Opportunity Title: USDA-ARS Microbial Ecology Bioinformatics Fellowship
Opportunity Reference Code: USDA-ARS-MWA-2025-0144

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2025-0144

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
- Contact information of 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 12/30/2025 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 Peoria, Illinois.

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.

Research Project: The Whitaker Lab located within the Mycotoxin Prevention & Applied Microbiology Unit at the USDA-ARS in Peoria, IL invites opportunities to apply for a **Postdoctoral Research Fellow – Microbial Ecology Bioinformatics Fellowship** trainee opportunity through ORISE.

This fellowship will focus on investigating the malting barley phyllosphere using synthetic community (SynCom) approaches, in particular: mechanisms of Fusarium disease suppression, transkingdom (bacterial and

fungal) microbiome assembly, and trait-based approaches in plant-pathogen-microbe interactions. This fellowship will have an initial focus on fungal communities but is likely to expand into fungal-bacterial interactions.

The project is part of a collaborative effort between the Whitaker (USDA Peoria IL), Geddes (NDSU Microbiological Sciences), and Baldwin (NDSU Plant Pathology) labs, titled “Elucidating Transkingdom Microbial Community Assembly in the Barley Phyllosphere During Fusarium Infection.”

Learning Objectives: Under the guidance of a mentor, the participant will learn how to:

- Perform statistical analyses to analyze complex microbial communities.
- Develop robust screening assays for diverse fungal and bacterial microorganisms.
- Cultivate agricultural crops in a greenhouse and/or the field.

Mentor(s): The mentor for this opportunity is Briana Whitaker (briana.whitaker@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: January 2026. 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. **The anticipated stipend is $5,000 monthly.**

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 this opportunity.

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Qualifications

The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields (e.g. Ecology, Microbiology, Plant Pathology, Molecular Biology, Bioinformatics, or a related field). Degree must have been received within the past four years or anticipated to be received by Summer 2026.

Preferred skills:

- Excellent communication, organizational, and teamwork skills
- Evidence of first-author publications in preparation, submitted, or accepted in relevant areas.

The successful candidate is also highly desired to have a strong background in one or more of the following areas.

- Ability to independently generate and interpret microbiome or other “omics” datasets and conduct statistical analyses on community assembly using statistical and bioinformatic pipelines
- Have strong experience with molecular techniques (e.g., DNA extractions, PCR, qPCR, library preparation, RNA extractions)
- Performing large fungal or bacterial culturing experiments from field samples, in vitro/in planta microbial screening assays, or generating fungal genetic mutants.
- Familiarity with greenhouse or growth chamber experiments involving symbiotic or pathogenic inoculations in plants.
- Knowledge of effector biology, microbial trait-based ecology, or other functional assays related to quantifying ecological roles of microorganisms in plant systems.

Stipend

$5,000.00 Monthly

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree received within the last 48 months or currently pursuing.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (17 👁)
- **Age:** Must be 18 years of age