

Opportunity Title: USDA-ARS Post-Baccalaureate Internship in Plant-Microbiome Research

Opportunity Reference Code: USDA-ARS-MWA-2024-0334

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2024-0334

How to Apply *To submit your application, scroll to the bottom of this opportunity and click **APPLY**.*

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

Connect with ORISE...on the GO! Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!"

Application Deadline 12/6/2024 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis.

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Madison, Wisconsin.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

The mission of the Cereal Crops Research Unit is to 1) conduct basic research to identify and understand the biological processes affecting the growth, development and properties of barley and oat, 2) evaluate these findings for potential applications to improved cereal quality through germplasm development or altered production practices, and 3) to provide support for barley applied research programs within ARS and at State Agricultural Experiment Stations.

Research Project: The research program of the mentor exists at the intersections of plant pathology, microbial ecology, and plant biology.

 OAK RIDGE INSTITUTE
FOR SCIENCE AND EDUCATION

ORISE GO

The ORISE GO mobile app helps you stay engaged, connected and informed during your ORISE experience – from application, to offer, through your appointment and even as an ORISE alum!

Visit ORISE GO 

GET IT ON
 Google Play

Download on the
 App Store

Opportunity Title: USDA-ARS Post-Baccalaureate Internship in Plant-Microbiome Research

Opportunity Reference Code: USDA-ARS-MWA-2024-0334

Several projects are available and are adaptable to the participant's interests and qualifications:

- Classify microbiome response in rhizosphere and phyllosphere to plants subjected to abiotic stress and/or pathogen infection
- Determine genetic component of microbiome response and function
- Determine how microbial responses changes across diverse host plant genotypes
- Understand the role of host cell wall and carbohydrate composition in microbial community assembly

Learning Objectives: The participant will gain skills and experience in:

- Microbiology, and cell culture of fungi and/or bacteria, microscopy and cellular staining techniques
- Nucleic acid extraction of plant and/or soil samples, amplification of barcode genes for microbiome analysis, analysis of DNA sequence data
- Gene expression analysis in microbes and/or plants
- Inoculation of cereals with plant pathogens, rating disease symptoms, maintenance and care of plants in growth chamber and greenhouse settings

Mentor(s): The mentor for this opportunity is Kristi Gdanetz MacCready (kristi.maccready@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: **January 2025.** Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR) only.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process, please email ORISE.ARS.Midwest@orau.org and include the reference code for

Opportunity Title: USDA-ARS Post-Baccalaureate Internship in Plant-Microbiome Research

Opportunity Reference Code: USDA-ARS-MWA-2024-0334

this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a bachelor's or master's degree in the one of the relevant fields. Degree must have been received within the past five years or is anticipated to be received by start of appointment.

Preferred skills:

- A field of study with emphasis on microbiology and/or plant pathology
- At least one semester of lab-based microbiology course
- Experience with culturing microbes
- Proficiency with micropipettes
- At least one semester of lab-based research experience

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Life Health and Medical Sciences** ([👁](#))
 - **Age:** Must be 18 years of age
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).