

Opportunity Title: USDA-ARS Research Internship in Agricultural Pest Management

Opportunity Reference Code: USDA-ARS-SE-2024-0052

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SE-2024-0052

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

Application Deadline 5/10/2024 3:00:00 PM Eastern Time Zone

Description *Applications may be 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), National Biological Control Laboratory (NBCL) located in Stoneville, Mississippi.

The NBCL provides an interdisciplinary team of scientists with facilities for basic and applied research towards developing practical methods of mass propagation, storage, delivery of beneficial organisms, targeted release strategies for integrated pest management, and an APHIS-approved facility for classical biocontrol research on classical biocontrol of invasive alien pest insects and weeds.

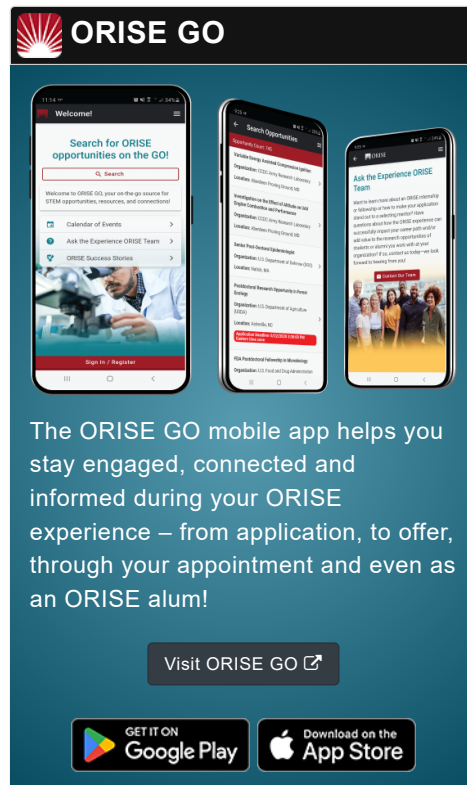
Research Project: The selected participant will be involved with developing chemical and biological approaches to control agricultural pests in corn and other crops and more specifically aflatoxin contamination in corn.

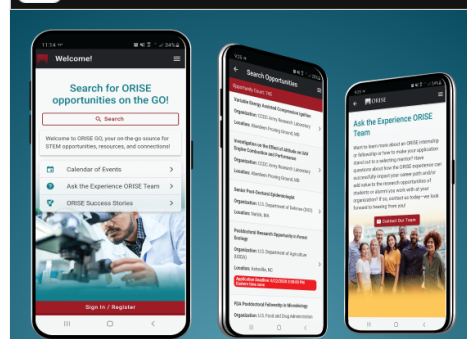
Under the guidance of a mentor, the participant will learn simple routines in support of research projects. Such activities involve repetitive tests, procedures, routines, or operations which require little previous knowledge or skills in this line of research and allow the opportunity for the selected participant to gain new knowledge and skills in these areas.

Typical, but not all-inclusive, research activities are include any combination of the following:

- Laboratory -- prepares routine media, and solutions, by weighing and measuring constituents according to established methods; uses common laboratory equipment and apparatus such as autoclaves, sterilizers,






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centrifuges and homogenizers; prepares labels for specimens; maintains research area in a neat and orderly manner and may wash or clean other laboratory equipment.

- Field -- activities incidental to the research project; contributes to plot preparation and maintenance, plant harvesting and sample preparation and maintenance, as well as sample and seed sorting, or processing for analysis and storage; may perform such activities as keeping simple records of research accomplished, etc.
- Greenhouse -- activities incidental to the research project such as watering, fertilizing, weeding, potting, and maintaining plants. Maintains research area in a neat and orderly manner.

Learning Objectives: The participant will learn various skills and techniques in laboratory, field, and greenhouse conditions used to collect, process, and analyze samples for development of biological control approaches for pest management of corn.

This opportunity will provide hands-on experience in the research field, and the participant will be in regular contact with research professionals and industry collaborators. The participant will enrich his/her discipline in molecular biology, chemistry, microbiology, plant pathology, and agronomy.

Mentor(s): The mentor for this opportunity is Hamed Abbas (hamed.abbas@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Spring/Summer 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for three to five months depending on part-time participation, but may be extended on a part-time basis upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is part-time with the opportunity for an extended part-time appointment based on the needs of the selected candidate, funding availability, and project objectives.

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

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Qualifications

The qualified candidate should either be working towards a high school diploma, or be currently enrolled in or received an associates, bachelor's, master's , or doctoral degree in one of the relevant fields. Degree must have been received within the past five years, or be currently pursuing.

Preferred skills:

- Knowledge in the use of various laboratory glassware, cleaning solutions, cleaning apparatus, and cleaning methods (i.e. common disinfecting solutions: 70% Ethyl-Alcohol and 10% Bleach)
- Knowledge of terminology of certain laboratory glassware and equipment i.e. multi- pronged suction apparatus, autoclave, incubators
- Ability to accurately measure and mix common chemical solutions (i.e. 10% water agar for soil and phosphate buffer for corn)
- Knowledge in preparing common media used to select fungal isolates (i.e. Aspergillus flavus (MDRB and PDA)
- Knowledge of basic biological laboratory terminology
- Ability to read simple instructions and write legibly
- Knowledge of laboratory procedures and simple routines i.e. cleaning samples for analytical instrumentations use for mycotoxin analysis (aflatoxin, CPA, fumonisin)
- Knowledge with the process of fungal isolating colonies using PDA Media and testing isolated colonies for toxigenicity

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** High School Diploma/GED, Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Academic Level(s):** Graduate Students, K-12 Students, Post-Bachelor's, Postdoctoral, Post-Master's, or Undergraduate Students.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (2 )
 - **Life Health and Medical Sciences** (7 )
 - **Social and Behavioral Sciences** (2 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).