

Opportunity Title: Functional Geometry Research Post-Master's Fellowship

Opportunity Reference Code: AFCEC-2026-0002

Organization U.S. Department of Defense (DOD)

Reference Code AFCEC-2026-0002

How to Apply Click on *Apply* at the bottom of the opportunity to start your application.

Application Deadline 7/28/2026 3:00:00 PM Eastern Time Zone

Description The Air Force Civil Engineer Center is offering a post-Master's opportunity at Tyndall Air Force Base in Panama City, Florida.

What will I be doing?

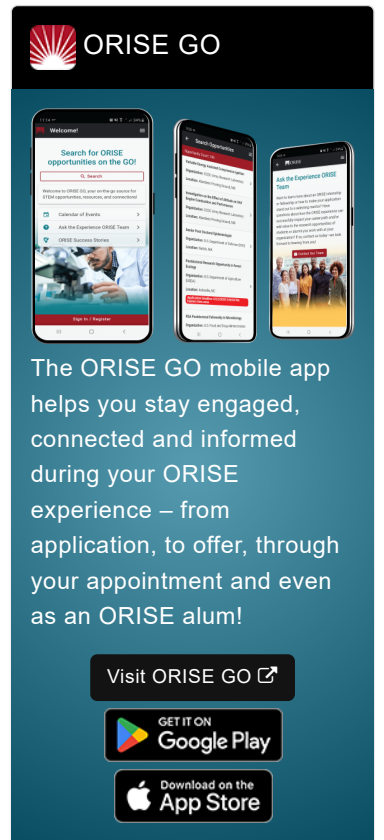
As an Oak Ridge Institute for Science and Education (ORISE) participant, you will join a community of scientists and researchers in an effort to explore global curved and contoured exterior geometries that attenuate blast waves and mitigate direct impact through controlled wave interaction and load redistribution. This research project includes developing printed infill patterns and internal architectures that enhance internal energy dissipation through impedance variation and material heterogeneity, and integrating composite strategies to improve ductility and resilience, including embedded membranes, meshes, and rebar reinforcement.

Why should I apply?

Under the guidance of a mentor, you will gain hands-on experience to complement your education and support your academic and professional goals. Along the way, you will engage in activities and research in several areas. These include, but are not limited to:

- Studying printable materials, incorporating additives such as fibers, rubber, and cork to enhance mechanical and dynamic properties for blast resistance.
- Researching 3D concrete printing (3DCP), including function geometries, and reinforcement strategies to improve structural performance under extreme loading
- Identifying barriers to entry in/adoption of 3DCP and developing strategies to address them
- Gaining hands-on experience with structural design, computational modeling, additive construction, analytical and numerical modeling, large scale prototype fabrication, laboratory testing, and data analysis
- Exploring the translation of military-driven innovations to civilian infrastructure and industry adoption through constructability, cost, and life cycle assessment
- Investigating Artificial Intelligence (Machine Learning and Deep Reinforcement Learning) enabled design and fabrication process control and optimization
- Validating prototype fabrication and testing at GRIT Lab at University of Georgia and at the Air Force Civil Engineer Center at Tyndall Air Force Base
- Engaging with researchers at University of Georgia, Tyndall Air Force Base, and industry partners, while developing skills in interdisciplinary research and engineering communication
- Developing technical skills in structural engineering, additive construction, experimental methods, computational modeling, and resilient infrastructure design.

Where will I be located?



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Panama City, Florida

What is the anticipated start date?

Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and fellowships will be filled as qualified candidates are identified.

What is the appointment length?

Appointments are initially for one year with the option to extend the appointment for up to four additional years, contingent upon project needs and funding availability.

What are the provisions?

You will receive a stipend to be determined by AFCEC. 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 AFCEC

The Air Force Civil Engineer Center is responsible for providing responsive, flexible full-spectrum installation engineering services. The center's mission is to manage science, technology, research, development, testing, evaluation (RDT&E) and acquisition activities from planning through executing of programs for acquiring systems, equipment, technology, and data to fulfill CE operational needs and requirements for in-garrison, expeditionary, and contingency installations and air bases.

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 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 qualified candidate should have earned a Master's degree in any of the disciplines in the eligibility section of the opportunity. The degree must have been earned within 5 years of the appointment start date.

Preferred skills:

- Knowledge of the materials properties of polymeric and cementitious materials
- Experience with 3D modeling and printing programs (Solidworks, Slic3r)

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- Experience with operating both field-scale and laboratory-scale 3-D printing systems
- Experience with mechanical testing of materials, including compression, tensile, tensile splitting, and flexural testing
- Experience with coding software (MATLAB and Mathematica)
- Experience in preparation and placement techniques for cementitious materials in large scale operations

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. 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.

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity [AFCEC-2026-0002] 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.

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!

Point of Contact [Leslie](#)

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| Eligibility Requirements | <ul style="list-style-type: none">• Citizenship: U.S. Citizen Only• Degree: Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.• Minimum Overall GPA: 3.50• Discipline(s):<ul style="list-style-type: none">◦ Chemistry and Materials Sciences (2 👁)◦ Communications and Graphics Design (2 👁)◦ Computer, Information, and Data Sciences (3 👁)◦ Engineering (6 👁)◦ Mathematics and Statistics (7 👁)◦ Physics (3 👁)◦ Science & Engineering-related (2 👁) |
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