Opportunity Title: Regional Modeling of Riverine Water Quality
Opportunity Reference Code: ERDC-CHL-2019-0009

Organization U.S. Department of Defense (DOD)

Reference Code ERDC-CHL-2019-0009

How to Apply Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records -Click here for detailed information about acceptable transcripts
- References

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.

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.

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

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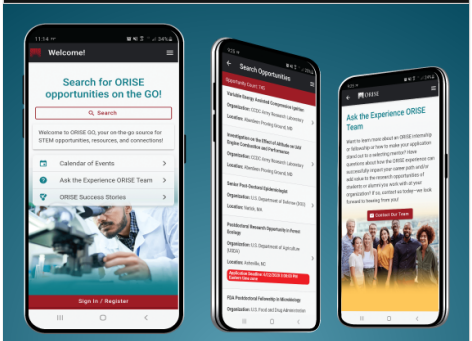

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Description The U.S. Army Engineer Research and Development Center's Coastal & Hydraulics Laboratory (CHL) performs research on ocean, estuarine, riverine, and watershed systems in support of the U.S. Army Corps of Engineers (USACE) and the Department 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.erdc.hpc.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.erdc.usace.army.mil/Locations/CHL/.

This pilot project, which is a collaborative activity between the NOAA Water Center (NWC), NOAA's Satellite and Information Service, the US Army Corp of Engineers

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and the United States Geological Survey (USGS), represents the first step in establishing a water quality modeling capability in the NWM. The quality of water is often as important as the amount of water. Poor quality can endanger life, property, economies and ecosystems. Predicting water quality would contribute to reducing the risk to human, domesticated animal and ecosystem health, and aid in freshwater fisheries conservation and management. Further, its prediction will provide input to biogeochemical models required for ecological forecasting in the coastal and open ocean. Though water quality prediction is an objective of the National Water Initiative, which seeks to provide science-based information and services that address vulnerability to water risks and enable greater efficiency and effectiveness in the management of water resources, presently does not possess the ability to generate predictions of water quality variables with its NOAA Water Model (NMW).

Through engaging in this research project at the Engineer Research and Development Center (ERDC) the academic researcher will gain advanced knowledge in advanced modeling techniques and the projects will allow the academic researchers (e.g. recent graduates or students) to continue their research while advancing the capabilities of the USACE, ERDC and the Coastal and Hydraulics Laboratory.

Appointment Length

This ORISE appointment is for a 4 month period. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants 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

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications

Candidates with experience working with GIS, Excel, and Python preferred. Surface hydrology and water quality background is preferred. Further, applicants with hydrologic or related fields are encouraged to apply for this position.

Currently pursuing or received Bachelor, Master, or Doctoral Degree required.

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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.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (1 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
- **Age:** Must be 18 years of age