

**Opportunity Title:** Natural Infrastructure - Engineering Postdoctoral

**Opportunity Reference Code:** ERDC-EL-2021-0024



**Organization** U.S. Department of Defense (DOD)

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**How to Apply** Click on *Apply* now to start your application.

## Description

The US Army Engineer Research & Development Center (ERDC) Environmental Laboratory (EL) provides relevant, value-added technology supporting the environmental mission of the US Army Corps of Engineers, the Army, the Department of Defense (DoD), and the Nation. Headquartered in Vicksburg, Mississippi, the EL's interdisciplinary staff of over 220 engineers, scientists, technicians, and support personnel plans and executes all phases of the technology development process, from basic research to field implementation to commercialization. The EL staff consists of problem solvers who use research, development, experimentation, special studies, and technical support to address the needs of national and international business development partners. Partnering with Federal and State agencies, academia, and the private sector, the EL uses its distinctive technical capabilities to resolve complex, multi-disciplinary environmental sustainability problems.

The Network for Engineering with Nature (NEWN) is a multi-institutional research entity for studying the role of natural, built, and social systems as part of an infrastructure portfolio. The network has a major research focus area on the interplay between infrastructure and biodiversity objectives. The federal government owns and operates thousands of pieces of aging infrastructure, and this project address how different asset management decisions (e.g., do nothing, reconstruction, removal, divestment) could affect larger scale infrastructure and ecological outcomes.

### What will I be doing?

Under the guidance of a mentor, you will research closely with research collaborators across multiple universities and practitioners across the Department of Defense (DoD) on developing a decision-making framework for aging dam infrastructure that incorporates multiple engineering and ecological objectives. A watershed-scale decision-making framework will be developed for DoD practitioners based on existing multi-criteria approaches. Additionally, you will collect and synthesize information on the "hidden" costs and benefits of different asset management choices with respect to unintended ecological and social consequences (e.g., biogeochemical effects of reservoirs and community sense of place, respectively). You will also collaborate closely with other NEWN investigators on a variety of other cutting-edge topics related to natural infrastructure and nature-based solutions.

### Where will I be located? Location Varies

### Why should I apply?

This internship provides the opportunity to independently utilize your skills and engage with experts in innovative ideas to move the proposed research forward. There are multiple opportunities available to engage in your applied research and evaluation interests.

### What is the anticipated state date? 2/1/2022

The exact start date will be determined at the time of selection and in coordination with the selected candidate.

### What are the benefits?

You will receive a stipend to be determined by ERDC-EL. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. Participants are eligible to purchase health insurance through ORISE.
- Relocation Allowance
- Training and Travel Allowance

This ORISE appointment is a full-time 8 month opportunity. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

### Nature of the Appointment

You will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, you will be affiliated

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with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

## Qualifications

As a preferred candidate, you will be pursuing or have a Ph.D. in engineering, infrastructure planning, asset management, or other related sciences. You should demonstrate strong research skills and experience developing and/or applying these skills in the context of applied environmental and water management issues. Additionally, excellent written and oral communication skills are needed for close collaboration with a large team of scientists and engineers, presentation of findings, and preparation of manuscripts. Desirable qualifications include familiarity with natural infrastructure, engineering practices, dam management, and socio-ecological systems. You may be asked to travel quarterly for project meetings, field data collection, and other duties.





A complete application consists of:

- Zintellect profile
- Educational and Employment History
- Essay Questions - The application includes questions specific to the opportunity
- Academic Records - For this opportunity, an official transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
- Current Resume/CV
- One (1) Recommendation - Applicants are required to provide contact information for at least one recommendation. You are encouraged to request a recommendation from a professional who can speak to your abilities and potential for success as well as your scientific capabilities and personal characteristics. Recommendation requests must be sent through the Zintellect application system. Recommenders will be asked to complete a recommendation in Zintellect. Letters of recommendation submitted via email will not be accepted.

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, blackened out, made illegible, etc.) prior to uploading into the application system. All documents must be in English or include an official English translation. If you have questions, send an email to [usace@orise.orau.gov](mailto:usace@orise.orau.gov). Please list the reference code of this opportunity ERDC-EL-2021-0024 in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the "Apply" button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

*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!*

## Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2021 11:59:00 PM.
- **Discipline(s):**
  - **Earth and Geosciences** (19 )
  - **Engineering** (27 )
  - **Environmental and Marine Sciences** (14 )
  - **Life Health and Medical Sciences** (10 )
- **Age:** Must be 18 years of age
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).