

The Mole Street Journal

Department of Chemistry and Biochemistry

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May 2012

Special points of interest:

- Honors Night
- Dr. Kuroda inducted into AXΣ Hall of Fame
- Graduate Student Defends

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Honors Night and Awards

The department hosted its annual Honors Night April 26, 2012 at the UARK Ballroom on Dickson Street. The evening began with Honors College chemistry majors making poster presentations of their research. Senior Honors College students in the department must make a poster presentation in addition to defending and writing a thesis. Following the poster session, the department awarded more than \$25,000 to scholarship and award recipients during a ceremony and dinner. Photos by Frank Millett. Students absent from picture are (np).



AMIS: Timothy Burnside & Liselle Trim



DUPONT: Galen Tobey & Sara Schneider (np)



ETHYL: Mark Bush



HIGH: Ethan McBride
Shumon Hasan (np)
Ann Johnson (np)



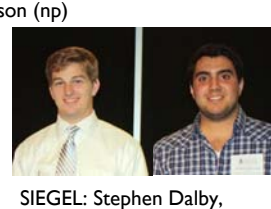
CAMPBELL:
Devin O'Dea
Ann Johnson (np)



FRY: Anna Fielder, Ettore Rastelli, Kelsey Sparks



NOYCE: Devin O'Dea, Ethan Latimer
Matthew McMahon (np)



SIEGEL: Stephen Dalby,
Arshan Dehbozorgi



SACKS: Chase Ross, Sushanth Kumar, Ashley Rosenberg, Keaton Piper, Casey Henderson, Colby Smith, Alta Johnson, Gaya Kumar, Liselle Trim, Ross Harmon (np)



CHBC: Samuel McClelland, Taylor Ghahremani, Kanasha Day (np), Joseph Plugge (np)



ACS: Craig McLean, Corrine Songer, Matthew Sharum, Arshan Dehbozorgi, Hunter Dunn, Patrick Naeger



JONES: Sunshine Robertson, Ryan Shinabery, Emily Jacobs, Shaun Adams, Colby Smith, Stephen Dalby, Parth Patel, Taylor Needham, Megan Wary

HONORARY (below rt): Mathias Bellaiche, Caroline Chen, Colton Kordsmeier, Sushanth Kumar, Ethan Latimer, Kelsey Knewton, Alex Jones, Padma Manavazhahan, Brandon Kelly, Gaya Kumar, Christopher Sonntag, Kaila Pianalto, Rachael Pellegrino, Megan Wary, Karina Sanders, Sarah Mayfield (np), Jes Sanders (np), Derek Pyland (np), Rachel McConnell (np)



KEKULÉ: Bailey Barnes



CORDES (left): Ben Jones, Ashley Howard, Latisha Puckett, Christena Nash



Faculty News

On the Go

Department Chair **Bob Gawley** gave a lecture at Brown University April 20 "Catalytic Dynamic Resolution-Discovery, Applications, and a Little Mechanistic Speculation."

Matt McIntosh gave the Scholes Lecture at Alfred University April 18th "The Role of Organic Synthesis in Drug Discovery." **Ryan**

Tian attended the MRS Spring 2012 Conference, San Francisco, CA April 8-13, where he presented "New Surface Properties and Thermal Stability of Composite Nafion/Titanate Nanobelt Membrane."

Charles Wilkins presented an invited paper at Pittcon 2012, March 15, Orlando, FL "Ion Cyclotron Resonance Spectrometry: Then and Now."

He presented the same paper at the 10th European FTMS Workshop April 1-5 at University of Warwick in the United Kingdom. **Paul Adams** has been appointed to a National Institutes of Health (NIH) Study Section in Macromolecular Structure and Function (Section B). The Study Section will be held in San Francisco, CA in June. Graduate student **Ryan Bauer** is leaving May 14 to spend the summer working with Dr. Osamu Matsushita at Okayama University Medical School.

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Promotions Announced

Paul Adams was promoted to the academic rank of Associate Professor with tenure. The Board of Trustees and President Donald R. Bobbitt approved this at their meeting March 30, 2012. This promotion recognizes the significant contributions made to the university in the areas of teaching, research, and public service. Dr. Adams joined the faculty as an Assistant Professor in January of 2007.

Bill Durham was promoted to the academic rank of University Professor. The Board of Trustees and President Donald R. Bobbitt approved this at their meeting on March 30, 2012. Appointment to a university professorship signifies a special honor conferred only upon active faculty of extraordinary merit. Dr. Durham joined the University of Arkansas as an Assistant Professor in 1979. He was promoted to Associate Professor in 1984, and full Professor in 1990. Dr. Durham served as the department's Vice-Chairman from 1998-2000, and as Chairman from 2000-2011.

Roger Koepp was promoted to the academic rank of Distinguished Professor at the March meeting of the Board of Trustees and President Donald R. Bobbitt. A distinguished

professorship is reserved for those individuals who are recognized nationally and internationally as intellectual leaders in their academic disciplines for extraordinary accomplishments in teaching, published works, research, and who have gained such recognition for distinction at this or another university prior to appointment as such. Dr. Koepp joined the University of Arkansas' faculty in 1979 as an Assistant Professor. He was promoted to Associate Professor in 1982 and Professor in 1987. He was honored with the rank of University Professor in 1996.

Service Commendation

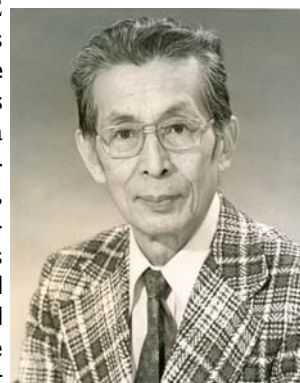
Denise Greathouse was honored with a Service Commendation from Sidney Burriss, Director, Fulbright College Honors Program for her involvement in the reading of numerous applications to the program. Dr. Greathouse is a Research Assistant Professor and has been associated with the university since 1987.

Golden Tusks Awarded

Margie Hoskins, Josh McFarland and Ronesha Sharma, Fulbright IT, were all awarded Golden Tusks for going out of their way to be cooperative and helpful.

Kuroda Inducted into AXΣ Hall of Fame

Distinguished Professor Paul Kuroda has been inducted posthumously into the AXΣ Hall of Fame, for his lifelong work as an ambassador for the chemical sciences and as a contributor to the success of many generations of chemists. Dr. Kuroda joined the Fraternity in 1996. He was educated at Tokyo Imperial University and received his doctoral degree in 1944. He emigrated to the United States in 1949 to become a research fellow at the University of Minnesota. He joined the UA in 1952 and retired in 1987. During his tenure at the UA, Dr. Kuroda trained 64 PhD students, several postdoctoral associates, became the first Edgar Wertheim Distinguished Professor of Chemistry and was the author or co-author of almost 400 publications. His research in nuclear chemistry began in Japan, before the atomic bomb was dropped on Hiroshima and Nagasaki. He was known for his study of spontaneous fission and for having predicted, in 1956, that self-sustaining nuclear chain reactions could have occurred naturally in Earth's geologic history, and for having predicted, in 1960, that Plutonium-244 had been present in the early solar system.



Honors Night (cont. from p. 1)

Poster presentations were made by the Honor's Class.

Shaun Adams *Identification and Characterization of Juxtamembrane Domains* (Kumar)

Ashlee Bell-Cohn *Characterization of Antimicrobial Peptides Relating to Shortened RWALP Model Peptides* (Koepp)

Kaitlyn Bryant *Characterization and Optimization of Growth of Rheb F31L* (Adams)

Timothy Burnside *Reaction of Cytochrome c and Cytochrome b₅* (Millett)

Courtney Cagle *The Biodiversity and Prevalence of Entamoeba in Periplaneta americana, the American Cockroach* (Silberman)

Emily Crossfield *Purification and Characterization of Novel Affinity Tag* (Kumar)

Stephen Dalby *Partial Synthesis of Pd-cycloheptarenylidene Complexes via N-heterocyclic Carbenes to be Tested for Catalytic Activity* (Allison)

Arshan Dehbozorgi *Characterization of a Thermostable Quadruple Mutant of Human Fibroblast Growth Factor-1* (Kumar)

Hunter Dunn *Optimization and Characterization of a Mutant of Cdc42* (Adams)

Alta Johnson *New Methods for Green Pharmaceutical Synthesis* (McIntosh)

Alex Jones *Analysis of the H35F and L58F Mutation on the Human Acidic Fibroblast Growth Factor* (Kumar)

Mizuho Kaneko *Effect of the Ratio of Cd and Te Surface Atoms on the Blinking Statistics of Quantum Dots: A Single particle Fluorescence Study* (Heyes)

Brandon Kelly *Water Soluble Nanoparticles for Biological Imaging* (Gawley)

Devin Kennedy *Analysis of Low and Intermediate Molecular Weight Polyaniline by MALDI Fourier Transform Mass Spectrometry* (Wilkins)

Kelsey Knewton *From Hydrogels to Chiral Ligands: A compilation of Research Done Both at Home and Abroad* (Gawley)

Iris Kon Njewel *Optimization and Characterization of Cdc42 (F28DeltaL8)* (Adams)

Colton Kordsmeier *Characterization of Methylated Lactoferricin B Antimicrobial Peptides* (Greathouse)

Ethan Latimer *Structure Determination of Clostridium histolyticum S2a Collagen Binding Domain and Staphylococcal Nuclease Improving the Specificity of Cyanogen Bromide Cleavage in Proteins* (Sakon)

Joanna Libby *Improving the Specificity of Cyanogen Bromide Cleavage in Proteins* (Stites)

Nabih Masri *Enantioselective Cyclopropanation of Enamides* (Zheng)

Matthew McMahon *Analysis of Platinum Squares by MALDI-FTMS* (Wilkins)

Morgan Merriman *Design of Novel Heparin Binding Peptides* (Kumar)

Ashley Miller *Characterization of a Stabilizing Mutant of the Human Fibroblast Growth Factor* (Kumar)

Jessica Morales *Triple Mutant (K126E/K132E/R146E) of the Human Acidic Fibroblast Growth Factor- α* (Kumar)

Amir Mortaqzavi *Qualitative and Quantitative Assessment of Melanocyte-Specific Autoantibodies Prior to and through out Development of Autoimmune Vitiligo in Smyth Line Chickens* (Erf)

Christopher Moutos *Membrane Permeability Induced by Antimicrobial Peptides* (McNabb)

Devin O'Dea *A Search for Deep Tissue Brain Cells that Contain a Rhodopsin-like Pigment for Photoreception* (Kuenzel)

Milestones



Allison Elizabeth Millett was born to Paul and Lea Millett in Idaho Falls on April 24 at 11:27 a.m. She weighed 7 pounds 8 ounces. She is the second granddaughter of Eunice and **Frank Millett**.

Christian Loeschel defended his Ph.D. dissertation Monday, April 23. His title was "Part I—A Study of the Formation of Carbenes by Elimination of α -Bromosilanes and Application toward the Synthesis of Transition Metal Complexed Quinone Methide Analogs. Part II—Development of Novel 7-Membered Ring Carbene Ligands for Palladium Catalyzed Cross Coupling Reactions." His research mentor is Neil Allison.



THE MOLE STREET JOURNAL IS AN
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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

Small scale is the best approach when approaching a new reaction, especially one involving hazardous reagents.


Department of Chemistry
and Biochemistry

Excellence in the Central Science

Honors Night (cont. from p. 3)

- Parth Patel** *Cleaning Glass Surfaces and Modifying with PEG Biotin* (Heyes)
Kaila Pianalto *Investigation of Electron Transfer between Cytochrome b_5 and Cytochrome c Wild Type and Mutants* (Millett)
Leah Ramey *Proliferation and Metabolism of Human Pluripotent Stem Cells Grown on Different Membrane Substrates* (Jin)
Ettore Rastelli *Ruthenium (II) Photocatalyzed [3+2] Annulation of Spirocyclic Cyclopropylamines with Olefins* (Zheng)
Kimberly Reynolds *Synthesis and the Use of Gold Nanocages for Controlled Release* (Chen)
Richard Rieske *Functionality of Disulfide Bond in D2 Domain of Fibroblast Growth Factor Receptors* (Kumar)
Sunshine Robertson *Quantitative Proteomic Analysis of Radiation Resistant Pancreatic Cancer Cells* (Du)
Jeffrey Roeser *Collagen Binding Domain of Col G S 3a 3b* (Sakon)
Ashley Rosenberg *Towards the Synthesis of Antascomycin B* (McIntosh)
Preston Scrape *Redox-Magneto-hydrodynamic Flow between Distant Active Electrodes* (Fritsch)
Matthew Sharum *Metal Doped Alginate Hydrogels* (Zheng)
Spencer Shinabery *Intermolecular [3+2] Cycloaddition of Cyclopropylamines with Olefins by Visible Light Photocatalysis* (Zheng)
Rebecca Simpson *Investigation of the Structural Stability of cpSRP43 Chromodomain 2 by Hydrogen-deuterium Exchange* (Kumar)
Colby Smith *Membrane Interactions of Antimicrobial Tryptophan-Methylated Lactoferricin Peptides* (Greathouse)
Kelsey Sparks *Effects of Aromatic Anchor Identity on Dynamics and Orientation of Transmembrane Peptides* (Koeppel)
Galen Tobey *Methionine Sulfoxide as a Biomarker of Oxidative Stress* (Stites)
Jake Usery *Understanding the Binding Interactions of the 43kDa Subunit of cpSRP* (Kumar)
Fang Weng *Study of the Effect of Microdialysis Membrane Hydrophobicity on the Collection of Cytokines* (Stenken)
Jahon Zehtaban *Identifying the Structure and Resonance of CpSRP43* (Kumar)

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

May			
06	Dead Day	24	Last day to drop SSI class without a mark of "W" or change SSI class from credit to audit
7-11	Final Exam week		
12	Commencement Day	28	Memorial Day Holiday-University Closed
	Fulbright College-1:00 p.m. Bud Walton Arena. Assemble at 12:15 p.m. inside the truck tunnel under the Harrod (east) entrance.	31	Last day to drop SS III course without a "W"
		June	
12	Complete all degree requirements no later than this date to be eligible for spring graduation	04	Classes begin for SS IV & V
15	Departmental Canoe Trip	06	Last day to drop SS V class without a "W"
20	INBRE students arrive	12	Last day to drop SS IV course without a "W"
		18	Last day to drop a SSI class with a "W"

Library Hours

	CHBC Library (CHEM 225)
	http://libinfo.uark.edu/chemistry
May 12-20	Monday-Friday 8 a.m.-5 p.m. 575-2557
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>.

