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University of Arkansas, Fayetteville. Dept. of Chemistry and Biochemistry

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The Mole Street Journal

Volume 7, Issue 9

ABI Leadership

University Professor **Roger Koeppe** is the campus program manager for the Arkansas Biosciences Institute (ABI).

The ABI was created as the major research component of the Tobacco Settlement Proceeds Act of 2000. The settlement act was approved by 64% of Arkansas voters in a general election. It supports research at five member institutions: Arkansas Children's Hospital, Arkansas State University, University of Arkansas Division of Agriculture, University of Arkansas and UAMS. Koeppe will oversee the distribution of research funds and coordinate reports from campus.

With an annual budget of about \$10 million, the ABI provides research funding at the member institutions in five target areas:

1. Agricultural research with medical implications.
2. Bioengineering research that expands genetic knowledge.
3. Tobacco-related research that addresses tobacco-related illnesses.
4. Nutritional and other research aimed at preventing and treating cancer, congenital and hereditary conditions.
5. Other research areas that are complementary to those above.

Years of Service

Distinguished Professor **Lothar Schäfer** will be honored for 40 years of service to the university at the Fulbright College Faculty Convocation Sept. 4.

Distinguished Professor **Charles Wilkins** will be honored for 10 years of service. Professor **Wes Stites** and new faculty **Colin Heyes** and **Nan Zheng** will also be recognized.

New Faculty

The department welcomes three faculty members this fall — Assistant Professors **Nan Zheng** and **Colin Heyes** and Professor **Bob Smith**.

Addition to the Physical Division

Heyes holds a doctorate in physical chemistry from Georgia Institute of Technology, under the direction of Mostafa A. El-Sayed. Prior to joining the department he was a postdoctoral research fellow at McGill University, Montreal, Canada. Among the awards he has received are the House-Flashka-Ashby Award from Georgia Tech for outstanding graduate research, an Alexander von Humboldt research fellowship at the University of Ulm and Human Frontiers Science Program long-term fellowship. More inside.

Organic Chemist Hired

Zheng was most recently an NIH Ruth L. Kirschstein NRSA Postdoctoral Fellow at MIT working with Professor Stephen L. Buchwald. He holds a doctorate in organic chemistry from the University of Michigan, and a master's degree from the University of Rochester. He has professional experience from Merck & Co., Inc., where he was an organic chemist in process chemistry. More inside.

Smith Returns to Faculty

In July, Smith returned to the department as professor. Smith served as provost and vice chancellor for academic affairs at the university from 2000 to 2008. He looks forward to engaging in departmentally-based teaching, research and service full-time, following his sabbatical leave through Dec. 31, 2008.

Smith is a New York native and holds master's and doctoral degrees in pharmaceutical chemistry from the University of Michigan. His research and scholarly interests have been in the pharmaceutical sciences, communication, professional development and university administration.



Colin Heyes



Nan Zheng



Bob Smith

Faculty News

Heyes Continued

Upon learning of the position open in the department, Heyes immediately applied because of the notable research being done in the fields of nanochemistry and biophysics — the intersection of his research. The state-of-the-art research equipment was also a draw, specifically the high precision electron microscopes, powerful mass spectrometers and innovative magnetic resonance facilities.

His lab focuses on the problems of understanding nanoparticles, joining them to biomolecules and using them to uncover the inherent complexity of these biomolecules.

Heyes is also investigating how proteins form and interact. Answering these questions will provide insight on how to fix some of nature's mistakes. Solving the question of why certain proteins "misfold" will have implications for certain neurological disorders such as Alzheimer's and Parkinson's diseases.

His future plans include combining biological approaches such as protein expression and cellular biology and fluorescence imaging, chemical approaches of nanoparticle synthesis and bioconjugation strategy development and physical approaches such as atomic force micros-

copy, fluorescence and non-linear spectroscopy. He plans to build a single molecule nanobiotechnology lab and explore interdisciplinary collaborations between scientific departments so that students are exposed to other scientific languages and methodologies.

He was raised near Liverpool, England but attended graduate school in the United States where he has introduced to American football and baseball. He embraces different cultures and enjoys traveling. He has visited Israel and Egypt, nearly a dozen European countries and 44 of the 50 United States. Being a fan of the outdoors, he was hooked on the beauty of Northwest Arkansas and looks forward to exploring the outdoors.

Zheng Continued

Zheng's current research focuses on the development of efficient synthetic methods and their application to the total synthesis of pharmaceuticals and natural products possessing unique molecular structures and promising biological activities.

He is interested in developing new reactions that have the potential to open avenues for forming carbon-carbon bonds and carbon-nitrogen bonds. His lab is

also exploring harnessing the potential of nitrogen radicals to form carbon-nitrogen bonds. Despite their potential, the use of these species in the preparation of nitrogen-containing compounds has been limited. This is likely due to several factors, such as the limited number of available precursors, the requirement of Bu_3SnH as a reagent, and the need for special conditions such as photolysis or strongly acidic conditions.

He values the progress made in the field of organic chemistry in the past 50 years and believes it is important to continue to increase the repertoire of the synthetic methods and strategies, broaden the scope of functional groups such as hydrogen atoms, and invent new ways of building organic molecules.

His long-term goals include building upon his expertise to address society's urgent needs in materials and energy.

The University of Arkansas was attractive to Zheng because of its commitment to research and education and the successful Campaign for the 21st Century.

Zheng is married with a daughter and believes Fayetteville is a great place to raise a family. In his spare time he enjoys reading history books and traveling.

From the Library by Luti Salisbury

The Beilstein Crossfire Commander database now has a new tool to aid in structure searching. The new version of *Symyx Draw*, previously known as *MDL Draw*, allows you to create 2D and 3D structures and reactions to query the Beilstein database.

Download links and installation instructions can be found on the Libraries' *Beilstein* page (<http://libinfo.uark.edu/eresources/crossfire.asp>). This page is only available to computers on the U of A campus.

We now have access to SciFinder (Chemical Abstracts) on the web. You will be able to connect from campus and off-campus to the database. However, you will need to complete a registration and each time you log-in you will have to enter your user name and password.

Find information relating to how to register at <http://libinfo.uark.edu/eresources/scifinderweb.asp> (This URL is accessible only from Campus as per CAS).

Please note the license terms at the bottom of the page.

Students First

A message from **Chancellor G. David Gearhart**

"Student-centeredness should permeate everything we do, and guide every decision we take. It should motivate us to continuously ask ourselves what can be improved, and compel us to share those thoughts with each other," Gearhart said.

To view the full text of his welcome message for the fall semester see <http://chancellor.uark.edu/13315.php>

September Safety Tip

Bottles, vials, cuvettes, etc., containing hazardous materials should be transported in secondary containers. This avoids the need for gloves and will minimize the risk of exposure should the container be dropped. Rubber buckets are available for transporting 4-liter containers.

Student News

Changes in Spring Evaluation Procedures by Dan J. Davis, Director of Graduate Studies

Effective the beginning of the fall 2008 semester, I was named as director of graduate studies for the department of chemistry and biochemistry.

One of the charges from the chairman was to tighten up on some aspects of our rules which have been largely ignored in recent years — especially the timing of the evaluation process during the spring semester for all graduate students working under the direction of faculty members in the department.

Our rules currently state that students in or after their second year of graduate study must present written proposals to their committees no later than March 1 with this proposal being defended orally at a meeting of their committee scheduled for no later than April 15.

The proposal documents must be approved by the major faculty advisor prior to submission to the committee. In other words, students need to start thinking about this document considerably in advance of the March 1 deadline.

In recent years, adherence to these deadlines has been slipping considerably, with some students not holding committee meetings until late May or early June.

This coming spring semester, students should make every

effort to meet these deadlines. Any exceptions will require PRIOR approval from both the student's committee and the director of graduate studies. Such requests must be well justified and approval will not be automatic or open-ended.

If approved, a new deadline will be set by the director of graduate studies.

New Graduate Students



Mack Clements
Hometown: Donaldson, Ark.
B.S. Henderson State
University, physics minor



Rachel Ellis
Hometown: Bentonville, Ark.
B.S. University of Arkansas



Kristopher Keen
B.S. University of Arkansas



Becky Kerr
B.S. University of Arkansas
* *Doctoral Academy Fellowship*



Adam Kreidermacher
Hometown: Rollingstone, Minn.
B.A. Saint Mary's University of
Minnesota



Sasi Muruganatham
Hometown: Coimbatore,
Tamilnado, India
B.Sc., M.Sc. Bharathiar
University



Benard Omogo
Hometown: Siaya, Nairobi,
Kenya
B.Ed., Catholic University of
Eastern Africa



Chad SeEVERS
Hometown: Arkadelphia, Ark
B.S. Henderson State
University, physics and
mathematics minor



Derrel Walters
Hometown: Sallisaw, Okla.
B.S. Northeastern State
University, mathematics minor
* *Doctoral Academy Fellowship*



Roger Williams
B.S. Eastern New Mexico
University

Calendar of Events

September

- 01..... Labor Day - university CLOSED
 05..... Last day to drop a full semester course without a "W"
 05..... Analytical seminar - John McClean, Vanderbilt University
 08..... Department seminar - Steve Van Doren, University of Missouri
 12..... CUME
 13..... Symposium to Honor Charles L. Wilkins
 15..... Department seminar - Robert Cotter, The Johns Hopkins University
 22..... Department seminar - Al Padwa, Emory University
 25..... Organic seminar - Christian Wolf, Georgetown University
 26..... CUME
 29..... Department seminar - Bruce Bowler, The University of Montana

October

- 01-04 64th Southwest Regional ACS Meeting, Little Rock
 06..... Department seminar - Oliver Reiser, University of Regensburg
 08..... Early progress reports for 1000 and 2000 classes e-mailed to students
 09..... Department picnic - The Gardens
 10..... CUME
 13..... Department seminar - Larry Suva, UAMS
 20..... Department seminar - Robert Powers, University of Nebraska
 24..... CUME
 27..... Department seminar - Babak Nikoobakht, National Institute of Standards and Technology
 31..... Last date to drop a full semester course with the mark of "W"

November

- 03-14 Priority registration for spring 2009 for currently enrolled students
 03..... Department seminar Ellen Fisher, Colorado State University
 07-08 INBRE conference
 10..... Department seminar - Jin-Quan Yu, Scripps
 17..... Department seminar - Robert Gensure, Ochsner Health Systems
 21..... CUME
 24..... Department seminar - Robert Ben, University of Ottawa
 26..... Fall break - no classes
 27..... Thanksgiving - university CLOSED
 28..... University CLOSED

December

- 01..... Department seminar - Christy Landes, University of Houston
 08..... Fall seminar series concludes - Olafs Daugulis, University of Houston
 09..... Last day of fall classes
 09..... Last day to officially withdraw from all courses
 10..... Department holiday potluck
 10..... Dead Day - no classes
 10..... Final copies of master's thesis and doctoral dissertations must be submitted to the Graduate School for students graduating in Dec. 2008
 11-17 Final exams
 24-31 University CLOSED

September Birthdays

- 01..... Wes Stites
 02..... David Bateman
 03..... Becky Kerr
 07..... Jeff Havens
 08..... Denise Greathouse
 10..... Marti Scharlau
 13..... Bill Tyree
 16..... Ryan Tian
 20..... Peter Pulay
 23..... Andrew Zhou
 26..... Judy Sluppick
 27..... Stella Huff
 29..... Heather Jorgensen
 30..... Roland Njabon

The publishing of birthdays is not intended to invade the privacy of anyone. If you prefer not to be included, please let us know.

Library Hours

Chemistry and Biochemistry

Fall hours

- Monday - Thursday.... 8 a.m. to 9 p.m.
 Friday 8 a.m. to 6 p.m.
 Saturday CLOSED
 Sunday..... 2 p.m. to 6 p.m.

Exceptions to fall hours

- Nov. 25-26 8 a.m. to 5 p.m.
 Nov. 2 CLOSED
 Nov. 28 CLOSED
 Nov. 30 CLOSED
 Dec. 17-19 8 a.m. to 5 p.m.
 Dec. 21 CLOSED
 Dec. 22-23 8 a.m. to 5 p.m.
 Dec. 24-Jan. 1 CLOSED

<http://libinfo.uark.edu/chemistry/>

Fall CUME Dates

Cumulative exams for graduate students will take place on the following Fridays from 5 p.m. to 6 p.m. in CHEM 144

Sept. 12, Sept. 26, Oct. 10, Oct. 24,
 Nov. 21.