

Opportunity Title: Postdoctoral Research Opportunity in Sustainable Water Management

Opportunity Reference Code: USDA-ARS-2019-0083

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2019-0083

How to Apply 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.

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

Application Deadline 8/1/2019 3:00:00 PM Eastern Time Zone

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

A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Sustainable Water Management Research Unit in Stoneville, Mississippi.

The Sustainable Water Management Research Unit (SWMRU) develops integrated strategies to improve water resource management for sustainable agricultural production in the Lower Mississippi River Basin (LMRB). The LMRB is one of the most productive and intensively irrigated agricultural regions in the nation, and the second in total groundwater pumped from Mississippi River Valley Alluvial Aquifer for irrigation. Over use of this aquifer causes the water level of the aquifer to decline. Scientists in SWMRU conduct cutting-edge research to quantify crop water requirements and develop new irrigation scheduling and application technologies to increase water productivity; innovate tools and methods using engineering techniques to improve water resource management; investigate and implement novel methods for sustainable use of surface and ground water resources; and develop conservation management practices to improve water management and enhance environmental sustainability.

Under the guidance of a mentor, the selected participant will be trained on developing novel technologies in variable rate irrigation and conducting research on the impact of cover crops on water runoff and water quality.

The participant will collaborate with and learn from a team of other engineers and scientists in planning and conducting research, analyzing statistical data, and the reporting of results in the development of new knowledge for the improvement of water use efficiency in crop production. Through this project, the participant will gain knowledges in sustainable water management, including (1) new methods and tools to generate variable rate irrigation prescriptions, and (2) the procedures to find the influence of cover crops on runoff water quantity and quality in field.


Anticipated Appointment Start Date: August 1, 2019


This program, administered by ORAU through its contract with the U.S. Department of Energy




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(DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. The initial appointment is for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at ARS in the Stoneville, Mississippi, area. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits.

This opportunity is available to U.S. citizens only.

For more information about the ARS Research Participation Program, please visit the [Program Website](#).

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

Preferred skills/experience:

- Variable rate irrigation
- Artificial neural network and fuzzy logic
- Crop water stress detection and modeling

- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree.
 - **Discipline(s):**
 - **Engineering** (2👁)
 - **Environmental and Marine Sciences** (5👁)
 - **Life Health and Medical Sciences** (2👁)