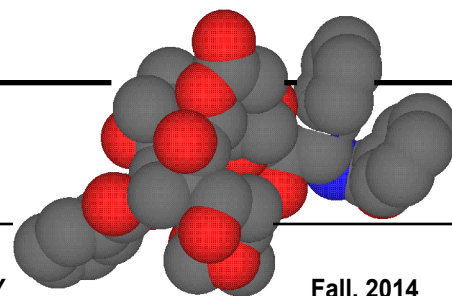


Molecules & Moles

Vol. XVIII, No. 1

MISSOURI STATE UNIVERSITY

Fall, 2014



DEPARTMENT
OF
CHEMISTRY

A NOTE FROM THE DEPT. HEAD

Greetings to alumni and friends of the MSU Chemistry Department! It has been a while since we've published the happenings of the department. Our long-time administrative assistant and editor of the newsletter, Judy Ewer, retired after a year and a half of post-retirement part-time employment. Some of us wondered if she'd ever be able to tear herself away from here, but she finally managed to do it... and now we can hardly get her to come back to say "Hi!" In any event, this is the first M&M to get out in about two years!

A lot can happen in two years, and we have been quite fortunate in many ways. To begin with—and the reason that you are able to read about this at all—we have found and hired a new administrative assistant that we share with the Dept. of Physics, Astronomy, and Materials Science (PAMS). Her name is Kristy Teague, and you can read all about her in the New Faces section of this edition. Most of what you read in this publication is her work as the new editor, and I can't thank her enough for her persistence and thought in seeing it through to completion. As you will read, our faculty continue to produce numerous scientific publications and many in the department have received awards. We are gearing up to say farewell to our long-standing colleague, Dr. Anne Gordon, who will be retiring in May (see below and p. 3). Increasingly, our students engage in research projects with great enthusiasm and present their results at local, regional, and national meetings, and our ACS Student Affiliates continue to maintain their award-winning status.

The final thought I leave with you is that this will likely be my last greeting as the Department Head. After extensive deliberation and discussion with family, friends, and colleagues, I have decided to return to faculty status at the end of this academic year. I have truly enjoyed serving as Department Head, but it is now time to turn over the fun to someone else for a while, and I am happy to report that Dr. Bryan Breyfogle on our faculty has accepted the appointment! So the department will be in good hands, and you will be able to hear from him in future issues. You may still hear from me, too, but you might have to look a little further back in the pages.

CHEMISTRY WALL OF FAME

Dr. Annette Gordon has taught at Missouri State since January 1993. This year, she adds the title, "Emeritus Professor" to her position here in the department. In her new role, she continues to teach and advise students on a part-time basis, and her office has moved to Temple Hall 106.

Prior to this fall, Dr. Gordon taught full-time for 21 years at Missouri State. Her main assignments have been teaching CHM 107 (Chemistry for the Citizen) lecture and labs and supervising CHM 300 (Service Learning in Chemistry). She has also advised pre-professional students, including pre-pharmacy, pre-dental and pre-optometry.

As a department, we acknowledge and commend Dr. Gordon for her many years of service and dedication. In fun, she was asked to share a memorable experience from one of her Chemistry classes; she shared, "Probably the class demonstration that my students enjoyed most was the one where I singed the hair on my right arm while I was lighting a balloon filled with hydrogen gas!"

Dr. Gordon graduated with a bachelor of science degree from Duke University in 1959. She earned her PhD from Vanderbilt University in 1968. Her research and professional interests include chemical education with emphasis on improving the chemistry course for non-science majors. Her long-term aim has been to encourage girls, especially junior high age, to pursue their interest in math, science and technology.



FACULTY NEWS

ERICH BOSCH

Presentations:

(1) Eric Bosch, Shalisa Oburn, Jeffery Darko and Nathan Bowling. "Formation of Self-Complementary Halogen Bonded Dimers And Other Adventures in Halogen Bonding," 1st International Symposium on Halogen Bonding, IUPAC, Porto Cesareo, Italy. (June 20, 2014).

(2) Eric Bosch and Nathan Bowling. "Intramolecular Halogen Bonding: Linding Donors and Acceptors through a Rigid Aryldiyne Bridge," 1st International Symposium on Halogen Bonding, IUPAC, Porto Cesareo, Italy. (June 18, 2014).

(3) Eric Bosch and Jeffery Darko. "The Power of Non-Conventional Hydrogen Bonds: From Co-Operative Crystal-Packing Force to Dominant Crystal Engineering Force," Gordon Research Conference on Crystal Engineering, New Hampshire. (June 4, 2014).

(4) Shalisa Oburn and Eric Bosch, "Formation of Self-Complimentary Halogen Bonded Dimers," Missouri Organic Chemistry Day, University of Missouri Columbia, Columbia MO. (April 12, 2014).

(5) Shalisa Oburn and Eric Bosch, "Synthesis of Planar Polycyclic Aromatic Molecules Incorporating Intramolecular Halogen Bonding," National Meeting of the American Chemical Society, American Chemical Society, Dallas TX. (March 19, 2014).

Publications:

(1) Danielle L. Widner, Qianwei R. Knauf, Mark T Merucci, Thomas R. Fritz, Jon S. Sauer, Erin D. Speetzen, Eric Bosch, Nathan P Bowling "Intramolecular Halogen Bonding Supported by an Aryldiyne Linker" *Journal of Organic Chemistry*, **2014**, *79*, 6269–6278. (<http://pubs.acs.org/doi/pdf/10.1021/jo501015x>)

(2) Bosch, E. "Comparison of sp-C-H---N Hydrogen Bond Lengths in fluorinated and nonfluorinated ethynylbenzenes" *Journal of Chemical Crystallography*, **2014**, *44*, 287-292. DOI 10.1007/s10870-014-0510-x

(3) Bosch, E. "Serendipity and the Search for Short N---I Halogen Bonds" *Crystal Growth and Design*, **2014**, *14*, 126-130. DOI: 10.1021/cg401243h

(4) Bosch, E. "Structural Analysis of Methyl-Substituted Nitrosobenzenes and Nitrosoanisoles" *Journal of Chemical Crystallography*, **2014**, *44*, 98-102. DOI 10.1007/s10870-013-0489-8.

One chemistry education book chapter was published:

(5) "Extrapolation from Small Molecules to Polymers: A Simple and Effective Way to Promote Interest in Both Organic Chemistry and Polymer Chemistry," ACS Symposium Series, Volume 1151, Introduction of Macromolecular Science/Polymeric Materials into the

Foundational Course in Organic Chemistry, (ed) Howell, B., 2013, Chapter 4, **2013**, pp 53-62.

BRYAN BREYFOGLE

In 2013, he was promoted to the rank of Professor and had the following publication:

(1) Eakins, G. L.; Cooper, M.W.; Gerasimchuk, N.; Phillips, T.J.; Breyfogle, B.E.; and Stearman, C.J., "Structural influences impacting the role of the 9-ylidene bond in the electronic tuning of structures built upon 9-fluorenylidene scaffolds," *Canadian Journal of Chemistry*, **2013**, *91* (11).

NICKOLAY GERASIMCHUK

In 2014, he was a recipient of the MSU Foundation Award in Research and the CNAS Award in Service. In the fall of 2013, he had the ACS recognition as Program Chair of the MWRM-2013.

He also received a Faculty Research Award grant in the amount of \$6,540, for "Preparation of polymeric nano-size Pt(II) complexes for near-infrared cell imaging."

Presentations:

(1) "Synthesis, properties and applications of light insensitive silver (I) cyanoximates," and a poster: "Light insensitive silver (I) complexes as microbial additives to light-curable acrylate adhesives for indwelling medical devices," Zing Coordination Chemistry Conference, "100 Years after Werner," Oxidental Xcaret, Mexico. (December 5-9, 2013).

Publications:

(1) Riddles, C.N.; Whited, M.; Lotlikar, S.R.; Still, K.; Patrauchan, M; Silchenko, S.; Gerasimchuk, N. "Synthesis and characterization of two cyanoxime ligands, their precursors, and light insensitive antimicrobial silver(I) cyanoximates." *Inorganica Chimica Acta*. **2014**, *412*, 94-103.

(2) Ryabchuk, P.; Edwards, A.; Gerasimchuk, N.; Rubina, M.; Rubin, M. "Dual Control of Selectivity in the Synthesis of Homochiral Densely Substituted Cyclopropanes via the Addition of Nucleophiles to *in situ* Generated Cyclopropenes." *Organic Letters*. **2013**, *15* (23), 6010-6013.

(3) Ramidi, P.; Gerasimchuk, N.; Gartia, Y.; Felton, C.M.; Ghosh, A. "Influence of substituents on the reactivity of cobalt(III) amidoamine complexes for the catalytic synthesis of cyclic carbonate from epoxide and carbon dioxide". *Dalton Transactions*. **2013**, *42*, 13151-13160.

(4) Eakins, G.L.; Cooper, M.; Phillips, T.; Gerasimchuk, N.; Breyfogle, B.; Stearman, C.J. "Structural Influences Impacting the Role of the 9-Ylidene Bond in the HOMO-LUMO Tuning of Structures Built upon 9-Fluorenylidene Scaffolds". *Can. J. Chem.* **2013**, *91* (11), 1059-1071.

(5) Gudima, A.O.; Shovkova, G.V.; Trunova, O.K.; Grandjean, F.; Long, G.J.; Gerasimchuk, N. "Sodium-Centered Dodecanuclear Co(II) and Ni(II) Complexes with 2-(Phosphonomethylamino)succinic Acid: Studies of Spectroscopic, Structural, and Magnetic Properties." *Inorganic Chemistry*. **2013**, 52 (13), p. 7467-7477.

(6) Cheadle, C.; Gerasimchuk, N.; Barnes, C.L.; Tyukhtenko, S.I.; Silchenko, S. "First bis-cyanoxime: synthesis and properties of a new versatile and accessible polydentate bifunctional building block for coordination and supramolecular chemistry." *Dalton Transactions*. **2013**, 42 (14), p. 4931-4946.

(7) Hilton, M.; Gerasimchuk, N.; Silchenko, S.; Charlier, H. "Synthesis, Properties and Crystal Structure of the 2,4-dichlorophenyl-cyanoxime - a powerful carbonyl reductase inhibitor." *J. Chem. Crystallography*. **2013**, 43 (3), p.157-164.

(8) Curtis, S.; Ilkun, O.; Brown, A.; Silchenko, S.; Gerasimchuk, N. "Synthesis, spectroscopic and structural characterization of the first phenyl bis-cyanoximes: non-chelating extended ionisable building block ligands for new MOFs." *Cryst. Eng. Comm*. **2013**, 15, p.152-159.

(9) Gerasimchuk, N. "Synthesis, Properties, and Applications of Light-Insensitive Silver (I) Cyanoximates," *European Journal of Inorganic Chemistry*. **2014**, 27, 4518-4351. DOI 10.1002/ejic.201402251

Based on research through a grant shared with Oklahoma State University, a **patent application** was filed in November 2013 for "Antimicrobial, thermally and visible light stable silver(I) cyanoximates that inhibit biofilm formation." Inventors are: N. Gerasimchuk and M. Patrauchan.

PROFESSOR ANNETTE GORDON

Provost Frank Einhellig presented Dr. Gordon with the **Excellence in Service Learning Award**, and the **Retirement Recognition Award**.



CNAS FACULTY & STAFF 2014 AWARDS

Dean Jahnke and Associate Professor **Gary Meints**, ~ **Student Award for Faculty Excellence**



Dean Jahnke and Administrative Assistant **Linda Allen** ~ **Staff Excellence**



Dean Jahnke and Assistant Professor **Katye Fichter** ~ **Faculty Excellence in Teaching**



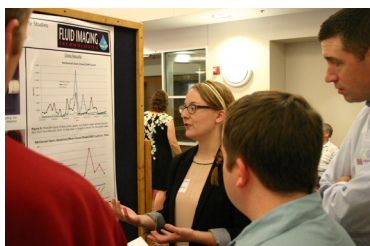
MSU FOUNDATION AWARDS

Professor **Nikolay Gerasimchuk** (Chemistry) and Professor **Mike Reed** (Physics, Astronomy and Materials Science) ~ **Foundation Award for Research**

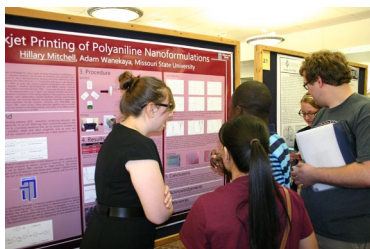


PRESENTATIONS AT THE CNAS UNDERGRADUATE RESEARCH DAY

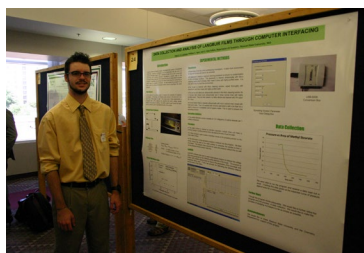
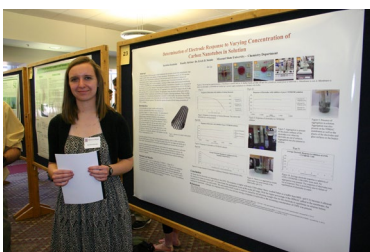
“Application of FlowCAM on Algae Monitoring and Water Quality Studies,” **Samantha Marshall** and Erich Steinle. This was a study funded by Fluid Imaging Technologies; a grant was awarded to City Utilities of Springfield, MO.



“Inkjet Printing of Polyaniline Nanoformulations,” **Hillary Mitchell** and Adam Wanekaya.



“Determination of Electrode Response to Varying Concentration of Carbon Nanotubes in Solution,” **Karolina Kosinska** and Erich Steinle.



“Data Collection and Analysis of Langmuir Films through Computer Interfacing,” **Trace Coleman**, William Agee, and Alan Schick.

ACS NATIONAL MEETING, NEW ORLEANS, APRIL 2013

“Carbon dots: Synthesis, characterization, modification, and their bioanalytical/biomedical applications,” **Aaron Simpson**, Ramyah V.S. Aarysomayajula, Christopher Conkling, John M. Dean, Robert K. Delong and Adam Wanekaya.

“Development of carboxylate-anion selective polymeric membrane electrodes based on erbium (III) porphyrins,” **Eric Tague**, Garrett R. Smith, Erich D. Steinle.

“Investigations of the stability of acrylate-based composites containing antimicrobial silver (I) cyanoximates to high intensity visible and UV light and their antimicrobial activities,” **Mark Whited**, Jeff Morton and Nikolay Gerasimchuk.

“Light insensitive silver (I) cyanoximates as antimicrobial agents,” **Mark Whited**; S. Korey; S.R. Lotikar; M. Patrauchan; N. Gerasimchuk.

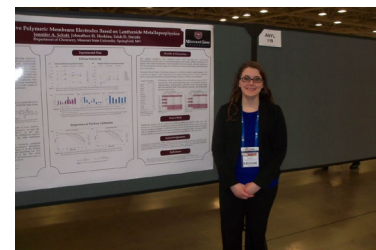
“Phosphorescence, fluorescence, and bears... oh my: excited state of Missouri State’s ACS student affiliates,” **Jennifer A. Schott** and Diann Thomas.

“Synthesis and characterization of cysteine based pegylated dendrimer,” **Wesley Dowler** and Reza Herati.

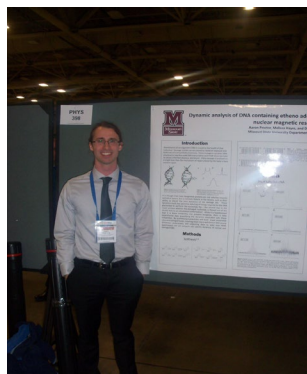
“Synthesis, characterization, and electroactive complexes of bismuth nano-particles,” **Steven Caudle**, Ryan Spidle and Adam Wanekaya.

ACS NATIONAL MEETING, DALLAS, TEXAS MARCH 2014

“Anion selective polymeric membrane electrodes based on lanthanide metalloporphyrins,” **Jennifer Schott**.

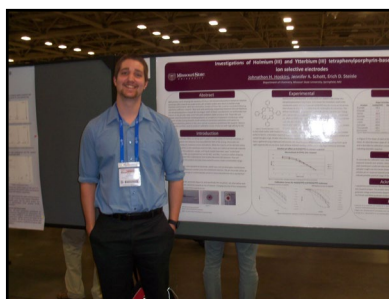


“Density functional theory investigation of the mechanism for AuCl₃-catalyzed conversion of acyclic propargyl acetates to bicyclo [4.1.0] heptane carbocycles,”
Matthew Siebert.



“Dynamic analysis of DNA containing etheno adenine using deuterium solid-state nuclear magnetic resonance,”
Aaron Proctor.

“Investigations of holmium (III) and ytterbium (III) tetraphenylporphyrin-based ion selective electrodes,”
Johnathan Hoskins.



“Investigation of the mechanism for Lawesson’s reagent mediated dimerization of fluorenones to bifluorenylidenes via quantum chemical methods,”
Michael Nothnagel and Matthew Siebert.

“Socioscientific issues: A proposal for the development of socioscientific inquiry about climate change in a non-science majors chemistry course,” **Helena De la Hoz De la Hoz.**

“Synthesis, characterization, and application studies of PEGylated-poly(aryl-amide-sulfide),” **Wesley Dowler.**

“Synthesis of planar polyaromatic molecules incorporating intramolecular halogen bonding,” Eric Bosch and **Shalisa Oburn.**

MWRM ACS 2013

Last fall, the Chemistry department hosted the 48th regional meeting of the **American Chemical Society** (MWRM-2013) from October 16-18th at the University Plaza Hotel and Convention Center in Springfield.

The event was sponsored by 8 divisions of the ACS, four



companies, Ozarks Technical Community College, and MSU’s College of Natural and Applied Science. Additional participation came from faculty and members from Drury University, College of the Ozarks and Emporia State University.

The conference was well attended with 546 members (443 presenters) coming from not only the midwest, but also Mexico, Canada, China, and Russia.

As of publication, the next meeting is being held in Columbia, Missouri, on the campus of the University of Missouri, Wednesday-Saturday, November 12-15, 2014.



NEW FACES IN THE DEPARTMENT



Dr. Gautam Bhattacharyya, Assistant Professor of Chemistry, was born and raised in Calcutta, India, and lived in a lot of places growing up, including even Brazil. Of all the places though, he says Athens, GA, is home. He earned his undergraduate

degree in Chemistry at Brown University in 1992, and a master’s degree from Harvard University in 1994. He specialized in organic chemistry under the supervision of Professor E.J. Corey (1990 winner of the Nobel Prize in Chemistry). He received his PhD in chemical education at Purdue University in 2004 under the supervision of his mentor Dr. George M. Bodner.

Dr. Bhattacharyya started his independent career as an Organic Lab Instructor at the University of Oregon from 2004-2006 and was at Clemson University as an Assistant Professor from 2006-2014. His research is in the area of chemical education. The overall goal of the work is to better understand how students develop into practicing chemists, particularly in the areas of mechanistic reasoning and decision-making. The work in mechanistic reasoning has focused on the types of information students derive from chemical representations and, in the process, on some aspects of problem solving. The main context for the studies in decision-making is the research group setting, especially with respect to the management of errors during experimentation and the interpretation and validation of data.

Dr. Bhattacharyya moved to Springfield, MO, in late July. He is teaching introductory organic chemistry, CHM 342. Dr. Bhattacharyya and his wife have three children. They are Aidan (age 4 ½) and boy and girl twins Devin

and Kalli (age 3). They have one 13-year old cat, Beanie, who, he says, was much happier before the “critters” came into the picture. He loves to cook and do different types of puzzles. Dr. Bhattacharyya’s wife is a psychologist who he met in a statistics class when they were each earning their respective PhD degrees. According to him, “That is a LOT more than most get out of statistics courses.”

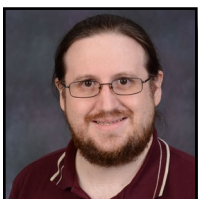


Helena De la Hoz De la Hoz, Visiting Instructor of Chemistry, is from Colombia. She was born in a city by the Caribbean area of her country called Barranquilla. She graduated with a bachelor’s degree in Chemistry education from Universidad

Pedagógica Nacional, which is a public university dedicated to preparing teachers. Soon after graduation in July 2011, Helena moved to Kingston, Jamaica, where she taught chemistry in an all-male high school called Jamaica College. Helena taught chemistry to 9th-10th grade. She also taught science to 7th grade students. In August of 2012, she moved to Springfield and started at MSU as a non-degree seeking student and then started the master’s program in spring of 2013.

Helena has been working with Chemistry for the Citizen since her undergraduate thesis. Some of her research accomplishments include an oral presentation at the ACS national meeting in Dallas in spring of 2014.

Helena loves English and is grateful for her time here at Missouri State. She is thankful for her church family who has helped her adjust to being away from her home country and loved ones. She is the president of the Relief Society at her church. She also plays violin and was a member of the University’s symphony orchestra during her first semester at MSU. She has played violin since she was nine, and when she lived in Jamaica, she was a violin instructor for an at-risk student music program called National Youth Orchestra of Jamaica (NYOJ).



Jonathan Hardin, Chemical Stockroom Supervisor, was born in the U.S. Virgin Islands, but he grew up in Springfield, MO. He has also lived in Chicago, IL; Buffalo, NY; and Dallas, TX. He is a graduate of Missouri State, earning a bachelor’s

degree in chemistry in Dec. 2007, and a Master’s degree in May 2009, after working with Dr. Steinle.

Jonathan has a fascination with board games and a deep love for reading. He builds his own PCs and is a technophile at heart. His interest in lab/work safety came about through a variety of reasons. In his early 20s, he worked in a print shop; the solvents and developing

solutions used on the presses and in the film room, as well as the general hazards of large equipment, motivated him to develop caution and awareness. Also, the UCLA lab fire in ‘08 happened while he was a master’s student here at MSU.



Kristy Teague, Academic Administrative Assistant, is originally from Waco, Texas, the home of the Baylor Bears, but she is thrilled to cheer on the Missouri State Bears, as well.

She is a graduate of the University of North Texas in Denton, with a bachelor’s degree in General Studies (1994) and a master’s degree in Library Science (2008). In 1998, she became a classroom teacher and studied Secondary Education at West Texas A&M University in Canyon. She taught Spanish in public schools in Texas for 6 years, and worked part-time for a public library in 2001-2002 before relocating to Springfield in 2004.

Kristy and her husband, Tim, met in an African History class at UNT in 1993. They have three children: Sarah (18), Luke (10), and Lillian (8). In 2007, their family spent one year living in Dakar, Senegal, and working at Dakar Academy. After living in French-speaking West Africa that year, Kristy became motivated to learn French, and she has been studying French at MSU this year. In her spare time, she enjoys reading and writing, cooking, and spending time with her family.

After completing graduate school in 2008, Kristy resumed working in various schools, libraries, and offices around Springfield before accepting a position at MSU in January 2014. Currently, she splits her time between the departments of Chemistry and Physics, Astronomy and Materials Science.

“Go Bears!”



STUDENT AFFILIATES OF THE ACS (SAACS)

Hello! The Student Affiliates of the American Chemical Society are excited to welcome students and staff in the chemistry department to the 2014-2015 school year. This year looks to be a promising one for our organization. We have a great group of officers and some really great events planned. We hope to see students and staff alike at this year's events!

SAACS is a nationally recognized organization on campus that is concerned with all things chemistry. We get involved in the community by doing demonstrations on campus and at local public schools. SAACS also participates in the Adopt-a-Street program and helps with the Sertoma Chili Cook-off each spring. We also have fun by doing social events; in the past, these have included chemistry-themed bingo, taco nights, and ice cream socials. One of the most fun things we do is celebrate National Chemistry Week and Mole Day.

We hope that you have a great school year. If you're interested in any of our events, check the bulletin board on the 4th floor of Temple. It's newly decorated!



Chemically Yours,

Officers of the MSU Student Affiliates of the American Chemical Society

Liquid Nitrogen Ice Cream Social on September 3, 2014



Adopt-a-Street Trash Pickup on September 6, 2014



CONGRATS, GRADUATES!

2013 - SPRING/ SUMMER 2014



BACHELOR OF SCIENCE:

Ryan Aubochon
Roni Balzam
Christopher Bekas
Christopher Boemeke
Brianna Bray
Michael Coffin
Trace Coleman
Daniel Dougherty
Jesse Eason
Matthew Ellis
Kara Foley
Tristan Frizzell
Gail Denise Hammond
Courtney Hofstetter
Jonathan Hoskins
Lisa Kirchner
Danielle Klaus
Samantha Marshall
Ty McMurry
Jacob Mobberly
Nicholas Mundt
Nicole Olenksi
Gurjari Patel
Yun Peng
Robert Reeves
Tyler Roe
Sarah Roughton
Mitchell Ruegg

Clinton Scanlon
Aaron Simpson
Kyle Stohlmann
Amy Terbrock
Megan Walcher
Abigail Wheeler
Craig Wideman
Alex Wuellner

MASTER OF SCIENCE:

Vishala Aaryasoma
Chunling Cao
Scott Curtis
Wesley Dowler
Michael Hilton
Brett Huntley
Shalisa Oburn
Aaron Proctor
Sathyavardhan Reddy
Sanikommu
Jennifer Schott
Alyxandria Shibley
Eric Tague



Left to Right: Dan Dougherty, Sarah Roughton, Roni Balzam, Courtney Hofstetter, Jennifer Schott, Dr. Alan Schick

MASTER OF SCIENCE THESES:

Curtis, Scott Michael. "Synthesis and Characterization of the first non-chelating bis-cyanoximes and their metal complexes," May, 2013. Advisor: N. Gerasimchuk.

Dowler, Wesley Aaron. "Pegylated dendrons: Synthesis, characterization, and applications," May 2014. Advisor: R. Herati.

Hilton, Michael Christopher. "Synthesis and characterization of platinum complexes with oximes-based ligands," December, 2013. Advisor: N. Gerasimchuk.

Huntley, Brett Ryan. "Effects of exchange resin loading on electrochromic tungsten oxide particles synthesized via a sol gel process," December 2013. Advisor: G. Alan Schick.

Nothnagel, Michael D. "Quantum chemical investigation of the mechanism for the Lawesson's reagent mediated synthesis of bifluorenylidenes from fluorenones," August, 2014. Advisor: M. Siebert.

Oburn, Shalisa. "Synthesis of self-complementary molecular dimers for the evaluation of halogen bonding in crystal engineering, August, 2014. Advisor: E. Bosch.

Proctor, Aaron Daniel. "Deuterium solid-state nuclear magnetic resonance analysis of dynamics of DNA containing 1,N⁶-ethenoadenine," August, 2014. Advisor: G. Meints.

Schott, Jennifer Ann. "Anion selective polymeric membrane electrodes based on lanthanide metalloporphyrins," May, 2014. Advisor: E. Steinle.

Tague, Eric. "Development of carboxylate anion selective polymeric electrodes based on erbium (III) porphyrins," August, 2013. Advisor: E. Steinle.

Aaryasomayajula, Vishala Santosha Ramyah. "Fabrication, characterization and biomedical applications of micro and bionanoconjugates," August, 2013. Advisor: A. Wanekaya.

~ SCHOLARSHIP & AWARD WINNERS 2014 ~

Chemistry Department Scholarship

Victoria Floyd, Shawna John, Rachel Robinson

Chemistry Board of Advisors Summer Fellowship

Danielle Klaus

Robert S. Christie Memorial Scholarship

Kari Burgess, Zachary Wilson

Robert Lloyd Ernst Summer Graduate Assistantship

Shalisa Oburn

Wyman & Sue Grindstaff Chemical Education Scholarship

Joshua Woodiel

Louise and Roland Harthcock Scholarship

Karolina Kosinska

William J. Husa Scholarship

Roni Balzam

Foundation for Immunotoxicology

Adam Kirkpatrick

Doris Lorz Scholarship

Kevin McGovney

Emil Lorz Memorial Scholarship

Hillary Mitchell

Dr. & Mrs. Vernon Thielmann Chemical Education Awards - Dan Dougherty, Megan Walcher

Eugene T. Scafe Memorial Scholarship -

Jacob Blankenship	Tyler Craft
Daniel Fieker	Adam Kirkpatrick
Hillary Mitchell	Kalliope Travlos

~ OUTSTANDING STUDENT AWARDS ~

ACS Organic Chemistry - Danielle Klaus

ACS Analytical - Hillary Mitchell

ACS Inorganic - Hillary Mitchell

CRC General Chemistry Achievement -
Michael Harris

Hypercube Scholar - Jesse Eason

Advanced Inorganic - Hillary Mitchell

Biochemistry - Nick Mundt

Physical - Jeremy Hines

POLYED Undergraduate Organic - Hillary Mitchell

Outstanding Senior 2013-2014 - Courtney Hofstetter

Alumni Spotlight



Ashley (Coffelt) Warren is from Sedalia, Missouri. She chose Missouri State University because she knew she wanted to teach chemistry. During her senior year in high school, Mrs. Warren met several of the chemistry professors during college visits. They made a

lasting impression on her, and she solidified her decision that MSU would be her college home.

Ashley says she has many amazing memories from Missouri State, but some of her favorite memories are the **Chili Cook-Off** with Dr. Biagioni and working with David Vinyard and Dr. Breyfogle at the **Discovery Center**.

Several of her mentors encouraged her to pursue graduate work. She received offers to various universities to research chemical education. She chose Miami University in Oxford, Ohio, where she furthered her research to not only **chemical education**, but also in **biophysical chemistry**.

Ashley continued her graduate work and received a **Master's of Education in Curriculum and Teacher Leadership**, and she is currently working on her Principal's licensure through Miami University at age 28!



Ashley Warren with King's High School Administrators

"My journey at Missouri State and the people that influenced me there gave me the greatest gift and that is to give your all for what you want."

Currently, Ashley is employed at Kings High School in Kings Mill, Ohio. She teaches AP Chemistry, AP Physics C: Mechanics, and College Prep Chemistry.

While teaching two AP classes and a college prep chemistry class, Ashley is busy working on her Principal's licensure. **Science education research** has still been a large component of her life, and in one of her master's classes, she wrote a chapter linking Charles Silberman's, *Crisis in the Classroom*, to current views of science education at the high school level. The book is currently in publication.

Ashley's plans for the future include being a high school administrator. She currently works with Principal Doug Leist. Her school improvement project is to create a **STEM academy** at Kings High School, where seniors can have the opportunity to job shadow and hold internships in science-related careers. Eventually, Ashley would like to teach chemistry or education at the college level.



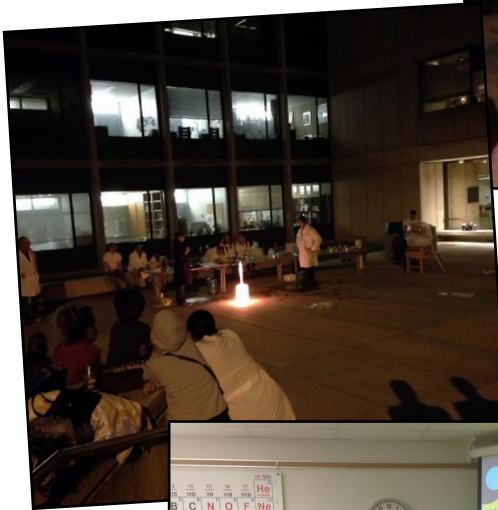
"A month after I graduated from Missouri State University, I got married to my college sweetheart (also a Missouri State alum). Last year we had a little girl, Ella, and she is just the love of my life!"

Looking back on her time spent here as an undergraduate at Missouri State, Ashley offers this advice to current students:

"When you find out something that interests you, find something on campus that will allow you to pursue that interest! The opportunities offered at Missouri State are endless, and I quickly figured out that what I thought I wanted to do is exactly what I was meant to do! But, I only knew that through participating in all of the activities that I could at Missouri State."



**Demos In the Dark!
Friday, October 24**



Mole Day / Mole Pageant



Alumni & Friends

We enjoy hearing from our Chemistry department alumni and friends. Please take a few minutes to send us an email at: chemistry@missouristate.edu.

Include your current contact information, graduation year and Missouri State degree. Let us know where you are working now, job title or other career accomplishments.

Stay current with the MSU Alumni Association at <http://alumni.missouristate.edu>. Here you can update your contact information online and learn about upcoming alumni events, such as MaroonNation.

Giving

State universities could not operate without generous contributions from alumni and friends. Your support enables us to provide scholarships, teaching equipment, and more. We hope you will consider making a contribution; your gift is tax deductible.

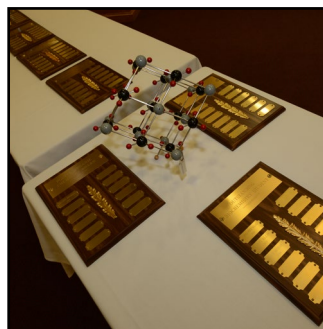
If you would like to contribute, make checks payable to the Missouri State University Foundation in support of the Chemistry department and mail to the Chemistry Department, Temple Hall 423, 901 S. National Ave., Springfield, Missouri 65897.

Or donate online at <http://chemistry.missouristate.edu/Alumni.htm>.

Thank you!

Recognition Banquet

Each spring, the Chemistry department hosts an awards banquet to recognize outstanding students for their accomplishments during the year. In April, 24 student scholarships were given, and 10 outstanding student certificates were awarded.



2014 Scholarship and Award Winners



Left to right, front: Adam Kirkpatrick, Jacob Blankenship, Tyler Craft, Hillary Mitchell, Kalliope Travlos, Jesse Eason, Danielle Klaus, Kari Burgess, Michael Harris; Back row: Courtney Hofstetter, Shalisa Oburn, Kevin McGovney, Jeremy Hines, Nick Mundt, Roni Balzam, Joshua Woodiel, Danial Fieker



DEPARTMENT OF CHEMISTRY

901 South National Avenue
Springfield, Missouri 65897



Faculty and Staff:

Linda Allen	<i>LAllen@missouristate.edu</i>	Reza Herati	<i>Sedaghat-Herati@missouristate.edu</i>
Gautam Bhattacharyya	<i>GautamB@missouristate.edu</i>	Brian High	<i>BrianHigh@missouristate.edu</i>
Richard Biagioni	<i>RNBiagioni@missouristate.edu</i>	Tamera Jahnke	<i>TameraJahnke@missouristate.edu</i>
Eric Bosch	<i>EricBosch@missouristate.edu</i>	Gary Meints	<i>GaryMeints@missouristate.edu</i>
Bryan Breyfogle	<i>BryanBreyfogle@missouristate.edu</i>	Mark Richter	<i>MarkRichter@missouristate.edu</i>
Dean Cuebas	<i>DeanCuebas@missouristate.edu</i>	Alan Schick	<i>AlanSchick@missouristate.edu</i>
Helena De la Hoz	<i>HDelaHoz@missouristate.edu</i>	Matthew Siebert	<i>MSiebert@missouristate.edu</i>
Katye Fichter	<i>KFichter@missouristate.edu</i>	Erich Steinle	<i>ESteinle@missouristate.edu</i>
Nikolay Gerasimchuk	<i>NNGerasimchuk@missouristate.edu</i>	Shujun Su	<i>ShujunSu@missouristate.edu</i>
Annette Gordon	<i>AnnetteGordon@missouristate.edu</i>	Kristy Teague	<i>KTeague@missouristate.edu</i>
Jonathan Hardin	<i>JonathanHardin@missouristate.edu</i>	Diann Thomas	<i>DiannThomas@missouristate.edu</i>
		Adam Wanekaya	<i>Wanekaya@missouristate.edu</i>

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Molecules & Moles

The Newsletter of
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Department of Chemistry

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