LOOKING BACK, MOVING FORWARD:
CHEMISTRY THROUGH THE YEARS AT UW–MADISON

GET TO KNOW THE NEW FACULTY:
BOROS, TODD, SOLEY JOIN UW
Outlined in our mission is the goal “to conduct world-class, groundbreaking research in the chemical sciences while offering the highest quality of education.” While we address specific challenges to achieve the goals of our mission, such as reorganizing our administrative structure, updating our physical spaces, or revitalizing our longstanding leadership in chemical education research, one thing is clear to me: our bright future is indebted to our spirit of collaboration.

Collaboration requires us to cast a wider net to include all students with the talent and desire for discovery. Programs such as Chemistry Opportunities (CHOPs)—require the buy-in and work of graduate students, faculty, and staff to succeed and build inclusion in our department.

Collaboration also means recognizing that instructional staff, administrative staff, scientists, and faculty are also committed to our mission and that governance and decision-making should reflect this shared commitment.

This past year, the department took on strengthening faculty/staff collaboration by enabling staff to vote in departmental meetings.

We know that collaboration is key to ground-breaking, high-impact research. Outside the department, nearly 20 affiliate faculty are engaged to provide multidisciplinary experiences within the chemistry graduate program. We also collaborate with industry, as evidenced by the new Synthesis and Catalysis Center that is establishing a pre-competitive research program with major companies such as GSK, Corteva, and Eli Lilly.

Above all, collaboration with donors and their gifts drives all of our mission-focused activities. Thank you for contributing to the excellence of the Department of Chemistry!

Professor Clark Landis
Department Chair
Kimberly M. Hazen
Badger Chemist Editor
Caroline Cole Writer
Will Cushman Writer
Katherine Parrish Writer
Tracey Reitz Writer
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Alison Conniff Reviewer
Cassie Doody Reviewer
Pat Egan Reviewer
Char Horstfall Reviewer
Emily Kitsbaar Reviewer
Katie McCullough Reviewer
Matt Sanders Reviewer

From the Chair’s Office

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Kimberly M. Hazen

SHARE YOUR NEWS and tell your #AfterChem career story by emailing connect@chem.wisc.edu.
CHEMISTRY OF COMMUNITY

1 Cameron Kaminsky is up to bat at the annual GSFLC-hosted Snout Out Picnic.

2 Emeritus Professor Hyuk Yu reconnects with colleagues at the 2023 Hirschfelder Award Banquet held at Maple Bluff Country Club.

3 Members of Catalyst, a peer-mentoring program (back left to right) Cristina Moscoso Cabrera, Miguel Betancourt Ponce, Gerardo Javier Quintana Cintron, Stephanie Oliveras Santos, La’Darious Quinn, Yareslie Cruz, Desirée Bates, and (front) Ethan Hartman. Graduate students (left to right) Ami Diaby, Shannon Brown, Surajudeen Omolabake, Dilton Etendi, Danica Gressel, and Aribri Biswas represent the department at NOBOCChE 2023.

4 Graduate students Minhua Cao and Cassie Doody pause to connect at the Women in Chemistry Coffee.

5 The Cavagnero group proudly shows off their 3D printouts of proteins.

6 Riku Hasimoto visits the chemistry glass shop from Tokyo, Japan for a one-week training.

7 Undergraduate Chemistry Specialists Rosemary Wonnell and Maddy Henkel move into the Undergraduate Office in the newly renovated Daniels building.

8 Students take a break from studying to pose with UW-Madison Chancellor Jennifer Mnookin during the UW Regents’ visit to Chemistry this year.

9 Troy Stich, Amanda Brag, Anne Bentley, and Michael Konopka reconnect at the Department of Chemistry reception at the Spring ACS meeting in Indianapolis.

Photo: Althea Dotzour / UW–Madison
12,676 undergraduate chemistry enrollments for 2022-2023

$25.5 million in grant funding to the Department of Chemistry in 2023

By the Numbers

By the Numbers

More than 83 faculty-hosted seminar presentations given and planned for the 2023-2024 academic year

More than 130 alumni reconnected with colleagues at ACS/Department of Chemistry receptions in 2023.

143 undergraduate students conducted research in chemistry in the 2022-2023 academic year.

52 department pets featured in 2023 for G5FLC’s Pet of the Week.

25 graduate students participated in our Chemistry Opportunities (CHOps) weekend.

83 prospectives for the 2023-2024 academic year.

66 new first-year graduate students enrolled in 2023.

273 peer-review articles by chemistry and affiliate faculty during the 2022-2023 academic year.

9 NSF GRADUATE RESEARCH FELLOWS

2 graduate students listed as honorable mentions through the 2023 Graduate Research Fellowship Program.
Bertram team wins Beckman Foundation funding for atmospheric monitoring

by Kimberly M. Hazen

Professor Tim Bertram and former UW–Madison Ph.D. student Steve Kregel are co-leading a team that received $890,000 from the Arnold and Mabel Beckman Foundation for mass spectrometry for atmospheric monitoring. The team will use the funding to develop a new compact, low-cost mass spectrometer for atmospheric monitoring of volatile organic compounds in the atmosphere. The final instruments will be used to assess air pollution throughout Wisconsin.

“The Beckman Foundation created the grant to underscore the ‘foundation’s mission of supporting research breakthroughs in chemistry and the life sciences, and fostering the invention of methods, instruments, and materials that open new avenues of research and applications in these sciences and related disciplines.’ Three institutions were selected to receive a total of $3 million paid in yearly installments over three years. The grant will support prototype design development offering the most advanced mass spectrometry detection capabilities and sensitivity levels in lightweight, inexpensive, and easily operable systems for mobile monitoring.

“Our intent for this program is to support scientists, with a focus on undergraduates, to become inventors and innovators in this compelling area of research by building tools and instruments,” explained Dr. Anne Hultgren, the Beckman Foundation’s Executive Director. “If successful, the [miniaturized] prototype monitoring systems developed by our awardee teams could have a lasting impact on informing policy decisions on sources of pollution, improving indoor and outdoor air quality, and furthering the democratization of access to clean air around the world.”

The team is a collaboration of Professor Steve Kregel, who began the project as a postdoc researcher; Professor Tim Bertram, and Laboratory Director Rob McClain of UW–Madison’s Department of Chemistry; Professor Keith Beyer of the University of Wisconsin–La Crosse, and Professor Patti Cleary of the University of Wisconsin–Eau Claire. Professor Kregel has joined Bradley University in Peoria, Illinois as an assistant professor, but remains a part of the project team.

AJ Boydston named co-P.I. on MURI award

Investigation will focus on spatially programmed material properties via designed mesostructures

by Kimberly M. Hazen

Over the next five years, $75 million in funding will be shared among six principal investigators (P.I.s) on a Multidisciplinary University Research Initiative (MURI) award from the U.S. Department of Defense (DOD). For Professor AJ Boydston and his group, it means $1.25 million to work with the Office of Naval Research to develop directed assembly of mesoscale architectures in additive manufacturing. This project is just one of 31 research projects announced this year that will award $220 million to an extensive list of institutions. This highly competitive program only funds a small fraction of proposals each year, and it has a history of supporting research that has led to breakthroughs in several fields including information technology and materials science.

The Boydston Group is part of a six-P.I. team combining additive manufacturing with “bottom-up” directed assembly, using tailored nanoparticle building blocks and polymers. They will also be building new instruments to study the process and validate computational predictions. The goal of the project is to realize materials and structures with emergent thermal-electromagnetic and optical properties that could be used in the cooling of high-power electronics, next-generation communication systems, or high-performance cameras.

Professor Bertram (left) and Dr. Steve Kregel with a prototype miniature chemical ionization mass spectrometer.

The role of Professor Boydston’s team falls in the molecular up through mesoscale realm. As background, Boydston explained that the ordering of length scales for chemists and practitioners in related fields is something like: molecular à nanoscale à mesoscale à macroscale. Boydston states, “The mesoscale is this hard-to DEFINE-in-between size that is larger than nanoscale but smaller than we tend to interact with tangibly.” His research group will contribute to this MURI by discovering and honing chemical approaches to build up from molecular to mesoscale. “We will leverage some nanoscale building blocks and learn what chemical reactivities can be used to control the ordering (literally the physical spacing and orientation) of nanoscale particles to create deliberate mesoscale structures,” states Boydston.

The Boydston Group has expertise in integrating non-traditional chemical reactivities into additive manufacturing processes and even inventing new equipment platforms for additive manufacturing. However, Boydston explained that working as part of a larger MURI team will offer the advantage of focus for the group, “Now, we are going to be able to think about a vast chemical space without imposing any restrictions or filters with regard to equipment capabilities, because the broader team will be innovating on the equipment front.”

Diversity in chemical reactivities will require a diversity of energy inputs (light, magnetic, thermal, mechanical, and electrical). Boydston’s team plans to learn how to use a suite of energy inputs to direct specific, orthogonal chemical reactions at specific volumes in space.

Along with Professor Boydston, the MURI team includes John Hart and Rob Macfarlane of Massachusetts Institute of Technology (MIT); Randall Erb and Safa Jamal of Northeastern University; and Arthi Jayaraman of the University of Delaware. The team’s expertise spans chemistry, materials science, simulation, machine learning, machine design, and characterization.

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Oncology Department. Research has recently secured NIH funding through a program to redistribute its allosteric pathways. This line of work and experimentation have yielded valuable insights. The group’s collaborative efforts between simulation and experimental approaches have led to the development of a novel machine learning approach for identifying biologically relevant pathways. This approach has been validated through rigorous testing and has shown promise in predicting the behavior of complex biological systems.

The Huang Research Group has developed various new models and computational methods to efficiently group parallel kinetic pathways. These models provide a framework for understanding the collective behavior of complex systems. The group has also developed novel techniques for identifying and characterizing collective variables, which are essential for understanding the dynamics of complex systems.

The group received a new 5-year NIH R01 grant in 2023 to support its research. This funding will enable the group to continue its work on developing new models and computational methods to understand the dynamics of complex systems. The group’s research has a broad range of applications, from understanding the behavior of biological systems to predicting the behavior of complex materials.

The group is currently working on a number of projects, including the development of new models for understanding the dynamics of biological systems and the development of new techniques for identifying and characterizing collective variables. The group has a strong track record of success, and its research has been recognized with numerous awards and honors.

In conclusion, the Huang Research Group is making significant contributions to the field of computational biology. Its research has a broad range of applications and has the potential to revolutionize our understanding of complex systems.
Chemistry through the years at UW–Madison

As the University of Wisconsin–Madison celebrates its 175th anniversary, we look back on 169 years of chemistry and 143 years as a department. So much has changed since the first chemistry class was taught by S. Pearl Lathrop in 1854. We continue to evolve, grow, and discover.

TODAY, THE DEPARTMENT OF CHEMISTRY is known for its outstanding teaching, research, and outreach programs as well as its collegial and collaborative atmosphere. The work of our department is supported by our exceptional faculty, instructors, lab directors, computational and instrumentation experts, and a multitude of staff. These essential members of our department order our supplies, pay our bills, support our grants, recruit our students, expedite our paychecks, facilitate our visas, train our teaching assistants, organize our publications, plan our events, arrange our travel, fill our stockrooms, keep our computers running, help our undergraduates, print our materials, receive our equipment, track our lost and found, maintain our safety, and clean our building.

Take a peek into our past and you’ll find gritty, courageous leaders who built our program with curiosity, determination, and insight. Look closely at our department today and you’ll find this same spirit that will steer the Department of Chemistry to continued success in the future.

Researched and written by Kimberly M. Hazen
1854
The first chemistry course, taught by S. Pearl Lathrop, meets in North Hall. As an instructor, Lathrop seeks “to expand the mind, moralize the heart... and to prepare youth for public as well as private action.”

1880
The Department of Chemistry is formally established, and chaired by Professor William Willard Daniels. A growing need for space moved classes to University Hall, now Bascom Hall.

1884
Martha Gunhild Week receives a B.S. in the Natural Science Course. Today, a bequest in her name still provides scholarship support for women majoring in chemistry.

1895
Louis Kahlenberg, who joined the faculty in 1885 and later served as chair, becomes the first professor to develop a visible and ongoing research program.

1899
Azariah Thomas Lincoln receives the first doctorate in chemistry at UW–Madison under the supervision of Professor Louis Kahlenberg.

1902
UW–Madison chemistry students establish the professional fraternity, Alpha Chi Sigma (AXΣ). The organization now has collegiate and professional chapters throughout the United States consisting of both men and women and numbering more than 78,000 members.

1913
Nellie Wakeman becomes the first woman to receive a Ph.D. in chemistry at UW–Madison. Her advisor is Professor Edward Kremers, a pharmaceutical chemist.

1923
UW hosts Swedish chemist Theodor “The” Svedberg, a leading experimentalist who conceives the ultracentrifuge and holds the first National Symposium on Colloid Chemistry. The 98th ACS Colloid & Surface Science Symposium will be held in June 2024 at the University of Washington in Seattle.

1929
With an addition to the Chemistry Building (now known as Chamberlin Hall), the department’s machine shop occupies a new designated space. The crew of the shop (picture left, 1977) moved into the Daniels sub-basement in 1967. The current team (picture right) represents the electronics, machine, and glass shops.

1937
Professor Joseph O. Hirschfelder, known as the founder of modern theoretical chemistry joins the faculty and later establishes the Theoretical Chemistry Institute. The internationally recognized Hirschfelder Prize is awarded annually in his honor.

1950
Professor Paul Bender oversees the Chemistry Instrument Center and later, as its director, establishes classes to teach students the use of the instruments for their research.

1953
The department hires its first dedicated glass technician, Frank Peters. Today, Distinguished Master Glassblower Tracy Drier directs the department’s glass shop which provides scientific and research glassblowing services for chemistry faculty, students, and staff.

1962
The Mathews Building opens followed soon after by the Daniels Building in 1967. The two buildings are named for former department chairs J. Howard Mathews and Farrington Daniels.

1972
For his contribution to the understanding of the connection between chemical structure and catalytic activity of the active centre of the ribonuclease molecule, alumnus Stanford Moore (Ph.D. ’38) is named a co-recipient of the Nobel Prize in Chemistry.

1980
With Barry Trost as chair, chemistry celebrates its 100th year as a department.

1983
The Institute for Chemical Education (ICE) is formed to help science educators develop and share their ideas. Dr. Bassam Shakhashiri served as the first director of ICE.

1984
The department celebrates the first Snout Out picnic on September 15, 1984, at Westmorland Park, serving 500 pounds of meat, 150 pounds of potato salad, 90 pounds of baked beans, and four half-barrels of beer. This year’s picnic (photo right) was held August 26 at Rennebohm Park.

1992
The Graduate Student Faculty Liaison Committee (GSFLC) is formed as a way to connect members of the department and facilitate effective communication. Today, the GSFLC is comprised of four subcommittees: wellness, community building, career development, and outreach.

1999
Azariah Thomas Lincoln receives the first doctorate in chemistry at UW–Madison under the supervision of Professor Louis Kahlenberg.
The many spaces of chemistry at UW–Madison

Over the years, chemistry has had many homes at the UW–Madison. From one classroom in North Hall to an entire complex occupying the block bounded by University Avenue, Johnson, Mills, and Charter Streets; the Department of Chemistry has a long history of outgrowing our space. Today, to anticipate needs, our planning process and department governance include considerations of space not only for today but long into the future.

1923
DANIELS TOWER REOPENS

After extensive renovations for improved instructional labs, classrooms, and a new undergraduate office, the lower floors of the Daniels Tower reopen to students.

2012
To draw diverse perspectives to the university, the department launches the Chemistry Opportunities Program (CHOPs), a program to widen access to the chemistry graduate program at UW–Madison.

2017
Professor Judith Burstyn is chosen as the first female chair of the department.

2020
For his work on the discovery and development of conductive polymers, alumnus Alan MacDiarmid (Ph.D. ’53) is named a co-recipient of the Nobel Prize in Chemistry.

2000
The Paul Bender Chemistry Instrumentation Center is named after a bequest from Paul and his wife Margaret McLean Bender, allowing the center to purchase and maintain state-of-the-art equipment.

1929
East Addition to Chemistry Building

1962
Department moves to Matthews Research Laboratory at Mills and Johnson Streets

1895
Professor Laura Lerner becomes the first tenured female faculty member. Earning her Ph.D. in biomedical engineering from Johns Hopkins University, her background includes broad training in both engineering and biophysics.

2012
A note of gratitude to Aaron J. Ihde’s book Chemistry as Viewed from Bascom’s Hill, a History of the Chemistry Department at the University of Wisconsin in Madison, the University of Wisconsin–Madison Archives, historical issues of the Badger Chemist, the Badger 1949, a centennial edition of the annual, and the many people who served as resources for this feature.

1905
New Chemistry Building

Now known as Chamberlin Hall

1885
Chemical Engineering

The first on-campus building dedicated solely to chemistry, demolished in 1968

1983
Instrumentation Center

Named in honor of Paul and his wife after a bequest from Paul and his wife

2022
The North Tower opens after more than three years of construction. The new space includes new instructional laboratories with adjacent write-up rooms, flexible lecture rooms, an information commons, and a state-of-the-art Chemistry Learning Studio.

1985
South Hall

1913
West Addition to Chemistry Building

1925
Irving Shain is later named in honor of Professor

Irving Shain

1929
Chemistry Building

Opened after more than 3 years of construction

PHOTO CREDITS:

1929
Courtesy UW Archives

1950
Courtesy J.H. Mathews Collection

1962
| Courtesy ICE

1970
| Courtesy James Ewing / JBSA for Ballinger

1974
| Courtesy UW Archives

1983
| Courtesy the American Institute of the History of Pharmacy

1995
| Courtesy the American Institute of the History of Pharmacy

2000
| Courtesy UW Archives

2022–23
| Courtesy UW Archives

2022
| Courtesy the American Institute of the History of Pharmacy

1854
North Hall

1858
South Hall

1875
Old Science Hall

Destroyed by fire in 1953

1967
Farrington Daniels Chemistry Building

Adjoins Matthews Research Laboratory

1980
Shain Research Tower

Seminar Hall

Adjoins Matthews Research Laboratory

2012
Shain Research Tower

Opens after more than three years of construction

PHOTO CREDITS:

1884
Chemistry Building

1905–1962
Chemical Engineering

1885
Chemical Engineering

1950
Courtesy J.H. Mathews Collection

1962
| Courtesy ICE

1970
| Courtesy James Ewing / JBSA for Ballinger

1974
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1983
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1995
| Courtesy the American Institute of the History of Pharmacy

2000
| Courtesy UW Archives

2022–23
| Courtesy UW Archives

2022
| Courtesy the American Institute of the History of Pharmacy

1854–1962
Old Science Hall

Now known as Engineering North

1905
| Courtesy ICE

1970
| Courtesy James Ewing / JBSA for Ballinger

1974
| Courtesy UW Archives

1983
| Courtesy the American Institute of the History of Pharmacy

1995
| Courtesy the American Institute of the History of Pharmacy

2000
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Gifs allow the CLC to grow, serve more students by Tracey Reitz

Founded in 1974, and once located in a small green house where the Shain Research Tower now stands, the CLC has long been a cornerstone of academic excellence, providing a nurturing environment where students collaborate with instructors in small groups. In 2018, the department undertook an ambitious endeavor to design and renovate space in the Medical Sciences Center, doubling the square footage of the CLC and offering students a more comfortable and engaging learning space.

The green house (left) served as an early CLC location. The house was demolished to make way for Shain Research Tower.

Read the full story online here:
Recognition: Awards & Achievements

Faculty

Tim Bertram
American Geophysical Union's Atmospheric Sciences Ascent Award, 2023

Eszer Boros
Camille Dreyfus Teacher-Scholar

Andy Buller
2023 AAAS Mass Spectrometry Research Fellow
Silvia Cavagnero
2022 Outstanding Mentoring Award from the College of Letters & Science Academic Staff

Kyung-Shin Choi
Ho-Am Prize in Chemistry and Life Sciences (see p. 19)
2022 Kellett Mid-Career Award

Preeminent Investigator Award, 2023

Sciences Ascent Award, 2023

Robert Alesch Award for Undergraduate Teaching, 2023

Miceline Soley
2022-2023 Nanomerist Chemistry Department LaVionna Dassels

Anna Iseri
2023 NSF Career Award

Jerrold Meinwald
2021-2022 L&S University Staff Excellence Award

Bob Shanks
2021-2022 L&S Judith Craig Scientist Award

Suzanne Sinoussi
2021 Alan Berwick Life Sciences Award

Mikhail Chertkov
2023 Biophysical Society, 2023 Office of Naval Research Young Investigator Award

Dominic Colosi
2023 ACS Division of Analytical Chemistry J. Calvin Giddings Award for Excellence in Education

Patrick Egan
2023 University Staff Excellence Award

Brian Esselman
Letters & Science Academic Staff Mid-Career Award

Student

Meranda Massé
2023 ACS Leadership Award in Mentoring

Stephanie Olivaras Santos
2023 ACS for Leadership Award in the Promotion of Diversity, Equity, Inclusion, and Respect

Other

Department of Chemistry–North Tower
Balganj | Strang | Aro Eberle–Architects, Merit Award, 2023 Architectural Excellence Design Awards—Architecture, AIA Pennsylvania

Suzanne Sinoussi
2023 ACS Division of Analytical Chemistry J. Calvin Giddings Award for Excellence in Education

Mikhail Chertkov
2023 Biophysical Society, 2023 Office of Naval Research Young Investigator Award

Dominic Colosi
2023 ACS Division of Analytical Chemistry J. Calvin Giddings Award for Excellence in Education

Patrick Egan
2023 University Staff Excellence Award

Brian Esselman
Letters & Science Academic Staff Mid-Career Award

Student

Meranda Massé
2023 ACS Leadership Award in Mentoring

Stephanie Olivaras Santos
2023 ACS for Leadership Award in the Promotion of Diversity, Equity, Inclusion, and Respect

Other

Department of Chemistry–North Tower
Balganj | Strang | Aro Eberle–Architects, Merit Award, 2023 Architectural Excellence Design Awards—Architecture, AIA Pennsylvania

Kyoung-Shin Choi wins Samsung's 2023 Ho-Am Award

Professor Kyoung-Shin Choi has been named the 2023 Samsung Ho-Am Prize Laureate in the category of Chemistry and Life Sciences. Professor Choi was awarded 300 million Korean Won (KRW) (approximately $228,400), a diploma, and a Ho-Am Prize medal at a ceremony held on June 1, 2023. Professor Choi was recognized for her work as “a world-renowned chemist in the field of energy science who has achieved remarkable progress in eco-friendly hydrogen production through research aimed at developing and understanding photoelectrodes and catalysts for the photocatalytic chemical reaction of solar water splitting,” according to an announcement from the foundation. Professor Choi has developed numerous electrochemical processes and electrodes that can be used to convert lignocellulosic biomass to biofuels and commodity chemicals and to treat wastewater for the protection of freshwater resources while recovering contaminants as valuable chemicals. Her work has a direct impact on creating a sustainable future.

Professor Choi joined the UW–Madison Department of Chemistry in 2012. She earned a B.S. in Food and Nutrition/Chemistry and an M.S. in Chemistry from Seoul National University; and a Ph.D. in Chemistry from Michigan State University. She served as a Postdoctoral Fellow at the University of California, Santa Barbara, and a Professor of Chemistry at Purdue University.

The Samsung Ho-Am Prize was established in 1990 by Kun-hee Lee, the late chairman of Samsung, with a vision to create a new corporate culture that carries on the “noble spirit of public service upheld by Byung-chul Lee, the founder of Samsung.” The prize is awarded to individuals who have made significant contributions to academics, the arts, and social development, and who have furthered the welfare of humanity through distinguished accomplishments in their respective professional fields. Candidate nomination specifications require the candidate has earned “accomplishments and accumulated expertise which have contributed to society in their respective fields, and accumulated expertise that has been highly evaluated socially.” The candidate must also have “distinguished contributions to the nation and humanity through a clearly creative mentality and spirit of service.”

This year’s laureates were selected through an evaluation process that spanned four months, with the participation of 46 judges composed of renowned scholars and experts from both domestic and international settings, as well as 45 overseas academic advisors.

In addition to Professor Choi’s award in the category of chemistry and life science, this year the Ho-Am Foundation named laureates in the categories of physics and mathematics; engineering, medicine, arts, and community service. To date, a total of 170 recipients have received KRW 32.5 billion in prize money.

Notably, UW–Madison Department of Chemistry faculty member, Emeritus Professor Hyuck Yu earned the Ho-Am Award in 1997 for his work in the field of polymer dynamics on confined geometries in monolayers and thin films. Professor Yu’s group extended techniques to oil/water interfaces, which was the first application of the method to liquid/liquid interfaces.
New Faces, New Changes

Since January 2022:

New Faculty

Eszter Boros, Associate Professor (Featured on pp. 21-22)
Micheline Soley, Assistant Professor (Featured on pp. 25-26)

Zoe Todd, Assistant Professor (Featured on pp. 23-24)

New Staff

Mary Beth Anzovino, Associate Director of Organic Chem Labs
Lauren Aria, Assistant Glassblower
Andrew Arndt, Research Store Manager
Jeff Bartz, Scientist
Austin Scott Bleskacek, Laboratory Manager
Beatriz Balanos Lemire, Human Resources Representative
Rebecca Brown, Chemistry Learning Center Specialist
Rebecca Carlson, Administrative Assistant
Isabella Eliasen, Administrative Assistant

Jonathan Gagen, Network Engineer
Erin Grunewald, Graduate Program Coordinator
Hongpin (Tony) Guan, Research Technician
Haris Hadzie, User Support Specialist
Erin Hale, Administrative Assistant
Lynn Harrow, Instructional Lab Specialist
Kimberly Hazen, Marketing and Communications Manager
Spencer Heins, Synthesis & Catalysis Center Director
Madeline Henkel, Undergraduate Services Specialist
Andrew Hinz, Undergraduate Program Manager
Dillon Hofsommer, Scientist
Char Horsfall, Assistant Department Administrator
Christopher Hughes, Chemistry Learning Center Instructor
Francisca Jofre, Graduate Program Director
Carolyn Karls, Financial Specialist
Mickie Kiliian, Chemistry Learning Center Instructor
Kathryn Koenen, Administrative Assistant
Rebecca Moy, Administrative and Events Professional
Ashley Petersen, Project Coordinator
Laura Reade, Administrative Assistant
Tracey Reitz, Chemistry Learning Center Director
Carlos Saavedra Salazar, Scientist
Julia Saloni, Chemistry Learning Center Instructor
Sam Shields, Instrument Maker
McKenna Smith, Scientist
Mandi Simmons Thies, Assistant to Department Chair
Emma Weimerskirch, Administrative Assistant
Rosemary Wonnell, Undergraduate Services Specialist

Retirements

Faculty

Ned Sibert
Tom Record

Staff

Arrieta Clauss, Graduate Program Director
Charlie Fry, NMR Lab Director
Kristi Heming, Administrative Assistant
Tony Jacob, Chemistry Learning Center Director
José Laboy, Chemistry Learning Center Specialist
Matt Sanders, Executive Director

Associate Professor Eszter Boros

In June of this year, we officially welcomed Associate Professor Eszter Boros and her team to the Department of Chemistry. Here’s more about her background, research, and what brought her to Madison.

Why did you choose the University of Wisconsin-Madison?
The Department of Chemistry combines scientific excellence, drive, and a can-do attitude with collegiality and a genuine joy for chemistry. UW-Madison is an ideal environment for multidisciplinary research with chemistry as the central science. In addition to brilliant and inspiring faculty colleagues, students, and staff, core facilities, and administrative resources enable the study of ambitious, challenging, and high-risk-high-reward projects.

Where did you work last and what made that position interesting?
I started my academic faculty career at Stony Brook University, where we established most of our now federally funded research projects. I am excited to progress our foundational and proof-of-concept work to the next level here at UW-Madison and have our program take flight!
What’s the focus of your research and what it could mean for the advancement of science or the general public?

Our lab investigates the use of fundamental coordination chemistry to study the reactivity, structure, and photophysical properties of rare earth ions and early transition metals in water. We then apply this knowledge to synthesize and validate next-generation radiopharmaceuticals in preclinical mouse models of disease. We also study the behavior of non-endogenous metal ions in bacterial environments, hoping to inform the design of improved antibiotics that can overcome resistance mechanisms.

Tell us about your background. What made you pursue science and research? How has your experience shaped your research goals?

“I didn’t know that research could be a career, but I knew I wanted to learn more about science, so going to college to get a degree in chemistry seemed like the obvious choice.”

—Associate Professor Eszter Boros

The team accompanying Associate Professor Boros to UW–Madison includes:

- Dariusz Smilowicz, postdoc
- Raphael Lengacher, postdoc
- Asia Marlin, postdoc
- Cormac Kelderman, postdoc
- Jennifer Whetter, Ph.D. student
- Minhua Cao, Ph.D. student
- Owen Glaser, Ph.D. student

How did I end up in science? I always wanted to know how things worked at a microscopic (molecular) level, ever since I was little. Often, I would spend hours flipping through books on human physiology and biology, and peel apart leaves and flower petals in the garden. I didn’t know that research could be a career, but I knew I wanted to learn more about science, so going to college to get a degree in chemistry seemed like the obvious choice.

Tell us about your teaching philosophy and why you believe educating students is important.

My teaching philosophy is to deliver content in a conversational, interactive format that is student-paced. I have developed curricula for two inorganic chemistry courses at Stony Brook and yet, due to the significant amount of student involvement of my lecturing style no two courses have been the same. My courses were focused on teaching concepts (over memorization) that were rooted in inorganic chemistry but broadly applicable to chemistry as a whole and should help students understand and connect concepts they learn in other courses.

What else should we know about you?

I am a mom to two little boys (ages one and three) and I like to be active (CrossFit, hiking, ice/roller skating). Being a mom and an athlete are definitely not diametrically opposed concepts to being an ambitious scientist and dedicated mentor.

Assistant Professor Zoe Todd

In August, Assistant Professor Zoe Todd joined the Department of Chemistry. Recently, Assistant Professor Todd shared her background, research, and her special love, Peter the Pony.

Where did you work last and what made that position interesting?

I previously worked at the University of Washington as a Sagan Postdoctoral Fellow. There, I worked on topics related to astrobiology and the origins of life. I am fortunate enough to work on the fascinating questions involving our place in the universe, including if there is other life present elsewhere.

What’s the focus of your research and what it could mean for the advancement of science?

I am interested in investigating the origins of life on Earth and understanding the implications for the possibility of life on other planets. Astrobiology is inherently interdisciplinary, relying on fields ranging from astronomy, physics, planetary science, chemistry, biology, geology, etc. My research utilizes an interdisciplinary approach to attempt to understand how the astronomical and planetary environments may allow for the chemical/biochemical origins and evolution of life. For example, I work on constraining favorable planetary environments that may provide the chemicals necessary for the origins of life. I also investigate prebiotic chemistry in
the laboratory to better understand the constraints on the planetary environment and the plausibility of the chemistry. I hope to work towards tracing out a continuous and plausible path for the origins of life: from the astronomical and planetary environments seeding the necessary feedstock chemicals, to the synthesis of the building blocks of life (e.g. ribonucleotides, amino acids, or alternatives), and finally to the development of the first self-replicating and functional protocols. By using a combined astronomy/chemistry approach in the planetary context, we may be able to make substantial progress in understanding the fundamental and intriguing question of if we are alone in the universe.

Tell us about your background. What made you pursue science and research?

I come from a very interdisciplinary background, spanning the fields of astrophysics to biochemistry. Originally as an undergraduate student, I planned on double majoring in these two fields, since I had an interest in both. I was fortunate enough to get a NASA-funded research position the summer before my freshman year working on the origins of life. This experience showed me that my two interests—in astronomy and biochemistry—

“It is very important to me that everyone feels respected and safe in their work environment since I believe this is when we are able to do our best thinking.”

—Assistant Professor Zoe Todd

actually could be combined when working in the field of astrobiology. Ever since then, I’ve wanted to know if life started on our planet and what implications this has for the possibility of life on other planets. These interests eventually ended up combining when working in the field of astrobiology.

What drives your desire to teach?

Perhaps the most rewarding experience I have ever had is to teach students and to see the moment when something “clicks” or when they get the answer to a question they’ve wondered their entire lives. My experiences teaching inspire me to try to be a better communicator and a better scientist. Sharing my work and passion for science with others is immensely rewarding for me personally. My favorite moments in the classroom are when students can work together in small groups to solve problems or to discuss open-ended questions. In these moments, students are teaching me as much as I am teaching them!

What can students expect from you in class or in the lab?

Students can expect a respectful, kind, and inclusive environment in the classroom or in the lab, where they are intellectually challenged, granted the freedom to pursue ideas of interest, and given enough guidance to proceed. It is very important to me that everyone feels respected and safe in their work environment since I believe this is when we are able to do our best thinking. I hope to create an atmosphere where we are all learning from each other. In a field so diverse and vast as astrobiology, one person can be an expert in everything. So, it’s important that we all share our expertise and learn from each other.

What most excites you about coming to UW–Madison?

I’ve been very excited about the Wisconsin Center for Origins Research, where people from all across campus will come together to study the origins of life and astrobiology. UW–Madison has some of the world’s experts in their respective fields, and I’m looking forward to learning from them and continuing to expand my knowledge. I truly believe that we will need every ounce of ingenuity and experience to tackle challenging problems like the origins of life. I’m also looking forward to a nice view of the lakes. :)

And, you have a pony?

I’ve been riding horses since I was four. Weekly lessons turned into leasing my first horse, which eventually turned into buying my own horse when I was about 11. When I was 15, my sister—who also rides and had her own horse—bought a $15 raffle ticket to win a baby pony. The raffle was to support a girl who needed a double lung transplant due to cystic fibrosis. And crazily enough, she won the baby pony (Peter)! We lived in Pennsylvania at the time and Peter was in Florida. Peter took a 20-hour drive to us as a tiny six-month-old pony. As I walked him off the trailer, I saw his little pony devil eyes and my first thought was—oh wow, he’s going to be a handful!

My sister and I shared Peter during my time in high school and my first few years in college. When my sister graduated college and got a job elsewhere, she eventually took her horse with her but left Peter with me. He’s been with me ever since, helped me stay sane throughout grad school, and even traveled to Seattle with me. Now in Madison, Peter is 15 years old and I can’t call him a baby any longer. Although, in my head sometimes he’s still the tiny six-month-old little terror that first came to us!

Peter’s living in Oregon, Wisconsin, which is great farm country. He has a few horsey friends and he’s loving the nice green grass. We get to ride on lots of trails along cornfields, hayfields, etc. We’re both very happy here so far!
When you're not in the lab, what do you enjoy doing?
I love playing classical guitar. I enjoy learning pieces from different parts of the world and accompanying myself singing on the guitar. In the past, I've been part of jazz big bands, jazz combos, and choruses. I haven't yet found one here, but there is a classical guitar program here, so I'm looking forward to that. Music and science are related on so many different levels. My chemistry work is all by-hand math, computer programming, and theory. There's also a theory of music to see how music is constructed on so many different levels, including chord analyses. When you're performing music, it's also like giving a seminar because like you're telling the story of your music, you're telling the story of your research.

And you just gave a big talk in San Francisco at the ACS meeting. Tell us about that.
That was the Kavli Foundation Lecture Series, which recognizes groundbreaking discoveries by scientists tackling many of the world’s mounting challenges. The Emerging Leader Award is for a distinguished younger scientist regarded by their peers for significant contributions to an area of chemistry and multidisciplinary areas of chemistry. I won the award for harnessing the power of data and that was a really wonderful opportunity.

We understand you're doing some community outreach. Tell us more.
My mother was actually born in Chile, and I am doing outreach with a Chilean connection. A Chilean high school founder a group called Girls in Quantum, which now has over 2000 high schools from 21 countries. The group is supported by the former chief technology officer of Cisco, Monique Morrow. I am collaborating with the group and providing resources to get them hands-on experience with quantum computing. I'm working now to give the same experience to students in Chicago through the Chicago Quantum Exchange. I would like to introduce as many students as possible to quantum computing.
Mary Katherine Andrews (Geilmann)  Exploration in Foldamer Catalyzed Cross Aldol Reactions

Michael Mark Aristov (Berry)  Exploring and Visualizing the Nuances of Bonding in Bimetallic di-Molybdenum and Gold Complexes

Zachary Thomas Armstrong (Zanni)  Ultrafast Two-Dimensional White-Light Spectroscopy of Excitons in Disordered Environments

Miriam Magdalene Bohlmann Kunz (Zanni)  Ultrafast Pulse Shaping Applied to Multi-Dimensional Spectroscopy and Novel Microscopy Methods

Samuel B. Cahoon (Yoon)  Enantioselective Di-ene-Methane Rearrangements and Mechanism Guided Investigations into Photochemical Reactions

May 2023

Ryan Timothy Allen (Zanni)  Ultrafast Dynamics of Carbon Nanotube Exciton Polariotors Revealed with Two-Dimensional Spectroscopy

Rachel Anne Bergin (Bertram)  Observation-Based Constraints on Composition & Total Surface Area of Atmospheric Aerosols: Implications for Regional Air Quality

Colleen Paige Chernowsky (Wickens)  Development of Selective and Deeply Reducing Systems with Electrochemistry and Photoredox Catalysis

Matthew Ryan Dorris (Bolling/Smith)  Chemical Analyses of Polyphenol-Rich Fruit Juices

Levi T. Hogan (Goldsmith)  Single Nanoparticle Absorption Spectroscopy: Chemical Dynamics Using Optical Microresonators

Rachel Hutchinson (Cavagnero)  Critical Beginnings: Illuminating Structure, Dynamics, and Interactions During the Early Stages of Protein Life

Christopher McGee Jernigan (Bertram)  Atmospheric Fate of Sulfur Species Emitting to the Pristine Marine Environment

Matthew Robert Johnson (Stahl)  Flow Systems Integrating Heterogeneous Catalysts and Quinone Mediators Enable Power Generation and H2-Promoted Electrolysytis

Benjamin James Kasting (Ediger)  Investigation of Stable Glass Forming Ability and Secondary Relaxation Suppression in Systems with Previously Unexplored Dynamic Properties

Kyle Foster Sunden (Berry)  Yaq: Yet Another Acquisition: A Modular Approach to Spectroscopy Software and Instrumentation

Nhu Quynh Vu (Li)  Discovery and Quantification of Crustacean Neuropeptides Using Mass Spectrometry and Informatics Approaches

August 2023

Elizabeth Forbes Bayne (Ge)  Mass Spectrometry-Based Omics Technologies: The Enabling Force for Precision Medicine

Mahzad Dehghany (Schomaker)  Ring Expansions of Bicyclic Aziridines via Ylide Intermediates Toward Formation of Aminated Complex Molecules and Design, Synthesis, and Electrophysiological Evaluation of Ionophores and Ion Channels in Planar Bilayers

Kieran Michael Farrell (Zanni)  New Techniques and Technology: Recover Old Capabilities and Improve the Sensitivity of Pulse-Shaping 2D IR Spectroscopy

Matthew James Genzink (Yoon)  Total Synthesis of Pseudo-Dimeric Cyclobutane Natural Products via Bransted Acid-Catalyzed Asymmetric [2+2] Photocycloadditions

Dung Le Golden (Stahl)  Radical Strategies for (Hetero) Benzylc (sp2)–H Functionalization and Cross Coupling

Daniel Graham Delafield (Li)  Standing in the Way of Profiling Depth: How the Selection of Chromatography and Mass Spectrometry Data Acquisition Limit Our View of the Proteome

Sidney Steven Dicke (Zanni)  Protein Secondary Structure Identification in Vitro and Ex Vivo Using 2D IR Spectroscopy: Kinetics and Imaging

Son Dong (Hermans)  Making Polymer Building Blocks from Natural Gas and Plastic Waste

Pristine Matisha Dorman (McMahon/Woods)  The Rotational Spectra and Analyses of Astrochemically Relevant Nitriles

Emily M. Kaufman (Brunold)  Progress Toward the Use of TSF and DOVE Spectroscopy to Probe Coupling Relationships in Complex Molecules

Jake Alexander Melby (Ge)  Novel Strategies to Address the Challenge of Sensitivity in Top-Down Proteomics

David Stephen Roberts (Jin)  Defining the Molecular Landscape of Low-Abundance Protein Biomarkers by Top-Down Proteomics and Nanotechnology

Cole Sagan (Garland)  High-Resolution Total Photoelectron Yield Spectroscopy Makes Model Systems of Polycyclic Aromatic Hydrocarbon Anion Resonances

Daniel Cristian Salgueiro (Weix)  Tuning Reactivity in C(sp3)–C(sp2) Cross-Electrophile Coupling

Diana Jin Wang (Wickens)  Alkene Functionalization via a Dication Pool Strategy

Jonas Karl Widness (Weix)  Semiconductor Quantum Dots for Synthetic Photoredox Catalysis and Method Development for Cross Electrophile Coupling

Oliver Purdy Williams (Wickens)  “Hidden” Mechanisms in Photoredox Catalysis: Strategies to Promote Challenging Redox Events

Ph.D. recipients at the May 2023 graduation celebration

Peyton Mackenzie Higgins (Bolling)  Substrate Multiplexed Screening Guides Development of Biocatalysts for Friedel–Crafts Alkylation of Aromatic Amino Acids

Dylan E. Holst (Wickens)  The Dication Pool Strategy for Diverse Alkene Functionalization

Michelle Marie Killian (Brunold)  Spectroscopic and Computational Investigation of Transition Metal Binding by the Human Immunological Protein Calprotectin and Characterization of Some Tris-Thioether Metal(II) Semiquinone Complexes

Seoyoung Kim (Weix)  Development of Nickel-Catalyzed Cross-Electrophile Coupling of Aryl Chlorides and Triflates With Alkyl Halides

Veronica Katarzyna Krasecki (Goldsmith)  Lights, Camera, Molecules: Developing Fluorescence Methods to Investigate Chemical Reactions

Eli Jared Larson (Ge)  New Front-End Separation Approaches for Top-Down Proteomics

Yumin Lian (Schwartz)  Understanding and Controlling Fluoroscanning Variables Enables High-Resolution DNA Profiling

Marco Antonio Lopez (Stahl)  Expanding Benzyl C–H Diversification via C–H Chlorination/ Functionalization Strategies

Grace Anne Lotuovsky (Yoon)  Engaging Feedback Chemicals in Photochemical Oxidation Reactions

Meranda Marie Masse (Cavagnero)  Protein Folding at Birth: Toward Understanding the Effect of the Ribosome on Nascent Protein Chains

Jericha Taylor Mill (Li)  Mass Spectrometry Techniques for Metabolomic Studies of Aging and Age-Related Diseases
Katarina Yocum studied the chemistry of interstellar cloud “ices”

by Caroline Cole

Katarina Yocum graduated from the UW–Madison in January 2022. As a graduate research assistant for the NASA Goddard Space Flight Center through the Widicus Weaver Group, Yocum primarily studied developing new techniques to study cosmic ice chemistry.

The Widicus Weaver Group uses rotational spectroscopy, a data collection system many astrochemists use. However, Yocum’s project had a slightly different focus within the field of astrochemistry.

“For my project, I would recreate conditions of an interstellar cloud. In interstellar clouds, there are ‘ices’ which are really important for the chemistry that happens there,’ Yocum said.

According to Yocum, the ‘ices’ are not just made of water in interstellar clouds—other chemicals include carbon dioxide, carbon monoxide, and methane. On Earth, we typically imagine these chemicals in gas form, but due to the extreme cold temperatures in the interstellar clouds, they can’t be in the solid phase.

“These ices provide a ‘fast’ formation pathway for more complex chemistry to happen,” Yocum said. “That’s why we find them so fascinating. We believe ices are the starting point of a lot of the different molecules that we detect in space.”

Yocum became interested in the field of astrochemistry after an internship studying cosmic ice chemistry at NASA during her undergraduate degree at Kutztown University of Pennsylvania. However, Yocum’s project had a slightly different focus compared to many astrochemists use.

“The internship answered a lot of the questions that I had during my undergraduate degree at Kutztown University after an internship studying cosmic ice chemistry at NASA Goddard Space Flight Center through the Widicus Weaver Group. Yocum primarily studied developing new techniques to study cosmic ice chemistry.

When [our research group] came to UW, it was really exciting because it seemed like everyone was interested in astrochemistry,” Yocum said. “That was nice because I felt encouraged by my committee and I felt that they were truly interested in my research.”

Specifically, Yocum’s proposal covers two main areas. First, Yocum plans to examine prebiotic molecules such as glycine, a simple amino acid, and how these molecules physically transfer to the gas phase in interstellar clouds. Astrochemists continue to look for amino acids in interstellar space because that would tell researchers that prebiotic molecules are able to form at very early stages in star formation before planets develop. However, even after decades of research, astronomers have not confidently detected glycine, despite models showing that it can be formed in the interstellar medium. The second part of her proposal will study the detection limits of a new submillimeter spectroscopic technique to determine if it could be used to detect prebiotic molecules while on a flight mission spacecraft.

“When our research group came to UW, it was really exciting because it seemed like everyone was interested in astrochemistry,” Yocum said. “That was nice because I felt encouraged by my committee and I felt that they were truly interested in my research.”
When Professor John Berry first came to UW-Madison to interview for a faculty position in 2005, he was struck by the art adorning the walls of the chemistry building. “It was really special to me...to see all these photos of flame tests, precipitations...I want to work in a department that is very proud of the fact that we do chemistry here, and we're going to show people what chemistry is all about.”

The artwork, commissioned by department members John and Betty Moore for the grand opening of the Shain Tower in 2003, currently consists of more than 80 framed photographs of chemical reactions and demonstrations. These pieces were proudly displayed on the walls of the first floor of the chemistry building until 2018 when they were taken down to prevent damage from construction activities. Thanks to the efforts of the Moores that these dreams to display the artwork at the grand opening of Shain in May. “It had to be done quickly,” said Mrs. Moore, since they were planning to move into their new home in 2021. For thirteen years, he served as editor of the Journal of Chemical Education along with his wife Betty, who served as an associate editor. She worked for the chemistry department as program manager before retiring with her husband in 2021. The Moores’ work developing new teaching technologies, advocating for accessibility, and disseminating cutting-edge pedagogy has made a profound and lasting impact on the science education community.

Professor Moore worked with the chemistry facilities committee throughout his time at UW-Madison and was involved in planning both the Shain and North Tower developments. In the early 2000s, renovations to the Daniels and Mathews buildings to accommodate the new Shain facility created a long corridor through all three buildings, affectionately referred to as ‘Main Street.’ This hallway posed a unique opportunity for the facilities committee. “There was a lot of traffic,” said Professor Moore, “and there was a tremendous amount of empty wall space...and so we thought, we've got all these bare walls; we should do something meaningful.” Mrs. Moore expressed what her thoughts were at the time: “We should teach with them!”

An ad-hoc committee was formed to determine how to make the space feel more welcoming. Committee members floated ideas about chemical imagery on the walls and monitors displaying recorded demonstrations, but it was only through the efforts of the Moores that these dreams were made a reality. Their experience producing educational media for ICE and the Journal of Chemical Education would prove useful. “It was something that we were already doing,” Professor Moore explained, “making images and videos, and showing chemical reactions as a teaching tool.” Work on the project began in February 2003. “It had to be done quickly,” said Mrs. Moore, since they were planning to display the artwork at the grand opening of Shain in May.

The Moores enlisted the help of Journal of Chemical Education videographer Jerry Jacobsen and lecture demonstrator Jim Maynard to find experiments with both chemical and visual interest, ones that would be good candidates for art in the form of still images. “We looked at reactions with action, or color, or counterintuitive effects that could be visually perceived,” shared Mr. Maynard. “I developed an eye for appealing reactions... visual imagery that was also chemistry.” Part of the challenge was translating the evolution of a reaction over time into a series of still images. “We would select [stills] from the reactions that were filmed,” Mrs. Moore explained, “because we understood what was happening and what it should show.” The Moores collaborated on the captions that accompany each set of images, explaining the science behind them. Professor Berry expressed enthusiasm for the images in the series. “An image is static, but chemistry is dynamic, and that’s why the series of photos...really gives you the sense of the dynamism.”—John Berry

“Metal Powders in Flames,” a six-piece art display hangs in a Mathews Building hallway. These flame tests were set up and carried out by Jim Maynard and the photographs were taken by Jerry Jacobsen. They are just a portion of a more than 80-piece collection. The Moores work in a storeroom to organize and label the chemical reaction and demonstration art collection.

Efforts by John and Betty Moore give chemistry art installations a new chapter.
Here’s how your gift to the Department of Chemistry has made a difference.

Compiled by Emily Kitslaar

“Your continuing dedication and support to the UW-Madison Department of Chemistry has played a major role in its success and it is an inspiration to me and many students who are pursuing their academic and career goals in this field.”

–Marcus Kai Heng Tang, 2023 ACS Dic Undergraduate Award in Inorganic Chemistry

“Receiving this fellowship feels like a culmination of my efforts and something I can be proud of.”
–Melissa Hall, Dennis Evans Fellowship

“Receiving this scholarship has been a source of inspiration motivating and reminding me to work harder and strive for excellence.”
–Diana Morales Mijares, Department of Chemistry Scholarship

“It does encourage me to achieve, succeed and understand the power of ‘paying it forward.’ Receiving this scholarship has only made me stronger, and it helps me reassure myself that I’m on the right track.”
–Soorya Davanagere, Eugene and Patricia Kreger Herscher Scholarship

“It is through awards like this that students are reminded of their talents and accomplishments and feel supported in such a large community like the UW-Madison campus.”
–Kamryn Devany, Francis Craig Krauskopf Memorial Scholarship

“This award has given me confidence in my research abilities and I have decided to apply for post-doctoral researcher positions.”
–Kimberly DeGlopper, 2023 Gary B. and Juanita L. Rappe Scholarship in Research Award – Chem Ed

“You play an invaluable role in our progress and I am humbled in recognition.”
–Daniel Graham Delafield, 2023 Gary R. Parr Memorial Award

“Because of your kind support, I will be able to use the Gary R. Parr Memorial Award funds to attend the American Chemical Society for Mass Spectrometry conference this summer in Houston, Texas to share the culmination of my thesis work and learn from other researchers in the mass spectrometry community.”
–Eli J. Larson, 2023 Gary R. Parr Memorial Award

“I feel extremely grateful to feel secure in my financial future so I can spend time focusing on academic pursuits and taking advantage of the resources, organizations, and research opportunities UW-Madison has to offer.”
–Hunter Potter, John and Elizabeth Moore Award for Excellence in General Chemistry

“Your contribution has been instrumental in helping me pursue my dreams, and I hope that one day I can inspire and support others in the same way.”
–Kate Zhao, Ralph F. Hirschmann-Daniel H. Rich Fellowship in Bio-organic Chemistry

“I am grateful for your belief in my potential.”
–Eshani Goonetilleke, 2023 Robert C. and Kathleen H. Ryan Graduate Student Award

“Your contributions truly have a profound impact on the department and make it one of the best places in the world to study chemistry.”
–Sean Gitter, Robert C. Doban Mentorship Award

“Your investment in my education has made a significant impact on my life and I am committed to using the knowledge and skills gained from my education to make a positive difference in the world.”
–Seungwoo Noh, Walter W. and Young-Ja C. Toy Scholarship for Fall 2023

“With the funding afforded by this fellowship, I am excited to engage in several months of uninterrupted research and attend conferences this summer.”
–Benjamin K. Chi, 2023 William B. Dickinson Fellowship in Organic Chemistry

“With your generous award, I am able to strategically use the money to purchase chemicals and instruments that are necessary for my research.”
–Zhiming Su, William B. Dickinson Fellowship in Organic Chemistry
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