

Opportunity Title: ERDC-CHL: Autonomous Systems for Inland and Coastal Morphology
Opportunity Reference Code: ERDC-CHL-2024-0015

Organization U.S. Department of Defense (DOD)
Reference Code ERDC-CHL-2024-0015
How to Apply Click on *Apply* now to start your application.

Application Deadline 12/31/2024 3:00:00 PM Eastern Time Zone

Description The U.S. Army Engineer Research and Development Center's Coastal & Hydraulics Laboratory (CHL) performs research on ocean, estuarine, riverine, and watershed systems in support of the U.S. Army Corps of Engineers (USACE) and the Department of Defense (DOD) Task Force in support of the Ocean Commission. A multi-disciplinary team of scientists, engineers, and support personnel work in CHL's internationally known, unique facilities. This team has developed state-of-the-art experimental and computational models for solving water resource problems worldwide. CHL research and development addresses water resource and navigation challenges in a variety of hydrodynamic systems including aquifers, watersheds, rivers, reservoirs, lakes, estuaries, harbors, coastal inlets, and wetlands. Physical facilities of approximately 1.7 million square feet and high-performance computing facilities at the DOD Supercomputing Research Center.

What will I be doing?

Coastlines and beaches play a critical role in civil and military domains. For civil activities, they serve as hubs for tourism, commerce, and recreation, supporting local economies and providing valuable natural resources. They also act as natural barriers against storms and erosion, protecting coastal communities and infrastructure. From a military perspective, coastlines are strategic assets, offering essential access points for naval/marine operations, surveillance, and defense installations. Grain size is a first-order parameter in understanding how a beach will change over time and is essential for accurately modeling future coastal changes. Typical grain size surveying is time consuming and tedious leading to coarse spatial and temporal sampling. This project will develop and evaluate a robotic and autonomous system for the analysis of morphology and grain size distribution.

Under the guidance of a mentor, you will gain exposure to and learn about the operations of autonomous systems for environmental sensing including interacting with the Robotic Operating System (ROS).

Why should I apply?

This fellowship provides the opportunity to independently utilize your skills and engage with experts in innovative ideas to move the proposed research forward.

Where will I be located? Location Varies

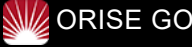
What is the anticipated start date? January 2025

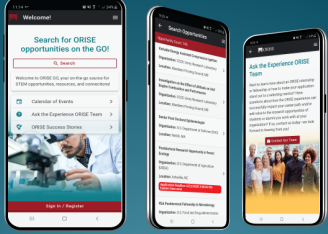
Exact start dates will be determined at the time of selection and in coordination with the selected candidate.

What is the appointment length?


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









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What are the appointment provisions?

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

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

About ORISE

This program, administered by Oak Ridge Associated Universities (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 DoD. Participants do 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. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the [ORISE Research Participation Program at the U.S. Department of Defense](#).

Qualifications The ideal candidate should be pursuing or received a degree in Engineering, Math or Science with an emphasis on Civil and Environmental Engineering or Coastal Engineering or Coastal Sciences.

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/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. [Click here for detailed information about acceptable transcripts](#).
- One recommendation. We encourage you to contact your recommender(s) as soon as you start your application to ensure they are able to complete the recommendation form and to let them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

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

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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 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.

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Point of Contact [Debbie at ORISE](#)

- Eligibility Requirements**
- **Degree:** Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([3](#) 👁)
 - **Earth and Geosciences** ([3](#) 👁)
 - **Engineering** ([6](#) 👁)
 - **Environmental and Marine Sciences** ([3](#) 👁)
 - **Mathematics and Statistics** ([5](#) 👁)
 - **Age:** Must be 18 years of age