MICHIGAN STATE UNIVERSITY | PLANT RESILIENCE INSTITUTE

ONBOARDING PACKET

Updated June 2025

plantresilience.msu.edu pri.admin@msu.edu

TABLE OF CONTENTS

If you have any questions about PRI or being a PRI trainee, please visit our website at **plantresilience.msu.edu**, email the PRI administrative team at **pri.admin@msu.edu**, call us at **(517) 353-6516**, or stop by the main office in the **Plant and Soil Sciences Building, Suite A494**.

ABOUT

The **Plant Resilience Institute (PRI)** at Michigan State University (MSU) is a globally renowned research center for plant resilience. Established in 2016 as part of MSU's Global Impact Initiative, PRI comprises 13 labs and brings together over 100 plant scientists from multiple departments and colleges across the university to address the global challenges of improving plant resilience and stabilizing crop production.

VISION

To be a leader in innovative plant resilience research, fostering a collaborative environment that attracts diverse talent and drives impactful discovery at MSU and across the globe.

MISSION

To become an internationally recognized "Center of Excellence" for groundbreaking laboratory and field research on plant resilience where adaptable future leaders of plant research are trained and the advancement of plant resiliency in our society and environment are advocated for and prioritized.

VALUES

PRI values professionalism, collegiality, and respect in a collaborative environment to facilitate resilience-related research with rigorous and high ethical standards.

COMMUNITY

At PRI, we are committed to cultivating an inclusive and collaborative environment that promotes convergent research. We recognize that a broad range of perspectives contributes to scientific advancement and are engaged in encouraging the participation of individuals from varied backgrounds. PRI encompasses faculty, staff, students, and postdocs with a wide array of experiences and expertise.

We believe that an inclusive community is a catalyst for groundbreaking discoveries and transformative advancements. By fostering an environment where all individuals feel valued, respected, and empowered, PRI aims to promote collaboration, creativity, and the open exchange of ideas. Through fair practices, equitable policies, and ongoing education, we strive to ensure that everyone at PRI has an equal opportunity to thrive and contribute to our mission.

By drawing on the unique perspectives, experiences, and talents within our team, we can push the boundaries of knowledge and drive meaningful impact. Together, we will pursue innovative research that transcends traditional disciplinary boundaries. Together, we will address complex challenges and create solutions that benefit society as a whole. Together, we are PRI.

COMMUNITY GUIDELINES

PRI members are encouraged to adhere to the following guidelines and norms of our community:

TAKE OWNERSHIP OF YOUR RESEARCH

Whether developed from scratch, inherited, or assigned, take ownership of your projects by critically evaluating their importance and striving to become an expert on your research topic. Learn to identify and solve problems on your own by leveraging online resources, consulting labmates and colleagues, and thinking critically before pursuing ideas at length.

COMMUNICATE PROACTIVELY AND TRANSPARENTLY

Initiate discussions with lab members, collaborators, and supervisors; share data and ideas openly (while respecting confidentiality); and welcome diverse perspectives. Constructive criticism and openness are key to a vibrant scientific community.

COLLABORATE ACROSS DISCIPLINES

Actively seek out and lead collaborations within your lab, PRI, and external groups. Be generous with your time, expertise, and ideas, as teaching others and listening to diverse perspectives will help you learn and strengthen your research outcomes.

BE A LEADER AND PARTICIPATE

Strive to be a leader in your lab, department, and PRI by engaging in the opportunities and activities available to you. Examples of participating widely include volunteering at recruitment events, organizing a networking activity, or being involved in professional societies.

ENGAGE IN OUTREACH AND STAKEHOLDER COMMUNICATION

Represent the institute by organizing or participating in seminars, conferences, science exhibits, and public engagement activities. Tailor your communication to diverse audiences, such as farmers, policymakers, industry partners, or the general public, to broaden the impact of your work.

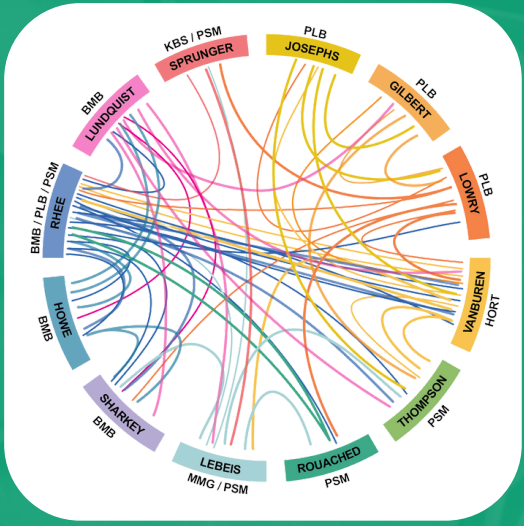
BE KIND AND RESPECTFUL

PRI is committed to providing a safe, inclusive, and respectful environment for all our members. We believe that everyone should be treated with dignity and respect, regardless of race, ethnicity, gender, sexual orientation, age, disability, religion, or any other characteristic. Always be considerate and respectful of your labmates and colleagues by striving to keep your lab and workspace safe, clean, and in working order; always asking before borrowing others' space or equipment; and keeping dialogue constructive and inclusive.

RESEARCH OVERVIEW

PRI is a globally renowned research center for plant resilience, performing groundbreaking laboratory and field research to address the challenges that climate change poses to food production and crop resilience.

We connect leading plant researchers and interdisciplinary labs to drive unique solutions to questions in plant research. By focusing on convergent science, we provide the resources and the platform for innovative collaborations.



PRI focuses on collaborative science across labs, disciplines, and academic departments. Updated July 2024. Figure credit: Tanya Bakija

PRI excels in several synergistic areas of research related to plant resilience, including the roles of hormones and other small metabolites, interactions of biotic and abiotic factors, microbial contributions, and genotype x environment interactions. This research combines insights from both natural biological systems and crop species to inform agricultural improvement, sustainability, and conservation goals in our society. PRI also broadly uses non-model plant systems, allowing us to research critical biological questions that would not be possible to answer using a narrower range of study systems.

The PRI faculty recently began collaborating on three new flagship research initiatives. **Fields to Genomes (F2G)** will identify how environmental factors and management practices contribute to crop success. The development of a **Great Lakes Advanced Climate Impact & Experimental Research Station (GLACIERS)** will create field research infrastructure to simulate and understand the responses of crops to extreme climatic events. The **Plant Resilience-Inducing Metabolite Effectors (PRIME)** project will identify new regulatory metabolites (PRIMEs) that modulate plant resilience traits.

CENTER-LEVEL RESEARCH

PRI supports and contributes to several center-level research grants and institutes in the U.S. and across the globe, including:

C-SPIRIT

The **Center for Sustainable Plant Innovation and Resilience through International Teamwork, or C-SPIRIT**, is an NSF Global Center with the mission to discover bioactive compounds that enhance plant and soil health while engaging industry partners and stakeholders to co-develop technology, promote sustainability, and build public trust through international collaboration.

GREAT LAKES BIOENERGY RESEARCH CENTER

The **Great Lakes Bioenergy Research Center (GLBRC)** is a DOE-funded Bioenergy Research Center led by the University of Wisconsin–Madison in collaboration with MSU and other partners to create biofuels and bioproducts that are economically viable and environmentally sustainable.

KBS LTAR

The **W.K. Kellogg Biological Station (KBS) Long-Term Agroecosystem Research (LTAR)** is part of the USDA's LTAR network, established to develop national, long-term strategies for sustainable agricultural production. KBS LTAR research informs the design of cropping systems that balance future productivity needs with enhanced environmental performance and benefits to farmers and society.

KBS LTER

The **W.K. Kellogg Biological Station (KBS) Long-Term Ecological Research (LTER)** is part of the NSF LTER Network to advance sustainable and resilient agricultural ecosystems through integration of long-term scientific research, education, and engagement with stakeholders.

PLANT CELL ATLAS

Plant Cell Atlas (PCA) is an NSF-funded grant to create a community resource that comprehensively describes the state of various plant cell types and integrates high-resolution location information of nucleic acids, proteins, and metabolites within plant cells.

PLANT METABOLIC NETWORK

The **Plant Metabolic Network (PMN)** is an NSF and DOE grant that aims to bring together biochemical pathway databases and research communities focused on plant metabolism.

WATER AND LIFE INTERFACE INSTITUTE

WALII, or the Water and Life Interface Institute, is an NSF grant that operates as a virtual research institute bringing together labs across the U.S. to study how life continues without water from the molecular level up to evolutionary levels.

PEOPLE & LABS

The 13 PRI labs include faculty, postdocs, students, and staff from diverse career stages and disciplines coming from multiple colleges, departments, and institutions across MSU, including:

- **College of Agriculture and Natural Resources (CANR)**
- **College of Natural Science (NatSci)**
- **Department of Biochemistry and Molecular Biology (BMB)**
- **Department of Entomology (ENT)**
- **Department of Microbiology, Genetics, & Immunology (MGI)**
- **Department of Plant Biology (PLB)**
- **Department of Plant, Soil and Microbial Sciences (PSM)**
- **MSU-DOE Plant Research Laboratory (PRL)**
- **W.K. Kellogg Biological Station (KBS)**

Each lab is led by a PRI faculty member. You can learn more about the PRI labs in the following pages.

THE GILBERT LAB

KADEEM J. GILBERT
Assistant Professor

Departments/Institutes:
Plant Biology
W.K. Kellogg Biological Station

Location:
W.K. Kellogg Biological Station
Academic Building

Email: gilbe334@msu.edu

The Gilbert lab is studying symbiotic interactions in plants and the traits that mediate them. They focus on the natural history and trait evolution of carnivorous pitcher plants, the regulation of abiotic factors with consequences to symbionts, and community ecology in a geographic context. The lab utilizes a wide array of techniques, including field observation, experimental manipulation, phylogenetic analysis, and multi-omics approaches.

Learn More

THE GLASSMIRE LAB

ANDREA GLASSMIRE
Assistant Professor

Departments:
Entomology
Plant Biology

Locations:
Lab - Food Safety & Toxicology 340
Office - Food Safety & Toxicology 348

Email: glassmi5@msu.edu

The Glassmire lab integrates field research with quantitative chemistry to study how metabolomics mediate the complex interactions between plants, microbes, herbivores, and associated predators in order to improve pest management strategies and better understand species invasions. A major initiative in the lab is to develop a model system for controlled manipulation of volatile traits to enhance biological control on insect communities in agroecosystems.

Learn More

THE HOWE LAB

GREGG HOWE

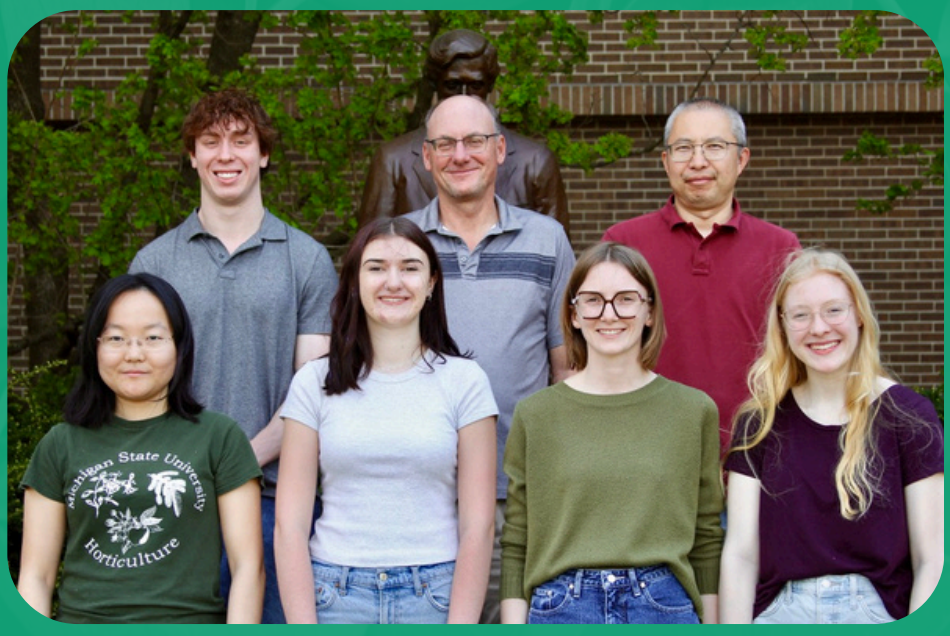
University Distinguished Professor
MSU Foundation Professor

Departments/Institutes:
Biochemistry & Molecular Biology
MSU-DOE Plant Research Laboratory

Locations:
Lab - Molecular Plant Sciences 4100
Office - Molecular Plant Sciences 4275

Email: howeg@msu.edu

The Howe lab studies the role of phytohormones in plant defense against insect herbivores. They use Arabidopsis and tomato as experimental model systems to dissect the molecular mechanisms of jasmonate signaling and plant growth-defense tradeoffs.



Learn More

THE JOSEPHS LAB

EMILY JOSEPHS
Assistant Professor

Department:
Plant Biology

Locations:
Lab - Plant Biology Laboratories 266
Office - Plant Biology Laboratories 264

Email: josep993@msu.edu

The Josephs lab studies the evolutionary genetics of wild and domesticated plants. The lab is interested in understanding how various evolutionary forces, like drift and selection, shape patterns of genetic variation and trait variation in natural and domesticated plant species. By using genomic data, experiments, and new methods, the lab aims to understand how evolution has shaped the variation we see today.

Learn More

THE LEBEIS LAB

SARAH LEBEIS
Associate Professor

Departments:
Plant, Soil and Microbial Sciences
Microbiology, Genetics, & Immunology

Locations:
Lab - Plant and Soil Sciences 498 D-E
Office - Plant and Soil Sciences A494-D

Email: lebeissa@msu.edu

The Lebeis lab aims to uncover how plants and microbes each contribute to host microbiome assembly. Focusing on plant influence over microbiome composition and critical microbe-microbe interactions in plant microbiome assembly, the labs' results help define mechanisms of how plants and microbes interact and how a host harnesses the microbial inoculum.

Learn More

THE LOWRY LAB

DAVID B. LOWRY
PRI Associate Director
Full Professor

Department:
Plant Biology

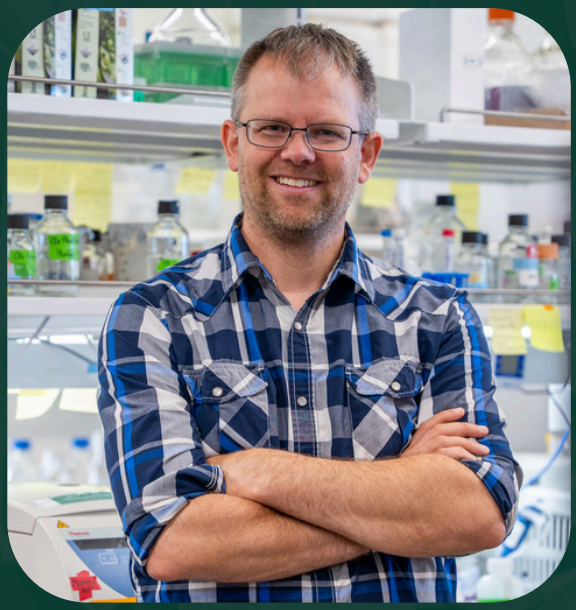
Locations:
Lab - Plant Biology Laboratories 268A
Office - Plant Biology Laboratories 268

Email: dlowry@msu.edu

The research of the Lowry lab is centered on identifying the genetic and physiological mechanisms of ecological adaptations, understanding how those adaptations contribute to the formation of new species, and developing approaches to translate our knowledge of adaptations into the improvement of crop species. The lab's work focuses on monkeyflowers, panicgrass, and common bean.

Learn More

THE LUNDQUIST LAB



PETER K. LUNDQUIST
Associate Professor

Department:
Biochemistry & Molecular Biology

Locations:
Lab - Molecular Plant Sciences 4100
Office - Molecular Plant Sciences 4260

Email: pklundqu@msu.edu

The Lundquist lab studies dynamic lipid droplets of plant plastids called plastoglobules. The lab seeks to bridge basic and translational research by unravelling the relationship of these dynamic particles to plant (a)biotic stress response and nutritional quality. This will lead to important knowledge to be harnessed for improving the productivity and nutritional quality of crops.

Learn More

THE RHEE LAB

SEUNG YON "SUE" RHEE
PRI Director
MSU Foundation Professor

Departments:
Biochemistry & Molecular Biology
Plant Biology
Plant, Soil and Microbial Sciences

Locations:
Lab - Molecular Plant Sciences 4100
Office - Molecular Plant Sciences 4230

Email: rheeseu6@msu.edu

The Rhee lab combines computational and experimental approaches to reveal molecular mechanisms underlying adaptive strategies in plants. They focus on metabolic traits at multiple scales including individual genes, pathways, and networks. The lab also uncovers novel functions, mechanisms, and pathways of 'unknown' genes.

Learn More

THE ROUACHED LAB

HATEM ROUACHED
Assistant Professor

Department:
Plant, Soil and Microbial Sciences

Locations:
Lab - Plant and Soil Sciences 498 A-B
Office - Plant and Soil Sciences A494-H

Email: rouached@msu.edu

By applying systems genetics, the Rouached lab studies how plants detect, interpret, and adapt to diverse nutrient signals to regulate growth. The lab is currently investigating how plants regulate phosphate nutrition, aiming to design strategies to develop new crop varieties with efficient phosphate use.

Learn More

THE SHARKEY LAB

THOMAS SHARKEY
University Distinguished Professor

Departments/Institutes:
Biochemistry & Molecular Biology
MSU-DOE Plant Research Laboratory

Locations:
Lab - Plant Biology Laboratories 210
Office - Plant Biology Laboratories 210C

Email: tsharkey@msu.edu

The Sharkey lab studies the interactions between plants and the atmosphere. Their research is concentrated on three projects: (1) carbon metabolism of photosynthesis from carbon dioxide uptake to carbon export from the Calvin-Benson Cycle, (2) isoprene emission from plants, and (3) abiotic stress tolerance.

Learn More

THE SPRUNGER LAB

CHRISTINE SPRUNGER
Associate Professor

Departments/Institutes:
Plant, Soil and Microbial Sciences
W.K. Kellogg Biological Station

Location:
W.K. Kellogg Biological Station Stack Building

Email: sprunge5@msu.edu

The Sprunger lab consists of soil scientists and ecologists that examine how agricultural practices influence soil for enhanced agronomic performance and ecological function. They are interested in how crop diversity and perenniality influence soil food webs, nematodes, nutrient cycling, and soil health. Focusing on the intersection of agriculture and the environment, the lab also investigates global change biology and socio-ecological systems.

Learn More

THE THOMPSON LAB

ADDIE THOMPSON
Assistant Professor

Department:
Plant, Soil and Microbial Sciences

Locations:
Lab - Plant and Soil Sciences A266
Office - Plant and Soil Sciences 286

Email: thom1718@msu.edu

The Thompson lab studies maize and sorghum and how different genotypes grow in different environments. They employ many technologies and approaches to investigate this area, from quantitative genetics to phenomics to statistical and physiological modeling. Emphasis is placed on addressing biologically meaningful and agriculturally relevant questions, with both domestic and international potential applications.

Learn More

THE VANBUREN LAB

ROBERT VANBUREN
Associate Professor

Departments:
Plant Biology
Plant, Soil and Microbial Sciences

Locations:
Lab - Plant Biology Laboratories 262
Office - Plant Biology Laboratories 262B

Email: vanbur31@msu.edu

Work in the VanBuren lab focuses on exploring the mechanisms that plants use to combat drought stress in natural and agricultural settings. The lab is researching how to improve the climate resilience of C4 cereals, how life survives without water, and how to engineer CAM photosynthesis.

Learn More

OFFICE STAFF

GENERAL PRI ADMINISTATIVE TEAM EMAIL: pri.admin@msu.edu

JOE SAENZ

Role: Office Coordinator
Email: saenzjo1@msu.edu
Location: Plant and Soil Sciences Building, Suite A494

Contact for general administrative tasks and inquiries, including scheduling, booking rooms, correspondence, and travel needs.

MORGAN MAGILLIGAN

Role: Communications Manager
Email: koetjemo@msu.edu
Location: Molecular Plant Sciences, Room 4245

Contact for promotional asks related to PRI's social media, website, press releases, event marketing, as well as PRI's email lists and Slack workspace.

GAËLLE CASSIN-ROSS

Role: Training & Outreach Coordinator
Email: cassin@msu.edu
Location: Molecular Plant Sciences, Room 4245

Contact for assistance with outreach events, PRI Networking Hour, and other training and professional development opportunities.

PAIGE SMITH

Role: Germplasm Curator
Email: psmith65@msu.edu
Location: Plant and Soil Sciences Building, Suite A494

Contact for questions about the PRI germplasm database, as well as germplasm ordering, storage, and other seed-related needs.

BRANDI HOWELL

Role: Business Manager
Email: howell89@msu.edu
Location: Natural Science Building, Room 125

Contact for budgetary and financial questions about PRI, faculty grant portfolios, and the PRI center-grants.

TRAINING & EVENTS

PRI holds regular seminars, workshops, and conferences focused on the professional development of trainees. All our upcoming events are listed on the **PRI website**.

PRI NETWORKING HOUR

PRI hosts a bi-monthly event series, **PRI Networking Hour**, on the second and fourth Thursday of the month during the fall and spring semesters. These hybrid workshops are open to all at MSU and focus on fostering engaging discussions on essential topics, such as responsible conduct of research, career development, writing skills, and more.

ALL-HANDS RETREATS

Members of PRI gather together annually for an all-hands retreat designed to bring our community closer, foster collaboration, and ensure that all voices contribute to shaping the future of our institute. PRI retreats include presentations by faculty, poster and flash talk competitions for trainees, career development seminars, and unstructured time to socialize and network.

While PRI will not be holding a retreat in 2025, PRI members are encouraged to attend the inaugural Great Lakes Plant Science Conference.

GREAT LAKES PLANT SCIENCE CONFERENCE

PRI is leading the organizational efforts for the inaugural **Great Lakes Plant Science Conference (GLPSC 2025)**, taking place September 12-14, 2025 in Lansing, Michigan. A joint endeavor with nine other leading universities in the states and provinces around the Great Lakes, GLPSC 2025 is aimed at fostering a vibrant, collaborative plant research community across the Great Lakes region and beyond.

Learn more and register at **research.msu.edu/glpsc2025**.

PRI RESOURCES

SHARED EQUPMENT & SERVICES

PRI maintains a list of the **shared equipment** available in PRI labs, which includes descriptions of the equipment's purpose, where it is located, and who to contact in order to be trained on its use.

PRI also has access to Novogene RNAseq services, and members can submit samples for sequencing using **this spreadsheet**.

TRAVEL GRANTS

Trainees in PRI are eligible for travel grants of up to $500 each to support their travel to conferences worldwide in order to present their research. Eligible applicants must be current PRI lab members and first authors of a research poster or presentation at the event they plan to attend. This opportunity is available for all career stages and throughout the year. Apply for a PRI Travel Grant using the form **here**.

SEED GRANTS

The **PRI Seed Grant program** seeks proposals for innovative, collaborative research projects focused on plant resilience, broadly defined. These high-risk, high-reward initiatives should explore novel ideas that are not currently funded or part of existing programs. We encourage proposals to be synergistic across MSU laboratories. MSU graduate students and postdoctoral researchers are eligible to apply, with at least one Co-PI affiliated with a PRI lab.

TRAINEE ASSOCIATION

The PRI Postdoctoral Fellows recently created an association for PRI trainees. This group will hold regular social events and provide a supportive community for students and early-career researchers in PRI.

For more information, contact PRI Fellow Derek Denney at denneyde@msu.edu.

Read more about the resources and benefits available for PRI trainees on the **PRI website**.

MSU RESOURCE LINKS

Click the links below to learn about the resources to help Spartans reach their full potential academically, professionally, and personally.

ACADEMIC AND RESEARCH SUPPORT

Council of Graduate Students (COGS)
The Graduate School
MSU Library
Office of Financial Aid
Office of Postdoctoral Affairs
Office of Research Regulatory Support
Research Integrity Office

CAREER AND PROFESSIONAL DEVELOPMENT

Alliance for Graduate Education and the Professoriate (AGEP)
Career Consulting Resources
ElevateU
Handshake
Innovation Center
Office of Graduate Career Development
WorkLife Wellbeing

DIVERSITY AND INCLUSION

Campus Accessibility Maps
Coalition of Racial and Ethnic Minorities (CoREM)
Gender and Sexuality Campus Center
Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)
MOSAIC: The Multicultural Unity Center
Office for Civil Rights and Title IX Education and Compliance (OCR)
Office for Institutional Diversity and Inclusion
Office of International Students and Scholars (OISS)
Resource Center for Persons With Disabilities (RCPD)
Undocumented Student Resources
Voices of Color

MSU RESOURCE LINKS

HEALTH AND WELLNESS

Center for Survivors
Collegiate Recovery Community (CRC)
Counseling and Psychiatric Services (CAPS)
Employee Assistance Program (EAP)
Health Promotion and Engagement
Lactation Room Locations
Office of the University Ombudsperson
Olin Health Services
Recreational Sports and Fitness Services
Safe Place
Student Food Bank
Travel Clinic
WorkLife Wellbeing

NAVIGATING MSU

Bike Registration
Bikes Service and Rental Center
CATA Bus System
Employee Discounts
Human Resources
ID Office
Interactive Campus Map
MSU Acronym Cheat Sheet
MSU Tech Store
Off-Campus Housing Listing Service
Parking Services
Police and Public Safety
Register a Device for Wi-Fi Access
Reporting Suspected Criminal Activity and Misconduct
Sign-up for MSU Alerts
Technology at MSU

KBS-SPECIFIC RESOURCES

Financial Support and Housing
Information for Grad Students
Information for Postdocs
Information for Staff
Maps

ONBOARDING TASKS

When a new trainee of any career stage joins a PRI lab, their PI should immediately inform the **PRI Communications Manager, Morgan Magilligan (koetjemo@msu.edu)**.

MORGAN IS THEN RESPONSIBLE FOR:

- Adding the new trainee to the appropriate **PRI email listserv** and inviting them to the **PRI Slack workspace**.
- Emailing the trainee to introduce herself, providing the PRI Onboarding Packet and **PRI Onboarding and Resources Google Drive folder**, and asking them for additional information relevant to PRI communications.
- Introducing them to the PRI Fellows via email for involvement in the PRI Trainee Association.

THE NEW TRAINEE IS RESPONSIBLE FOR:

- Reading the PRI Onboarding Packet.
- Reviewing the materials in the **PRI Onboarding and Resources Google Drive folder**, including the **PRI Communications Toolkit**.
- Accepting Morgan's invitation to join the **PRI Slack workspace**.
- Responding to her introductory email and to the PRI Fellows.
- Completing any additional onboarding tasks specific to their lab, department, or MSU.

If you have any questions about PRI or being a PRI trainee, please visit our website at **plantresilience.msu.edu**, email the PRI administrative team at **pri.admin@msu.edu**, call us at **(517) 353-6516**, or stop by the main office in the **Plant and Soil Sciences Building, Suite A494**.

CONTACTS

PRI ADMINISTRATION

SEUNG YON "SUE" RHEE
Director
rheeseu6@msu.edu

DAVID LOWRY
Associate Director
dlowry@msu.edu

JOE SAENZ
Office Coordinator
saenzjo1@msu.edu

MORGAN MAGILLIGAN
Communications Manager
koetjemo@msu.edu

GAËLLE CASSIN-ROSS
Training & Outreach Coordinator
cassin@msu.edu

PAIGE SMITH
Germplasm Curator
psmith65@msu.edu

BRANDI HOWELL
Business Manager
howell89@msu.edu

PRI TRAINEE ASSOCIATION LEADERSHIP

DEREK DENNEY
PRI Fellow
denneyde@msu.edu

JOANNA FEEHAN
PRI Fellow
feehanj1@msu.edu

JINNY YANG
PRI Fellow
yangjinn@msu.edu

WELCOME TO PRI!

CONNECT WITH US: plantresilience.msu.edu

pri.admin@msu.edu (517) 353-6516

Plant and Soil Sciences Building, Suite A494

FOLLOW US ON SOCIAL MEDIA:

@plantresilienceinstitute @msupri.bsky.social @msu_pri