College of Natural Science Annual Meeting November 17, 2023



College of Natural Science (NatSci) Annual Meeting and Awards Ceremony Interdisciplinary Science, Technology Building, Rm. 1404

AGENDA

Friday, November 17, 2023 3:00 p.m. Annual meeting

<u>ltems</u>:

- 1) Approval of Agenda for November 17, 2023
- 2) Approval of Minutes from November 18, 2022
- 3) Other Business NatSci Bylaws Faculty Voting Results
- 4) State of the College—Phillip M. Duxbury
- 5) Award Ceremony
- 6) Awards Reception





College of Natural Science NatSci Annual Meeting/Awards Ceremony Meeting Minutes November 18, 2022

Items of Business:

- Approval of Minutes:
 - The minutes of the Nov. 19, 2021, meeting were approved as distributed.
- State of the College
 - Dean Duxbury presented the State-of-the-College address.

Awards Ceremony:

- The NatSci Awards Ceremony followed the annual meeting.
- Award recipients were presented certificates acknowledging their award.

The meeting was adjourned at 4:00 pm.



Strategic Plan Update 9-17-2023 Aspirations (Baseline date 1-1-2022)

1. Improve Inclusion. Recruit and retain 25 tenure stream faculty who increase our diversity (*we have hired 20 and lost 3*). Double Charles Drew Science Scholars (*flat*).

2. Enhance the undergraduate experience. Retain 60% of incoming NatSci students through graduation (*TBA*). Boost the number of students proceeding to health professions by 30% (*TBA*). Raise the starting salary of employed graduates by 50% (*TBA*).

3. Strengthen graduate student success. Double our federal training grants (*baseline is 7, current is 11*). Double career training programs. Improve mentoring of graduate students (*Good progress, e.g. IDEAS program*).

4. Grow research excellence. Double the number of our research programs with top 5 rankings (*TBA – may need a better metric*). Increase federal research funding by 50% (*half way there!*).

5. Cultivate community relationships. Boost participation in community educational and outreach activities by 30%. Increase partnerships with key industries and businesses, foundations and educational institutions by 25%. Foster more diverse partnerships. Increase annual development by 50% (*Good progress in all of these areas – campaign development goal is higher*)

MICHIGAN STATE



Advancement Update

FY 22/23 - Raised \$14.9M

Exceeded \$7.5M!

Created 10 new endowments, including:

- ✓ 7 for student support
- ✓ 2 for research support
- ✓ 1 discretionary support





Advancement Update (con't.)

Current Priorities:

- 1. Continue to fundraise for Student Success
 - ✓ Undergraduate Scholarships
 - ✓ Graduate Fellowships
 - ✓ Undergraduate Research





Advancement Update (con't.)

- 2. Continue to fundraise for **Faculty Support**:
 - ✓ Endowed Professorships
 - ✓ Endowed Chairs
 - ✓ Research
- 3. Explore philanthropic opportunities and develop a fundraising plan around collaborative interdisciplinary research themes and capital building projects.





Advancement Engagement

Goal is to continue to connect and engage in a meaningful way with NatSci's 63,000 alumni.

- Regional events in collaboration with university partners.
- Local events
 ✓ Classes Without Quizzes April 6, 2024
- Communications via newsletters and electronic e-newsletter.





MSU/NatSci Enrollment Fall 2023

MSU overall – 51,316 students (40,483 undergrad)NatSci Fall 2023 undergraduate majors5,020NatSci Fall 2023 incoming freshmen1,373NatSci Fall 2023 graduate students1,071

(915 Ph.D. students, 156 M.S. students)





College of Natural Science (FY23)

- General fund allocation: \$93M (\$1,596M): 5.8% (up 9%)
- Tenure System faculty FTE: 280 (1,873): 14.9% (flat)
- Student Cr Hrs generated: 296k (1,396k): 21.2% (up 7%)
- Tuition Dollars: \$221M (\$1,089M): 20.3% (up 10.5%)
- IDC from Grants: \$22.4M (\$123M): 18.2% (up 14%)
- Federal Grant Income: \$78.7M (\$441M): 17.8% (up 34%)
- Campaign goal: \$122M. Current Endowment: \$182M





NatSci 2023-24 Budget

Recurring Budget: \$78.2M – up 6.4%

\$ 1.5M University allocation (new funding) (\$1.5M position support)

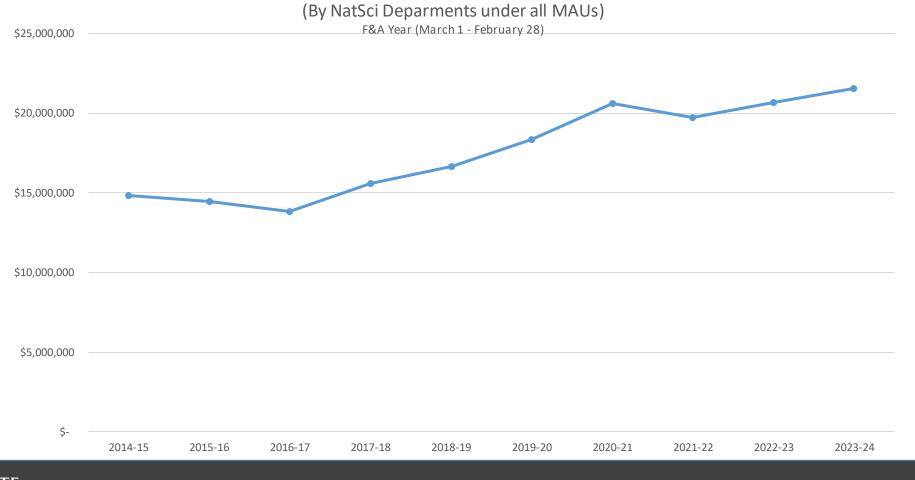
Non-Recurring Budget: \$14.2M – up 28.0%

- \$ 2.1M Program allocations (enrollment pressure, spousal salaries, retention support)
- \$ 1.6M Supplemental Summer Instruction (new)
- \$ 4.3M Off-campus & online instruction (no change)
 - \$1.7M lost due to "revenue freeze"
- \$ 2.3M Revenue Based Initiatives
- \$ 3.9M F&A Indirect Cost Return



College of Natural Science







College of Natural Science



Department Leadership Changes

Olorunseun 'Seun' Ogunwobi

Chair

Department Biochemistry and Molecular Biology





Department Leadership Changes

Catherine Lindell

Interim Chair Department of Integrative Biology





Department Leadership Changes

Andrea Case Chair Department of Plant Biology





Department Leadership Changes

Lyudmila Sakhanenko

Interim Chair Department of Statistics and Probability





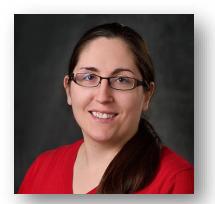
Program Leadership Changes

Seung Yon 'Sue' Rhee Director Plant Resilience Institute





NatSci Dean's Office Promotions



Liz Chidsey

Assistant Director of Donor Experience and Strategic Engagement Advancement Office



Karen Wenk Senior Associate Director of Development Advancement Office





New Staff in NatSci Dean's Office



Jennifer Freitas

Student Success Advisor Academic Student Affairs



Lisa Henry

Transfer Advisor Academic Student Affairs



Christina Igl Career Resources Coordinator Academic Student Affairs



Gabby Wahla

Undergraduate Recruitment Coordinator Academic Student Affairs





New Staff in NatSci Dean's Office (con't.)



Matt Davenport Chief Storyteller Marketing Office Office



Ryan Kilcoyne Senior Marketing Officer Marketing Office



Jennifer Lindner Office Assistant III Advancement Office



Jamie Sablotny

Assistant Director of Development Advancement Office





New Faculty & Academic Staff (44; hired in 2023)

Biochemistry and Molecular Biology

- Sterling Field, Specialist-Research
- Charles Hawkins, Specialist-Research
- Karine Prado, Specialist-Research
- Selena Rice, Specialist-Research

Biological Sciences Program

- Beth Gettings, Instructor, Fixed-Term
- Seth Hunt, Instructor, Fixed-Term
- Iglika Pavlova, Assistant Professor, Fixed-Term





Biomedical Laboratory Diagnostics Program

• Brad Childs, Specialist-Advisor, Continuing

Chemistry

- Melanie Chiu, Assistant Professor
- Priyanka Yadav, Specialist-Teaching
- Rajeev Yadav, Specialist-Teaching

<u>CISGS</u>

- Janet Burke, Research Associate, Fixed-Term
- Saroopa Taylor, Instructor, Fixed-Term





Computational Mathematics, Science and Engineering

• Mengsen Zhang, Assistant Professor

Dean's Office

- Kenna Lehmann, Assistant Professor, Fixed-Term (Human Biology)
- Megan Shiroda, Assistant Professor, Fixed-Term (Human Biology)

Earth & Environmental Sciences

- Kelly Aho, Assistant Professor
- Jacqueline Gerson, Assistant Professor
- Anthony Kendall, Assistant Professor
- Susan Krans, Specialist-Teaching, Continuing





Integrative Biology

• Riley Fanning, Specialist-Advisor, Continuing

Kellogg Biological Station

- Alisha Shah, Assistant Professor
- Christopher Kozakiewicz, Assistant Professor

Mathematics

- March Boedihardjo, Assistant Professor
- Hitesh Gakhar, Instructor, Fixed-Term
- Demetre Kazaras, Assistant Professor
- Michael Paparizos, Instructor, Fixed-Term
- Avery St. Dizier, Assistant Professor
- Marios Velivasakis, Instructor, Fixed-Term

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Microbiology & Molecular Genetics

- Bjorn Ostman, Specialist-Research
- Jorden Schossau, Specialist-Research

Physics & Astronomy

- Christopher Baldwin, Assistant Professor
- Sophie Berkman, Assistant Professor
- Mehr U Nisa, Assistant Professor
- Nicholas Rombes, Assistant Professor, Fixed-Term
- Shuo Zhang, Assistant Professor

<u> Plant Biology</u>

• Andrea Case, Professor





Program in Mathematics Education

• Christopher Waston, Specialist-Outreach, Fixed-Term

Statistics and Probability

- Contel (Gabi) Bontea, Specialist-Teacher, Continuing
- Guanqun Cao, Associate Professor
- Christina Horr, Specialist-Teacher, Continuing
- Andriana Manousidaki, Specialist-Teacher, Continuing
- Lu Xia, Assistant Professor
- Yue Xing, Assistant Professor





2023 Faculty Honors







Jefferson Science Fellow, National Academies of Sciences, Engineering and Medicine; Fellow, Academy of Medicine Specialties of Nigeria



Olorunseun 'Seun' Ogunwobi

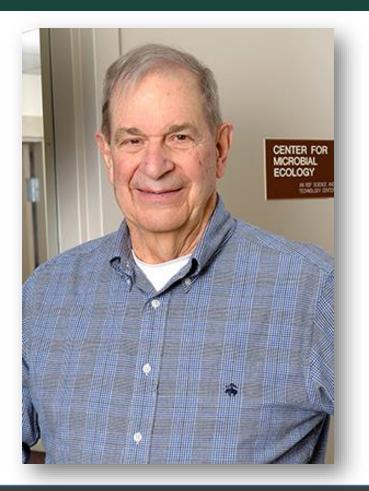
Chair, Department of Biochemistry & Molecular Biology (affiliated with the Colleges of Natural Science, Osteopathic Medicine and Human Medicine) Co-Director, MSU Center for Cancer Health Equity Research

These appointments recognize and elevate Ogunwobi's groundbreaking work on the molecular mechanisms of progression of solid organ tumors and the understudied impact of cancer health disparities including race, gender and other key factors.





American Academy of Arts and Sciences



James Tiedje

University Distinguished Professor Emeritus Department of Microbiology & Molecular Genetics

Tiedje is a world-renowned expert in microbiology and genomics research. With a career spanning more than 50 years, his research contributions and mentoring have fundamentally changed the field of microbial science.





American Institute for Medical and Biological Engineering College of Fellows



Guowei Wei

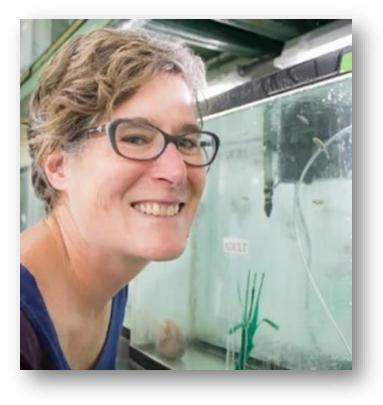
MSU Research Foundation Professor Department of Mathematics

Wei has pioneered novel computational methods that apply profound mathematical structures to deep learning, winning drug design competitions and discovering SAARS-CoV-2 evolutionary mechanisms. He partners with premier pharmaceutical companies on drug discovery.



College of Natural Science

Fulbright U.S. Scholar for International Academic Exchange (2023)



Janette Boughman

Professor, Department of Integrative Biology

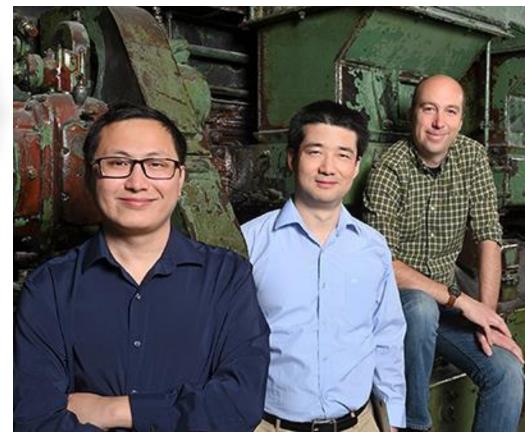
Boughman, internationally known for her research on the three-spine stickleback, collaborated with leading Australian biologists at Monash University and the University of New South Wales to study how specific ecological changes alter the evolutionary processes that generate and maintain diversity.





2023 NSF Early CAREER Award Winners





(L to R): **Tuo Wang** (chemistry), **Yang Yang** (CMSE) and **Nathan Whitehorn** (physics and astronomy) were recognized NSF Early CAREER Awards. Collectively, over the next 5 years, they will receive more than \$1.83 million in National Science Foundation funding.

There are currently 26 Early CAREER grants in effect in NatSci.





Professional Society Awards

American Association for the Advancement of Science Fellows

- Andrea Case, Plant Biology
- Shinhan Shiu, Plant Biology

<u>American Chemical Society – Josef Michl Award in Photochemistry</u>

• James McCusker, Chemistry

American Physiological Society-Raj and Prem Goyal Lectureship

• Brian Gulbransen, Physiology/Neuroscience Program

American Society for Microbiology, Alice C. Evans Award for Advancement of Women

• Shannon Manning, Microbiology & Molecular Genetics

American Society for Microbiology, D.C. White Award for Interdisciplinary Research

• Gemma Reguera, Microbiology & Molecular Genetics



Professional Society/Organization Awards

American Society of Naturalists-President-Elect

• Jeffrey Conner, Plant Biology

American Society of Plant Biologists-Eric E. Conn Investigator Award

• Kadeem Gilbert, Plant Biology/KBS

Consortium of Universities for the Advancement of Hydrologic Science, Inc.

• Jay Zarnetske, Earth & Environmental Sciences

International Planetarium Society-President

• Shannon Schmoll, Physics and Astronomy

International Recognition of Professional Excellence Prize

• Elise Zipkin, Integrative Biology/EEB





James K. Billman Jr., M.D. Endowed Professors



Bjoern Hamberger (left) and **Ben Orlando**, Department of Biochemistry and Molecular Biology





Lappan-Phillips Endowed Professors

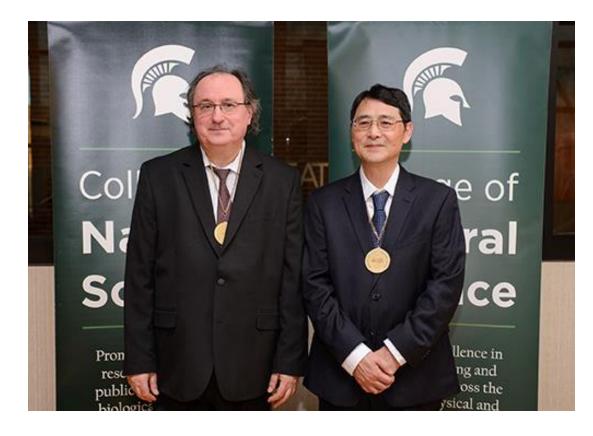


Aman Yadav (left), Department of Computational Mathematics, Science and Engineering (CMSE); and Danny Caballero, Department of Physics and Astronomy and CMSE





MSU Research Foundation Professors



Piotr Piecuch (left), Department of Chemistry; and **Guowei Wei**, Department of Mathematics





Other Endowed Professor Investitures



Carl H. Brubaker, Jr. Professor **Tuo Wang** Chemistry

Rudolph Hugh Endowed ProfessorSean CrossonMicrobiology & Molecular Genetics







Recent Grants







A Sampling of Recent Grants

Department of Energy

• **MSU-DOE Plant Research Laboratory** received a \$12 million DOE Office of Basic Energy Sciences competitive renewal grant to continue research in photosynthetic energy capture, conversion and storage.

National Institutes of Health

- Jin He (biochemistry) received a five year, \$2.8 million NIH R01 grant to continue his investigation into the role of the ASH1L (Absent, Small, or Hometoic discs 1-Like) gene in the origins of autism spectrum disorder.
- Elizabeth Heath-Heckman (integrative biology) received a \$1.9 million NIH MIRA grant to support studying the bacteria of animals such as squid and newts use to protect themselves, which could provide insights into the human's gut brain connection.
- **A.J. Robison** (physiology/neuroscience) received a \$3 million NIH grant to investigate how male and female brains respond to stress differently, and how testosterone could be the key to increasing resilience. The work will uncover specific mechanisms that may act as molecular handles for therapeutic intervention.



College of Natural Science

Recent Grants (cont.)

National Institutes of Health (cont.)

• **Tuo Wang** (chemistry) received a \$1.9 million NIH R01 grant to support the development of solidstate nuclear magnetic resonance (ssNMR) technology that allows enhanced understanding of the nanoscale structure of the fungal cell wall to promote development of antifungal therapeutics.

National Science Foundation

- Jeffrey Conner (plant biology/KBS) received a \$1.5 million NSF grant to explore how traits stay or go on a plant's evolutionary journey.
- Melanie Cooper (chemistry), Kevin Haudek (biochemistry) and Rachel Henderson (physics) received a nearly \$700,000 NSF grant to study the role of Mathematical Sensemaking in Science (MaSS) in undergraduate STEM courses.
- Jason Gallant (integrative biology) is using nearly \$1 million NSF grant to better understand the implications from a small African fish which evolved to have sperm with no tails but an electric-powered mating call, ultimately shedding light on human disease and traditional gender roles.



College of Natural Science

Recent Grants (cont.)

National Science Foundation (cont.)

- **Robert Quinn** (biochemistry) and **Christoph Benning** (biochemistry/PRL) teamed up on a \$1.9 million NSF grant to study the role that betaine lipids play in coral bleaching.
- Sue Rhee (biochemistry, plant biology) received a \$3 million NSF Plant Genome Research Program grant to help grow the Plant Metabolic Network, a repository of essential genomic information aimed at connecting and accelerating worldwide research on plant metabolism.
- The W.K. Kellogg Biological Station Long-Term Ecological Research Program at Michigan State University was awarded a \$7.65 million NSF renewal grant, reaffirming the program's future and status as one of the country's premier research sites.

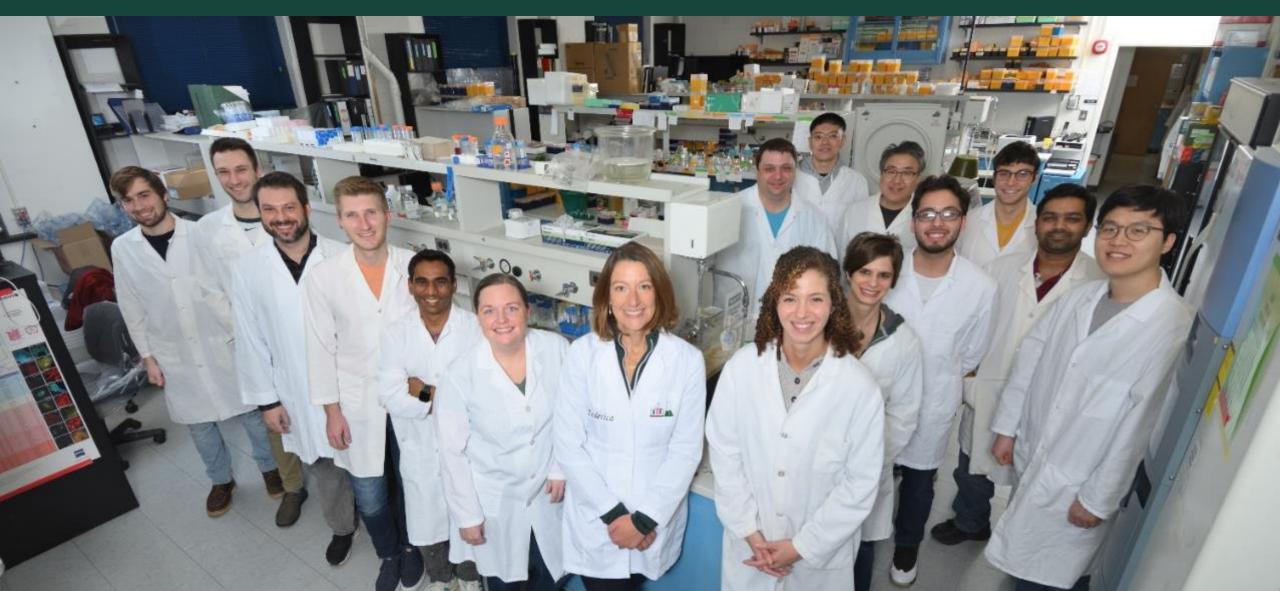
U.S. Department of Agriculture

• **Bruno Basso** (earth and environmental sciences) has received a \$1.95 million U.S. Department of Agriculture grant to develop and disseminate educational information on soil organic carbon evaluation, with an emphasis on underrepresented populations.





Advancing Our Commitment to Diversity, Equity and Inclusion





Best Practices in HR Hiring, RPT, and Annual Reviews





Student Success - Increase Student Support, Careers Services, and Experiential Learning



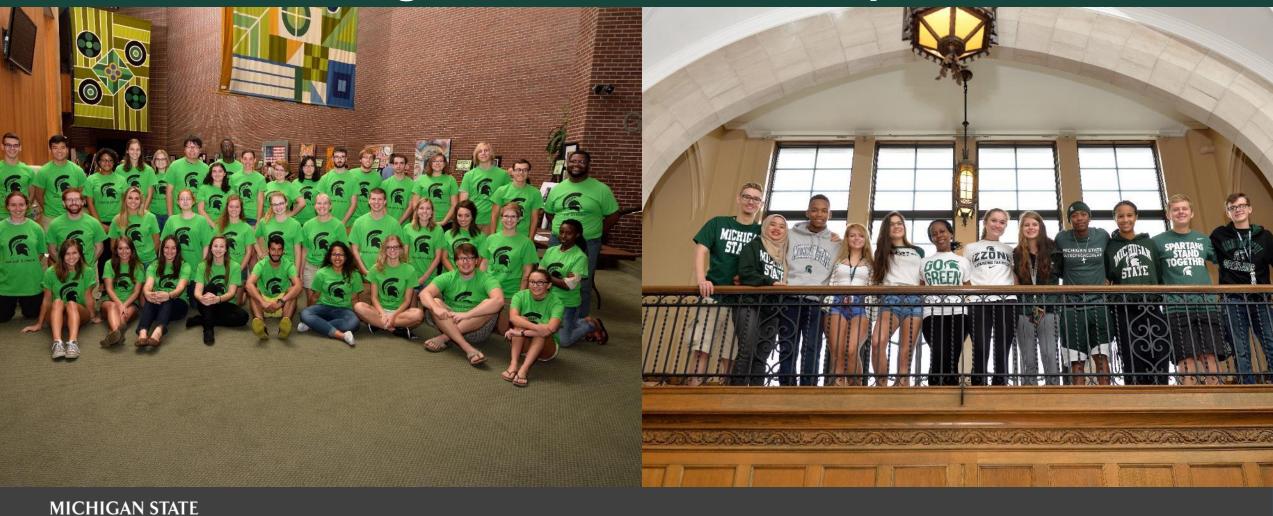




VERSITY

UNI

Grow the Number of STEM Student Credit Hours Across Our Programs and Across Campus





Expanding the Number of Graduate Training Grants

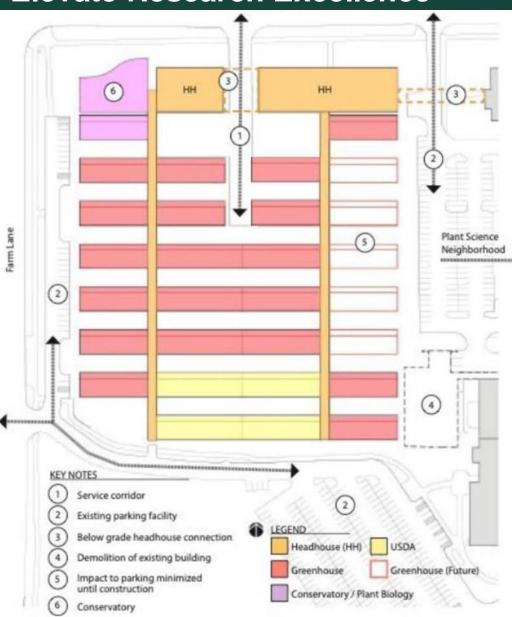




College of Natural Science

Investing in Needed Infrastructure Projects to Elevate Research Excellence







Investing in Needed Infrastructure Projects to Elevate Excellence in Research



MICHIGAN STATE UNIVERSITY College of Natural Science

Investing in Needed Infrastructure Projects to Elevate Excellence in Research



MICHIGAN STATE UNIVERSITY College of Natural Science

Strategic Plan Update 9-17-2023 Aspirations (Baseline date 1-1-2022)

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2023-2024 College of Natural Science Awards





These awards go primarily to senior faculty members in recognition of outstanding contributions in scholarly research and teaching to the college and the university.





Melanie Cooper Chemistry





Erich Grotewold

Biochemistry and Molecular Biology





Remco Zegers Physics and Astronomy





Yimin Xiao

Statistics and Probability





NatSci Research Leadership Award 2023-2024

Research Leadership Awards are given each year to recognize NatSci tenured full professors for outstanding, impactful research and internationally recognized leadership in the field.





Research Leadership Award 2023-24

Alexandra Gade Physics and Astronomy





2023-2024 Mid-Career Award Winner

Mid-Career Research Awards are given each year to recognize NatSci tenured faculty for outstanding research. The award is based on success and impact of publications, funding, and other criteria that demonstrate excellence in the awardee's field





Mid-Career Research Award 2023-24

Kristin Parent

Biochemistry and Molecular Biology





2023-2024 Early Career Research Award

Early Career Research Awards are given each year to recognize NatSci tenure-track faculty for outstanding research. The award is based on success in publications, funding, and other criteria that signify excellence





Early Career Research Award 2023-24

Liangliang Sun Chemistry

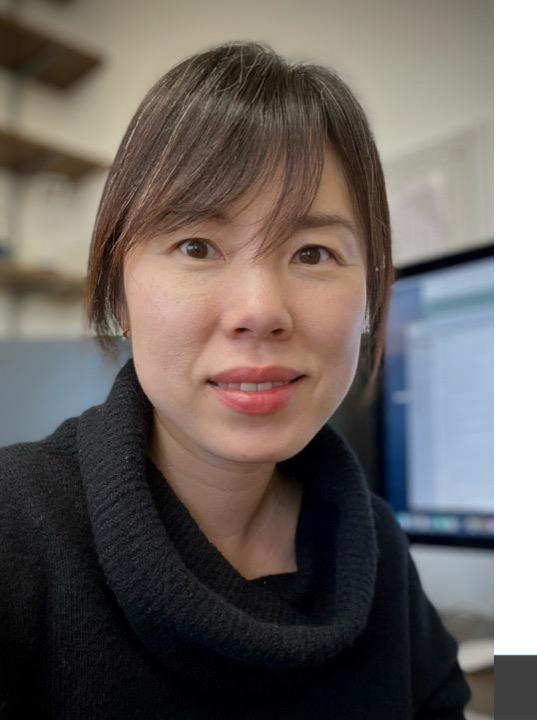




NatSci Teacher-Scholar Award 2023-2024

These awards go to assistant and associate professors for their outstanding contributions to teaching and scholarly research.





NatSci Teacher-Scholar Award 2023-24

Kelly Kim Biochemistry and Molecular Biology





NatSci Teacher-Scholar Award 2023-24

Gee Lee Statistics and Probability



College of Natural Science MICHIGAN STATE UNIVERSITY



NatSci Undergraduate Teaching Award 2023-2024

These awards go to faculty members who have demonstrated outstanding contributions to, and continuing involvement in, creative and engaging ways to foster student learning and instruction.





NatSci Undergraduate Teaching Award 2023-24

Casey Henley Physiology





NatSci Undergraduate Teaching Award 2023-24

Amy Pollock Chemistry





NatSci Junior Faculty Mentoring Award 2023-2024

This award goes to faculty members who have made outstanding contributions to mentoring junior faculty members throughout their academic career.





NatSci Junior Faculty Mentoring Award 2023-24

Nick Haddad Integrative Biology





NatSci Postdoctoral Mentoring Award 2023-2024

This award goes to faculty members who have made outstanding contributions to the effective mentoring of postdoctoral researchers in both professional development and holistic balance.





NatSci Postdoctoral Mentoring Award 2023-24

Laura Chomiuk

Physics and Astronomy





NatSci Distinguished Academic Staff Award 2023-2024

This award goes to academic staff members for outstanding contributions to improving the success of students in the college.





NatSci Distinguished Academic Staff Award 2023-24

Camille Fairbourn

Statistics and Probability





Undergraduate Academic Advisor Award 2023-2024

This award goes to faculty members or academic staff for their outstanding service as advisors. It is awarded by the NatSci Student Advisory Council.





Undergraduate Academic Advisor Award 2023-24

Becky La Neuroscience





Graduate Academic Advisor Award 2023-2024

This award goes to faculty members or academic staff for their outstanding commitment and dedication to student success. It is awarded by the NatSci Student Advisory Council.





Graduate Academic Advisor Award 2023-24

Daniel Bazin

Physics and Astronomy & FRIB





NatSci Support Staff Award 2023-2024

These awards go to staff members who have exceptional job performance and contributions that have improved the university's ability to fulfill its missions.





NatSci Support Staff Award 2023-24

Cathy Cords Physics and Astronomy





NatSci Support Staff Award 2023-24

Anna Osborn Chemistry





NatSci Support Staff Award 2023-24

Holly Vander Stel Kellogg Biological Station





NatSci Excellence-in-Teaching Citation 2023-2024

These awards go to instructors and teaching assistants who have distinguished themselves in undergraduate classroom teaching.





NatSci Excellence-in-Teaching Citation 2023-24

Katie Kwiatkowski Chemistry





NatSci Excellence-in-Teaching Citation 2023-24

Sarah Manski

Statistics and Probability



College of Natural Science MICHIGAN STATE UNIVERSITY



NatSci Undergraduate Learning Assistant Award 2023-2024

This award is given in recognition of the care given and the skill shown in meeting classroom responsibilities in the College of Natural Science.





NatSci Undergraduate Learning Assistant Award 2023-24

Samantha Chambers Chemistry





NatSci Undergraduate Learning Assistant Award 2023-24

Fionna Luniku

Human Biology





NatSci Faculty Teaching Prize 2023-2024

NatSci Faculty Teaching Prizes are made to fixed term and tenure system faculty in recognition of excellent teaching. Nominations are made by department chairs during the annual faculty raise process.





NatSci Faculty Teaching Prize 2023-24

Valerie Hedges Physiology





NatSci Faculty Teaching Prize 2023-24

Harish Sankaranarayanan Statistics and Probability





CISGS Awards 2023-2024

The next four awards are given by the college's **Center for Integrative Studies in General Science**:





Lorena V. Blinn Endowed Teaching Award 2023-2024

This award goes to faculty members who exhibit expertise in teaching and in advancing pedagogy and the education offered by CISGS.





Lorena V. Blinn Endowed Teaching Award 2023-24

Jean Tsao Fisheries and Wildlife





James D. Hoeschele Endowed Teaching Award 2023-2024

This award recognizes outstanding teaching in integrative studies.





James D. Hoeschele Endowed Teaching Award 2023-24

Beth Brisco-McCann

Plant Biology





Ronald W. Wilson Endowed Teaching Award 2023-2024

This award goes to a faculty or staff member for outstanding contributions to teaching and scholarship in integrative studies.





Ronald W. Wilson Endowed Teaching Award 2023-24

Billy Yang

Biochemistry and Molecular Biology





Ronald W. Wilson Endowed Teaching Award 2023-24

Shannon Walsh

Biochemistry and Molecular Biology





Harlo Mervyn Mork Memorial Excellence in Teaching Award 2023-2024

This award is given to teaching assistants in recognition of outstanding contributions to the improvement of undergrad education in integrative studies.





Harlo Mervyn Mork Memorial Excellence in Teaching Award 2023-24

Rebecca Kyer

Physics and Astronomy





Norman L. and Olga K. Fritz Excellence in Teaching Award 2023-2024

This award is open to teaching faculty of any rank, fixed term or tenure, and recipients are selected by the College of Natural Science award committee with student input. The Fritz Award was established to honor and encourage individuals who have exhibited excellence in teaching in the college, especially in physics and mathematics, at Michigan State University.





Norman L. and Olga K. Fritz Excellence in Teaching Award 2023-24

Ryan Maccombs

Mathematics



THANK YOU