Once again the members of the department of chemistry and biochemistry were saddened by the loss of one of the faculty members that made the department what it is today. George Blyholder died February 27, 2013 after a lengthy battle with what he may have called entropy – old age to most others. Professor Blyholder was a member of the physical chemistry division for 37 years and retired in 1996 just about the time we moved into the new research wing. He was born in Elizabeth, New Jersey in 1931. He obtained a BA degree from Valparaiso University, a BS degree from Purdue University in chemical engineering and a Ph.D. from the University of Utah under the direction of Henry Eyring (a major contributor to modern kinetics) in 1956. Before coming to the University of Arkansas in 1959 he was a postdoctoral fellow at the University of Minnesota and a research chemist at the Johns Hopkins University.

Professor Blyholder’s research was in the broad area of catalysis but his focus was on the interaction of CO on surfaces. He was a major contributor to this field and was internationally recognized for some of the models he developed which still hold today. For example, in 1964 Professor Blyholder published an article in the Journal of Physical Chemistry (68, 2772) that has been cited 1351 times to date, including 25 citations in 2012 alone. Professor Blyholder used computer calculations to probe the theoretical aspects of problems and he was a talented experimentalist. He used IR spectroscopy to probe the surfaces of metals and he was proficient in the application of the technically challenging technique called matrix isolation. The technique allows an investigator to capture atoms or small molecules in a matrix of frozen argon. IR spectroscopy then provides a means of analyzing the nature of these molecules captured in the matrix that essentially isolates them from interaction with any other material. Exposure to light can be used to create highly reactive intermediates which cannot be produced in any other manner. Publications such as “Infrared Spectrum of Carbon Monoxide Chemisorbed on Nickel at 44 K by a Matrix Isolation Technique” and “Adsorbed Species on Dark and Illuminated Zinc Oxide” are representative of the work described by the nearly 100 papers produced through his research efforts.

Lunch with Professor Blyholder was always an interesting experience, a piece of fruit and a bagel was his typical meal taken at the student union. His insightful yet down to earth comments about local events made a lasting impression.

Professor Blyholder is survived by his wife of 57 years, Betty Sue Conrod. They have two daughters, Sylvia and Victoria, and one son, Andrew.

Bill Durham
On the Go

Peter Pulay had an invitation to give a Distinguished Lecture Seminar at City University, Hong Kong. Subsequently, he will visit and give seminars at Zhejiang University, Xi’an Jiaotong University, and Beijing Tsinghua University in China during the 2013 Spring Break.

Julie Stenken served on the NIH Biomaterials and Biointerfaces (BMBI) study section in San Francisco, Feb. 7-8.

Feng Wang delivered a talk “Determining Challenging Thermo-dynamic Properties of Water with Only Electronic Structure Information” at Missouri State University February 6, 2013. He also delivered a theory talk “Accurate simulations at micro-second time scale: Investigating challenging properties of water with electronic structure accuracy,” to the Department of Chemistry at NYU.

Julie Stenken, accompanied by two undergraduate Honors students Kevin Kelly and Fang Weng, presented their research at the annual undergraduate research symposium February 23 at the University of Memphis. The titles of their talks were: Fang Q. Weng, Randy F. Espinal Cabrera, Julie A. Stenken, “Utilization of Transmembrane Convection to Increase Microdialysis Sampling Recovery,” and Kevin P. Kelly, Cynthia R. Sides, Lynsey Carrier, Jennifer Gidden, Jackson O. Lay, Julie A. Stenken, “Comparing MALDI-TOF Spectra for Egg Lipids vs. Quantitation via GC-FID.”

Publications
A paper by Eric R. Pinnick, Camilo E. Calderon, Andrew J. Rusnak, and Feng Wang was selected to be included in the book: “Highlights in theoretical chemistry: From Quantum Mechanics to Force Fields” edited by Jean-Philip Piquemal and Kenneth D. Jordan. The paper’s title is “Achieving fast convergence of ab initio free energy perturbation calculations with the adaptive force matching method.”


Vasicek, Thaddeus; Jackson, Matthew, Poseno, Tina; Stenken, Julie, “In Vivo Microdialysis Sampling of Cytokines from Rat Hippocampus: Comparison of Cannula Implantation Procedures” was accepted for publication in ACS Chemical Neuroscience.

Students Defend Dissertations

Samrat Bar Thapa defended his dissertation “Oxidation of Thrombomodulin Methionine 388 in Cigarette Smokers” February 13, 2013. A native of Nepal, Samrat received his B.S. in biology from Lyon College in Batesville, AR. His advisor is Wesley Stites.

Maha Laxmi Shrestha defended her dissertation “Further Studies in the Allylic Diazene Rearrangement” February 26, 2013. A native of Nepal, Maha received her B.Sc. and M.Sc. from Tribhuvan University, Kathmandu, Nepal and an M.S. from Pittsburg State University, Pittsburg, KS. Her advisor is Matthias McIntosh.

Admitted to Candidacy

Randy Espinal Cabrera, Dominican Republic, passed his 7th cume February 15, 2013 and is admitted to candidacy. Randy received his Bachelor degree in chemistry from the Universidad Autónoma de Santo Domingo in 2004. He earned the M.S. degree in chemistry from the UA in 2012. His advisor is Julie Stenken.

Undergrad Biochem Major Saves the Day

Randy Espinal Cabrera, Dominican Republic, passed his 7th cume February 15, 2013 and is admitted to candidacy. Randy received his Bachelor degree in chemistry from the Universidad Autónoma de Santo Domingo in 2004. He earned the M.S. degree in chemistry from the UA in 2012. His advisor is Julie Stenken.
Biophysical Society Meeting Presentations

The 57th Annual Meeting of the Biophysical Society took place February 2-6, 2013 in Philadelphia, Pennsylvania. The following presentations were made.

Venkatesan Rajagopalan, Denise V. Greathouse, Roger E. Koepppe II. “Influence of pH and Side-Chain Negative Charge on the Behavior of Designed Transmembrane Peptides in Lipid Bilayers.”

Kelsey Sparks, Nick Gleason, Renetra Gist, Denise V. Greathouse, Roger E. Koepppe II. “Comparison of Interfacial Tyrosine, Tryptophan and Phenylalanine Residues as Determinants of Orientation and Dynamics of Transmembrane Peptides.”


Derek Pyland, Wesley Stites. Characterization of Protein Folding and Protein Solvent Accessible Areas of Staphylococcal Nuclease Mutant V66W by PEPS-HDX-ESI-MS.”


Kaila Pialalto, Martha Scharlau, Francis Millett. “Characterization of Specific Electron Transfer Interactions between Cytochrome C and Cytochrome C Oxidase.”


Christopher P. Moutos, T.K.S. Kumar, David S. McNabb. “Membrane Permeability Induced by Stereo and Retro Analogs of Histatin S.”

Colby Smith, Denise V. Greathouse. Solid-State NMR and Fluorescence Spectroscopy of Antimicrobial Methylated-Tryptophan Lactoferricin Peptides with GLN, GLY or PRO as the Central Residue.”

Densie A. Greathouse, Tod D. Romo, Joshua N. Horn, Alan Grossfield. “Comparison of Membrane Interactions of Acylated and Non-Acylated Lactoferricins by Solid-State NMR Spectroscopy and Molecular Dynamics Simulations.”


Kyla Morris, Paul D. Adams. “Characterization of the Interaction between Rheb and Truncated Construct of Tuberous Sclerosis Complex 2 (TSC2) and the Potential Effect of Heparin on TSC2-Stimulated GTP Hydrolysis.”

News from Fulbright IT

Quick Security Tip from IT: When something “phishy” arrives, pay close attention to examples below of some typical characteristics of a scam.

Requests for personal information in an e-mail message. Never reply with personal information or any passwords via email. 

Urgent wording examples: “Respond promptly or risk blocked access to your account.” “Please follow the link below to confirm your data.”


Misspellings. Looking closely and carefully for spelling errors can many times be a good indicator of a scam.

What you can do:
1. Always be vigilant by studying the message for unknown senders, suspiscous requests, urgency and types of information requested, as well as fabricated or modified links.
2. Immediately forward suspicious mail addressed to your UARK account, as an attachment to security@uark.edu for analyzing.
3. If you share your password or log into a suspicious site, immediately change your password at http:// password.uark.edu.
4. Ask your tech support if the message is trustworthy. arscup@uark.edu or 575-7512.
5. Always keep your password(s) safeguarded!

Teresa Waddell, Director of Technology for Fulbright College
Student Helping Others

Graduate student and member of the Rotaract Club of Fayetteville, Matthias Knust, along with other club members, collected, wrapped, and distributed Christmas boxes to 100 Head Start preschool children in Fayetteville. The boxes contained a scarf, hat, gloves, socks, books, puzzles, toothbrush, and extra toys. Generous donations were provided by Ocean Dental, TJ Maxx, the Northside Fayetteville Rotary Club and the downtown Rotary Club of Fayetteville.

2012-2013 CUME Schedule

All cumes are in CHEM 144, 5-6 p.m.

- September 14
- September 28
- October 19
- November 9
- November 30

- January 25
- February 15
- March 8
- March 29
- 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 address the challenges of the future through interdisciplinary and multidisciplinary research and education.

Calendar of Events

March

- 01 Graduate student proposals due to committees
- 04 Seminar, Dr. Alexei Demchenko, Univ. of MO-St. Louis
- 08 CUME
- 10 Daylight Saving Time begins, 2:00 a.m.
- 11 Seminar, Dr. Adrian Michael, Univ. of Pittsburgh
- 16-24 SPRING BREAK
- 25 Seminar, Dr. Guozhong Cao, Univ. of Washington
- 29 CUME

April

- 01 Fry Lecture Seminar, Dr. Ronald Breslow, Columbia University
- 07-11 245th ACS Natl. Meeting, New Orleans
- 15 Seminar, Dr. Lingjun Li, University of Wisconsin-Madison
- 15 Deadline for Committee Meetings
- 19 CUME
- 22 Seminar, Dr. Younan Xia, Boston University
- 26 Grad School deadline for submitting dissertation for May 2013 diploma
- 29 Seminar, Dr. Raymond Schaak, Penn State University

Library Hours

Spring Semester Hours, Jan. 14, 2013—May 12, 2013

- Monday—Thursday: 8 a.m.—5 p.m.
- Friday: 8 a.m.—6 p.m.
- Saturday—Sunday: Closed

Exceptions to Regular Hours

- Friday, March 15: 8 a.m.—5 p.m.
- Monday-Thurs., Mar. 18-21 (Sp. Bk.): 8 a.m.—5 p.m.
- Friday, March 22: Closed
- Friday, May 10: 8 a.m.—5 p.m.