

**Opportunity Title:** Postdoctoral Research Opportunity in Hydrology and Conservation Agriculture

**Opportunity Reference Code:** USDA-ARS-2020-0055

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-ARS-2020-0055

**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](mailto:USDA-ARS@orau.org). Please include the reference code for this opportunity in your email.

**Application Deadline** 3/17/2020 3:00:00 PM Eastern Time Zone

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

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

The research is expected to advance knowledge of water management and agroecosystem sustainability in the Lower Mississippi River Basin. Research will improve understanding of water and gas fluxes from different management regimes within agricultural systems and utilize geospatial and remote sensing datasets to assess agroecosystem sustainability at the regional scale.

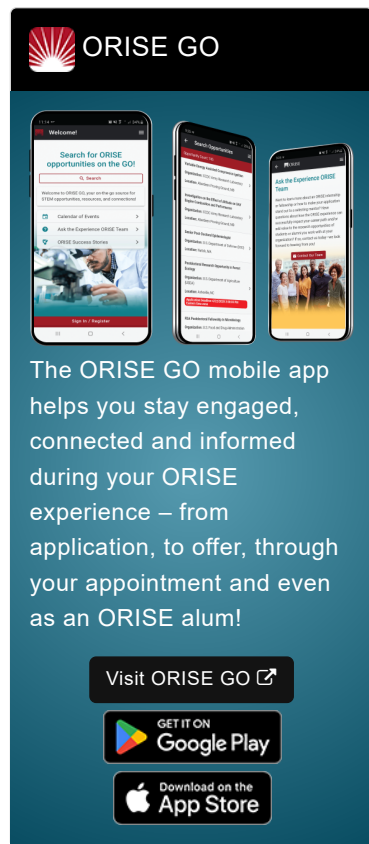
Under the guidance of a mentor, the participant will be involved in the following activities:

- Collaborate with USDA-ARS research scientists to install and maintain eddy-covariance towers at several research sites. The participant will analyze data from towers to answer research questions about agroecosystem sustainability.
- Utilize geospatial and remote sensing datasets to evaluate research questions related to weather and climate patterns, agricultural production, and environmental sustainability in the Lower Mississippi River Basin
- Participate in the Long Term Agroecosystem Research (LTAR) Network in the eddy flux and remote sensing/GIS working groups

The learning objectives for this appointment will include:

- Gaining valuable experience collaborating with an interdisciplinary research team addressing the sustainability and environmental aspects of agriculture
- Developing skills in experimental design, data collection, and data management in ecohydrology

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



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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, 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.

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:

- Use of R programming language, Python or other statistical analysis software/language
- Use of Geographic Information Systems, geostatistical techniques
- Operation and utilization of GPS systems for navigation
- Operation and utilization of eddy-covariance sensors and data loggers
- Planning and execution of soil, climate, and hydrologic data collection using a variety of field methodologies

- Eligibility Requirements**

- **Degree:** Doctoral Degree.
  - **Discipline(s):**
    - **Chemistry and Materials Sciences** ([1](#)👁)
    - **Earth and Geosciences** ([7](#)👁)
    - **Engineering** ([3](#)👁)
    - **Environmental and Marine Sciences** ([5](#)👁)
    - **Life Health and Medical Sciences** ([7](#)👁)
    - **Physics** ([1](#)👁)