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## Mole Street Journal, July 2013

University of Arkansas, Fayetteville. Dept. of Chemistry and Biochemistry

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## “No Limits”

**Denise Greathouse** partnered with Luis Restrepo, professor in World Languages, Literature and Cultures at the University of Arkansas, to teach a bilingual chemistry lab, Isolation of DNA from Kiwi and Strawberries, to a group of 35 local Hispanic middle-school students participating in the *Sin Limites* (“No Limits”) summer enrichment program. The *Sin Limites* program is sponsored by the Office of Latino Academic Advancement and Community Relations and the Latin American and Latino Program, and is funded in part from a College Challenge Grant from the Arkansas Department of Higher Education. *Sin Limites* began a year and a half ago as an after-school program at J.O. Kelly Middle School in Springdale, and was as extended into a two-week summer program this year for the first time.



According to Restrepo, 43% of Springdale students and 60% at J.O. Kelly Middle School are Latino. The program’s goals are to help students develop skills required for academic success and to prepare them to live in a global society. Graduate students **Ashley Martfeld Henderson** and **Venkatesan Rajagopalan** and undergraduate honors students **Amanda Lowe** and **Vasupradha Suresh Kumar** assisted with the science lab on Thursday, June 20. During the activity, the middle-school students actively engaged methods involving lysing and filtering cellular membranes, precipitating DNA due to its insolubility in ethanol, and they were able to successfully isolate visible amounts of DNA. Thanks also to **David and Victoria Hayes** and the chemistry department for the use of the chemistry teaching labs.



### Special points of interest:

- Faculty and Student presentations and publications
- Fulbright College announces graduates for Academic Year 2012-2013
- Pre-med Study Abroad
- INBRE summer research program

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## Faculty News

### On the Go

**Scott Morris** attended the 43rd National Organic Symposium (NOS) in Seattle, WA June 23-27 where he presented a poster "Diastereoselective Synthesis of  $\alpha,\alpha,\alpha'$ -Trisubstituted Pyrrolidines and Piperidines by Directed Lithiation/Alkylation." Scott is advised by Nan Zheng, however this work is from his time in Bob Gawley's lab.

**Theresa Nguyen** presented a poster "[3+2] Annulation of Cyclopropylamines with Alkynes under Photocatalysis, co-authored with Soumitra Maity and Nan Zheng, at the 43rd National Organic Chemistry Symposium, Seattle, WA, June 23-27.

**Susanne Striegler** presented a poster "Galactonomaidines as potential transition state analogs," co-authored with Qiu-hua Fan and Rebekah G. Langston, at the Gordon Research Conference 'Carbohydrates' at the Mount Snow Resort, West Dover, VT June 16-21. She was session chair for 'Molecular Structure and Recognition in Glycan Drug Design.'

**Neil Allison** gave a presentation and discussion entitled "Chemistry on the Go: Perspectives for Mobile Devise Apps in Organic Chemistry" at the Specialties Libraries Association National Meeting, Sand Diego, CA June 9. The discussion group included leaders in electronic media from the Royal Chemical Society and the American Chemical Society.

**Suresh Kumar** gave an invited research presentation at the Roswell Park Cancer Institute, Buffalo, NY and the State University of New York, Buffalo, NY on June 17, 2013. "Structure, Function, Folding and Interactions of the Acidic Fibroblast Growth Factor."

**Kolawole Ayinuola** was selected as one of 50 fourth year organic chemistry graduate students to present research at the ACS Division of Organic Chemistry organized Graduate Research Symposium at the University of Delaware, July 25-28. His poster is titled "Novel N-Based Rearrangements."

**Lutishoor Salisbury** presented a poster session entitled "Is There a Connection between Attendance at a Library

Instruction Session and the Subsequent Choice of Information Sources?" SLA All Science and Technology Poster Session, Sand Diego, CA, June 10, 2013. It was co-authored with Jozef Laincz and Jeremy J. Smith. She also moderated a session on Next Generation Science Librarians: Helping Institutions and Researchers Increase their Impact, June 10, 2013.

**Lutishoor Salisbury** presented a poster "Beyond Google Scholar or just Google-Like: Do You Know What Researchers on Campus Are Missing Because of the Database Vendors You Enlist to Provide Your Research Database?" ALA/ACR Conference, Indianapolis, IN, April 11, 2013.

### Publications

Dempewolf, C, J. Morris, M. Chopra, S. Jayanthi, **TKS Kumar**, WN Li (2013) Identification of consensus glycosaminoglycan binding strings in proteins. Paper accepted for publication in the *Proceedings of the 4th International Conference on Information Sci-*

*ence & Technology*, June 24-26, Pattaya, Thailand.

Jayanthi, S., SW Kang, D Bingham, BA Tessaro, **TKS Kumar**, WJ Kuenzel (2013) Identification of antagonists to the vasotocin receptor subtype 4 (VT4R) involved in stress by molecular modeling and verification using anterior pituitary cells. *J. Biomolecular Structure & Dynamics*, Accepted and published online (<http://dx.doi.org/10.1080/07391102.2013.787025>)

Prudovsky, I, **TKS Kumar**, S Sterling, D Neivandt (2013) Protein-lipid interactions in the non-classical protein secretion and methods of their study. *Int. J. Molec. Sci.*, 14, 3734-72.

**TKS Kumar**, S. Jayanthi, R. Thurman (2013) In-cell NMR spectroscopy-*In vivo* monitoring of the structure, dynamics, folding and interactions of proteins at atomic resolution. Accepted and published online at 4:3112. doi:10.4172/2155-9872.1000e112

## Fulbright College Announces Graduates

Listed are the Department of Chemistry and Biochemistry graduates for the Academic Year 2012-2013.

### Summer 2012

BA – Adam Hobbs, Dang Lor, Stephanie Vittorini Sanguenza

BS – Leah Ramey, Joshua Robinson, Blake Staponski, Kyleigh Strickand

### Fall 2012

BA – Samantha Moores, Randy Parker, Chunlin Zhang

BS – Christopher Brandon, Patrick Calcagni, Nathanael Franks, Justin Gray, Ethan McCormick, Yingxue Xie

### Spring 2013

BA – Joshua Bacon, Rose Brosen, Blake Ceola, Hannah Culp, Timothy Eichenberg, Devin Kennedy, Kiefer Williams

BS – Joseph Boyle, Rachel Brehm, Lauren Brewer, Kaitlyn Bryant, Timothy Burnside, Perry Caviness, Kayla Ceola, Emily Crossfield, Arshan Dehbozorgi, Xiaoke Feng, Alyse Garner, Evan Gill, Ajania Hearne, Blaire Hines, Alta Johnson, Alex Jones, Emily Keen, Colton Kordsmeier, Duong Le, Joanna Libby, Matthew McMahon, Ashley Miller, Jonathan Moser, Christopher Moutos, Parth Patel, Kaila Pianalto, Derek Pyland, Aswini Rajan, Richard Rieske, Cameron Sandefur, Preston Scrape, Vicki Sharma, Rebecca Simpson, Colby Smith, Kelsey Sparks, Julie Tran, Liselle Trim, Jake Usery, Morgan Vanveckhoven, Nancy Vo, Fang Weng, Rachel Whiteside, Robert Wilkerson, Jahon Zehtaban

(cont'd page 3)

## Health Teams Abroad

This year in addition to lectures prior to travel, the Health Teams Abroad traveled from May 13-June 4 in Sweden. The group of 18 students included 5 from chemistry. In addition to attending lectures in Fayetteville on campus and at Washington Regional, the students received lectures at Jönköping University, and in hospitals and clinics. The stay in Stockholm included visiting the Karolinska Institute with Professor John Flanagan in the Center for Molecular Medicine at the Karolinska Institute. The UA faculty leaders were Neil Allison (Department of Chemistry and Biochemistry), Fran Hagstrom (Assistant Dean for Health Professions, College of Education and Health Professions), Jeanne McLachlin (Department of Biological Sciences), Mack Ivey (Department of Biological Sciences), and Nan Smith-Blair (School of Nursing).

In Stockholm, with a Razorback, are from left to right: Brady McLaughlin (Biochemistry-premed), Emily Jacobson (History-premed), Hayley Varela



(Biology-premed), Caroline Crigger (Nursing), Ranger Guilory (Biochemistry-premed), Margo Davis (Social Work), Annika Tabassum (Biomed Engineering), Kaitlin McDowell (Nursing), Anthony Eller (Biochemistry-premed), Vasu Suresh Kumar (Biochemistry-premed), Patrick Naeger (Biochemistry-premed), Anna Arnaud (Biomed Engineering), Kelly Williams (Nursing), Camice Karing (Biology-premed), John McReynolds (Biomed Engineering), and Mikaila Wilson (Biology-premed).

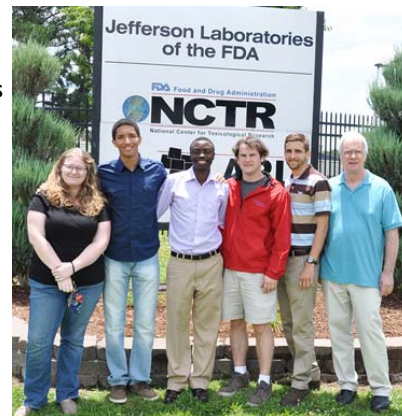
Pictured below is the group at the Karolinska Institute with John Flanagan. Jon Flanagan, Ph.D., is an Associate Professor in Molecular Endocrinology at Karolinska University Hospital. This picture was taken in the main entrance of the building where the Nobel Prize in Medicine is decided.



## INBRE Summer Program

Welcomed to campus this summer are the 5 undergraduate students participating in the INBRE program. Pictured below from left to right are: Ariel Teague, Dustin Walter, Jean de Dieu Nubundiho, Kaleb Vaughn, Zach Reed, and program director David Paul.

Ariel Teague is from Lyon College, and she is working with Christa Hestekin in Chemical Engineering. Dustin Walter is a student at Ouachita Baptist College and is working with David



McNabb in Biological Sciences. Jean de Dieu Nubundiho is from Philander Smith College and is working in Nan Zheng's lab in Chemistry. Kaleb Vaughn is from Harding University and is working with Fiona Goggin in Entomology. Zach Reed is from UALR and is spending his time working with Ines Pinto in Biological Sciences.

The 10 week program began May 19 and will conclude July 24 in Little Rock. During their time on campus, the students conduct research in their labs, have weekly meetings with the 10 other INBRE students in Little Rock through the Access Grid in Mullins Library, participate in Dinner and Dialogue sessions with the other REU programs on campus, are treated to recreational nights out with the other students, and tour the NCTR facility in Jefferson, AR. The program will culminate in a research day at the William J. Clinton Presidential Center where they will present their research in a poster format.

## Graduates (cont'd)

Below are listed the recipients of advanced degrees.

Summer, 2012

PhD—David Clay, Nicholas Gleason, Zheng Li, and Christian Loeschel

Fall, 2012

PhD—Beth Emerson

Spring 2013

PhD—Roland Njabon-Ngebichi, Maha Shrestha, Samrat Thapa, Roger Williams

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Biochemistry University of Arkansas

## Safety Tip: by Bill Durham

Leave 2—3 inches of  
head space in waste  
containers.

  
Department of Chemistry  
and Biochemistry

## Excellence in the Central Science

### Milestones

The Department of Chemistry at Columbus State University (Columbus, GA) has hired **Samrat B Thapa** for a lecturer position in biochemistry starting Fall 2013. He will be teaching the undergraduate biochemistry lecture and other introductory chemistry courses.



**Matt Moudy** and Alyssa Smith were married Saturday, June 29 at the Thorncrown Chapel in Eureka Springs. Matt is a Ph.D. candidate in Wes Stites' lab. Alyssa and he met while in high school during the Texas State Science Fair. Alyssa is originally from North Carolina and has a bachelor's degree in Humanities.



At right are **Theresa Nguyen, Scott Morris, Lucas Whisenhunt, Barry Sharp, and Jiang Wang** with Seattle's Space Needle in the background. The group attended the National Organic Symposium (NOS) June 23-27 at the University of Washington.



**Sefat Alwarsh** and Nader Alghazal were wed Friday, June 21 in her hometown of AlQatif, Saudia Arabia. Nader is currently a student at SILC studying the English Language. He will continue his education in Hospital Management. Sefat is a Ph.D. candidate in Matt McIntosh's lab.



*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

- 1 First day of Second 5-week summer session
- 1 Application deadline for students who plan to graduate at the end of Summer 2013
- 2 Last day to register for or add a second 5-week session class
- 2 Last day to change from audit to credit for second 5-week summer session
- 19 Osman Uner defends MS Thesis, 9 a.m. CHEM 105
- 24 INBRE program conclusion, Research Day, Little Rock



*Save the Date!*  
The 2013 INBRE conference  
will be held October 18-19  
in Fayetteville, AR.

## Library Hours

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

### Summer Semester Hours, June 2013—July 2013

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

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>.

