

# The Mole Street Journal

Department of Chemistry and Biochemistry

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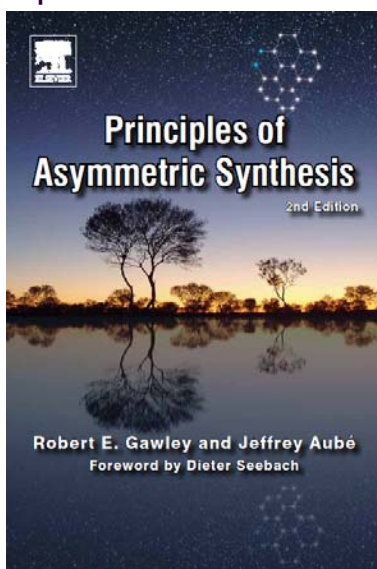
## Special points of interest:

- Bob Gawley publishes Monograph
- Teaching Academy elects Neil Allison to executive committee
- IT receives more Golden Tusks
- 2011-2012 graduates announced
- Alumni plans

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## Department Chair Publishes Book



The world is chiral. Most of the molecules in it are chiral, and asymmetric synthesis is an important means by which enantiopure chiral molecules may be obtained for study and sale. Using examples from the literature of asymmetric synthesis, this book presents a detailed analysis of the factors that govern stereoselectivity in organic reactions.

The authors, Robert E. Gawley and Jeffrey Aubé, explain the basic physical-organic principles governing stereoselective reactions, and provide a critical overview of the most common methods for the preparation of enantiomerically pure compounds, and a synopsis of the various techniques for the analysis of stereoisomers. The authors then present and evaluate the most important methods in contemporary asymmetric synthesis.

In the foreword to the book, 2010 Fry Lecturer Professor Dieter Seebach writes: "The second edition of *Principles of Asymmetric Synthesis* is up-to-date in all aspects of this important part of organic synthesis. Of special note, the first two chapters ... are unique among all the books I have seen on stereochemistry." This edition follows the highly successful 1st edition, published in 1996, and has been eight years in the making.

## Allison Elected to Executive Committee

Members of the Teaching Academy at the University of Arkansas elected new officers and members of the executive committee at its April meeting. Neil T. Allison was elected to the executive committee of the Teaching Academy. Allison is the holder of the Liebolt Chair of Premedical Sciences and is associate professor of chemistry and biochemistry in Fulbright College. The Teaching Academy is a society committed to excellence in teaching at the University of Arkansas, established in 1988 by then-Chancellor Dan Ferritor. The academy's mission is to advocate and represent teaching interests, promote and stimulate an environment of teaching and learning excellence, and encourage recognition and reward for exceptional teaching. The Teaching Academy consists of faculty members who have been recognized by their peers, colleges and the university for their excellence in teaching.

Others elected to office were Jeannie Whyne, professor of history, president; Don Johnson, professor in agricultural and extension education, vice-president; Donna Graham, professor in agricultural and extension education, secretary-treasurer. The new officers join David Gay, immediate past president and University Professor in the Sam M. Walton College of Business, and Charles Leflar, who serves as a member of the executive committee and is a clinical associate professor in Walton College.



## Faculty News

### On the Go

**Ingrid Fritsch** presented an invited talk "Electrochemical Analysis in Micro-Magnetoconvective Systems" at the Gordon Research Conference on Bioanalytical Sensors held at Salve Regina University, Newport, RI, during the week of June 17-22.

**Matthias McIntosh** presented a poster "Industrially Relevant Azole Synthesis" at the Gordon Conference on Heterocyclic Compounds in Newport, RI June 25.

**Jingyi Chen** presented a talk "The Use of Gold Nanoparticles in Photoacoustic Imaging" at the 2012 Annual Meeting of SNM Continuing Education, Miami Beach, FL June 9-13.

**Peter Pulay**, together with Gustavo Scuseria (Rice Univ.), organized a satellite meeting of the International Congress of Quantum Chemistry between June 18-22 in Telluride, CO. The subject of the meeting was "Low-Scaling and Unusual Electronic Structure Methods." It had 30 invited speakers, 75 registered attendees and 30 posters.

**Peter Pulay** also participated in the annual meeting of the International Academy of Quantum Molecular Sciences in Boulder, CO, June 24-25. Six new members of the Academy were elected; the number of members below the age of 65 is now 32. The annual Medal of the Academy was awarded. He also attended the main meeting, the International Congress of Quantum Chemistry, Boulder, CO June 25-30.

**Tomasz Janowski** presented a poster at the Advances in Quantum Chemistry: Interfacing Electronic Structure with Dynamics, held June 20-22 at the University of Minnesota, MN, titled "Ultrafast Quantum Mechanics/Molecular Mechanics (QM/MM) Monte Carlo

Simulations using Generalized Multipole Polarizabilities (GP) in Polarizable Solvents. Authors of the work are T. Janowski, T. Yamada, M. Dupuis and P. Pulay.

**Benjamin Jones** attended the Gordon Research Conference entitled "Graphitic Carbon Materials, Chemistry and Physics of" in Davidson, NC from June 17-22.

**Justin Cole Deaton** made an oral presentation, "Increased Microdialysis Sampling Relative Recovery with Flow Recycling—Approaching 100% Relative Recovery" at the PittCon 2012 meeting in Orlando, FL March 2012. It was co-authored by **Julie Stenken**.

**Geetika Bajpai** presented a poster "In vivo Microdialysis of Adipokines from the Mammary Fat Pad of Young Female Rats. Comparisons of Dialysates to Whole Tissue Concentrations," at the Experimental Biology meeting in San Diego, CA April 2012. It was co-authored by **Julie Stenken**.

**Geoffrey Keeler** and **Julie Stenken** are co-authors of a poster "Directing Macrophage Polarization using Microdialysis Sampling" which was presented at the World Biomaterials Congress in Chengdu China, June 2012.

**Neil Allison** returned in June from the Health Teams Abroad, study abroad in Sweden. Other UA faculty involved were Jeanne McLachlin (Biology), Fran Hagstrom (Communications Disorders) and Nan Smith-Blair (Nursing). Seventeen students also participated. The chemistry students were Hayden Dunn, Nathan Falls, Taylor Gohman, Colton Kordsmeier, Jessica Morales, Edouard Oudin, and Keaton Piper.

### Publications

**Chen, S.**; Si, R.; **Taylor, E.**; Janzen, J.; **Chen J.** Synthesis of Pd/Fe<sub>3</sub>O<sub>4</sub> Hybrid Nanocatalysts with Controllable Interface and Enhanced Catalytic Activities for CO Oxidation, *Journal of Physical Chemistry C*, 2012, 116, 12969-76.

**Gawley, R.E.** and Aubé, Jeffrey, *Principles of Asymmetric Synthesis*, 2nd Ed. Elsevier, Oxford, 555 pp.

Clough, G.F.; **Stenken, J.A.**; Church, M. High molecular weight targets and treatments using microdialysis, in *Microdialysis in Drug Development*, ed. Markus Mueller, in press.

**Salisbury, Lutishoor** and **Smith, Jeremy** (2012). Patents granted to the University: 1976-2011: A bibliographical analysis. Fayetteville, AR: University of AR Libraries. 129p.

**Salisbury, Lutishoor; Laincz, Jozef; Smith, Jeremy.** (2012). Science and Technology Undergraduate Students' Use of the Internet, Cell Phones and Social Networking Sites to Access Library Information. *Issues in Science and Technology Librarianship*, Spring 2012. <http://www.ist.org/12-spring/refereed3.html>

### Golden Tusks Awarded

Fulbright IT reports that Golden Tusks were awarded to 4 staff members at the nomination of **Heather Jorgensen**. "**Sean O'Bryan** and **Arif Islam** have been extremely helpful with assisting me when I have problems with the plotter. **Chris Clanton** has assisted me with ensuring the projectors are functioning, and **Catherine Thomas** is very helpful in securing assistance for me any time I call Fulbright IT." The Golden Tusk, a recognition program from the Division of Student Affairs, is designed to award those members of the University of Arkansas community who are going the extra mile to do the right thing for everyone who lives and works here. Each winner receives a recognition letter and a black and gold lapel pin. Visit the website at [goldentusk.uark.edu](http://goldentusk.uark.edu) and follow the instructions to nominate someone you feel has gone above and beyond to be helpful.

## 2011-2012 Graduates Announced

The Spring Commencement at the University of Arkansas had the largest graduating class in school history and featured another first as well: three ceremonies were streamed live. The All-University ceremony, for graduate students only, was Saturday, May 12. and the ceremony for the J. William Fulbright College of Arts and Sciences followed it. "This idea came in response to requests from our students, particularly from our international students," said university registrar Dave Dawson. "The students wanted their families and friends who couldn't attend the ceremony to have a way of viewing the event live. With the help of the staff at media services and university relations we can provide a virtual way for our students to share this event."



A total of seven undergraduate ceremonies were held.

An estimated total of about 2,700 undergraduate and graduate students attended the ceremonies, a new record for the University of Arkansas.

**SUMMER 2011** BA degree in Chemistry recipient was Joseph Warden. Receiving the BS in Chemistry were Rory Henderson, Dirk Herrmann, Christian Hundshammer, Beatrice Kachel, Andreas Poschenrieder, Omar Salem, Michael Vaningen and Jared Morphew.

**FALL 2011** BA degree recipient was Ty Smith. BS degree recipients were Heather Ali, Deandrea Devine, Whitney Jones, Andrea Houchin and Tanner Poole.

**SPRING 2012** BA degree recipients were Jamie Coonce, Andrea Preston, Jeffrey Roeser, Benjamin Skidmore, Haley Thomas, and Claire Vines. Receiving the BS in Chemistry were Shaun Adams, Amy Carr, Stephen Dalby, John Dunavant, Gray Edwards, Anna Fielder, Stephen Grady, David Hopkins, Melissa Jones, Brandon Kelly, Devin O'Dea, Mikala Parton, Kyle Peterson, Karen Ramey, Kimberly Reynolds, Sunshine Robertson, Ashley Rosenberg, Sara Schneider, Matthew Sharum, Courtney Cagle, Hunter Dunn, Kelsey Knewtson, Ethan Latimer, Morgan Merriman, Ettore Rastelli, Ryan Shinabery, James Tamas, and Galen Tobey. Graduates with a minor in Chemistry were Nathan Boye, Navdeep Dhatt, William Erwin, Hubiin Hailu, Tam Nguyen, Cole Smith, and Misty Trinkle.

**MS Degree** recipients were Randy Espinal Cabrera (Spring) and Sasirekha Muruganantam (Fall).

**Ph.D. Degree** recipients were (Summer) - Aaron Beuterbaugh, Silvana Dormi, Lindsay Rutherford, Bill Tyree, (Fall) - Anupama Aggarwal, Timothy Beng, and Abigail Hubbard.

## New Graduate Career Plans

### Ph.D.

**Anupama Aggarwal** is an Associate Scientist at SFC Fluidics, LLC in Fayetteville, AR.

**Abigail Hubbard Albright** is doing a postdoc in Australia.

**Timothy Beng** is doing a postdoc at UC-Berkeley.

**Aaron Beuterbaugh** is working for Haliburton in TX.

**Silvana Dormi** is an Instructor at the U of A.

**Lindsay Rutherford** is working at BiologicsMD in Fayetteville.

**Bill Tyree** is working for the Consumer Testing Laboratories in Rogers, AR.

**Nicole Vanderbush** will be an Assistant Professor of Chemistry/Biology at Shorter College in Rome, GA.

**Zheng Li** is doing a postdoc with Yugang Sun at the Argonne National Laboratory.

**Christian Loeschel** has moved to Houston, TX.

**Sasirekha Muruganantham** is living in Memphis, TN.

### MS

**Sasirekham Muruganantham** and **Randy Espinal Cabrera** continued their studies at the U of A in the Ph.D. program of the Chemistry Dept.

### BA

**Jamie Coonce** is attending Pharmacy School at UAMS.

**Andrea Preston** is considering Physician Assistant school.

### BS

**Shaun Adams, Stephen Dalby, Gray Edwards, Brandon Kelly, Ethan Latimer, Morgan Merriman, Devin O'Dea, Ashley Rosenberg, Matthew Sharum,** and **James Tamas** will all enter medical school at UAMS.

**Amy Carr** and **Sara Schneider** will attend Pharmacy School.

**Nathan Boye** is a Process Technology Engineer for Albermarle in Magnolia, AR.

**Courtney Cagle** is in the Ph.D. program in developmental biology at Baylor Medical School in TX.

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Chemistry.uark.edu/4842.php  
&  
Department of Chemistry and  
Biochemistry University of Arkansas

## Safety Tip: by Bill Durham

Despite the summer heat, the rules for laboratory attire have not changed!

  
Department of Chemistry  
and Biochemistry

## Excellence in the Central Science

### New Graduate Career Plans (cont. from p. 3)

**Rory Henderson** and **Beatrice Kachel** are in the Ph.D. program in the Dept. of Chemistry at the U of A.

**Kelsey Knewtson** will attend the University of Kansas for a Ph.D. in Medicinal Chemistry. **Anna Fielder** is working for Haliburton in California.

**Karen Ramey** will pursue a second degree at the U of A and then hopefully enter medical school in 2013.

**Ettore Rastelli** will attend graduate school at the University of Houston. **Ryan Shinabery** will attend graduate school at MIT.

**Cole Smith** is employed as a Process Engineer with CB&I in Tyler, TX.

**The Graduate Recruitment Office** will host a series of brown bag lunches for faculty who are interested in recruiting qualified students. Let **Shani Farr** (sfarr@uark.edu) know the topics in which you would be interested.

The first luncheon will be on July 25, so please block your calendar now.



### Save the Date!

The department is again co-hosting the INBRE conference October 5-6, 2012 with the departments of biological sciences and physics. Events include faculty talks, student oral presentations, workshops, and a poster session. More information to come soon!

*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.*

## Calendar of Events

### July

- 01 Application deadline with the Registrar for August 2012 diploma
- 04 Independence Day, University closed
- 25 David Clay defends
- 26 First Grad Recruitment brown bag luncheon
- 27 Dissertation due in Grad School for August 2012 diploma

### August

- 10 International Graduate Student Orientation, Holcombe Hall, 9 a.m.-4 p.m.
- 13 Teaching Assistant Orientation, AR Union, 8 a.m.-3 p.m.
- 15 Graduate Student Orientation, AR Union, 8 a.m.-4 p.m.
- 20 Classes begin
- 27 Chemistry labs begin

## Library Hours

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

**May 12-20** Monday-Friday 8 a.m.-5 p.m.

### May 21 Summer Hours

Monday-Thursday 8 a.m.-6 p.m.  
Friday 8 a.m.-5 p.m.

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>.

