UNIVERSITY OF ILLINOIS AT CHICAGO
SPRING 2010

THE CHEMICAL BOND

DEPARTMENT OF CHEMISTRY

Table of Contents

EIGHTH ANNUAL ALUMNI EVENT

Thursday, May 13, 2010
Keynote Speaker: Adrian E. Roitberg
of the University of Florida

Seminar Title: Eppur Si Muove: Adventures in Watching Biomolecules Dance

Adrian E. Roitberg

Adrian Roitberg is an Associate Professor in the chemistry department at the University of Florida. He also holds an affiliate position in the physics department. He finished his undergraduate degree (Licenciatura) at the University of Buenos Aires in Argentina. After two years of research in Radiochemistry in Argentina, he joined the chemistry department at the University of Illinois at Chicago as a graduate student from 1989-1992. His PhD advisor was Prof. Ron Elber and he specialized in computational research of biomolecular conformations.

After finishing his PhD, Dr. Roitberg moved north, but not too far, to Northwestern University. He did a postdoctoral stay with Prof. Mark Ratner and performed research in molecular electronics and biomolecular vibrations.

In 1995 he moved to Maryland for a job at the National institute of Standards and Technology. He worked as the lone computational chemist in an experimental group, and was exposed to crystallography and enzymatic techniques. While there, he was active in building a computational group that could support the mission of the institute.

Since 2001, Dr. Roitberg moved to the University of Florida where he currently is an Associate Professor working on the famed Quantum Theory Project. He has published around seventy articles, with eight of them having been cited more than 100 times each. He has graduated six PhD students at UF and has been co-chair of three PhD theses for students in Argentina, where he has been a visiting professor a number of times.

Dr. Roitberg has been a Senior Editor at the Journal of Physical Chemistry of the American Chemical Society for the last two years. He is also a co-PI to a number of international REU programs that send undergraduate students to do research in Argentina, Brazil and France.

UIC UNIVERSITY OF ILLINOIS AT CHICAGO Department of Chemistry
COLLEGE OF LIBERAL ARTS & SCIENCES

PUBLICATIONS

Wonhwa Cho

Denghuang Gong, Matthew D. Smith, Debasis Manna, Heidi Bostic, Wonhwa Cho and Michael D. Best (2009) Microplate-Based Characterization of Protein-Phosphoinositide Binding Interactions Using Synthetic Biotinylated Head Group Analogues, *Bioconj. Chem* 20, 310-6.

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Leslie Fung

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Nanomole-Scale Solid-Sate NMR of Proteins by Breaking Boundaries of Intrinsic ^{1}H T1 Relaxation, Nalinda P. Wickramasinghe, Sudhakar Parthasarathy, Christopher R. Jones, Chhavi Bhardwaj, Fei Long, Mrignayani Kotecha, Shahila Mehboob, L. W.- M. Fung, Jaan Past, Ago Samoson and Yoshitaka Ishii, *Nature Methods* 6, 215-218 (2009).

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Vladimir Gevorgyan

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Robert Gordon

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Luke Hanley

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Compounds I by Photo-Oxidation of Compounds II, John H. Horner, Xin Sheng, R. Esala P. Chandrasena, Rui Zhang, Qin Wang, Martin Newcomb, *ECS Trans.* **2009**, *19*, 71-80.

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Boon K. Teo

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Teo, B. K.; Sun, X.H.; Li, C.P.; Wong, N. B.; Lee, S. T. *Chem. Mater.* **2010**, *22*, 1297-1308, "Observation of Hybrid Carbon Nanostructures as Intermediates in the Transformation from Hydrocarbon Nanotubes and Nanoonions to Carbon Nanotubes and Nanoonions via Sonolysis on Silicon Nanowires and Nanodots, Respectively."

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Duncan Wardrop

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Donald Wink

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"Materials Development for a Research-Based Undergraduate Laboratory Curriculum," by Cianán B. Russell, Anne K. Bentley, Donald J. Wink, Gabriela C. Weaver, *Chemkcal Educator*, 2009, *14*, 55-60.

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“Structure and Reactivity of Alkyne-Chelated Ruthenium Alkylidene Complexes,” by K.-P. Wang, S. Y.Yun, D. Lee,* and D. J. Wink, *J. Amer. Chem. Soc.*, 2009, *130*, 15114–15115.

NEW GRANTS

May 2009–February 2010

Wonhwa Cho

$80,000 from the National Institutes of Health to research "Membrane Targeting by Phosphoinositide-Binding Proteins."

$1,337,917 from the National Institutes of Health to research "Studies of Eicosanoid Biosynthetic Proteins."

Leslie Fung

$128,994 from the National Institutes of Health to research "Novel Antiobiotic Development for Biodefense."

$161,846 from the National Institutes of Health to research "Assembly of Spectrin Isoforms."

Robert Gordon

$72,578 from the Northeastern Ohio Universities College of Medicine & Pharmacy to research "Real Time Imaging of the Aqueous Outflow Pathway by Two-Photon Endoscopy."

$550,000 from the National Science Foundation to research "Coherent Control of Radiationless Transitions"

Petr Král

$125,000 from the National Science Foundation to research "Multiscale Modeling of Molecular Transport in Graphene Nanopores and Nanotubes"

$25,000 from Argonne National Laboratories to research "Computational Studies of Nanocarbon Materials for Catalysis and Energy."

Daesung Lee

$100,000 from the American Chemical Society Petroleum Research Fund to research "New Cycloaddition Reactions of Anionically Activated Dipoles."

Larry Miller

$54,600 from the National Institutes of Health to research "Targeted Lanthanide Contrast Agents for In Cellulo Single Molecule Imaging."

$60,000.00 from Broad Medical Research Program (sub-contract from University of Chicago) to study "Epithelial Myosin Light Chain Kinase Trafficking: A Therapeutic Target in Inflammatory Bowel Disease."

Scott Shippy

$84,849 from the National Science Foundation to research "Nanoactuation and Sensing of Neural Function for Engineering Future Biomimetic Retinal Implants and Therapies"

Michael Trenary

$29,283 from Argonne National Laboratories to research "Electron-Induced Dissociation Mechanism of 2-Butanol Adsorbed on the Pt-111 Surface."

Duncan Wardrop

$152,496 from the National Institutes of Health to research "Screening and Development of Anti-filovirus Entry Inhibitors."

Donald Wink

$3,968,409 from the National Science Foundation to research "Chicago Transformation Teacher Institutes."

2009 ALUMNI EVENT

Held on May 14, 2009, last year's 7th Annual Alumni Event was a huge success.


















CHEMISTRY IN THE NEWS
Faculty Accomplishments

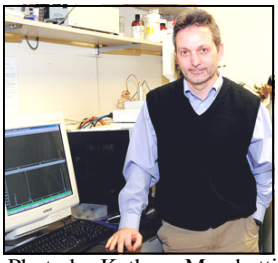


Photo by Kathryn Marchetti

Professor **Vladimir Gevorgyan** was a lecturer at the 4th Negishi-Brown and CAOSS Lectures at Purdue University in October 2009.

Photo by Kathryn Marchetti

Associate Professor **Yoshitaka Ishii** published a paper in *Nature Methods* on a novel method that allows for 5-20 fold acceleration in protein solid-state NMR. It was also highlighted in news sites such as *Nature, Structural Genomics.*

Assistant Professor **Petr Král's** group has received NSF ARRA funding supporting simulations of molecular transport at the nanoscale. Last year, two of his students received their Ph.D.s and have coauthored numerous papers, such as pioneering studies related to guided assembly of grapheme nanostructures, highlighted in *Nature* and 70 other news media. These studies have been presented in several invited talks in the US and Europe. Recently, the group has also built its first supercomputer based on graphical cards that will be used for the modeling of nanomedicine. Dr. Alexey Titov, one of the two recent Ph.D. graduates who is currently has a postdoctoral position at NCSA UIUC, is developing novel codes for programming of such supercomputers.

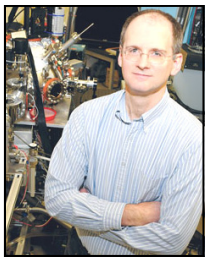


Photo by Kathryn Marchetti

Professor **Luke Hanley** received the 2009 UIC Researcher of the Year award for Natural Sciences & Engineering. He was also named a Fellow of the American Vacuum Society and was recognized at the AVS Awards Assembly in San Jose, CA in November 2009.
Professor Hanley had a feature article, cover art, and podcast in the June 1, 2009 issue of *Analytical Chemistry* journal, as well as a feature article and cover art for the February 2010 issue of the *Journal of Mass Spectrometry.*

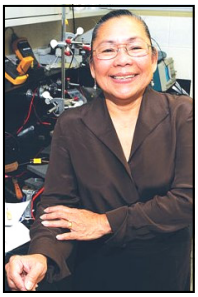


Photo by Kathryn Marchetti

Professor Emeritus **Cynthia Jameson** received a 2010 Senior Science Mentor Award from the Camille and Henry Dreyfus Foundation. She will receive $20,000 to support an undergraduate research project entitled "Modeling and Observation of Molecular Transport Across Model Membranes." She is one of few women to ever receive this award, as well as the first faculty member at UIC to receive this award.

Professor **Tim Keiderling** was named a fellow by the Society for Applied Spectroscopy and will be formally awarded at the FACSS conference in October 2010 in Rayleigh-Durham, NC.

Lecturer **Lee Marek** continues to appear on the *Late Show with David Letterman* for the "Kid's Scientist" segments. He will also be hosting his 12th annual "History of Science" tour in Europe. This year his group will be visiting Italy in Fall 2010.

Professor **Boon K. Teo** has been invited to deliver a lecture in the symposium on "Sonochemistry & Sonoprocessing" (symposium # 247) at the Pacifichem 2010 Conference in Honolulu, HA on December 15-20, 2010. The title of his talk will be "Sonochemistry of Silicon-Based Nanomaterials." He was appointed as Visiting Professor at the College of Chemistry and Molecular Engineering, Peking University, Beijing, China.
He was also appointed as Guest Editor of *Coordination Chemistry Review*'s Special Peking University Issue entitled "Novel and Smart Materials: Design, Synthesis, Structure, Properties, and Applications"

Professor **Duncan Wardrop's** publication on "Intramolecular Oxamidation of Unsaturated O-Alkyl Hydroxamates: A Remarkably Versatile Entry to Hydroxy Lactams" was featured on the cover of the February 3, 2010 issue of the *Journal of the American Chemical Society.*

Lecturer **Neil Miranda** received a 2010 Silver Circle Award for Excellence in Teaching. Dr. Miranda previously received a Silver Circle Award in 2007. The recipients of the award are voted on by graduating seniors.

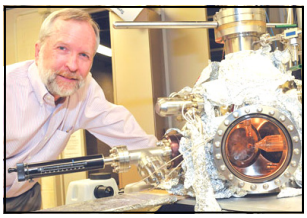


Photo by Roberta Dupuis-Devlin

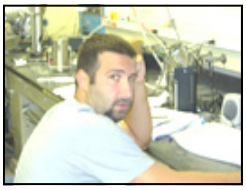
Professor **Michael Trenary** was named a fellow by the American Association for the Advancement of Science and was honored at an AAAS meeting in February 2010 in San Diego, CA.

Professor **Donald Wink** presented testimony to the US Congress on July 30, 2009 describing the ways in which UIC impacts K-12 Science, Technology, Engineering, and Mathematics teaching, part of a hearing on "A Systems Approach to Improving K-12 STEM Education."
In December 2009, he was the PI on a $5,000,000 five year grant from the National Science Foundation to reform the teaching of math and science at Chicago Public High Schools. He will be working with professors from UIC, the Illinois Institute of Technology, Depaul, Loyola Chicago, and Northwestern University to form the Chicago Transformation Teacher Institutes.

Graduate Accomplishments

Andrea Antoniou (Advisor Leslie Fung) placed third in the Physical Science and Engineering category at the UIC Student Research Forum.

Gerald Gasper (Advisor Luke Hanley) won a Baxter Innovation Award for his work in microscopy and imaging from Deerfield-based Baxter International.



Peter J. Koin (Advisor Luke Hanley) has been hired as Assistant Chief Toxicologist of the Cook County Medical Examiner's Office. He is currently writing his Ph.D. thesis in Bioengineering.

Yuanli Song (Advisor Leslie Fung) won first place at the Chicago Section of the Society for Applied Spectroscopy poster competition.

Undergraduate Accomplishments

Aunica Jones (undergraduate research with Prof. Leslie Fung) won an LAS Undergraduate Research Initiative Award for using affinity chromatography to purify different enzymes targeted for drug development. Aunica also placed third in the Life Sciences category at the UIC Student Research Forum in April.

Mallory McLaughlin (undergraduate research with Prof. Leslie Fung) received a Kabbes Undergraduate Research Award for using a recently published E. coli two-hybrid method with fluorescent detection to study the binding of brain proteins to spectrin.

Mohini Pathria (undergraduate research with Prof. Leslie Fung) received a Kabbes Undergraduate Research Award for her work on designing a model protein to study the formation of functional brain spectrin tetramers.

Mary Youkhana (undergraduate research with Prof. Leslie Fung) received the Caterpillar Undergraduate Research Award for her work on mutant spectrin as a means to understand the interactions between the subunits of this protein.

Postdoctoral Accomplishments

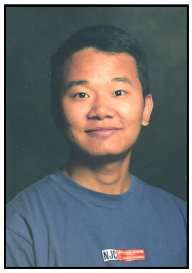
Alexander Uhl (Advisor Michael Trenary) received a Deutsche Forschungsgemeinschaft (DFG) postdoctoral fellowship in September 2009.

Daniel Asunskis (Advisor Luke Hanley) has been hired as a tenure-track Assistant Professor of chemistry at Black Hills State University in South Dakota.

Alumni Accomplishments

Chloe Antoniou (PhD 2009, Advisor Leslie Fung) is a postdoctoral scholar in the Biochemistry and Molecular Biology Department at the University of Chicago.

Erick Fuoco (PhD 2003, Advisor Luke Hanley) has been elevated to to Department Chair in the Physcial Sciences Department at Richard J. Daley College in Chicago.

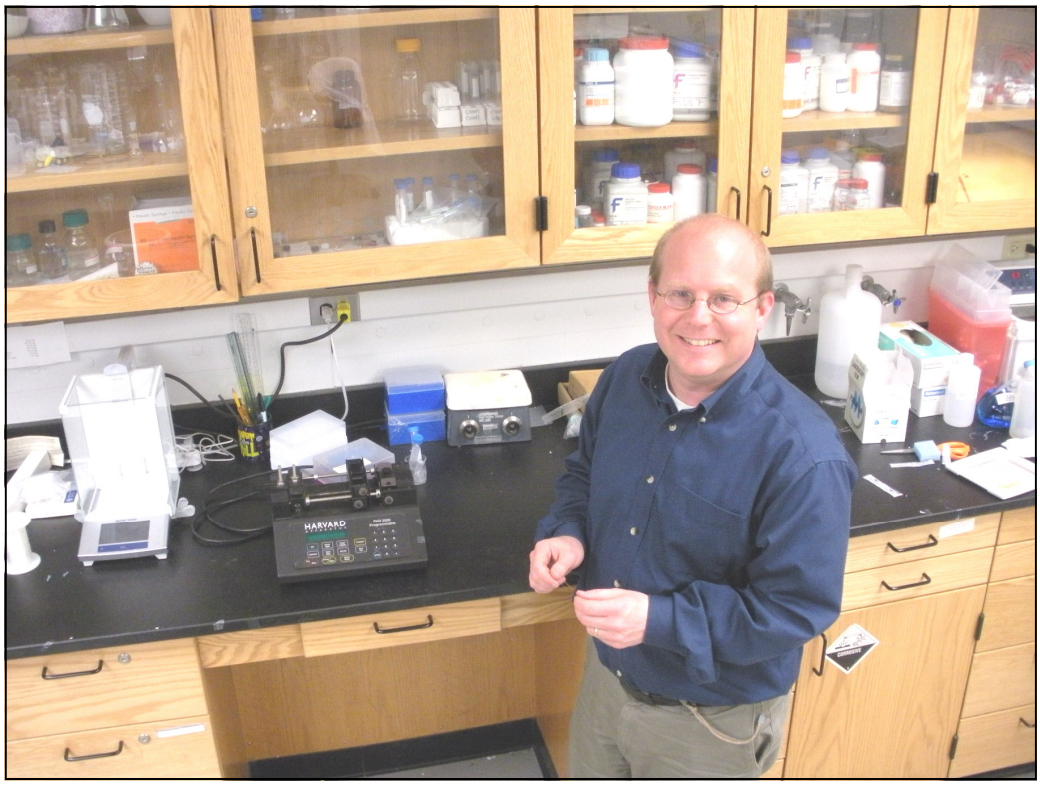


Qufei (Francis) Li (PhD 2008, Advisor Leslie Fung) is a postdoctoral scholar in the Biochemistry and Molecular Biology Department at the University of Chicago.

Thomas Lothian (Professor Emeritus) will retire at the end of his term from his position as a Wisconsin State Representative for the 32nd Assembly District. He was first elected to the assembly in 2002.

Adam Zachary (PhD 2009, Advisor Luke Hanley) was hired as a Contractor Chemist by the United States Environmental Protection Agency in Chicago.

FACULTY PROFILE
Associate Professor Scott Shippy



Scott Shippy is interested in developing methods and tools of chemical analysis that can be used to understand how cells communicate in living tissues. His primary work has been the development and use of the low-flow push-pull perfusion system to infuse and withdraw nanoliter volumes of biological fluids from the brain and retina of rats and mice. The chemical content of these perfusates is determined with nanoliter-compatible methods such as capillary electrophoresis and mass spectrometry. The quantification of amino acids that serve as neurotransmitters or metabolites of physiological nitric oxide are used to better understand feeding behavior and the effects of diabetes on the retina. In one collaborative project with UIC faculty in Mechanical and Industrial Engineering and Ophthalmology and Visual Science funded by the NSF he is working on a retinal prosthesis device that will deliver nanoliter volumes of neurotransmitter solutions to the retina in response to light stimulation.

A recent addition to Dr. Shippy's small volume sampling and analysis tools are the establishment of techniques to collect hemolymph or blood from individual fruit flies (*Drosophila melanogaster*). In collaboration with UIC neurobiology faculty he studied hemolymph amino acid in larval flies with mutated glutamate-cystine transporters which appear to regulate hemolymph glutamate levels and to lead to fly bisexual behavior. The ability to collect single nanoliter hemolymph samples from adult flies and repeated sampling from the same fly promise to lead to increased use of chemical measurements with the fruit fly model which often plays ground breaking roles in research into understanding and improving human health.

FACULTY PROFILE
Associate Professor Duncan Wardrop

Duncan Wardrop joined the Chemistry Department in August 1997 as an Assistant Professor of Organic Chemistry having received his B.Sc. (Hons) and Ph.D. from the University of Glasgow in Scotland. In the interim, he was a postdoctoral research associate at Oregon State University with James D. White where he worked on the total synthesis of the marine natural products antillatoxin and polycavernoside.

Work in the Wardrop laboratory is focused on Organic Chemistry and specifically, on the development of new strategies and methods for the synthesis of highly functionalized natural products and compounds with useful pharmacological properties. Current areas of interest include the chemistry of electron-deficient, divalent reactive intermediates, including nitrenium ions and alkylidenecarbenes and also the development of antiviral agents for the prophylaxis of haemorrhagic fevers, such as that caused by the Ebola virus. With regards to the latter project, the Wardrop lab has recently discovered a potent, selective inhibitor of this highly pathogenic virus, which blocks its entry into human cell lines. Work is now underway, in collaboration with the UIC Department of Microbiology to elucidate the mode of action of this important molecule.

LECTURER PROFILE
Melita Balch

I received my B.S. in chemistry, *summa cum laude*, from Florida International University and my M.S. and Ph.D. in physical chemistry from The University of Chicago, where I worked with Laurie Butler on crossed laser - molecular beam experiments on photodissociation dynamics. As a post-doc, I worked at Argonne National Laboratory with Branko Ruscic on photoionization experiments and construction of the Active Thermochemical Tables (ATcT). I still collaborate with Dr. Ruscic and am now working on adding the actinide compounds to ATcT.

My primary interest, however, is teaching and interacting with students, and if possible, getting them excited to think about and learn chemistry. I teach general chemistry (Chem 112 and 114) at UIC and I am the director of the Science Learning Center, where TAs for introductory classes in chemistry and physics hold office hours and I run a peer-led study group program that also targets the students in these large and difficult science courses. Organizing the peer-led study group program allows me to get to know the star students from my classes much better and I get to see first-hand their progress towards their academic goals. My first set of such students just graduated last year. In addition, the students of UIC's chemistry club, the Alchemy Society, are a wonderful, bright and motivated group of students that I am proud to be associated with in the role of faculty advisor. Outside of work, I enjoy spending time with my family and animals, running every day and riding my horses (eventing).

UNDERGRADUATE PROFILE
Kathleen Richert

The Department of Chemistry would like to highlight one of our outstanding undergraduate students, Kathleen Richert. She is a member of the Alchemy Society and has done undergraduate chemistry research in Professor Tom Driver's laboratory.

How did you first become interested in chemistry?

I have heard my supervisor, Professor Driver, say, "You'll like chemistry if you like doing puzzles," and since then, I have known that I want to be a chemist – predicting the product that will form from interacting substrates together. In my spare time, I am one to play Sudoku, challenging myself to focus and find the final product. This same focus and determination is required in research; it suits my skills and my love of competition.

Exposure to organic chemistry was what encouraged me to reconsider my future aspirations. Prior to this course, I pictured myself majoring in biology - studying cells and plants - followed by a career in pharmacy. However, after studying mechanisms and synthesis processes in organic chemistry, my interest in chemistry was sparked. As a result, I declared a major in chemistry and accepted a research position with Professor Tom Driver. Whether I am using chromatography to purify compounds produced in a reaction or analyzing samples using NMR spectroscopy, spending time in his research lab has encouraged me to work towards earning a Chemistry PhD. With this I plan to do research in the pharmaceutical industry, evaluating effects of medications or developing new drugs.

What sort of research have you worked on as an undergraduate?

The subject that the Driver lab group tries to unravel is the transformation of simple, readily available substrates into functionalized molecules, using pure, timely, and high-yielding techniques that are ideal for medicinal drug synthesis. By being involved in this research, my knowledge of chemistry has surpassed the boundaries of undergraduate organic chemistry and my desire to be challenged is satisfied. My research projects have involved the investigation of possible mechanisms that take place with the formation of new carbazoles and the exploration of new methods to synthesize them. The group produces efficient processes that pharmaceutical companies may use in manufacturing. The thrill that research brings to the group as we search for better synthetic methods keeps us driven to persevere. It is exciting to be the first to discover a reaction that works to form a certain organic substrate, and to exchange "high-fives" in the lab. Research continues to play a major role in my education and in developing my character because it involves working independently and with graduate students, building my patience while testing new ideas, applying academic course concepts, and using determination to complete a project. In research, I am immersed in the world of unknowns, facing the wide realm of scientific possibilities that can improve society.

Are there any particular chemistry professors who have motivated or inspired you?

My supervisor, Professor Tom Driver, who I met as a sophomore in my organic chemistry 1 course, has been an inspiration to me. I was fortunate to live in James Stukel Towers, where he was a faculty in residence and where he held review sessions twice a week. From attending these sessions, Professor Driver saw potential in me and encouraged me to major in chemistry and join his research group.

Professor Melita Balch was also a motivator for me to become more involved with the Alchemy Society on campus, through which I have been able to interact with more chemistry department faculty and peers. By leading lab tours with the club, I've witnessed research occurring in other lab groups besides the one I work in. This has inspired me to share in the excitement of finding new discoveries in this field.

What awards/scholarships have you won while at UIC?

Herbert Paaren Award 2008 & 2009 for summer research funding, Peterson Scholarship 2009 for summer research funding,
Nachtrieb Award 2008 for showing promise in the sciences, Honors Council Award 2008 for honors work (nominated by Professor Driver),
Caterpillar & Kabbes Award 2009 for honors research, Walter & Mary Knorowski Scholarship 2009 from LAS.

What are your career goals?

I plan to pursue my interest of applying organic chemistry toward the study of medicinal problems as I attend University of California, Irvine's Medicinal Chemistry and Pharmacology program. I want to work with a pharmacology department as a research chemist, inventing a drug to cure an illness affecting patients worldwide. Discovering how the body works and ways to improve it with medicinal creations is what will inspire my future research.

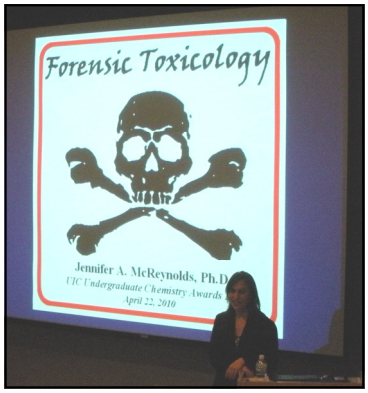
How has your undergraduate work at UIC helped to prepare you for those career goals?

Organic chemistry research and volunteering at Rush University Medical Center have enlivened my academic experiences and have drawn me into exploring medicinal chemistry. No longer am I only staring at my organic book but am looking through my safety goggles at bubbling acid-base reactions. No longer am I only hearing about painful arthroscopic surgeries in Anatomy & Physiology, but I am pushing the wheelchair for a patient leaving the hospital after surgery or seeing an improved quality of life for a patient after practicing music medicine. By living down the street from a major medical district, I was able to take advantage of familiarizing myself with the medical community as a special services volunteer and volunteer pianist in the psychiatric and oncology units as part of an honors college music therapy and medicine seminar. Besides taking advantage of the local medical district, I took became involved with the captivating UIC chemistry department research. This gave me the opportunity to make an impact in the field of chemistry by contributing more knowledge of organic synthesis processes in the research I completed. Using my services to improve the medical and chemical communities has enhanced my sense of self – strengthening my identity as a patient, attentive, determined hard worker. I have applied concepts I learned in the classroom to improve myself and the community.

2010 Undergraduate Awards Day

Dr. Jennifer McReynolds

Our 2010 Chemistry Undergraduate Awards Day was held on Thursday, April 22nd. The keynote speaker, Dr. Jennifer McReynolds gave a seminar entitled "Forensic Toxicology." Jennifer McReynolds received her Ph.D. from the UIC Chemistry Department in 2004 under the academic advising of Professor Scott Shippy. Her research involved the utilization of multiplexed detection methods for microchannel and capillary electrophoresis. After defending her thesis, Dr. McReynolds took the position of Assistant Chief Toxicologist, and later Interim Chief Toxicologist, at the Cook County Office of the Medical Examiner. Her presentation described her experience managing the toxicology laboratory and will highlight relevant case work. In 2008, Dr. McReynolds became a forensic chemist.



Edward G. Rietz Award (Outstanding Graduate in Chemistry)	**Wai Yip Lo**
Edward G. Rietz & Stanley K. Shapiro Award (Outstanding Graduate in Biochemistry)	**Lisa Zhang**
Benjamin B. Freud Award for Scientific Excellence	**Ryan Nolan**
Leonard Kotin Award for Physical Chemistry	**Keith Patel**
Norman Nachtrieb Award for Scientific Promise	**Shaun Fernandes**
ACS Undergraduate Award in Analytical Chemistry	**Jennifer De Las Casas**
Ronald J. Baumgarten RJB Award for Outstanding Students of Chemistry	**Carl Vogel**
Merck Award for Outstanding Performance in Organic Chemistry	**Henry Chan**
Outstanding Performance in Honors General Chemistry	**Aimee Bobko**
Outstanding Performance in General Chemistry	**Hakan Ogutcu & Francis Antony**
Herbert E. Paaren Scholarships	**Keith Patel, David Smith, Duc Quynh Ho**
Herbert E. Paaren Summer Research Stipend	**Irina Yzieri, Jennifer Martinez, David Smith**
Gilbert Peterson Summer Research Stipend	**Kevin Meaux**
Elected to Phi Beta Kappa:	**Junyu Zhang, Wai Yip Lo, Ryan Nolan, Brian Wright, Asha Kalichira, Navin Kesari, Basmah Khalil, Zara Osman, Steven Weng, Lisa Zhang**

THE ALCHEMY SOCIETY

Alchemy Society members with guest speaker Dr. George Papadantonakis.

The Alchemy Society, a student affiliate chapter of the American Chemical Society, welcomes anyone who has an interest in science, research, leadership, and volunteering. Initiated in Spring 2007 with only 10 members, it has grown to over 60 members with majors ranging from statistics to bioengineering. The club is not limited only to chemistry majors!

With UIC being a commuter school, the organization provides its members a cozy 24 hour study room in the heart of the chemistry department (4142 SES). A tutoring service as well as study sessions for various chemistry courses is also available to members. Not only does the Alchemy Society strive to build a closer community by forming closer ties between members and the faculty, but it also acts as an outreach to other opportunities ie. visits to national research laboratories.

Join and become a tutor, get closer to a faculty member, or find a research opportunity.
Those who are interested can find more on the website at www.chem.uic.edu/alchemysociety or send an email to UIC.AlchemySociety@gmail.com.

CONGRATULATIONS Ph.D.s

Brian Page
Advisor: Wonhwa Cho
Date of Defense: 6/08/09

"A New Methodology for Quantitative and Spatiotemporal Sensing of Key Signaling Lipids"

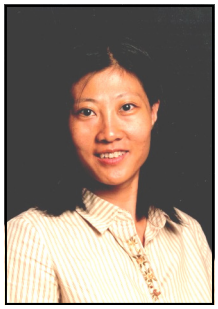
Miao-Jen Lu
Advisor: Scott Shippy
Date of Defense: 6/11/09

"Microliter to Nanoliter Scale Amino Acid Assays of Eye Fluids"

Panchatapa Jash
Advisor: Michael Trenary
Date of Defense: 7/24/09

"Synthesis, Characterization and Spectroscopic Studies of Some Boron-Containing Hydrogen Storage Materials"

Jianxia Kang
Advisor: Leslie Fung
Date of Defense: 8/19/09



"Important Residue (G46) in Erythroid Spectrin Tetramerization"

Adam Zachary
Advisor: Luke Hanley
Date of Defense: 9/14/09

"Cluster Beam Deposition of Nanoparticles in Organic Matrices for Optoelectronic Applications"

Sima Singha
Advisor: Robert Gordon
Date of Defense: 9/18/09

"Controlling Material Transformation and Phonon Oscillation with Trains of Femtosecond Laser Pulses"

CONGRATULATIONS Ph.D.s

Alexey Titov
Advisor: Petr Kral
Date of Defense: 10/02/09

"Modeling the Self-Assembly of Nanoscale Systems with Inorganic and Biological Components"

Chloe Antoniou
Advisor: Leslie Fung
Date of Defense: 10/07/09

"Conformational Changes of Helix C' of Erythroid Alpha Spectrin Upon Binding Beta Spectrin"

K.G.D. Aashani Tillekaratne
Advisor: Michael Trenary
Date of Defense: 10/26/09

"Spectroscopic Characterization of theDehydrogenation of Boron Hydrides on Pt(111)"

Chris Jones
Advisor: Leslie Fung
Date of Defense: 10/29/09

"Structural Studies of Amyloid Peptides by Solid State Nuclear Magnetic Resonance"

Sujeewa Piyankarage
Advisor: Scott Shippy
Date of Defense: 12/02/09

"Nanoliter Sampling and Analysis of D. *melanogaster* Hemolymph"

Sachin Tyagi
Advisor: Robert Moriarty
Date of Defense: 2/19/10

"New Insights into Synthetic Applications And Mechanisms of Halonium Ylide Reactions"

James Jones
Advisor: Michael Trenary
Date of Defense: 3/16/10

"Reactions and Synthesis of Isocyanate on Pt(111)"

CONTACT INFORMATION

Professors

Laura Anderson (Assistant Professor)	lauralin@uic.edu
Richard Burns (Associate Professor)	rpburns@uic.edu
Wonhwa Cho (LAS Distinguished Professor)	wcho@uic.edu
Tom Driver (Assistant Professor)	tgd@uic.edu
Leslie Fung	lfung@uic.edu
Vladimir Gevorgyan	vlad@uic.edu
Robert Gordon (Professor & Head)	rjgordon@uic.edu
Luke Hanley	lhanley@uic.edu
Yoshitaka Ishii (Associate Professor)	yishii@uic.edu
Timothy Keiderling	tak@uic.edu
Petr Kral (Assistant Professor)	pkral@uic.edu
Daesung Lee (Associate Professor)	dsunglee@uic.edu
Lawrence Miller (Assistant Professor)	lwm2006@uic.edu
Jung-Hyun Min (Assistant Professor)	jhmin@uic.edu
Martin Newcomb (LAS Distinguished Professor)	men@uic.edu
Scott Shippy (Associate Professor)	sshippy@uic.edu
Preston Snee (Assistant Professor)	sneep@uic.edu
Boon K. Teo	boonkteo@uic.edu
Michael Trenary	mtrenary@uic.edu
Duncan Wardrop (Associate Professor)	wardropd@uic.edu
Donald Wink	dwink@uic.edu

Professores Emeriti

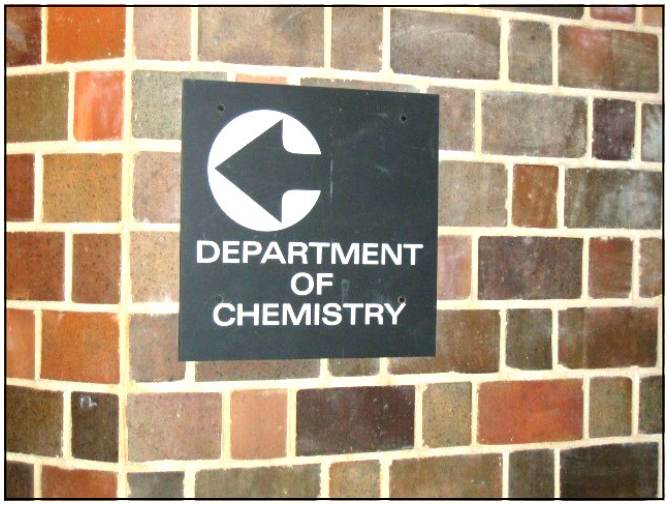
Richard L. Carlin	magneto@uic.edu
Wade Freeman (Associate Professor)	wfreeman@uic.edu
Eric Gislason	gislason@uic.edu
Cynthia Jameson	cjjames@uic.edu
Jacques Kagan	jkagan@uic.edu
Richard Kassner	rkassner@uic.edu
Pierre Lebreton	lebreton@uic.edu
Thomas Lothian (Assistant Professor)	none
Clifford N. Matthews	none
Robert Moriarty	moriarty@uic.edu
John Morrison	morrison@uic.edu
Eva Rocek (Assistant Professor)	none
Jan Rocek	rocek@uic.edu
Robert I. Walter	none
Paul (Bob) Young	pyoung@uic.edu

Department

Website:	www.chem.uic.edu
Phone:	312-996-3161
Fax:	312-996-0431
Address:	University of Illinois at Chicago Department of Chemistry (MC 111) Science and Engineering South 845 W Taylor St, Room 4500 Chicago, IL 60607-7061

Lecturers

Melita Balch	mlmorton@uic.edu
Audrey Hammerich	audreydh@uic.edu
Jasmina Hranisavljevic	jashrani@uic.edu
Gregory Jursich	jursich@uic.edu
Chad Landrie	clandr1@uic.edu
Lee Marek	lmarek2@uic.edu
Neil Miranda	nmiranda@uic.edu
George Papadantonakis	gpapad3@uic.edu
Robert Widing	bwiding@uic.edu



Newsletter designed by Jennifer Kazin