

**Opportunity Title:** Research Opportunity in Nutrient Cycling and Hydrology

**Opportunity Reference Code:** USDA-ARS-2020-0107

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

**Reference Code** USDA-ARS-2020-0107

**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** 6/22/2020 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), Water Quality and Ecology Research Unit located in Oxford, Mississippi.

This project is expected to advance knowledge of nutrient cycling in agricultural ditches within the Lower Mississippi River Basin. Research will improve understanding of hydrology and nutrient fluxes typical of agricultural ditches. The participant will take an active role in experiments to measure the nutrient removal and transport capacity within agricultural ditches under various discharge and temperature regimes.

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

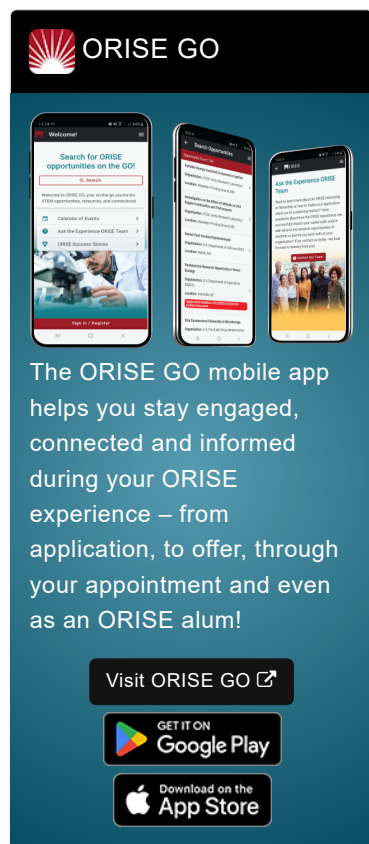
- Collaborate with USDA-ARS research scientists to develop an experimental design to measure hydrological variables and nutrient fluxes in agricultural ditches
- Collaborate closely with scientists to implement the experiment several times throughout the year to capture the effect of different seasons, discharge and management regimes
- Conduct laboratory analyses on samples collected to determine nutrient content in aqueous and sediment samples
- Conduct data analysis with measurements collected in the field and results from laboratory analyses

The learning objectives for this appointment will include:

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


**Anticipated Appointment Start Date: Summer 2020**

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 Oxford, 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 be currently pursuing or have received a bachelor's or master's degree in one of the relevant fields.

Preferred skills:

- Knowledge of nutrient cycling and hydrology
- Use of R programming language or other statistical analysis software/language
- Experience conducting field research and sampling soil and water
- Laboratory experience related to soil and water mediums and nutrient measurements

- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
  - **Degree:** Bachelor's Degree or Master's Degree.
  - **Discipline(s):**
    - **Earth and Geosciences** ([2](#)👁)
    - **Environmental and Marine Sciences** ([3](#)👁)
    - **Life Health and Medical Sciences** ([3](#)👁)