

NEWSLETTER

April 2016

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A Message from Our Chair



*Carol Taylor, Professor and Chair
Department of Chemistry*

Welcome Friends of LSU Chemistry ... to our first newsletter since 2010. We want to be in touch more regularly to let you know what's happening in the Department of Chemistry.

We have a "Media and Public Relations" committee chaired by Professor John Pojman, who is featured in this issue for his research. In each newsletter, we will list recent successes with research funding and pick up in more detail on a project that we think you'll enjoy. We'll share other notable achievements of our faculty, including the tremendous group of emeritus professors to whom we owe much in terms of the legacy of the Department of Chemistry.

A regular feature of the newsletter will be profiles of alumni. About six months ago, I began gathering profiles of recent BS chemistry majors. The goal was two-fold: to let our current majors see the wealth and breadth of careers that are possible with a degree in chemistry; at the same time, we wanted to reach out and re-establish contact. Featured in this issue is Shan'Terika Remo.

I began my search with students I taught and got to know as the faculty advisor of SAACS (Student Affiliates of the American Chemical Society) when I first came to LSU nearly 10 years ago. My institutional memory is limited. We want to grow this collection of professional biographies to include alumni at various stages in their careers. We want to hear from PhD graduates as well. Our Director of Graduate Studies, Associate Professor Doug Gilman, and his team have been building a database of PhD graduates - records have enabled us to construct a list that is complete since 1980.

We have been busy with three junior-level faculty searches this year. We also seek to fill the William A. Pryor Chair in chemistry. These appointments are key to growing our department to keep pace with the numbers of students we teach at both the undergraduate and graduate level. We'll be sure to let you know who we attract to LSU to join our stellar faculty.

In summary, let's get the dialogue flowing between past and present members of the department and those who care about our faculty, students and their pursuits.

I look forward to getting to know more of you and sharing our news with you. For more frequent snippets of news, keep an eye on our Facebook and Twitter pages.

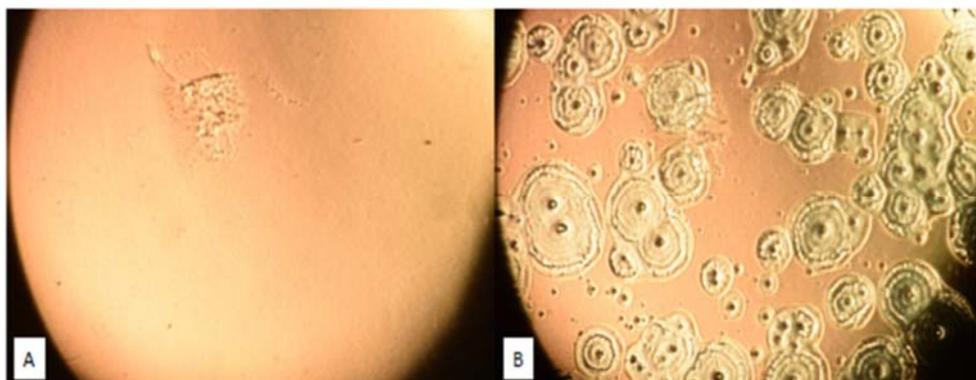
Best wishes,

Carol

Professor and Department Chair

LOVE PURPLE
LIVE GOLD

Research Spotlight: Pojman's Polymerization



Schlieren imaging of thin layer experiments observing frontal polymerization in waves. Image A has no fronts at the beginning of the experiment. Twenty minutes later, in Image B, several fronts have formed and propagated. The color is from the universal pH indicator.

Cure-on-demand polymerization is "getting what you want, when you want it." In other words, the polymerization only proceeds when you choose for it to commence. One approach to this is using frontal polymerization (FP), a process in which polymerization occurs directionally in a localized reaction zone. Pojman and graduate student, Elizabeth Jee, have been studying the urease-catalyzed hydrolysis of urea, which produces ammonia and carbon dioxide. They harnessed this pH-sensitive system to trigger a Michael addition of a thiol to an acrylate. Their work was recently published with the title, "Temporal Control of Gelation and Polymerization Fronts Driven by an Autocatalytic Enzyme Reaction" (*Angew. Chem. Int. Ed.* **2016**, *55*, 2127-2131). The urea-urease-thiol-acrylate systems could be used to create a "cure-on demand" bone repair material or a programmed drug release system; they are attractive for biomedical applications because of their tunable degradation qualities and biocompatibility.

New Research Grants

Laser Ablation Nano-dissection for DNA Sequencing
Dr. Kermit Murray – LSU Board of Supervisors

IDBR: Type A Nanoscale Laser Ablation Capture for Single Cell Genomics
Dr. Kermit Murray – National Science Foundation

Support Study for Evaluation of Crumb Rubber Modification of Louisiana Mixtures
Dr. William Daly – Louisiana Transportation Research Center

QCM: Virtual Sensor Arrays, GC and Molecular Weight Detection
Dr. Isiah Warner – National Science Foundation

Enzyme Activatable Substrate Probes for Fluorescence Imaging of and Quantification in Cells
Dr. Robin McCarley – National Science Foundation

Time-lapse and Cure-on Demand Polymerization using Autocatalytic Reactions
Dr. John Pojman – National Science Foundation

Global Chlorination: A General Synthetic Strategy Towards Chlorosulfolipid Natural Products
Dr. Rendy Kartika – National Science Foundation



Who Am I?

Gordon Conference Chairman

Participated in an around-the-world (lecture) tour supported by the Guggenheim, visiting:
Hawaii

New Zealand (3)

Japan (3)

Australia (3 month course)

Hong Kong

Delhi

South Africa (2)

Kenya

Cain

Athens

Copenhagen

London

Birmingham, England

Published three books, one of which is in its 7th edition

King of Krewe of Romany
(ladies krewe)

Retired

Three children

Met Attres and survived,
nearly

Submit your educated
guess.....

Alumni Spotlight: Shan'Terika Remo

“Be flexible. Enjoy every moment and don’t be afraid to make change. The only thing in life that is constant is change. If you find yourself unhappy with the way things are going, figure out what you want to do and invest the time to find the necessary avenues to make that dream a reality.”

Shan'Terika Remo

IMSD scholar from August 2009 - May 2011

Area of Research:

Synthesis of several porphyrin derivatives functionalized with carboxylate groups, for application in the diagnosis and treatment of cancer by photodynamic therapy.

Posters presented at:

6th International Conference on Porphyrins and Phthalocyanines (ICPP-6) in Santa Ana Pueblo, NM, in July 2010

LSU Triple EX Research Symposium in November 2010

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) meeting in fall 2010



Shan'Terika Remo – LSU Shreveport Health Sciences Medical School

SHAN'TERIKA'S STORY

United States Medical Corps Officer and LSU-Shreveport Health Sciences Medical School junior Shan'Terika Remo was born in Winnfield, Louisiana, where she lived until age 10, when her father joined the military. Remo enrolled at LSU with the intention of pursuing a bachelor's degree in biochemistry, decided to major in chemistry as well, and became involved in research in the lab of Dr. Graca Vicente in the area of synthesis of several porphyrin derivatives functionalized with carboxylate groups for application in the diagnosis and treatment of cancer by photodynamic therapy.

Remo completed her degrees in biochemistry and chemistry in May 2011. Looking back, Remo thinks she should have focused solely on chemistry, as it would have allowed her more time to seize the opportunities offered and would have motivated her to take her research to a higher level. The countless research and volunteer opportunities provided by the Department of Chemistry made her more marketable to professional schools and other biomedical careers. She fondly remembers her time spent in the Department of Chemistry and appreciates the many opportunities that involved one-on-one interactions with chemistry faculty.

Today, Remo is in her third year at LSU-Shreveport Health Sciences Medical School, completing her clerkships in the primary fields of medicine. Her advice to current students is to “Be flexible. Enjoy every moment and don’t be afraid to make change. The only thing in life that is constant is change. If you find yourself unhappy with the way things are going, figure out what you want to do and invest the time to find the necessary avenues to make that dream a reality.”



*Shan'Terika Remo
United States Medical Corps Officer*

Past and Present Student News



Blake Kruger
2016 LSU Discover Scholar

BLAKE KRUGER NAMED A 2016 LSU DISCOVER SCHOLAR

Blake is a junior chemistry major in the Roger Hadfield Ogden Honors College. His major has a concentration in pre-professional chemistry, and he plans to pursue an MD and Masters of Public Health (MPH). He is currently engaged in research in the Haber Lab, working on *Second Harmonic Generation Studies on Plasmonic Nanoparticles for Light-Mediated Drug Delivery*. He is active across campus as a member of Alpha Epsilon Delta, Phi Sigma Pi, Student Affiliates of the American Chemical Society, College of Science Council and the Science Honors Scholars. Congratulations, Blake!

EQUIPMENT DONATIONS FROM FORMER STUDENTS OF PROFESSOR PHILIP W. WEST

In late 2015, we received a donation of equipment from Sham Sachdev, the retiring president of Entek Environment Labs Inc. (Baton Rouge). We also received some items from the family of the late Fred Dowling, a founding partner of Emission Testing Services (ETS) in the gulf region. The equipment is being inventoried and will be distributed shortly, with priority given to our teaching labs, instrument facilities and new faculty. Sachdev and Dowling were both students in the West Group in the 1960s. Read more about these two distinguished alumni in an upcoming newsletter.

A significant measure of a great university is the support it receives from its alumni. Join us as we work on the leading edge of discovery and innovation to educate the next generation of scientists. If you would like to support LSU Chemistry, regardless of the amount, we would be most appreciative. All donations are tax deductible and qualify for Tiger Athletic Foundation (TAF) points.

To make your gift **online**, go to www.lsufoundation.org/givetoscience. Click 'Designations' and choose 'Chemistry Development Fund'.

To send your gift by **mail**, make your check payable to "LSU Foundation," note "Chemistry Development Fund" on the memo line and mail your check to: LSU Foundation, 3838 West Lakeshore Drive, Baton Rouge, LA 70808

Name
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