Opportunity Title: Postdoctoral Researcher - Auditory Model Development
Opportunity Reference Code: AFRL-711HPW-2021-0008

Organization	U.S. Department of Defense (DOD)
Reference Code	AFRL-711HPW-2021-0008
How to Apply	Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click here for detailed information about acceptable transcripts.
- One Required Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to **AIRFORCE@orise.orau.gov**. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

Description 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, 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 711th Human Performance Wing, please visit https://www.wpafb.af.mil/afrl/711hpw/.

The Airman Systems Directorate (RH) is the research arm of the 711th Human Performance Wing at the United States Air Force Research Laboratory. RH conducts a wide range of research and design projects for internal and operational customers. These projects connect to a wide range of disciplines and collaborators across government labs, academia, industry, and military operators in order to generate the most innovative and effective solutions.

The human auditory system is remarkable in its ability to parse a sound scene into multiple sound objects. There are many computational models that are designed to simulate various aspects of the auditory system, but none yet that can satisfactorily predict the detectability of complex sounds in natural sound environments. The Sensory Systems Branch at the Air Force Research Laboratory aims to develop a model that can predict the
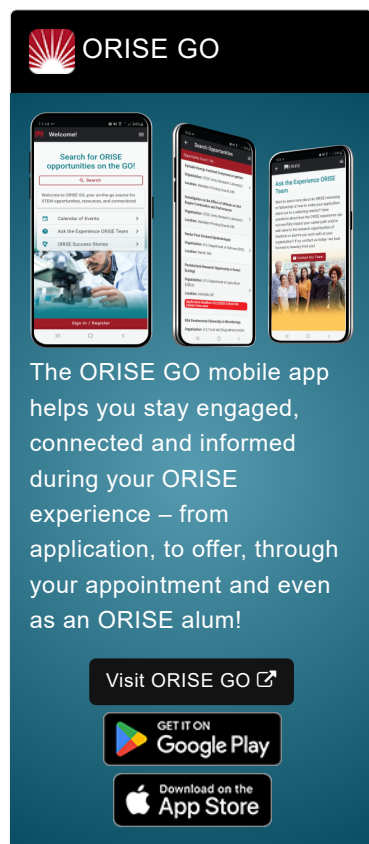
detectability of a target sound in complex environments, including effects of information masking. This model will be useful for simulating auditory object formation and identification within complex sound scenes. In order to develop a dataset for the model, behavioral studies with human listeners will be designed and conducted with our on-site panel of test subjects, and/or ad hoc subjects for field data collections. The ORISE participant will gain experience in developing auditory models for sound detection, as well as conducting research in AFRL's unique acoustic facilities. The ORISE participant will benefit from interactions with a diverse team of experts and will increase their understanding of the auditory system by measuring and modeling its performance in complex environments.

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.

Participant Benefits

Participants will receive a stipend to be determined by AFRL. Stipends are typically based on the 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

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 36 months or anticipated to be received by 5/30/2021 11:59:00 PM.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Engineering** (1 👁)
  - **Physics** (1 👁)
  - **Social and Behavioral Sciences** (1 👁)