Opportunity Title: Additive Construction / Structural Design Code: Construction Engineering Research Laboratory
Opportunity Reference Code: ERDC-CERL-2023-0005

Organization U.S. Department of Defense (DOD)

Reference Code ERDC-CERL-2023-0005

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

Description The U.S. Army Corps of Engineers (USACE), Engineer Research and Development Center (ERDC), Construction Engineering Research Laboratory (CERL) develops and infuses innovative technologies to provide excellent facilities and realistic training lands for the Department of Defense (DOD). Products and services from CERL research enhance the Army's ability to design, build, operate and maintain its installations and contingency bases and to ensure environmental quality at the lowest life-cycle cost. These premier facilities support the Army's training, readiness, mobilization and sustainability missions while providing an infrastructure and realistic training lands that are critical assets to installations in carrying out their military mission. ERDC-CERL develops additive construction (large scale 3D printing) technology that utilizes deployable 3D printers to produce infrastructure components on-demand, in the field, using locally available materials. The CERL Additive Construction team is a multi-disciplinary, agile group of engineers and scientists dedicated to modernizing construction practices and developing materials by design to improve placement, thermal, and structural performance.

What will I be doing?

Under the guidance of a mentor, you will have the opportunity to participate executing cutting-edge research in structural testing, construction, or additive manufacturing/construction. The internship opportunity will include exposure to laboratory and of additively constructed (large-scale 3D printed elements),assisting the set-up and performing laboratory testing of structural components, analyzing results, and proper report writing.

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? Champaign, Illinois

What is the anticipated start date?

Exact start date will be determined at the time of selection and in coordination with the selected candidate.

What is the appointment length?

This appointment is a full-time twelve-month research appointment. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

What are the benefits?

You will receive a stipend to be determined by ERDC-CERL. Stipends are typically based on a 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

Opportunity Title: Additive Construction / Structural Design Code: Construction Engineering Research Laboratory
Opportunity Reference Code: ERDC-CERL-2023-0005

- 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

The ideal candidate will have at least a Bachelor of Science in engineering, physics, or chemistry with experience using structural design codes (e.g. ACI 318, TMS 402/602, AISC, AWC NDS, AASHTO LRFD) and will have experience in structural testing, construction, or additive manufacturing/construction. Desired skills include understanding of mechanical and rheological properties, structural design, structural evaluation, variable control during sample preparation and curing, report writing, data acquisition and analysis, and computer aided design (CAD).

Candidate must demonstrate the ability to lift 50 pounds, use powered hand tools, a self starter, strong communication skills, ability to participate in a team setting, and strong organizational skills.

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 - 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. Click here for detailed information about acceptable transcripts.
- One recommendation. Your application will be considered incomplete and will not be reviewed until one recommendation is submitted. 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. 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

Opportunity Title: Additive Construction / Structural Design Code: Construction Engineering Research Laboratory
Opportunity Reference Code: ERDC-CERL-2023-0005

this opportunity listing. Please do not send application materials to the email address above.

Connect with ORISE...on the GO! Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **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 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Engineering** (27 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (2 👁)
- **Age:** Must be 18 years of age
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).