Opportunity Title: Post Bachelor Biological Science Research Opportunity
Opportunity Reference Code: ARS-BCPRU-2018-564-0007

Organization U.S. Department of Agriculture (USDA)

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How to Apply A complete application package 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. Selected candidate must provide proof of completion of the degree before the appointment can start. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two references – While two references are requested, applications will be considered without reference information. It is preferred that a complete application package contains a minimum of one reference.

If you have questions, send an email to USDA-ARS@orau.org. Please include the reference code for this opportunity in your email.

Description A biological science research opportunity in biological control of aflatoxin and *Aspergillus flavus* ecology is available with the the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Biological Control of Pests Research Unit (BCPRU) in Stoneville, Mississippi.

Aflatoxin is an economically important contamination of corn and other commodities that have been infected by the opportunistic fungal pathogen, *Aspergillus flavus*. The only effective control is the field application of non-aflatoxigenic strains of *A. flavus*. The successful applicant will use traditional microbiological techniques to quantify *A. flavus* from environmental samples. A combination of traditional and novel, DNA-based approaches are being developed to characterize the *A. flavus* population.

The selected candidate will carry out a project that includes: 1) Analysis of soil and grain samples to determine the level of colonization by *A. flavus* 2) Collect, characterize and archive environmental isolates of *A. flavus* 4) Assist the mentor in general lab, greenhouse and field experiments. Clear documentation of experimental methods and results are required and the incumbent is expected to communicate frequently and clearly with the mentor.

In the mentor's laboratory, the selected candidate will have the opportunity to learn about *A. flavus* biology and ecology and secondary metabolism. The potential exists for innovative research in new detection technologies. Also included are opportunities in plant biology, plant-insect interactions and landscape-level GIS applications.

The appointment is full-time for approximately 6 months, and may be renewed based upon recommendation of the ARS and availability of

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funding. The selected applicant will receive a monthly stipend as support for their living and other expenses during this appointment. Stipend rates are determined by ARS officials, and are based on the applicant's academic and professional background. The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE.

The participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, ARS, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

While participants will not enter into an employment relationship with ARS, this position requires a pre-appointment check and a full background investigation.

This opportunity is available to U.S. citizens.

For more information about the ARS Research Participation Program, please visit the **Program Website**.

Qualifications

To be eligible, applicants must have a B.S. in biology, microbiology, plant/agricultural sciences, or closely related field.

The successful applicant should have hands-on experience with microbiological work such as sterile technique, serial dilutions and estimation of colony-forming units. Familiarity with PCR theory and application is helpful. Diligent record keeping will be required. General knowledge of row-crop agriculture, GIS applications, and plant propagation are helpful.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1)
  - **Environmental and Marine Sciences** (1)
  - **Life Health and Medical Sciences** (3)