University Establishes Service Center to Make, Sell Proteins and Reagents

The University of Arkansas has established a commercial venture that will allow two scientists to commercialize research materials developed in their laboratories. The University of Arkansas Biologics Service Center is a research collaboration between David Zaharoff, who holds the Twenty-First Century Professorship in Biomedical Engineering in the College of Engineering, and Suresh Thallapuranam, professor of biochemistry. The center will develop, manufacture and sell research-grade proteins related to ongoing projects in the researchers’ respective laboratories.

“Some of the materials — proteins and reagents — we use in our research are extremely expensive,” said Zaharoff, associate professor of biomedical engineering. “We have developed techniques to make some of the material ourselves. Not only does this save us money, but, because we have become quite efficient at making it, we can sell excess material to the research community for their own projects.”

Zaharoff alluded to the primary benefit of the center – the potential to produce a steady stream of revenue, rather than relying solely on federal grants, to further support research in the professors’ laboratories.

The center will start with four product lines – recombinant human interleukin-12, recombinant mouse interleukin-12, recombinant human acidic FGF, and depyrogenated chitosan. The human and mouse interleukin-12 lines involve licensing agreements with the National Cancer Institute. The researchers have received approval from the U of A general counsel and are ready to receive orders.

In 2014, Zaharoff and Thallapuranam were awarded a $1.5 million grant from the National Cancer Institute to develop new molecules and biopharmaceuticals that enhance a patient’s immune response against tumors.

Fritsch Awarded

Ingrid Fritsch was surprised with an Alumni Research Award from the Arkansas Alumni Association April 22nd. It’s just another example of excellence in the department and we are very proud of her!

She is pictured with her students, Jazlynn Wisener, Aaron Nicholson, Ben Jones, Foysal Kahn, and Mahsa Lotfi-Marchoubeh.
Faculty News

On the Go

Dr. Jie Xiao gave an invited talk for the Materials Research Society (MRS) Spring Meeting on March 30th in Phoenix. She gave an overview for Symposium E5: Next Generation Electrical Energy Storage Chemistries. She discussed the scientific gap between fundamental research and practical application of lithium sulfur battery research. Pictured below are the invited speakers at that meeting enjoying a banquet together.

Joshua Lochala (Jie Xiao lab) and Willie Evans, (Jie Xiao and Z. Ryan Tian labs) were selected to participate in the Regional I-Corps Training program being run by the SWI-Corps Node and hosted by UAF, UAMS, and UALR. The Southwest Node of the NSF I-Corps program delivered regional training programs for May 13-26, 2016 to develop teams for national NSF I-Corps grants. UAF, UALR, and UAMS are hosting a short course in Arkansas to introduce teams to fundamental I-Corps principles and provide researchers without NSF lineage the opportunity to become eligible for $50,000 I-Corps grants. They both get summer student internships at Pacific Northwest National Laboratory, located at Washington State. Joshua will initiate some collaborative research there while Willie will get trained to operate the world-class advanced characterization facilities.

Ryan Bauer, K. Janowska, K. Tanaka, O. Matsuhita, and J. Sakon. Activation and binding mechanisms of the tandem collagen-binding domain of ColG collagenase. Poster presented at the Symposium on Biomolecular Structure, Dynamics & Function at Brown University in Providence, RI, April 29-May 1. As part of the poster, Ryan presented the crystal structure of the tandem collagen-binding domain that was recently deposited into the protein data bank (ID 5IK).

Colin D. Heyes gave an invited talk at Lehigh University on April 13th, entitled “How the various interfaces affects excitons and trions in semiconductor nanoparticles: implications for research in ultrasensitive biological fluorescence imaging.”

Charles Wilkins chaired a symposium “Novel Mass Spectrometric Approaches to Polymer Analysis” on Monday, March 7 at the Pittsburgh Conference in Atlanta, Georgia.

Publications


Keller, S.; Bohuslawski, K. Janowski, T.; Reither, M.; Pulay, P. Selection of active spaces for multiconfigurational wavefunctions. J. Chem. Phys. 142, 244104/1-11 (2015) was selected as a 2015 Editors’ Choice article. The 2015 JCP Editors’ Choice collection of 65 articles was hand-selected by the editors as the most innovative and influential articles of 2015.


Honors and Awards

Mahmoud Moradi was awarded 480,000 node-hours on the Blue Waters supercomputer at University of Illinois. Blue Waters is the fastest supercomputer at a university anywhere in the world. He is one of just four researchers who got it through the Great Lakes Consortium for Petascale Computation. This is over a quarter of a million dollars of computer time. His proposal was “Thermodynamic Characterization of Conformational Landscape in Proton-Coupled Oligopeptide Transporters.”

Charles Wilkins attended the 2016 Chemistry Alumni Reunion “Celebrating 100 Years of Doctoral Research in Chemistry” at the University of Nebraska, Lincoln, April 22 and 23. He participated as a former UNL faculty member, and presented the Charles Wilkins Graduate Research Assistant Award to a current graduate student.

Leanne Mathurin won the 2nd place award in electrochemistry division at the Electrochemistry Society (ECS) poster session May 29-June 2 in San Diego, CA. Her poster title was “Electrochemical Study of Trimetallic Nanostructures for Methanol Oxidation.” Her mentor is Jingyi Chen.
From the Chair ~ Wesley Stites

I have a great story to share this time. John Martin came to the Department in 1964 and joined the group of then Assistant Professor Dale Johnson as his very first graduate student. In one of those odd coincidences of life, John’s brother Ed was a fellow graduate student and friend of Dale’s when he was at Northwestern. John turned up a couple of “brownie hawkeye” pictures taken in Fayetteville in June 1965. Below left features John on the left, his father, and his brother Ed. Chemistry obviously runs in the family. His father earned a Ph.D. in physical chemistry at UC Berkeley. The other picture is John in front of the Chemistry Building, which looks pretty much the same minus the bushes and the window air conditioning units. John recalls the all-day qualifying exam and the three months of preparation for it as the biggest hurdle of his graduate career. He worked with Dale on photochemistry research. Dale recalled another hurdle. John spent a long time synthesizing a key compound for his thesis and had the material sitting on the lab bench in a vial while he prepared a label. Another student accidentally knocked the vial into a waste crock right into the middle of the ashes from fellow grad student Dan Dill’s pipe. (Smoking in the lab! Some things have changed.) John recovered the sample and a considerable quantity of ashes and went through filtration and several additional recrystallizations to remove the “foreign” material. Having demonstrated his determination to get out no matter what obstacles fell into his path or samples and, incidentally, having also figured out several photoisomerization and photosubstitution reactions, John successfully defended his Ph.D. thesis. But not without a moment of panic when a committee member suggested that perhaps further experiments would be in order before being persuaded by other committee members that wasn’t the case. The newly minted Dr. Martin went on to do post-doctoral work at the University of Southern California, followed by positions at the Università di Perugia (Italy), and Argonne National Laboratory. The University of Arkansas degree, and especially photochemistry, facilitated landing a position in the nascent semiconductor industry. This evolved into career advancements in Toulouse, France, and the U.S. (Mesa, AZ and Austin, TX), followed by Singapore and the U.S. (Silicon Valley). These days John has started a truffle farm in Virginia and has a start-up that is involved in LED bulb production.

John, like almost all our students came here in his first year as a teaching assistant. He recalls that, “Fortunately, Prof. Johnson was able to find research funding for the 2nd, 3rd and 4th years, so all the lab time went into the photochemistry research.” Unfortunately finding money to support students full time in the lab in the current research funding environment is very difficult. But we are pleased to announce that John is helping us out. He has donated in excess of $100,000 to endow what we will be proud to call the “Dr. John E. Martin Graduate Research Fellowship.” This gift is a bequest, so we hope that we don’t get the chance to award it for many years, but we are so thankful for generosity of John Martin making it possible for many more generations of students to get a chance to get into the lab and make their own stories and successful careers.
Spring Commencement

The 2015-2016 academic year is complete and many of our students celebrated Friday, May 13 with commencement. Congratulations to all of our graduates!

The undergraduate honors awardees were as follows:

**Armin Mortazavi** received the Harold D. Hantz College Scholars Award. Mentor - Roger Koppel

**Anthony Eller** received the Margaret Kirby Hantz Service Award.

**Joshua Anderson** received the Harold D. Hantz Departmental Scholars Award. Biology Major. Mentor - Suresh Kumar Thallapuranam

**College Scholars**

- **Summa cum Laude:**
  - Haley Birch
  - Austin Bramwell
  - Amy James
  - Alexandria Kim
  - Craig McLean
  - Emily Miller
  - Armin Mortazavi
  - Mary Kate Tucker
  - Ryan Wendt
- **Magna cum Laude:**
  - Ryan Benner
  - Kristen Kent
  - Hannah Miller
  - Mary Rinchuso
  - Allison Schneider
  - Jordana Thibado
  - Cody Timmerman
- **cum Laude:**
  - Kailey Claunch
  - Marlee Maier
  - Cole Plunkett

**Departmental Scholars**

- **Summa cum Laude:**
  - Jennifer Silva-Nash
  - Levi Watson
- **Magna cum Laude:**
  - Leslie Baldwin
  - Mark Calaway
- **cum Laude:**
  - Heather Body
  - Sarah Burnett
  - Augustin Casals
  - Roshini Patel
  - Nhu Phan
  - Julie Rhee
  - Tyler Sweat

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Graduate Students Defend
Four graduate students have defended their dissertations this spring.

Rory Henderson - Interactions in the cpSRP Dependent Targeting of Light Harvesting Chlorophyll Binding Protein to the Thylakoid Membrane. April 28, 2016. Mentor - Suresh Kumar Thallapuranam


Scholarships and Awards—2016

<table>
<thead>
<tr>
<th>Scholarship</th>
<th>Recipients</th>
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<tr>
<td>Amis Chemistry Scholarship</td>
<td>Allison Schneider</td>
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<tr>
<td>W. Ves Childs Science Education Scholarship</td>
<td>Jordana Thibado</td>
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<tr>
<td>DuPont Scholarship</td>
<td>Catherine Halloran and Brianna Hooker</td>
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<tr>
<td>Ethyl Scholarship</td>
<td>Sarah Covert</td>
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<tr>
<td>Arthur and Lois Fry Scholarship</td>
<td>Melanie Curry, Karli Lipinski, Craig McLean, and Savannah Ullrich</td>
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<td>Octa N. High Scholarship</td>
<td>Cayley McCollough and Darla Roberts</td>
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<tr>
<td>William K. Noyce Scholarship</td>
<td>Haley Birch, Amy James, and Kelsey Knobbe</td>
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<tr>
<td>Jacob and Wilma Sacks Scholarship</td>
<td>Leslie Baldwin, Alexandria Kim, Justin Klucher, Christopher Randall, Jennifer Silva-Nash, and Cody Timmerman</td>
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<td>Siegel Chemistry Scholarship</td>
<td>Ashley Green, Erika Hamer, and Lemuel Reber</td>
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<td>Barbara Weirtheim Campbell Award</td>
<td>Craig McLean, Jordana Thibado, and Levi Watson</td>
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<td>Coulter W. Jones Award</td>
<td>Rima Bhakta, Michael Dasso, Christian Goodnow, Daniel Griffin, George Hristoskov, Justin Klucher, Anusha Majagi, Madison Martinez, Attrice Meeks, Fred William Pohlman, Christopher Randall, Russell Sharp, Hunter Vines, Carly Welsh, and Abigail Williams</td>
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<td>Frederick A. Kekulé Award</td>
<td>Harper Grimsley</td>
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<td>CHBC Development Fund Award</td>
<td>Garrett Ryan Hadley, Kelsey Knobbe, Madeline Meier, Logan Mills, Collin Mondrik, and Elizabeth O’Daniel</td>
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<td>CHBC Achievement Award</td>
<td>Katherine Naegger</td>
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<td>Monica Mabie Award</td>
<td>Patrick Pysz</td>
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<tr>
<td>CHBC Scholars Award</td>
<td>Kevin Glennon</td>
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Undergraduate Summer Research

The 27th year for summer undergraduate research programs is underway for the department. Drs. David Paul and Julie Stenken co-direct the NSF REU program, which is hosting 8 students, and is running concurrently with the NIH INBRE summer program, which is hosting 4 students on this campus and 13 students at UAMS. Dr. Paul coordinates the INBRE program, with Dr. Roger Koeppe serving as the director of the Science Research Core.

REU Students
Ronald Bercaw……….Oklahoma City University
Susan Campbell………….Louisiana Tech University
Carlie Clem…………….Henderson State University
Theophila Dusabamahoro………Spelman College
Harper Grimsley……………University of Arkansas
Lyndsie Kamps………………Calvin College
Rebecca Moffett……………University of Arkansas
Noel Evans………………Pittsburg State University

INBRE Students
Located at UAF for summer
Mikiah Ballard……………………UA Pine Bluff
Amanda Paz Herrera…………University of the Ozarks
Enatha Ntirandekura…………UA Little Rock
Hope Woods………………Lyon College

Located at UAMS for summer
Braxton Anderson…………….Hendrix College
Dustin Brown……………………UA Little Rock
Amanda Ederle……………..University of Arkansas
Nicholas Kowalkowski…….Ouachita Baptist University
Rachel Knight……………………UA Monticello
Karli Lipinski………………University of Arkansas
Madison McGraw……………Lyon College
Christopher Palmore…………Harding University
Raisa Rasul………………University of Arkansas
Shelby Sorrells………………Harding University
Jayda Williams………………University of Central Arkansas
Lindsey Wood……………Southern Arkansas University
Maria Zeballos……………..University of Arkansas

Front row, L-R: Mikiah Ballard (Fiona Goggin), Lyndsie Kamps (Jack Lay), Susan Campbell (Suresh Kumar), Amanda Paz Herrera (Denise Greathouse)
2nd row: Theophila Dusabamahoro (Colin Heyes), Enatha Ntirandekura (Christa Hestiken), Carlie Clem (Wei Shi)
3rd row: Hope Woods, (Ravi Barabote), Ronald Bercaw (Colin Heyes)
Back row: Harper Grimsley (Stefan Kilyanek), Evan Noel (Paul Adams), Becca Moffett (David Paul), David Paul

Top 15 in 2015

The University of Arkansas recently honored its “Top 15 in 2015” class of research award recipients in a ceremony Tuesday in Sturgis Hall at the Janelle Y. Hembree Alumni House.

The offices of the provost and vice chancellor for academic affairs and vice provost for research and economic development hosted the ceremony and reception, which recognized faculty and staff researchers who were the university’s most highly funded in fiscal year 2015.

As a group, the 15 faculty and staff researchers accounted for more than half of the University of Arkansas’ total external research funding of $63.7 million in fiscal 2015.

"You’re bringing distinction, you’re bringing prestige and you’re bringing critical research dollars to the university, and, even more important than the research dollars, you are advancing the knowledge base,” Chancellor Joseph E. Steinmetz told the group. “I want you to know how much you mean to the university and how important your work is in advancing our academic mission.”

Among the Faculty and staff recognized at the event was Roger Koeppe, Distinguished Professor of chemistry and biochemistry, Fulbright College.

April 7, 2016 Newswire
University Professor Bill Durham was promoted to University Professor Emeritus May 16, 2016. He served the University of Arkansas for 38 years with exemplary teaching, research, and service. He served as Chairman of the Department of Chemistry and Biochemistry from 2000 to 2011, the longest tenure of any Chair in the history of the department. He played a key role in working with the University to carry out the complete renovation of the historic Chemistry Building for a total cost of $17 million. He is an outstanding scientist, pioneering the development of the Ruthenium Photoexcitation technique to study the mechanism of biological electron transfer, which produces all the energy needed for life. He is an exemplary teacher at both the undergraduate and graduate levels, and mentored numerous Honors, M.S. and Ph.D. students in research.

A departmental picnic was held at the Gardens Pavilion on May 6 to honor Professor Durham’s many years of exemplary service to the University. A photobook was presented to Professor Durham illustrating his years in the Department of Chemistry and Biochemistry. These photos can be viewed at the website: https://picasaweb.google.com/millett4

RESOLUTION from the UA Board of Trustees
Dr. Bill Durham, University Professor Emeritus

WHEREAS, Dr. Bill Durham, University Professor of Chemistry and Biochemistry in the Fulbright College of Arts and Sciences, University of Arkansas, Fayetteville has expressed his intention to retire effective the end of the Spring 2016 semester, and

WHEREAS, Dr. Durham earned his B.A. from Rutgers University in Chemistry in 1971, his M.S. from Clarkson College of Technology in 1973, and his Ph.D. in Chemistry from Wayne State University in 1977, and

WHEREAS, Dr. Durham was a Chaim Weizmann Postdoctoral Fellow at the University of North Carolina from 1977 to 1979, and

WHEREAS, Dr. Durham joined the Department of Chemistry and Biochemistry at the University of Arkansas in 1979 as an Assistant Professor, was promoted to Associate Professor in 1984, to Professor in 1990, and University Professor in 2012, and

WHEREAS, Dr. Durham has served 38 years in exemplary teaching at both the undergraduate and graduate levels and conducting research that resulted in the training of numerous undergraduate students, 4 M.S. students, and 16 Ph.D. recipients, and

WHEREAS, Dr. Durham has served a leadership role in the Department of Chemistry and Biochemistry, serving as Vice Chairman from 1998 to 2000 and Chairman from 2000 to 2011, the longest tenure of any Chair in the history of the Department, and

WHEREAS, Dr. Durham as Chairman played a key role in working with the University to carry out the complete renovation of the historic Chemistry Building for a total cost of $17 million, initiated by a keystone NIH grant written by Dr. Stites.

WHEREAS, Dr. Durham is an outstanding scientist who has been awarded over 20 research grants totaling over $7.9 million, and published over 122 scientific articles in high quality peer-reviewed journals, and

WHEREAS, Dr. Durham has been a pioneer in the development of the ruthenium photoexcitation technique to study the mechanism of biological electron transfer, which produces all the energy needed for life, and

WHEREAS, Dr. Durham has used the ruthenium photoexcitation method to determine the detailed mechanism of how cytochrome oxidase reacts with all the oxygen we breathe and produces the energy needed by our muscles, and

WHEREAS, Dr. Durham has determined in exquisite detail how cytochrome bc1 functions to transfer electrons from ubiquinone to cytochrome c and transport protons across the mitochondrial membrane to produce the energy needed for life, and

WHEREAS, Dr. Durham has selflessly served the Department, College, and University throughout his career, chairing the Patent and Copyright Committee, the Health and Occupational Safety Committee, and the Toxic Substances Committee, and

WHEREAS, Dr. Durham has selflessly served the Community, as Consulting Chemist for the Hazardous Materials Response Team of Washington County, Consulting Chemist for the University Office of Environmental Health and Safety, and Science Fair Judge.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ARKANSAS THAT the Board bestows upon Dr. Bill Durham the title of University Professor Emeritus of Chemistry, effective May 16, 2016, and grants him certain rights and privileges as extended to emeritus faculty by the Fayetteville campus and the University of Arkansas System.
2016 Class of Razorback Classics Named

The Arkansas Alumni Association recently announced the 2016 Class of Razorback Classics. These students were selected as the top 11 male or 11 female graduating students at the University of Arkansas. This is the pinnacle of the Arkansas Alumni Association awards program that started with over 500 nominations in the fall. The selection committee of almost 100 alumni and administrators, who were previous winners or members of the Arkansas Alumni Board of Directors, read through each application. The students are judged on academic excellence, leadership and campus or community involvement. This award looks at the entire student experience, said Ryan Miller, associate director for student & young alumni outreach. Seventy-one graduating seniors were selected as the 2016 Class of Seniors of Significance and then 22 students rose to the top as this year’s Class of Razorback Classics.

Undergraduate Haley Birch was one of the 11 top female students selected. Her research mentor was Stefan Kilyanek.

U of A Students Shine at Arkansas Academy of Science Centennial Meeting

Faculty and students from multiple universities across the state recently gathered on the University of Arkansas campus for the 100th meeting of the Arkansas Academy of Science. The academy works to promote science and the dissemination of scientific information in Arkansas.

Student oral and poster presentation competitions were held as part of the event and U of A students performed well, placing in nearly every category of competition.

"It was such an honor to host the centennial meeting of the Arkansas Academy of Science on our campus," said R. Paneer Selvam, the organization’s vice president. "The caliber of research students in our state are conducting is truly incredible. I am grateful we had the opportunity to highlight that research as part of our meeting."

The U of A undergraduate student winners from the department of chemistry and biochemistry were:

Jordana K. Thibado, first place, chemistry (oral), chemistry major
Madeline Meier, first place, chemistry (poster), chemistry major
Armin Mortazani, second place, chemistry (poster), chemistry major

The U of A graduate student winners and their respective categories were:

Venkatesan Rajagopalan, first place, chemistry (oral), doctoral student in cell and molecular biology, advised by Roger E. Koepppe
Julie Davis, first place, chemistry (poster), doctoral student in chemistry, advised by Suresh Thallapuranam
Ryan Rogers, second place, chemistry (oral), doctoral student in chemistry, advised by Feng Wang

Study Abroad

Catriona Whiteside was awarded a scholarship as a Fulbright Scholar to go to England and study at Northumbria University. She will begin her Masters degree studies in September. See http://us.fulbrightonline.org/about for details. Catriona graduated in December 2014 with a double major in Chemistry and Art History.

Nicholas Gregory is an undergraduate who received a study abroad scholarship. Benjamin A. Gilman International Scholarship funds experience, and he will receive up to $5000 to apply towards cost of study abroad. The scholarship program is sponsored by the U.S. Department of State and is intended to increase international experiences for American students, so they will be better prepared to assume leadership roles in the increasingly global economy. The U of A Gilman scholars are part of a select group of 250 students awarded the scholarship nationwide. Nicholas was one of 9 from this campus. He will be studying abroad in Peru.
Chemistry Honors Students Present 48 Research Posters During Honors Day Event
April 18, 2016

The Department of Chemistry and Biochemistry Honors Day was held April 18 and featured research presentations by the junior and senior honors students. The list below includes the honors students, project titles, and faculty mentors for the 48 projects presented.

Haley Birch – Designing a Tethering Structure that Optimizes the Catalytic Function of Bimetallic Systems | Stephan Kilyanek
Heather Bogey – Can Native Enzyme Conformation Act as a Template for Refolding of RNase A? Suresh Kumar Thallapuranam
Austin Bramwell – Selectivity of Structural Analogs of Urushiol, the Allergen in Poison Ivy, for Cysteine-containing Proteins | Wesley Stites
Sarah Burnett – Modeling the Three-dimensional Structure of Fibroblast Growth Factor Receptor 1 | Suresh Kumar Thallapuranam
Augustin Casals – Chemical Stability and Binding to a Small Molecule Analysis of Cdc42 WT and Cdc42 F28L | Paul Adams
Kailey Claunch – Exploring the Inhibition of β-Galactosidase | Susanne Striegler
Ashleigh Ellenwood – Fluconazole Derivatives | Matt McIntosh
Amy James – Improving Photocatalytic Activity by Appending a Quinone to Ruthenium Polyppyridyl Complex | Nan Zheng
Sana Khan – Origin of Esters and Fatty Acids in Beer | Jack Lay
Alexandrea Kim – Lactoferricin Peptides: The Importance of Methyl-Trp and Gln for Structure and Activity | Denise Greathouse
Marlee Maier – Evaluation of Exercise Associated Muscle Cramp Risk Based on Sweat Rate and Sweat Electrolyte Concentrations | Brendan McDermott
Craig McLean – Predicting Marine Siderophore Production: A Bioinformatic Analysis | Paul Adams
Emily Miller – Polydopamine-Wrapped Nanoparticles for Antibiotic Delivery | Jingyi Chen
Hannah Miller – Synthesis of Microgel Polymers as Catalysts | Susanne Striegler
Armin Mortazavi – Detection of Helix Fraying in Designed Transmembrane Alpha Helices | Roger Koepppe II
Rosnhi Patel – Engineering a Mutation in the Heparin Binding Pocket of the Human Fibroblast Growth Factor | Suresh Kumar Thallapuranam
Nhu Phan – Allocation of Amino Acids in Broiler Breeders | Jack Lay
Cole Plunkett – Effect of Single Point Mutation in the Switch I Binding Pocket of Ras Protein Cdc42 on Interactions with Small Molecule ZCL278 | Paul Adams
Julie Rhee – Staphylococcal Nuclease and Ubiquitin Local Folding Energies and Rates using PEPS-HDX-ESI-MS | Wesley Stites
Jennifer Silva-Nash – Regulation of the Reaction between Cytochrome c and Cytochrome Oxidase | Frank Millett
Tyler Sweat – A Study of Approaches to the Synthesis of Transition Metallaanthracenes | Neil Allison
Jordana Thibado – Influence of Cholesterol on Single Arginine-Containing Transmembrane Helical Peptides | Roger Koepppe
Cody Timmerman – Soluble Expression, One-step Purification, and Biophysical Characterization of the C-Terminal Domain of ALB-3 from Pismum sativum | Suresh Kumar Thallapuranam
Savannah Ullrich – Controlling the Deposition of Gold on Janus Nanodumbbells | Jingyi Chen
Levi Watson – Fundamental Studies of Macromolecule Microdialysis Calibration | Julie Stenken
Ryan Wendt – Investigating Possible Interactions between Ionizable Residues in Model Transmembrane Peptides | Roger Koepppe II
Rima Bhakta – Synthesis of New Ipomoeassin F Derivatives with an Ester, Amide-Modified Aglycone | Wei Shi
Michael Dasso – Engineering Human Fibroblast Growth Factor (FGF1-delta222 mutant) for Enhanced Stability and Increased Mutagenic Activity | Suresh Kumar Thallapuranam
Christian Goodnow – Electrochemical Reduction of Molybdenum (VI) Species | Stefan Kilyanek
Daniel Griffin – The Development of a Novel Triazole-Containing Ipomoeassin F Derivative using 'Click Chemistry' | Wei Shi
Garrett Hadley – The Bifunctionalization of Cyclobutylanilines by Photoredox Catalysis | Nan Zhang
George Hristoskov – Characterizing the Influence of a RAS Inhibitor on the Conformational Stability of Cdc42 and a Fast-Cycling Cdc42 Variant | Paul Adams
Kelsey Knobbe – Solid-State NMR to Investigate the Interaction between Ionizable Arginine and Glutamic Acid Residues in Transmembrane Peptides | Denise Greathouse

continued on page 10
Honors Posters (continued from page 9)

Anusha Majagi – Generating Biologically Active FGF1 Dimer Using Chemical Cross Linking Methods | Suresh Kumar Thallapuranam

Madison Martinez – Applications of the Targeting Mechanism of Clostridium histolyticum ColH Collagen-Binding Domain | Joshua Sakon

Madeline Meier – Verification of the Geometric Coefficient K using Electrochemical Time of Flight Experiments | David Paul

Maya Merriweather – Classification of the conformational stability of a Ras effector protein | Paul Adams

Logan Mills – Evaluating the Inhibition of β-galactosidase from Aspergillus oryzae | Susanne Striegler

Collin Mondrik – Total Synthesis of Brartemicin and a 3,5-Dihydroxy-Substituted Analog | Wei Shi

Elizabeth O’ Daniel – Investigation of FGF-R136E: Analysis of Protein Structure | Suresh Kumar

Fred Pohlman II – Isolation and Characterization of Heparin from Bovine Intestinal and Respiratory Tissue | Suresh Kumar Thallapuranam

Christopher Randall – Design of a Human Fibroblast Growth Factor (phFGF-1) with Enhanced Stability and Increased Mitogenic Activity | Suresh Kumar Thallapuranam

Russell Sharp – Identifying the Structure of Salmon Sperm DNA from DNA Fiber | Joshua Sakon

Hunter Vines – Biochemical Studies of the Interaction between Ligand-Binding Domain of Estrogen Receptor Alpha and Histone Acetyltransferase 1 | Yuchun Du

Carly Welsh – Development of Palladium-Based Bioorthogonal Reactions | Wei Shi

Abigail Williams – Surface Immobilization of Terpyridine Compounds | Stefan Kilyanek

Graduate Students Pass 7th CUME

Joel Baker passed his 7th CUME April 8, 2016. Joel received his BS from Missouri Southern State University in July of 2014 and joined this program that fall. He is from Neosho, MO and is a student in Stefan Kilyanek’s lab. He is admitted to candidacy.

T. Ryan Rogers passed his 7th CUME April 8, 2016. Ryan received his BS from the University of Central Arkansas in May of 2015 and joined the program that fall. He also was a summer 2014 REU program participant who was awarded the Tony Jude Award for research. He won 1st place in the Chemistry/Biochemistry oral presentation and the UA annual INBRE conference in 2014. Ryan is from Jonesboro, Arkansas and his advisor is Feng Wang.
Annual Departmental Canoe Trip

Colin Heyes led 24 chemistry students and faculty on a great canoe trip on the Buffalo National River, from Steele Creek to Kyle’s Landing, on Thursday, May 29. They enjoyed the high bluffs and rapids of the Buffalo River. Highlights included a hike up to Hemmed-in-Hollow, and the challenging Hell’s Half Acre rapids.
Calendar of Events

June
02  Last day to register for or add a 10-week or 8-week class

July
01  Application deadline for students who plan to graduate at the end of summer. Also last day of 1st 5-week classes
4   Independence Day (Offices are Closed)
19  Father’s Day
21  Last Day of 8-week classes
28  REU Meeting in Miniature

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.

Library Hours

Summer Hours: May 31 - August 5
Saturday and Sunday  CLOSED
Monday - Thursday 8:00 am - 6:00 pm
Friday 8:00 am - 5:00 pm

Exceptions to Regular Spring Hours
Monday  July 4  CLOSED

Intersession and Interim Hours
Saturday and 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.

For more information: Check the Libraries’ web site (http://libinfo.uark.edu) for updated information on hours and services. Library hours are also available by dialing 479-575-2557.

Our departmental web page is located at Fulbright.uark.edu/departments/chemistry/ There you will find links to departmental information, news, and people. But best of all, alumni can stay in touch through the Alumni & Friends link. We want our alumni to stay in touch! Please take a few minutes to browse the page and submit any update you’d like published (or not). We welcome pictures too!

Joke Time
- with Julie

“Guess what this is…”

… a Graduated Cylinder!”

Congrats to all the Grads!

Safety Tip:
Ahh…summer! Shorts and sandal weather, right? Fine for floating the Buffalo or hanging out on the porch. NEVER a good idea in the lab. Closed toed shoes and long pants are required!