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Opportunity Title: Molecular Biology/Chemical Ecology Postdoctoral Research Fellowship
Opportunity Reference Code: USDA-ARS-MWA-2024-0395

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2024-0395

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 2/28/2025 3:00:00 PM Eastern Time Zone

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

ARS Office/Lab and Location: A Postdoctoral Research opportunity is currently available in the Mycotoxin Prevention and Applied Microbiology (MPM) Research Unit, National Center for Agricultural Utilization Research (NCAUR), 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 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. The goal of the Mycotoxin Prevention and Applied Microbiology (MPM) Research Unit is to enhance food safety by conducting research to develop strategies to control fungal disease in cereal crops and eliminate the risk of harmful fungal contaminants in food and feed.

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Research Project: Mycotoxin Prevention and Applied Microbiology (MPM) Research Unit scientists conduct research in genetics, microbiology, chemistry and plant pathology to produce information and technologies to enhance food safety and crop production in the U.S. and around the world. The postdoctoral fellow will have the opportunity to collaborate with this team of scientists specifically on research aimed at molecular and functional characterization of fungal volatiles. Under the guidance of a mentor, the fellow will be involved in evaluating fungal volatile profiles, conducting biofumigation assays, and the identification and heterologous expression of fungal terpene synthases. Furthermore, the fellow will be involved in evaluating the influence of plant and fungal volatiles on Fusarium mycotoxin production.

Learning Objectives:

1. Advance skills in chemical ecology and molecular biology.
2. Gain experience in compiling data and scientific writing.
3. Increase confidence in project design and execution, enhance communication and teamwork skills, quantitative reasoning, critical thinking, and complex multifactorial data set analyses.

Mentor(s): The mentor for this opportunity is Martha Vaughan (martha.vaughan@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: April 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, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation. Foreign national candidates may have a mandatory in-person requirement depending on visa status.

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@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields.

Preferred skills:

- Preferred experience in a laboratory environment, molecular biology, and/or chemical ecology.
- Preferred experience with volatiles and heterologous gene expression.

Point of Contact

Shantra Joynes

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (51 👁)
  - **Mathematics and Statistics** (11 👁)

Affirmation

I affirm that:

I am a US Citizen, OR;
I am a non-US citizen currently living in the United States