Opportunity Title: Computational Chemistry Postdoctoral Researcher
Opportunity Reference Code: ERDC-EL-2020-0010

Organization U.S. Department of Defense (DOD)

Reference Code ERDC-EL-2020-0010

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 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 Environmental Laboratory (EL) is one of the seven laboratories of U.S. Army Engineer Research and Development Center (USACE-ERDC), which is the Army Corps of Engineers' integrated research and development (R&D) organization. EL provides solutions to environmental challenges for the U.S. Army, the Department of Defense and the Nation through environmental science and engineering research and development. Researchers in EL conduct research in ecosystem science and technology, environmental resiliency, environmental sensing, ecological modeling and forecasting, risk and decision science, environmentally sustainable material, systems biology, climate change, computational chemistry, environmental chemistry and environmental security. For more information about the US Army Engineering Research and Development Center (ERDC) Environmental Laboratory (EL), please visit https://www.erdc.usace.army.mil/.

Under the guidance of a mentor, the participant will conduct research utilizing different computational chemistry approaches such as density functional theory, molecular dynamics simulations, and coarse-graining techniques to study structures and interactions of chemicals in complex media. Particular focus will be on evaluating the fate and transport of different chemicals. Research may also focus on studying effects of hydrations, adsorption, transport and diffusion of organic/inorganic species on some modeled surfaces at both the atomistic and coarse-graining level. Under the guidance of a mentor, the participant will engage in preparation of research results to be presented to the broader ERDC community; including, developing these results into publications to inform the broader scientific community through peer-reviewed journals and developing project ideas.

Appointment Length

This ORISE appointment period is 12 months in length. 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-EL. Stipends are typically based on

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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.

While participants will not enter into an employment relationship with DOD or any other agency, this opportunity may require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation.

Qualifications

Candidate with a PhD degree or graduating soon with knowledge in one or more of electronic structure methods, MD simulations, coarse-graining or computational rheology.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **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 👁)
- **Age:** Must be 18 years of age