

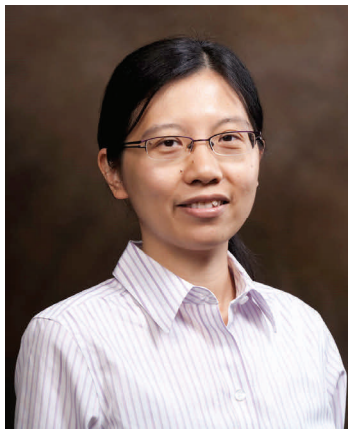
Special points of interest:

- Dr. Chen included in list of most highly cited researchers for 2014
- New Vice-Chair announced
- Heyes hosts undergraduate workshop
- Symposium honoring Dr. Pulay

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Dr. Chen Included in Prestigious List



Dr. Jingyi Chen, assistant professor of physical chemistry in our department, was included in the world's most highly cited researchers in 2014. The list (highlycited.com), compiled annually by Thompson-Reuters, publishers of the Citation Index and Web of Science, has only 198 entries in chemistry, in addition to 195 entries in biochemistry. To make the list, scientists must rank among the top 1% most cited for their subject field (e.g., chemistry) and year of publication, earning them the mark of exceptional impact. The detailed methodology is described on the web site. Basically, the number of highly cited (top 1%) papers in the time period (2002-2012) are ranked, and the threshold for inclusion takes into account the total number of highly cited researchers working in the subject field. This methodology removes the citation disadvantage of recently published papers relative to older ones. According to the publisher, "Highly Cited Researchers

2014 represents some of world's leading scientific minds." Former professor Xiaogang Peng, a highly acknowledged scientist, who is now at Zhejiang University in Hangzhou, China, is also on the list. Both he and Dr. Chen work in the field of nanomaterials.

Congratulations to Dr. Chen for being included in this highly select group!

Dr. Stites Elected Vice-Chair of Department

Dr. Wesley Stites will assume the position of Vice-Chair of the Department of Chemistry and Biochemistry on July 1, 2014. Wes joined the department in 1991, following a postdoctoral fellowship with Dr. David Shortle at the Johns Hopkins



University School of Medicine, Department of Biological Chemistry. He earned his Ph.D. in 1988 from the Massachusetts Institute of Technology, Department of Chemistry. His current research program involves investigating the basis of protein folding and association, investigating the role of post-translational modification of thrombomodulin in heart disease and stroke, and the development of new methods for detection of methionine sulfoxide formation in the

proteome. After a year as vice-chair, Dr. Stites will become the department chair July 1, 2015.

Dr. Heyes Hosts Workshop

During the 2-week period, May 19-30, Colin Heyes hosted a workshop, funded by his NSF CAREER award. The workshop introduced undergraduate students from 4-year colleges in the area to the research lab to perform recently-published experiments in the areas of nanochemistry, biophysical chemistry, microfluidics, electron microscopy and single molecule spectroscopy to help foster an interest in chemistry research.



From left to right, are Connor Harris (Arkansas Tech), Taylor Schultz (Arkansas Tech), Colin D. Heyes, James Mack III (Shorter College) and Chelsea Harmon (Arkansas Tech).

Faculty News

Publications

The work of three recent undergraduate students was highlighted the weeks of June 16-29, 2014 on the home page of the ACS publication *Biochemistry*. **Kelsey Sparks** (BS '13), **Rebekah Langston** (BS '14), and **Renetra Gist** (BS, TSU '12; summer REU '11 UofA) teamed with **Nicholas Gleason** (PhD '12), **Denise Greathouse** and **Roger Koepp** to publish their undergraduate research in the highlighted article: **Sparks, Kelsey A., Nicholas J. Gleason, Renetra Gist, Rebekah Langston, Denise V. Greathouse, and Roger E. Koepp, II** (2014) Comparisons of Interfacial Phe, Tyr, and Trp Residues as Determinants of Orientation and Dynamics for GWALP Transmembrane Peptides. *Biochemistry* 53, 3637-3645.

H.S. Sharma, D.F. Muresanu, J.V. Lafuente, R. Patnaik, **Z. R. Tian**, H. Mossler, A. Sharma. TiO₂-nanowired Cerebrolysin Attenuated Hyperthermia Induced Ubiquitin Overexpression and Brain Pathology. *NSTI-Nanotech 2014 Proceedings*, 2:303-306, 2014.

A. Sharma, D.F. Muresanu, J.V. Lafuente, P. Menon, R. Patnaik, **Z.R. Tian**, H. Mossler, H.S. Sharma. Nanodelivery of Cerebrolysin as Adjunct Therapy with Functionalized Magnetic Iron Oxide Nanoparticles Enhances Neuroprotection Following Whole Body Hyperthermia. *NSTI-Nanotech 2014 Proceedings*, 2:363-366, 2014.

H.S. Sharma, L.Y. Feng, J.V. Lafuente, D.F. Muresanu, **Z.R. Tian**, R. Patnaik, A. Sharma. Nanowired Delivery of Mesenchymal Stem Cell Reduces Diabetes Induced Aggravation Brain Damage Following Heatstroke. *NSTI-Nanotech 2014 Proceedings*, 2:246-249.

H.S. Sharma, D.F. Muresanu, J.V. Lafuente, R. Patnaik, **Z.R. Tian**, H. Mossler, A. Sharma. Nanodrug Delivery by Single-Walled Carbon Nanotubes (SWCNTs) in the Central Nervous System Induces Neurotoxicity. Potential Neuroprotective Effects of Cerebrolysin. *NSTI-Nanotech 2014 Proceedings*, 2:339-342.

Sahore, V.; Fritsch, I. "Microfluidic Rotational Flow Generated by Redox-

MagnetoHydrodynamics (MHD) under Laminar Conditions using Concentric Disk and Ring MicroElectrodes," *Microfluid. Nanofluid.*, published online, 2014. DOI 10.1007/s10404-014-1427-6.

On the Go

Matthias Knust presented a poster "Investigation of Macrophage Polarization States by LC-ESI-MS and LC-MALDI-MS" at ASMS Baltimore, MD June 2014. The research was co-authored by **Matthias Knust, Rohana Liyanage, Jackson Lay, Jr.** and **Julie A. Stenken**.

Randee McBride and **Collette Robinson** attended the Materials Research Society Conference in San Francisco, CA April 21-25, 2014. Randee presented a talk "Effect of Ligand Coordination Geometry and Size on Quantum Dot Conjugation and Energy Transfer to Thiolated Acceptor Molecules," co-authored by **Randee McBride, Hiroko Takeuchi, Benard Omogo, and Colin Heyes**. Collette presented a poster "Influence of Shelling Temperature and Time on the Optical and Structural Properties of CuInS₂/ZnS Quantum Dots," co-authored by **Collette Robinson, Gopa Mandal and Colin Heyes**.

Ryan Bauer presented a poster titled "Structure-based Mechanistic Studies of Bacterial Collagenases" at the 5th biennial National IDeA Symposium of Biomedical Research Excellence, in Washington, D.C. June 16-18, 2014. Co-authors are **Ryan Bauer, Jes Sanders, Dawn Weir, Mary-Kate Tucker, Clinton Peter, Katarzyna Janowska, Keisuke Tanaka, Rohana Liyanage, Jackson O. Lay, Jr., Takehiko Mima, Osamu Matsushita, and Joshua Sakon**.

Wei Shi presented a poster "Total Synthesis and Anticancer Activity of a Natural Glycoresin-Ipomoeassin F" at the Bioorganic Chemistry Gordon Research Conference, Andover NH, June 8-13, 2014. Co-authors are G.-H. Zong, H. Aljewari, J.-H. Zhou, **E. Barber, L.**

Whisenhunt, Y.-C. Du, and W. Shi.

Ryan Tian attended the 46th Power Sources Conference, June 9-12, 2014 in Orlando, FL and presented a talk: S.S. Ang, T. Cannon, **Z.R. Tian, J. Chen**, "Ceramic Fuel-Cell Module in Li-I45 Form Factor" and a poster: S.S. Ang, T. Cannon, **Z.R. Tian, J. Chen**, "Ceramic Fuel-Cell Module in Li-I45 Form Factor."

Z.R. Tian, H. Turgut, M. Glover, S.S. Ang, "Organic Electronics, Sensors, and Battery/Fuel-cell Packaging," NSF Organic Electronics Materials Symposium, June 22-24, 2014, Lexington, KY.

"MP2 Solvation Free Energy of Ions from Adaptive Force Matching," Jicun Li and **Feng Wang**, Workshop on Many-Body Interactions, Telluride, CO, June 15-19, 2014.

"Finite Temperature Properties from Electronic Structure Information with Refined Force Fields," **Feng Wang**, Tsinghua University, Dept. of Chemistry, Beijing, China, May 22, 2014.

"Indirect PBE Simulation of Micrometer Scale Graphene Reveals Critical Scaling Behavior in 2D Systems," **Feng Wang**, Peking University, Symposium on Electronic Structure Methods Honoring **Peter Pulay** and Kenneth Jordan, Beijing, China, May 19, 2014.

Matt McIntosh presented a talk, "Thiamine-Inspired Rearrangement Reactions," at the Drug Discovery and Development Colloquium 2014, UAMS, Little Rock, AR, June 20, 2014.

Ingrid Fritsch presented "Modified Surfaces in Redox-MagnetoHydrodynamics" at the 225th Meeting of the Electrochemical Society in Orlando, FL, May 11-16. It was co-authored by **Christena Nash, Benjamin Jones, Vishal Sahore** and **Ingrid Fritsch**.

Ingrid Fritsch presented "Miniaturization in Analytical Chemistry: Lab-on-a-Chip using Electrochemical Methods," at John Brown

University May 2, 2014.

Rohana Liyanage presented a poster “Estimation of Protein Folding Rates of Staphylococcal Nucleases and Ubiquitin using PEPS-HDX-ESI-MS,” at the ASMS Conference on Mass Spectrometry, June 2014, Baltimore, MD. Co-authors are **Rohana Liyanage**, R. Ritter, **W.E. Stites**, **J.O. Lay, Jr.**

Wes Stites presented a seminar, “Hydrophobic Core Packing, Evolution, and Protein Stability,” at Southeastern Louisiana University, Hammond, LA, February 28, 2014.

Paul Adams was a Panelist, Biological Targets and Drug Discovery, 2014 Drug Discovery and Development Colloquium, June 21, 2014, UAMS, Little Rock, AR.

T.K.S. Kumar has recently filed 2 patents. 1) Cytokine-chitosan Bioconjugates and Methods of using the Same. D. Zaharoff, **T.K.S. Kumar**, B. Koppolu, **S. Jayanthi**, S. Smith. Provisional US patent filed—#62/006,114 on May 30, 2014. 2) Method of Purification of Cytokines. **T.K.S. Kumar**, D. Zaharoff, **S. Jayanthi**, B.Koppolu, and S. Smith. Provisional patent filed on 6/15/2014.

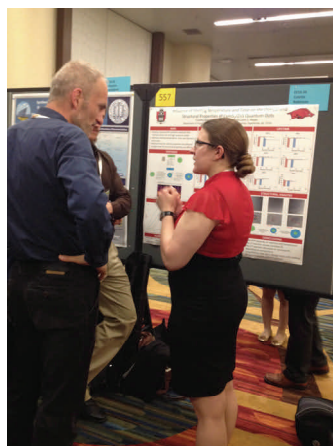
Two papers from the Kumar group were recently presented as posters. **Kachel, B., S. Jayanthi, T.K.S. Kumar** (2014) Towards Characterizing the Structure of Anosmin-1. IDeA NIH COBRE conference, Washington, D.C., June 15-16, 2014. **Jayanthi, S., S.W. Kang, G. Nagarajan, W. Kuenzel, T.K.S. Kumar.** Vasotocin Receptor (VTR) Subtype-specific Antagonists Involved in an Avian Stress Response (2014). Drug Discovery and Development Colloquium, June 20-21, 2014, UAMS, Little Rock, AR.

Alumni Update

Esra Seyran, 2011 Ph.D. (Cell & Molecular Biology) under **Wes Stites**, recently took a position with the Organization for the Prohibition of Chemical Weapons, the implementing body established by the Chemical Weapons Convention and its 190 Member States. She is working in the Netherlands to support the destruction of chemical weapons throughout the world.



Pictured above are Drs. Peter Pulay and Kenneth D. Jordan (University of Pittsburgh) sightseeing in Beijing, China. They were in China May 19-23, 2014 to teach a minicourse, “Frontiers of Electronic Structure Theory.” On the first day, there was a symposium on electronic structure methods honoring Drs. Pulay and Jordan. Feng Wang gave a talk during the symposium entitled “Indirect PBE Simulation of Micrometer Scale Graphene Reveals Critical Scaling Behavior in 2D Systems. Below are Drs. Pulay and Feng Wang, outside the west entrance of Peking University.



At left is Collette Robinson presenting her poster “Influence of Shelling Temperature and Time on the Optical and Structural Properties of CuInS₂/ZnS Quantum Dots at the Materials Research Society Conference in San Francisco, April 21-25. Her advisor is Colin Heyes.

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&
Department of Chemistry and
Biochemistry | University of Arkansas

Safety Tip:

by Bill Durham

Hoods are not storage
areas. Too many bot-
tles compromise the air
flow.



Department of Chemistry
and Biochemistry

Excellence in the Central Science

Milestones

Dr. and Mrs. Frank Mil-
lett announce their new
grandson! Grant Millett
was born in Fayetteville,
AR at 4:50 p.m. on June
2, 2014. He joins 2 year
old sister Allison Eliza-
beth. Parents Paul and
Lea Millett are doing
well.



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

- 04 Independence Day Holiday. Offices are closed.
- 11 Last day to drop a 10-wk class with a "W"
- 23-24 Blood Drive, 10 a.m. - 3 p.m. JB Hunt Center
summer is a critical time for blood donations



Save the Date!

The 2014 INBRE conference
will be held November 7-8
in Fayetteville, AR.

Library Hours

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

Summer and Intersessions

Regular Summer Hours: May 25 - August 2

Saturday - Sunday CLOSED
Monday - Thursday 8:00 am - 6:00 pm
Friday 8:00 am - 5:00 pm

Exceptions to Regular Summer Hours

Monday May 26 (Memorial Day) CLOSED
Friday July 4 (Independence Day) CLOSED

Intersession and Interim Hours: August 3 - 24

Saturday - Sunday CLOSED
Monday - Friday 8:00 am - 5:00 pm

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>.

