Natalie Alteri—Sally Herz Memorial Scholarship given to top students in honors general chemistry (Not pictured: Steven Kelly).

Natalie also received the Thomas DuBruil Memorial Award for outstanding achievement in undergraduate chemistry research. Natalie is working with Professor Erin Carlson, seeking to discover natural produces from bacteria isolated from the soil. This award is given to students entering their sophomore year.

Ryan Brunner (left) and Dane Munson (right)—Jane B. Spence Scholarship given to top students in honors organic chemistry.

Jiaxin Duan (left) and Fiona Armstrong-Pavlik (right)—JJ. Lewis Maynard Memorial Prize in Advanced Inorganic Chemistry Award for outstanding scholastic achievement in advanced inorganic chemistry.
Junior Scholarships (for students entering their junior year)

**Zhoucheng "Edison" Yu—Lloyd W. Goerke Scholarship** for outstanding academic achievement. Edison is working with Professor Wayland Noland, researching ferric sulfate-catalyzed condensation of arenes with aldehydes.

**Annika Page—Robert C. Brasted Memorial Fellowship as well as a part-time apprenticeship in the department’s general chemistry program,** given to an outstanding chemistry major interested in a chemistry teaching career. Annika is working with Professor Thomas Hoye, investigating new trapping reactions of thermally generated reactive intermediates known as benzynes and exploring their nuclear magnetic resonance spectroscopic properties.

**Eileen McIntire—M. Cannon Sneed Memorial Fund and the Lloyd W. Goerke Scholarship** for outstanding achievement in undergraduate chemistry research. Eileen is working with Professor Christy Haynes, researching the environmental impacts of nanoparticles critical for next generation consumer products; her work demonstrates how silicon nanocrystals are an environmentally benign alternative to cadmium selenide quantum dots.

**Spenser Marting** (pictured to the right)—**Peteris Auzins Memorial Scholarship** for outstanding academic achievement. Spenser is working with Professor Valerie Pierre, undertaking dynthesis and evaluation of novel heteronuclear Ga/Tb and Fe/Tb probes to detect bacteria by cytomass and improve the understanding of the chemical biology of siderophore uptake by bacteria under different conditions.
Senior Scholarships/Awards (given to students entering their senior year)

Danica Maile—Wayland E. Noland Award for Academic Excellence in Chemistry. Danica is working with Professor Erin Carlson on the isolation and analysis of previously unknown natural products from soil bacteria that can serve as new antibacterial agents.


- **Molly** is working with Professor Natalia Tretyakova, employing mass spectrometry-based proteomics to identify protein readers of epigenetic marks in DNA. Epigenetic marks are modified bases that control the levels of gene expression.
- **Fiona** is working with Professor Valerie Pierre, testing chemical probes for rapid point-of-care diagnosis of bacterial infections and developing assays using these probes with a range of pathogens. She is a key component of a multi-disciplinary team that includes the University of Minnesota and the Mayo Clinic.
- **Marquel** is working with Professor Pierre, designing new materials so that inorganic phosphate—common fertilizer—can be rapidly and efficiently removed and recycled from contaminated water in ponds, lakes, streams, and rivers.
- **Kyle** is working with Professor Christy Haynes understanding how the wall teichoic acid structures of Gram-positive bacteria influence how those bacteria interact with engineered nanoparticles.
- **Kaitlin** is working with Professor Haynes on how polyelectrolyte-stabilized nanoparticles impact various Gram-negative bacteria and the photodegradation of quantum dot/polymer composites.
- **Shuhua** is working with Professor Mark Distefano on the development of inhibitors of farnesyltransferase that selectively inhibit fungal enzymes.
- **Sydney** is working with Professor Daniel Harki on the synthesis of a new class of fluorescent cytidine analogues for utilization in assays to quantify enzyme-catalyzed cytidine deamination by APOBEC3 proteins.
Senior Scholarships/Awards

Sofia Maltseva (left) and Jiaxin Duan (right)—Dr. Paul F. and Patricia Guehler Chemistry Scholarship for outstanding academic achievement.

- Jiaxin is working with Professor Andreas Stein on the synthesis and characterization of metal organic frameworks (MOFs) and infiltration of the MOFs with silica using a nanocasting process.
- Sofia is working with Professor William Pomerantz on molecular imaging using $^{19}$F NMR with a goal to develop an imaging agent targeting tumor tissues that over-express the cancer biomarker epidermal growth factor receptor.

Jared Chycota (pictured right) and Nina Meltser (not pictured)—Hach Chemistry Teacher Scholarship Fund, given to chemistry majors who are committed to becoming chemistry teachers.

- Jared is working with Professor Jane Wissinger on designing a novel green Suzuki C-C Bond Coupling Reaction using a Vanillin derivative for the organic chemistry laboratory.
- Nina is working with Professor Wissinger on the investigation of catalyst efficiencies for synthesis of a renewable isosorbide (sugar) monomer as a precursor for a thermoset polymer experiment for the teaching labs.

Scholarships

Klarisse Andre De St Amant—Betty A. Lewis Scholarship, for outstanding scholastic achievement. She is working with Professor Ilja Siepmann on molecular (Monte Carlo) simulations to find solvents with high selectivity, high capacity, and low volatility for the extraction of ethanol from fermentation broth.
Summer Research Fellowships


The Chemistry Summer Research Program encourages chemistry students to learn more about research, and to provide them with the opportunity to work in a lab under the direction of a faculty member. Funds for these fellowships are provided by the Heisig Endowment, Graham N. Gleysteen Scholarship Fund in Chemistry, the Andrews Endowment, and the Walker Endowment. This summer, the department is supporting 16 majors, including Fiona Armstrong-Pavlik, Ryan Bartz, James Cox, Devin Dykes, Sifei Fang, Isobel Jones, Kaitlin Landy, Shuhua Liu, Sofia Maltseva, Jarrett Mansergh, Dominic Najjar, Annika Page, Andrew Schmitz, Rachel Staebell, Cameron Swenson, and Kathleen Wang.