

**Opportunity Title:** Bioeffects Research Fellowship Opportunity at the U.S. Air Force Research Laboratory

**Opportunity Reference Code:** AFRL-711HPW-2024-0006R

**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 (AFRL), Radio Frequency Bioeffects Branch (RHDR), seeks a qualified researcher in Biology or Bioengineering.

The Bioeffects Division (RHD) of AFRL has played a key role in understanding the biological effects of directed energy (DE) for more than 50 years. The mission of RHD is to understand the fundamental mechanisms underlying the interaction of DE with biological systems to mitigate risks associated with warfighter exposure to DE sources. Specific objectives of the division include preventing mission degradation due to DE exposure and enabling our forces to function safely, effectively, and efficiently on the DE battlefield.

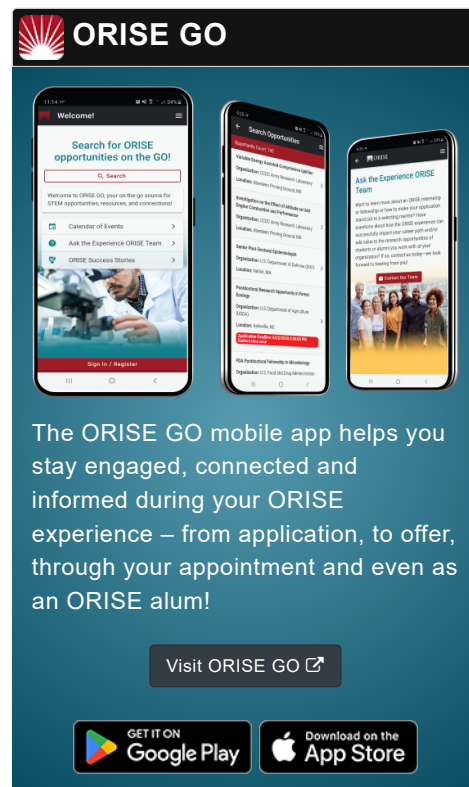
#### What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will join a community of scientists and researchers in an effort to investigate the potential of non-ionizing radiofrequency electromagnetic fields to induce adaptive response (AR) in mammalian cells.

Extensive scientific research has described acquired AR in cells preconditioned with adaptive doses (mild stress) of a chemical, a biological, or a physical insult. The preconditioning provides cellular resilience to damage induced by subsequent high doses (severe stress) of a same or a different insult. There is an indication in literature that preconditioning with RF-EMFs could induce such AR to adverse effects from subsequent challenges in animals and in cultured cells. The goal of the project is to identify, define, and exploit a RF-EMF low-dose stimulation range that would promote an AR in cells (e.g., neuronal cells). The aim is to perform an in-depth investigation of a RF-EMF adaptive response phenomenon in cultured cells, verify its feasibility as a preconditioning agent in different stress scenarios, and elucidate the underlying molecular mechanisms of action. This project will include cell culture and molecular biology techniques, microscopy, data collection, data analysis/processing, presentations at national meetings, and contribution to written publications.

#### 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



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in activities and research in several areas. These include, but are not limited to,

- Gaining experience in active Department of Defense research, with access to state-of-the-art RF exposure and imaging equipment.
- Collaborating to plan, design, and conduct interdisciplinary studies in the fields of cellular and molecular biology, imaging, and data processing.
- Communicating research in written and oral presentations

**Where will I be located?** San Antonio, Texas

**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 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 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

**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**

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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 hold or be currently pursuing a Master's or Doctoral degree in one of the required areas of discipline in the eligibility section. The degree must have been earned within five years of the appointment start date.

Highly competitive applicants will have:

- knowledge of molecular and cell biology techniques
- knowledge of confocal microscopy
- track record of publications that demonstrate experience

## 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](mailto:AIRFORCE@orise.orau.gov). Please list the reference code of this opportunity AFRL-711HPW-2024-0006 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

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informed during your ORISE experience and beyond!

#### **Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Academic Level(s):** Graduate Students, Postdoctoral, or Post-Master's.
- **Discipline(s):**
  - **Engineering** (1 )
  - **Life Health and Medical Sciences** (51 )