

The Mole Street Journal

Volume 6, Issue 7

Gawley Named Distinguished Professor

In May, the UA Board of Trustees appointed Professor **Robert Gawley** to the rank of Distinguished Professor.

Gawley joined the department's organic faculty in 2002 and is widely recognized for his work with chiral compounds and a book he co-authored with Jeff Aube, University of Kansas, "Principles of Asymmetric Synthesis" (Pergamon 1996). One reviewer commented, "The authors ... have managed to cover the theme in a most condensed and masterly way."

His paper entitled "Do the Terms % ee and % de Make Sense as Expressions of Stereo Composition or Stereoselectivity?" published in the Journal of Organic Chemistry (71, 6,

2411-2416, 2006) was listed as one of the 5 most accessed articles in the first quarter of 2006.

Internationally, Gawley is known for his work with paralytic shellfish poisons, saxotoxin and congeners. He is currently working on methods to detect this toxin that will replace the live animal test currently used to insure food safety. Success in this area led to the formation of a local company, White River Biosciences, Inc., which is funded by NIH and is currently developing a commercial sensor.

The rank of distinguished professor is given to faculty members that have gained national or international recognition of their disciplines for extraordinary accomplishments in teaching and research



Bob Gawley

Other Distinguished Professors in the department are **Frank Millett, Peter Pulay, Lothar Schäfer** and **Charles Wilkins**.

Summer Doctoral Degrees Awarded



TJ Anderson



Anna Daily



John Hutchison

Thomas J. Anderson, directed by Bill Durham, "Synthesis of Ruthenium and Iridium Complexes for use as Photoinitiators in Electron Transfer Reactions of Metalloproteins." Anderson is an assistant professor at Francis Marion University in Florence, SC.

Anna Daily, directed by Roger Koeppel, "Effect of Charged Amino Acid Side Chains on the Orientation of WALP-like Transmembrane Peptides and the Channel Activity of Gramicidin A." Daily is a postdoc in the Kumar lab.

John Hutchison, directed by Matt McIntosh, "An Ireland-Claisen Approach towards the Synthesis of Eupomatilone-6 and Sclerophytin A." Hutchison is a postdoc at the University of Hawaii.

Peng Recognized for Nanotechnology

Xiaogang Peng received one of two Recognition of Excellence in Innovation Certificates given by the Under Secretary of Commerce for Technology Robert Cresanti August 7.

Peng was honored at a luncheon before a roundtable discussion on "Overcoming Barriers to Nanotechnology Commercialization," hosted by Cresanti, in conjunction with U.S. Sen. Mark Pryor (D-Ark.), the U of A System and the University of Illinois-Springfield.

The certificate recognizes local and regional innovators who, within the last 12 months, have introduced a new product or service into the market, utilized a new manufacturing process, or received a patent from the U.S. Patent and Trademark Office. Continued on page 2.

Faculty News

Stenken on Campus

Professor **Julie Stenken** is now on campus. More on Stenken in the September Mole.

Research News

Ingrid Fritsch was awarded a three-year NSF grant "Redox Magnetoconvection in Solution in Small-Scale Electrochemical Systems." Co-PIs are Nicholas Leventis and K. M. Isaac from the University of Missouri, Rolla.

A paper by Fritsch "Constant-Distance Mode Scanning Potentiometry. High Resolution pH Measurements in Three-Dimensions," was published in *Electroanalysis* 2007, 19, 318-323.

A paper by **Zoraida P. Aguilar** and **Mali Sirisena** "Development of Automated Amperometric Detection of Antibodies against Bacillus anthracis Protective antigen," was accepted for publication in the journal *Analytical and Bioanalytical Chemistry*.

On the Go

Ingrid Fritsch will give an invited talk "Microelectrochemical Detection and Enhanced Sample Preparation For Dust Allergens," at the International Society of Electrochemistry, Banff, Canada, September 9-14.

Fritsch will give an invited talk "Rapid Sample Preparation and Optimized Electrode Design for Dust Allergen Assays Integrated with Microelectrochemical Detection," at the 34th Annual Meeting of the Federation of Analytical Chemistry and Applied Spectroscopies (FACSS), in Memphis, October 14-18.

Matt McIntosh taught a short course at the University of Pittsburgh, August 2-7.

Paul Adams presented a poster "Expression of, and Preliminary Studies on the Binding of a minimal GTPase-binding domain peptide of TSC2 to the Ras GTPase Rheb," at the 21st Annual meeting of the Protein Society in Boston, July 21-24.

He also represented the department in a graduate student recruiting fair at the conference.

Julie Stenken presented twice at the American Association of Pharmaceutical Scientists Biotechnology meeting in San Diego in late June in both the short course entitled "Where did my Biologic Go?" and in the regular session on Macromolecular Microdialysis.

Stenken was invited and served as a doctoral external examiner for

an analytical chemistry student at the University of Botswana in July.

She also presented at the 2nd SEANAC (Southern and Eastern African Conference for Analytical Chemists) in Gaborone, Botswana.

Peng Continued

Peng, who holds the Charles E. and Clydene Scharlau Endowed Professorship in Chemistry, and NN-Labs were recognized for pioneering the manufacturing and application of high-quality, nanocrystals in solution that can be used in solid-state lighting, light-emitting diodes, solar cells, and biomedical detection. NN-Labs and the U of A received a joint U.S. patent in 2006 for their specialized manufacturing process.

Also recognized was Ajay Malshe, a professor of mechanical engineering and the Twenty-First Century Professor of Materials, Manufacturing and Integrated Systems, and his company, NanoMech.

Peng took part in the roundtable discussion about overcoming barriers to nanotechnology commercialization.

Alumna **Mary Good**, M.S. '53, Ph.D. '55, dean of the Donaghey College of Information Sciences at UALR also took part in the roundtable discussion.

From the Library by Luti Salisbury

The chemistry and biochemistry library re-opened July 16 in CHEM 224-229. Please join us for the official opening of the chemistry library August 28, from 10 a.m. to 1 p.m. Snacks will be provided.

Library Instruction

Please request a library instruction session for your class by sending an e-mail to the chemistry and biochemistry librarian at lsalisbu@uark.edu or phone 58418

We also provide assistance to students, faculty and staff in the following:

- searching databases
- finding material through the catalog
- verifying difficult citations
- using the citation manager (RefWorks) and
- research consultations

Print and Electronic Course Reserves

The Chemistry and Biochemistry library will provide print and electronic course resources in support of teaching and research. Course reserves are normally items that an instructor has selected and requested that the library set aside for a particular group of users.

Electronic Reserves (e-reserves) are course reserve items that are converted into digital files and made available to students from any Internet connection 24 hours a day, 7 days a week. Course reserve materials may include: books, journal articles, solution sets, and sample exams. Please read general guidelines about reserve at <http://libinfo.uark.edu/circulation/generalguidelines.asp>

Please send us your reserve suggestions as they become available.

August Safety Tip

Dress code for laboratories

No sandals - shoes must cover the feet

No shorts - long pants, calf-length skirts or lab coats must be worn

No tank tops - shoulders must be covered

Williams Wins Jude Award

REU student **Roger Williams** from Eastern New Mexico University was awarded the REU Tony Jude Award for his research "Synthesis & Racemization Studies of Chiral Pyrrolidines," under research mentor Bob Gawley.



REU coordinator David Paul with Roger Williams

The Tony Jude Award is presented to an REU student for outstanding research and carries a cash award. It is named for UA alumnus and former REU student Anthony Jude who passed away at the age of 31. In 2001, at the time of his death, he was an assistant professor of chemistry at UALR.

REU and INBRE presentations below.

Karole Blythe "Expression of, and Measurement of the Binding Affinity of Isotopically-labeled Cdc42 wildtype and Cdc42(F28L) with a Minimal Binding Domain Peptide of a p21-Activated Serine/Threonine Kinase," mentor Paul Adams.

Sherri Brixey "Metal Binding Affinity of the C2B Domain of Synaptotagmin," mentor TKS Kumar.

Jahnvi Chatterjee "A study of synthesis and chemistry of Titananthracene," mentor Neil Allison.

Charles Loftis "Understanding the Mechanism of Trichloroacetic Acid-Induced Precipitation of Proteins," mentor TKS Kumar.

Michelle Reed "Determination of the Effect of Magnetic Particles on Oxygen Reduction Potentials," mentor David Paul.

Adam Ring "Effects of Redox Magnetohydrodynamics on Anodic Stripping Voltammetry of Arsenic," mentor Ingrid Fritsch.

Lauren Woods "Identification of Contaminating Species for Co(II) Immobilized Metal Affinity and Hydrophobic Interaction Chromatographies," mentor Bob Beitle, chemical engineering.

Cassandra Hunter "The Designing of Microsatellite Primers to Screen the Genome of Chickens," mentor Douglas Rhoads, biological sciences. INBRE

Nakita Lovelady "The Effects of Deleting Histone Genes from *Saccharomyces cerevisiae*," mentor Ines Pinto, biological sciences. INBRE

Sharon Sanders "The Significance of Detecting Methionine 388 as Conserved Throughout the Thrombomodulin Gene of Various Mammalian Species," mentor Wes Stites. INBRE

Student News

Doctoral candidate **Estelle M. Huff** will attend the Great Plains Grid School at the University of Nebraska, Lincoln, August 8-10. Huff is a student of Peter Pulay.

Alumni News

Department Hires Alumni

Robert "David" Hayes, B.S. '69, has been hired as the department lab coordinator replacing alumnus Gwen Mattice, Ph.D. '94, who has returned to the classroom in the department as an instructor. Hayes holds a masters degree in chemistry from Murray State University and was most recently an instructor at the University of Cincinnati at Clermont and was a board educator for the water quality station in Cincinnati.

Bobbitt Gets High Profile

Fulbright College Dean **Donald R. Bobbitt**, B.S. '80, was featured as the High Profile for the Northwest Arkansas edition of the Arkansas Democrat Gazette in July.

Bramlett Named Dean

Morris Bramlett, Ph.D. '93, was named Dean of Mathematical and Natural

Sciences at UA Monticello. In addition to other duties he will serve as the ASGC representative, the pre-med director.

Chittendon Wins Award

Julie Chittendon, Ph.D. '07, won the Stephen E. Dwornik student research award by the Geological Society of America at the 2007 Lunar and Planetary Sciences Conference in Houston. Her doctoral research suggests that water and water ice are more stable on Mars than previously thought. These findings are useful for missions to Mars and have implications for life on Mars.

Sheridan to Graduate School

Leah Sheridan, B.S. '05, will begin graduate school in the fall. **Emily Reynolds** was hired to take her place at NN-Labs.

Wang Gets Patterson Award

Bi Cheng (B.C.) Wang, Ph.D. '69, is the 2008 recipient of the American Crystallographic Association (ACA) Patterson Award: "For significant contribution to the methodology of structure determination from single isomorphous replacement or single-wavelength anomalous scattering data and for its impact on structural biology." Wang was a student of Wally Cordes.

The Patterson Award, established in 1980, is given every three years to recognize and encourage outstanding research in the structure of matter by diffraction methods, including significant contributions to the methodology of structure determination and/or innovative application of diffraction methods and/or elucidation of biological, chemical, geological or physical phenomena using new structural information.

Semester Calendar

August

- 10..... Summer II ends
 19..... Last date to receive 100% fee cancellation for an official withdrawal for fall
 20..... Fall 2007 begins
 24..... Last date to register or add a full semester class
 27..... Fall seminar series begins
 31..... Last date to drop a full semester course without a "W"

Fall At-A-Glance

- September 3 Labor Day Holiday, U of A CLOSED
 October 3..... Early progress grade reports for 1000 and 2000 level classes will be e-mailed to student's University email account
 October 26..... Last date to drop a full semester class or classes with a mark of "W"
 November 9-10 .. Fall INBRE conference
 November 21..... Fall Break, NO CLASSES, U of A is open
 November 22-23 Thanksgiving Holiday, U of A CLOSED
 December 4..... Last date to officially withdraw from all full semester classes for the fall 2007 and last day of classes
 December 5 Dead day, NO CLASSES
 Final copies of master's thesis/doctoral dissertations must be sub
 mitted to the Graduate School for December 2007 graduation
 December 6-12... Final exams

- Dates above are also on the Web CT calendar <http://WebCT.uark.edu/>
- For more academic dates see <http://www.uark.edu/registrar/classes/calcover.html>
- To see what is going on in the Fulbright College see <http://fulbright.uark.edu>

New Department Web Site

The department has a new Web site and new Web address <http://chemistry.uark.edu/>
 Contact Jennifer Sims if you have suggestions or submissions.

Use WebCT

WebCT is a good tool for posting grades and course materials. Department members can access the department WebCT site for the department directory, seminar agendas, speaker information, calendar of events and other items. To be added to the list contact Jennifer Sims. <http://courses.uark.edu/uaweb/>

Fall Cume Dates

Cumulative exam dates for graduate students. Location and times TBA.

- September 7
- September 28
- October 19
- November 9
- November 30

Fall Seminar Series

The fall seminar series begins August 27 with Kai Su, Dow Corning Corporation, who will present "Silicon Based Materials for Electronic and Photonic Applications." A reception will take place in CHEM 105 at 3 p.m. with the seminar from 3:30 p.m. to 4:30 p.m.

August Birthdays

- 02.....Frank Millett
 03.....Brandon Ayers
 04.....Susan Grisham
 05.....Richard Smart
 09.....Bridgette Blackman
 11.....David Parette
 14.....Grace Ong
 14.....Charles Wilkins
 17.....Joseph Smeal
 19.....Neil Allison
 23.....Jerry Homesley
 27.....Jennifer Sims
 27.....Richard Fleming

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

Chemistry and Biochemistry Library Hours

Summer Hours

(end August 19)

Monday - Friday8 a.m. to 5 p.m.

Fall Hours

(begin August 20)

Monday - Thursday....8 a.m. to 9 p.m.

Friday8 a.m. to 6 p.m.

Sunday.....2 p.m. to 6 p.m.

Closed Saturdays

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.