

Opportunity Title: ERDC-CHL: Computational Fluid Dynamics

Opportunity Reference Code: ERDC-CHL-2026-0011

Organization U.S. Department of Defense (DOD)

Reference Code ERDC-CHL-2026-0011

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

Application Deadline 9/15/2026 3:00:00 PM Eastern Time Zone

Description The U.S. Army Engineer Research and Development Center's Coastal & Hydraulics Laboratory (CHL) offers a unique environment for gaining exposure to research on ocean, estuarine, riverine, and watershed systems. Time spent with CHL provides opportunities to observe how multidisciplinary teams explore hydrodynamic processes using large-scale physical facilities, advanced computational models, and high-performance computing resources. This setting allows for direct insight into methods used to investigate aquifers, rivers, reservoirs, lakes, estuaries, coastal inlets, wetlands, and related environments, alongside the innovative approaches that support modern water-resource science.

Project:

This project provides hands-on exposure to the development and evolution of open-source computational tools for fluid dynamics and fluid-structure interaction. Through engagement with the ongoing advancement of CorpsFOAM, built upon the OpenFOAM platform, you will explore how new modeling capabilities are created, tested, and refined. The experience includes opportunities to learn about CFD/FSI techniques, open-source scientific software development, interface design for technical tools, and strategies for creating accessible instructional materials. It also offers insight into high-performance computing environments and collaborative research practices.

What will I be doing:

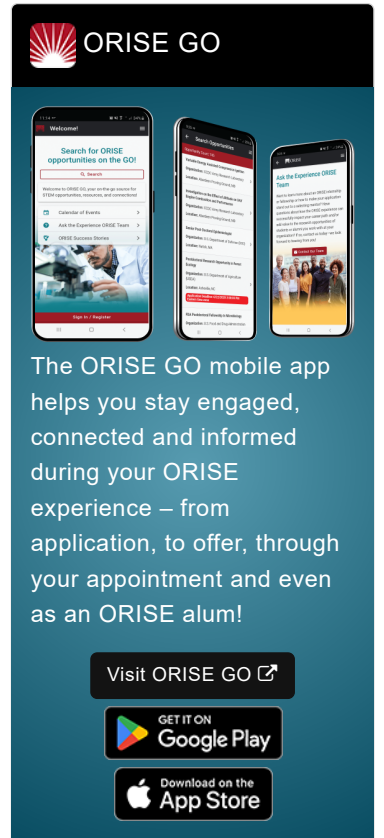
This experience offers the opportunity to explore how computational modeling tools are developed and applied to complex hydraulic and coastal systems. Through guided learning and mentorship, you will deepen your understanding of fluid dynamics, fluid-structure interaction, and the ways these processes are represented within open-source tools like CorpsFOAM. You will gain insight into modeling approaches used to study structures such as spillways, scour-resistant features, and flood-risk-mitigation designs, building a broader appreciation for how computational methods support analysis of real-world hydraulic challenges. Along the way, you can strengthen skills in interpreting simulation results, understanding numerical modeling workflows, and gaining familiarity with modern high-performance computing environments. The experience also provides opportunities to learn about interface design, user-support materials, and other elements that contribute to making advanced scientific tools accessible to a wide community of learners.

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? September 2026



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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 part-time six-month research appointment. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

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 Candidates must have completed, or be currently pursuing with an expected completion date by 12/31/2027, a bachelor's, master's, or doctoral degree in civil or mechanical engineering. Some knowledge of Computational Fluid Dynamics (CFD), particularly using OpenFOAM, is preferred.

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 - Please upload a copy of a transcript for your current or most recent degree program that meets the disciplinary qualifications of the opportunity. [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.

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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 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](#)

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| Eligibility | <ul style="list-style-type: none">• Citizenship: U.S. Citizen Only |
| Requirements | <ul style="list-style-type: none">• Degree: Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2027 12:00:00 AM.• Minimum Overall GPA: 3.00• Discipline(s):<ul style="list-style-type: none">◦ Engineering (2 )• Age: Must be 18 years of age |