

Opportunity Title: USDA-ARS Opportunity– Fungal Population Dynamics & Mycotoxin Ecology in Corn

Opportunity Reference Code: USDA-ARS-MWA-2026-0392

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2026-0392

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.

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Application Deadline 12/4/2026 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis.**

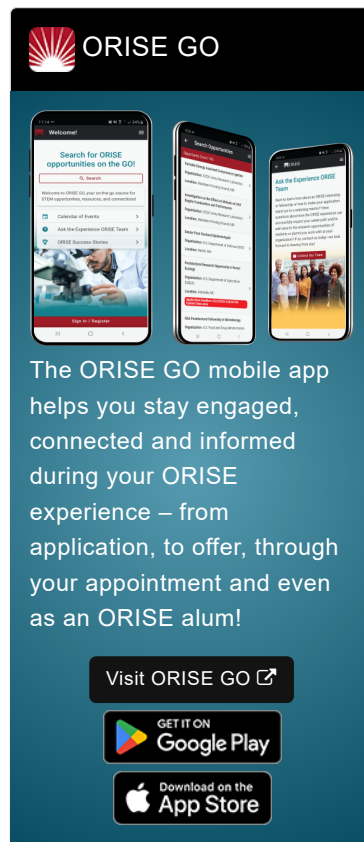
ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located at the National Center for Agricultural Utilization Research (NCAUR) in Peoria, Illinois.

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.

The Mycotoxin Prevention and Applied Microbiology Unit conducts integrated research to understand and mitigate mycotoxin contamination in U.S. corn production systems.

Research Project: The research focuses on understanding the population dynamics of fungal communities throughout the growing season and how these dynamics influence mycotoxin contamination in corn.

You will be a part of a multi-year project aimed at:



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- Characterizing fungal population structure and succession across key phenological stages of corn.
- Applying molecular and microbiome sequencing approaches (e.g., ITS/TEF amplicon sequencing, qPCR, metagenomics) to track fungal communities.
- Conducting mycotoxin quantification to link fungal ecology with toxin outcomes.
- Conducting field and greenhouse experiments to identify and evaluate the effects of factors that influence mycotoxin risk
- Integrating computational and statistical tools to model fungal population shifts and identify environmental or biological drivers of mycotoxin risk.
- Collaborating with plant pathologists, microbiologists, chemists, and data scientists to develop predictive insights that support improved food and feed safety.

Learning Objectives: Under the guidance of a mentor, you will have the opportunity to learn to: (a) utilize field and laboratory methods in plant pathology and fungal ecology; (b) conduct microbiome analysis, bioinformatics, and computational modeling; (b) conduct rapid mycotoxin analysis; (c) prepare scientific communication, and manuscripts; and (d) design field and laboratory experiments that integrate agronomic, microbiome, and ecological datasets

Mentor(s): The mentor for this opportunity is Joseph Opoku (joseph.opoku@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 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 range is \$4,800 - \$6,430 monthly.**

Citizenship Requirements: This opportunity is available to U.S. citizens 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

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through ORISE.

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

Qualifications The qualified candidate should have received or be currently pursuing a bachelor's, master's, or doctoral degree in one of the relevant fields (Plant Pathology, Microbiology, Molecular Biology, Ecology, Computational Biology, or a related field).

Preferred skills:

- Experience with fungal biology, microbiome sequencing, or mycotoxin analysis
- Quantitative or computational skills
- Written and oral communication skills

Stipend \$4,800.00 – \$6,430.00 Monthly

Point of Contact [Michele](#)

- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) 👁)
 - **Computer, Information, and Data Sciences** ([17](#) 👁)
 - **Life Health and Medical Sciences** ([51](#) 👁)
 - **Mathematics and Statistics** ([2](#) 👁)