

Opportunity Title: Summer Research Internship in Advanced Optical Imaging Systems

Opportunity Reference Code: AFRL-711HPW-2025-0002

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 Research Laboratory is offering a part-time summer research internship in Advanced Optical Imaging Systems.

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 develop optical instrumentation to visualize directed energy interactions with cells and tissues. Participants will have the opportunity to contribute to an end-of-summer technical presentation on this topic.

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:

- Learn how to align optical systems
- Learn to conduct optical imaging experiments
- Participate in data analysis to understand mechanisms of optical and electromagnetic interaction with biology
- Gain laboratory skills in instrumentation, rapid prototyping, optical design, system validation, and data analysis
- Participate in researching technologies of interest (e.g., quantitative phase imaging, fluorescence microscopy)
- Explore biological responses to directed energy stimuli using custom imaging technologies
- AFRL anticipates the results of this internship be presented at a scientific conference. If so, you will also gain expertise with drafting technical abstracts and publications, scientific communication, and engaging with the broader research community.

Where will I be location?

San Antonio, Texas

What is the anticipated start date?

June 2, 2025

What is the appointment length?

This appointment is a 10-week 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.



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What are the appointment provisions?

You will receive a stipend to be determined by AFRL. 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*)
- Training and Travel Allowance

About AFRL

The 711th Human Performance Wing (711 HPW), headquartered at Wright-Patterson Air Force Base in Ohio, is the first human-centric warfare wing to consolidate human performance research, education, and consultation under a single organization. Established under the Air Force Research Laboratory (AFRL), the 711 HPW is comprised of the Airman Systems Directorate (RH) and the United States Air Force School of Aerospace Medicine (USAFSAM). For more information about the Air Force Research Laboratory, 711 Human Performance Wing, Airman Systems Directorate, Airman Biosciences Division, please visit <https://afresearchlab.com/>.

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 Qualified candidates will currently be pursuing or have obtained a degree in **Bioengineering and Biomedical Engineering** within 60 months of the appointment.

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

- Experience with programming and data analysis in MATLAB
- Experience with lasers, cameras, optical imaging, and rapid prototyping
- Software skills include Python, CAD (Fusion, Solidworks), COMSOL, and ImageJ
- PhD student with an interest in optical imaging for biomedical applications

Application Requirements

A complete application consists of:

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- 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 AFRL-711HPW-2025-0002 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.

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Point of Contact [Alecia](#)

- 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.
 - **Minimum Overall GPA:** 3.65
 - **Discipline(s):**
 - **Engineering** ([1](#))