Opportunity Title: USDA-ARS Postdoctoral Fellowship in Chemistry of Microbe-Plant Interactions
Opportunity Reference Code: USDA-ARS-2022-0076

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0076

How to Apply

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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 research opportunity is available with the U.S. Department of Agriculture Agricultural Research Service (ARS) at the Food and Feed Safety Research Unit located in New Orleans, Louisiana.

The 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.

Research Project: Under the guidance of the mentors, the selected participant will collaborate with ARS scientists at The Food and Feed Safety Research Unit and their collaborators on research projects utilizing state-of-the-art equipment and instrumentation to investigate the chemical ecology of microbe-microbe and plant-microbe interactions with a particular focus on toxigenic fungi and corn. The research involves development, optimization, and application of advanced analytical methodologies for both untargeted metabolomics and the targeted detection of compounds of interest (including their potential degradation products) in food and feed matrices,

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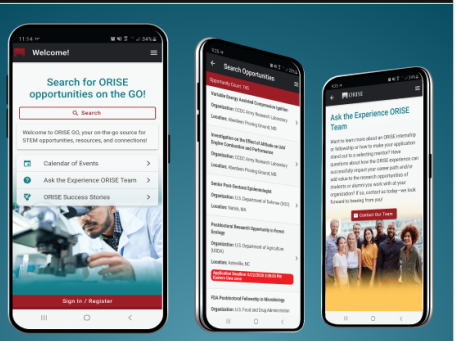

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culture media, and biotic experiments involving transgenic plants. We are particularly interested in chemical and biochemical interactions that mitigate mycotoxin contamination of food crops.

Learning Objectives: The Fellow will be encouraged to present the research findings at national conferences, detailed in peer-reviewed manuscripts, and final reports to funding sponsors. Ample opportunities will be provided to interact with other scientists with expertise in fungal ecology, molecular biology, biochemistry, and plant biotechnology.

Mentor(s): The primary mentor for this opportunity is Dr. Matthew Lebar (matthew.lebar@usda.gov) and Dr. Kanniah Rajasekaran (kanniah.rajasekaran@usda.gov) will be the secondary mentor. If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: As soon as a qualified candidate is identified. 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 an additional year 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. **An annual stipend of $66,000 will be provided.**

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.

Qualifications

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

Preferred skills:

- Expertise in chemical analysis of fungal and plant metabolites that have promising effect on prevention of pre-harvest toxin (aflatoxin and others) contamination of food

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and feed crops such as corn
- Experience in analysis of plant-microbe interaction
- Desire to collaborate with a large group of scientists
- Familiarity with analytical techniques such as HPLC coupled to UV, fluorescent, and QTOF MS/MS detectors
- Knowledge in method development, extraction protocols for complex matrix analysis, metabolomics and/or proteomics analysis software, and primary/secondary metabolite biosynthesis in microbes and plants

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Life Health and Medical Sciences** (21 👁)