Opportunity Title: Bioengineering Internship at Air Force Research Laboratory: Effects of Simulated Microgravity on Cellular Response to Directed Energy Exposure
Opportunity Reference Code: AFRL-711HPW-2023-0010

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.

Application Deadline 12/31/2023 3:00:00 PM Eastern Time Zone

Description The Department of Defense (DoD) is offering a Bachelor's, Master's, or Doctoral degree internship at the Air Force Research Laboratory.

What will I be doing?

This project will investigate the effects of simulated microgravity on cellular responses to directed energy exposure. Activities may involve development of microgravity cell culture models, exposure of cells in simulated microgravity to pulsed electric fields or infrared optical stimulation, and experiments to study altered thresholds of cell damage, structural, functional or metabolic changes, or cellular mechanisms mediating responses to microgravity or directed energy exposure.

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 planning experiments, collecting and analyzing data, and creating knowledge products (journal articles, conference proceedings) which describe your findings.

Where will I be located?

JBSA Fort Sam Houston, San Antonio, TX with the potential to participate at home institution, if applicable.

What is the anticipated start date?

January 2024. 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?

This appointment is a twelve-month research appointment at a full-time level of participation, 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 benefits?

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 benefits may include the following:

- Health Insurance Supplement (Participants are eligible to purchase health insurance through ORISE)
- Relocation Allowance
- Training and Travel Allowance

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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

The qualified candidate will be currently pursuing a Bachelor's, Master's, or Doctoral degree in bioengineering, biomedical engineering, biology (general), or biophysics or will have received such a degree within the past 60 months.

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

- Cell culture
- Traditional and advanced microscopy techniques (fluorescence, phase, atomic force)
- Culture techniques simulating microgravity
- Mechanobiology
- Programming in MATLAB or similar languages for digital image processing and quantitative analysis

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. Your application will be considered incomplete and will not be reviewed until one recommendation is. We encourage you to contact your recommender as soon as you start your application to ensure they are able to complete the recommendation

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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-2023-0010] 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!

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.
- **Discipline(s):**
  - **Engineering** (1)
  - **Life Health and Medical Sciences** (2)