



CHEMISTRY NEWS

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Welcome from the Chemistry Division Chairs

Hello, CUR Chemistry! Hope everyone is settling into a new term and a new year. As fairly new co-chairs of the Chemistry Division, we would like to take this opportunity to introduce ourselves.

Kari Stone: I am an Associate Professor of Chemistry at Lewis University, located in the southern suburbs of Chicago (Romeoville, IL). Trained as a bioinorganic chemist, my research bridges the intersection of biological and inorganic chemistry. My graduate work at Penn State University focused on iron-containing heme enzymes, which sparked a lifelong fascination with iron as my favorite element. I joined the leadership of CUR in June 2020 as a Chemistry Division representative, and I have served as co-chair of the division since June 2025. I am deeply passionate about undergraduate research in all its forms, from hands-on lab experiences in the research and teaching labs to scholarly collaborations, and the invaluable CUR network that has opened countless opportunities to advocate for and promote undergraduate research at both local and national levels.

Sarah Shaner: I am an Associate Professor at Southeast Missouri State University and an inorganic chemist. My current research interests are in electrochemistry, electrocatalysis, and materials chemistry, and my favorite element is tungsten. I joined CUR in 2022 and became a division representative in 2023. In that time, I have enjoyed getting to know other division

members. These connections have led to opportunities such as organizing conference symposia and have allowed me to gain new perspectives on how colleagues at other institutions foster undergraduate research. I have been a co-chair of the chemistry division of CUR since June of 2025.

Now that you know a little bit about us, we want to encourage you to use the CUR Chemistry Division as a resource. While higher ed faces many challenges at the moment, we hope that CUR Chemistry will provide members with a community of like-minded chemical educators to help you continue to support undergraduate research in your labs, classes, and institutions. Your division co-chairs, representatives, and councilors are all dedicated to this goal. If you have questions, ideas, or just would like to say hello, please reach out with an email (kstone1@lewisu.edu or sshaner@semo.edu)! In the meantime, several ways to get involved are highlighted in this newsletter, including checking out our podcast, engaging on the CUR Chemistry Community forum, and attending conference meetups. We hope to connect with you soon!

Best wishes for a great year!

Kari Stone and Sarah Shaner

Chairs – Chemistry Division of CUR

About CUR's Chemistry Division

The Chemistry Division of the Council on Undergraduate Research—the oldest and largest division of CUR—provides networking opportunities, activities, and resources to assist chemistry administrators, faculty members, students, practitioners, and others in advancing mentored undergraduate research.

Division Chairs

[Kari Stone](#), Lewis University

[Sarah Shaner](#), Southeast Missouri State University

Division Vice Chair

[Vanessa McCaffery](#), Albion College

Division Secretary

[Sudeep Bhattacharyay](#), University of Wisconsin-Eau Claire

Newsletter Committee

[Hector Palencia](#), University of Nebraska at Kearney

[Sudeep Bhattacharyay](#), University of Wisconsin-Eau Claire

[Sarah Shaner](#), Southeast Missouri State University

A list of the Chemistry Division Representatives and Councilors can be found [here](#)

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A REFLECTION ON UG RESEARCH

We are far enough into the new year that resolutions have been abandoned, and the semester has gotten busy. When we are being pulled in a million different directions, it is important to be reminded of the impact that undergraduate research and our mentoring can have on students. Below is one reflection about this, but there are hundreds of stories like this.

Undergraduate research and my transition into the science workforce

By Reed Murbach



As a chemistry major, I didn't know exactly what to expect when entering the workforce. Today, I work as a Senior Analytical Scientist at Adare Pharma Solutions in the Kansas City

metro area, where I develop analytical methods for new pharmaceutical formulations. Looking back, undergraduate research was one of the most important experiences that prepared me to move from the classroom into professional science.

I began student research during my sophomore year under the guidance of my organic chemistry professor, Dr. Hector Palencia. Our project involved a twelve-step synthesis of a catalyst used in biodiesel production. From the start, we mapped the full pathway—step by step—and discussed

the purpose of each reaction, purification, and characterization step. It felt like organic chemistry “in real life”: instead of only drawing mechanisms on paper, I watched the chemistry happen and learned how theory translates into practical outcomes.

My role in the project was to carry out the synthesis and evaluate each step along the way. Every stage required careful reaction setup, purification, and characterization, and the variety across steps helped me build confidence with a broad range of techniques. More importantly, research has taught me that simply running an experiment isn’t enough; how you run it matters. Details that seem small can determine success or failure: starting with clean, dry glassware, setting up properly, controlling conditions such as temperature, and handling materials thoughtfully. Even subtle issues, like a poorly sealed septum or improperly stored reagents, can affect purity, yield, and reproducibility.

Although my career ultimately moved in a more analytical direction, the research habits I developed transferred directly. Precision in pipetting and weighing, consistent documentation of procedures, and troubleshooting unexpected results are essential in professional labs. Over time, I also gained experience with experimental design and method development, which reinforced something I didn’t fully appreciate as an undergraduate: a career in science is interdisciplinary. Chemistry concepts help explain polarity and pH-dependent behavior; biology becomes central when working with proteins or cellular components; and physics is involved in techniques such as turbidity measurements and calorimetry.

Finally, undergraduate research strengthened my safety mindset. Safety cannot be an afterthought; it has to be part of the process. Good habits in labeling, disposal, ventilation, and thoughtful handling protect you, your colleagues, and the integrity of your work.

I am grateful for my undergraduate research experience. Even though my current role is not primarily research-focused, the technical skills, discipline, and problem-solving I gained continue to give me an edge in my career.

PUBLICATION HIGHLIGHT

Dr. Sudeep Bhattacharyay, a CUR Chemistry representative, and his collaborator Dr. Sanchita Hati from the Department of Chemistry and Biochemistry at the University of Wisconsin–Eau Claire, have published a paper titled “[Fundamental Discoveries in Enzymology through Undergraduate Research](#)” in the American Chemical Society journal **ACS Omega**. This review article appears in the special issue “*Undergraduate Research as the Stimulus for Scientific Progress in the USA*” and summarizes two decades of undergraduate research conducted in the Hati–Bhattacharyay research group at UW–Eau Claire. The paper documents the group’s contributions to the broadly defined field of enzyme chemistry, emphasizing their efforts to engage undergraduate students in authentic intellectually rigorous research on structure–function–dynamics relationships in multidomain proteins. These investigations were carried out through both traditional laboratory research and

course-embedded research models, leading to new insights in enzyme chemistry and numerous publications in peer-reviewed journals.

This paper highlights the novel contributions of student researchers to the broader field of enzymology. By investigating fundamental enzymological questions, students have developed significant insights into the roles of protein dynamics in small molecule recognition and catalysis, biochemical processes under crowded conditions, and redox stress-induced conformational changes. While investigating why proteins are large even though catalysis occurs in small active-site pockets, they developed a wide range of laboratory skills. Beyond experimental work, students strengthened their abilities in literature analysis, scientific writing, and oral communication. Through engagement in authentic research, they made substantive contributions to enzymology and advanced our understanding of the structure–dynamics–function relationships that govern protein behavior. Collectively, these integrative learning experiences fostered the development of ethically responsible scientists, future educators, lifelong learners, and curious explorers committed to the pursuit of knowledge.

If you have a recent publication featuring undergraduate authors or a topic related to undergraduate research that you would like to have highlighted in a future newsletter, please email Sarah Shaner (sshaner@semo.edu).

PLUG IN AND CONNECT

Join the Conversation on the Chemistry CUR Community Forum

As a Chemistry Division member, you have access to the Chemistry CUR Community forum. You can access our community forum through the [CUR Community site](#). Please use this as a place to ask questions, start conversations, and get input from other members about resources and ideas. Help us make this a vibrant virtual community for those in the chemical sciences who are passionate about research with undergraduates. This is also a place where we will highlight the division's activities such as our podcast series, conference meetups, and other resources. We invite you to engage with fellow Chemistry Division members in this virtual space.

Catch up on the Chemistry Division's Podcast Chem4REAL

The Chemistry Division's podcast, [Chem4REAL: Research Engages All Learners](#), is returning soon with a new season focused on hearing from alumni of undergraduate research about the impact that it had on their careers and career choices. Future episodes will feature conversations with a past ACS President and a forensic scientist. In the meantime, check out the back catalog of episodes on a variety of topics relevant to our chemistry community.

CONFERENCE CORNER

CUR Chem at the Spring ACS Meeting

The Spring ACS Meeting in Atlanta will be a great time to connect with CUR Chem. Our division is sponsoring two symposia: CHED: CUREs Across the Chemistry Disciplines and CHED: Starting a Successful Research Program at a Predominantly Undergraduate Institution. Additionally, there will be a social/meetup during the meeting so that we can connect in person. Join us on Tuesday, March 24 between 7:00 and 9:00 pm at [Park Bar](#). This information will also be shared on the Chemistry Division CUR Community forum. If you are planning on attending, please join us! Also, if you, or your students, are presenting at the conference, please share your presentation information on this [spreadsheet](#) so that we can support one another and learn about what our CUR colleagues are doing.

Upcoming Conferences

- [Spring National ACS Meeting](#) (Atlanta, GA) March 22-26, 2026
- [NCUR 2026](#) – Richmond, VA, April 13-15, 2026
- [ConnectUR](#) Online June 17-18, 2026; Onsite University of Maryland College Park, June 22-24, 2026
- [Biennial Conference on Chemical Education](#) (BCCE) – University of Wisconsin-Madison (Madison, WI) July 26–30, 2026, Deadline for abstracts is March 1, 2026