Opportunity Title: USDA-ARS Postdoctoral Research Fellowship
Opportunity Reference Code: USDA-ARS-2022-0403

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0403

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 1/11/2023 3:00:00 PM Eastern Time Zone

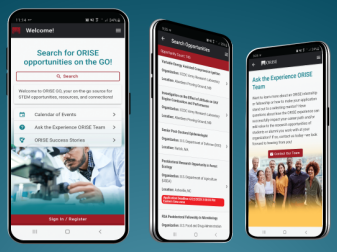
Description ***Applications may be reviewed on a rolling-basis.**

ARS Office/Lab and Location: Two research opportunities are currently available with the Sustainable Water Management Research Unit within the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Stoneville, Mississippi.

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.

Research Project: The project will focus on enhancing the sustainability of irrigated agriculture in the Lower Mississippi Delta region in Mississippi.

APPOINTMENT ACITIVITES: The participant is a Postdoctoral Research Fellow at USDA-ARS Sustainable Water Management Research Unit in Stoneville, MS. The assigned research area will focus on enhancing the sustainability of irrigated agriculture in the Lower Mississippi Delta region in Mississippi. This research is a component of USDA-ARS National Program 211-Water Availability and Watershed Management. The participant will assist with team research aimed at investigating the impacts of soil amendments, cover crops, and tillage and water-crop management on soil physical, chemical, biological, and hydraulic properties for managing soil nutrient and water availability in various row-crop systems in the Lower Mississippi River Basin (LMRB). Evaluations include controlled environment-based studies to investigate physiological and production responses of crops in the LMRB

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION
ORISE GO

The ORISE GO mobile app helps you stay engaged, connected and informed during your ORISE experience – from application, to offer, through your appointment and even as an ORISE alum!
Visit ORISE GO
GET IT ON Google Play
Download on the App Store

Opportunity Title: USDA-ARS Postdoctoral Research Fellowship
Opportunity Reference Code: USDA-ARS-2022-0403

to flood, drought, and extreme air temperatures under enhanced atmospheric carbon dioxide concentrations. In addition, the participant will conduct unmanned aerial systems (UAS) flights (mounted with multi-spectral/hyper-spectral and thermal sensors) to investigate the influence of environmental factors on morphophysiological traits of crops in field conditions. In the growth chamber and greenhouse, proximal spectroradiometer with leaf clip will be used to collect leaf-based reflectance to investigate the plant-environment interaction. Spectral indices derived from reflectance data captured by the unmanned aerial and proximal sensors will act as the proxy to morphophysiological traits of plants. Thermal sensor will be used to study site-specific canopy and soil temperatures as influenced by abiotic factors. Impacts of soil-water-crop-air-carbon dioxide management in enhancing soil-water-air properties/qualities by reducing soil nutrient leaching and runoff water losses will be another research focus for the participant. Additional opportunities will exist for the participant to examine climate variability and change impacts on energy, crop growth and fluxes and exchanges between cropping systems and atmosphere in the LMRB.

Learning Objectives: As a result of this training the participant will improve their skills in water management research, scientific writing, and data analysis.

Mentor(s): The mentor for this opportunity is Amanda Ashworth (amanda.ashworth@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: January 2023. 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 (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.

Opportunity Title: USDA-ARS Postdoctoral Research Fellowship
Opportunity Reference Code: USDA-ARS-2022-0403

Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields (e.g., Soil Science, Crop Sciences, Agronomy, Plant Physiology, Remote Sensing), or be currently pursuing the degree with completion before January 31, 2023.

Preferred Skills:

- Experience with growth-chambers and climate variability research
- Experience in collecting remote sensing data and hyper and multi-spectral data analysis
- Previous experience with UAS and climate variability research

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (3 👁)
  - **Environmental and Marine Sciences** (2 👁)
  - **Life Health and Medical Sciences** (5 👁)