

Opportunity Title: Disaster Resilience of Complex Systems

Opportunity Reference Code: ERDC-EL-2021-0018

Organization U.S. Department of Defense (DOD)

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

Description The Environmental Laboratory (EL) is one of the seven laboratories of U.S. Army Engineer Research and Development Center (USACE-ERDC), which is the Army Corps of Engineers' integrated research and development (R&D) organization. EL provides solutions to environmental challenges for the U.S. Army, the Department of Defense and the Nation through environmental science and engineering research and development. Researchers in EL conduct research in ecosystem science and technology, environmental resiliency, environmental sensing, ecological modeling and forecasting, risk and decision science, environmentally sustainable material, systems biology, climate change, computational chemistry, environmental chemistry and environmental security.

What will I be doing?

Under the guidance of a mentor, you will research projects related to the team's current and future portfolio of resilience research, as well as pandemic analytics with respect to the risk and resilience of disrupted systems due to pandemics, natural disasters and cyberattacks. Current projects are at intersection of physical and social science and engineering and require systems approaches to support policy decisions. The team is researching 1) how to build the business case for resilience in environmental systems with improved quantification and consideration of broad benefits, including methods that consider the economics of sustainability and resilience, 2) resilience of complex systems where interconnected domains require consideration of compounding threats and cascading failures, 3) energy and transportation networks where resilience and efficiency of critical functions need to be quantified and integrated in selection of management policies, and (4) data analytics and risk analysis for pandemic response. These projects provide a broad experience in efforts at different stages of execution, from project conception and scoping to report and manuscript publication. Information required for this research is knowledge of environmental management, complex systems, risk and resilience analytics to complete these projects.

Why should I apply?

This fellowship will provide you the opportunity to be part of a team to study invasive species and their management. As such, you will have numerous opportunities to observe and collaborate with scientists of varying backgrounds and expertise.

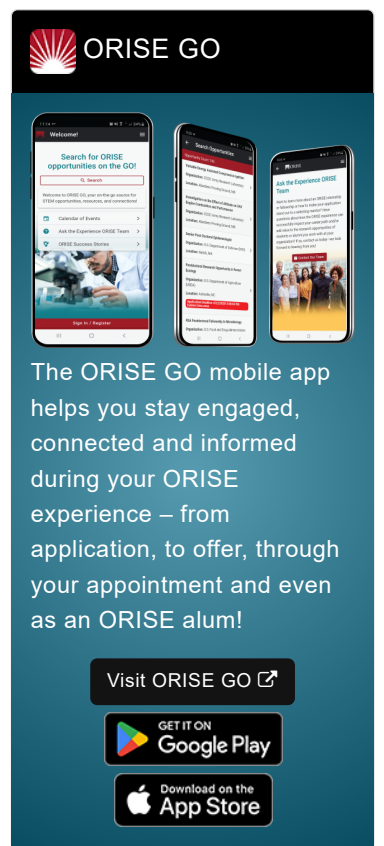
Where will I be located? Vicksburg, Mississippi

What is the anticipated start date?

ERDC-EL is ready to make an appointment. 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



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

Qualifications This research opportunity is open to STEM students and post-graduates. Experience in data science and technical writing preferred.

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 (blanked 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. Please list the reference code of this opportunity ERDC-EL-2021- 0018 in the subject line of the email.

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Eligibility Requirements

- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
- **Academic Level(s):** Graduate Students, Post-Bachelor's, Postdoctoral, Post-Master's, or Undergraduate Students.

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- **Discipline(s):**
 - **Business** ([11](#) )
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([6](#) )
 - **Computer, Information, and Data Sciences** ([17](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([46](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Other Non-Science & Engineering** ([13](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([1](#) )
 - **Social and Behavioral Sciences** ([29](#) )
- **Age:** Must be 18 years of age