

Organization

U.S. Department of Defense (DOD)

Reference Code

AFIT-2022-0091

How to Apply

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

Description

The Air Force Institute of Technology is offering a postdoctoral fellowship at Wright Patterson Air Force Base.

What will I be doing?

As an ORISE participant, you will join a community of scientists and researchers in an effort to manage stormwater infrastructure and prevent flooding.

The Department of Defense (DOD) has several installations located along the Gulf and East coasts of the United States. With increasing impacts of climate change, there are stronger likelihoods of recurrent flooding to impact infrastructure including buildings and runways. In 2018, Hurricane Michael devastated the Panama City area, including Tyndall Air Force Base. As a result, this event provides an important case study to evaluate risk of flooding events. The project will build a stormwater model for Tyndall AFB and evaluate flooding risk with various climate scenarios including sea level rise, tidal fluctuations, and increased rainfall intensity. Utilizing these scenario analyses, a tool for risk assessment of flooding will be generated. The goal is to ultimately create a process to assess flooding risk with a changing climate at different installations or cities. The tool has important implications in managing stormwater infrastructure and adapting to changing conditions.

You will engage in the evaluation of the changing hydrologic conditions that impact recurrent flooding at coastal bases. Under the guidance of the faculty in Engineering Management at AFIT, you will contribute to construction of a stormwater model, answer questions about flooding resiliency, and seek to provide a communicative tool for decision-makers at the installation and strategic levels to inform infrastructure investment.

You will gain additional experience in hydrologic modeling, science communication, and risk assessment. There may be several opportunities to contribute to academic publications to support your academic and professional goals.

Where will I be located?

Dayton, Ohio

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 internships or 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 benefits?

You will receive a stipend to be determined by AFIT. 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
- Training and Travel Allowance

About AFIT

The [Air Force Institute of Technology](#), or AFIT, located at Wright-Patterson Air Force Base, Ohio, is the Air Force's graduate school of engineering and management as well as its institution for technical professional continuing education. A component of Air University and Air Education and Training Command, AFIT is committed to providing defense-focused graduate and professional continuing education and research to sustain the technological supremacy of America's air, space and cyber forces.

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

A qualified candidate will have a Ph.D. in a relevant field (or will reach completion by the start date of the appointment). Degree must have been received within 5 years of the appointment start date.

Preferred Skills:

- Stormwater modeling experience with SWMM or another platform
- Background in risk or resilience assessments
- Skilled in Geospatial programs such as ArcGIS and related software

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 unofficial 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.](#)
- 1 Recommendation

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity (AFIT-2022-0091) in the subject line of the email.

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Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
 - **Engineering** ([1](#))



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