

Opportunity Title: Postdoctoral Nuclear Engineering Fellow

Opportunity Reference Code: AFIT-2024-0012

Organization U.S. Department of Defense (DOD)

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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 research nuclear science, which has a variety of important applications to national security and the Air Force mission. Specific topics of interest include neutron inelastic scattering, neutron capture, neutron production, and experimental technique development related to detectors, targetry, and particle accelerators. AFIT is pursuing cutting edge research in these areas with a variety of academic, government, and national lab partners.

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:

- Engage with design, assembly, characterization, and troubleshooting of nuclear physics experiments
- Analyze data and help develop analysis tools relating to nuclear science and radiation detection projects
- Participate in theoretical calculations related to nuclei and their reactions
- Support simulation of experimental setups and radiation transport problems
- Assist graduate students and student interns through experimental and theoretical challenges
- Present work to scientific community through peer-reviewed journal articles and conference talks/posters
- Collaborate with external stakeholders (through in person and virtual means) including through onsite visits
- Gain leadership skills through projects at AFIT relating to nuclear science

Where will I be located? Dayton, Ohio

What is the anticipated start date?

The Air Force Institute of Technology reviews and selects applicants on a rolling basis. 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 will be filled as qualified candidates are identified.



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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 appointment provisions?

Participants will receive a stipend to be determined by **AFIT**. Stipends are typically based on the 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 mission of the Air Force Institute of Technology (AFIT) is to help build America's airpower, by educating military and civilian Airmen to innovatively accomplish the Air Force's core missions, in support of joint operations, more effectively, efficiently, sustainably and affordably. We provide unique defense-focused, research-enabled, multi-disciplinary advanced academic education, as well as globally delivering career-long, action-based, functional professional continuing education, over a continuum of learning, on-command and on-demand. Our success is measured by the career-long contributions of our graduates, faculty and staff. AFIT accomplishes this mission through four schools: the Graduate School of Engineering and Management, the School of Systems and Logistics, the Civil Engineer School, and the School of Strategic Force Studies. To learn more about the research performed at AFIT, please visit www.afit.edu.

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](#).

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Qualifications The qualified applicant will hold or be currently pursuing a Doctoral degree (to be earned by 2/28/2025). For postgraduates, the degree must have been earned no earlier than 5 years before the appointment start date.

Highly qualified applicants will have experience/education in any or all of the following:

- Experience with nuclear physics experiments, in particular at particle accelerator facilities
- Experience with radiation detectors, in particular for neutron and gamma-ray detection
- Proficiency in scientific computing, especially C++ and Python
- Familiarity with radiation transport codes such as Geant4 and MCNP
- Strong writing and presentation 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 - 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 AFIT-2024-0012 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.

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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 2/28/2025 12:00:00 AM.
 - **Discipline(s):**
 - **Engineering** (4 )
 - **Physics** (3 )