

MSP
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Commencement



2004

COLLEGE OF
Biological Sciences
UNIVERSITY OF MINNESOTA

The mission of the College of Biological Sciences is to provide outstanding educational opportunities to undergraduate and advanced students and to carry out world-class research in areas of modern biology from the molecular level to the ecosystems. To accomplish this mission, we integrate a strong basic research program with both traditional and innovative classroom teaching and with intensive mentoring of students at all levels.

As part of its mission, the College is dedicated to providing basic biological science education and to sharing expertise with students and colleagues in other disciplines at the University of Minnesota, such as agriculture, engineering, health sciences, and liberal arts.

The College is committed to outreach to the general community and cooperation with other educational institutions. Members of the College actively participate in the scientific community and in the leadership of professional organizations, and they contribute to the administration and governance of the University.

PROGRAM

In consideration of others, please check now to make sure your cell phone is turned off during the ceremony.

ACADEMIC PROCESSION

Judson Sheridan, D.Phil

Mace Bearer

Associate Dean, Professor

Department of Genetics and Cell Biology

Dr. Sheridan received his D.Phil from Oxford University in 1965. He was a Rhodes Scholar from 1962-1965. Dr. Sheridan's tenure at the U of M includes nineteen years as a faculty member and three years as Associate Dean for Research in CBS. He has provided distinguished service as associate dean and we honor his contributions to the Department and to the College.

WELCOME

Robert Elde, Ph.D.

Dean, College of Biological Sciences

Dr. Robert Elde was named Dean of the University of Minnesota's College of Biological Sciences in 1995. A 1969 honors graduate of North Park College in Chicago with a Bachelor of Arts degree in biology and chemistry, he received his Ph.D. in anatomy from the University of Minnesota in 1974. He joined the University faculty twenty-five years ago and is now the J. B. Johnston Land Grant Professor of Neuroscience in the Department of Neuroscience.

GRADUATING STUDENT ADDRESSES

"Friends, Faculty and Family: CBS Lessons Learned and Shared"

Imee Cambroner

Hailing from Woodbury, Minnesota, Imee first enrolled in the Institute of Technology before transferring to College of Biological Sciences (CBS) in 2000. Imee has been involved in a variety of student organizations from New Student Weekend Co-Chair to Spring Jam Coordinator, and was honored to be the University of Minnesota's 2002 Homecoming Queen. Within CBS, Imee has served as a Nature of Life peer mentor and participated in the BioBuds and mentor programs. Imee currently works for Minnesota Representative Betty McCollum in Washington, D.C. and plans to further her education in Public Health and Public Policy.

"Great Journey"

Forum Kamdar

Forum is a Biology major who plans to attend medical school at the University of Minnesota next fall. She was a member of both the Biology Club and the Genetics and Cell Biology Club while an undergraduate. Forum also received the American Heart Association Heart Research Scholarship/Internship in 2002. She was selected by the honors program to give an oral presentation at the 2004 Life Sciences Research Symposium.

AWARDS FOR TEACHING EXCELLENCE

Presented by Regent William Hogan and Dean Elde

Stanley Dagley-Samuel Kirkwood Undergraduate Education

David Beisboer, Ph.D.

Department of Plant Biology

Dr. Biesboer, earned his Ph.D. from Indiana University in 1979 and joined the faculty at the University of Minnesota in 1980. He is a past recipient of the Horace T. Morse-Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education and a member of the University of Minnesota's Academy of Distinguished Teachers. Dr. Biesboer also serves as the Director of the University of Minnesota's Itasca Biological Station and Laboratories and is an integral faculty member for the College of Biological Sciences' Nature of Life program for incoming students.

Horace T. Morse University of Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education

Claudia Neuhauser, Ph.D.

Department of Ecology, Evolution and Behavior

After receiving her Ph.D. from Cornell University in 1990, Dr. Neuhauser taught at the University of Southern California and at the University of Wisconsin before joining the faculty of the University of Minnesota in 1996. She soon recognized that many students do not resonate to the traditional engineering-based calculus and therefore developed both a course and its corresponding textbook, *Calculus for Biology and Medicine*, which has been enthusiastically received by students of biology both here and at other universities. Dr. Neuhauser was appointed Head of the Department of Ecology, Evolution and Behavior in 2003.

Outstanding Performance as a Teaching Assistant

Christopher Clark

Ecology, Evolution, and

Behavior

Mr. Clark's students appreciated his work ethic, and his ability to understand students.

Raymond J. Dybzinski *Ecology, Evolution, and Behavior*

Mr. Dybzinski's students highly valued his availability to meet with them, and his enthusiasm for the subject matter.

William S. Harpole *Ecology, Evolution, and Behavior*

Mr. Harpole's students recognized his passion for ecology, and his helpful and understanding attitude.

Kathleen S. Lacasse *Ecology, Evolution, and Behavior*

Ms. Lacasse's students appreciated her ability to clarify ideas and concepts; they agreed that her availability to students made the class rewarding.

Heidie J. Lish *Public Health*

Ms. Lish's students valued her talent for making a biology lab fun and memorable; she encouraged her students to think critically and taught her students to work together as a team.

Lauren M. Merlo *Ecology, Evolution, and Behavior*

Ms. Merlo's students agreed that her enthusiasm for biology was infectious, and they appreciated her availability to answer every question.

Carson M. Murray *Ecology, Evolution, and Behavior*

Ms. Murray's students valued her passion for wanting them to learn, and her ability to keep the discussion entertaining and engaging for all class members.

Matthew D. Reeves *College of Biological Sciences*

Mr. Reeves' students appreciated his energy and dedication to helping them understand the subject matter.

Andrea M. Sampson *Conservation Biology*

Ms. Sampson's students valued her talent for relating current course material to the bigger picture of evolutionary biology, and her never ending offer to help.

AWARD FOR STUDENT LEADERSHIP

The President's Student Leadership and Service Award
University of Minnesota Alumni Association Student Leadership
Award

Holly Hofstad

Biology

CONFERRAL OF HONORARY DEGREE

Presented by Regent William Hogan and Dean Elde

John Jungck, Ph.D.

Dr. Jungck earned his bachelor's and master's degree from the University of Minnesota and his Ph.D. from the University of Miami. He currently serves as Mead Chair of the Sciences and Professor of Biology at Beloit College. Dr. Jungck has previously served as the President of the Association of College and University Biology Educators, won the Ohaus Award for Outstanding Innovations in College Science Teaching, and been elected as a Fellow of the American Society for the Advancement of Science. He is regarded as a pioneer in biology education and has had a great impact on the movement to develop undergraduate biology education as interdisciplinary, integrating mathematics, computers, and other physical sciences.

COMMENCEMENT ADDRESS

"Luck and the Prepared Mind"

Liesl Chatman

Science Education Partnership Specialists

Liesl Chatman is a science education partnership specialist currently engaged in strategic planning with the Saint Paul Public Schools and the University of Minnesota. Within the field of partnership, her work focuses on reciprocal learning, equity, and creativity. She served as the Executive Director of the nationally recognized Science & Health Education Partnership at the University of California, San Francisco from 1994 to 2003. Liesl has received over \$11 million in major grants from the National Science Foundation, the National Institutes of Health, and the Howard Hughes Medical Institute. She has taught at the elementary school to university level and is a proud graduate of the University of Minnesota, Class of 1990.

PRESENTATION OF THE CANDIDATES

Robin Wright, Ph.D.

***Associate Dean for Faculty and Academic Affairs,
College of Biological Sciences***

Dr. Wright received her Ph.D. from Carnegie-Mellon University in 1985. She joined the College of Biological Sciences in 2003 as Associate Dean. Dr. Wright is also Professor of Genetics, Cell Biology and Development and recognized for her research in this field. She currently serves as the chair for the CBS Curriculum Task Force and is a member of the University of Minnesota Council for Enhancing Student Learning.

CONFERRAL OF THE DEGREES

William Hogan, Ph.D.

Regent, University of Minnesota

William Hogan is CEO of the Hogan Company, an investment firm that creates and builds companies. His experience includes 19 years in executive positions in the corporate sector, including serving as CEO of a telecommunications company, vice president of operations for Medtronic, and 11 years as professor and senior administrator for the University of Kansas at Lawrence. Majoring in electrical engineering, he earned bachelor of science and doctoral degrees from Oklahoma State University and a master's degree from Southern Methodist University. A regent chair emeritus, he has served on numerous committees, including White House task forces and the boards of several Fortune 500 companies.

CONGRATULATIONS AND WELCOME

Mervyn de Souza, Ph.D.

President, Biological Sciences Alumni Society

Mervyn de Souza graduated from the University of Minnesota in 1997 with a masters degree in microbial engineering and in 1998 with a doctor of philosophy degree in Biochemistry, Molecular Biology and Biophysics. Mervyn joined Cargill, Inc. in 1998 and is now a Principal Scientist at their Freshwater facility. He is a member of the University of Minnesota Alumni Association and president of the Biological Sciences Alumni Society.

CLOSING REMARKS

Dean Robert Elde

HAIL! MINNESOTA

Led by Dean Robert Elde, Accompanied by Beacon Hill Brass

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 have completely exited the auditorium.

THE BACHELOR OF SCIENCE DEGREE

A foundation of liberal education forms the guiding framework of all academic programs for undergraduate students on the 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, students must successfully complete at least 120 credits (about 30 courses), including courses in social sciences and humanities, history, chemistry, physics, math, as well as in 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.

HONORS AND DISTINCTION DESIGNATIONS

Students in the College of Biological Sciences may graduate with Distinction, with Honors, or both, depending upon their grade point average and the completion of an honors curriculum.

Graduation with distinction is conferred to all students who have completed at least 60 credits at the University of Minnesota with a grade point average of at least 3.90 (*high distinction*) or 3.75 (*distinction*).

Honors study is divided into two general parts. In the first and second years, the emphasis is on liberal education. Students who have completed at least three honors courses, a freshman seminar, and maintained a grade point average of at least 3.5 during their first two years are indicated in this program by an asterisk (*). In the third and fourth years of study, the emphasis is on the research experience and a two-semester honors seminar, which exposes students to the breadth of biological inquiry and promotes interactions among the honors students. Involvement in honors culminates in a written thesis and a research presentation at the Life Sciences Undergraduate Research Symposium. Students who complete the junior-senior part of the honors program graduate with a Latin Honors degree, based on the grade point average earned throughout their last 60 credits as follows:

Summa cum laude (at least 3.75), *magna cum laude* (at least 3.666) or *cum laude* (at least 3.50).

BIOCHEMISTRY

Faimola Opeyemi Akinkuotu
Amanda Marie Backes
Leena Trisha Bagroo
Caleb Allan Bates
Kristin Marie Berg (*magna cum laude*)
Lauren Frances Bergerson (*distinction*)
Kristopher Corey Carver (*distinction*)
Joan Elizabeth Coughlin
Jeffrey Hardus Dahl
Marc Andrew Denn
Fausta Ambe Ditah (*summa cum laude, high distinction*)
Heather Shanthi Dunlop
Navid Estharabadi
Andrew Robert Jensen
Patricia Mabel Nelima Kerre
Lindsay Sue Kippley
Justin David Knopps
Joshua John Knudson
Nhu Quynh Ngoc Lam
Daniel Ta Lee
Lisa Marie Lenarz-Wyatt
Especianise Loresca
James Emerson Mapellentz
Joliffe Daniel Micheletti
Kim-Lien Thi Nguyen
Thanh-Tam Ngoc Nguyen (*high distinction*)
Timothy Michael O'Connor
Minda Anastasia Olson
Lee Stephan Parsons
Kari Louise Pedersen
Sarah Elizabeth Porter
Yuta Sakai
Michael David Scott
Behailu Tinkishu
Vinh Michael Vuong
Hailun Wang
Anica Weber
Trevor Jeremiah Wennblom
Daniel Eino Wepplo
Sarah Marie Rosalia Wied
Benjamin John Wilson
Andrea Michelle Zins (*summa cum laude, distinction*)
Erik Scott Zwiefel

BIOLOGY

Lindsey Annette Aakre-Laux
Amy Theresa Adams

Luke Christopher Anderson
Lisa Ann Axel
Bryan Paul Berry (*high distinction, **)
Laura E. Borchert
Daniel Burton
Imee Lynn Grecia Cambronero
Jenna Anne Carlson
Shimul Chowdhury
Paul Corcoran
Jessica Ann Crawford (*)
Jennifer Susan Daniels
Patrick Kyle Denman
Jayna Lynn DeVore (*summa cum laude, **)
Leigh Christine Dixon
Paul W. Drewitz
Heather Roslyn Dunham
Christopher Michael Erickson (*summa cum laude, distinction, **)
Justin Scott Ferragut
Erine Oi Ming Fong (*distinction*)
Amanda Susan Forslund
Andrea Gena Gaetz (*high distinction*)
Rachael Sarah Gordon (*)
Timothy Miland Gramith
Amanda Mary Griesbach
Amy Louise Hawthorne
Timothy J. Heisel
Alexander Lee Helm
Chad Michael Herrlein
Ryan Christopher Hill
Stephen Matthew Hinkin
Francis John Hinnendael
Holly Renee Hofstad
Lindsey Beth Hornickel
Abbey Kathleen Iles (*distinction*)
Emily Jane Inglis
Neil Elliott Jensen
Forum Dipak Kamdar (*summa cum laude, high distinction*)
Amy Lou Kaske
Zachary Jon Kastenber (*summa cum laude, distinction, **)
Darren Daniel Kearney
Adrienne Rae Keen
Melissa Mary Keller (*)
Kamran Mohiuddin Iodhi Khan
James Daniel Kiley
Stacey Lynne Kilpela
Nicholas Jon Kirchner
Cassandra Kistler-Anderson
Christine Marie Klover

Jason Richard Klug
Tricia Leigh Koehnen
Crystal Hasina Kohistani
Nicole Marie Kopari
Maren Anne Korpela (*)
Anne Linnell Krieger
Andrew O. Larson
Lindsey Annette Laux
Ryan Alan Laux
Ena Lee (*)
Chad Kyle Lunas
Melanie Beth Lundberg
Thomas Jennings Maust (*)
Gavin Patrick Meany
Nicholas Jeramiah Meath
Alicia Anne Millard
Benjamin Thomas Miller (*magna cum laude*, *)
Megan Suzanne Moore
Julie Kate Morris
Joshua David Nahin
Kristin Anne Nelson
An Kim Nguyen
Peter Luan Nguyen
Trung Tan Nguyen
Cynthia Anne Nicholson
Brit Gunnar Ofstedal
Colette Therese O'Shea (*distinction*)
Sarah Kay Oxendale
Jody Ann Panchyshyn
Misti Lyn Paudel
Katie Rose Pauli (*distinction*)
Jenny Lynn Pennaz
Lisa Elizabeth Pepler
Nicole Patrice Perala
Jacob Mason Peters
Angela Nicole Pieper
Jonathan Wilfred Pratt
Lorien Elizabeth Radmer
Andre Marcus Reed
Angela Joan Riss
Samuel Arthur Rivard
Maria Elena Rodriguez
Scott James Rosenthal
Daniel O'Brien Ross
Paul LeFevour Ruder
Sarah Jane Russ
Leila Sadeghi
Jeaneen Christina Sage

Gobindveer Singh Sahi
Melissa Sue Sandgren
Shivanthi Sathanandan
Adam Walter Scheidegger
Anne Schraufnagel
Laura Diana Schroeder
Anna Schulz (*distinction*)
Mary Lynn Schwans (*)
Kathryn Elaine Sheehy
Ted Daniel Sbley
Chris B. Spartz
Sara Ann Spath
Brian W. Spoo
Joseph William Tembreull
Jillian Brooke Van Sluys
Daniel Benjamin Vassar
Adam John Warner
Jordan Webb
Nikol Ann Weinstein
Krystle Marie Weinzierl
Molly Marian Welle (*cum laude, **)
Zachary John Welle
Frederick Mac Williams
Nicholas Henry Winning
Ncha Xiong

ECOLOGY, EVOLUTION, AND BEHAVIOR

Elizabeth Cherry Brodeen (*magna cum laude*)
Kari Ann Eichstaedt
Aaron Michael Hage
Sharon Marie Hartshorn
David Randolph Holmes
Kristin Leigh Johnson
Paul Gregory Larson
Holly Alyssa Mac Cormick (*magna cum laude*)
Tamar Elayna Meyers
Nathan James O'Neil
Christine L Peterson
Joshua Duane Scholler
Samuel Merrill Stoxen
Noah Bernard Strom
Aubrey Mary Tauer
Nicole Lyn Untener
Rachel Elizabeth Weisert
Abra Claire Zobel

GENETICS, CELL BIOLOGY, AND DEVELOPMENT

John David Andersen
John Peter Arend (*distinction, **)
Richard Douglas Blaalid
Jennifer Ann Capecchi
John Bowers Capen (*summa cum laude*)
Alison Kayley Cooper
Casey Louise Dahl
Laura Christine Denzer (*high distinction, **)
Irene Jean Dorweiler (*cum laude*)
Mohamed Sami Elsharif
Kandi Sue Engels
James David Erck
Mohamed-Karim Ezzat
Matthew Stephen Gamradt
Ozge Goktepe
Abraham Kazemizadeh Gol (*summa cume laude, high distinction*)
Shanna Lea Gustafson
Rebecca Jane Haack
Nicholas Joseph Hahn
Majken Katrine Hall
Carolyn Elizabeth Hazen
Jennifer Marie Ibis (*summa cume laude, distinction, **)
Christine Ellaine Isaacson
Philip Anthony Jensen (*magna cume laude*)
Katie Nicole Jensen
Esther Erh Yu Kao (*summa cume laude, high distinction, **)
Meenal Kapoor (*summa cume laude, high distinction*)
Delila Jane Kern
Holly Ann Koslowski
Sandra Jane Leo
Charissa Joy Lewis
Paul Daniel Lobitz (*summa cume laude, high distinction, **)
Brian Jeffrey Meier
Mohamed Ezzat Moussa (*summa cume laude, high distinction, **)
Molly Heather Nelson-Holte
Janet Ng
Kristopher D Nielsen
Ivana Ninkovic
Andrew Paul Norgan (*distinction*)
Luke Roland Olson
Scott Gerald Perkinson (*summa cume laude, distinction, **)
Carolyn Jean Presley (*summa cume laude*)
Shruthi Ravimohan (*summa cume laude*)
Kassia Rose Sandstrom
Aaron Waid Shoop

Chinh Si Truong
Sokthea Tuy
Carla Michelle Velez
Tou Cher Yang

MICROBIOLOGY

Adovi Dodji Akue
Jennifer Reva Boe
Senit Rahel Debesai
Adia Lenora Edwards
Kathryn Rose Goeden (*summa cume laude, high distinction, **)
Heather Renee Green
Rania A. Habib (*summa cume laude, distinction, **)
Amanda Jo Helvig (*summa cume laude, distinction, **)
Meggan Marie Hendrickson
Sheila Marie Kosloski
Julie Alison Kuruc (*distinction, **)
Jeffrey Scott Lachowitz
Athena Alexandria Macasieb
Julia Nguyen
Catherine Dawn Richer
Matthew Michael Schaefer
Jeffrey David Seebinger
Ryan John Suhadolc
Sean Anthony Sutton
Harmony Lynn Tyner
Andrew Seung Soo Wyman

NEUROSCIENCE

David Matthew Atkinson (*summa cume laude, distinction, **)
Megahn Marie Beck
Dana Theresa Berg (*magna cume laude*)
Christopher James Boldt
Ryan Richard Bruss
Zachary Lee Demorest
Ian Thomas Harrison (*distinction*)
Adrienne Keely Hotchkiss
Laura Lee Klouda
Michael Jon Lockwood
Sean William Marquis
Amber Lorraine Martell (*summa cume laude, distinction, **)
Daniel Erich Neumeyer
Jonathan Carl Papic (*high distinction*)
Meredith Stefanie Seaborn
Katarzyna Joanna Simura
James Greg Slotto
Sochenda Mackenzie Te

PLANT BIOLOGY

Daniel William Block
Jason Suparp Chong
Carmen Denise Gavin Vanegas (*high distinction*)
Luke Allen Kramer
Rochelle Lynn Reynolds

MULTIPLE MAJORS

Stacy Marie Bohl	GCD, Microbiology
Katie Michelle Brown	Biochemistry, Microbiology
Rao Fu	Biochemistry, Microbiology (<i>summa cum laude</i> , distinction, *)
Jonathan Paul German	Neuroscience, GCD
Andrew Wayne Hudacek	Microbiology, GCD
Medora Jean Huseby	GCD, Biochemistry
Shane David Johnson	GCD, Microbiology
Daniel Lynn Keifenheim	Biochemistry, GCD (*)
Sarah Jeanine Malmquist	Biochemistry, GCD (<i>summa cum laude</i> , *)
Jason Andrew Motl	Biochemistry, GCD (<i>summa cum laude</i> , <i>high distinction</i>)
Fran Lucille Nelson	Biochemistry, Microbiology
Chris S Nordeen	Neuroscience, Biochemistry
Megan Otis	Biochemistry, GCD
Matthew David Reeves	Biochemistry, GCD (<i>cum laude</i> , *)
Heather Lynne Stubbe	Microbiology, GCD (*)
Hailun Wang	Biochemistry, GCD
Remy Elizabeth Wong	Microbiology, GCD

UNDERGRADUATE RESEARCH

Research universities such as the University of Minnesota offer students the opportunity to do more than just learn about discoveries made by others. Our students can partner with faculty to make discoveries of their own. We recognize our students and their mentors who have embraced this opportunity and pushed forward the boundaries of human understanding.

Researcher: Adovi Akue

Project: Antibiotic production and local adaptation of soil streptomycetes, and nutrient utilization by soil streptomycetes

Mentor: Linda Kinkel

Researcher: John Andersen

Project: PPXY(PY) motif-mediated HsLats2/Sav1 interaction

Mentor: Wufan Tao

Researcher: David Atkinson

Project: Role of corticotropin-releasing factor in acute opiate dependence

Mentor: Jonathan Gewirtz

Researcher: Caleb Bates

Project: Overexpression, purification, and characterization of human N-acetyltransferase 1

Mentor: P.E. Hanna

Project: Synthesis of guanosine analogs with cell cycle inhibitory activity

Mentor: C.R. Wagner

Researcher: Megahn Beck

Project: Long-term behavioral effects of iron deficiency on hippocampal function in the rat

Mentor: Michael K. Georgieff

Researcher: Kristin Berg

Project: Expression level changes and chemical modifications due to age-related macular degeneration in human retinal pigment epithelial cells

Mentor: Deborah Ferrington

Researcher: Stacy Bohl

Project: CpG oligodeoxynucleotide effects on IL-15 in a murine model of rhabdomyosarcoma

Mentor: Brenda Weigel

Researcher: Christopher Boldt

Project: Wireless

Mentor: A. David Redish

Researcher: Elizabeth Brodeen

Project: Effects of land management systems on soil greenhouse gas emissions

Mentor: Jennifer King

Researcher: Ryan Bruss

Project: Neuronal transformation in reaction time task

Mentor: Giuseppe Pellizzer

Researcher: John Capen

Project: Effects of ethanol on cholesterol efflux in human smooth muscle aortic cells, and brain gene expression with statin drug treatments

Mentor: Gibson Wood

Researcher: Jenna Carlson

Project: Evidence identifying Camp Ripley, Little Falls, Minnesota as an endemic area for the etiological agent of human granulocytic ehrlichiosis

Mentor: Russell Johnson

Researcher: Kristopher Carver

Project: Expression of putative *C. elegans* iron transporter genes in yeast

Mentor: Robert Brooker

Researcher: Shimul Chowdhury

Project: Rhizobia and medicago

Mentor: Peter Tiffin

Researcher: Jessica Crawford

Project: Natriuretic peptides, guanylyl cyclase receptors, and cGMP

Mentor: Lincoln Potter

Researcher: Jeffrey Dahl

Project: Identification of a novel product of the riboflavin-mediated photooxidation of 2'-deoxyguanosine, and comparison of DNA oxidants and their potential to form DNA lesions in a sequence-specific manner

Mentor: Natalia Tretyakova

Researcher: Senit Debesai

Project: Investigation of the basis for actin-mitochondria interactions

Mentor: Ronald Jemmerson

Researcher: Fausta Ditah

Project: First order kinetics for photosystem I

Mentor: Bridgette Barry

Project: Circadian lipogenic gene expression

Mentor: Howard Towle

Researcher: Irene Dorweiler

Project: Identifying the mutation in *Chlamydomonas reinhardtii* strain *sup-pf3*

Mentor: Mary Porter

Researcher: Heather Dunham

Project: Neuromodulation in mucosal adherence of enterohemorrhagic *Escherichia coli* 0157:H7 in the porcine cecum

Mentor: David Brown

Researcher: Kari Eichstaedt

Project: Preference and potential fecundity of the milfoil weevil

Mentor: Florence Gleason

Project: Characterization of arbuscular mycorrhizal fungi

Mentor: Iris Charvat

Researcher: James Erck

Project: Acute myeloid leukemia research

Mentor: Bin Yin

Researcher: Christopher Erickson

Project: Monitoring urinary glycosaminoglycan excretion in experimental mice using an automated method

Mentor: Chester B. Whitley

Researcher: Erine Fong

Project: Effects of opiate blockade in men and women

Mentor: Mustafa al'Absi

Researcher: Amanda Forslund

Project: Genetic variation of proteoid root formation in white lupin

Mentor: Carroll P. Vance

Researcher: Rao Fu

Project: Transcriptional control of potassium channels in pulmonary vasculature

Mentor: David Cornfield

Project: Regulation of the gene expression of fructose-1,6-bisphosphatase by high levels of fructose-2,6-bisphosphate, and modulation of signaling through phosphatidylinositol 3-Kinase to Akt-2 by fructose-2,6-bisphosphate

Mentor: Alex Lange

Researcher: Kathryn Goeden

Project: Determining the specificity of the pheromone cCF10 for the binding proteins PrgX and PrgZ in *Enterococcus faecalis*

Mentor: Gary Dunny

Project: The effects of blue light on potato tuberization

Mentor: Cindy Tong

Researcher: Abraham Gol

Project: Transposase activity

Mentor: Michael Simmons

Project: Echinacea predation

Mentor: Ruth Shaw

Researcher: Rebecca Haack

Project: Analysis of the late replicating origin ARS 603

Mentor: Anja-Katrin Bielinsky

Project 2: Regulation of gene expression in CML by the tyrosine kinase inhibitor STI571

Mentor 2: Catherine Verfaillie

Researcher: Rania Habib

Project: The Invader: A novel mRNA assay

Mentor: David L. Dunn

Researcher: Carolyn Hazen

Project: Novel repeat cloning into yeast

Mentor: David Kirkpatrick

Researcher: Timothy Heisel

Project: Characterizing putative sugar-response mutants in *Arabidopsis thaliana*

Mentor: Sue Gibson

Researcher: Amanda Helvig

Project: Expression and function of nitric oxide synthase in *Salmonella enterica* serovar *typhimurium*

Mentor: David Brown and Lucy Vulchanova

Researcher: Meggan Hendrickson

Project: Endogenous viral infection and HIV transmission, and oral exposure and transmission of HIV

Mentor: Peter Southern

Researcher: Francis Hinnendael

Project: Least tern preservation

Mentor: Gordon Warrick

Researcher: Holly Hofstad

Project: Genomic mapping of *Caenorhabditis elegans* genes

Mentor: Robert K. Herman

Researcher: David Holmes

Project: Predatory-prey interactions of juvenile lemon sharks in Bimini, Bahamas

Mentor: Donald Alstad

Researcher: Lindsey Hornickel

Project: Humanizing mouse antibody sFv region

Mentor: Daniel Vallera

Researcher: Adrienne Hotchkiss

Project: Cyclic ADP-ribose modification of calcium removal in DRG neurons

Mentor: Stanley Thayer

Researcher: Andrew Hudacek

Project: Characterization of HS7, and cloning of the ALV-J cellular receptor

Mentor: Kathleen Conklin

Researcher: Jennifer Ibis

Project: Enhancer/suppressor screen for dTOR interactors

Mentor: Thomas Neufeld

Researcher: Abbey Iles

Project: Iron sensitivity in *Candida albicans*

Mentor: Dana Davis

Researcher: Philip Jensen

Project: Genetic regulation of transposable P elements in *Drosophila*

Mentor: Michael Simmons

Researcher: Katie Jensen

Project: Location and subsequent expression throughout the cell cycle of the *Saccharomyces cerevisiae* protein Fbx2

Mentor: Deanna Koepf

Researcher: Forum Kamdar

Project: Differential gene expression in pancreatic islets

Mentor: Bernhard J. Hering and Brett K. Levay-Young

Researcher: Esther Kao

Project: The role of Ref-1 in vascular smooth muscle cell apoptosis

Mentor: Jennifer Hall

Researcher: Delila Kern

Project: Transfection of LAT deficient cells with LAB cells

Mentor: Yoji Shimizu

Researcher: Nelima Kerre

Project: Nicotine metabolism in African Americans

Mentor: Sharon Murphy

Researcher: Cassandra Kistler-Anderson

Project: Phenotypic analysis of *Candida albicans*

Mentor: Judith Berman

Project: The role of BUD1 in *Candida albicans*

Mentor: Cheryl Gale

Researcher: Jason Klug

Project: The effects of NR2B receptor antagonists on *in vivo* cocaine sensitization

Mentor: Mark Thomas

Researcher: Maren Korpela

Project: Directed research

Mentor: Sharon Jansa

Researcher: Holly Koslowski

Project: Light effects on flower morphology

Mentor: Cynthia Weinig

Researcher: Anne Krieger

Project: Analysis of DNA ligase mutants in yeast

Mentor: Anja-Katrin Bielinsky

Researcher: Julie Kuruc

Project: Use of carbonate to reduce *Escherichia coli* O157:H7 in water

Mentor: Fransisco Diez-Gonzalez

Researcher: Nhu (Nancy) Lam

Project: MPS diseases

Mentor: Chester Whitley

Researcher: Paul Larson

Project: Phylogeny of tiger moths

Mentor: Susan Weller

Researcher: Ena Lee

Project: Relationship of cell and bacterial attachment to the surface free energy (SFE) of different substrata

Mentor: Edward C. Combe and Stanley L. Erlandsen

Researcher: Lisa Lenarz-Wyatt

Project: Expression of plant cytochrome P450 in *E. coli* by coexpression with NADPH-reductase for recombinant flavonoid biosynthesis

Mentor: Claudia Schmidt-Dannert

Researcher: Charissa Lewis

Project: Molecular mapping of QTLs for *Fusarium* head blight resistance in ND2709/ND688 wheat population

Mentor: James A. Anderson

Project: Mapping chromosome 3 in *Candida albicans*

Mentor: Paul T. Magee

Researcher: Paul Lobitz

Project: Mapping insertional mutagenesis in the mouse genome, and study progress and mechanisms of transposition

Mentor: David Largaespada

Researcher: Especianise Loresca

Project: Function of extracellular protein decorin in collagen

Mentor: Jack Lewis

Researcher: Holly MacCormick

Project: Sexual selection, melanin, nutrition, and the lion's mane

Mentor: Peyton M. West and Craig Packer

Project: Baboon aggression

Mentor: Craig Packer

Researcher: Sarah Malmquist

Project: Mutational analysis of the esc subunit of a *Drosophila* transcriptional repressor complex

Mentor: Jeffrey Simon

Researcher: Sean Marquis
Project: Fibromyalgia
Mentor: Alice Larson

Researcher: Gavin Meany
Project: Avian pneumovirus
Mentor: Jagdev Sharma
Project: Computational chemistry
Mentor: Jiali Gao

Researcher: Brian Meier
Project: Cloning Yeast homologs of Drosophila Chromotor
Mentor: Duncan Clarke

Researcher: Alicia Millard
Project: Alzheimer's research
Mentor: William Frey

Researcher: Benjamin Miller
Project: The role and expression of the F-box protein Fbw7 in human tissues
Mentor: Deanna Koepp

Researcher: Jason Motl
Project: Antiangiogenic and antitumorogenic peptides
Mentor: Kevin Mayo
Project: Effects of desiccation on protein and gene expression in *E. coli*
Mentor: Janet Schottel

Researcher: Mohamed Moussa
Project: A meta-analysis of outcomes following femoral neck fractures in the elderly
Mentor: Khaled J. Saleh
Project: The effects of glucose on the circadian rhythm in primary cultured hepatocytes
Mentor: Howard C. Towle
Project: Regulatory cross-talk between bacterial DNA maintenance modules *in vivo*
Mentor: Arkady B. Khodursky

Researcher: Joshua Nahin
Project: Plasticity of begging behavior in nestling blue jays; Impulsivity in Japanese quail
Mentor: David W. Stephens

Researcher: Kristin Nelson
Project: Smoking reduction in adolescents, and environmental tobacco smoke exposure in bar and restaurant workers
Mentor: Dorothy Hatsukami

Researcher: Janet Ng

Project: Molecular mechanisms of tumor cell invasion involving matrix metalloproteinases.

Mentor: Joji Iida

Researcher: Kim-Lien Nguyen

Project: Breast/cervical cancer

Mentor: Benjamin Leung

Project: Plasma extraction

Mentor: Myron Gross

Researcher: Thanh Tam Nguyen

Project: Floral morphology plasticity in response to photoperiod in *Arabidopsis thaliana*

Mentor: Cynthia Weinig

Project: Dye uptake in connexin 43 with staurosporine

Mentor: Ross Johnson

Researcher: Kristopher Nielsen

Project: Microsatellite DNA markers on the left arm of chromosome 3 in *Drosophila melanogaster* that showed variation in lifespan

Mentor: Jim Curtsinger and Nuzha Tahoe

Researcher: Ivana Ninkovic

Project: Effects of beta actin in normoxic and hypoxic fetal cells, and effects of apoptotic markers in hypoxic and normoxic fetal cells

Mentor: David Cornfield and Ernesto Resnik

Researcher: Timothy O'Connor

Project: Chemoprevention of lung cancer by aerosol inhalation

Mentor: Timothy Wiedmann

Researcher: Jody Panchyshyn

Project: Analysis of transport function of At3g18830 an *Arabidopsis* sugar transporter homolog

Mentor: John Ward

Researcher: Jonathan Papic

Project: Directed research

Mentor: Alice Larson

Researcher: Katie Pauli

Project: Gene expression and gene transfer in *Enterococcus faecalis*

Mentor: Gary Dunny

Researcher: Scott Perkinson

Project: Long-term gene transfer and expression in human glioblastoma using the Sleeping Beauty transposon system

Mentor: David Largaespada

Researcher: Carolyn Presley

Project: Purification of the VirE2 nuclear transport protein and its involvement in gene repair

Mentor: Clifford J. Steer

Researcher: Matthew Reeves

Project: Studying aldol reactions using semisynthetic enzymes

Mentor: Mark Distefano

Researcher: Leila Sadeghi

Project: Identification of role of hippocampal regions in trace fear memories

Mentor: Jonathan Gewirtz

Researcher: Gobindveer Sahi

Project: Measurement of urine glycosaminoglycan with the MPS test is a convenient means of monitoring response to treatment, and may be an indicator of clinical phenotype

Mentor: Chester B. Whitley

Project: Clinical testing of candesartan on murine and swine models may be applicable towards improvement of infarcted human myocytes

Mentor: Inderjit S. Anand

Researcher: Matthew Schaefer

Project: Bioluminescent group a Streptococcus

Mentor: Patrick Cleary

Researcher: Anna Schulz

Project: Alpha-crystallin levels in the retina

Mentor: Deborah Ferrington

Researcher: Meredith Seaborn

Project: The role of multi-potent adult progenitor cells in vasculoregeneration in ischemia and lymphedema

Mentor: Catherine Verfaillie and Aernout Lutten

Researcher: Jeff Seebinger

Project: Robotic phosphomonoesterase analysis

Mentor: Mike Sadowsky

Researcher: Aaron Shoop

Project: Confirmation of adrenal vasopressin

Mentor: William Engeland

Researcher: Ted Sibley

Project: Function of staphylococcal enterotoxin H as a possible superantigen in necrotizing pneumonia

Mentor: Pat Schlievert

Researcher: Katarzyna Simura

Project: Neural control of hand movement sequences

Mentor: Martha Flanders

Researcher: Heather Stubbe

Project: Directed Research

Mentor: Agustin P. Dalmaso

Researcher: Aubrey Tauer

Project: Adult female and male mantled howler monkey affiliative and agonistic relationships

Mentor: Anne Pusey

Researcher: Chinh Truong

Project: Minisatellite stability

Mentor: David Kirkpatrick

Researcher: Carla Velez

Project: Retrospective study of hyaluronic acid in human colon cancer tissue sections

Mentor: Kelli Bullard

Researcher: Hailun Wang

Project: Crown rust resistance analysis in oat

Mentor: Howard Rines

Project: Characterization of the differentiation of canine stem cells

Mentor: Catherine Verfaillie

Researcher: Melissa Wayne

Project: Sodium and potassium channel analysis in *Xenopus* oocytes

Mentor: Linda Boland

Researcher: Nikol Weinstein

Project: The genetic status of northern cricket frogs in Minnesota

Mentor: Andrew Simons

Researcher: Rachel Weisert

Project: Waterborne steroid hormone exposure influences aggression and reproductive success in male fathead minnows, and investigating dominance hierarchies and their relationship to hormone levels in goldfish

Mentor: Peter W. Sorensen

Researcher: Molly Welle

Project: Evaluation of activated neutrophils in the blood of dogs with septic and nonseptic inflammatory disease

Mentor: Douglas J. Weiss

Project: The use of B-mode ultrasound to identify recovery patterns of colic in horses following surgery or medical management

Mentor: Erin D. Malone

Researcher: Nicholas Winning

Project: *Candida albicans* Int1 protein localization

Mentor: Cheryl Gale

Researcher: Tate Winter

Project: Is nicotine actively transported at important biological barriers? Role of P-glycoprotein and BCRP transport proteins

Mentor: William F. Elmquist

Researcher: Remy Wong

Project: Biochemical pathways in chalcone-like synthetases

Mentor: David Sherman

Project: The role of Fbw7 isoforms in ubiquitin mediated cyclin E degradation

Mentor: Deanna Koepp

Researcher: Tou Yang

Project: Function of dynein in animal development and cell movement

Mentor: Thomas Hays

Researcher: Andrea Zins

Project: Drug effects on connexin-43 trafficking

Mentor: Ross Johnson

ACADEMIC REGALIA

Although today they are usually worn only on special occasions such as graduation, academic gowns were required dress for scholars in the Middle Ages. Not only did these special gowns indicate the academic rank of the wearer, but also helped keep the scholar warm in the drafty, unheated halls of academia! The styles you see worn in our commencement originated in English universities during the 14th and 15th centuries. The use of these gowns in the United States extends back to the colonial times and was prescribed by an Intercollegiate Code in 1895.

The markings, cut, and colors of the modern day academic gowns indicate the academic degree, the field of study, and the institution that granted the degree. In the United States, the gown for the bachelor's degree is untrimmed and has pointed sleeves. The gown for the Master's degree is also untrimmed, but it has winged sleeves. The Doctorate degree gowns are trimmed in velvet, with three velvet bars on the bell-shaped sleeves. The hoods worn by master's or doctorate degree holders are edged in velvet with the color indicating the discipline. For example, dark blue velvet edging indicates a doctor of philosophy (Ph.D.) degree. The hoods are faced with the color or colors of the institution that conferred the degree, which is maroon and gold for the University of Minnesota.

At the University of Minnesota commencement ceremonies – except those where master's and doctoral degrees are awarded – mortarboard tassels indicate field of study. The College of Biological Sciences' tassel is golden yellow. Honors students wear medallions with a maroon and gold ribbon.

THE MACE

The University of Minnesota mace was carried for the first time in 1961 by Regents' Professor of Physics Alfred O.C. Nier at the inauguration of President O. Meredith Wilson. Art professor Philip Morton designed the mace: a crystal sphere four inches in diameter surmounted by the North Star, symbol of the state of Minnesota, on a solid aluminum handle set with the University regents' seal.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

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