

New Faculty & Staff

Dr. Jian Chen will join the department in the Fall 2005 semester. His research interests include bio-inspired material chemistry and multifunctional carbon nanotube materials. He received his Ph.D. in Chemistry from Fudan University in the Peoples Republic of China and is currently a Senior Chemist/Principal Investigator with Zyvex Corporation (a nanotechnology company) in Texas. Welcome Dr. Chen!

Dr. John Picione was hired as an associate lecturer earlier this year. Some of you may remember John, he was an undergraduate student here. He graduated with a B.S. in '97. He received his Masters ('00) & Ph.D. ('03) from the University of Illinois at Chicago. John, his wife and brand new baby boy moved here from France where John completed a one year post-doc with professor Janine Cossy at the Ecole Supérieure de Physique et de Chimie Industrielles in Paris. Welcome back, John!

Kathleen Ratliff joined our staff in January of this year, taking over the role of Undergraduate Coordinator from Carla Behnke, who left the department last fall to work in the UWM Department of Enrollment Services. Kathleen moved to Wisconsin just last year from California with her younger daughter, MyLaina, to be closer to her older daughter, Alex, who recently gave birth to a baby boy (Evan). Welcome (happy grandma) Kathleen!

Faculty Distinguished University Service Award Presented

Dr. David H. Petering,
UWM Distinguished Professor



The UWM community gathered last fall to join Chancellor Carlos E. Santiago in recognizing 17 colleagues who have made outstanding contributions to the university. Among them was our own Dr. David Petering, University Distinguished Professor. Petering was honored for his efforts in significantly raising the University's visibility as a research institution. Cited among his many contributions to the university were his national reputation as a researcher and his efforts to bring the Marine and Freshwater Biomedical Sciences Center to UWM as well as the Institute for Environmental Health. He currently serves as director for both organizations.

Alumni Spotlight

This year's Poster Contest would not have been possible without the help of our terrific volunteer panel of judges. If you are interested in volunteering for next year's event, please let us know. Visit the alumni area of our website: www.uwm.edu/Dept/Chemistry/alumni/ for contact info. While you're there, share your news with us, or update your mailing address.



Alumni Judges, (l-r) Matey Kaltchev, Jacqueline Roberts and Kevin Czerwinski.

Jacqueline R. Roberts, Ph.D.
(Shaw, 1993)
Associate Professor of Biochemistry,
DePauw University

Professor Roberts is an associate professor of biochemistry at DePauw University. She was the recipient of DePauw's "Exemplary Teaching Award" for the 2003-04 academic year. The annual award is given jointly by the University and the General Board of Higher Education of the United Methodist Church to recognize a faculty member who exemplifies excellence in teaching, civility and concern for students and colleagues, commitment to value-centered education, and service to students, the institution and the community.

Kevin M. Czerwinski, Ph.D.
(Cook, 1995)
Associate Professor of Chemistry,
University of Wisconsin-Stevens Point

Professor Czerwinski was recently granted an Academic Research Enhancement Award from the National Institute of General Medical Sciences (NIGMS), a unit of the National Institutes of Health (NIH) located in Bethesda, Maryland. Entitled, "Canthinones as Human Isozyme Selective PDE4 Inhibitors," this three-year grant supports Dr. Czerwinski's ongoing research into the possible use of natural products as anti-inflammatory agents. According to Dr. Czerwinski, compounds from a variety of plants from at least four continents could have applications for his research. As in the past, several chemistry undergraduate students will assist him with the research.

Matey Kaltchev, Ph.D.
(Tysoe, 1999)
Assistant Professor of Physics & Chemistry,
Milwaukee School of Engineering (MSOE)

Professor Kaltchev teaches in the Physics and Chemistry Department. In addition to regular chemistry courses, Dr. Kaltchev also teaches an independent study course in his area of expertise "Application of Surface Science to Modern Technology". The number and importance of these applications provide opportunity for MSOE students to choose project topics and enhance their knowledge in various areas of cutting-edge technology. The course includes a basic introduction to surface science and hands-on experience with state-of-the-art equipment and scientific tools to help prepare students for the challenges of modern engineering professions.



Alumni Judges award the Keith Hall Award for Excellence in Graduate Research to Florencia Calaza.



News @ CHEM/BIOCHEM

Newsletter #7

University of Wisconsin-Milwaukee

Summer 2005

Annual Student Awards Day ~ May 9, 2005

What a great day for the Department of Chemistry & Biochemistry! This year our students presented a total of 39



posters representing all areas of study, including 8 undergraduate posters!

The day began with our featured speaker, former UWM Chemistry professor, Dr. James Otvos. His talk, "What Cholesterol Doesn't Tell Us About Heart Disease Risk: A 17 Year Journey of Discovery From UWM to a World Far, Far Away" focused on the role of LDL (low density lipoprotein) particles in causing coronary heart disease. Otvos' research stemmed from his concern regarding lab tests currently used by doctors to monitor LDL levels. These tests do not measure the number of LDL particles, but the amount of cholesterol carried by these particles. Since the amount of cholesterol per particle can vary widely, two people with identical LDL cholesterol levels can have different numbers of LDL particles and therefore, completely different levels of coronary disease risk.

Continuing department tradition, a student poster competition followed the lecture, and the Annual Awards Ceremony completed the day's festivities.



Keynote speaker, **Dr. James Otvos**, is currently an Adjunct Professor of Biochemistry at North Carolina State University. After receiving his Ph.D. in comparative biochemistry from the University of California-Berkeley in 1976 and postdoctoral training in molecular biophysics at Yale University, he joined the chemistry faculty here at UWM in 1980. From 1990 to 2000, he was Professor of Biochemistry at North Carolina State. Based on his research in nuclear magnetic resonance (NMR) spectroscopy, he founded LipoScience (<http://www.liposcience.com/>), a clinical and research laboratory that provides cardiovascular testing. LipoScience developed the NMR LipoProfile® test for managing risk in patients who are at moderately high to high risk for developing heart disease and assessing these patients' response to therapy. To date, LipoScience has performed over 1.2 million of these new NMR LipoProfile tests.

Poster Session Awards: Graduate Level:

- 1st Place: Keith Hall Award for Excellence in Graduate Research**
Florencia Calaza, "Elucidation of the Reaction Mechanism for the Catalytic Synthesis of Vinyl Acetate by Palladium."
- 2nd Place: Keulks Award for Graduate Research**
Luke Burkholder, "Probing Chiral Surface Templates."
- 3rd Place: McFarland Award**
M. Shahid Islam, "Study of the Mechanism of an Unusual Reaction: Reduction of 3-Hydroxy Propenoic Acid Ester to 2-Ary-3-Propenoic Acid Ester."
- 4th Place: McFarland Award**
Paul Henning, "An Array of Evanescent Fiber Sensors with Spatially-Resolved Readout."
- 5th Place: McFarland Award**
Anna Benko, "A New Polymer Film Appropriate for Solid Phase Synthesis and as an Optical Sensor Matrix."



Undergraduate Level:

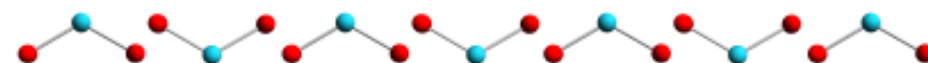
- 1st Place: McFarland Award**
Jamieson Koestler, "Zinc Trafficking: Cellular and Chemical Study of the Zn²⁺ Ionophore, Pyrithione."
- 2nd Place: McFarland Award**
Tom Lawton, "Synthesis of Photoreactive Ruthenium Complexes for Integral Protein Electron Transfer Studies."



Academic Awards: See Page 2

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Notes from the Chairman



Greetings to all!

Hopefully, your summer is going well. Ours is, and we are busy with the new while we (try to!) rest from the old. Our Awards Day was a big event, starting

with former UWM Chemistry Professor James Otvos.

He used his experience to tell us how ideas grow from basic science to patents to commercialization to growth. Dr. Otvos is Executive Vice President & Chief Scientific Officer of LipoScience, Inc. a company he conceived. He found that the quest for commerce growth is a full-time career in itself! And a quite rewarding one! FYI, our own Professor Bennett plays a key role.

After Dr. Otvos finished, we broke briefly for lunch and then attended poster presentations. Presentations were excellent and our judges (Alums who became Professors) Kevin Czerwinski (UW-Stevens Point), Matey Kaltchev (Milwaukee School of Engineering), and Jackie Roberts (DePauw) could have awarded many more prizes than authorized! Many thanks to the judges! Our Poster Award winners are listed on Page 1 of this newsletter. Congratulations to all of them!

We gave academic awards for the

main subject areas of Chemistry and Biochemistry and also for best progress (Best Junior, etc). These awards are listed on the bottom of this page.

Thanks to all in the Department for their hard work and determination, for that is what has to be invested. And thanks to our students for deserving these awards.

We are working on two new awards. One was set up by Mrs. Mary Layde in honor of her late husband, a former Chemistry Department faculty member. Announcement of the first recipient of the "Durward C. Layde Memorial Scholarship" is imminent, and we will probably have made it by the time you read this. [Note from Editor: Check the website!]

We are also deliberating for the new award so kindly donated by our former colleague Professor George Sosnovsky and his wife (also Professor). By the way, we see George regularly when he is in the country. It is always a pleasure.

As for the new, we will welcome a new colleague to the Organic division, Dr. Jian Chen. Dr. Chen comes to us from Zyvex Corporation. He received his bachelors and Ph.D. from Fudan University in the Peoples Republic of China. Thereafter, he was a Post-doctoral Fellow with Prof. R. C. Haddon in the Department of Chemistry and NSF-MRSEC Advanced Carbon Materials Center at the University of Kentucky. His research interests involve bio-inspired material chemistry.

In several weeks or so we will

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We also welcome two new top administrators. Rita Cheng has been named Provost and Vice Chancellor of Academic Affairs and comes from our own School of Business. Dr. Abbas Ourmazd has been named the first Vice Chancellor for Research and Dean of the Graduate School. He comes to UWM from Bell Labs by way of Germany. These two positions are the key positions requested by Chancellor Carlos Santiago for his new administration. We are all very enthusiastic!

The most stunning news is always given last: Richard Meadows, Dean of Letters and Science and Professor of Economics, has indicated that he can bear my being Chair for yet another year. How can I top that? And so you'll hear from me again soon.

Walter Ziegler



News@Chem/BioChem is written and edited by Laura Hall. The Faculty Advisor is Dr. M. Mahmud Hossain. To share alumni news or to provide feedback to the editor, please email ljhall@uwm.edu or simply visit our website and fill out an Alumni Contact Form. We'd love to hear from you!



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Congratulations!

to Professor Moran for his recent promotion to Associate Professor (with tenure)

Graham R. Moran (Ph.D., University of New England, Australia)

Associate Professor, Biochemistry
(414) 229-5031

e-mail: moran@uwm.edu

website: alchemy.chem.uwm.edu/research/moran/



Research Interests: Dr. Moran's research interests are concerned with the activation of molecular oxygen by enzymes. Currently, the focus of this research is Fell dependent non-heme enzymes that catalyze oxygenations of aromatic compounds. Despite considerable interest from the scientific community, the events leading to the activation of molecular oxygen by Fell dependent enzymes are poorly understood. As are the subsequent catalytic events in which highly reactive oxo-intermediates are directed to react along a single coordinate to give a specific product.

Two successive enzymes in the pathway for the catabolism of tyrosine have been selected for biophysical investigation. 4-Hydroxyphenylpyruvate dioxygenase (HPPD) and homogentisate 1,2-dioxygenase (HGO) each catalyze the incorporation of both atoms of molecular oxygen into an aromatic substrate (see website, listed above, for details). The range of reactions carried out by these enzymes include decarboxylation, hydroxylation, and aromatic ring cleavage. In mammals, a deficiency in either of these enzymes due to inborn defects results in pathologies ranging from liver cancer in early life (tyrosinemia) to arthritic disability in the elderly (alkaptonuria and ochronosis).

Both mesophilic and thermophilic examples of these enzymes are under investigation. Presteady-state analysis using specialized rapid reaction techniques such as stopped-flow and rapid quench is being used to elucidate the chemical steps involved in catalysis. These investigations are to be augmented by a series of steady-state methods and a variety of static spectroscopic measurements. The objective of this work is to understand the nature of intermediates formed in the oxygenation reactions and to discover how the enzyme orchestrates these events.

Thank You!

"Thanks!" to all of you who have contributed over the years to the Department of Chemistry and Biochemistry. Funds from our Foundation accounts are used for department events, including our annual "Awards Day" poster competition - with scholarship prizes for the top posters. It also supports our "Alumni Travel Award" program that assists graduate students with travel expenses to nationally recognized meetings to present posters.

DONATIONS UP TO \$50

Dr. Jeffery Coffey, Mrs. Mary Coffey, Ms. Jeannine Colla, Dr. David Gingrich, Ms. Ruth Gremminger, Mrs. Susan Krezoski, Mr. Michael Mayer, Mr. Forrest Sarver, Mr. Steven Socol, Mr. Christopher Whitehurst.

DONATIONS BETWEEN \$100 & \$500

Dr. Scott Harder*, Dr. Thomas Holme, Ms. Carol Koroghlanian, Mr. Michael Martin*, Mr. Michael McLaughlin, Mr. Eric Pohl, Dr. Camilo Jose Rojas, Mr. John Stodola*, Dr. Maria Vogt.

DONATIONS OVER \$1000

Mrs. Shirley Weber McLean.

*Funds matched by employer.

Department of Chemistry & Biochemistry Degrees Conferred: 2004 - 2005

Masters:

Tao Zheng (Tysoe)

Doctorates:

Analytical Chemistry:

Aaron Roerdink (Aldstadt)

Jason Harb (Aldstadt)

Organic Chemistry:

Annie Wearing (Cook)

Xiaoyan Li (Cook)

Xuebin Liao (Cook)

Physical Chemistry:

Feng Gao (Tysoe)



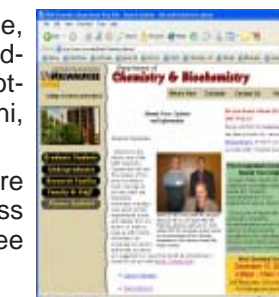
Alumni News

Please fill out our on-line Alumni Info/Contact form at:

www.uwm.edu/Dept/Chemistry/alumni/

While you're on our alumni page, you can update your mailing address, let us know if you've spotted any of our "missing" alumni, or just say "Hello".

If you live in the area or if you're heading back to town for business or to visit family - please feel free to stop by for a visit!



Michael Du Prey

Kristin Affeldt, with Greg & Judy Fueger

Beth Ruddy, Dr. England & Christine Carlson

Louise A. Arndt Fellowship	Michael Du Prey
Trevisan-Fueger UWM Chemistry Award	Kristin Affeldt
Outstanding Senior Award	Jelena Plavsic
Chemistry Emeritus Award, Outstanding Junior	Tom Lawton
Outstanding Performance in Intro. Chem.	Martin O. Bazalak
Outstanding Performance in Analytical Chemistry	Carl Hick
Outstanding Performance in Biochemistry	John Conrad
Outstanding Performance in Inorganic Chemistry	Tom Lawton
Outstanding Performance in Organic Chemistry	Andrew Wesolowski
Vanselow Award in Physical Chemistry	Matthew Van Duzor
Outstanding Teaching Assistant Award(s)	Christine Carlson/Beth Ruddy

Congrats! 2005 Academic Awards