

**Opportunity Title:** Nuclear Physics Research Fellowship

**Opportunity Reference Code:** AFIT-2025-0018

**Organization** U.S. Department of Defense (DOD)

**Reference Code** AFIT-2025-0018

**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 research fellowship in nuclear physics at Wright Patterson Air Force Base, Ohio.

**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 topics important to national security, defense, and the Air Force mission. Specific topics of interest include neutron inelastic scattering, neutron capture, and neutron production. In addition to nuclear reaction studies, you will participate in the development of unique neutron sources through computational modeling, experimental testing, and validation. AFIT is pursuing cutting edge research in these areas with a variety of academic, government, and national laboratory partners. Appointment activities may require some travel to experimental facilities within the U.S.

**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:

- Gain experience in the design, assembly, characterization, and troubleshooting of nuclear physics experiments using particle accelerators, laser-based neutron sources, and other experimental facilities
- Enhance skills in data analysis relating to nuclear science and radiation detection experiments
- Participate in developing computational models of experiments and performing radiation transport simulations
- Collaborate with graduate students, student interns, and external stakeholders (via in-person or virtual means) to solve challenges
- Present work to the scientific community through peer-reviewed journal articles, conferences, and seminars
- Gain leadership skills through projects at AFIT relating to nuclear science and engineering

**Where will I be located?** Dayton, Ohio

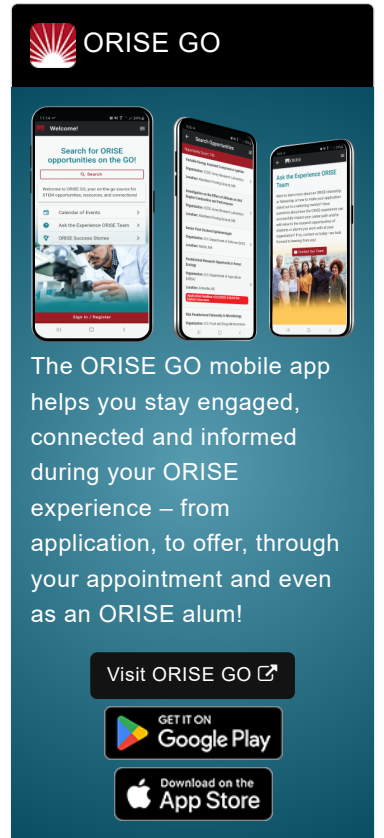
**What is the anticipated start date?**

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?**


This appointment is a twelve-month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.


**What are the provisions?**




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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 provisions 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 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 will have earned or be currently pursuing a doctoral degree in any of the disciplines in the eligibility section of the opportunity. Postdoctoral candidates must have earned their degree no earlier than 5 years from the appointment start date.

Highly competitive applicants will have education and/or experience in one or more of the following:

- Experimental nuclear physics, in particular with experiments involving particle accelerators and neutron sources
- Radiation detectors for neutrons and gamma-ray detection and radiation transport codes (e.g., Geant4, MCNP)
- Proficiency in scientific computing (e.g., C++, Python)
- Strong initiative, organizational skills, and motivation
- Strong writing and presentational skills

#### **Application Requirements**

A complete application consists of:

- Zintellect Profile
- Educational and Employment History

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- 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](mailto:AIRFORCE@orise.orau.gov). Please list the reference code of this opportunity [AFIT-2025-0018] 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](#)

- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
  - **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Engineering** ([2](#) )
    - **Physics** ([4](#) )