

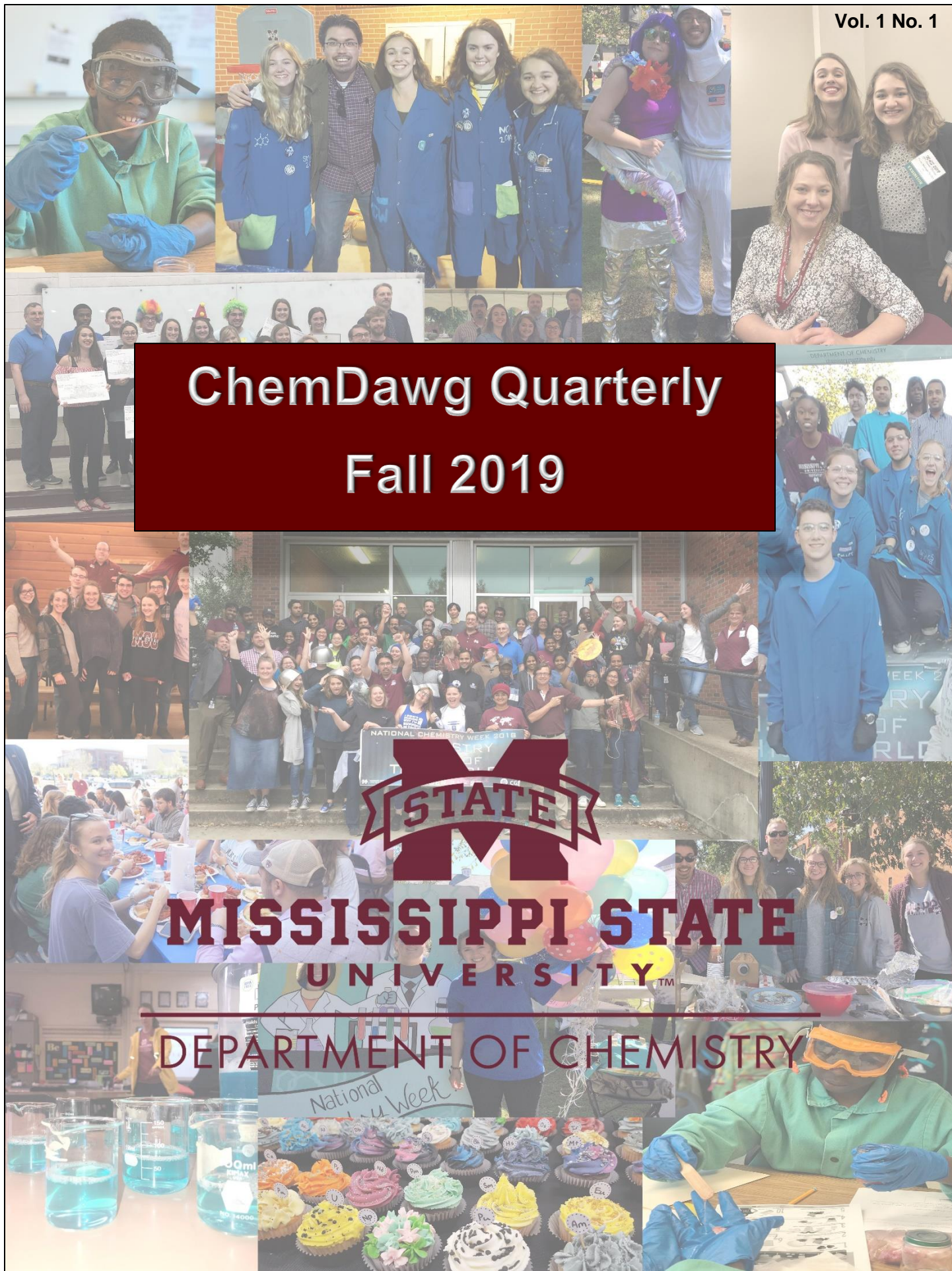
ChemDawg Quarterly

Fall 2019



MISSISSIPPI STATE
UNIVERSITY™

DEPARTMENT OF CHEMISTRY



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Welcome fellow ChemDawgs!

Dear Alumni and Friends,



Thank you for your interest in the Department of Chemistry at Mississippi State University. Our Bulldog chemistry family of more than 160 dedicated and diverse brethren we call, ChemDawgs, includes 30 faculty and staff, 90 graduate students and other associates hailing from more than 23 countries and 16+ states in the U.S. We are a vibrant, multi-cultural, and leading academic unit in the College of Arts & Sciences. I urge you to take the time to renew your association with the department. When close by, come see us. If far away, catch up online. Wherever you are, please take the opportunity to give us your thoughts on our progress; send us updates on your accomplishments, and please consider supporting your department and fellow ChemDawgs via a variety of donation options found online. We hope you enjoy our newsletter and please visit our website

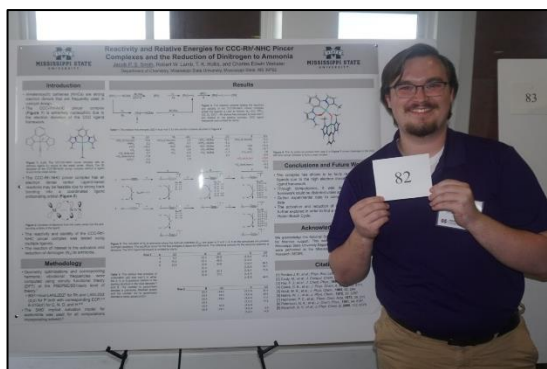
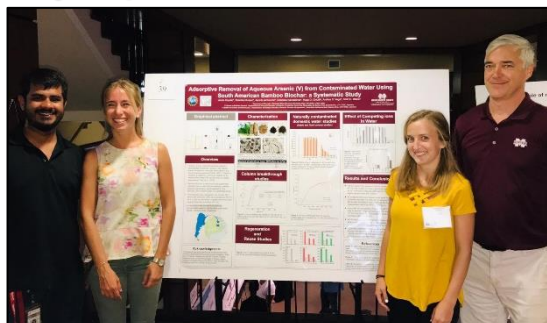
often to keep up with our research and education programs and special events. Hail State Chemistry!

SMACS won a ChemLuminary Award!



The Mississippi State University Student Members of the American Chemical Society (SMACS), an undergraduate student organization, was selected among three finalists to win the ACS ChemLuminary award for "Best National Chemistry Week Event Organized by a Student Group". Under the umbrella of the ACS, the world's largest scientific organization, the MSU SMACS were recognized for their outstanding volunteerism during the 2018-2019 academic year, particularly their National Chemistry Week (NCW) events that included a dunk tank and grill-out, science demonstrations on the Drill Field, outreach to local schools, and a giant NCW Tailgate Extravaganza that took place before the Mississippi State/Texas A&M football game. Thousands of people were impacted during these outreach events. This is the first time in Mississippi State history that an ACS ChemLuminary has been brought home to Starkville. SMACS would also like to extend a very special thanks to Dr. Howard Shook for his generous gift that supported their travel efforts to San Diego, California to accept the award.

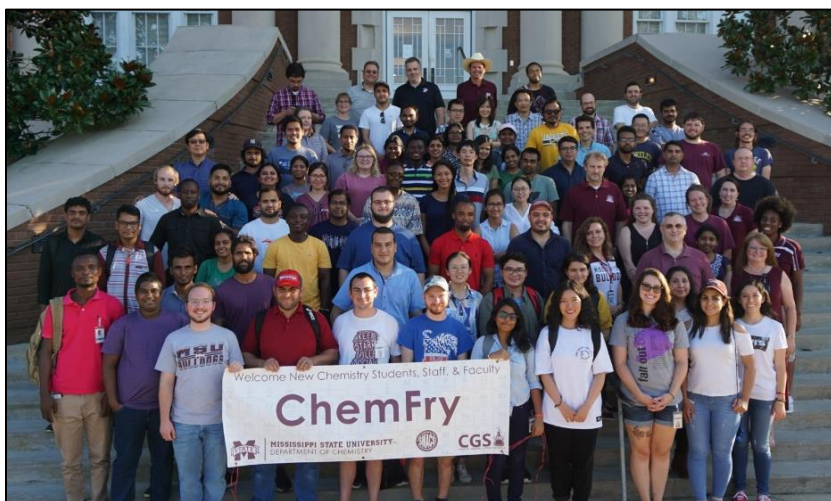
Chemistry Takes Six Awards at MSU Undergraduate Research Symposium



Six students performing research in the Department of Chemistry won awards for best poster presentation at the Summer 2019 MSU Summer Undergraduate Research Symposium. Three of these students are chemistry majors at Mississippi State University. The symposium highlighted the summer research efforts of nearly 100 students.

In the Biological Sciences and Engineering category, Claudia Reid and Annie Snyder (pictured left-top) who work in Dr. Todd Mlsna's lab, tied for second place. In the Physical Science and Engineering category, all winners but one in this category were chemistry department mentees. Jacob Smith (pictured left-bottom) from Dr. Edwin Webster's lab and Parker Reneau from Dr. Todd Mlsna's lab tied for third place. David E. Mees of Dr. Dennis Smith's lab placed second. Meghna Bajaj of Dr. Keith Hollis's lab placed first. This was an overall win for the entire chemistry department!

Annual ChemFry and New Graduate Students



over their shoulders – a very good thing for the whole ChemDawg pack.”

The new and current graduate students, as well as faculty and staff, gathered at the end of summer to celebrate and welcome our new 24 graduate students. We have graduate students from all over the world including Ghana, China, Sri Lanka, Nepal, Bangladesh, Iran, Vietnam, Columbia, and Mexico. Graduate Student Coordinator for the chemistry department, Dr. Joseph Emerson says, “A truly outstanding first year class bound to keep their senior student colleagues looking

Welcome new hires to the Department!



Dr. Sid Creutz earned his B.S. in Chemistry from MIT and his Ph.D. in Chemistry from the California Institute of Technology (under the tutelage of Professor Jonas Peters). He was the recipient of a Barry Goldwater Scholarship (MIT), an NSF Graduate Research Fellowship (Caltech), and an Intelligence Community Postdoctoral Research Fellowship from the Office of the Director of National Intelligence (ODNI) and Oak Ridge Institute for Science and Education (ORISE). Creutz plans to establish research programs in inorganic, organometallic, bioinorganic, catalysis, and nanomaterials chemistry. He aims to pursue biomimetic and bioinspired approaches to catalysis and energy harvesting applications.

Air Force researcher and mass spectrometry expert Dr. Amanda Patrick has accepted a position as Assistant Professor of Chemistry at Mississippi State University. Dr. Patrick graduated summa cum laude with her B.S. in Chemistry from North Carolina State University in 2011, and received a NSF Graduate Research Fellowship and her Ph.D. in Analytical Chemistry from the University of Florida in 2016 before joining the Air Force Research Laboratory at Kirtland AFB as a prestigious NRC Postdoctoral Fellow developing new MS instrumentation and techniques for the study of ionic liquid chemistry in Air Force applications.



International educator and organometallic chemistry expert, Dr. Virginia Montiel-Palma joins MSU as an Assistant Professor. Dr. Montiel-Palma received her BS Degree in Chemistry (1996) with honors from the National University of Mexico and her Ph.D. in Chemistry (2000) from the University of York, UK, under the guidance of Prof. Robin Perutz. She then accepted a Postdoctoral Fellowship (2001) at the LCC CNRS Laboratoire de Chimie de Coordination UPR 8241, Toulouse, France, where she refined her organometallic skills further working with transition metal complexes and their catalytic applications. Her research is primarily focused on coordination chemistry and synthesis of transition metal complexes. She has co-authored 35 refereed publications and currently advises 4 Ph.D. students.

Featured Alumnus



Karthikeshwar (Karthik) Vangala came to Mississippi State University for the master's program in fall 2006. Spring 2009, he joined Dr. Dongmao Zhang's lab for his doctorate degree and graduated in fall 2012. Just before graduation, he received an opportunity to work at Southern Ionics Incorporated. Since then, he has worked as a senior research chemist at their research and development center located in Columbus, MS. In addition, Karthik is the chair-elect for the local ACS section. His major goals as the Mississippi section ACS chair is to promote the ACS section among local industries and universities to increase their involvement, memberships, and donations. He also plans to organize a Mississippi section ACS session at the MSAS 2020 conference.

Featured Graduate Student

Robert Lamb's research is in the computational study of reaction mechanisms, in particular, those of photolytic processes. His recent work has focused on excited reactivity of Ru-bipyridine complexes. In collaboration with Professor Jeff Rack (University of New Mexico) he studied a series of Ru-phosphine-sulfoxide complexes that exhibit drastic differences in excited state reactivity from a single remote [from ruthenium] substituent change ([10.1021/jacs.8b05957](https://doi.org/10.1021/jacs.8b05957)). Robert absolutely loves teaching and research, so after graduating in May 2020, he plans to pursue a post-doc and eventually a career in academia.



With the ubiquity of computational collaborations in modern research, one avenue he intends to pursue in his career is to increase the incorporation of computational chemistry into the traditional undergraduate curriculum.

Featured Undergraduate Student

Zoe Fokakis is a senior double-majoring in chemistry and psychology, with the intent to complete a Medical Scientist Training Program and earn her M.D./Ph.D. upon graduation from MSU. Zoe is currently the president of MSU's Student Members of the American Chemical Society (SMACS), a position she has held since the fall of 2018. Under her leadership last year, SMACS held over 30 events and was awarded the 2019 ChemLuminary for "Best National Chemistry Week Event Organized by a Student Group." If asked about her favorite part of her undergraduate experience at MSU, Zoe will tell you it is her ChemDawg family. She states, "Three years ago I never could have dreamed that my work in my undergraduate years would be recognized on a national scale".



Student Members of the American Chemical



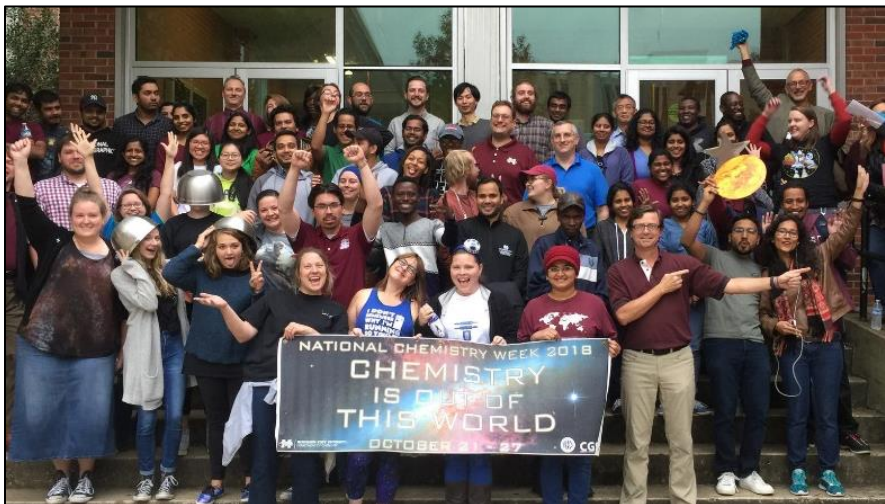
The MSU SMACS (Student Members of the American Chemical Society) is a nationally recognized, award winning student group that is part of the American Chemical Society, the world's largest scientific community. MSU SMACS strives to cultivate leadership and promote science through education and demonstration. To achieve these goals, MSU SMACS offers leadership roles in officer and committee head positions. The organization continues to further these goals by encouraging personal initiative in its members to develop creative ideas for fundraising, science awareness, promotion of chemistry, as well as social and educational events. MSU SMACS supports members in their attendance and participation at chemistry conferences to encourage networking and career development. Pictured from front to back and left to right: Emily Davis, Emily Chappell, Olivia Murtagh, Zoe Fokakis, Ruby Hall, Sydney Canaday, Dr. Whitnee Nettles (Co-Advisor), Dr. Eric Dornshuld (Advisor), Hayden Davis, Matthew Figgins, Nathan Frey, and Dr. Edwin Webster (Co-Advisor).

Chemistry Graduate Student Association



The goal of the CGSA is to facilitate the academic and professional development of graduate students and promote peer to peer interaction among graduate students and professors in the Department of Chemistry at MSU. CGSA strives to support graduate students who attend professional speaking and presentation engagements or technical and research-related seminars via financial support. Also we promote graduate student involvement in academic and social events within the department, organize fundraisers, organize the annual Lester Andrews Symposium, and address graduate student concerns. The new officers have recently been elected: President, Ketki Shelar (middle left), Vice President Ernesto Isaac Borrego (top), Secretary Ryan Williams (middle right), Treasurer Helen Stephanie (bottom). The CGSA is advised by Dr. Steven Gwaltney.

NATIONAL CHEMISTRY WEEK!



➔ **SMACS** ⚡

NATIONAL CHEMISTRY WEEK 2019

➔ **MARVELOUS METALS TOUR** ⚡

10/19
10/21
10/22
10/23
10/24
10/25
10/26 & 10/27

TAILGATE
BAKE SALE
GRILL OUT AND DUNK TANK
DEMOS ON THE DRILL
PERIODIC TABLE RAFFLE
SEMINAR
ESCAPE ROOM

BACK FOR ONE WEEK ONLY



L.C. Behr Memorial Endowment Scholarship



Dr. Lyell C. Behr had a long and distinguished career serving Mississippi State University for more than 40 years. He was the recipient of numerous academic honors and a member of significant academic associations and societies. Dr. Behr was born in Minneapolis, Minn., in 1916, and was a graduate of the University of Minnesota. He received his doctoral degree in 1941 in organic chemistry from the University of Illinois. He came to Mississippi State University in 1947 as an assistant professor of chemistry. He became head of the chemistry department in 1963 and dean of the College of Arts and Sciences in 1964. He served as dean until 1980 and continued to teach until 1981 when he retired. He died Sept. 3, 2005. This scholarship was established in his honor. Learn more about different scholarships and giving opportunities at chemistry.msstate.edu/about/giving/funding-scholarships/.

Upcoming Events

- | | |
|------------|---|
| Oct. 4 | Seminar – Dr. Christopher Annesley (Air Force Research Laboratory, Kirtland Air Force Base) – Satellite Thruster Plume Chemistry |
| Oct. 16-18 | Midwest Regional Meeting of the American Chemical Society (MWRM) – Wichita, KS |
| Oct. 18 | Seminar – Dr. Deb Mlsna (Mississippi State University) – Chemical Education Research: Peer Mentoring & Learning in the Classroom |
| Oct. 19-27 | National Chemistry Week |
| Oct. 19 | Chemistry Department Hosts MSU vs. LSU Tailgate |
| Oct. 20-23 | Southeastern Regional Meeting of the American Chemical Society (SERMACS) – Savannah, GA |
| Oct. 24 | Charles U. Pittman Symposium |
| Oct. 25 | Seminar – Dr. Pingjin Zhao (North Dakota State University) – Nickel-Mediated Alkyne & Amine Transformations for Greener Catalysis |
| Oct. 26-27 | National Chemistry Week Escape Room |
| Nov. 1 | Seminar – Dr. Carolyn J. Cassady (University of Alabama) – Analysis of Acidic Peptides |
| Nov. 8 | Seminar – Dr. Steven O. Mansoorabadi (Auburn University) – Mechanistic & Biosynthetic Studies of Dinoflagellate Bioluminescence |
| Nov. 13-16 | Southwestern Regional Meeting of the American Chemical Society (SWRM) – El Paso, TX |

Keep up with us!



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Staff

Editor-in-Chief: Dr. Sean Stokes (ssokes@chemistry.msstate.edu)

Editor, Designer: Ruby Hall

Contributors: Dr. Dennis Smith, Dr. Edwin Webster, Ruby Hall, Robert Lamb, Karthik Vangala, Zoe Fokakis, Justin Alexander, Dr. Whitnee Nettles & Dr. Eric Dornshuld

Comments/Questions

Please send all comments or questions to alumni@chemistry.msstate.edu