

The Mole Street Journal

Department of Chemistry and Biochemistry

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Special points of interest:

- University and Distinguished Professors Honored
- Faculty Travel and Publications
- New Face in IT
- Sakon Research Illustration Chosen for Cover Artwork

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University and Distinguished Professors Honored



On Wednesday, September 19, Chancellor Gearhart and Provost Gaber hosted a dinner at the Alumni House to honor the University and Distinguished Professors of the University of Arkansas. Each was awarded a medalion that is to be worn with academic regalia. Attending the dinner were University Professors **Luti Salisbury** and **Bill Durham**, and

Distinguished Professors **Bob Gawley**, **Peter Pulay** and **Charles Wilkins**. University Professor **Jim Hinton** and Distinguished Professors **Roger Koepp** and **Frank Millett** were unable to attend the dinner. Seven of the Department's 24 faculty hold these ranks.

Appointment as *University Professor* is a special honor conferred only upon active faculty in recognition of an extended period of exemplary service in a spirit of collegiality to the University of Arkansas and a combination of service in their profession and to the public through their professional activities. In order to achieve this distinction, faculty members must, in addition to having an extended period of documented exemplary service to the University of Arkansas, have gained wide recognition at the national or international level for their sustained excellence in service, teaching, research or creative activity germane to their respective disciplines and academic roles while serving as a member of the faculty of the U of A. Eligibility for designation as University Professor is limited to active tenured faculty who hold the rank of professor.

Appointment as *Distinguished Professor* at the University of Arkansas is a special distinction that is reserved for those individuals who are recognized nationally and/or internationally as intellectual leaders in their academic disciplines as a result of extraordinary accomplishments in research, teaching, published works, creative activities in the arts or endeavors of similar merit in other venues. Individuals may have gained such distinction at this university, another university or other venues. Appointment as Distinguished Professor shall only occur when clear indication exists that an individual so appointed will continue to provide exemplary academic and intellectual leadership and continue his or her professional activities in such a way as to maintain national and international recognition and a commensurate level of accomplishment. Eligibility for designation as Distinguished Professor is limited to active tenured faculty who hold the rank of Professor, the title University Professor, or incoming faculty who will be awarded tenure and who hold credentials of similar merit from another university or other venues.

Faculty News

On the Go

Vishal Sahore, Christena Nash, Preston Scrape, Adam Kreidermacher, Ingrid Fritsch*, "Fine-Tuning the Flow Profile, Direction, and Speed of Fluids on a Chip with Redox-Magnetohydrodynamics." Invited Talk, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Preston Scrape*, Ingrid Fritsch, "Redox-magnetohydrodynamic Pumping, Spatially Separated from Redox Processes at Active Electrodes." Poster, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Mengjia Hu*, Ingrid Fritsch. "Redox Cycling Behavior of Catecholamines on Gold Microelectrode Arrays." Poster, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Adam Kreidermacher*, Vishal Sahore, Ingrid Fritsch. "Using Bead Video Microscopy to Observe Electrochemically Generated Density Gradient Based Fluid Flow in a Microfluidic Setting." Poster, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Vishal Sahore*, Ingrid Fritsch. "Microfluidics Involving Flat Flow Profile and Fluid Stirring Guided by Redox-magnetohydrodynamics (MHD): Toward Lab on a Chip (LOC) Immunoassays." Poster, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Christena Nash, Ingrid Fritsch. "Microfluidics with Magnetohydrodynamic Pumping and Stirring using PEDOT-modified Electrodes." Poster, SciX, Kansas City, MO, Sept. 30-Oct. 5, 2012.

Frank Millett presented a poster, "Ruthenium Photoinitiation of Electron Transfer in the Rb. Sphaeroides Cytochrome bcl Complex: Rotational Dynamics of the Iron-sulfur Protein, Diffusion of Quinone between the Qo and Qi Sites, and Linkage between the Two Monomers" at the 17th European Bioenergetics Conference in Freiburg, Germany Sept. 15-20,

2012. Other authors include **Jeffrey Havens, Quan Yuan**, Shaoqing Yang, Chang-An Yu, Linda Yu, and **Bill Durham**.

Matt McIntosh gave an invited talk, "Green, Industrially Relevant Claisen Rearrangements," at Georgetown University, Washington DC, Oct. 4, 2012.

Andrew Zhou gave a talk, "Hierarchical ZnO Microcrystallites for Effectively Converting Solar Energy," at the 2012 NSF EPSCoR Annual Meeting, Aug. 13-15, 2012, Springdale, AR.

Julie Stenken presented a talk "Microdialysis Sampling of Cytokines: Are we Just Measuring Damage and Can We Do Anything About It?" at the 14th International Meeting on Monitoring Molecules in Neuroscience, London, UK, Sept. 16-20, 2012.

Julie Stenken presented a talk, "Quantifying Biomarker and Protein Responses during Tissue Reactions to Implanted Microdialysis Probes" at the University of Uppsala, Department of Pharmaceutical Bioscience, Friday, Sept. 21, 2012 and at the University of Bergen, Department of Biomedicine, Tuesday, September 25, 2012.

Julie Stenken presented a talk, "A Separations- and Analytical Chemistry-based Approach for Elucidating Tissue Reaction Problems with Implanted Glucose Sensors" at the Irish Separation Science Cluster, Dublin City University, Friday, September 28, 2012.

Julie Stenken presented a talk, "Elucidating the Chemical Microenvironment Necessary for and Predictive of Macrophage Polarization to Implants" at the Society for Biomaterials, Fall Symposium Oct. 4-6, 2012. Other authors of the work are **Geoffrey D. Keeler, Geetia Bajpai, Mehak Gupta, Cynthia R. Sides, and Jeannine M. Durdik**.

Charles Wilkins organized and chaired a symposium "On the Scent: Vapor and Aroma Analysis for Forensic and Security Applications" at

the SciX 2012 meeting in Kansas City, MO, Oct. 2, 2012.

Publications

"A Single Injection of the Anabolic Bone Agent, Parathyroid Hormone-Collagen Binding Domain (PTH-CBD), Results in Sustained Increases in Bone Mineral Density for up to 12 Months in Normal Female Mice." Ponnappakkam T, Katikaneni R, Suda H, Miyata S, Matsushita O, **Sakon J**, Gensure RC. *Calcif Tissue Int.* 2012 Jul 18 [Epub ahead of print].

"Bacterial Collagen-Binding Domain Targets Under-twisted Regions of Collagen." Philominathan ST, Koide T, Matsushita O, **Sakon J**. *Protein Science* 2012, 21(10), pp 1554-1565.

Deis, Frank H., Gerber, Nancy C., Gumpert, Richard I., **Koeppel, Roger E., II**. *Student Companion to Accompany Biochemistry, a Short Course*. Second Edition. ISBN-13: 978-1-4641-0934-8. Freeman, New York, 2012 (556 pp).

Charles . Wilkins and Sarah Trimpin (Wayne State Univ.). *Ion Mobility Spectrometry-Mass Spectrometry: Theory and Applications*. CRC Press. Dec. 2010. First Edition. ISBN-13: 9781439813249.

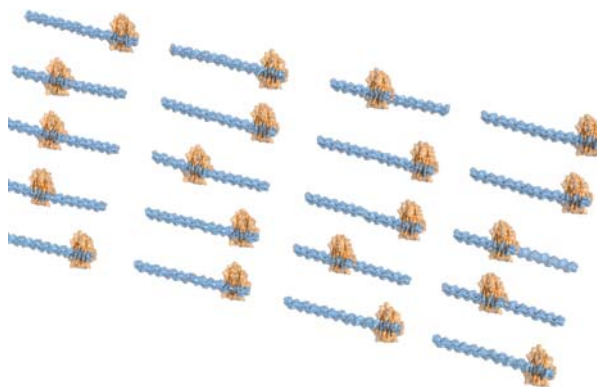
"Synthetic Applications and Inversion Dynamics of Configurationally Stable 2-Lithio-2-aryl-Pyrrolidines and -Piperidines." **Timothy K. Beng**, Jin Sun Woo (Summer 2010 REU), **Robert E. Gawley**. *J. Am. Chem. Soc.* 2012 134, 14764-14771.

"Design and Use of Photoactive Ruthenium Complexes to Study Electron Transfer within Cytochrome bc1 and from Cytochrome c." **Francis Millett, Jeffrey Havens, Sany Rajagukguk, Bill Durham**. *BBA-Bioenergetics*. <http://dx.doi.org/10.1016/j.bbabi.2012.09.002>.

Nela Durisic, Antoine G. Godin, Claudia M. Wever, **Colin D. Heyes**, Melike Lakadamyali, Joseph A. Dent. "Stoichiometry of the Human Glycine Receptor Revealed by Direct Subunit Counting." *Journal of Neuroscience* (2012), 32, 12915-12920.

Sakon Illustration Chosen for Cover

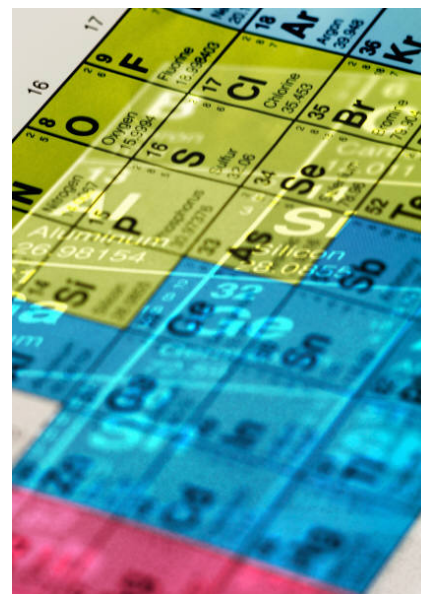
Featured on the cover of the October 2012 issue of *Protein Science* is the figure featured at right. It is the illustration for the article "Bacterial Collagen-Binding Domain Targets under Twisted Regions of Collagen," authored by ST Philominathan, T Koide, O Matsushita, and **Joshua Sakon**. The article appears in Volume 21, Issue 10, on pages 1554-1565.



Student News

Elizabeth Emerson successfully defended her dissertation "New Applications of Mass Spectrometry for Drug and Lipid Analysis" October 2, 2012. Beth entered the program as a Master's student in the fall of 2006. She completed her Master's degree in December of 2008. Her advisor in both degrees was Bill Durham. Beth received her BS in Forensic Chemistry from the University of Mississippi in 2006. She is from Dewitt, AR.

David Clay (Ph.D. 2012) reports that he has been hired as an organic chemist for a company called CytoSorbents Inc. CytoSorbents is a healthcare company in the medical device field that has developed a new hemoperfusion technology for removing toxins from the blood associated with sepsis, kidney disease and other diseases. David's advisor was Matt McIntosh.



News from Fulbright IT



Fulbright College IT Support is proud to welcome its newest member, Will Simmons. Will has more than 8 years experience working in the field of information technology and is returning to the university after previously working with KXUA radio. Will is adept at PC and Mac support, and is quickly getting up to speed on our classroom technology in Fulbright College. He looks forward to working with the faculty and staff of Fulbright College and is available to help with technology-related issues along with the rest of the Fulbright IT Support team by contacting 575-7512 or emailing arscsup@uark.edu.

First Year Grad Seminar

Topic: Overview of the graduate school experience
Description: Graduate school from beginning to end-how to pick a thesis or dissertation topic-committees-how to stay on track for graduation
Date: October 11, 2012
Time: 3:00-5:00 p.m.
Location: Arkansas Union, rooms 509-510
Presenters: Graduate School and International Education
Target Participants: First year graduate students.
 Register online at <http://grad.uark.edu/dynamic/rsvp/>

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We're on the web!
Chemistry.uark.edu/4842.php
&
Department of Chemistry and
Biochemistry University of Arkansas

Safety Tip: by Bill Durham

Hoods are not long
term (forget about
it) waste storage
areas.


**Department of Chemistry
and Biochemistry**

Excellence in the Central Science



The department is again co-hosting the INBRE conference October 5-6, 2012 with the departments of biological sciences and physics. All events will be held at the NWA Holiday Inn & Convention Center in Springdale, AR

Opening remarks will be given by Dr. Donald Bobbitt, president of the UA System. Featured faculty speakers are Professor Howard Hendrickson, UAMS (The Biopterin Metabolome—Unlocking the Mysteries of Ionizing Radiation Injury), Professor Woodrow Shew, UARK (Phase Transition and Information Processing in the Brain), and Professor Lori Hensley, Ouachita Baptist University (Antitumor Effects of Ajulemic Acid on Ewing's Sarcoma).

Dr. Jane Goodall is presenting a talk "Making a Difference: An Evening with Jane Goodall" at Barnhill Arena Oct. 5 at 7:00 p.m.

Six undergraduate students from each of the disciplines of biology, chemistry, and physics were selected to present their research orally. Representing the department of Chemistry is Kaila Pinalto.

The department is well represented in the poster division by 5 graduate students and 8 undergraduate students. Their names and titles will appear in next month's issue of the Mole.

Twenty six institutions are participating this year, with a record 120 posters.

2012-2013 CUME Schedule

September 14	January 25
September 28	February 15
October 19	March 8
November 9	March 29
November 30	April 19

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

Calendar of Events

October

- 1 Department Seminar—Dr. Catherine Murphy, Univ. of Illinois
- 5-6 INBRE Conference
- 8 Department Seminar—Dr. Mark Tuckerman, N.Y.U.
- 11 First Year Graduate Student Seminar, AR Union, 509-510, 3:00-5:00 p.m.
- 15-16 Fall Break
- 19 CUME

- 22 Department Seminar—Dr. Peter Crooks, UAMS
- 29 Department Seminar—Dr. Catherine Larsen, Case Western Reserve University

November

- 9 CUME
- 12 Department Seminar—Dr. Ken Jordan, Univ. of Pittsburgh
- 22-23 Thanksgiving Holiday (Univ. closed)
- 30 CUME

Library Hours

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

Fall Hours

Monday–Thursday 8 a.m.–9 p.m.
Friday 8 a.m.–6 p.m.
Closed Saturdays and Sundays
Closed Labor Day (September 3)

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>.

