



Chemistry

INTERNATIONAL
YEAR OF CHEMISTRY

Newsletter of the Department of Chemistry, Illinois Wesleyan University • Fall 2011

Greetings from the Chemistry Department!

We're pleased to introduce this latest version of our newsletter. Through it we hope to stay in closer contact with you our alumni and provide a way for you to stay in contact with your classmates and colleagues. We look forward to sending you news about the department and you, our alumni, each semester and we welcome your contributions. Our current students are inspired by the diversity of your careers, your interests and the significant contributions you are making in the workplace and your communities. This fall, the department is delighted to welcome a new colleague, Dr. Manori Perera, and 23 enthusiastic first-year students as Chemistry majors. As you have opportunities to return to Bloomington, we invite you to visit campus, reconnect with faculty, and meet our exceptional students. You can also stay in touch with us on the Web at www.iwu.edu/chemistry or find us on facebook.

Best regards,

Rebecca Roesner, chair

Faculty and Department News

Mohan Honored by Chemical Society

Dr. Ram Mohan (organic chemist) was named "Chemist of the Year" by the Illinois Heartland Section of the American Chemical Society. More recently he received an ACS-PRF grant in the amount of \$65,000 to develop synthetic methodology using iron (III) compounds as catalysts.



Roesner Brings Back Crystallography Skills

Dr. Becky Roesner (inorganic chemist) was on sabbatical in Fall 2010. She spent her time at the University of Illinois Urbana Champaign learning X-Ray crystallography techniques. She hopes to use this newly acquired skill in her research, and also to introduce new experiments into Chem 380 labs.

Perera Joins Chemistry Faculty

Dr. Manori Perera received her undergraduate degree in chemistry from University of Denver, and her PhD in Chemistry from University of Massachusetts, Amherst. She then joined the University of Illinois Urbana Champaign as a postdoctoral fellow. Dr. Perera is teaching General Chemistry and Quantitative Analysis this fall and has already involved junior chemistry major Andy Sonnenberger in her research in astrochemistry.



Summer Research Opportunities



Through student and faculty initiative a growing number of students are participating in summer research at IWU. A group of students who conducted research in the IWU chemistry

laboratories during the summer of 2010 also traveled with faculty to Indianapolis to tour Lilly Pharmaceuticals and relax at the zoo.

Summer Research Leads to McKnight Prize Finals

Matthew Bockman '12 has been named a finalist for the McKnight Prize for Undergraduate Chemistry, which is awarded by Southwestern Medical Center in Dallas and is considered one of the nation's top awards. Bockman's summer research, which was supported by a National Science Foundation stipend, is a major reason why Professor Ram Mohan nominated the biology major.



"We are extremely proud of Matt and the fact that a biology major could compete for a top prize in Chemistry," said Mohan. "Matt and other talented students were able to take part in our summer research program, because of an NSF grant. However, we can't rely on such external funding to be available every year, which is why summer research is a priority of the *Transforming Lives* fund raising campaign."

Alumni News — More alumni news on page 3

Erin Anderson (Class of 2007) is now a graduate student in Professor Boger's laboratory at The Scripps Research Institute. While at IWU Erin worked in Dr. Mohan's laboratory. Erin was the recipient of the Iota Sigma Pi award given to undergraduate women for excellence in chemistry. Only one such award is given in the entire US per year. Previously, Laura Wieland (2002) was the recipient of the same award. It is a rare feat for any school to have two winners of such a prestigious award.

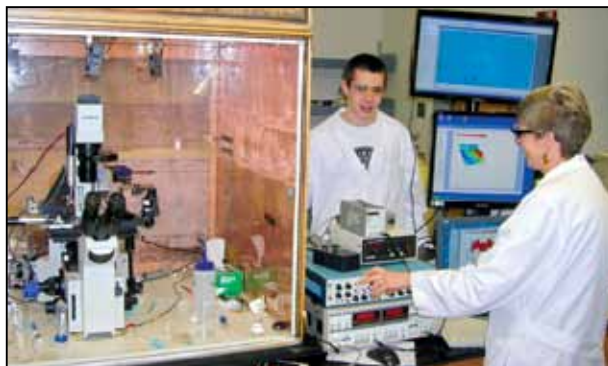


Exciting Research Taking Place

Dr. Brian Brennan is seen working with **Jeremy Henle** (Class of 2011) and **Liz Sonta** (Junior Chemistry Major). Research in the Brennan group is focused on finding a cure for sickle cell disease. Students in this laboratory learn both solid phase peptide synthesis techniques and basic molecular biology. Jeremy is now a graduate student at University of Illinois Urbana Champaign while Liz plans on attending Medical school.



Dr. Melinda Baur is seen working with **Aaron Moore** (Senior Chemistry Major). Aaron is preparing for a career in medicine. Research in the Baur group is focused on understanding cellular damage due to oxidation. They use Scanning Electrochemical Microscopy (SECM) to study the effects of oxidative damage on cells such as neurons. Such damage has been observed in neurodegenerative diseases such as Parkinson's disease and Alzheimer's disease.



Veronica Angeles (class of 2011) is explaining her poster at the Annual John Wesley Powell Research Conference. Typically, 15 chemistry students present their work at this conference each year. Veronica is currently pursuing her PhD in synthetic organic chemistry at Ohio State University. At IWU, she worked in Dr. Mohan's group on developing green organic synthesis. During this time she coauthored two manuscripts in Tetrahedron Letters and also presented her work at a national meeting of the American Chemical Society in Washington DC.



Jeremy Henle (class of 2011) started at IWU as a biology premed but he liked organic chemistry so much that he switched to the chemistry major. He worked in Dr. Brennan's lab for two years and was the recipient of the Scholastic Collegiate Award from the Illinois Heartland section of the American Chemical Society. Jeremy is currently pursuing his PhD in bio organic chemistry at The University of Illinois Urbana Champaign.

Summer Undergraduate Research Fund

Spending the summer in a research lab might not sound very appealing to some, but to the serious science students at Illinois Wesleyan nothing could be more important or exciting than working with a faculty member on a research project.

"When Dr. Mohan approached me and asked if I was interested in doing research, I was planning on medical school and actually had no idea what academic research was. That research experience changed the entire course of my career. As a second year graduate student at Minnesota in medicinal chemistry, many of my peers are envious and impressed with the research experience I was given at Wesleyan."



Maggie Olson '10

The goal of the Summer Undergraduate Research Fund is to expand opportunities for students to collaborate with faculty on summer research projects.

"The stipend I received was definitely a factor in choosing to do research over the summer. If there was no stipend, I probably would have looked elsewhere for a research opportunity or simply found some work at home. The research I took part in with Professor Mohan will be one of the experiences I value highly when looking back on my academic career at Illinois Wesleyan University."



Jacob Starceвич '13

To learn how you can help chemistry students to benefit from the Summer Undergraduate Research Fund, contact the Advancement Office at (800) 689-9743.



Transforming Lives

THE CAMPAIGN FOR
ILLINOIS WESLEYAN UNIVERSITY

News and Updates from our Alumni

Dr. Jose Elizondo (1986) is now chairing the Department of Family Medicine at Advocate Illinois Masonic Medical Center in Chicago. Dr. Elizondo returned to campus last year to give a career talk at a chemistry club meeting. Dr. Elizondo's selfless dedication to his patients makes him an inspiring role model for our pre-medical students.



Elizondo Chairs the Department at Illinois Masonic Medical Center

is used mostly in cardiovascular surgery but also in trauma, orthopedic surgery, and ER applications.

2000 Susanna Widicus Weaver is an Assistant Professor of Chemistry at Emory University in Atlanta, GA. She lives in Decatur, GA, with her husband Jeremy (a Chemistry Lecturer at Emory), and their cat. Her astrochemistry research was highlighted in the November, 2010, issue of Discover Magazine. She was also recently awarded observing time using the Herschel Space Observatory. More information about her research, links to her groups' publications, and press releases about her work can be found at: <http://chemistry.emory.edu/faculty/widicusweaver/index.html>.

2001 Steve Tymonko received his PhD from the University of Illinois in 2007 where he worked on organosilicon cross-coupling in Prof. Scott Denmark's laboratory. He has spent the past 4 years in chemical development (process chemistry) at Bristol-Myers Squibb in New Brunswick NJ where he is currently Sr. Research Investigator. His work involves developing synthetic routes to new potential drugs and providing kilogram quantities of the drug candidates for use in clinical trials.

2002 Bryce Nattier finished his general surgery training from the Medical College of Georgia in Augusta, GA. He just joined the faculty at Wright Patterson Air Force Base in Dayton, OH, which is affiliated with Wright State University. Bryce and his wife Natasha now have 3 children Elli age 5, Andrew age 3 and Sofia age 10 months.

2002 Laura (Wieland) Brown just finished her post-doc (with Dr. Jon Clardy at HMS) and is now a faculty at Indiana University. She is also eagerly awaiting her visit to IWU this homecoming. Laura is our speaker at the Natural Science Colloquium Series.

2003 Dr. Marc Carrigan just finished a family medicine residency in Wichita, Kansas. He is now starting a one year International Family Medicine Fellowship which includes 5 months of service in Niger, Africa. He is married to Stephanie Carrigan and they have 2 children, Eli (2 years) and Hailey (9 months).

2004 Joe Binder completed his PhD in 2009 from University of Wisconsin Madison. He worked there in the laboratory of Professor Ron Raines and developed organometallic catalysts for protein chemistry and on the chemical conversion of biomass into fuels and processes for making biofuels.

Joe currently works for BP Biofuels at the Energy Biosciences Institute at UC-Berkeley. Joe reports that his job includes both the expected — "development of chemical processes for making biofuels" and the unexpected — "studying the composition of bioenergy crops and influencing our decisions on crops and agricultural production systems." Joe says he never anticipated that his studies at IWU would lead him to tromping around cane fields in central Florida in the heat of the summer!

2005 Katie Peterson completed her Masters (2007) in Medicinal Chemistry at Purdue University in West Lafayette, IN. She is currently employed at Abbott Laboratories in the greater Chicago area where she is a formulation scientist within drug development. Katie will be attending the University of Iowa in the fall to pursue a PhD in Chemistry with a focus on crystallization engineering. Most recently in June 2011, she published her graduate work from Purdue in the *Journal of Medicinal Chemistry*.

2010 Scott Krabbe is a first year graduate student in Professor Jeffrey Johnson's laboratory at The University of North Carolina Chapel Hill. He is currently working on the copper(II) catalyzed synthesis of hydroperoxides and their utilization in subsequent transformations. Scott was selected as a National Science Foundation Graduate Research Fellow. This fellowship will provide three years of support during his graduate studies. While at IWU, Scott co-authored five manuscripts including a comprehensive review on the use of bismuth(III) compounds as catalysts in organic synthesis.

Year of Graduation

Update

1974 Jim Olson is a Professor of Pharmacology and Toxicology at The University of Buffalo. Jim Olson's research has taken him to the Nile River delta, north of Cairo Egypt, to study Egyptian agricultural workers that have been shown to have significant exposures to chlorpyrifos, a widely used organophosphorus (OP) pesticide. As part of a multidisciplinary team, his lab is studying biomarkers of human exposure/effect and susceptibility to chlorpyrifos.

1985 Jonathan Lance is settled in new Delhi, India and is the Managing Director of Aspron Consulting Pvt. Ltd. Aspron is an India-based strategy development and implementation firm.

1990 Christopher L. Exstrom is currently a Professor of Chemistry (inorganic), University of Nebraska at Kearney (UNK). In December 2010, Chris won the Leland Holdt/Security Mutual Life Faculty Award, UNK's highest faculty award that recognizes career contributions in teaching, research, and service. This summer, as the project director for a multidisciplinary team in the sciences, Chris received a \$286,610 Nebraska Research Initiative grant to acquire UNK's first electron microscope, the Delong America, Inc. LVEM-5 that can image in TEM, SEM, STEM, and ED modes. His undergraduate research program has had a very active year with three refereed journal article publications in 2011.

1996 Dawn Dall Ducharme was recently promoted to Consumables Operations Manager at Haemoscope (a division of Haemonetics), a blood management company. She has been working there for a year and a half. Haemoscope is a medical device company that manufactures an instrument and related consumable reagents that detects blood clotting kinetics and clot strength; this

Speakers Come to Campus

The Department was host to several well-known speakers in 2010-2011.

These included **Dr. Robert Kennedy** (University of Michigan) and **Dr. Amelia Fuller** (Santa Clara University). During homecoming 2010 we were also proud to host alumnus, **Dr. Christopher Butler** (Class of 2000) who is now a Senior Scientist at Pfizer Inc. The Fall of 2011 brings five speakers to the department: **Dr. Ashok Bhatia** (Abbott Laboratories), **Dr. Jacin Ciszek** (Loyola University), **Dr. Martin Hulce** (Creighton University), **Dr. Steven Roper** (University of Florida) and our own alumnus from 2002, **Dr. Laura (Wieland) Brown** (Indiana University).

Titan Chemistry Tidbit

Did you know that the now famous Collins reagent (CrO_3 in pyridine) was discovered by Professor Collins at IWU in 1967, in the Sherff Hall of Science, which was renovated and reopened in 1997 as the Center for the Liberal Arts (CLA).



We Would Love to Hear from You

Please let us know any news or update you would like included in the next newsletter and on our web page. You may drop an email to Dr. Ram Mohan (rmohan@iwu.edu). Please include your photo as a jpg file and tell us your year of graduation.

And don't forget to look for updates by visiting our web page.

<http://www.iwu.edu/chemistry/>

Meet the Class of 2011



Twelve of the 16 who graduated with a Chemistry major in 2011 are pictured above. In comparison, the class of 1948 had just two chemistry majors.



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