

Transitions

University of Minnesota Duluth Department of Chemistry and Biochemistry Newsletter



2022 graduating seniors from the
School of Chemistry and Biochemistry

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Letter from the Department Head



“We are excited to begin this fall semester with a renewed commitment to chemistry education and research at UMD.”

Dear Friends of UMD Chemistry and Biochemistry:

Greetings from all of us in the UMD Department of Chemistry and Biochemistry! On behalf of the Department it's my pleasure to reach out to our friends and alumni, and send along updates from the last year.

The array of articles in this year's Transitions will highlight the many ways we began returning to normal face to face operations last year. Although masks and vaccinations were required, class and lab instruction resumed normal in-person formats (p. 11). Students resumed club and group activities (p. 13). We welcome visiting faculty to deliver Friday afternoon seminars (p. 19). And faculty and students began attending conferences (p. 14) and fostering community outreach events (p. 13 and p. 18).

Our faculty and students continued publishing at a strong rate, and in fact found extra time for writing in 2020 and 2021 due to remote work schedules and some isolation at home. We again collectively published dozens of peer-reviewed research articles, with many student coauthors (p. 6).

We as a department drafted a new strategic plan last year. We are excited to begin this fall semester with a renewed commitment to chemistry education and research at UMD. We are excited to return to the classroom and lab, looking forward to a five-year vision of curriculum development, community building and growth amongst our student, faculty and staff.

As we look forward to beginning the academic year, we are grateful for all the gifts and kind thoughts you've provided to UMD and our Department. Thank you for your support! And as always, please stop in to visit us should you find yourself in Duluth!

Best Wishes,

A handwritten signature in black ink that reads "Steven M. Berry". The signature is fluid and cursive.

Steven M. Berry

Student Awards

Our department is fortunate to be able to recognize our outstanding and deserving students. Former students, faculty, and friends of the department established some of these awards; others are from organizations in the field.

General Chemistry Award for Excellence

Outstanding achievement in Gen Chem sequences 1153-1156 and 1173-1176

Olivia Bunton
Conor Dickrell
Breanna Hetchler
Madelyn Klimek
Tyler Peterson
Nicole Schmitt

Undergraduate Award in Organic Chemistry (ACS)

Outstanding senior with a significant aptitude for Organic Chem and further interest in the field

Nicholas Zosel

Inorganic Chemistry Undergraduate Award (ACS)

Outstanding achievement in Inorganic Chem and further interest in the field

Susannah Swanson

Undergraduate Award in Physical Chemistry (ACS)

Outstanding achievement in physical chemistry based on research, coursework, and/or dedication

Ryan Gangl

Undergraduate Award in Environmental Chemistry (ACS)

Outstanding student demonstrating an aptitude in Environmental Chem through research, coursework, and/or involvement with the field

Tyler Mendonsa



Undergraduate Analytical Chemistry Award (ACS)

Outstanding student demonstrating interest and ability in analytical chemistry

Noah Gorman

Undergraduate Biochemistry Award

Outstanding achievement in biochemistry curriculum and research by a senior

Elizabeth Pardoe

American Institute of Chemists Award

High scholastic standing, leadership and character, and graduating senior with intent to pursue a career in the field

Nicholas Zosel

Lake Superior Section of ACS Award

Outstanding graduating senior with high scholastic standing

Elizabeth Pardoe
Susannah Swanson

Larry C. Thompson Inorganic Chemistry Award

Outstanding achievement in inorganic chemistry

Nicholas Zosel

UMD James C. Nichol Scholarship

Outstanding senior performance in the Chem majors sequence of Physical Chem

Cody Staydohar

Warren F. Davis Scholarship for Excellence in Biochemistry

Outstanding entering Juniors studying Biochemistry

Lily Karg
Sarah Nesheim
Kirralee Odipo
Madelyn Tangen

F.B. Moore Academic & Leadership Award

Award and excellence in an outstanding senior with intent to pursue a career in chemistry

Elizabeth Pardoe

Ballou Scholarship Honoring John C. Cothran

High scholastic standing junior or senior with intent to attend grad school

**Ava Asgaard
Bridget Beyer
Daniel Brummond
Daniel Goldstein
Amber McRae
Jonas Mellang**

Robert Bayer Memorial Scholarship

High scholastic standing junior or senior with intent to attend graduate school

**Joseph Marchand
Kylie Rackouski**

Catherine E. Cox Scholarship for Chemistry and Biochemistry

High scholastic standing the second year with an intent to attend grad school

Kirralee Odipo

Peterson Memorial Scholarship

High scholastic standing chem or biochem major

Skylar Schraut

James H. Maguire Scholarship

Outstanding chemistry or biochem major

**Blaine Cooper
Madison Larson
Sandra Wawersich**

Departmental Honors

Graduating senior with high academic achievement and research involvement

Michaela Sanger

University Honors

Graduating students completing the University Honors program

**Kailee Grahek
Rayann Rehwinkel
Meredith Reynolds
Michaela Sanger
Kerrigan Storie**

SCSE Outstanding Graduate Teaching Assistant Award

Outstanding graduate Teaching assistants as recognized by the Department and College.

**Mark DeLong
Alexis Doucette
Daniel Sandborn**

Dept of Chem & Biochem Outstanding Graduate Teaching Assistant Award

Outstanding Teaching assistants as recognized by the Department

**Nicole Franklin
Noah Holzer
Bryan Reutzel**

Dept of Chem & Biochem Best Graduate Student Seminar

Bennett Hanson

Dept of Chem & Biochem Outstanding Undergraduate Teaching Assistant Award

Outstanding undergraduate teaching assistants as recognized by the Department, with at least 2 semesters of experience

**Hailey Anttila
Jennifer Ruliffson
Matthew Wittmer**

Dept of Chem & Biochem Outstanding Service

Outstanding leadership and service to the department

Malachy Brink

Swenson Family Foundation

Summer undergraduate research program

**Ethan Beffert
Sarah Bergman
Amanda Brown
Cole Clark
Lily Karg
Madison Larson
Joseph Marchand
Sunna Mujteba
Victoria Neumann
Kirralee Odipo
Skylar Schraut
Trent Soukup**

Carlson Family Foundation

Summer undergraduate research program

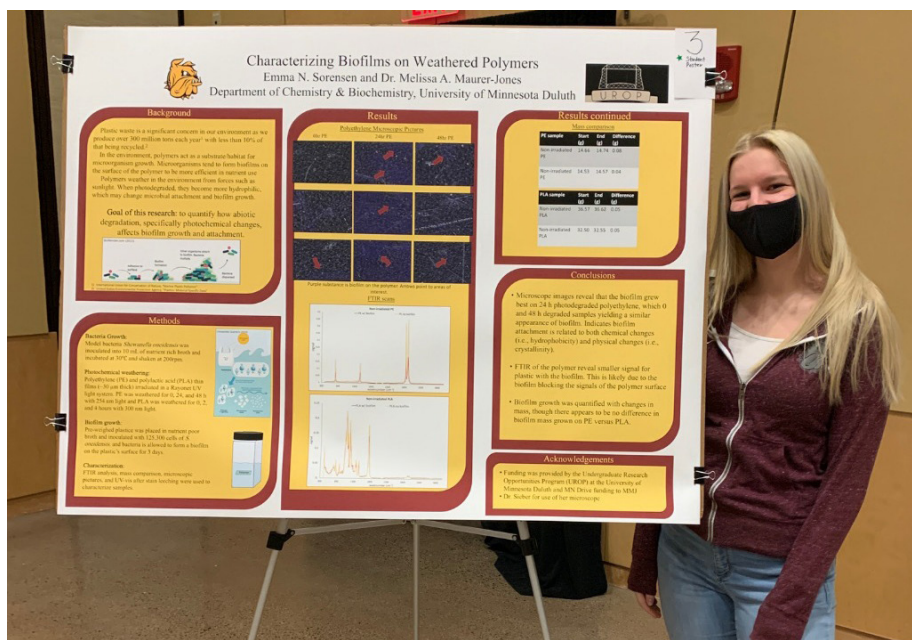
**Ashley Enomoto
Alex Kohl
Olivia Lebakken
Ariyah Thomas**

2022 Biophysical Society Annual Meeting



Chemistry graduate students, (in the back from left to right) Sarah Mersch, Malachy Brink, and Rowan Simonet presented at the 2022 annual meeting of the Biophysical Society in San Francisco. Dr. Erin Sheets can also be seen posing with the students. Each student presented a poster from the Sheets/Heikal group this week about their work on fluorescent protein-based environmental biosensors.

St. Louis Estuary Summit



Undergraduate student Emma Sorensen recently presented her research on Biofilm Growth of Weathered Plastics at the St. Louis Estuary Summit held in Superior, WI.

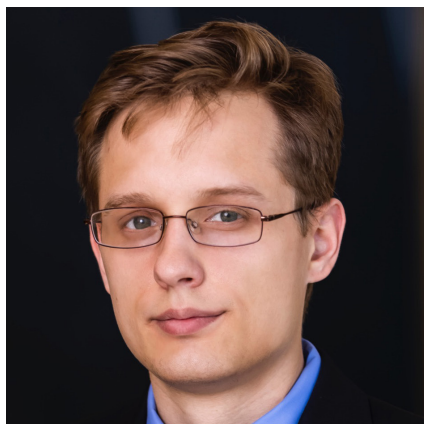
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New Staff



Brandon Bayard

Brandon Bayard was hired as a researcher/lab technician. His appointment is split between the Advanced Materials Center and Chemistry. For Chemistry he is a support person for labs and instrumentation (NMR, LC-MS, etc). For the AMC his focus is research and quality control.



Victoria Fringer

Tori Fringer has rejoined the UMD community in the role of an instructor after teaching chemistry at Lake Superior College. She graduated from UMD in 2018 after investigating plastic impacts on bacterial viability and curricular improvements in chemistry laboratories.

Fond Farewell



Peyton Carlstrom

Best wishes to office staff member Peyton who moved on to pursue a career in marketing and design. Peyton joined us in 2020 after graduating from UM Crookston with a degree in communications.



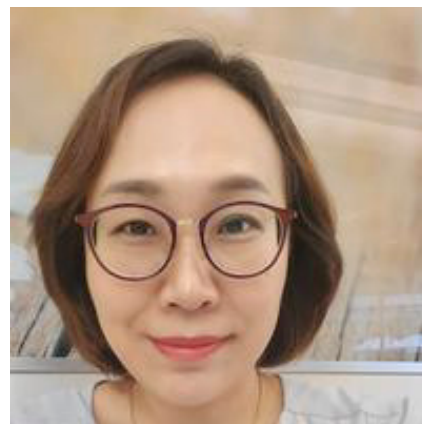
Kate Kallevig

Best wishes to instructor Kate Kallevig, who departed after 12 years at UMD to pursue health care interests. All those years of teaching and outstanding advising of our majors made her excited to pursue this career interest!



Patty Sutliff- Opoien

Congratulations to Patty on landing a dream grant-support job with the University of Minnesota Medical School. We will greatly miss her outstanding accounting services in the department for the last 9 years. Best of luck Patty!



Anna Lee

Best wishes to Dr. Lee who moved back with family to California and California State University Long Beach. We wish her all the best with her electrifying materials research program, including studying Li-ion batteries!

Staff and Faculty Awards

SCSE Outstanding Staff Award

Carrie Misuraco

UMD Outstanding Graduate Faculty Teacher/Advisor Award

Katie Schreiner

10 Years of Service

Romesh Lakhan

20 Years of Service

Carrie Misuraco

25 Years of Service

Paul Kiprof

35 Years of Service

Paul Siders

Recipient of Highholt Endowed Chair for 2022 - 2024

Katie Schreiner

Chancellor's Small Grant awardee

Liz Minor

Chancellor's Small Grant awardee

Prashanth Poddutoori

Promoted to Associate Professor with indefinite tenure

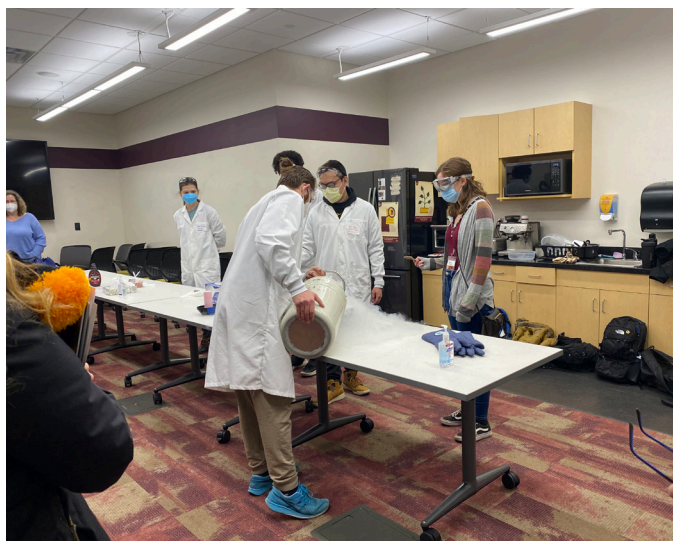
Melissa Maurer - Jones

Full time contract for 2022 - 2023

Tori Fringer

Chem Club Liquid Nitrogen Ice Cream Event

Around 100 students stopped by for ice cream during the Chemistry Club Liquid Nitrogen Ice Cream Event, February 4, 2022.



Bonding through Chemistry

For first-year college students, finding success in their courses is a huge challenge. Universities are full of unwritten expectations, and many students find themselves questioning whether they belong. For Chemistry and Biochemistry Majors, however, a unique set of classroom activities embedded in General Chemistry I and II, dubbed “Chemical Bonding” activities, have been implemented to provide guidance through these challenges. These activities, organized and instructed by Dr. Jacob Wainman, occur throughout the entire first year General Chemistry Sequence with different emphases for each semester.

During the first semester, the “Chemical Bonding” activities focus on guiding students to resources on campus and navigating college life. There are sessions on expected topics, such as an Overview of College Success Tips, led by a group of Chemistry Department faculty, and a Time Management Tips session, led by a local McNair Scholars Program Coordinator. There are also additional topics tailored to Chemistry and Biochemistry Majors, including an Introduction to Chemistry Careers, hosted by Careers Services on Campus, and a How To Guide for Getting Involved in Undergraduate Research, led by faculty. These sessions reveal the hidden rules and opportunities to all Chemistry and Biochemistry Majors, giving students a more equitable chance at thriving in our department and in the major.

During the second semester of General Chemistry, also instructed by Dr. Wainman, the “Chemical Bonding” activities become a sort of march through the sub-disciplines of chemistry. Chemistry and Biochemistry can be loosely broken into sub-disciplines: Analytical Chemistry, Biochemistry, Chemical Education, Environmental Chemistry, Inorganic Chemistry, Materials Science, Molecular Biology, Organic Chemistry, and Physical Chemistry. Once a week, faculty from a given sub-discipline come to class and describe their discipline and how students might expect to use it in their future careers.

The faculty go on to describe their research projects in that discipline and the opportunities available to students. They also describe the courses they can expect to take as part of their major in that sub-discipline. These class periods not only show off the breadth of chemistry and biochemistry to our majors, but it also introduces the students to more faculty from the department, making our community stronger.

“These class periods not only show off the breadth of chemistry and biochemistry to our majors, but it also introduces the students to more faculty from the department, making our community stronger.”

Dr. Wainman first designed these weekly “Chemical Bonding” activities to be implemented during remote teaching in the 2020-2021 academic year, and they continued through in person instruction in the 2021-2022 academic year. Students from these two cohorts found the activities to be a useful and engaging way to learn about college life and about Chemistry and Biochemistry. In the second semester, students often said things like “I had no idea that was what Inorganic Chemistry was.”

or “I knew I wanted to do something with Chemistry that involved Math, but I didn’t know that Analytical Chemistry was a thing!”

An overarching goal of these activities is to better mentor students and increase our retention of students in the major by connecting them to the Department and with academic resources. Encouraged by the success of the past two years, the “Chemical Bonding” activities will continue, providing students with tips, tricks, and insights into how to succeed and be engaged during their studies in our department. ♦

Exploding Pumpkins with Liquid Nitrogen




The Chemistry and Biochemistry Club is teaching Bulldogs in a rather explosive manner. As Romesh Lakhan, Chemistry Professor, puts it: “My favorite part of teaching is working with students, and any time we get to blow something up, it’s icing on the cake.”

Watch online at: <https://www.youtube.com/watch?v=fr3bkoME2qw>

Stay Connected With Us

Stay connected with the UMD Department of Chemistry and Biochemistry through Facebook, Instagram, and Youtube.

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Forming a Department External Advisory Board

How do we continue to grow and evolve to better serve our students? With insight from you!

This year, we are working to build an external advisory board for our Department composed of folks from different fields (e.g., industry, medicine, government, community, etc.) who are invested in the success of UMD's Chemistry and Biochemistry majors.

By establishing active relationships with our community, we hope this

board will assist in a variety of tasks that position our students for making impacts far and wide. Some of these tasks include establishing a network of industry-folks for our students, which aids in job placement and in finding ways for our alumni to directly support students within our programs (e.g., mentorship). Our aim is for this board to help guide our understanding of what important skills our students should build within their degrees. And we hope this board might facilitate relationships with faculty and students to continue to push the cutting-edge research we do within the department.

We are eager to launch this effort because we know it will ultimately provide opportunities for the members of our community. We hope to have a good representation of alumni on this board because strong alumni partnerships can have positive outcomes that impact our current (and future) students. If you are interested in learning more and/or becoming involved, please reach out to the Department Head (Steve Berry, smberry@d.umn.edu) or Chair of our departmental External Affairs Committee (Melissa Maurer-Jones, maujones@d.umn.edu). ♦

Graduate Student Networking Activities

Graduate school takes a lot of hard work, and as students we are supported immensely by our professors, mentors, and the program. We are equally supported by each other. Having a cohort of peers to walk through graduate school with is nothing short of necessary for success. The Graduate Student Association (GSA) is a group of graduate students from all graduate programs at UMD. The GSA takes on multiple tasks; we represent graduate student to the Graduate Programs Committee and plan a variety of social and career development events. These social events are designed to aid in the development of the personal connections that make graduate school a little bit easier. These take the shape of pizza socials, pumpkin

carving at Halloween, Snack n' Study, Graduate Student Appreciation week, and the like.

Beyond what the GSA coordinates, they encourage each program to do connection building as well. In the Chemistry & Biochemistry department multiple events were organized last year. These took the shape of happy hours, trivia nights, office lunches, and group outings. Happenings occurred at a minimum of once a month, these events were advertised primarily via email among all first- and second-year master's students.

With the great reception and strong attendance enjoyed by these events, we will continue to organize more into the coming year. And we hope

to grow them! Having coworkers who become friends make the highs and lows of grad school all the more enriching. They are among the best support system a graduate student can have. ♦

“Having coworkers who become friends make the highs and lows of grad school all the more enriching. They are among the best support system a graduate student can have.”

Graduate Students Present at the Joint Aquatic Sciences Meeting

Presentations at national conferences are important events for graduate students, who get a chance to discuss their research with scientists beyond those who they know at UMD, network for potential job opportunities, and learn about research being done in other labs around the world. This past spring, two Chemistry & Biochemistry Department faculty, Elizabeth Minor and Kathryn Schreiner, traveled with three Chemistry MS graduate students to the Joint Aquatic Sciences Meeting: Guenter Schwoerer, Uttam Gomes, and Bennett Hanson. These three chemistry students were joined on their trip by students from other graduate programs on the UMD campus, including the Integrated Biosciences and Water Resources Science programs.

The Joint Aquatic Sciences Meeting, held in spring 2022 in Grand Rapids, MI, is a biannual conference that draws aquatic scientists together from across the world. The theme of this year's conference was "Rapid Changes - Collaborative Solutions". Sessions spanned many topics, including fisheries science, aquatic ecology, paleolimnology, and aquatic chemistry.

All three second year Chemistry MS students presented on their thesis research. Two of our students, Guenter Schwoerer and Uttam Gomes, have been focused on studying the environmental impacts of micro- and nanoplastics in Minnesota waters. Guenter presented a poster entitled "Quantifying the size fraction of microplastic debris in the water column of Western Lake Superior" and Uttam presented a poster entitled "Characterization of Microplastic from Lake Superior through the Coupling of Fluorescent Dye Staining,

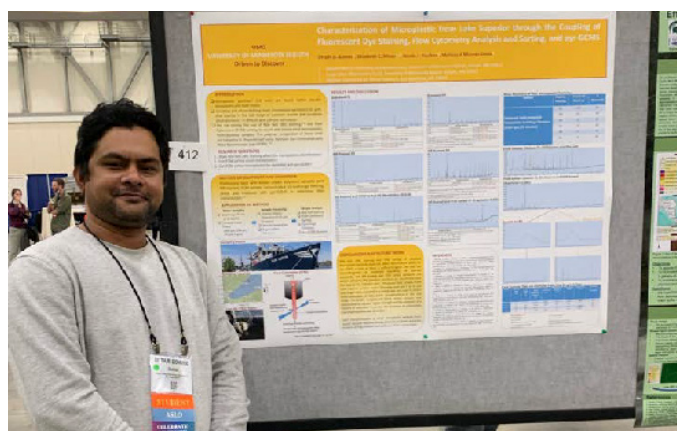
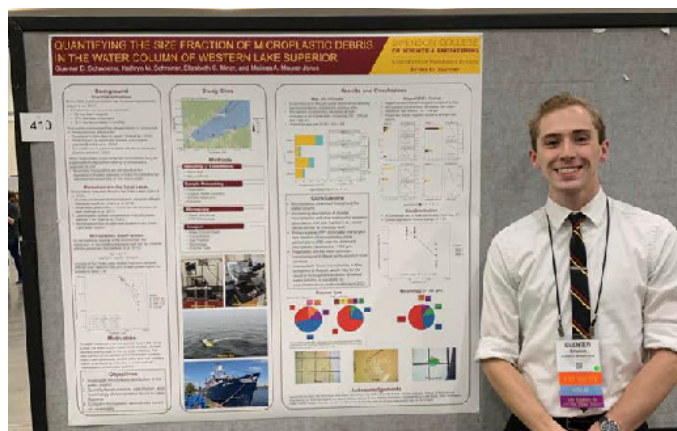
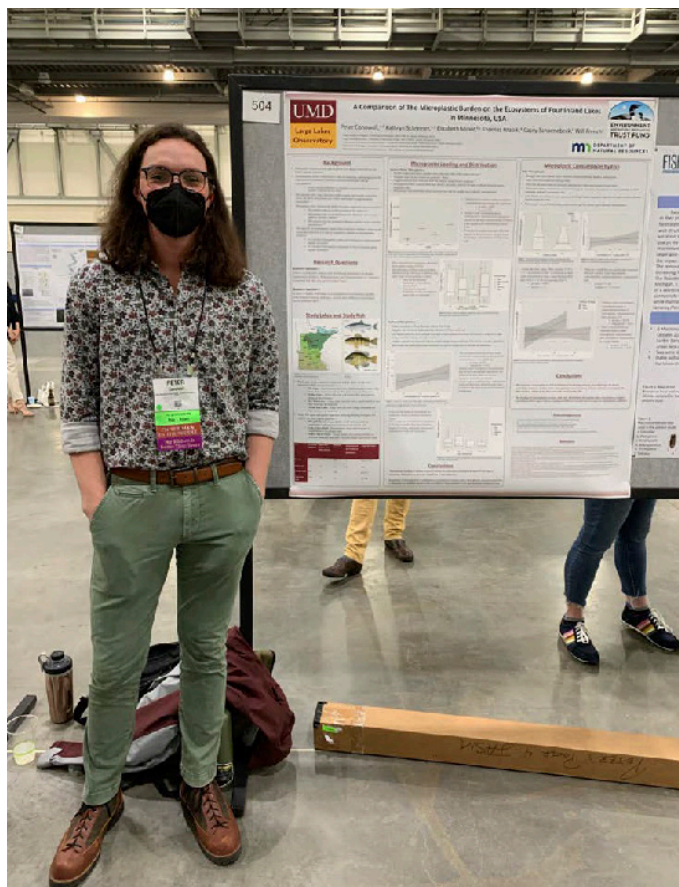
Flow Cytometry Analysis and Sorting, and pyr-GCMS". Student Bennett Hanson has been studying natural organic molecules present in Minnesota lake sediments that could be used for paleoenvironmental reconstructions, and presented a talk entitled "An investigation into the biomarker potential of highly branched isoprenoids in northern Minnesota lacustrine sediments". Additionally, Drs. Schreiner and Minor, along with Chemistry &



Biochemistry Department professor Dr. Melissa Maurer-Jones, chaired a scientific session along with colleagues from the United States Geological Survey (USGS) on the impacts and fate of plastic debris in the environment.

Altogether, this conference was a great opportunity for both our faculty and our graduate students to network, collaborate, and learn. In addition, we all had a good time

exploring Grand Rapids. It was one of the first face-to-face meetings we have traveled to, with a strong cohort of students from UMD, since the COVID pandemic started in 2020. We look forward to many more! ♦



Introducing the first Warren Davis Endowed Chair in Chemistry and Biochemistry

Warren F. Davis was born in Duluth in 1925. He graduated from Duluth's Central High School in 1942 and served in the military after graduation. He served as a medical technician stationed in England. Upon returning to Duluth, he attended UMD on the GI bill. When he started, UMD was known as Duluth State Teachers College, which became UMD in 1947. Mr. Davis was therefore a 1949 graduate of UMD, completing a BA degree in Chemistry and minors in math and German.

Mr. Davis was hired by GE in Cincinnati Ohio. He worked on nuclear powered aircraft until the project was terminated. From 1961 - 1985, Mr. Davis worked at the NASA John H. Glenn Research Center at Lewis Field. He analyzed metals and metal-based materials for structural uses. Mr. Davis worked as a bench chemist throughout his professional life. He retired in 1985 so he could travel Europe. He belonged to a hiking club and hiked over 25K miles including all the park trails around Cleveland, OH. Mr. Davis was a very modest, humble, and gracious individual. He said he got an excellent education at UMD and particularly admired Moses Passer (a Chemistry professor at UMD from 1948-1964). In 2011 he started giving back to



UMD. Mr. Davis' goals when he made his first gift in 2012 were to help shape the future of the department and to support students. He established a Scholarship for high merit students

with financial need. He also committed to endowing the Warren F. Davis Chair in Chemistry and Biochemistry. Mr. Davis passed away on Sept 27, 2020 at age 95.

The Warren Davis Chair in Chemistry & Biochemistry was established in 2021, with the purpose of assisting the Department in recruiting, supporting, and retaining outstanding faculty members by providing funds that supplement other sources of faculty support. The chairship provides incentives for outstanding scholars in the Department to join or to remain on the University faculty, or encouragement to junior faculty with outstanding potential to grow and develop their careers at UMD. The Chair position is intended to provide a margin of excellence above and beyond core resources by primarily providing research support, while also supporting teaching and service activities. The support is a two-year commitment that provides salary augmentation and research supply monies.

The first Chair was awarded for this coming fall of 2022 to Professor Melissa Maurer-Jones. Dr. Maurer-Jones studies the chemical and physical transformations of plastic debris under the influence of photochemical weathering. She also studies the adsorption of biomolecules to weathered plastics, and in addition characterizes and quantifies the attachment of bacterial biofilms to these photodegraded

polymers and the biodegradation they cause. She is currently working under large grants from the USDOC National Oceanic & Atmospheric Administration and MN Sea Grant. In the classroom, Dr. Maurer-Jones teaches our sophomore, senior and graduate level analytical chemistry courses. Her long term teaching goals aim to incorporate and develop CUREs (course-based undergraduate research experiences) in the sophomore level quantitative analysis labs, as well as in the senior level instrumental analysis lab class. For the last two years, she has been incorporating research projects in the senior lab in partnership with local businesses and area stakeholders. Dr. Maurer-Jones aims to expand these projects for our students. She will use the Warren Davis Chair to support and expand her research and teaching work. Congratulations Dr. Maurer-Jones! ♦



MINO BIMAADIZI Community Science and Medicine Fair

Dr. Prashanth Poddutoori participated in a number of community outreach events in the last year. He and his students fostered an excitement for STEM fields in our community's youth, advertised UMD, and worked to recruit the next generation of chemists and biochemists! The Mino Bimaadizi Community Science and Medicine Fair was held in the Washington Center, Duluth, MN on Saturday, May 21st, 2022. It was organized by the Center of American Indian and Minority Health. It was an event with interactive science and health exhibits. Dr. Poddutoori and graduate student Noah Holzer were invited to set up an exhibit with a prototype dye-sensitized solar cell. Dr. Poddutoori is an assistant professor in the Department of Chemistry & Biochemistry, University of Minnesota Duluth, and his research focuses on inorganic-organic hybrid materials for solar energy conversion and storage applications. The solar cell was constructed by student Noah Holzer using his research samples. He demonstrate how sunlight energy can be converted into electricity. The cell was connected to a calculator or an LED light, providing power to the devices and proving the energy conversion. Also, they displayed a variety of rainbow colored dye samples



to demonstrate the light absorption properties of matter. Dr. Poddutoori and Noah spent time with the community where both talked about the importance of solar energy for future energy applications.

Further recruiting of students and community outreach took place by Dr. Poddutoori and his research group

with Dr. Greg Rohde (2009 UMD MS alumnus), who is a science and chemistry teacher for the high school students at Marshall. Dr. Poddutoori visited Marshall multiple times in the Spring of 2022 with research samples and the above pictures are from those visits. Dr. Poddutoori talked to the 11th-grade students in small groups about his research on harvesting solar energy using porphyrin chemistry. Also, he discussed the importance of renewable energies and how to produce these energies by mimicking natural photosynthesis. Dr. Poddutoori plans to visit Marshall regularly to initiate small research collaborations with Dr. Greg Rohde and his students. ♦



at the local Marshall School. Dr. Poddutoori reached out to the school wanting to share his solar energy conversion devices. Dr. Poddutoori works closely

2021 SCSE Academy Inductee

Jonathan Schroden



The Academy of Science and Engineering was established in 2002 to recognize alumni and special friends of the Swenson College of Science and Engineering who have distinguished themselves through their participation, commitment, and leadership in their chosen professions. After a year hiatus in 2020 due to the COVID pandemic, our October 15, 2021 inductee to the Academy was Dr. Jonathan Schroden.

Dr. Schroden is the Director of CNA's Countering Threats and Challenges Program (CTCP), whose mission is to support US government efforts to better understand and counter state and non-state threats and challenges. CTCP includes geographic research portfolios focused on the Middle East, Africa, South and Central Asia, Latin America, and North Korea. It also includes functional portfolios focused on terrorism and counterterrorism, security cooperation, and irregular, proxy, and information warfare.

Dr. Schroden also directs CNA's Special Operations Program, which focuses on bringing CNA's "full spectrum" research and analysis capabilities to bear on the most complex and challenging issues facing special operations forces (SOF) today and in the future.

Dr. Schroden has been with CNA since 2003, during which time he has deployed or traveled 13 times to Afghanistan (twice at the request of the Commander, ISAF and once at the request of the Commander, CSTC-A) and twice to Al Anbar, Iraq; traveled throughout the Middle East; gotten underway with numerous Navy ships; and supported Hurricane Katrina disaster relief operations. Jonathan has served as a strategic advisor to the 2nd Marine Expeditionary Force, Multi-National Force – West in Iraq, US Central Command, and the International Security Assistance Force in Afghanistan. He also served as CNA's first interim advisor to Marine Corps Forces Special Operations Command. Most recently, Jonathan directed CNA's independent review of the US Marine Corps' force design and the congressionally-mandated independent assessment of special operations force structure. Schroden is also an adjunct professor at George Washington University where he lectures on military power and effectiveness, and US special operations; and he is an adjunct scholar with the Modern War Institute at the US Military Academy.

Schroden holds PhD and MS degrees from Cornell University and BS degrees from the University of Minnesota – Duluth. His decorations include CNA's Phil E. DePoy Award for Analytic Excellence and the Cornell University Tunis Wentink Award. He has published in written publications such as *Journal of Strategic Studies*, *Defense and Security Analysis*, *Naval War College Review*, *The Diplomat*, *Sentinel*, *Armed Forces Journal*, and *Journal of the American Chemical Society*. He has published online in venues such as *War on the Rocks*, *Lawfare*, *Politico*, *Real Clear Defense*, *The National Interest*, and *Small Wars Journal*. He is also a frequent commentator on television (e.g., CNBC, BBC, VOA, TRT World, France 24, Indus News), radio (e.g., BBC NewsHour, NPR's Morning Edition and Here and Now), podcasts (e.g., *Lawfare Live*, *WarCast*, *Hidden Forces*, *PopularFront*), and print (e.g., *New York Times*, *Washington Post*, *Wall Street Journal*, *NBC News*, *CNN*, *The Economist*, *The Diplomat*, *Financial Times*, *Politico*, *RFE/RL*, *Stars and Stripes*, *VOA*, *Reuters*, *Associated Press*, *al-Monitor*, *Military Times*, *Yahoo! News*). You can follow Jonathan on Twitter (@jjschroden) and LinkedIn (www.linkedin.com/in/jonathanschroden). ♦

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