

Opportunity Title: Coastal Dune Research-Duck, NC - Postgraduate

Opportunity Reference Code: ERDC-CHL-2021-0007

Organization U.S. Department of Defense (DOD)

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

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. Physical facilities of approximately 1.7 million square feet and high-performance computing facilities at the DOD Supercomputing Research Center (<http://www.erdchpc.mil>) are the basic infrastructure for producing cutting-edge products for successful coastal, inland water resources, and navigation management. CHL work, although primarily in support of the DOD and the Corp's districts, also interfaces with other federal, state and local agencies, academia, conservation groups, and the general public, as appropriate. The Research Participation Program for USACE-ERDC-CHL provides opportunities to participate in new and on-going applied research and development projects. Research projects range from design guidance to three-dimensional computational models. Focus is placed on inland and coastal navigation, military logistics over the shore, dredging, flood control, storm and erosion protection, waterway restoration, fish passage, hydro-environmental modeling, water/land management, and other water and sediment-related issues facing the nation. For more information about USACE-ERDC-CHL, please visit <https://www.erdchpc.usace.army.mil/Locations/CHL/>.

What will I be doing?


You will join a cohort of teams of ERDC-CHL in ongoing efforts related to the quantifying coastal foredune development. The overall goal of the project is to update formulations within and improve the skill of aeolian sediment transport and morphology change models of sandy coastal dunes through data-model integration. Under the guidance of a mentor, you will participate in the analysis of field data related to dune eco-morphodynamics. As part of the research experience, you may also be participate in the analysis of (1) high resolution, repeat mobile terrestrial lidar data to extract bed elevation and surface cover information, (2) analysis of subsurface sedimentology and biomass data collected internally within coastal foredunes, and/or (3) investigating aeolian sediment deposition patterns across dunes during storms.

Where will I be located? Duck, North Carolina

Why should I apply?

This fellowship will provide you the opportunity will benefit from exposure to a multi-disciplinary team, the opportunity to learn about applied research within the agency, and you gain data analysis and interpretation skills and contribute to interdisciplinary, collaborative projects on dune evolution and resilience over time scales of days to years.



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What is the anticipated start date?

ERDC-CHL is ready to make an appointment immediately. Exact start date will be determined at the time of selection and in coordination with the selected candidates.

What are the benefits?

You will receive a stipend to be determined by ERDC-CHL. 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 four 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

Earned Bachelors or Masters degree in the Earth Sciences, Geography, Biology, Ecology, Oceanography, Coastal Engineering, or a related field of research.

Relevant interests and skills:

- Research experience in one or more of the following areas: sediment transport, geomorphology, coastal processes, aeolian processes, hydrodynamics, remote sensing, coastal ecology.
- Scientific programming experience with Python, Matlab, R, and/or Julia.
- Excellent oral and written communication skills.
- Ability to participate productively both independently and as part of a diverse team.

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

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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-CHL-2021-0007 in the subject line of the email.

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Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 month(s).
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Computer, Information, and Data Sciences** (6 )
 - **Earth and Geosciences** (21 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (46 )
 - **Mathematics and Statistics** (3 )
 - **Physics** (16 )
 - **Social and Behavioral Sciences** (20 )