Opportunity Title: EPA Fellowship in Ecosystem Ecology in Shallow Groundwater, Surface Water, Wetlands, and Floodplain Systems
Opportunity Reference Code: EPA-ORD-CESER-GCRD-2024-03

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CESER-GCRD-2024-03

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. 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. Click here for detailed information about recommendations.

All documents must be in English or include an official English translation.

Application Deadline 2/14/2025 3:00:00 PM Eastern Time Zone

Description ***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.** Click **here** for information about the selection process.

EPA Office/Lab and Location: A research training opportunity is currently available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Environmental Solutions and Emergency Response (CESER), Groundwater Characterization and Remediation Division (GCRD) located in Ada, Oklahoma. If selected for the opportunity, the participant will need to relocate to the appropriate EPA facility. The relocation costs are not reimbursable. The opportunity is not 100% remote, but limited remote participation may be considered at the mentor's discretion.

Research Project: Our research includes basic and applied studies of the physical, chemical, and biological processes that control the transport of water, chemicals, and/or microorganisms of known or emerging concern in aquatic systems. Protection and enhancement of water quality often relies on ecosystem and nature based services and the integration of land, air, and water perspectives to understand how to manage and protect our nations water resources . This research training opportunity will support an ongoing effort to develop multiple demonstration studies that are underway to improve our understanding of the effects of restoration and how engineered aquatic systems might reduce excess pollution in rivers, reservoirs, and groundwater while providing more water availability. Research will assess the benefits of restored aquatic systems, wetlands, and engineered systems in various human influenced aquatic and floodplain systems to help inform decision makers and practitioners. This will require a variety of approaches to include direct measurements in the field, experiments in the lab, literature review, the application of GIS and models of scenarios of restoration and changes to hydrology (e.g., the effects of tile drainage or potable water reuse) used or proposed for the management of nutrient pollution or water quality compliance. A goal of this

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research is to provide insight for the region, state, and stakeholders on how to support and encourage nutrient pollution reduction and water reuse while simultaneously informing benefits and trade-offs of these approaches as well as build capacity for similar research.

Under the guidance of a mentor, the research participant will conduct research to assess the benefits of restored aquatic systems, wetlands, and engineered systems in aquatic and human influenced floodplain systems. Research activities will include a combination of field, lab, and computer work to carry out ecosystem research on water quality. The research participant will collaborate with a research team and stakeholders to identify critical research questions and carry out research. The research participant will be provided opportunities to participate and learn from other ongoing collaboration with stakeholders to demonstrate the value of restored wetlands to decrease nutrient in the upper Midwest as well as ongoing floodplain restoration research related to water quantity and quality. With guidance from the mentor, the research participant will have the opportunity to develop original research and participate in collaborative research projects. The research participant will present their findings through scientific presentations and publishing.

Learning Objectives: The research participant will have the opportunity to:

- Learn and apply a variety of modern research methods.
- Have exposure to and gain experience working with government research including quality assurance, safety, and research planning.
- Learn about the application of innovative approaches to implement natural infrastructure to reduce the impacts nutrient pollution.
- Support emerging environmental restoration approaches that include the potential impacts on water quality and water reuse.
- Gain experience in government research and stakeholder collaboration and applications of restoration to support water quality.

The research participant will have an opportunity to collaborate with ecologists, environmental engineers, and physical scientists in Ada, OK and Cincinnati, OH, as well as staff at multiple EPA Regions that are engaged in groundwater, wetlands and ecosystem services research. The research participant will be expected to communicate their research to Agency personnel and the broader scientific community through presentations and papers. The research participant will be involved in modern environmental research that will help prepare them for pursuing their future career endeavors.

Mentor: The mentor for this opportunity is Ken Forshay (forshay.ken@epa.gov.) If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: November 30, 2024. All start dates are flexible and vary depending on numerous factors. Click **here** for detailed information about start dates.

Appointment Length: The appointment will initially be for one year and may be renewed upon EPA recommendation and subject to availability of funding.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. Click **here** for detailed information about full-time stipends. There will be an allowance for travel/ training.

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EPA Security Clearance: Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA.

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 EPA. Participants do not become employees of EPA, 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 see the FAQ section of our website. After reading, if you have additional questions about the application process please email EPArpp@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should be currently pursuing or have received a doctoral degree in one of the relevant fields. Applicants who have received a master's degree will also be considered. Degree must have been received within five years of the appointment start date.

Preferred skills/experience:

- Previous research experiences in Wetlands, Ecosystem Ecology, Limnology, Biogeochemistry/Environmental Chemistry and/or Environmental Science/Engineering/Hydrology.
- Statistical Data Analysis, GIS and Modeling.
- Experience and interest working collaboratively as part of a research team is preferred.
- The candidate should be able to demonstrate excellent written and oral communication skills.
- Writing and organizing research.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12)
  - **Communications and Graphics Design** (1)
  - **Computer, Information, and Data Sciences** (2)
  - **Earth and Geosciences** (21)
  - **Engineering** (7)
  - **Environmental and Marine Sciences** (14)
  - **Life Health and Medical Sciences** (51)
  - **Mathematics and Statistics** (11)
  - **Other Non-Science & Engineering** (1)
  - **Physics** (16)
  - **Social and Behavioral Sciences** (4)