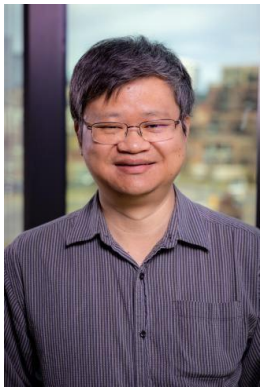
ALUMNI NEWSLETTER



CU Denver
Chemistry Department
Fall 2026

A Word from the Chair

Dr. Hai Lin, Professor of Chemistry



Another year has passed, and I hope this message finds you well.

First, I would like to take this opportunity to thank all of our faculty, including our part-time instructors, as well as our staff, teaching assistants, learning assistants, and research assistants, whose dedication and hard work make our students' success possible. We are deeply grateful for all that you do.

After four decades of dedicated service to the department, Dr. Doris Kimbrough retired in May 2026. Generations of students will remember her engaging lectures and laboratory instruction, while colleagues will remember her as a great mentor, collaborator, and friend. We also welcome Ms. Rose Palmer, who recently joined us as a Laboratory Coordinator.

Our B.S. in Biochemistry program continues to grow and thrive. As higher education evolves, the department remains committed to strengthening and modernizing our curricula and laboratory experiences. Looking ahead, the new Stretch General Chemistry sequence, led by Dr. Priscilla Burrow, is scheduled to launch in Summer 2027. We have also recently submitted our application for accreditation of the Biochemistry B.S. program through the American Society for Biochemistry and Molecular Biology (ASBMB). Special thanks to Dr. Kyoung Nan Kim and Dr. Jeff Knight for their leadership in this important effort.

Our faculty continue to excel in research, earning external funding and prestigious recognitions. For example, Dr. Marino Resendiz received new research funding from the National Institutes of Health (NIH), Dr. Haobin Wang received the 2026 ACS Colorado Section Award, and Dr. Scott Reed won first place in an AI Pitch Competition. Since the publication of our last alumni newsletter, the department has seen 17 peer-reviewed publications and numerous presentations at professional conferences and seminars. Many students earned co-authorship on these publications in recognition of their significant research contributions.

As we look to the future, we hope to strengthen our connections with alumni and create more opportunities for engagement. We are eager to hear about your accomplishments, career paths, and life experiences. Please do not hesitate to share your news with us. We look forward to staying connected.

Thank you for reading this newsletter and for your continued support of the Department of Chemistry.

Dr. Haobin Wang received the 2026 American Chemical Society Colorado Section Award



Professor of Chemistry, **Dr. Haobin Wang**, received the 2026 American Chemical Society (ACS) Colorado Section Award. Established in 1967, the award honors individuals who have made significant advancements in research, education, and service to the chemistry community in the state. Internationally renowned in the fields of quantum dynamics and theoretical chemistry, Dr. Wang has advanced the understanding of complex chemical processes and provides foundational insights with wide-ranging applications in physical and chemical sciences. Actively involved in ACS activities, Dr. Wang serves as an Alternate Councilor for the Colorado Section, helping guide local scientific initiatives and fostering community engagement among chemists across the region. A full story is available at the CLAS Newsroom.

Photo: Dr. Haobin Wang (left) received the award from ACS Colorado Section council member Dr. Sue Schelble.

Fall 2025, Spring 2026, and Summer 2026 Graduating Students

M.S.: Stephanie Hanson; Courtney Helton; Isaiah Masih; Keith McGee; Hai Pham; Karen Pham; Katherine Schultz; Milka Tesfazion

B.S.: Diomel Ivan Anuta; Arlene Arreola; Sharall Ashini; Collin Bachman; Yasmine Barache; Yessenia Barradas; Amanda Behmer; Ann Blackwell; David Bond; Liam Bush; Ethan Campbell; Angelina Cheatwood; Kaila Cho; Nhi Dang; Martha Forristall; Dagoberto Grijalva-Flores; Khaled Hamad; Samuel Hanna; Shannon Henderson; Haylee Jewers; Krish Karekar; Matthew Kleyman; Samy Kwider; Lindsey LaBoyne; Gonzalo Anorga Lazo; Dominic Mestas; Faith Montemayor; Skye Navarro; Susmita Neopaney; Maxwell Ngo; Richard Nguyen; Jessica Park; Natalie Arellano Ramirez; Ashley Reichenberg; Daniel Rosario; Jadyn SaBell; Esrom Tesfaye; Regina Ticoalu; Tammy Tieu; Sydney Truong; George Tsaava; Deborah Espinoza Varela; Virginia Withanage

Photo: Departmental Chair, Prof. Hai Lin (right) and graduating students who attended the departmental 2026 award ceremony.



Student Awards (2026)

- **Amanda Behmer**, ACS Undergraduate in Analytical Chemistry, 2026
- **Chloe Evans-Whitley**, ACS Undergraduate in Inorganic Chemistry, 2026
- **Richard Seifert**, ACS Undergraduate in Organic Chemistry, 2026
- **Alejandro Salazar**, ACS Undergraduate in Biochemistry, 2026

- **Caitlin Otoo**, Douglas Dyckes Scholarship, 2026
- **Katelyne Diep**, Marti Barrett Scholarship, 2026
- **Edwin Vega-Roman,** Michael Milash Teaching Award, 2026

Photos: Students and facultyies in the 2026 departmental award ceremony























Student Awards (2026, cont.)

- **Summer Dillard**, Outstanding General Chemistry Award, 2026
- **Steven To**, Outstanding Major's General Chemistry Award, 2026
- **Benjamin Sheneman**, Outstanding Inorganic Chemistry Award, 2026
- **Ethan Campbell**, Outstanding Analytical Chemistry Award, 2026
- **Aaron Tran**, Outstanding Biochemistry Award, 2026
- **Ryan Ha**, Outstanding Graduating Chemistry B.S. Student, 2026
- **Kusum Yasdav**, Outstanding Graduating Biochemistry B.S. Student, 2026
- **James Beham**, **Katherine Schultz**, **Karen Pham**, Outstanding Graduating Chemistry M.S. Student, 2026

- **Abigail Chiu, Qingxuan Fei,** Pacifichem 2025 Student Travel Award
- **Arlene Arreola**, CO ACS Travel Award, 2026
- **Beham James**, Small Molecules NMR (SMASH) conference award, 2026
- **Dagoberto Grijalva-Flores**, ACS Travel Award, 2026
- **Kusum Yadav**, Great Plains Regional Symposium on Protein NMR & Integrated Structural Biology (GRASP) conference travel award, 2026
- **Abigail Chiu, Qingxuan Fei**, CU Denver Office of Research and Creative Activities Travel Award, 2025
- **Arlene Arreola,** CU Denver Undergraduate Travel Award, 2026
- **Nicole Poot,** CU Denver Undergraduate Travel Award, 2026

Faculty Awards (Since Fall 2025)

- **Haobin Wang**, American Chemical Society Colorado Section Award, 2026
- **Scott Reed**, First Place in AI Pitch Competition, 2026

Family photo: Chemistry faculty and staff members at the 2026 departmental student award ceremony. **From left: Front-row**: Liliya Vugmeyster; Amelia Tubbs; Niki Shoup; Emilie Guidez; Pam Nagafuji. **Back-row**: Kyoung Nan Kim; David Schubert; Jefferson Knight; Yong Liu; Haobin Wang; Sue Schelble; Woonghee Lee; Laura Cuellar; Jung-Jae Lee; Doris Kimbrough; Hai Lin. **Absent**: Aml Alnaas; Pricilla Burrow; Mike Carter; Nara Chon; Damian Dunford; Nick Fisk; Colin Mant; Scott Reed; Marino Resendiz; Emily Sabo; Niels Schonebeck.



Chemistry Club hosts Spring 2026 workshop “The Math Roadmap: Cracking the Chemistry Code”

On March 18, 2026, the Chemistry Club hosted “The Math Roadmap: Cracking the Chemistry Code,” a workshop created to help students navigate the mathematical skills essential for success in chemistry. With 76 students in attendance, the room was packed with energy, conversation, snacks, and plenty of thoughtful questions.

The workshop kicked off with a session led by **Ms. Zeyna Aouad** and staff from the Learning Resource Center (LRC), who shared quick, practical strategies for building effective study routines. They emphasized that mastering the “elements of success” in science begins with cultivating strong, consistent habits. Next, a panel of four chemistry faculty members illustrated how math underpins their disciplines:

- **Dr. Emilie Guidez**, Associate Professor of Chemistry, began with General Chemistry, offering advice on how students can approach the mathematical components of the course with confidence. She also reflected on her own experience learning math through the academic journey from an undergraduate to a computational chemistry professor.
- For Organic Chemistry, **Dr. Jung-Jae Lee**, Associate Professor of Chemistry, encouraged students to move beyond memorization and instead view the subject as a visual and conceptual language grounded in 3D spatial reasoning and “electron pushing.”
- **Dr. Kyoung Nan Kim**, Teaching Assistant Professor of Chemistry, showed where chemistry “comes to life” in Biochemistry, focusing on the mathematical flow of biological pathways and the mastery of enzyme kinetics.
- Speaking about Physical Chemistry, **Dr. Haobin Wang**, Professor of Chemistry, explained that calculus, differential equations, and statistics are not obstacles, but essential tools for understanding how chemical reactions unfold in real-world systems.

The evening concluded with a dinner where students mingled with faculty, asked follow up questions, and won prizes. The event served as a strong reminder that while the math behind chemistry can be challenging, students have a supportive community ready to help them succeed.

Photo: Faculty, staff, and students in the Spring 2026 “Math Roadmap” workshop



Chemistry Graduate Student James Beham Received Scholarship to Present his Research in the International Conference "Small Molecules NMR"



Chemistry graduate student **James Beham** was awarded a scholarship to present his research at the international conference Small Molecules NMR, held in Breckenridge, Colorado, in September 2026. His presentation, titled "Investigating the Binding Between Amyloid-Beta Variants and Tricyclic Antidepressants Using NMR Techniques," highlights important findings with potential implications for Alzheimer's disease research.

James Beham was an M.S. student in the group of **Dr. Liliya Vugmeyster**, Associate Professor of Chemistry. In collaboration with colleagues in the CU Anschutz campus, Dr. Vugmeyster has been investigating the interactions between imipramine (a well-known tricyclic antidepressant) and amyloid-beta (a key protein implicated in Alzheimer's disease). James Beham played a leading role in conducting NMR experiments that provided clear evidence of imipramine binding to amyloid-beta. The findings contribute to a growing understanding of the therapeutic potential of small-molecule interactions with amyloid-beta and may help guide future drug development strategies.

The scholarship recognizes the significance of James's research contributions and provides him with the opportunity to present these results to an international audience of NMR scientists and researchers.

Photo: James Beham standing by the NMR spectrometer



Dr. Woonghee Lee delivered keynote lecture at Turkish Biomolecular NMR 2026 Meeting

Assocaite Professor of Chemistry, **Dr. Woonghee Lee**, was invited to deliver a keynote lecture at the Turkish Biomolecular NMR 2026 Meeting, held April 20–24, 2026, in Istanbul, Türkiye. This is a newly launched conference dedicated to the field of NMR spectroscopy in Turkey. Often described as "MRI for molecules," NMR spectroscopy is a powerful technique used to determine the three dimensional structures and dynamic behaviors of proteins at atomic resolution. Dr. Lee's keynote "Enhancing NMR-Based Structural Biology with AI-Powered POKY" introduced recent advances in AI augmented NMR structural biology enabled by his POKY software platform, which has become a widely adopted standard in the biomolecular NMR community.

Dr. Lee also leads the U.S. side of a joint NSF–TÜBİTAK bilateral research collaboration entitled "Characterization of the Interaction Mechanism of the C Lobe Region of Bi Functional HERC5 HECT Ligase via NMR Spectroscopy: Investigating Ubiquitin and ISG15 Interactions and Oligomerization Dynamics." The Turkish counterpart of this project is led by Dr. Çağdaş Dağ of Koç University.

Photo: Dr. Woonghee Lee spoke in the Turkish Biomolecular NMR 2026 Meeting.

Students Shine at the 2026 Kohn-Damrauer Endowed Chemistry Lectureship

On April 22–23, the Department of Chemistry welcomed Prof. Todd Martinez to campus for the Kohn-Damrauer Endowed Chemistry Lectureship, and our students were at the heart of the visit.

Established by Dr. Bob Damrauer (Professor Emeritus of Chemistry) and his late wife, Lennie Damrauer, the annual event brings renowned international scientists, Nobel laureates, and leaders in STEM to the CU Denver campus to engage students, faculty, and the public through free lectures and seminars.

Dr. Martinez is the David Mulvane Ehrsam and Edward Curtis Franklin Professor of Chemistry at Stanford University and a Professor of Photon Science at the SLAC National Accelerator Laboratory. A renown theoretical chemist, Dr. Martinez's research focuses primarily on developing first-principles approaches to chemical reaction dynamics. He has received many recognitions, including being elected to the American Academy of Arts & Sciences and to the National Academy of Sciences.

Our students have always been actively involved in the Kohn-Damrauer lecture. This year, the day began with lunch with the speaker, where about 30 students enjoyed an informal conversation with Prof. Martinez about science, research, and career paths.

That afternoon, about 15 students presented their research at the student poster session on the first floor of the Science Building, fielding questions from Prof. Martinez, faculty, and fellow students. The same posters went on to EUReCA later that week. About 10 student volunteers made the afternoon run smoothly, from setting up poster boards to welcoming guests, and we are grateful for their hard work.

The day concluded with Prof. Martinez's public lecture, which drew an audience of roughly 30–50 students, faculty, and community members, followed by a research seminar the next day. Many thanks to **Dr. Haobin Wang** for organizing the lectureship, to **Dr. Jeff Knight** and **Ms. Elizabeth Evans** for their help with promotion and poster printing, to **Dr. Kyoung Nan Kim** for coordinating the student participation, and to every faculty and student who presented, volunteered, and attended.





Photo (above): Dr. Todd Martinez (left) spoke with student Karen Pham.
Photo (right): Student presenters, volunteers, and faculty with Prof. Todd Martinez at the student poster session.

The POKY team published an article about their software suite



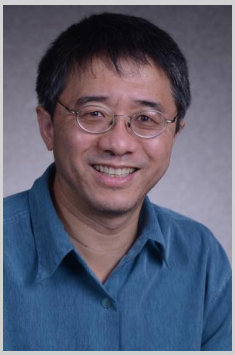
The POKY team headed by Associate Professor **Dr. Woonghee Lee** has published a new paper in the *Journal of Biological Chemistry*. The article reviewed their POKY software ecosystem — a powerful tool designed to transform how scientists study the molecular structures of life. The study was led by graduate student **Abigail Chiu**.

Similar to the magnetic technology used in MRI machines, NMR allows researchers to pinpoint the positions of atoms within proteins. These three -dimensional (3D) shapes are crucial for designing new therapeutics — if scientists know a protein's structure, they can develop drugs that fit it with precision. But traditionally, analyzing protein NMR data has been slow and tedious. Researchers often spend weeks manually identifying thousands of tiny "peaks" in the data, creating a major bottleneck in discovery.

The POKY Suite addresses this challenge by integrating automation and AI into the workflow. Through batch processing and AI-driven predictions, POKY reduces analysis time from days to hours. It lowers the likelihood of human error and offers an intuitive interface that makes 3D protein visualization easier for scientists at all levels. By modernizing these tools, the POKY team is giving researchers a faster, more precise "microscope" to explore protein structures — ultimately accelerating drug development and deepening our understanding of biology.

Photo: Abigail Chiu (left) and Dr. Woonghee Lee.

Dr. Haobin Wang and Dr. Woonghee Lee are among the 2026 most cited researchers





We have it again! Professor of Chemistry, **Dr. Haobin Wang**, and Associate Professor of Chemistry, **Dr. Woonghee Lee**, are once again among the top 2% highly cited scientists in the world. In the 2026 annual list by Stanford University and Elsevier, which is based on citations received in 2025. **Dr. Haobin Wang** is also among the top 2% highly cited in the world in the 2026 career achievement list, which reflects publications from 1960 to 2025 with citations from 1996 to 2025. Congratulations!

Photo: Dr. Haobin Wang (left) and Dr. Woonghee Lee

Dr. Marino Resendiz received new NIH Grants for RNA research



Associate Professor of Chemistry Dr. Marino Resendiz received an NIH R15 award to support his research project, "Establishing the Impact of 8-Oxo-7,8-Dihydroguanosine (8-oxoG) on the Structure and Function of RNA." This research seeks to determine how oxidative damage to RNA influences its interactions with ribonucleases, the enzymes responsible for processing and degrading oxidized RNA within cells. In addition, through a subcontract, the Resendiz laboratory will contribute to an NIH R01 project focused on developing robust synthetic methods for preparing modified RNA and DNA oligonucleotides. Both awards provide valuable opportunities for undergraduate and graduate students to engage in cutting-edge research while receiving mentorship and training that support their future academic and professional success.

Photo: Dr. Marino Resendiz

Chemistry Professor Scott Reed Wins First Place in AI Pitch Competition

Dr. Scott Reed, Professor of Chemistry, won first place in the AI pitch competition hosted with support from the Colorado SBDC serving Aurora-South Metro. The award includes $25,000 in AWS support to help advance ChemIllusion, a chemistry-native AI platform created by Dr. Reed.

ChemIllusion (https://chemillusion.com) helps students, educators, researchers, and scientific teams create molecular structures, chemistry figures, graphical abstracts, teaching materials, and scientific visuals using AI tools designed specifically for chemistry workflows. The platform is currently live at ChemIllusion.com and is preparing for expanded education pilots and continued development of AI-assisted chemistry drawing, visual communication, and teaching workflows.

The core technical challenge behind ChemIllusion is not simply adding large language models to chemistry workflows. Chemistry requires accuracy, structure, and validation. A molecular drawing, reaction scheme, graphical abstract, or lecture notes need to have correct structures to be useful. Chat based AI hallucinates chemical structures that are outside of its training data. ChemIllusion fixes that and brings AI into the familiar environment chemists already trust: a molecular drawing canvas. Users can draw molecules by hand or create them via chat or voice all while keeping the structures chemically valid and editable. From that canvas, ChemIllusion can help create images, videos, slide decks, reaction schemes and custom tutorials for students.

“We are grateful to the Colorado SBDC serving Aurora-South Metro, AWS, Futran Solutions, BSide Capital, the City of Englewood, and the judges for recognizing ChemIllusion’s potential,” Dr. Reed said. “This support will help us make chemistry-specific AI tools more useful, reliable, and accessible for the students, teachers, and scientists who need them.”

The AWS award will support expanded infrastructure, broader access to advanced model-powered tools, and improved scalability for classrooms, labs, and scientific teams. Reed plans to use the support to expand free trials, strengthen cloud deployment, and continue improving the chemistry-aware AI harness that powers ChemIllusion.

Photo: Dr. Scott Reed (second from left) wins first place in AI pitch competition.

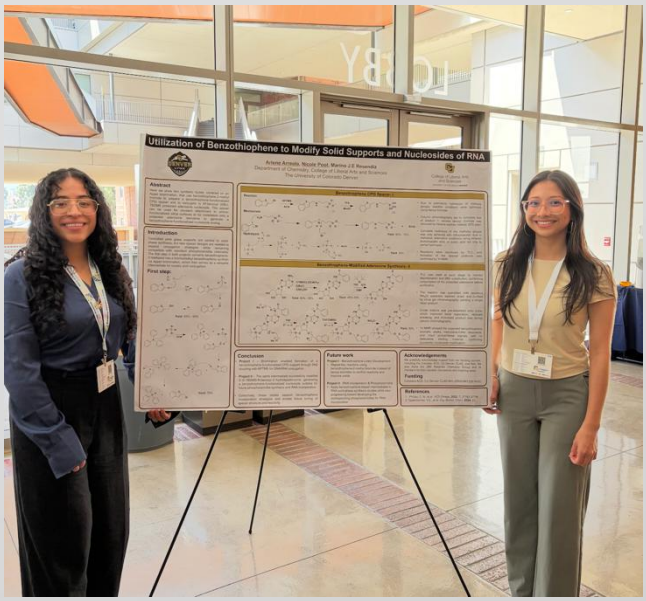


Group of Dr. Woonghee Lee presented in Pacifichem 2025



The research group of Associate Professor of Chemistry, **Dr. Woonghee Lee** has attended Pacifichem 2025 in Honolulu, Hawaii. Prof. Lee delivered a selected talk, "*POKY: The Integrative NMR Platform Empowered by AI/ML/CV*," while participated two graduate students **Abigail Chiu** and **Qingxuan Fei** presented their research as posters at the meeting.

Photo: Dr. Woonghee Lee in the Pacifichem 2025



Students Arlene Arreola and Nicole Poot presented in the conference Quebrando Barreras-Breaking Barriers in STEM

Undergraduate researchers **Arlene Arreola** and **Nicole Poot** from the laboratory of Associate Professor of Chemistry **Dr. Marino Resendiz**, participated in the Quebrando Barreras – Breaking Barriers in STEM conference in Los Angeles, California, on April 17-18, 2026. The students each presented a research poster showcasing their recent accomplishments. Arlene Arreola's presentation, "Synthesis and Functionalization of CPG Solid Supports," focused on the development and modification of solid-support materials, while Nicole Poot presented "Functionalization at the 2'-O Position of RNA Nucleosides."

Photo: Arlene Arreola (right) and Nicole Poot standing by one of their posters.

Graduate students Qingxuan Fei, Abigail Chiu, and Karen Pham Presented in University of Colorado Innovation & Entrepreneurship Showcase Meeting



Graduate students Qingxuan Fei, Abigail Chiu, and Karen Pham from the group of Dr. **Woonghee Lee,** Assocaite Professor of Chemistry, participated in the University of Colorado Innovation & Entrepreneurship Showcase during Colorado Startup Week 2025, taking place from September 16–18, 2025, in Denver. Together with Prof. Lee, they showcased the group's research and software development activities.

Photo: Qingxuan Fei (left), Abigail Chiu (center), and Karen Pham.

Dr. Jefferson Knight and Dr. Jung-Jae Lee among the recipients of new grants for critical research questions in health and AI





In Spring 2026, with co-funding from the Research Development Office (RDO), three Health Futures Seed Grants were awarded across the College of Liberal Arts and Sciences to address some of today's most pressing health challenges, demonstrating that advances in human health can emerge from a wide range of disciplines. Among the recipients were **Dr. Jefferson Knight**, Professor of Chemistry, and **Dr. Jung-Jae Lee**, Associate Professor of Chemistry. Dr. Knight's project, "*Catching Type 1 Diabetes Before It Starts: A Molecular Investigation*," seeks to better understand protein carbonylation, a process in which inflammation triggers oxidative stress reactions that chemically damage and inactivate a subset of pancreatic β-cell proteins. By elucidating the molecular mechanisms underlying this process, the project aims to provide new insights into the early stages of Type 1 diabetes. Dr. Lee's project, "*A Surgical GPS for Cancer: Nanotechnology-Guided Tumor Removal*," aims to develop nanotechnology-based probes that selectively bind to tumor cells and illuminate under specialized surgical imaging systems. These probes will provide surgeons with a real-time visual map of cancerous tissue during surgery, helping to improve the precision of tumor removal. Notably, both projects provide valuable opportunities for undergraduate and graduate students to engage in cutting-edge biomedical research, supporting the recruitment and training of the next generation of scientists at CU Denver. A full story is available at the CLAS Newsroom.

Photo: Dr. Jeff Knight (left) and Dr. Jung-Jae Lee

New website for Center for Advanced Computational Molecular Science (CACMS)

The Center for Advanced Computational Molecular Science (CACMS) now has a dedicated website https://clas.ucdenver.edu/cacms/ ! Many thanks to **Dr. Kenneth Lipokowitz**, Director of CACMS, for creating and maintaining the website. Formally established in spring 2026, CACMS aims to solve complex problems in science and engineering by merging quantum theory, artificial intelligence (AI), and computational molecular science. The center stives to achieve global recognition for innovation in research, creativity in education, and successful workforce development, driving a large societal impact.

Students Qingxuan Fei and Yukthika Boddeda presented in the University of Colorado Foundation Trustees Meeting



Graduate student **Qingxuan Fei** and undergraduate stduent **Yukthika Boddeda** from the group of Dr. **Woonghee Lee,** Associate Professor of Chemistry, participated in the University of Colorado Foundation Trustees Meeting featuring CU Denver on November 21, 2025. Their presentation highlighted student engagement and research at CU Denver.

Photo: Qingxuan Fei (left) and Yukthika Boddeda.

Dr. Doris Kimbrough retired



After four decades of dedicated service to the Department of Chemistry, **Dr. Doris Kimbrough**, Professor of Chemistry, retired in May 2026. Dr. Kimbrough joined the department in 1986 as a Senior Instructor, became an Assistant Professor in 1989, and was promoted to Associate Professor and Full Professor in 1997 and 2012, respectively.

A nationally recognized leader in chemical education, Dr. Kimbrough spearheaded numerous pedagogical innovations and established herself as a pioneer in both lecture and laboratory instruction. Beloved by generations of students, she frequently taught large-enrollment General Chemistry and Organic Chemistry courses. Her engaging and dynamic lectures inspired hundreds of students each semester.

Dr. Kimbrough's outstanding teaching achievements were complemented by her distinguished research in chemical education. Supported primarily by the National Science Foundation (NSF), as well as the National Institutes of Health (NIH), the U.S. Department of Education, and other funding agencies, she secured more than $18.5 million in external funding as a principal investigator or co-principal investigator.

Beyond her research and teaching, Dr. Kimbrough was deeply committed to advancing chemistry education and public engagement. She contributed to online and distance-learning initiatives, promoted chemistry outreach, and played a key role in laboratory curriculum development. Her scholarship resulted in numerous publications in peer-reviewed journals. She also shared her expertise through more than 100 presentations at national conferences, seminars, and symposia.

To her colleagues, Dr. Kimbrough has been a warm friend, trusted collaborator, and generous mentor. She selflessly shared her teaching wisdom and experience with generations of junior faculty members, helping shape the department's educational mission and culture.

We deeply appreciate Dr. Kimbrough's invaluable contributions to the Department of Chemistry and wish her a fulfilling and rewarding retirement. (**Photo**: Dr. Doris Kimbrough.)

Students published new findings on sialic acid transport





Master's student **Eric Wooten** and undergraduate student **Muhamadjon Dzhalolov**, working in the research group of **Dr. Hai Lin**, Professor and Chair of Chemistry, have published their research on sialic acid transport in the peer-reviewed *International Journal of Molecular Sciences*.

Sialic acids are a diverse family of widely distributed monosaccharides involved in numerous biological processes. Sialin, a sialic acid/proton symporter, transports sialic acid across cellular membranes between the lysosomal lumen and the cytosol and plays an essential role in sialic acid metabolism. In collaboration with an experimental research group that first determined the structures of sialin, the Lin group conducted the first extensive computational investigation of the transport mechanism of this important membrane protein. Using molecular dynamics simulations, the researchers examined protein conformational changes associated with two key proton-sensing glutamate residues in different protonation states. Their findings provide atomistic insights into how protonation may influence transport and help refine previously proposed mechanistic models of sialin function.

Reflecting on his research experience, Eric noted that the project was far more challenging than he had initially anticipated. "But I enjoy it because I have learned so much, and it is worth every minute that I put in," he said. Before joining the Chemistry Department at CU Denver, Eric was a pitcher in the New York Yankees. Eric recently graduated and has begun his career in the pharmaceutical industry.

Photo: Eric Wooden (left) and Muhamadjon Dzhalolov.

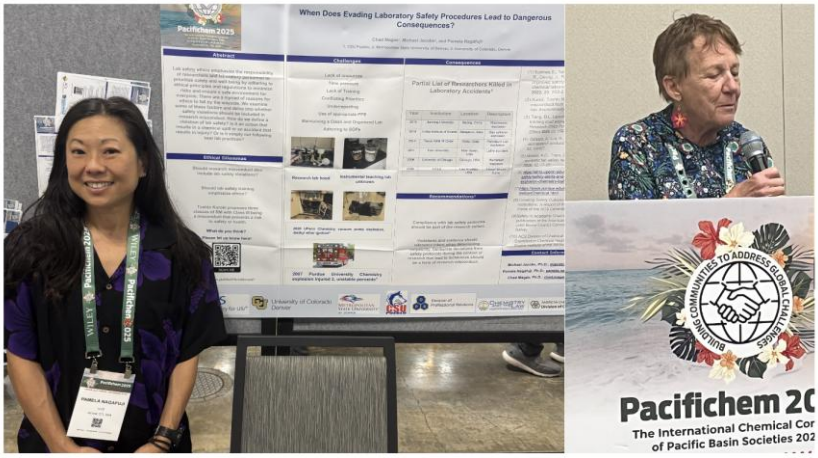
Chemistry faculty and staff led the Ethics and Laboratory Safety Symposium at the Pacifichem 2025 conference

Members of the Chemistry faculty (**Dr. Susan Schelble**) and staff (**Dr. Pamela Nagafuji**) organized and presented in the Ethics and Laboratory Safety symposium at the Pacifichem 2025 Conference held in Honolulu, Hawaii in December 15-20, 2025.

Dr. Schelble organized a technical session "Ethics that Impact the Global Chemical Enterprise in a World Needing International Standards," which brought together chemical professionals to engage on ethical challenges facing chemistry. A recognized leader in chemical ethics, Dr. Schelble played a central role in shaping cross-cultural discussions on ethical responsibility. The symposium addressed critical topics including laboratory safety, artificial intelligence, equity, intellectual property, professional conduct, international standards, and emerging ethical challenges in science. Besides organizing activities, Dr. Schelble also co-authored a presentation "*Academic Integrity and Student Learning in an Era of the Trophy Generation, Artificial Intelligence and For-profit Cheating*" in the symposium.

Dr. Nagafuji presented both an oral presentation and a poster, in which she co-authored. Her talk "*Opening the Door to Lab Safety Ethics in the Chemistry Lab*" examines how ethical frameworks can be intentionally integrated into chemistry laboratory safety practices, emphasizing responsibility, culture, and decision-making in academic and professional lab environments. Her poster "*When Does Evading Laboratory Safety Procedures Lead to Dangerous Consequences*" studies ethical lapses in laboratory safety compliance and the risks they pose to individuals, institutions and the broader chemical enterprise.

Photo: Dr. Pam Nagafuji (left) and Dr. Sue Schelble in Pacifichem 2025.



Welcome Ms. Rose Palmer



In October 2026, **Ms. Rose** Palmer joined the Department of Chemistry as a Lab Coordinator. She will work closely with **Dr. Pam Nagafuji** and **Mr. Jeffery Boon** to support the department's teaching laboratories and instructional instrumentation.

Ms. Palmer's primary responsibilities will include overseeing the General Chemistry laboratories, ensuring that equipment, chemicals, and supplies are properly prepared and maintained to meet instructional needs. Her efforts will play an important role in supporting high-quality laboratory instruction and student learning experiences. Please join us in welcoming Ms. Palmer to the department! (**Photo**: Ms. Rose Palmer)

Chemistry Professor Larry Anderson continues research and publishing after retirement

Although Professor of Chemistry **Dr. Larry Anderson** retired from the Department of Chemistry in 2013, he has remained actively engaged in research and scholarly publishing. Most recently, he coauthored a paper stemming from a Fulbright Specialist project initiated in 2016 at the University of Iceland.

The Fulbright Specialist Program, sponsored by the U.S. Department of State in partnership with host countries, supported Dr. Anderson's work to expand air quality research and education within the University of Iceland's Environmental Engineering program. The project led to a significant increase in air quality content in both coursework and undergraduate and graduate research activities. It also launched a collaborative effort to better understand and mitigate hydrogen sulfide emissions from geothermal power plants that supply electricity and district heating to the Reykjavik metropolitan area, home to approximately two-thirds of Iceland's population.

The resulting publication, "*Effects of hydrogen sulfide mitigation efforts on air quality near geothermal power plants in cold climate*," coauthored by collegues of the University of Iceland and Dr. Anderson, was published in *Atmospheric Environment*.

Professor Anderson's continued scholarly contributions following retirement exemplify a lifelong commitment to research, international collaboration, and student engagement. His work continues to strengthen global partnerships while advancing solutions to important environmental challenges.

Photo: Dr. Larry Anderson (right) and collaborator on the University of Iceland campus.



External Research Grants (Since Fall 2025)

- **Marino Resendiz** (PI); Establishing the impact of 8-Oxo-7,8-dihydroguanosine (8-oxoG) on the structure and function of RNA; National Institute of Health; 2026-2029
- **Marino Resendiz** (co-I); Crosstalk of epitranscriptomic RNA modifications and DNA damage repair; National Institute of Health; 2026-2029
- **Woonghee Lee** (U.S. PI, with Turkish PI: Çağdaş Dağ, Koç University); Characterization of the Interaction Mechanism of the C-Lobe Region of Bi-Functional HERC5 HECT Ligase via NMR Spectroscopy: Investigating Ubiquitin and ISG15 Interactions and Oligomerization Dynamics; TÜBİTAK; 2025-2027

Peer-Reviewed Publications (since Fall 2025)

- **Wang, H.** "Harmonic-oscillator-referenced ring-polymer molecular dynamics. I. Practical computation of correlation functions," *Journal of Chemical Physics*, **2026**, 165, 054111.
- **Wang, H.** "Harmonic-oscillator-referenced ring-polymer molecular dynamics. II. Theoretical foundations of reference-modified dynamics and Gaussian reconstruction," *Journal of Chemical Physics*, **2026**, 165, 054115.
- Hao, Y.; Huang, J.; Yu, W.; **Wang, H.**; Liu, L.; Fang, W.H. "How charge redistribution governs photoreaction pathways: Evidence from XMS-CASPT2 studies of a S–H··· O intramolecular hydrogen bond," *Journal of Physical Chemistry Letters*, **2026**, 17, 7756-7762.
- Westheimer, B.; Gordon, M. S.; **Guidez, E.; Lin, H. "**Hierarchical truncations for many-body expansion potentials," *Journal of Chemical Theory and Computation,* **2026**, 22, 6065-6075.
- Wooten, E.; Chon, N. L.; Dzhalolov, M.; Zheng, H.; **Lin, H.** "Protonation states of proton-sensing glutamate residues in sialin," *International Journal of Molecular Sciences*, **2026**, 27, 4629
- Grijalva-Flores, D.; **Resendiz, M.J.E.** "Ribonucleobase oxidation and ribonucleases involved in the degradation of oxidized RNA," *Biomolecules*, **2026**, 16, 564.
- Frazier, B.; Heuvel, S.V.; Yadav, K.; Fu, B.; Zimmermann, S.A.; Fu, R.; Zanden, C.V.; Ostrovsky, D.; **Vugmeyster, L.** "Hydration water dynamics in Amyloid-beta aggregates using deuterium and oxygen-17 solid-state NMR spectroscopy," *Journal of Chemical Physics*, **2026**, 165, 095101.
- **Vugmeyster, L.**; Basaves, K.; Fu, R.; Holmes, S.; Ostrovsky, D. "^{17}O quadrupolar chemical exchange saturation transfer (Q-CEST) NMR for investigations of molecular dynamics in solids," *Journal of Magnetic Resonance*, **2026**, 385, 108045.
- **Vugmeyster, L.**; Ostrovsky, D. "Dynamics studies of side-chains and hydration shells in amyloid-beta fibrils using deuterium and oxygen-17 solid-state NMR," in: R. Tycko (Ed.) *Structural Studies of Amyloid-beta* (Methods in Enzymology), Elseveir, **2026**, Vol. 729, pp. 145-177.
- Seong, H.; Lee, J.; Park, J.K.; **Lee, W.**; Seo, J.; Choi, J. "Redox-active tungsten mono-oxo bis(dithiolene) complex: A fast-rechargeable anode for high-capacity lithium-ion batteries," *Advanced Science*. **2026**, e75010.
- Chiu, A.; **Lee, W.** "Modernizing biomolecular NMR: The POKY suite," *Journal of Biological Chemistry*. **2026**, 302, 111246.
- Dag, C.; Lambert, M.; Kazar, A.E.; Kahraman, K.; Gocenler, O.; **Lee, W.**; Ceylan, C.D.T.; Lohr, F.; Shim, J.G.; Haas, A.L.; Dotsch, V.; Ziarek, J.J.; Elgin, E.S. "Dynamic hotspots in the Uba7 ubiquitin-fold domain direct UbcH8 recognition," *Biochemistry*. **2026**, 65, 678–692.
- Jin, Y.; Seong, H.; Moon, J.H.; Kim, G.; Jang, J.Y.; Lee, J.B.; Kwon, S.-R.; **Lee, W.**; Lee, K.-T.; Choi, J. "Unraveling the high-rate electrochemical kinetics of CuSbS2 for sodium storage," *Energy & Environmental Materials*. **2026**; e70284.
- Zhao, L.; Fang, Y.G.; Xie, B.B.; Fang, Q.; **Wang, H.**; Fang, W.H. "Formation of nitrile imine in the ground and excited states from photolysis of 2 N methylpyrrole-5-formylamino-tetrazole," *Journal of Physical Chemistry Letters*, **2025**, 16, 10149-10158.
- Liang, W.; Gong, S.; Yang, B.; Feng, J.; Chang, K.T.; Wang, Z.; Chen, X.; Yu, Z.-G.; **Wang, H.**; Lu H. "Molecular locking in triplet sensitization amplifies circularly polarized luminescence," *Angewandte Chemie International Edition*, **2025**, 64, e202515506.
- Ramirez, H.; Al-Jarah, T.; Schowe, W. S.; **Resendiz, M. J. E.** "8-oxo-7,8-dihydropurines as building blocks to enhance the selectivity of an RNA aptamer for aminoglycosides," *ACS Chemical Biology* **2025**, 20, 2328-2342.
- Xu, P.; Sattasathuchana, T.; Webb, S.P.; Gordon, M.S.; **Guidez, E.M**. "Advances in quantum mechanical methods for the computation of protein-ligand binding free energy," *Frontiers in Computational* Chemistry, **2025**, 8, 166-235.