

Opportunity Title: USDA-ARS Postdoctoral Research Fellowship in Host-microbe and Environmental Interactions

Opportunity Reference Code: USDA-ARS-2022-0354

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0354

How to Apply **Connect with ORISE...on the GO!** Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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.

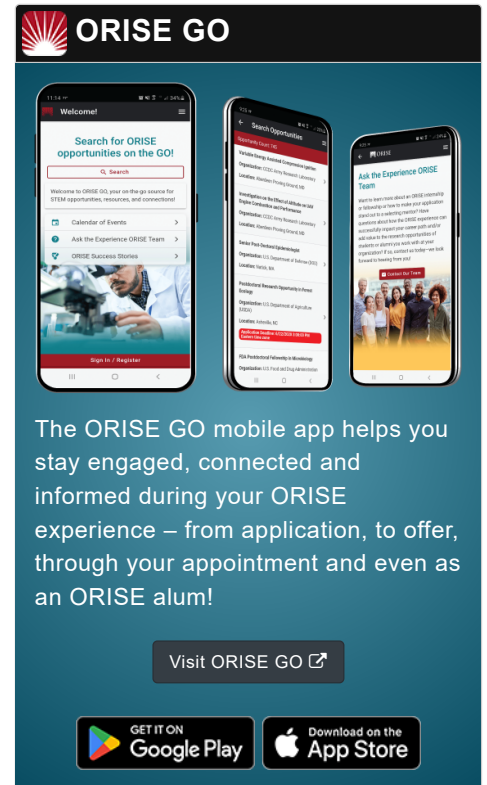
Application Deadline 11/22/2022 3:00:00 PM Eastern Time Zone

Description ***Applications may be reviewed on a rolling-basis.**

ARS Office/Lab and Location: A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Dale Bumpers National Rice Research Center located in Stuttgart, Arkansas.

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.

For more information on the Dale Bumpers National Rice Research Center, use the following link. <https://www.ars.usda.gov/southeast-area/stuttgart-ar/dale-bumpers-national-rice-research-center/>



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Research Project: The mission of the Dale Bumpers National Rice Research Center is to improve the competitiveness of the U.S. rice industry in global and domestic markets through research and technology development that assure high yields, value-added grain quality, pest resistance and stress tolerance. The shortage of irrigation water and increased night-time temperature have negatively impacted quality and quantity of rice production by intensification of pressure of both biotic and abiotic stress. The participant will be involved in a team investigation of rice genes that are involved in resisting plant pathogens including *Magnaporthe oryzae* and stresses caused by extreme temperatures, drought and salt, and also will be involved in identifying rice genes that interact with soil microbes in emitting greenhouse gases under changing production and environmental conditions.

Learning Objectives: The participant will learn skills in plant and environmental sciences including the evaluation of biomass, yield, protein, grain element, disease resistance, greenhouse gas collection and analysis, plant and microbe DNA, RNA purification and DNA sequencing analysis using next gen DNA sequencing, gene expression using RNA seq or real time PCR. Open sources of bioinformatic tools and databases will be used for gene mapping and characterization. This opportunity will enable the participant to develop skills needed for investigating host-pathogen interactions and improving plant health.

Mentor(s): The mentor for this opportunity is Yulin Jia (yulin.jia@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: December 2022. 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.

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

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(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@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 (e.g., Plant Genetics, Pathology, Soil Science, Biological Engineering, Molecular Biology, Microbiology).

Preferred Skills:

- Demonstrated accomplishments in host-microbe and environmental interactions.
- Experienced with DNA/RNA preparation and amplification, microbe manipulation, gene mapping and cloning, pathway analysis, molecular genetic related skills.

**Eligibility
Requirements**

- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (2 )
 - **Communications and Graphics Design** (6 )
 - **Engineering** (2 )
 - **Environmental and Marine Sciences** (2 )
 - **Life Health and Medical Sciences** (13 )
 - **Mathematics and Statistics** (2 )
 - **Other Non-Science & Engineering** (1 )