Volume 1, Issue 1  A Publication of the Wichita State University Department of Chemistry  Spring 2009

From the Chair...

I would like to send my greetings to all friends and alumni of the WSU Chemistry Department. Let me start by introducing myself. I am an inorganic chemist and I have been on the faculty at WSU since 1996. This year, I have taken over as Chair of the Chemistry Department after Dennis Burns completed six years in that capacity. My goal in this first issue of Shocker Chem is to reintroduce you to the department. Many of you last heard from us about seven years ago when we were in the midst of our all-encompassing building renovation. I hope with this and succeeding newsletters to keep you up-to-date on current happenings in the department so that you can feel connected to us.

A chemistry department is a sum of its parts and those parts are faculty and staff, students, and infrastructure. In this first issue, I will touch on all these aspects and let you know briefly what has happened in the last seven years. We were all relieved to finally be finished with the building renovations and celebrated with a Building Rededication on September 26, 2001. The ceremonies featured a lecture by Watkins Professor and Nobel Laureate, Dr. Ahmed Zewail from Caltech. The renovation process was a trying experience, since we continued to occupy the building while it was gutted and rebuilt, but the outcome exceeded everyone’s expectations and we now have a facility that is up to the task of supporting frontier research and educating chemists for the 21st century. With the new building, we were also fortunate to obtain new instruments in the teaching and research laboratories, further enhancing our teaching and research missions. Our department remains vibrant in both teaching and research. We continue to grow the number of undergraduate chemistry majors and graduate students. The research projects in the department are many, varied, and productive, with faculty successfully competing for major research grants and regularly publishing in top-tier journals. Our faculty has had some turnover, with new people coming on board to replace those who retire. We are in the process of searching for a new faculty member in biomaterials and we hope to continue to add faculty in the near future to infuse our department with new ideas and energy.

I hope you appreciate this brief reintroduction to the WSU Chemistry Department. If you are a recent graduate or if you haven’t roamed the halls of McKinley Hall for many years, I hope you feel a sense of pride in where the department has been and where it is headed. Please visit our website and, if you still live in Wichita or plan to visit, drop on by to say hello. If you have anything you would like to say about yourself to former classmates, send it in and we will try to publish it in future issues, where you will also find articles about current faculty research, students in the department, and other happenings.

David M. Eichhorn
Changes in Faculty

The renovated building is not the only change that has occurred in McKinley Hall. The past few years have also witnessed some changeover in the makeup of our faculty. Three longtime faculty members have retired:

Dr. B. Jack McCormick, Professor of Inorganic Chemistry, retired in 2004. Dr. McCormick came to WSU in 1979. His research involved the chemistry and physics of conducting polymers and the magnetic behavior of transition metal systems. He served as chair of the Chemistry Department from 1979-1991. Jack and his wife Margaret still reside in Wichita.

Dr. W. Robert Carper, Professor of Physical Chemistry, retired in 2006. Dr. Carper came to WSU in 1967. His research involved ionic liquids and NMR and modeling studies of environmental contaminants. Bob and his wife Mary Ann still reside in Wichita.

Dr. Ram P. Singhal, Professor of Biochemistry, has completed his last semester of teaching and will officially retire at the end of the academic year. Dr. Singhal came to WSU in 1974. His research involved studying metabolic dysfunctions and specific DNA-protein interactions. Ram and his wife Vidya are now living in California.

While we are always sorry to see old friends leave the department, their retirements provide opportunities to bring in new faculty to maintain a vibrant research and teaching environment. I would like to introduce the three most recent additions to our faculty.

Dr. Michael J. VanStipdonk

Mike joined the WSU Chemistry faculty in 2000. He completed his B.S. at the University of Detroit and his Ph.D. under the direction of Emile Schweikert at Texas A&M University. He remained with Dr. Schweikert as a postdoc before coming to WSU. Mike is an analytical chemist with specific expertise in mass spectrometry. His research interests include gas-phase peptide fragmentation pathways and reactions of metal ions and metal-ligand complexes, including lanthanide chemistry. Mike and his wife Stacy have four children—Martin (age 10), Josie (7), Quinn (4), and Nina (2).

Dr. James G. Bann

Jim joined the WSU Chemistry faculty in 2004. He completed his B.S. at Fort Lewis College and his Ph.D. under the direction of Hans Peter Bächinger at the Oregon Health Sciences University. He did postdoctoral work with Carl Frieden at Washington University in St. Louis. Jim is a biochemist who is using research interests in understanding mechanisms responsible for the formation of membrane spanning channels that transport proteins important for disease pathogenesis. Jim and his wife Jodie have six children—Seamus (15), Gabriel (13), Jonah (11), Dominic (8), William (6) and Lily (3).

Dr. Douglas S. English

Doug joined the WSU Chemistry faculty in 2008. He completed his B.S. at University of Missouri—Kansas City and his Ph.D. under the direction of Jacob Petrich at Iowa State University. He did postdoctoral work with Paul Barbara at the University of Texas. Doug is a physical chemist with research interests in fluorescence spectroscopy, self assembly and nanomaterials. Doug and his wife Kathi have a daughter, Kristen, who is completing her bachelor's degree at the University of Maryland and a son, Stephen, who will begin college in Fall 2009.

In memoriam...

Unfortunately, the past few years have also seen the passing of two former faculty members. Many of you will remember them from classes and we will never forget the roles that they played in the development of the Chemistry Department.

Dr. John McCarten passed away in 2003. He was Assistant Professor of Analytical Chemistry from 1964-1997. John served as assistant chairman for several years and was largely responsible for scheduling classes. He carried a heavy teaching load for many years because he was the only analytical chemist on the faculty. Students often remember him for his outspoken classroom presentations that sometimes seemed gruff to them, but in the end they came to appreciate his good humor and caring attitude.

Dr. Anneke Allen passed away in 2007. She was Associate Professor of Inorganic Chemistry from 1964-1995. From 1976-1981 Anneke served as Associate Dean of the College of Liberal Arts and Sciences and was Interim Departmental Chair for one year. For many years, she coordinated the General Chemistry program and she was active in University and community affairs, including serving as an officer in ACS, Sigma Xi, and AAUP.

We also offer our condolences to Dr. Erach Talaty on the passing of his wife, Margaret, in October, 2008.

2008 DEPARTMENTAL PUBLICATIONS


Computational investigation of Group 1 metal-chlorate ion pairs and their monohydrates. Dain, R. P.; Van Slipdonk, Michael J. THEOCHEM (2008), 888(1-3), 42-49.


In order for the Chemistry Department to live up to the promise of our new facilities, a special effort was made to significantly upgrade the instrumentation for both teaching and research. Thanks to generous donations and to grant proposals written by faculty members, we have been able to procure many new instruments, both to replace and upgrade older instruments and to provide new capabilities. As a result, our students are now exposed to state-of-the-art instrumentation and our researchers are able to perform more experiments in-house. We have also created a new staff position of Instrumentation Manager, held by Dr. Kevin Langenwalter for the past three years, to ensure that the departmental instrumentation is properly maintained, departmental computers are up-to-date, and graduate and undergraduate student researchers are properly trained in the use of the departmental instrumentation. Some of the newest instrumentation is shown below.

**State-of-the-Art Instrumentation Enhances Teaching and Research at WSU**

**2008 DEPARTMENTAL PUBLICATIONS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Journal</th>
<th>Volume</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray Snapshot of the Mechanism of Inactivation of Human Neutrophil Elastase by 1,2,5-Thiadiazolidin-3-one 1,1-Dioxide Derivatives.</td>
<td>J. Am. Chem. Soc.</td>
<td>130</td>
<td>17774-17789</td>
</tr>
<tr>
<td>Interactions between Redox Complexes and Semiconductor Quantum Dots Coupled Via a Peptide Bridge.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>508-518</td>
</tr>
<tr>
<td>Vibrational Spectroscopy of Anionic Nitrate Complexes of UO_2^{2-} and Eu^{3+} Isolated in the Gas Phase.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>508-518</td>
</tr>
<tr>
<td>Synthesis, crystal structures and magnetic properties of tricyanomethanide-containing polynuclear copper(II) complexes.</td>
<td>J. Phys. Chem. A</td>
<td>112</td>
<td>5777-5780</td>
</tr>
<tr>
<td>Preparation and selected properties of a composite of the CeO-Pd conducting polymer and single-wall carbon nanotubes.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>5777-5780</td>
</tr>
</tbody>
</table>

**Jasco 815 Spectrophotometer** - simultaneous steady-state measurement of CD and absorbance.

**Nicolet Nexus 870 Time-Resolved Spectrophotometer for IR and Raman**

**Bruker Kappa APEX II single-crystal X-ray diffractometer**

**Finnigan LCQ MS^® ESI mass spectrometer with LC capabilities**

**The Bob and Betty Christian Instrumentation Lab contains facilities for GC, HPLC, LC/MS, AA, IR, UV/Vis, fluorescence, and electrochemistry. These are used for teaching and research.**

**2008 DEPARTMENTAL PUBLICATIONS**

<table>
<thead>
<tr>
<th>Title</th>
<th>Journal</th>
<th>Volume</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray Snapshot of the Mechanism of Inactivation of Human Neutrophil Elastase by 1,2,5-Thiadiazolidin-3-one 1,1-Dioxide Derivatives.</td>
<td>J. Am. Chem. Soc.</td>
<td>130</td>
<td>17774-17789</td>
</tr>
<tr>
<td>Interactions between Redox Complexes and Semiconductor Quantum Dots Coupled Via a Peptide Bridge.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>508-518</td>
</tr>
<tr>
<td>Vibrational Spectroscopy of Anionic Nitrate Complexes of UO_2^{2-} and Eu^{3+} Isolated in the Gas Phase.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>508-518</td>
</tr>
<tr>
<td>Synthesis, crystal structures and magnetic properties of tricyanomethanide-containing polynuclear copper(II) complexes.</td>
<td>J. Phys. Chem. A</td>
<td>112</td>
<td>5777-5780</td>
</tr>
<tr>
<td>Preparation and selected properties of a composite of the CeO-Pd conducting polymer and single-wall carbon nanotubes.</td>
<td>J. Phys. Chem. C</td>
<td>112</td>
<td>5777-5780</td>
</tr>
</tbody>
</table>
Chemistry Department Graduates for Academic Year 2007-2008

Undergraduate Degrees
Fall 2007
Rosemary Ongachi Amalemba BS - Chemistry
Stephanie Nicole Lorimer BS - Chemistry-Business
Michael Shane McDaniel BS - Chemistry-Business
Michael John Schlotterbeck BS - Chemistry-Business
Hang Ngoc Truong BS - Chemistry-Business
Stephanie Diane Vap BS - Chemistry-Biochemistry
Spring 2008
Meghan Rhea Berry BA - Chemistry
Chawalee Chueachavaitle BS - Chemistry Pre-Medicine
Matthew Scott Dougan BS - Chemistry Pre-Medicine
Tracy Lee Flinn BS - Chemistry-Biochemistry
Bryan J. Harvell BS - Chemistry Pre-Medicine
Michael Dan Higgins BS - Chemistry Pre-Medicine
Van Thien Hoang BS - Chemistry-Biochemistry
Alexander Glen Johnson BS - Chemistry Pre-Medicine
Christopher Michael Leavitt BS - Chemistry
Tatiana Vladimirovna Mishanina BS - ACS Biochemistry
Duncan Craig Murphy BS - Chemistry - Biochemistry
Tom Muinde Mwania BS - ACS Biochemistry
Billy V. Nguyen BS - Chemistry
David A. Nguyen BS - Chemistry
Robert Nguyen BS - Chemistry - Biochemistry
Rose Hong Nguyen BS - Chemistry - Biochemistry
Thu Ngoc Nguyen BS - Chemistry Pre-Medicine
Vu Thu Thi Nguyen BS - Chemistry Pre-Medicine
Adefolake O. Odutola BS - Chemistry - Biochemistry
Zachary Daniel Parsons BS - Chemistry Pre-Medicine
Trang Thuy Viel Pham BS - Chemistry - Biochemistry
Trang Xuan Pham BS - ACS Biochemistry
Vy T. Pham BS - Chemistry Pre-Medicine
Maryna Jadyn Popp BS - Chemistry Pre-Medicine
Behnam Raisdana BS - Chemistry - Biochemistry
Michelle Renee Ray BS - Chemistry Pre-Medicine
Emily Danae Roth BS - Chemistry - Biochemistry
Megan Anne Shelton BS - Chemistry Pre-Medicine
Idia Iyare Tokunboh BS - Chemistry - Biochemistry
Pegah Vahdati BS - Chemistry Pre-Medicine
Alicia Kate Voeltz BS - Chemistry
Philip Alexander Witek BS - Chemistry Pre-Medicine
Seng K. Yang BS - Chemistry - Biochemistry
Summer 2008
Rahil Ziad Al-Chami BS - Chemistry Pre-Medicine
Julia Kathleen Fallier BS - Chemistry-Biochemistry
Cory Rolland Rush BS - Chemistry-Business
Graduate Degrees
Fall 2007 Spring 2008
Winnie Chien MS (Van Stipdonk) Charles Jayne MS (Burns)
Raghu Chitta PhD (D’Souza) Sila Ochola MS (Van Stipdonk)
Curtis Moore PhD (Eichhorn) Amy Schumacher PhD (D’Souza)

Current WSU Chemistry Faculty

James G. Bann
Assistant Professor, Biochemistry

Dennis H. Burns
Professor, Organic Chemistry

Francis D’Souza
Professor, Analytical and Supramolecular Chemistry

David M. Eichhorn
Professor, Inorganic Chemistry

David M. Eichhorn
Associate Professor, Inorganic Chemistry

Douglas S. English
Assistant Professor, Physical Chemistry

William C. Groutas
Distinguished University Professor, Organic Chemistry

D. Paul Rillema
Professor, Inorganic Chemistry

Ram P. Singhal
Professor, Biochemistry

William T. K. Stevenson
Professor, Polymer Chemistry

Erach Talaty
Professor, Organic Chemistry

Michael J. Van Stipdonk
Associate Professor, Analytical Chemistry

Kandatege Wimalasena
Professor, Biochemistry

Melvin P. Zandler
Professor, Physical Chemistry

WSU at ACS Midwest Regional Meeting
WSU Chemistry Department faculty, graduate students and undergraduate students presented 16 papers at the recent 43rd ACS Midwest Regional Meeting (MWRM) in Kearney, NE. The 2010 MWRM is Oct. 21-24 in Iowa City, IA. We should have many papers from WSU researchers at that meeting, as well.

Meet the Chemistry Department Staff
We are fortunate to have a hard-working, dedicated staff who are indispensable in making the department run.

Debbie Mitchum – Administrative Specialist
Debbie has been in the department for 24 years. She is the office manager and is responsible for maintaining the departmental finances.

Laurie Reese – Administrative Assistant
Laurie has been at WSU for 11 years and in the department for 7 years. Her primary responsibilities are graduate student matters.

Brenda Heidner – Administrative Assistant
Brenda has been in the department for 5 years. Her primary responsibilities are dealing with undergraduate student matters.

Anne Welch – Lab Educational Technician
Anne has been in the department for 12 years. She is primarily responsible for purchasing and for the upper division undergraduate labs.

Susan McCoy – Lab Educational Technician
Susan has been in the department for 6 years. She is primarily responsible for the lower division undergraduate labs.

Elaine Harvey – Librarian
Technically employed by University Libraries, rather than the department, Elaine has been in charge of the Chemistry Library for 15 years.

Future Newsletters...
If you would rather receive future newsletters by email, please let us know. Send us an email at chemistry@wichita.edu. In the body of the message, tell us that you wish to receive the newsletter by email and include the correct email address.

If you have a different mailing address at which you would like to receive future newsletters, send us an email with that information.