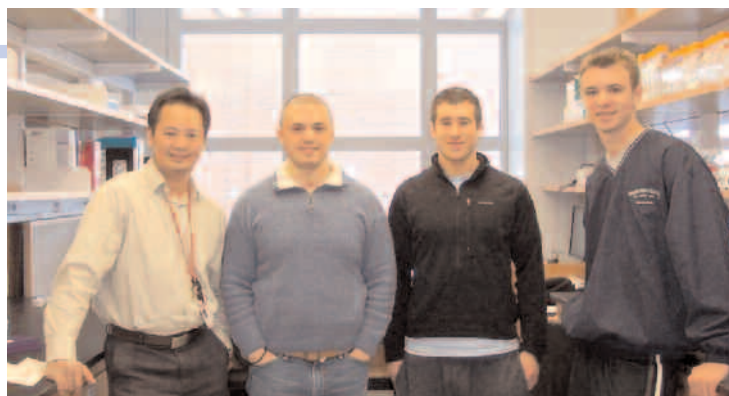
Lyann Ursos (Ph.D. '03, Roepe) was a bridesmaid.

Stefan G. Sarafianos (Ph.D. '93, Kumar) reports that he and his family have adjusted well to his recent move to Columbia, Missouri, where he accepted an appointment as an Assistant Professor in the Department of Molecular Microbiology and Immunology at School of Medicine at the University of Missouri-Columbia. His lab is fully functional, and he writes that "I'm lucky to have recruited an outstanding post-doc (we just got a \$60K fellowship for him), a senior lab technician, nine undergraduate students doing small research projects (four of which are with fellowships) and five graduate students are doing rotations in the lab." He also writes "I am in contact with Uli Kortz [(Ph.D. '95, Pope)] who has been doing great in Germany, and we'll try to collaborate so we can have a good excuse to see each other!" Please visit his website for other professional updates: <http://www.missouri.edu/~mmiwww/sarafianos/ss.php>.

Samantha Smith (C'98) is working at Air Products as part of a two-year MBA leadership development program. Her first assignment is in new business development with assignments following in corporate treasury and corporate finance. Samantha received her MBA from the University of Maryland in 2006, and prior to beginning at Maryland, she worked as a research assistant at Human Genome Sciences in Rockville, Maryland.

Mark Sonnenschein (Ph.D. '87, Weiss) was a 2006 winner of a "R&D 100 Award" from R&D Magazine. These awards are given for the best innovations in science and technology during the year. **Gerry** (M.S. '88, Bates), Mark's wife, and an ex-Georgetown graduate student as well, won a writing award from Alien Skin Magazine (www.alienskinmag.com/Contestwin.htm).

In the Fall of 2006, **Ryan Sours** (Ph.D. '04, Swift) began his appointment as an Assistant Professor in the Department of Chemistry at Towson University in Towson.



Prof. Villamena in his new lab

Hui Chen Wauters (M.S. '02, Weiss) reports that she and her husband, Drake, are the proud parents of Victoria Chen-Silan Wauters, who was born 2 February 2007 at 9:00 am—7.5 pounds and 20 inches. Victoria joins her elder sister, Caterina.

Since completing his studies at Georgetown, **Frederick A. Villamena** (Ph.D. '97, Crist) has resided in 5 different cities (Manila, Cincinnati, Bordeaux, Baltimore, and Columbus, Ohio) and write, "if I have to make a sketch of that on paper, it will remind you of those flight routes that you'll find at the back of airline magazines." Erick has settled into a beautiful 2,700 sq. ft. Queen Anne Victorian house built in 1894 in Columbus and currently is a faculty member at *The Ohio State University*. Erick mentions that "midwesterners like to use 'THE'." Erick began at OSU first as a post doc and then as a research scientist. After only four years at OSU, he has been an author and co-author of 17 papers in diverse journals. His current research interest encompasses theoretical, synthesis, kinetics and in vitro and in vivo experimental applications of newly designed spin traps for the detection of free radicals in biological systems. Recently, as the lead PI, his NIH RO1 proposal was funded (\$1 million, 4 year) with a flattering percentile score of 5.9. Erick indicates that "[a]djusting from physical organic chemistry background to biomedical research could be very difficult but my passion to spin trapping made me overcome such difficulties." With a growing lab (three post docs transitioning and two undergraduates) in a new biomedical research tower building, he has been setting up the lab from scratch. Erick writes that "I am so lucky that I had the opportunity to work with talented and wonderful people in my group."

Recalling his time at Georgetown, he writes "I don't think I would be able to achieve all these without the proper guidance from Lance and from my previous teachers like [Miklos Kertesz], Dick Weiss, and Drs. Horak, De Levie, Earley, and Kulawiec." He credits them with teaching him how to be independent and a critical thinker, and for that he is "truly proud of [his] Hoya education." To remain true to his Georgetown roots and to keep the spirit alive, he watches Hoya basketball and visits the Georgetown Chemistry website.

Chemistry Club News

Hello from your undergraduate chemists and biochemists! This year, due to a fantastically motivated and dedicated group of undergraduate leaders, the Chemistry Club went through a remarkable revitalization. Co-presidents Thuy Nguyen (C'08) and David An (C'09) started the year off by electing a fresh crop of officers, all of whom worked to bring excitement to their respective areas. Luise Hampl (C'08) created tutoring sessions for General and Organic Chemistry students, while Marion Mempin (C'08) coordinated chemistry demonstrations for children at the Georgetown Hospital. The demonstrations ranged from creating oozing "elephant toothpaste" to demonstrating the freezing properties of liquid nitrogen. Kevin Browne (C'08) and Eric Nellis (C'09) were involved in helping fellow undergraduate students become involved with departmental laboratory research and also coordinating special events, and Katrina Heyrana (C'08) began the first-ever program to provide science help and guidance for local elementary school children.

Peter Myers (C'08) & Chris MacKay (C'08) entertaining children with chemistry at GU Hospital



The Chemistry Club also expanded its horizon beyond the gates of the Georgetown campus and met with officers from the Howard University Chemistry Club. Together, they hope to organize events between the two universities and perhaps even arrange for a speaker to talk about career opportunities in Chemistry. With such dedicated members, the Chemistry Club is sure that future years will see continued passion for enjoying their science and helping others.

—Kevin Browne, *Chemistry Club Events Coordinator*

Address Change? News to Share?

Hoya Chimica is our way of keeping in touch with former associates, alumni, and friends—but we can't share the news if we don't have a correct mailing address. Please let us know if your address has changed. We also look forward to hearing about your recent activities and achievements. So drop us a line at the address below or by email to chemalum@georgetown.edu.

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Department of Chemistry
Georgetown University
Box 571227
Washington, DC 20057-1227

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