Opportunity Title: Computational Modeling Postdoctoral Researcher
Opportunity Reference Code: ERDC-CHL-2019-0012

Organization U.S. Department of Defense (DOD)

Reference Code ERDC-CHL-2019-0012

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.

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/.

The participant will participate in a large multi-year research and development project on the development of computational modeling tools for fluid-structure interaction processes from coastal, hydraulic, geotechnical, arctic, and marine engineering applications. A wide range of skill sets are required, including: computational fluid mechanics, computational solid mechanics, physics of granular materials/sediments, numerical analysis, parallel algorithms, verification & validation, computational geometry, mesh generation, scientific visualization, and human-computer interaction. Scientific and mathematical software development will be the primary focus of the

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larger group and ample opportunities for gaining software development skills will be provided through periodic training workshops and participation on software development teams with experienced computational scientists and engineers.

Appointment Length

This ORISE appointment is for a 12 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

The desired candidate will have a doctoral degree in one or more of the following:

Engineering (Mechanical, Civil, Environmental, or Aerospace)

Mathematics (Applied and Computational)

Physics (Applied and Computational)

Eligibility Requirements

- **Degree:** Currently pursuing a Doctoral Degree to be received by 5/29/2020 11:59:00 PM.
- **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