

Opportunity Title: USDA-ARS Postdoctoral Fellowship in Fungal Genetics and Transcriptomics

Opportunity Reference Code: USDA-ARS-2022-0020

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0020

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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.

Description *Applications will be reviewed on a rolling-basis, and this opportunity will remain open until filled.

ARS Office/Lab and Location: A postdoctoral fellowship is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Pest Management and Biocontrol Research Unit, Tucson Aflatoxin Biocontrol Lab located in Tucson, Arizona.

Research Project: Aflatoxin, a mycotoxin produced by *Aspergillus flavus* and its close relatives, contaminates food grown in warm regions and can lead to liver cancer, immune system and growth suppression, and death. The Tucson Aflatoxin Reduction Lab studies ways to improve aflatoxin biocontrol through selection of non-aflatoxigenic *A. flavus* isolates that possess genetic and genomic traits associated with decreased crop aflatoxin contamination, which may be due to competitive ability or aflatoxin degradation.

The participant will cooperatively design and conduct experiments to understand degradation pathways of aflatoxin in non-aflatoxigenic *A. flavus* isolates, analyze genomic and transcriptomic data of *Aspergillus* isolates, and communicate those findings through conference presentations and peer-reviewed articles. There will be additional opportunities to study insect transcriptomics with other scientists in the Pest Management and Biocontrol Research Unit, which may lead to additional publication opportunities.

Learning Objectives: The participant will learn how to (1) work with *Aspergillus*, (2) analyze fungal genomic and transcriptomic data, and (3) effectively communicate scientific findings. Additionally, the participant will learn the intricacies of aflatoxin biocontrol and will have the possibility to learn how to work with insect transcriptomic data.

Mentor(s): The mentor for this opportunity is Kenneth Callicott (ken.callicott@usda.gov). If you have questions about the nature of the research please contact one of the mentors.

Anticipated Appointment Start Date: As soon as a qualified candidate is identified (negotiable). Start date is flexible and will depend on a variety of factors.



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Appointment Length: The appointment will initially be for one year, but may be renewed up to three additional years 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 annual stipend will be \$64,694 and a health insurance allowance of \$5,679 and a relocation allowance of \$3,000 will also be provided.**

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 USDA-ARS@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a doctoral degree in one of the relevant fields.

Preferred skills:

- Experience in designing and analyzing genomic and transcriptomic data generated by long-read and short-read sequencing methods
- Familiarity with analyzing data in a High Performance Computing environment

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Doctoral Degree.
 - **Discipline(s):**
 - **Life Health and Medical Sciences** ([46](#) )