

The Mole Street Journal

Department of Chemistry and Biochemistry

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Special points of interest:

- New Faculty coming this fall
- Dr. Michael Krische to present Fry Lecture
- Dr. Wilkins recognized for 50 years of membership in ACS
- Graduate Students pass cumulative exams

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New Faculty Hired in Organic, Physical Chemistry

The department is pleased to announce 3 new faculty hires. Susanne Striegler is joining us from Auburn University and Wei Shi is coming from the school of Medicine at Johns Hopkins University. Both will join the Organic Division. Feng (Seymour) Wang will join the Physical chemistry division from Boston University College of Arts and Sciences.

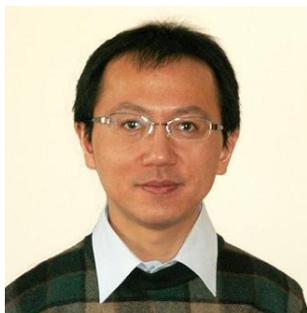
Striegler's research will focus on the development of macromolecular catalysts and their evaluation for carbohydrate synthesis. The work in her lab will be interdisciplinary combining organic, medicinal and inorganic chemistry, molecular recognition, material science and catalysis.

The long-term goal for the research in the Striegler group centers on the development of new macromolecular catalysts for the enzyme-like synthesis of oligosaccharides. The current synthetic methods toward larger carbohydrates involve a multi-step synthesis requiring expert knowledge, are very tedious and time-consuming, and limit consequently the availability of the needed oligosaccharides and their associated biological evaluation. In turn, the availability of catalysts that would allow a convenient glycosyl-transfer for both natural and unnatural carbohydrates will open a new field in organic and medicinal chemistry with far reaching impact on any study involving carbohydrate-carbohydrate interactions as found, e.g. in cell-cell interactions. Once oligosaccharides are easily available, currently unknown interactions of various pathogens with human cells could be further characterized, mapped, predicted and consequently prevented.



When asked why she chose the University of Arkansas, she said, "During my visits, the interactions with faculty, graduate students and administration were very stimulating. A place with emphasized effort to strengthen graduate education in science and the commitment of support for this by the administration is very appealing to me. It was impressive to see such an inspiring environment beyond the excellent facilities and labs. I chose the U of A to be part of that team." She joins us as an associate professor.

Originally from Anhui province, China, Wei Shi received his B.Sc. in Electrochemistry at Shanghai Jiao Tong University and his M. Sc. In Pesticide Chemistry at East China University of Science and Technology. In 2003, he moved to the University of Alberta, Canada, where he obtained his Ph.D. in Organic Chemistry in 2008, working with Dr. Todd L. Lowary. Since then, he has been conducting his postdoctoral research in Medicinal Chemistry at Johns Hopkins University School of Medicine in the laboratory of Dr. Jun O. Liu. Upon joining the faculty at the University of Arkansas as an assistant professor, the focus of his research will be to employ Organic Synthesis and Medicinal Chemistry as tools for studies in Chemical Biology. His long term research goals are to develop molecular tools derived from bioactive small molecules as well as to apply organic reaction methodology to interrogate cellular functions of (cont. page 2)



Faculty News

On the Go

Department Chair **Bob Gawley** attended the annual meeting of the American Chemical Society in San Diego as a member of the Executive Committee of the Division of Organic Chemistry and as Program Chair-Elect. **Neil Allison** attended as councilor, representing the U of A local section, and **Matt McIntosh** attended and represented the department at the graduate recruiting events. The meeting took place March 25-29. Also attending and presenting research were:

Colin Heyes presented a poster "Heterogeneity in the structure and dynamics of chloroplast targeting proteins studied with single molecule fluorescence."

Juliette Rivero-Castro presented a talk "Toward the total synthesis of Antascomycin B: Building the C10-C21 fragment."

David Clay presented a talk "Anomalies in the Noyori asymmetric transfer hydrogenation of several polycyclic meso compounds."

Maha Shrestha presented a talk "Further Studies on the Allylic Diazene Rearrangement (ADR)."

Brian Walker presented a poster "Synthesis of *trans*-epoxy quinol via Noyori asymmetric transfer hydrogenation of meso-epoxy diketone."

Kolawole Ayinuola presented a poster "[3,3]-Sigmatropic rearrangement of *N*-allyl-*S,N*-Ketene Acetals."

Benard Omogo presented a post-

er "Effects of elemental distribution and lattice mismatch across CdSe/CdS and CdSe/CdS/ZnS nanocrystals on their optical properties."

Hiroko Takeuchi presented a poster "Binding and exchange of thiol ligands (R-SH) to water-soluble quantum dots monitored by ensemble and single particle spectroscopy."

Publications

Ensafi AA, Nazari Z, and **Fritsch I.** Redox Magnetohydrodynamics (MHD) Enhancement of Stripping Voltammetry of Lead(II), Cadmium (II) and Zinc(II) Ions using 1,4-Benzoquinone as an Alternative Pumping Species, *Analyst* 2012, 137, 424-431.

Fry Lecture Presents Professor Michael Krische

Professor Michael Krische of the University of Texas at Austin will give the 2011-2012 Arthur Fry Lecture on April 2, 2012 in CHEM 144. His topic is "Formation of C-C Bonds via Catalytic Hydrogenation and Transfer Hydrogenation: Merged Redox-Construction Events for Organic Synthesis." The Arthur Fry Lecture series began in 1997 through a generous donation from alumni, the late Ves Childs, M.S. '60, Ph.D. '63 and his wife Holly, B.S. '62, to honor the late University Professor Emeritus Art Fry's accomplishments and years of unselfish devotion to the department.



New Faculty Hires (cont. from page 1)

Biomacromolecules in the context of drug design and drug discovery, with emphasis on cancer therapeutics. In his job hunting process, Shi was impressed by the scientific environment in the Department of Chemistry and Biochemistry, the collegial harmony among the faculty and staff of the University, and the natural beauty around the city of Fayetteville. "I believe that the University of Arkansas will be a right place to foster my professional career as well as my personal life." In addition to sciences, he enjoys watching movies and sports games, playing badminton and tennis, listening to music, and hiking.

Feng (Seymour) Wang got his Bachelor of Science degree at Peking University, in China. He received his Ph.D. in chemistry at the University of Pittsburgh with Professor Kenneth D. Jordan, after which he completed two years of post-doctoral training with Professor Gregory A. Voth at the University of Utah. He served



as an assistant professor at Boston University prior to joining the University of Arkansas faculty at the rank of associate professor. He is originally from Beijing. The focus of his research is on advancing the state-of-the-art of molecular dynamics simulations, revolutionizing the modeling accuracy of biological and material systems. His long term research goals lie in predicting material properties and biological activities by advanced simulation techniques.

He was impressed by the excellent students and strong research presence in the department.

When asked why he chose the U of A, he stated, "The University is poised for excellence in research!"

Student News



Sefat Alwarsh has passed the appropriate number of cumulative exams to be admitted to candidacy. Sefat is from Saudi Arabia and received her B.S. from King Saud University. Matt McIntosh is her Ph.D. advisor.



Samir Jenkins has passed the appropriate number of cumulative exams to be admitted to candidacy. Samir is from Fayetteville, AR and received his B.S. from Yale. Jingyi Chen is his Ph.D. advisor.



Scott Morris has passed the appropriate number of cumulative exams to be admitted to candidacy. Scott is from Lake Jackson, TX and received his B.S. from Stephen F. Austin State University. Bob Gawley is his Ph.D. advisor.

Milestones

Charles L. Wilkins has reached 50 years of membership with the American Chemical Society. He was awarded a ruby lapel pin and a 40-year membership card, which entitles him to free registration at all future ACS national and regional meetings. The lapel pin and card appear in the picture (right).

Golden Tusk Awards were presented to **Dr. Suresh Kumar, Dr. Julie Stenken,** and **Dr. Timothy K. Beng.** They were awarded by the Vice Provost for Student Affairs in recognition and appreciation for their “students first” effort.



News from Fulbright IT

Over the course of spring break, Fulbright IT Support installed classroom technology into the CHEM 105 conference room. The technology installed falls under the “plug and teach” style of technology room, where one can hook up his own laptop. There is a speaker system, projector, and hard-line Ethernet access installed in the room. Simply plug the corresponding cables into your laptop, and power on the projector using the supplied remote control. If there are any questions or you would like a demonstration of the

equipment, please don't hesitate to contact Fulbright IT Support at 5-6066. Funding for the conference room technology was provided by Fulbright IT Support and the Fulbright College Dean's Office.

A current listing of IT Staff available to assist you, located in CHEM 142, follows.

Full-time Staff:

- ◆ Teresa Waddell—Computer Support Manager
- ◆ Chris Clanton—Smart

Classroom Coordinator

- ◆ Roy Swaty—Smart Classroom Professional
 - ◆ Sean O'Bryan—Computer Support Professional
- ### Hourly Staff
- ◆ Margie Hoskins—Technical Service Assistant
 - ◆ Catherine Thomas—Clerical Assistant
 - ◆ Arif Islam—Technical Service Assistant
 - ◆ Ronessa Sharma—Technical Service Assistant
 - ◆ Josh McFarland—Technical Service Assistant

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Safety Tip: by Bill Durham

A major hazard, often overlooked in a wet lab, is electricity (and water). Make sure all of the power cords are in good shape and not like the one pictured (No! Duct tape is not interchangeable with electrical tape!).




Department of Chemistry
and Biochemistry

Excellence in the Central Science

The department of chemistry and biochemistry at the University of Arkansas strives for excellence in research, teaching and service in chemistry - the central science. We aspire to positions of leadership regarding the discovery of new scientific knowledge, the training of students, and the economic development of the State of Arkansas. We seek to recruit and retain a diverse group of the best faculty, students and staff to address the challenges of the future through interdisciplinary and multidisciplinary research and education.

CUME Dates 2011-2012

Fall	Spring
September 9	January 27
September 30	February 17
October 14	March 2
November 4	April 6
December 2	April 27

Calendar of Events

April

- 2 Fry Lecture—Michael Krische, University of Texas at Austin
- 6 CUME
- 9 Dept. Seminar—Annaliese Franz, University of California, Davis
- 15 Deadline for Committee Meetings
- 16 Dept. Seminar—Christine Keating, Penn State University
- 20 Last day to drop a full semester class or classes with a mark of "W"
- 23 Dept. Seminar—Thomas E. Prinzano, University of Kansas
- 26 Honors Night-UARK Bowl
- 27 Final copies of master's thesis/doctoral dissertations must be submitted
- 30 Dept. Seminar—Shouheng Sun, Brown University

May

- 7-11 Final Exam week
- 12 Commencement Day
Fulbright College-1:00 p.m. Bud Walton Arena. Assemble at 12:15 p.m. inside the truck tunnel under the Harrod (east) entrance.
- 20 INBRE students arrive
- 21 Summer Session I begins

Library Hours

CHBC Library (CHEM 225)
<http://libinfo.uark.edu/chemistry>
575-2557

January 17—May 13	
Monday-Thursday	8:00 a.m.—9:00 p.m.
Friday	8:00 a.m.—6:00 p.m.
Saturday and Sunday	CLOSED

The chemistry and biochemistry library resources can be accessed in the following LibGuides: <http://uark.libguides.com/content.php?pid=110953>. Please bookmark for future use.

Theses and dissertation resources can be found on the following LibGuide: <http://uark.libguides.com/content.php?pid=123035&sid=1057466>.

