Opportunity Title: Applied Cognitive Neuroscience Research - Postdoctoral
Opportunity Reference Code: NAMRU-Dayton-2022-0013

Organization U.S. Department of Defense (DOD)

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How to Apply Click on *Apply* now to start your application.

Description Naval Medical Research Unit Dayton conducts research on aerospace medicine and environmental health effects, addressing health and performance challenges faced by service members in operational military environments.

The Cognitive and Applied Performance (CAP) team is an interdisciplinary team that uses cognitive neuroscience techniques to address the effects of environmental stressors on human performance. The CAP team seeks to understand how aeromedically relevant stressors, like hypoxia, spatial disorientation, motion sickness, acceleration, and extreme temperatures affect neurophysiology and cognitive performance. Over the past several years, the team has developed a neural marker of hypoxia using EEG and continues efforts to use this marker to enhance aircrew training and work toward pilot monitoring options to improve aircrew performance and survivability. Lessons learned from this hypoxia work are now being applied to spatial disorientation with a goal of developing reliable methods for inducing spatial disorientation in the lab and corresponding neural indicators of spatial disorientation.

What will I be doing?

Under the guidance of a mentor, the projects you will be involved in include, 1) an investigation of how breathing resistance combined with hypoxia affects sensory processing and neural markers of performance deficits, 2) a study examining the effects of cold habituation on cognitive performance during concurrent cold and hypoxia exposure, and 3) a project that will examine the potential link between cerebral vasoconstriction and attentional resources. All of these efforts will involve EEG to measure cognitive and sensory processing. You may also be involved in additional efforts that are still awaiting funding decisions.

This postdoctoral research fellowship will involve participation in all aspects of the research process including: proposal writing, experimental design, study and equipment setup, programming, data collection, data organization and analysis, statistical analysis, and dissemination of findings (e.g., presentations and publications). Of these activities, an emphasis will be placed on programming, data analysis, and writing. There will be ample opportunity to develop novel ideas for new projects and write funding proposals for those ideas. The CAP team has several EEG systems, an fNIRS system, and access to a 3T MRI; all of which will be available to you.

Why should I apply?

This fellowship provides the opportunity to independently utilize your skills and engage with experts in innovative ideas to move the proposed
research forward.

Where will I be located? Wright Patterson Air Force Base, Dayton, OH

What is the anticipated start date?

NAMRU-D is ready to make an appointment immediately. Exact start date will be determined at the time of selection and in coordination with the selected candidate.

What is the length of the appointment?

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This ORISE appointment is full-time twelve month duration. 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 NAMRU-D. 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

You will 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.

Qualifications

Required qualifications include:

- PhD in neuroscience, psychology, cognitive science, or a related field
- Experience with at least one of the following techniques: EEG, fMRI, fNIRS
- Proficient with MATLAB
- Good communication skills
- Willingness to learn new research areas related to aerospace medicine

Preferred qualifications:

- Strong publication record
- Advanced statistics and signal processing expertise
- Experience with interdisciplinary research

A complete application consists of:

- Zintellect profile
- Essay Questions - The application includes questions specific to the opportunity.
- Academic Records - For this opportunity, an official transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
- Current Resume/CV
- One (1) recommendation - Your application will be considered incomplete and will not be reviewed until one recommendation is
  submitted. 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. The status will go from Started to Submitted and then to Completed once the required recommendations have

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been received.

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 navy@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. 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:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Engineering** (2 👁)
  - **Life Health and Medical Sciences** (42 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (6 👁)
- **Age:** Must be 18 years of age