2019 Commencement

The mission of the College of Biological Sciences is to improve human welfare and global conditions by advancing knowledge of the mechanisms of life through breakthrough discoveries and to prepare today’s students to create the biology of tomorrow. The college is committed to working with colleagues within the University, and with constituents in the community, government and industry to advance knowledge of the biological sciences and to apply that knowledge to improve the quality of life for people in Minnesota, the nation and the world.

The Bachelor of Science Degree

A foundation of liberal education forms the guiding framework of all academic programs for undergraduate students on the University of Minnesota–Twin Cities campus. A liberal education allows students to explore the modes of inquiry and subject matter within the major branches of knowledge. To earn a bachelor of science degree in the College of Biological Sciences, students must successfully complete at least 120 credits, including courses in the social sciences and humanities, history, chemistry, physics and math, as well as in the biological sciences. Students with B.S. degrees from the College of Biological Sciences have the academic foundation needed for a variety of careers in industry, education, government and other fields, and are well prepared for further study in graduate or professional schools.

Photographs

For your convenience, we made arrangements with a professional photographer to take a picture of each student crossing the stage. Family members and friends are encouraged to remain in their seats and enjoy the ceremony. Please do not block ramps or aisles. Thank you for your cooperation.

Musicians

Summit Hill Brass Quintet
Academic Procession

Mace Bearer

**LESLIE SCHIFF, PH.D.**
Professor, Microbiology and Immunology; Associate Dean for the University Curriculum; Director of Undergraduate Studies–Microbiology Major

Leslie Schiff is a professor in the Department of Microbiology and Immunology. She has served for many years as director of undergraduate studies in microbiology and as faculty liaison for the College of Biological Sciences writing-enriched curriculum. Schiff is an award-winning educator who has received University and national awards for her teaching, including the Carski Award from the American Society for Microbiology and the Morse-Alumni Distinguished Teaching Award. She received her Ph.D. in immunology from Tufts, completed a postdoctoral fellowship at Harvard Medical School and joined the University of Minnesota faculty in 1990.

Faculty Marshals

Faculty marshals are chosen by students to represent majors during the commencement ceremony.

**LAURIE PARKER, PH.D.**
Representing Biochemistry majors

**ROBERT BROOKER, PH.D.**
Representing Biology majors

**JEANNINE CAVENDER-BARES, PH.D.**
Representing Ecology, Evolution and Behavior majors

**ANN ROUGVIE, PH.D.**
Representing Genetics, Cell Biology and Development majors

**CHRIS MOHR, PH.D.**
Representing Microbiology majors

**STEVE MCLOON, PH.D.**
Representing Neuroscience majors

**CLAY CARTER, PH.D.**
Representing Plant and Microbial Biology majors

**LORENE LANIER, PH.D.**
Representing candidates with multiple CBS majors
Multilingual greeting

Students will greet the audience in a number of languages using the following statement: “On behalf of the class of 2019, welcome to the undergraduate commencement ceremony for the College of Biological Sciences.”

Samuel Nelson - English
Shannon Zhou - Chinese
Rim Salem - Arabic
Irma Micijevic - Croatian
Rafay Hasan - Urdu
Anika Shah - Gujarati
Ebisie Deressa - Oromo
Zahra Moosa - Somali
Sandra Osei - Twi

Welcome

VALERY FORBES, PH.D.
Dean, College of Biological Sciences
Professor, Ecology, Evolution and Behavior

Valery Forbes has served as dean of the College of Biological Sciences at the University of Minnesota since 2015 following academic leadership roles at the University of Nebraska-Lincoln and Roskilde University in Denmark. Forbes’ research focuses on population ecology and modeling, fate and effects of toxic chemicals in sediments, and ecological risk assessment. She served on the Danish Natural Sciences Research Council, NATO’s Environmental Security Panel, as well as numerous European advisory panels and working groups. She currently serves on the board of the Freshwater Society. Forbes received her Ph.D. in coastal oceanography from SUNY-Stony Brook.

Student Spotlight

College of Biological Sciences graduating seniors reflect on their student experience in a brief video presentation.
Student Academic and Leadership Awards

FULBRIGHT SCHOLARSHIP
Augustus Pendleton

GOLDWATER SCHOLARSHIP
Anna Nagel

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP
Elizabeth Dean
Anna Nagel

2019 PRESIDENT’S STUDENT LEADERSHIP AND SERVICE AWARD
Katerina Hoffmann
Sophie Vrba

2019 DONALD R. ZANDER ALUMNI AWARD FOR OUTSTANDING STUDENT LEADERSHIP
Katerina Hoffmann

UNIVERSITY OF MINNESOTA SCHOLARLY EXCELLENCE IN EQUITY AND DIVERSITY
Emmanuel Okematti

THOMAS BURNETT ADVANCED LEADERSHIP PROGRAM
Amber McLaughlin
Jocelyn Ricard
Sophia Vrba
Grant Zastoupil

PHI BETA KAPPA
Sarah Alabsi
Carly Allen-Tice
Sarah Baker
Katherine Baumann
Kayla Blanek
Nicole Bonfig
Timmie Britton
Simon Brown
Madeline Carr
Hannah Cowan
Elizabeth Dean
Carmen Ebel
Issraa El-Khatib
Nathan Evans
Israel Falade
Colin Fenwick
Jack Fite
Elyse Furlong
Isha Gandhi

Madelyn Gray
Nitika Gupta
Allison Harvey
Katerina Hoffmann
Sharlotte Irwin
Margurite Jakubiak
Ella Johnson
Gabriel Kaufmann
George Khoury
Melanie Kлемond
Abigail Larson
Rachel Limmex
Karena Lin
Chang Liu
Matthew Markman
Morgan McCullough
Dane Munson
Anna Nagel
Julia Olson

Thomas Perry II
Ekaterina Pytel
Yuanhao Ruan
Sarah Schmidt
Heena Shah
Andrew Sibley
Allyson Smith
Dakota Snustad
Jacob Solinsky
Anna Strauss
Nathan Swanson
Kayla Switalla
Ryan Topp
Sophia Vrba
Emily Yaklich
Kenta Yamamoto
Amy Yi
Shannon Zhou
Conferral of the University of Minnesota Outstanding Achievement Award

ROBERT DESNICK, PH.D., MD

Robert Desnick is an internationally renowned medical geneticist whose seminal research discoveries have been translated into novel treatments and prevention strategies for genetic diseases. Desnick is dean for genetics and genomic medicine and professor and chair emeritus of the Department of Genetics and Genomic Sciences at the Icahn School of Medicine at Mount Sinai. He is board certified in clinical, biochemical and molecular genetics and is a fellow of the American Academy of Pediatrics. Desnick has received many awards and honors, and has been elected to prestigious societies, including the American Academy for the Advancement of Science and the National Academies of Sciences, Engineering and Medicine. A third-generation native of Minneapolis, he received his bachelor of arts in microbiology, doctorate in genetics, cell biology and development, and MD from the University of Minnesota Medical School.

Commencement Address

GEORGE WEIBLEN, PH.D.
Distinguished McKnight University Professor, Plant and Microbial Biology
Science Director, Bell Museum

George Weiblen is a professor in the Department of Plant and Microbial Biology in the College of Biological Sciences and science director for the Bell Museum. He studies tropical forests using field experiments, museum specimens and DNA to investigate the ecology and evolution of timber trees, their pollinators and their insect pests. Working in the remote Pacific island nation of Papua New Guinea over the past 25 years, Weiblen co-founded an international research center, a 20,000-acre rainforest preserve, an elementary school and the country's largest forest research project. He received the University's 2017 President's Community-Engaged Scholar Award for his work in Papua New Guinea as well as his efforts to engage the public in science. Weiblen received his doctorate in biology from Harvard University and joined the University of Minnesota faculty in 2001.
Presentation of the Candidates

JOHN WARD, PH.D.
Associate Dean for Undergraduate Education, College of Biological Sciences
Professor, Plant and Microbial Biology

John Ward joined the faculty in 2001 and is a professor in the Department of Plant and Microbial Biology. His research focuses on advancing understanding of metabolite transporter proteins in plants using electrophysiology and molecular biology. He teaches plant physiology and is an instructor at Nature of Life at Itasca Biological Station and Laboratories. He is also the associate dean for undergraduate education in the College of Biological Sciences. In that role, he works to improve the College's undergraduate curriculum. Ward received his doctorate in botany from the University of Maryland.

Conferral of Degrees

THOMAS J. ANDERSON
Regent, University of Minnesota

Tom Anderson is a licensed funeral director who owned and operated the Anderson Funeral Home in Alexandria for over 30 years. An active community member, Anderson has served on the board of the Alexandria Area Chamber of Commerce and the Alexandria Area Economic Development Commission. He is also a board member of Ethos Home Health Care in Fargo-Moorhead and a former board chair of Knute Nelson Health Care in Alexandria. Anderson is a graduate of the University of Minnesota with a bachelor’s degree in mortuary science.

Congratulations and Welcome

HEIDI THORSON
College of Biological Sciences Class of 1998

Dr. Heidi Thorson is board certified in maternal fetal medicine, and provides expert and personalized high-risk obstetrical care at Twin Cities hospitals. Thorson received bachelor’s degrees in biochemistry and genetics, cell biology and development from the University of Minnesota and her MD from the University of South Dakota School of Medicine.

TIM TRIPP
College of Biological Sciences Class of 1996

Tim Tripp is the director of specialized services at Be the Match, which is operated by the National Marrow Donor Program. Tripp is a three-time alumnus who received a bachelor's degree in microbiology, a master's degree in microbial pathogenesis and an MBA from the University of Minnesota.
Closing Remarks
DEAN VALERY FORBES

HAIL! Minnesota

Led by Professor Emeritus Dr. John S. Anderson
accompanied by the Summit Hill Brass Quintet

Minnesota, Hail to thee!
Hail to thee, our college dear!
Thy light shall ever be
A beacon bright and clear.
Thy sons and daughters true
Will proclaim thee near and far.
They will guard thy fame, and adore thy name;
Thou shalt be their Northern Star!

Recessional

Please remain seated until the faculty and graduates exit completely.
AWARDS AND RECOGNITION

Faculty and staff award recipients received recognition at a reception preceding commencement.

2019 Whitman Center Early Career Fellowship

TREVOR WARDILL, PH.D.
Assistant Professor, Ecology, Evolution and Behavior

American Academy of Microbiology Fellow

DANIEL BOND, PH.D.
Associate Professor, Plant and Microbial Biology

Distinguished McKnight University Professor

SUSAN JONES, PH.D.
Professor, Ecology, Evolution and Behavior

Ecological Society of America Fellow

ELIZABETH BORER, PH.D.
Professor, Ecology, Evolution and Behavior

John S. Anderson Leadership Award

RUTH SHAW, PH.D.
Professor, Ecology, Evolution and Behavior

McKnight Land-Grant Professor

MICHAEL SMANSKI, PH.D.
Assistant Professor, Biochemistry, Molecular Biology and Biophysics

National Academy of Sciences Member

DANIEL VOYTAS, PH.D.
Professor, Genetics, Cell Biology and Development
National Academy of Sciences Member

MARLENE ZUK, PH.D.
Professor, Ecology, Evolution and Behavior

President-Elect of the Society for the Study of Evolution

RUTH SHAW, PH.D.
Professor, Ecology, Evolution and Behavior

Stanley Dagley-Samuel Kirkwood Undergraduate Education Award

DAVID LAPORTE, PH.D.
Professor, Biochemistry, Molecular Biology and Biophysics

University of Minnesota/ Mayo Partnership Award

DAN KNIGHTS, PH.D.
Assistant Professor, Computer Science and Engineering and the BioTechnology Institute

Teaching Assistant Awards

These awards recognize students who demonstrate excellence in teaching or other instructional activities that enhance the educational experience for University of Minnesota students. Faculty and students nominate and select recipients.

KURT DOSTAL
Undergraduate teaching assistant in General Biology

CARMEN MARTIN
Graduate teaching assistant in Mammalogy

FREDARLA MILLER
Graduate teaching assistant in Molecular Biology and Biotechnology Lab

JASON JONES
Graduate teaching assistant in Introduction to Physical Biochemistry
Honors and Distinction Designations

College of Biological Sciences degree candidates may graduate with either Latin Honors, Distinction or both. These citations are provisional and do not become official until all requirements for the award are fulfilled.

Latin Honors Designations

Students graduating from the College of Biological Sciences through the University Honors Program took part in a rigorous course of study, research, scholarship or other creative work in the major, culminating in an honors thesis representing independent work done under the direction of a faculty supervisor or mentor. Students graduating cum laude (with honor) have a minimum cumulative GPA of 3.50 in the final 60 graded credits at University of Minnesota-Twin Cities (UMTC). Magna cum laude (with great honor) awards require a minimum cumulative GPA of 3.66 and summa cum laude (with highest honor) awards require a minimum cumulative GPA of 3.75 in the final 60 graded credits at UMTC.

Distinction Designations

Students earn graduation “with distinction” or “with high distinction” based on cumulative GPA with at least 60 graded credits completed at UMTC. Students graduating “with distinction” must have earned a cumulative GPA of 3.75 or higher in UMTC coursework at the time of graduation; students graduating “with high distinction” must have earned a cumulative GPA of 3.90 or higher in UMTC coursework at the time of graduation. Students graduating with distinction are wearing gold cords and those graduating with high distinction are wearing maroon and gold cords.

Students wearing silver cords are graduating with CBS Dean’s Scholars distinction. They have completed a leadership development program consisting of four credits of leadership coursework, service in the community and a capstone project synthesizing their work as leaders while studying science. A (*) symbol indicates Dean’s Scholars.

Students wearing purple cords are graduating as part of the President’s Emerging Scholars Program. The President’s Emerging Scholars Program is a four-year opportunity for select undergraduate students at the University of Minnesota with diverse backgrounds and characteristics. A (+) symbol indicates President’s Emerging Scholars.

Students graduating with the Community Engagement Scholars distinction have completed nine credits of service-learning course work, at least 400 hours of community service, a series of reflective essays and a sustainable project for a community organization. A ($) symbol indicates Community Engagement Scholars.
Students wearing the multicolor stoles are graduating as members of the Multicultural Center for Academic Excellence (MCAE). The stole was designed by Sysouk Khambounmy, a University of Minnesota alumnus ('97), and patterned after the traditional African Kente cloth. The stoles were woven in Ghana and each is unique. The symbols represent interconnectedness, sharing and unity in wisdom.

**Academic Regalia**

Academic gowns worn at American commencement ceremonies originated at English universities during the 14th and 15th centuries. The markings, cut and colors of modern-day gowns indicate the degree, field of study and institution that granted the degree. The bachelor's degree gown is untrimmed and has pointed sleeves. The master's degree gown is untrimmed with winged sleeves. And the doctorate degree gown is trimmed in velvet, with three velvet bars on bell-shaped sleeves. Hoods are edged in velvet with the color indicating the wearer's discipline and faced with the color(s) of the institution that conferred the degree.

At the University of Minnesota, mortarboard tassels indicate field of study for bachelor's degree recipients. The College of Biological Sciences tassel is golden yellow. Honors students wear medallions with a maroon and gold ribbon.

Art professor Philip Morton designed the University of Minnesota mace. It consists of a sphere surmounted by the North Star, symbol of the state of Minnesota, on an aluminum handle set with the University Regents seal. Alfred Nier, Regents Professor of Physics, first carried in 1961 by at the inauguration of President O. Meredith Wilson.
DEGREE CANDIDATES

BIOCHEMISTRY

Mohamed Elfatih Abdelhai
Christian Dane Adams
Victoria Kathryn Alstat
Kea Elizabeth Anderson
Brooke E Ashbrenner
Calvin N Bateman (*)
Joseph Paul Buytendorp (distinction)
Sriya Byrapuneni
Phillip Guilian Cai
Pauline My-Ha Cao
Jordan Lynn Casby (distinction)
Ethan Peter Christensen
Blanche Kanza Cizubu
Joshua John Condon (distinction)
Austin Thomas Davies
Allyson Jean Dickson
Lidia Doto
Blake Anthony Everett
Colin Fenwick (distinction)
Kylie J Frohmader
Selamawit Asefa Girmachew
Yan Aleksandr Golovatyy
Alexander David Graves
Ellen Ann Halbrook
Jade Halverson
Jack Perry Hedberg (distinction, summa cum laude)
Rachel Anne Hugenroth
Mahad A Ibrahim
Harith Aswad Ismail
Foster Cameron Jacobs
Kevin Jiang
David Arthur Johnston
Alexa Evelyn Kaiser
Melissa Jie-Sze Khaw
Tra Kieu
Dong-gyu Kim (cum laude)
Margaret Patricia Kliebhan (distinction, summa cum laude)
Jessica Bonita Klitzke
Ryan Daniel Krebs (distinction, summa cum laude)
Ethan Frank Kub
Kevin Scott Kurtz (high distinction)
Diego Paul Lala
Christina Rebecca Landis
Alexander James Larson
Heidi Marie Larson
Hannah Marie Lee
Christopher Ross Leland (high distinction, summa cum laude, *)
Allen Wendell Lynch (distinction)
Katherine Louise Mendenhall (distinction)
Anna Alexandra Mikkelson
William Thomas Mitchell
Shukri Daud Mohamed
Mandkhai Molomjamts
Ryan Sunghyun Moon
Matthew Robert Murphy (distinction)
Christopher James Naas (high distinction)
Shivani Naidu (§)
Erin Mitsuye Nakagaki
Jade Alan Nein
Louis Hoang Nguyen
Phong Thai Nguyen
Katerena Danielle Odushkin
Katrina E Paleologos
Priya M Periakaruppan
Thomas Joseph Perry II (distinction)
Avery Joseph Peterson
Tyler McCulloch Peterson
Charles Scott Ploeger
Zachary J Postler
Ekaterina Alexeyevna Pytel (distinction, summa cum laude)
Asad Amin Rahmatullah
Yiping Ren

* – Dean’s Scholar   § – Community Engagement Scholar   + – President’s Emerging Scholar
Ben Nadir Reynolds (distinction, summa cum laude)
William Andrew Richardson
Anthony Dean Rish
Renee Elizabeth Roberts
Malik W Rodriguez (*, +)
Zachary J Ryan (distinction)
Nicholas Joa Schlecht (distinction)
Srishti Singh
Matt Benjamin Slatosky
Sierra Jade Smith
Simon Wai Man So (distinction, *)
Ethan Emerson Stanley
Liam Sullivan
Cameron Verdayne Swenson (high distinction)

Lauren Marie Tehan
Samuel Terwey
Ismar Terzic
Paul Fredric Thanel
Tannon Lee Tople (high distinction)
Summer Dinh Vang (distinction)
Austin Michael Vork
Wesley Scott Waara
Binyuan Wei
Alicia Leeya Wong
Ulahn Xiong
Wendy Xu
Justin Michael York
Zijun Zhang
Jasmine Mustafa Zaidi

**BIOLOGY**

Munira Abdirahman
Huda Yusuf Adam
Ibtissam Ait Daoud
Salman Ahmed Abdullahi Ali
Hosam Hani Alkhatab (high distinction, summa cum laude)
Rebekka C Alm
Preston Scott Angen-Determan
Mohammad Naser Ayyub
Sarah Ellen Baker (distinction, summa cum laude)
Thomas Duy Bao
Katherine Ann Baumann (distinction)
Ali Nabil Baydoun
Keith Randall Berg
Drew Aaron Bertelson
Caroline Rose Bertler
Julia Elizabeth Bina
Megan Brooke Bird
Kimball T Blake (*)
Kayla Christine Blanek
Paige Helen Blonigan (*)
Ashlyn M Boehme
Amanda Nicole Borowski
Eli Adzema Braun (high distinction, summa cum laude)
Alexis Alanna Bruce

Sonja Ellan Buraglio (*)
Neelam Chandiramani
Emma Contestabile
Niklas Damberg (distinction)
Gabrielle Rose Keali’l De Smet
Mitchell Robert Dehmer
Alyssa Lynn DeHut
Yevgeniy Demitrashko (*, +)
Nina Catherine Dharmarajah (*)
Abdul Rahman Diab
Amy Quyen Dinh
Wesley William Dittman (high distinction)
Dylan LaVone Donahue
Carmen Ebel (high distinction, summa cum laude)
Maggie Grace Edge
Issraa Hussein El-khatib (distinction, *)
Reem Kamal Elbasher
Mai Adil Elkarib
Charles L Ellwood
Sara Elizabeth Engemann
Jacob Todd Erdman
Efemona Amele Famati (*, +)
Mitchell Yeng Fang
Pearl Nkauj Hlaws Fang (*)
Jessica Faragher
Matthew Jose Ferreira

* – Dean’s Scholar   § – Community Engagement Scholar   + – President’s Emerging Scholar
Thalia Chiara Noegroho
Spencer Arden Oen
Sydney Erin Olsen
Hannah Claire Peterson
An Thanh Phan
Sarah Elyse Pickett Furlong
Sarah Catherine Pince
Nick Andrew Plachinski
Yogitha Posani
Sai Sanjay Powar
Conner Andrew Prasky
Monica Talitha Vergara Punzalan
Predrag Radakovic (§)
Alayah Leigh Reynolds (*, +)
Andrew Xavier Rivera Cruz
Jennifer Lynn Roberts
Luc Edward Robichaud
Amanda Marie Romano
Ferrol Irene Rome
Abby Sue Rost
Bethany Rachel Rowbal
Yuanhao Ruan
Alexa Rutherford
Nor Syahidatul Naimah Binti Samsuri
Grace Alvina Sapp (*)
Mia Isabella Scharber
Christine Elizabeth Schwartz
Charles Laurence Shimota
Andrew Christopher Sibley (distinction, §)
Yousuf Siddiqui
David Ramses Haydi Sidky
Hannah N Slater
Sarah Madeleine Smith
Chase James Sobania (*)
Tenzin Sonam(*)
Danielle Nicole Sorensen
Brady Dennis Spano
Justine Stoltz (*)
Alyss Nicole Storkamp
Anna McBurney Strauss (distinction, summa cum laude)
Luke Christopher Strom
Daniel Kendall Swenson
Marlowe Emma Thomas
Claire Noelle Thomas (distinction)
Hanna Judith Tillman (distinction)
Lensa Dagne Toka (*)
Christian Daniel Torres
Mimi Vo Tran (*, +)
Olivia Catherine Trudeau
Luke Freedom Twenhafel
Nasser Jamal Umar (distinction, *)
Paradis Annelies Vandeputte
Andrea Beatrice Veloira
Ethan Don Verdegan
Marae Elizabeth Vipond (distinction, *,+)
Ellie Mae Vraa (high distinction)
Sakina Walji (*)
William Yuan-Kai Wang
Kelsey Marie Ward
Hannah Marie Wentz
Dane Gregory Werner (*)
Leah Mae Westmoreland (*)
Pearl Yasmin Hilda Wilcock
Sophia Lynn Wolf
Kaylee Eileen Yager
Rylee Yakymi (*)
Pachia Nikki Yang
Amy Yi (§)
Hellen S Yi (*)
Brady Zempel
Shannon Yingting Zhou (high distinction, §)

ECOLOGY, EVOLUTION AND BEHAVIOR

Ryan Wayne Allen
Kaci Ann Atherton (*)
Sophie Alexandra Thompson Beckley
Emma L Boehm (summa cum laude)
Mikayla Selence Chavis
Josh Michael Coulombe
Ryan Curry
Alaina Anne Friedrich
Madison Elaine Gulden
Lydia Mae Gusaas (*)
Sara Beth Henry (distinction)
Jake Davis Hjort (high distinction, summa cum laude)
Ella Marie Johnson (distinction)
Emily R Johnson
Alex S Kaplan
Adelee Rebecca Koshiol
Tiana JoAnn Lenzmeier
Keegan William Robert Lim
Jordan Maxwell Loy
Mikkel M McGowan
Justin Michael Miller
Nicholas Ray Minor
Samantha Ashley Molitor
Claire Jaeger Mountain
Anna Audrey Nagel (high distinction, summa cum laude)
Rachel Elizabeth Nichols
Clairissa M O’Brien
Julia Elizabeth Olson (distinction, summa cum laude)
Regina Marie Peters
Nathan Eric Swanson (distinction)
Ellen Marie Urquhart (distinction)
Katherine L Vancamp

GENETICS, CELL BIOLOGY AND DEVELOPMENT

Shannon Marie Allen
Carly Jane Allen-Tice (high distinction, summa cum laude)
Hannah Daothip Berhow
Rohit Biswas
Paul John Cavanah (high distinction)
Katherine Qian Chen
Matthew Ryan Chrostek
Bailey Clother
Julia Margaret Crary
Nicole Erin Cronin
Allen McKenzie Davis
Tessa Anne Day (high distinction)
Shenar Ashley Dinkha
Dietrich Mitchell Dressel
Dylan Jake Duerre (distinction)
Kara Sharon Eckberg
Elizabeth Faith Fenton
Jack Michael Fite (distinction, summa cum laude)
Thomas Burton Gamble
Erin Nicole Gilbertson (distinction, summa cum laude)
Sydney Hartinger Grubb (cum laude)
Allison Leigh Harvey (high distinction)
Emma Jean Hill
Madeleine Corrina Hinojos (distinction)
Emily Rachael Hughes
Kailey Elizabeth Knutson
Regina Marie Koch (high distinction, summa cum laude)
Jessica Fransis Konopatski
Chase Colton Krenzke
Samantha Chien-ying Lee (summa cum laude)
Austin Leikvoll
Karea Hsijan Lin (high distinction, summa cum laude)
Christine Pik Yan Loo ($) 
Matthew William Markman (distinction, summa cum laude)
Emily Megan-Rose Marlette (*, +)
Benjamin Robert Marquardt
Lana Maydanyuk
Anthony Michael Mazza
Morgan Jane McCullough (distinction)
Cali Andrea McGauley (*)
Gemechu Mekonnen (*)
Gregory Thomas Mello
Ezra Shane Miller
Sarah Marie Mogensen
Danica Jean Mooney-Jones (distinction, summa cum laude)
Dane Jonathon Munson (distinction, summa cum laude)
Michaela Ann Muza
Nicole Renee Oblon ($) 
Rael Kerubo Ogega
Maggie Anne Olson
Trevor P Omann (*, +)
Sneha Parmar (high distinction, summa cum laude)
Elisabeth Catherine Parr
Jeni R Patel
Megan Mckenzie Petersen
Julian Patrick Pinto
Igor Popovich (distinction)
Ian Fitzgerald Powell
Brandon Arthur Radtke
Aidan Garrett Resh
Jake Todd Robinson ($) 
Rim Salem
Sarah Katherine Schmidt (distinction)
Anika Shah
Heena Shah (distinction, summa cum laude)
Katherine Briana Shealy
Allyson L Smith

Jacob C Solinsky (distinction, summa cum laude)
Aditi Soni
Ryan John Steiger (*)
Erica J Swanson
Arzang Nazir Syed
Glenda Yanira Tachen
Shravika Talla (distinction)
Naura Taqiy
Jake Robert Trask
Nathaniel G Treimer (*)
Brooke Elizabeth Vaillancourt
Amanda Jeanne Van De Ligt
Alicia Belle Woodward (*)
Emily Lauren Yaklich
Kenta Yamamoto (distinction, summa cum laude)

Grant Allen Zastoupil

**MICROBIOLOGY**

Sarah Alabsi (high distinction)
Nicole Lauren Brobin Bonfig
Alexander James Bradt (*)
Timmie Britton (summa cum laude)
Michael Butts
Madeline Claire Cammack
Nathan Campbell (distinction, summa cum laude)
Hannah Jean Carlin ($) 
Hannah Cowan (distinction)
Ashley Marie Dike
Blake Edward Downing (summa cum laude)
Bennett Ewald
Luke Douglas Feeley
Andrew Casey Floeder
Megan Nicole Gerold
Clara Elizabeth Gilbert
Nicholas William Haas
Abbey Jo Hammes
Anna Marie Hance
Matthew Paul Holten (distinction)
Wendy Jeanne Hughes
Abigail Kristen Kargol (high distinction, summa cum laude)

Grant Kim
Kayla Law
Lindsay Marie Leonard
Savannah Grace Lockwood
Zhuyun Mao
Owen Michael Mascia
John Arthur McFarlane (distinction, summa cum laude)
Christopher James Molenaar
Alexandra Kathryn Mueller (distinction)
Emily Juliana Nelson
Augustus R Pendleton (high distinction, summa cum laude)
Julie Ann Pilot
Katherine Grace Quinn
Yogena Sankar
Madison Erin Seifert
Dakota Clayton Snustad (distinction)
Clayton Richard Summitt
Sophie Marie Vrba (summa cum laude)
Nick Walsh (distinction)
Ziyuan Wang
Katharine Mary Young

* – Dean’s Scholar  § – Community Engagement Scholar  + – President’s Emerging Scholar
NEUROSCIENCE

Osereme Chinedum Aisha Abulu (*)
Sumyuktha Vijay Anand
Nicola Marie Beilman
Ryan Joseph Berthiaume
Jacob Raymond Blichfeldt
Ella Leigh Borgenheimer
Daniel Ismail Boudani
Emily Diane Bourgeois
Mikaela Brandt-Fontaine
McKenzie Ann Bremel (high distinction)
Camille Elisabeth Janet Brod (*, +)
Simon Emory Brown (high distinction)
Luke Harris Carlson (*)
Madeline Marie Carr (distinction)
Karin Cheruiyot
Tabitha Joe Chettupally (*)
Ebisie Geneti Deressa
Sydney Reese Diekmann (distinction)
Savannah Jo Dimick
Kurtis Michael Dostal (high distinction)
Bridget Kathleen Duffy
Lauren Marie Duval
Radhika Edpuganti
Nathan J Evans (high distinction, summa cum laude)
Israel Oladipupo Falade (distinction, *)
Maria Estefania Godinez
Chetana Guthikonda (magna cum laude)
Katherine Ann Harbeck
Samantha Marie Hess
Katerina Anne Hoffmann (distinction)
Colleen Elissa Hutchison
David Mayo Immen (high distinction)
Thomas Alexander Jaakola
Marielle Josephine Kamath (distinction, summa cum laude, *)
Pooja Sri Sai Kandikonda
Taewoo Kang
Megan Rose Kazynski
Thomas John Kelly (distinction)
Julia Rachel Klein
Melanie M Klemond (distinction)

Abigail Kay Larson (distinction, summa cum laude)
Lyric Alexis Mager (*)
Maryia Makarchuk
Ethan Tyler Marshall
Joseph Matthew Mateo
Shivonne Elaina McCarthy
Amber Elizabeth McLaughlin
Sagal Ali Said Mohammed (*)
Ayunie Balqish binti Mohd Ibrahim
Neema Moin Afshar
Benjamin Elijah Morehead (*)
Cassandra Michelle Morris
Colin Charles Neitzke (high distinction)
Samuel Mark Min Soo Nelson (*)
Lisa Thao Nguyen
Emmanuel Okematti
Cristi Oliver
Itunu Oluwatosin Olukoga
Sandra Osei (*, +)
Christian James Palo
Kia Raelynn Pankey
Clairice Michelle Pearce
Madeline Nicole Peterson (distinction)
Vivek Prasad
Amy Ann Rankila
Onni Johannes Rauhala
Carter Wayne Schimke
Sonal Shad (distinction)
Eric Philip Souto
Sterling Austin Loren Spiralke
Maya Gabrielle Strohm
Sydney Elizabeth Sutton ($) Kayla Marie Switalla (high distinction, summa cum laude)
Seth Michael Tersteeg (distinction, §)
Andrew Robert Thompson (*)
Ryan Joseph Topp (high distinction)
Mohit Uppal
Sena Melisa Uzunlar
Minh-Tu Van
Brandon Jeffery Vanderbush (distinction)
Hluechy Xiamai Vang
Abby M Vogel
Aaron Joseph Wald  
Uzoma Eberechi Wamuo (cum laude)  
Sarah Elizabeth Warner  
Shabad Singh Washist  
Riley Jane Wedan (high distinction, summa cum laude)  
Betanya Yednekachew Zewde (cum laude)

**PLANT & MICROBIAL BIOLOGY**

Isabella Janine Armour (distinction, summa cum laude)  
Carl Albert Branch (distinction, summa cum laude)  
Graham Myers  
Madison Paige Spencer  
Sarah Kithene Tran  
Samuel Joel Willard (*)

**MULTIPLE MAJORS**

Ibrahim Abdalla – Genetics, Cell Biology and Development; Neuroscience  
Kayla Borden – Genetics, Cell Biology and Development; Microbiology  
Elizabeth Sarah Dean (high distinction, summa cum laude) – Biochemistry; Neuroscience  
Madelyn Margaret Gray (high distinction, summa cum laude) – Genetics, Cell Biology and Development; Neuroscience  
Sowmya Narayan – Genetics, Cell Biology and Development; Neuroscience  
Mateusz Oskarbski – Biochemistry; Microbiology  
Maleena Shae Patel – Biochemistry; Ecology, Evolution and Behavior  
Summer Grace Paulson – Biochemistry; Neuroscience  
Jennifer Caviezel Schmit – Genetics, Cell Biology and Development; Neuroscience  
Erin Marie Schwister – Ecology, Evolution and Behavior; Microbiology  
Jenna Nicole Steffes – Genetics, Cell Biology and Development; Plant and Microbial Biology  
Joseph Dell Ure – Ecology, Evolution and Behavior; Plant and Microbial Biology  
Ashish Varma – Genetics, Cell Biology and Development; Neuroscience  
Sarina Vinjamuri – Genetics, Cell Biology and Development; Neuroscience

* – Dean’s Scholar  § – Community Engagement Scholar  + – President’s Emerging Scholar
Research universities such as the University of Minnesota offer students the opportunity to do more than just learn about discoveries made by others. We encourage students to work with faculty to make discoveries of their own. We recognize students and their mentors who have embraced this opportunity and advanced the boundaries of human understanding.

Mohamed Abdelhai “Introduction of an inducible ras oncogene into a multiple myeloma cell line” Faculty mentor: Dr. Brian Van Ness

Osereme Abulu “Establishing a metric for gait related fatigue in Parkinson’s patients” Faculty mentor: Dr. Scott E. Cooper

Salman Ali “Using genome editing to generate point mutants of human BCL-2 protein noxa to study its function” Faculty mentor: Dr. Ameeta Kelekar

Hosam Alkhatib “Investigating fatty acid efflux in skeletal muscle” Faculty Mentor: Dr. Douglas Mashek; “Isolating fatty acids from dietary sources for use in vitro” Faculty mentor: Dr. Douglas Mashek

Ryan Allen “Rapid evolution of Clarkia xantiana ssp. xantiana in response to the recent California mega-drought” Faculty mentor: Dr. Dave Moeller

Carly Allen-Tice “Pediatric cholesterol screening practices in a large midwestern healthcare system” and “Cholesterol evaluation to explore risk screening” Faculty mentor: Dr. Heather Zierhut

Victoria Alstat “Designing peptide biosensors to understand mechanisms of chronic myeloid leukemia” Faculty mentor: Dr. Laurie Parker

Sumyuktha Anand “Studying the Microcircuitry in Same Sex Social Interactions” Faculty Mentor: Dr. Patrick Rothwell; “The role of D1 and D2 medium spiny neurons in cognitive control” Faculty mentor: Dr. Patrick Rothwell

Isabella Armour “Tylose formation defies expectation: Xylem anatomy and response to vascular wilts among temperate oaks” Faculty mentor: Dr. Jeannine Cavender-Bares

Sarah Baker “The role of NDST in heparan sulfate proteoglycan biosynthesis” Faculty mentor: Dr. Hiroshi Nakato

Sophie Beckley “Factors of survival for species admitted to the Wildlife Rehabilitation Center of Minnesota, 2011-2018” Faculty mentor: Dr. Joseph Bump

Nicola Beilman “Determining adrenal cell proliferation and adrenal weight in adrenal Bmal1 knock-out mice” Faculty mentor: Dr. William Engeland; “Infant face tracking” Faculty mentor: Dr. Kirsten Dalrymple

Drew Bertelson “Repetitive DNA sequences in genome stability” Faculty mentor: Dr. York Marahrens
Ryan Berthiaume “Anterior cingulate cortex and Alzheimer’s disease” Faculty mentor: Dr. Jose Pardo

Kimball Blake “How graduate teaching assistant knowledge affects student involvement and enjoyment” Faculty mentor: Dr. Catherine Kirkpatrick

Nicole Bonfig “Circadian distribution of the occurrence of microvascular obstruction (MVO) following ST-elevation myocardial infarction” Faculty mentor: Dr. Jay Traverse; “Clinical classification and prevalence of pulmonary hypertension in rural Minnesota” Faculty mentor: Dr. Eric Fenstad

Ella Borgenheimer “Tracking cell lineages of progenitor cells of the embryonic mouse thalamus” Faculty mentor: Dr. Yasushi Nakagawa

Amanda Borowski “Cyanobacteria as a model organism for determining the biotic mechanisms of precipitating silica” Faculty mentor: Dr. Trinity Hamilton; “Augustana Care: The Learning Lab for Eldercare Technologies program evaluation” Faculty mentor: Dr. Joseph Gaugler

Daniel Boudani “Gait analysis in a nonhuman primate model of Parkinson’s Disease” Faculty Mentor: Dr. Alex Doyle; “Iron deficiency in arborizing hippocampal neurons” Faculty mentor: Dr. Thomas Bastian

Carl Branch “Pennycress and soybean cyst nematodes” Faculty mentors: Dr. Kathryn Bushley and Dr. David Marks

Mikaela Brandt-Fontaine “Targeting the ventral hippocampus for a novel mouse model of temporal lobe epilepsy” Faculty mentor: Dr. Esther Krook-Magnuson

Eli Braun “Development and validation of an RT-qPCR for the detection of avian reoviruses” Faculty mentor: Dr. Sunil Mor

McKenzie Bremel “Efficiency of adeno-associated virus (AAV) transduction in human induced pluripotent stem cell (hiPSC) derived spinal neuronal progenitor cells (sNPCs) and isolation of transfected cells” Faculty mentor: Dr. Ann Parr

Timmie Britton “Impacts of cystic fibrosis transmembrane receptor on the replication of influenza A virus” Faculty mentor: Dr. Ryan Langlois; “Identification of essential YeaZ structural residues important for Gcp interaction and growth of Staphylococcus aureus” Faculty mentor: Dr. Yinduo Ji

Camille Brod “Understanding the role of sensory input for promoting the recovery of locomotion after injury in an invertebrate model” Faculty mentor: Dr. Karen Mesce

Simon Brown “Sex differences in the reduction of impulsive choice (delay discounting) for cocaine in rats with atomoxetine and progesterone” Faculty mentor: Dr. Marilyn Carroll

Joseph Buytendorp “Regulation of pumilio-mediated RNA transcription” Faculty mentor: Dr. Aaron Goldstrohm

Sriya Byrapuneni “Impact of hypertrophic cardiomyopathy mutations on the myosin super relaxed state” Faculty mentor: Dr. David D. Thomas

Phillip Cai “Protein engineering: ADAM17 alternatives” Faculty mentor: Dr. Wendy Gordon
Nathan Campbell  “Exploring the role of Rab33b in human cytomegalovirus replication” Faculty mentor: Dr. Wade Bresnahan

Hannah Carlin  “Does heparanase play a role in the release of Herpes Simplex Virus Type 1 from infected cells?” Faculty mentor: Dr. Stephen Rice

Luke Carlson  “Role of HSF1 in Huntington’s Disease (HD)” Faculty mentor: Dr. Rocio Gomez-Pastor

Madeline Carr  “The effects of drugs of abuse on c-fos expression in astrocytes in the nucleus accumbens” Faculty mentor: Dr. Alfonso Araque

Jordan Casby  “Characterizing the functional effects of protein kinase A mutants implicated in the development of Cushing’s Syndrome” Faculty mentor: Dr. David Bernlohr

Paul Cavanah  “Dose-dependent effects of chemical reagents on zebrafish caudal fin regeneration” Faculty mentor: Dr. Yasuhiro Kawakami

Neelam Chandiramani  “Examining the perceptions and impact toward international students from teaching assistants in undergraduate, non-major biology laboratories” Faculty mentor: Dr. Sehoya Cotner; “Understanding the interactions of graduate and undergraduate teaching assistants through use of LOPUS protocol” Faculty mentor: Dr. Sehoya Cotner

Katherine Chen  “Genetic interactions between Sall4 and Plzf regulate appendicular skeletal development in mice” Faculty mentor: Dr. Yasuhiro Kawakami

Tabitha Chettupally  “Crush injury: An unrecognized impact” Faculty mentor: Dr. Uzma Samadani

Ethan Christensen  “Formation of indolocarbazoles via substitution with biindoles” Faculty mentor: Dr. Wayland Noland

Blanche Cizubu  “Developing and characterizing FLIM probes to detect subcellular tyrosine kinase activity” Faculty mentor: Dr. Laurie Parker

Emma Contestabile  “Cytomegalovirus viral load case control study in cancer patients” Faculty mentor: Dr. Heather Nelson

Josh Coulombe  “Acoustic mating strategies in gray tree frogs” Faculty mentor: Dr. Mark Bee

Nicole Cronin  “Testing the functional interplay of translesion synthesis and dormant origin firing against UV-induced mutations in mice cells” Faculty mentor: Dr. Naoko Shima

Ryan Curry  “Evolution of Daphnia life history and metabolism in response to heavy metal toxicity” Faculty mentor: Dr. Emilie Snell-Rood; “Meta-analysis of the impacts of invasive invertebrates and vertebrates on nutrient dynamics” Faculty mentor: Dr. Angelica Gonzalez

Niklas Damberg  “OGT mediates beta-cell failure through cellular differentiation” Faculty mentor: Dr. Emilyn Alejandro; “Cope’s Grey Tree Frog intra-species mating communication” Faculty mentor: Dr. Mark Bee
Austin Davies “Understanding the astrocytic involvement in neuronal homeostasis and seizure activity” Faculty mentor: Dr. Alfonso Araque

Elizabeth Dean “The role of the infralimbic prefrontal cortex on transitions between decision-making systems” Faculty mentor: Dr. David Redish; “Exploring the allelopathic effects of m-tyrosine on arabidopsis” Faculty mentor: Dr. Dominic Petrella in the lab of Dr. Eric Watkins

Yevgeniy Demitrashko “The role of standing genetic variation in adaption” Faculty mentor: Dr. Michael Travisano

Ebisie Deressa “NNN and Acetaldehyde in rat drinking water” Faculty mentor: Dr. Lisa Peterson

Nina Dharmarajah “Efficacy and toxicology studies of novel anti-cancer therapeutic agent” Faculty mentors: Dr. Craig Flory, Dr. Robert Schumacher and Dr. Sydney Diekmann “A Novel Assessment of Compliance with Minnesota’s Concussion Law: Implications for Future Concussion Policy” Faculty mentor: Dr. Francis Shen

Savannah Dimick “Self-face processing after and before neurofeedback in youth with varying levels of depressive symptoms” Faculty mentor: Dr. Karina Quevedo

Wesley Dittman “Investigating Streptococcus gordonii adhesin expression in response to the oral pathogens Fusobacterium nucleatum and Porphyromonas gingivalis” Faculty mentor: Dr. Mark Herzberg

Kurtis Dostal “Examining the inclusive summer camp environment as an opportunity for developing social and self-determination skills of youth with disabilities” Faculty mentor: Dr. David R. Johnson

Lidia Doto “Detecting the precise nature of tension signaling in S. cerevisiae” Faculty mentor: Dr. Melissa Gardner

Blake Downing “Enrichment for a novel Fe-reducing bacterium and investigating Fe-oxidation in R. palustris TIE-1” Faculty mentor: Dr. Jeff Gralnick

Lauren Duval “The Mono Project: EBV diseases research program” Faculty mentor: Dr. Henry Balfour

Carmen Ebel “The response of soil nitrogen conditions to nitrogen deposition and cessation” Faculty mentor: Dr. Forest Isbell

Kara Eckberg “Uncovering the role of NDST1/NDST2 enzymes in heparan sulfate proteoglycan biosynthesis and function” Faculty mentor: Dr. Hiroshi Nakato

Radhika Edpuganti “The systematic review of genetic risk factors for traumatic brain injury (TBI)” Faculty mentor: Dr. Uzma Samadani

Reem Elbasher “Avoiding virtual obstacles during treadmill gait in Parkinson’s disease” Faculty mentor: Dr. Scott Copper

Charles Ellwood “Optimizing macrophage bactericidal activity through a rational gene knockout approach” Faculty mentor: Dr. Michael Goldberg; “Foreign epitope specific self-ligand peptide library” Faculty mentor: Dr. Peter Krueger
Sara Engemann “Extremophiles: The struggle for survival” Faculty mentor: Dr. Mikael Elias

Efemona Famati “Aphids increase leaf fungal endophyte diversity and abundance across a plant community regardless of viral infection status and plant nutrition” Faculty mentor: Dr. Elizabeth Borer

Jessica Faragher “Investigating the role of CD47 in the establishment of fibrotic mitral valve disease” Faculty mentor: Dr. Bryce Binstadt

Luke Feeley “The use of manganese oxidizing microbes in the bio-remediation of agricultural wastewaters” Faculty mentor: Dr. Satoshi Ishii

Jack Fite “Cocaine- and amphetamine-regulated transcript as a new biomarker for prostate cancer” Faculty mentor: Dr. Cyprian Weaver

Alaina Friedrich “Species delimitation in the western Marsh Wren complex” Faculty mentor: Dr. Keith Barker

Ty Gaedtke “Testing effectors of the membrane protein SERCA” Faculty mentor: Dr. David D. Thomas

Isha Gandhi “A gut feeling: Short chain fatty acids and their association with risk and response in acute graft versus host disease” Faculty mentor: Dr. Shernan Holtan

Bri Garrett “Evidence for rapid phenotypic change in a newly established cave population of Astyanax mexicanus” Faculty mentor: Dr. Suzanne McGaugh

Clara Gilbert “Generation PA-X recombinant influenza A virus” Faculty mentor: Dr. Ryan Langlois

Erin Gilbertson “Investigating gene loss in the reptilian genome” Faculty mentor: Dr. Suzanne McGaugh

Selamawit Girmachew “New methodologies for synthesis of triarylmethanes” Faculty mentor: Dr. Noland

Madelyn Gray “Changes in motor cortical two-photon Ca2+ responses during episodic dystonia in the tottering (tg/tg) mouse” Faculty mentor: Dr. Timothy Ebner

Sydney Grubb “Functionality of Genes for Anaerobic Metabolism in Mariprofundus ferrooxydans” Faculty mentor: Dr. Jeffrey Gralnick

Nitika Gupta “The infant development and the environment study” Faculty mentor: Dr. Ruby Nguyen

Lydia Gusaas “Correlation analysis between feeding ecology and morphology of Accipitriformes and Falconiformes” Faculty mentor: Dr. Shanta Hejmadi

Abbey Hammes “Vitamin-C effects on metabolism of M. tuberculosis” Faculty mentor: Dr. Anthony Baughn

Anna Hance “Development of a stromal-free culture protocol to induce robust expansion of B cells for therapeutic applications” Faculty mentor: Dr. Sab Ramachandran
Rafay Hasan  “Effects of low levels of unconjugated bilirubin on markers of oxidative stress and inflammation in a preterm Gunn rat model” Faculty mentor: Dr. Katie Satrom

Jack Hedberg  “Investigating the role of post-translational modifications in the cellular response to DNA replication stress” Faculty mentor: Dr. Anja Bielinsky; “Investigating the protein composition of DNA replication forks using isolation of proteins on nascent DNA (IPOND)” Faculty mentor: Dr. Anja Bielinsky

Sara Henry  “Range expansion and nesting behavior of Glaucomys volans within Itasca State Park” Faculty mentor: Dr. Joseph Whittaker; “Nutrient influences on butterfly sexual selection and changes to the Bursa Copulatrix” Faculty mentor: Dr. Emilie-Snell Rood

Samantha Hess  “TMS preliminary study: Non-invasive treatments for Parkinson’s Disease” Faculty mentors: Dr. Jonathan Gewirtz and Dr. Ignacio Obeso Alexandria Hillesheim; “Identification of mechanisms involved in the progression of MDS to AML” Faculty mentor: Dr. Zohar Sachs

Madeleine Hinojos  “Dormant origins and POLQ as potential co-targets for cancer therapy” Faculty mentor: Dr. Naoko Shima

Jake Hjort  “Immune tradeoffs in the Pacific field cricket” Faculty mentor: Dr. Marlene Zuk

Katerina Hoffmann  “Hippocampal modulation in response to optogenetically stimulated cerebellar vermis” Faculty mentor: Dr. Esther Krook-Magnuson

Kelley Hoiseth  “Informational masking in sexual selection of Hyla chrysoscelis” Faculty mentor: Dr. Mark Bee; “Function of chimpanzee pant-hoot vocalizations” Faculty mentor: Dr. Michael Wilson

Catherine Holl  “The major nectar protein of Brassica rapa is a non-specific lipid transfer protein, BrLTP2.1, with strong antifungal activity” Faculty mentor: Dr. Clay Carter

Matthew Holten  “Identification of essential genes involved in Methanococcus maripaludis biofilm establishment” Faculty mentor: Dr. Kyle Costa

Wendy Hughes  “Carbon utilization in suppressive soil microbiomes” Faculty mentor: Dr. Linda Kinkel

Sharlotte Irwin  “Using 2D:4D as a biomarker for prenatal phthalate exposure at four years of age” Faculty mentor: Dr. Ruby Nguyen

Salma Issa  “Characterization of midbrain dopaminergic progenitors in Otx2 conditional knockout mice” Faculty mentor: Dr. Walter Low

Margurite Jakubiak  “Role of triadin and CLIMP-63 in microtubule disorganization associated with Duchenne Muscular Dystrophy” Faculty mentor: Dr. James Ervasti

Kevin Jiang  “Role of HSF1 in Huntington’s Disease” Faculty mentor: Dr. Rocio Gomez-Pastor

Ella Johnson  “The influence of tree root morphology on uptake of nitrate, ammonium and glycine in a nitrogen-limited ecotone” Faculty mentor: Dr. Sarah Hobbie
Timothy Johnston “Exploring diversity in EutM protein scaffold arrangement and function” Faculty mentor: Dr. Maureen Quin

Pooja Kandikonda “Anatomical connectivity between the posteromedial cortex (PMC) and the striatum” Faculty mentor: Dr. Sarah Heilbronner

Abigail Kargol “Development of an assay to screen for biuret and triuret degradation in environmental samples” Faculty mentor: Dr. Lawrence Wackett

Megan Kazynski “Neurofeedback as a mechanism to treat adolescent depression” Faculty mentor: Dr. Karina Quevedo; “Measuring severity of alcohol use by diffusion kurtosis estimation” Faculty mentor: Dr. Jazmin Camchong

Thomas Kelly “Effect of retinoic acid on prefrontal cortex development” Faculty mentor: Dr. Yasushi Nakagawa

Tra Kieu “DNA damage promotes cancer and aging” Faculty mentor: Dr. Laura Niedernhofer

Dong-gyu Kim “Using the nit mutant system to generate a hybrid biocontrol agent” Faculty mentor: Dr. Kathryn Bushley; “Investigating the biocontrol capabilities of select natural fungal antagonist isolates against soybean cyst nematodes (SCN)” Faculty mentor: Dr. Kathryn Bushley

Myung Jin Kim “The neuronal pathway of melanopsin Retinal Ganglion Cells (mRGCs)” Faculty mentor: Dr. Paulo Kofuji

Julia Klein “Motor coordination assessment of mice in essential tremor model” Faculty mentor: Dr. Esther Krook-Magnuson

Margaret Kliebhan “Analysis of a gene coexpression network to understand regulatory variation and functional organization in the yeast model organism” Faculty mentor: Dr. Frank Albert

Abigail Knoble “Educowtion: Nutritional community intervention” Faculty mentor: Dr. Cheryl Robertson

Regina Koch “Effect of polyphosphate on persister formation in Mycobacterium tuberculosis” Faculty mentor: Dr. Anna Tischler

Alee Kunshier “Metalloenzyme-based signaling pathways in latent tuberculosis” Faculty mentor: Dr. Ambika Bhagi-Damodaran

Kevin Kurtz “CtIP is essential for telomere replication” Faculty mentor: Dr. Eric Hendrickson

Victoria Lafky “Demographics of African lions in non-migratory South African reserves” Faculty mentor: Dr. Craig Packer

Christina Landis “Determining the effect of A3B overexpression in ovarian and Fallopian epithelial cells in vivo” Faculty mentor: Dr. Tim Starr
Abigail Larson “Role of retinoic acid degradation in the maturation of inhibitory neurons in the mouse prefrontal cortex” Faculty mentor: Dr. Yasushi Nakagawa; “Resting state functional connectivity in adolescents with early life Stress and non-suicidal self injury” Faculty mentor: Dr. Bonnie Klimes-Dougan

Samantha Lee “Rapid generation of multiplexed and conditional CRISPR transgenic mouse models” Faculty mentor: Dr. Branden Moriarity

Austin Leikvoll “Cell therapy for restoration of depleted extracellular matric components in aged lungs” Faculty mentor: Dr. Angela Panoskaltsis-Mortari; “Developing a muscle tissue construct with 3D bioprinting” Faculty mentor: Dr. Angela Panoskaltsis-Mortari

Christopher Leland “Genome editing in human stem cells affected by facioscapulohumeral muscular dystrophy” Faculty mentor: Dr. Michael Kyba

Keegan Lim “Dr. Packer’s Sabi Sands Project” Faculty mentor: Dr. Sarah Huebner

Rachel Limmex “Exploring the role of the adrenal clock in adrenal sensitivity to ACTH in mice” Faculty mentor: Dr. William C. Engeland; “Does knocking out the Bmal gene in adrenal tissues lead to increased levels of cholesterol in the adrenal cortex thereby contributing to a heightened stress response in the form of corticosterone release?” Faculty mentor: Dr. William C. Engeland

Karena Lin “Investigating maturation of pluripotent stem cell-derived myogenic progenitors upon exposure to the skeletal myofiber niche in vitro” Faculty mentor: Dr. Rita Perlingeiro

Chang Liu “Visual cues for female selection in green tree frogs” Faculty mentor: Dr. Mark Bee; “Research on earthworms as invasive species” Faculty mentor: Dr. Satoshi Ishii

Savannah Lockwood “Development of detection methods for common brewing contaminants” Faculty mentor: Dr. Jeffrey Gralnick

Christine Loo “Using C. elegans as a model organism to further understand congenital hydrocephalus mechanisms of action in relation to fluid accumulation in the excretory system” Faculty mentor: Dr. Lihsia Chen; “Developing surveys to identify self-management support resources in safety-net clinics for patients with comorbid Type 2 Diabetes Mellitus” Faculty mentor: Dr. Elizabeth Rogers

Maryia Makarchuk “The role of exosomes in pain and cancer treatment” Faculty mentor: Dr. Iryna Khasabova

Matthew Markman “Effects of influenza A replication levels on the viral mutation profile and transcriptome of lung cells” Faculty mentor: Dr. Ryan Langlois

Ethan Marshall “Changes in eye velocity, fixation time and quantity, initiation time and velocity of saccade through increased severity of MPTP in a non-human primate model of Parkinson’s Disease” Faculty mentor: Dr. Ying Yu; “The relationship between local field potential activity in the basal ganglia and sleep-wake behavior in parkinsonism” Faculty mentor: Dr. Luke Johnson
Owen Masica  “Tumor suppression through immunotherapy”  Faculty mentor: Dr. Daniel Saltzman

Anthony Mazza  “Investigating kin recognition and competitive dynamics among sympatric strains of Myxococcus xanthus”  Faculty mentor: Dr. Michael Travisano;  “Investigating homologous recombination repair pathways in mammalian mitochondrial genomes”  Faculty mentor: Dr. Colin Campbell

Morgan McCullough  “Characterizing PELP1L798Cfs*14 in colorectal cancer”  Faculty mentor: Dr. Julie Ostrander

John McFarlane  “Flavin secretion by Shewanella modulates colonization of the zebrafish gut microbiome”  Faculty mentor: Dr. Jeffrey Gralnick

Gemechu Mekonnen  “Identification of torsin A substrates and their role in Torsin Dystonia”  Faculty mentor: Dr. David Greenstein

Anna Mikkelsen  “Enzymatic Baeyer-Villiger oxidation of 4-methylcyclohexanone”  Faculty mentor: Dr. Jane Wissinger

Nicholas Minor  “Intraspecific variation and species limits of oreothlypis warblers: Implications for species tree Inference in birds”  Faculty mentor: Dr. F. Keith Barker;  “Resolving species limits and phylogeny in a lineage of South American wrens (Troglodytidae: Cantorchilus)”  Faculty mentor: Dr. F. Keith Barker

Sarah Mogensen  “Identifying regulators of colony morphology phenotypic switching in Candida albicans through mutant screening”  Faculty mentor: Dr. Dana Davis

Shukri Mohamed  “Pre-post skills and confidence: PCR pre-labs and development beyond a lab course through a co-mentoring community group”  Faculty mentor: Dr. Beverly Smith-Keiling

Sagal Mohammed  “The classroom discourse observation Protocol (CDOP): A quantitative method for characterizing teacher discourse moves in undergraduate STEM learning environments”  Faculty mentor: Dr. Abdi Warfa

Ayunie Balqish Binti Mohd Ibrahim  “Antigen affinity for Alzheimer’s diseases”  Faculty mentor: Dr. Todd Doran

Neema Moin Afshar  “Effects of dopamine and dopamine receptor agonists on dendritic arborization of medium spiny neurons”  Faculty mentor: Dr. Lorene Lanier

Ryan Moon  “Determining the contribution of sodium motive force in light-driven survival of an engineered bacterium”  Faculty mentor: Dr. Jeff Gralnick

Danica Mooney-Jones  “Genotyping a soybean short petiole mutant”  Faculty mentor: Dr. Gary Muehlbauer

Zahra Mohamad Moosa  “Promoting effective coping among immigrant and refugee adolescents”  Faculty mentor: Dr. Eunice Areba

Cassandra Morris  “Investigating the roles of torsinA and Lamina-associated polypeptide 1 in directional cell migration”  Faculty mentor: Dr. Gant Luxton
Alexandra Mueller  “Effect of polyphosphate on persister cells in Mycobacterium tuberculosis”  Faculty mentors: Dr. Alisha Aagensen and Anna Tischler

Dane Munson  “Fkbp5 as a chemotherapy target in alveolar rhabdomyosarcoma”  Faculty mentor: Dr. Nobuaki Kikyo

Michaela Muza  “Evolution of antibiotic resistance in mutualistic microbial communities”  Faculty mentor: Dr. William Harcombe

Christopher Naas  “In vivo imaging of bacterial infections” and “Antimicrobial properties of PAMAM dendrimers, a novel approach to combating resistant bacteria”  Faculty mentor: Dr. Valerie Pierre

Sowmya Narayan  “Pavlovian to instrumental transfer phenotypes in mice with autism-associated NLGN3 mutation”  Faculty mentor: Dr. Patrick Rothwell

Colin Neitzke  “3D printed stem cell derived neural progenitors generate spinal cord scaffolds”  Faculty mentor: Dr. Ann Parr

Lisa Nguyen  “Data analysis of Parkinson’s Disease patients freezing of gait data vs. their Unified Parkinson’s Disease Rating Scale (UPDRS)”  Faculty mentor: Dr. Scott Cooper

Lauren Nguyen  “A need for accessibility: Descriptive study of the challenges faced by students with disabilities in introductory STEM laboratories”  Faculty mentor: Dr. Sehoya Cotner

Rachel Nichols  “Promoting climate change conversations through socially engaged art”  Faculty mentor: Dr. Chris Baeumler; “The effect of female genotype in Pacific field crickets on mating response”  Faculty mentor: Dr. Marlene Zuk

Nicole Oblon  “Determining the genetic susceptibility to disease among Drosophila”  Faculty mentor: Dr. Robert Unckless

Emmanuel Okematti  “Characterizing the pathological role of tau in alpha synuclein-dependent synaptic and memory deficits in vivo”  Faculty mentor: Dr. Michael Lee; “Progressive dopaminergic degeneration and behavioral deficits in novel conditional mutant hLLRK2 mouse model”  Faculty mentor: Dr. Michael Lee

Sydney Olsen  “Growth, motility and evolution of P. fluorescens in the presence of Phi2 phage”  Faculty mentor: Dr. Neal Jahren

Maggie Olson  “Determining T cell killing capabilities with genetically modified pancreatic cancer cell lines”  Faculty mentor: Dr. Ingunn Stromnes

Julia Olson  “Identifying giraffe individuals to study life history traits”  Faculty mentor: Dr. Craig Packer

Katrina Paleologos  “Integrated approach on stoichiometric analysis of site-specific identification of lysine acetylation”  Faculty mentor: Dr. Yue Chen

Kia Pankey  “Behaviors and perceptions before and during Ramadan: The feeling of Ramadan”  Faculty mentor: Dr. Dana Lindaman
Sneha Parmar “Elements of the microtubule recognized by EB1 protein” Faculty mentor: Dr. Melissa Gardner

Elisabeth Parr “Investigating the role of UHRF2 in the repair of interstrand crosslinks” Faculty mentor: Dr. Timothy Hallstrom

Summer Paulson “Role of neuroinflammation and apolipoprotein mediated signaling in Alzheimer's Disease” Faculty mentor: Dr. Ling Li

Thomas Perry II “Multivalent ligand binding to cell membrane antigens in breast cancer” Faculty mentor: Dr. Carston Wagner

Regina Peters “Mechanisms of insect flight stability” Faculty mentor: Dr. Emilie Snell-Rood; “Chlamydomonas reinhardii model systems” Faculty mentor: Dr. Carolyn Silflow

Avery Peterson “Studying the ERK phosphorylation pathway in Dictyostelium” Faculty mentor: Dr. Margaret A. Titus

Tyler Peterson “Development of centrifugal force microscope” Faculty mentor: Dr. Wendy Gordon; “Crystallization of HUH endonuclease” Faculty mentor: Dr. Wendy Gordon

Igor Popovich “Effects of fluoroquinolones on quadruplex structure of DNA” Faculty mentor: Dr. Aaron Engelhart; “Effects of interactions between ATP and PolyP with nucleic acid” Faculty mentor: Dr. Aaron Engelhart

Zachary Postler “A quantitative chemical proteomics approach for site-specific stoichiometry analysis of ubiquitination” Faculty mentor: Dr. Yue Chen

Vivek Prasad “Correlating pathological neural activity patterns to signs and symptoms of dystonia” Faculty mentor: Dr. Joshua Aman

Monica Talitha Punzalan “Effects of depression on adolescent brain function” Faculty mentor: Dr. Karina Quevedo

Ekaterina Pytel “The X-ray crystal structure of SLFN11” Faculty mentor: Dr. Hideki Aihara

Katherine Quinn “Silicification in Yellowstone cyanobacteria” Faculty mentor: Dr. Trinity Hamilton

Ben Reynolds “Investigating the impact of nickel manganese cobalt oxide nanoparticles on Shewanella oneidensis” Faculty mentor: Dr. Erin Carlson

Anthony Rish “Phosphomimetic mutagenesis of human PUM and activity analysis” Faculty mentor: Dr. Aaron Goldstrohm

Andres Rivera Cruz “Effects of heavy metals on monarch butterflies” Faculty mentors: Dr. Emilie Snell-Rood and Dr. Timothy Mitchell

Jake Robinson “Effect of marijuana smoking cessation on working memory” Faculty mentor: Dr. Mustafa al’Absi; “Augustana Learning Lab Evaluation” Faculty mentor: Dr. Joseph Gaugler

Abby Rost “Truncation of SOS1 protein in leukemia development” Faculty mentor: Dr. Michael Farrar
Bethany Rowbal “Animal communications in Cope’s gray tree frog” Faculty mentor: Dr. Jessie Tanner (with Dr. Mark Bee)

Nicholas Schlecht “Adapting ELISAs to a microfluidic platform” Faculty mentor: Dr. Laurie Parker; “Finding substrate preferences for various kinases via kinase assay-linked phosphoproteomics” Faculty mentor: Dr. Laurie Parker

Sarah Schmidt “Differential gene expression in zebrafish glycolysis” Faculty mentor: Dr. Yasuhiko Kawakami

Jennifer Schmit “FOCUS - longitudinal follow-up of symptoms and brain connectivity in veterans” Faculty mentor: Dr. Nicholas Davenport

Erin Schwister “Female Hyla chrysoscelis mate selectivity in noise” Faculty mentor: Dr. Mark Bee

Heena Shah “The chemosensitivity of ovarian cancer single cells and spheroids” Faculty mentor: Dr. Amy Skubitz; “The role of nectin-4 in the chemosensitivity of ovarian cancer cells” Faculty mentor: Dr. Amy Skubitz

Yousuf Siddiqui “The impact of obesity-related insulin resistance and inflammation on neural integrity, white matter microstructure and cognitive function” Faculty mentor: Dr. Amir Moheet

Srishti Singh “Optimizing the insertion of CRISPR/Cas9” Faculty mentor: Dr. Wendy Gordon

Sarah Smith “Midwifery and the birth experience: An evidence-based study to support clinical perspectives” Faculty mentor: Dr. Megan Gunnar

Dakota Snustad “Genome-enabled natural products discovery” Faculty mentor: Dr. Michael Smanski

Jacob Solinsky “Reformation of centrosomes in cardiomyocytes” Faculty mentor: Dr. Jop van Berlo

Tenzin Sonam “Tract-tracing of the posterior cingulate cortex in rhesus monkeys” Faculty mentor: Dr. Sarah Heilbronner

Danielle Sorensen “Relationship between circadian rhythm and cold stress response in maize seedlings” Faculty Mentor: Dr. Nathan Springer

Eric Souto “Effects of Gulf War illness serum on neural cultures” Faculty mentor: Dr. Effie Tsilibary

Madison Spencer “Kas1 CRISPR soybean line genomic studies” Faculty mentors: Dr. Kamaldeep Virdi and Dr. Robert Stupar

Ryan Steiger “sgRNA design and optimization in immortalized human Schwann cells” Faculty mentor: Dr. David Largaespada
Alyss Storkamp “The consequences of translocating plant populations during prairie restoration efforts and the scale of local adaptation of native prairie plant species” Faculty mentor: Dr. Ruth Shaw

Anna Strauss “Functional characterization of WAC, a candidate driver gene in colorectal cancer” and “Identification of TM9SF2 as a novel colorectal cancer oncogene” Faculty mentor: Dr. Tim Starr

Luke Strom “Shewanella immunological interactions in Danio rerio” Faculty mentor: Dr. Jeff Gralnick

Clayton Summitt “A test for the rapid detection of Clostridialaes difficile” Faculty mentor: Dr. Mike Sadowsky; “A colorimetric analysis of mucin degradation by oral and lung microbes” Faculty mentor: Dr. Ryan Hunter

Kayla Switalla “Continuous and intermittent coordinated reset deep brain stimulation for Parkinson’s Disease” Faculty mentor: Dr. Jing Wang

Shravika Talla “Determining the mechanistic basis of selectivity of PAS” Faculty mentor: Dr. Anthony Baughn; “Examining the role of HIF2alpha in pancreatic ductal adenocarcinoma” Faculty mentor: Dr. Anindy Bagchi

Naura Taqiya “Role of WRKY transcription factors in plant immunity” Faculty mentor: Dr. Jane Glazebrook

Seth Tersteeg “Effects of morphine addiction and re-exposure on psychomotor and self-stimulation behavior at ILC-NAcSh glutamate inputs” Faculty mentors: Dr. Mark Thomas and Dr. Erin Larson

Paul Thanel “Enhancing calcium transport for therapeutic reversal of cardiac contractile dysfunction” Faculty mentor: Dr. Dave Thomas

Claire Thomas “Tricuspid valve/3D printing research” Faculty mentor: Dr. Paul Iazzio; “Trochlear dysplasia surgical simulation models” Faculty mentors: Dr. Marc Tompkins and Dr. Davis Fay

Andrew Thompson “The degree of modulation of beta band activity during motor planning is related to trait impulsivity” Faculty mentors: Dr. Charidimos Tzagarakis and Dr. Giuseppe Pellizzer

Lensa Toka “Neural connectivity and brain mapping of posteromedial cortex in rhesus macaques” Faculty mentor: Dr. Sarah Heilbronner

Tannon Tople “Creating a conditional knockout RNF4 cell line” Faculty mentor: Dr. Anja Bielinksy

Ryan Topp “Neuromodulation Research Center: Mild, moderate, severe Parkinsonism” Faculty mentor: Dr. Luke Johnson

Sarah Tran “Examining the virulence of different Zika virus strains” Faculty mentor: Dr. Walter Low
Luke Twenhafel  “Cell-type specific effects of GP83 (pp65 homolog) on cytomegalovirus infection” Faculty mentor: Dr. Craig Bierle

Mohit Uppal  “Traumatic brain injury reduction in athletes by neck strengthening (TRAIN)” Faculty mentor: Dr. Uzma Samadani; “Internuclear ophthalmoplegia: Detection and differentiation from other oculomotor disorders” Faculty mentor: Dr. Uzma Samadani

Joseph Ure  “Co-dominant anatomically disparate lichens converge in hydrological functional traits” Faculty mentor: Dr. Daniel Stanton

Ellen Urquhart  “A post-copulatory pass: Spermatophore retention may accommodate sexual signal loss in Pacific field crickets” Faculty mentor: Dr. Marlene Zuk

Sena Uzunlar  “Epidural stimulation after neurologic damage (ESTAND)” Faculty mentor: Dr. Uzma Samadani

Hluechy Vang  “Calcium sensitivity neutralization of cardiac sarcomeres with small molecules” Faculty mentor: Dr. Joseph Metzger

Ashish Varma  “Determination of the role that nuclear factor kB (NFkB) plays in Purkinje neurons in SCA1 pathology through Immunofluorescence microscopy” Faculty mentor: Dr. Marija Cvetanovic

Marae Vipond  “The potential effect of insecticide on food availability of grassland birds” Faculty mentor: Dr. Katelin Goebel

Sophie Vrba  “Development of a pichinde virus-based vaccine vector for the treatment of tuberculosis” Faculty mentor: Dr. Yuying Liang

Aaron Wald  “Are albino mice a good model for human infantile nystagmus syndrome?” Faculty mentor: Dr. Linda McLoon

Uzoma Wamuo  “Examining MyoD production through engine enhancement region deletion through CRISPR Cas9 system” Faculty mentor: Dr. Atsushi Asakura

Ziyuan Wang  “Characterizing the relationship between genotype and phenotype in sympatric Bradyrhizobium a varying in the tendency to accumulate polyhydroxybutyrate (PHB) in soybean nodules” Faculty mentor: Dr. Ford Denison

Shabad Washist  “Quantifying hippocampal cells following cerebellar stimulation” Faculty mentor: Dr. Esther Krook-Magnuson

Riley Wedan  “Neurofeedback using images of self in adolescents with varying depressive symptoms” Faculty mentor: Dr. Karina Quevedo; “The neural correlates of viewing emotional self and other faces in adolescents with depression before and after neurofeedback” Faculty mentor: Dr. Karina Quevedo

Binyuan Wei  “Oxidative dimerization of anilines to azoarenes mediated by titanium” Faculty mentor: Dr. Ian Tonks; “Determine the role of stable APOBEC3H in HIV transmission” Faculty mentor: Dr. Reuben Harris

Leah Westmoreland  “Comparative efficacy of varying gold nanoparticle shapes loaded into mesenchymal stem cells in cell culture models” Faculty mentor: Dr. Swayam Prabha
Pearl Wilcock “Colorectal cancer tumours and the clinical and immunological impact of immune checkpoint gene expression” Faculty mentor: Dr. Subree Subramanian; “Analysing the impact of PD1 and PDL1 expression in the immune cell infiltration of colorectal cancer tumours using CIBERSORT” Faculty mentor: Dr. Subree Subramanian

Samuel Willard “Itasca in a bottle: The role of bacteria in wood decomposition” Faculty mentor: Dr. Jonathan Schilling

Alicia Wong “Role of OGT in pancreatic and pancreatic islet development” Faculty mentor: Dr. Emilyn Alejandro

Emily Yaklich “UV-B photomorphogenesis in Arabidopsis thaliana” Faculty mentor: Dr. Gary Gardner

Kenta Yamamoto “Chimeric antigen receptor expression on natural killer cells for immunotherapy of osteosarcoma” Faculty mentor: Dr. Branden Moriarity; “Glial cell response to spinal cord injury: simulating the axolotl post-injury response in rat astrocytes” Faculty mentor: Dr. Karen Echeverri

Amy Yi “Treatment of congenital cytomegalovirus using nitazoxinide” Faculty mentor: Dr. Mark Schleiss

Katharine Young “Modeling of tumor immunotherapy for TRAMP C2 prostate cancer” Faculty mentor: Dr. Yoji Shimizu

Betanya Zewde “Neural correlates of self-processing and emotion regulation in self versus other facial recognition in adolescents during neurofeedback” Faculty mentor: Dr. Karina Quevedo

Shannon Zhou “Specialization and accuracy of host-searching butterflies in complex and simple environments” Faculty mentor: Meredith Steck (Ph.D candidate); “Early antibiotics and infant body composition” Faculty mentor: Dr. Sara Ramel

Although care is taken to ensure the accuracy of the information presented here, there may be unintended errors or changes without notice. This is not an official University of Minnesota graduation list.