

THE MOLE STREET JOURNAL

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

OCTOBER 2011

VOLUME 10, ISSUE 10

NIH Grant to Improve Longevity of Implanted Sensors



Julie Stenken

The National Institutes of Health (NIH) has granted **Julie Stenken** \$1.3 million for her proposal “Modulating and Monitoring the Foreign Body Response to Implants.”

The four-year grant includes collaborators Associate Dean of Research **Jeannine Durdik**, biological sciences and Liping Tang, department of bioengineering, University of Texas at Arlington.

All implanted materials including implanted glucose sensors elicit an immune response that leads to device encapsulation by the body.

For implants such as glucose sensors, this encapsulation and the long-term inflammation associated with the implant is one of the primary causes for limiting current FDA-approved implanted glucose sensors to 5 to 7 days for clinical decisions (e.g., to inject insulin or to consume carbohydrate). Macrophages, cells derived from the immune system, are believed to provide the

complex bioactive molecular cues that direct the inflammation and encapsulation around the implant.

This work will use microdialysis sampling probes as glucose sensor mimics. The microdialysis sampling probes allow drugs to be delivered to the tissue/device interface to direct the macrophage cells to a wound healing rather than wound promoting state.

Completion of this work will provide significant in vivo bioactive agent pathway information to create and rapidly assess new and improved bioengineering approaches to reduce or eliminate the problems associated with implanted devices.

Reduced inflammation and re-direction of macrophage cells to wound-healing phenotypes will significantly increase the allowable implant time for implanted sensors such as those used for glucose sensing in persons with diabetes.

Arkansas INBRE Research Conference

The Fulbright College departments of biological sciences, physics and chemistry and biochemistry will host the Arkansas INBRE Research Conference Oct. 21-22. chemistry.uark.edu/INBRE/

American Chemical Society to Host Sustainability Lecture

Professor Emeritus Stanley Manahan, University of Missouri, will give a lecture about the chemistry of sustainability Wednesday, Oct. 26.

His visit will complement university guest author Colin Beavan of the *No Impact Man*, who will be on campus as part of the 2011-2012 One Book, One Community program.

Albright Defends

Abigail (Hubbard) Albright successfully defended her doctoral dissertation “Design, Synthesis and Application of a Novel Class of N-Heterocyclic Carbene Catalysts,” Sept. 10 under the direction of **Bob Gawley**.

Originally from New Philadelphia, Ohio, she earned a bachelor’s degree in chemistry from Kent State University at the age of 19.

Her introduction to the university began in 2005, when she participated in the department’s Research Experience for Undergraduates (REU), where she received the Tony Jude Award for best research.

In 2010, she was chosen to represent the Oak Ridge Associated Universities at the 60th Interdisciplinary Meeting of the Nobel Laureates at Lindau, Germany. During her graduate career, she also won two NSF summer fellowships for study abroad — Germany in 2008 and New Zealand in 2009.

On a personal note, this summer she married Adam Albright.



Abigail Hubbard Albright

Faculty News

On the Go

Roger Koeppe, Bob Gawley, Nan Zheng and **Charles Wilkins** attended the Arkansas Biosciences (ABI) meeting in Little Rock, Sept. 21.

Koeppe serves on the ABI Scientific Coordinating Committee.

Roger Koeppe presented "On the Treatment of Dynamics during Solid-State NMR Analysis of Membrane Proteins," by Roger E. Koeppe and Vitaly V. Vostrikov at the Southeast Regional NIH IDEa meeting in New Orleans, Sept. 22-24.

Matt McIntosh gave a presentation at Rider University, Sept. 22.

Joshua Sakon presented "Medical Application of Clostridial Toxins; 2) Collagenases," at the XIII International Congress of Bacteriology and Applied Microbiology XIII International Congress of Mycology at the Sapporo Convention Center, hosted by the Federation of Microbiological Societies of Japan, Sept. 6-10.

Julie Stenken presented "An Analytical Chemistry Problem Solving Approach Towards Integrating Glucose Sensors with Tissue," at Eastern Kentucky University, Sept. 23.

Staff News

Sluppick Recognized for 20 Years of Service



Judy Sluppick

Fiscal Support Analyst **Judy Sluppick** was recognized for 20 years of service to the University of Arkansas at the Employee Service Awards banquet Oct. 11.

Her university career has been dedicated to the department since 1991. She also worked for the State of Arkansas from 1968 to 1974.

Born in New Jersey, she and her husband Tom have lived and worked in New York and New Jersey.

Their daughter, alumna Lisa Holland, B.S. '99, M.A.T. '00, is instructor and head of the information systems department at the Northwest Arkansas Technical Institute.

From the Library

by Luti Salisbury

Seven new computers have been installed in the CHBC library bringing the total to 13. Students should be happy because they do not have to wait in line for a computer (at least for now).

The LibGuide for Chemistry and Biochemistry Resources surpassed 20,000 views for the period of January 2011 to Sept. 26, 2011. To see the most heavily used guides, follow this URL: <http://uark.libguides.com/index.php>

Thanks to the faculty who gave up their class/lab time for me to introduce our students to better techniques of searching and using the chemistry and biochemistry subscription resources.

Links to the CHBC library, the library resource page and contact information can be found from the chemistry and biochemistry department Web site under research <http://chemistry.uark.edu/5547.php>

Luti Salisbury and Elizabeth McKee (education librarian) led a session titled, "Two minutes Please! Are We on the Same Wavelength as our Students?" about assessing the effectiveness of library instruction at the Arkansas Library Association Conference in Little Rock, Sept. 26.

Fulbright IT Adds Staff



Russell Howard



Arif Islam



Ronesha Sharma

Fulbright IT Services has added four part-time staff. All will be oriented with Smart Classroom support needs, computer deployments and front line procedures such as answering phone calls and building cases, as well as dispensing advice about existing procedures when someone has a need.

Russell Howard is pursuing an undergraduate degree in psychology and

plans to attend graduate school. He has 20 years of experience as a desktop support specialist and technical trainer.

Arif Islam has lived and worked in New York and has experience with hardware and software support for more than 100 desktops remotely and daily server maintenance.

Josh McFarland worked and studied in Hot Springs where he received an

associate of science from National Park Community College. He also earned a Computer Information Systems certificate with Quapaw Technical Institute. He has numerous years of tech support experience and hopes to begin classes on campus this spring.

Ronesha Sharma is an undergraduate information systems student in the Walton College and plans to graduate in spring 2013. She has substantial customer service experience and a great deal of motivation to learn various technical and IT procedures to augment her skills and to complement her forthcoming degree.

Adam Zorzin left Fulbright IT in August to assume a full-time computer support specialist position in Young Law Library.

Student News

Ayinuola Wins Phi Kappa Phi Award



Kolawole Ayinuola

Kolawole Ayinuola received a Love of Learning Award worth \$500 by The Honor Society of Phi Kappa Phi. He is among 80 members nationwide to receive the award intended to help fund post-baccalaureate studies and career development.

He has a bachelor of science degree in chemistry from the Obafemi Awolowo University in Nigeria and is a third-year graduate student in

the lab of **Matt McIntosh**.

The selection process for the award is based on the impact on the applicant's career or educational goals; academic achievement; leadership and service on the campus and in the community; and a personal statement of educational perspective, purpose and objectives.

Founded in 1897 at the University of Maine, Phi Kappa Phi is the nation's oldest, largest, and most selective collegiate honor society for all academic disciplines.

5-Year Statistics

Over the last five years (2006-2007 to 2010-2011) the department has experienced:

- 20% increase in students taking chemistry courses (from 6244 to 7470)
- 80% increase in bachelor of science degrees awarded (from 32 to 58)
- 39% increase in enrollment in University Chemistry 1 (from 1068 to 1288)
- 25% increase in enrollment in Organic Chemistry 1 (from 329 to 411)

Fall 2011 Undergrad Stats

- 284 chemistry majors
- 107 are members of the Honors College
- 30 are seeking the Bachelor of Arts degree
- 20 students are seeking a CHEM minor

Safety Tip by Bill Durham

Check your chemical inventory regularly and discard old chemicals.

Graduate Students Pass Cumes

Congratulations to the following graduate students who have now passed the appropriate number of cumulative exams to be considered a doctoral candidate.

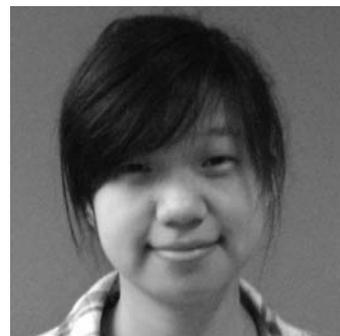


Maher Abu-Libdeh

- **Maher Abu-Libdeh**, Tian lab
- **Ryan Bauer**, Sakon lab
- **Mengjia Hu**, Fritsch lab
- **Barry Sharp**, Gawley lab
- **Elizabeth Srader**, Gawley lab



Ryan Bauer



Mengjia Hu



Barry Sharp



Liz Srader

University Logo Usage

The university adopted a new logo in 2009. Remember to use the new logo and not the old "tower" logo.



Logos are stored on the department Blackboard site <https://learn.uark.edu>. More information is available in the university Graphic Identity Guide <http://styleguides.uark.edu/167.php>

Calendar of Events

October

- 03..... Department seminar - Richmond Sarpong, UC Berkeley
 05..... Early Progress grade reports for 1000 and 2000 level classes will be e-mailed to student's university e-mail account
 06..... Annual department picnic at the Gardens
 10..... No department seminar
 10..... Faculty and staff meeting
 14..... CUME
 17..... No department seminar
 17-18 Fall break - no classes, the university will be open
 20..... VWR campus vendor show
 21-22 Arkansas INBRE Research Conference
 24..... Department seminar - Tehshik Yoon, University of Wisconsin
 26..... ACS guest speaker Stan Manahan "Chemistry of Sustainability"
 31..... Priority registration begins for spring 2012
 31..... Department seminar - Susanne Striegler, Auburn University

November

- 04..... CUME
 07..... Department seminar - Greg Hartland, University of Notre Dame
 11..... Scientific Solutions vendor show
 14..... Department seminar - Michio Kurosu, University of Tennessee
 18..... Last day to drop a full semester class with a "W"
 21..... No department seminar
 23..... Thanksgiving break, no classes, the university will be open
 24-25 Thanksgiving holiday, the university is closed
 28..... Department seminar - alumnus Tom Goodwin, Hendrix College

December

- 02..... CUME
 02..... Dissertation and theses due to the Graduate School for fall graduation
 08..... Last day of the fall 2011 semester and last day to officially withdraw from all full semester classes
 09..... Dead Day - no classes
 09..... Annual department potluck
 12-16 Final exams
 17..... Fall commencement
 23-31 December holiday, university closed

VWR to Host Vendor Shows

VWR is the primary scientific provider on campus located in CHEM 37. Stephanie Hufhines is the in-house customer service rep 575-4650 and Cassey Cloninger is the outside sales rep.

- **Mini-Vendor Campus Shows** Thursday, October 20
 9:30 a.m. to 11:30 a.m. CHEM 037-038 (VWR Storeroom)
 1 p.m. to 3 p.m. - Engineering Research Center, Fisher Conference Room
- **INBRE Vendor Show** Friday, October 21
 11 a.m. to 3 p.m. - Arkansas INBRE Research Conference, 4th floor Continuing Education Building, downtown Fayetteville

October Birthdays

- 01..... Rohana Liyanage
 02..... Venkat Rajagopalan
 03..... Nick Gleason
 08..... Brian Walker
 09..... Leslie Johnson
 13..... Gwen Mattice
 15..... Benjamin Jones
 16..... Jiang Wang
 18..... Zhiqiang Yang
 19..... Mona Dyer
 20..... Zheng Li
 21..... Tomasz Janowski

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

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

Fall hours

Monday - Thursday....8 a.m. to 9 p.m.
 Friday8 a.m. to 6 p.m.
 Saturday - SundayCLOSED

Hours during fall break 10/17-18

Monday - Tuesday8 a.m. to 5 p.m.

Note: the CHBC library will be closed Saturdays and Sundays this fall.

CUME Dates 2011-2012

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

October 14	January 27
November 4	February 17
December 2	March 2
	April 6
	April 27

Fall Break

There will be NO CLASSES Monday, October 17 or Tuesday, October 18 - the university will remain open.