Opportunity Title: AFRL-711 HPW: Cognitive Neuroengineering Research Opportunity
Opportunity Reference Code: AFRL-711HPW-2023-0005

Organization	U.S. Department of Defense (DOD)
Reference Code	AFRL-711HPW-2023-0005
How to Apply	Click on *Apply* at the bottom of the opportunity to start your application.
Description	The participant selected for this opportunity will support research activities in the Applied Cognitive Neuroscience Core Research Area of the 711th Human Performance Wing (HPW) located in the Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base.

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What will I be doing?

As the selected candidate and under the guidance of a mentor, you will learn to leverage neuroscience techniques to assess, monitor, and augment human decision making. You will engage with a multi-disciplinary team of scientists and engineers working together to execute research activities and contribute to experiment design and preparation, participate in data collection efforts, assist with research subjects, contribute to record keeping, and perform general laboratory maintenance.

Why should I apply?

Based on your areas of research interest, you may expand the research project to include the development and integration of (1) virtual or augmented reality simulations (e.g., Unreal, Unity) for evaluating cognitive performance in Air Force-relevant tasks and scenarios or (2) mathematical or computational models of cognitive performance, implemented in commercial software (e.g., Python, MATLAB, R), with sensor information from a range of neural and physiological telemetries.

Where will I be located?

Wright-Patterson Air Force Base, Dayton, Ohio

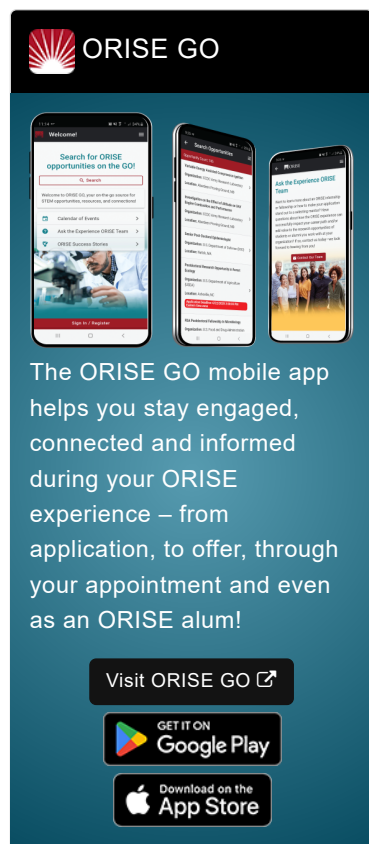### What is the anticipated start date?

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 fellowships will be filled as qualified candidates are identified.

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

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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 have earned a bachelor's degree from an accredited university in biomedical engineering, computer science, cognitive science, psychology, neuroscience, or another quantitative field (e.g., physics, engineering) relevant to the broad area of human cognition and neuroscience within the last 60 months. Individuals pursuing a bachelor's degree with an expected completion date no later than June 30, 2023, are also eligible to apply.

- Ability to work independently and in interdisciplinary groups
- Ability to meet the requirement to obtain access to Wright-Patterson AFB, OH

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

- Experience with game engines for virtual reality (VR) development (e.g. Unity, Unreal Engine, etc.) and ray tracing libraries (e.g. OSPray, Optix).
- Experience with mathematical or computational modeling of human performance and/or machine learning methods for behavioral and neural data analysis
- Experience designing, programming (e.g., MATLAB/PsychToolbox), and executing human subjects research involving EEG, fNIRS, and/or fMRI experiments
- Experience leveraging commercial tools (e.g., Python, R, MATLAB) to perform data processing and analysis of human behavioral and neural data

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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 submitted. We encourage you to contact your recommender 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-2023-0003] 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:** Bachelor's Degree received within the last 60 months or anticipated to be received by 6/30/2023 4:06:07 PM.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (2 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (48 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (2 👁)
  - **Social and Behavioral Sciences** (28 👁)

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- **Age:** Must be 18 years of age