Opportunity Title: Air Force Research Laboratory (AFRL) - Exercise Science Researcher
Opportunity Reference Code: AFRL-711HPW-2021-0023

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 U.S. Air Force Research Laboratory (AFRL) is offering an internship in the Signature Tracking for Optimized Nutrition and Tracking (STRONG) lab. The STRONG lab is the exercise-science relevant research arm of the Human Performance Wing / Airman Systems Directorate at AFRL. The STRONG lab conducts a wide range of research and design projects for a variety of operational customers and coordinates with a variety of partners to include special operations forces, AFRL, United States Air Force Academy, etc. Projects are based in the exercise sciences and 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.

What will I be doing?

As an ORISE participant, you will join a community of scientists and researchers in an effort to enhance your skills in exercise sciences, specifically in Real-time Health Performance Monitoring. There are several systems that have been proposed to influence performance, the United States Air Force is interested in optimizing these systems among various operational units. The STRONG lab interest in this area includes:

1. Movement screening tools propose various connections between movement patterns, operational performance, and injury risk. A major focus of the STRONG lab is to evaluate and determine optimal usage for various movement screening tools among multiple military populations.
2. Force plates measure neuromuscular performance on tasks such as vertical jump, isometric mid-thigh pull, and balance. Recent marketing has proposed that force plates may be influential to predict injury among specific populations. AFRL is working to compare at least three separate force plate platforms and determine reliability, feasibility, and usability of each for performance and health monitoring.
3. Wearable devices to track biometrics and other performance and health markers have been suggested and warrant further study/field testing.
4. Run assessments: Motion capture via various technologies to assess 3-D run and/or march with load and effective ways to introduce this technology and maximize benefits for operational units.
5. Cognition and decision-making are influenced by factors such as aerobic capacity and will be further analyzed in future studies.
6. Spine assessment: low back and cervical spine continue to be critical areas of health/fitness in order for operators and aircrew to operate safely and effectively, and will be evaluated in various strategies.

You may perform data collection and analysis for any of the aforementioned categories of study.

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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,

- Collaborating with senior researchers in the development of a software data management tool for Airman Performance Tracking through software development, data collection, and/or modeling and usability testing.
- Taking an active role in laboratory research development and execution, with projects primarily focusing on military application of cutting edge performance assessment (e.g., heart rate variability monitoring, sweat sensors), enhancement (e.g., nutritional supplements, glucose monitoring), and recovery (e.g., float tank, flexibility/mobility training) technologies. This will improve your skills in research design, management, and application of human performance technology.
- Learning new software, programming and data-base management skills, which are necessary to support “big” data analytics.
- Learning and applying next-gen fitness and nutrition intervention techniques.

Together, these experiences will help prepare you for more advanced academic work or to serve as a human performance practitioner in military and/or elite athletic organizations.

Where will I be located?

Wright-Patterson Air Force Base in Ohio. The opportunity to travel for data collection on occasion might be suggested, but not required.

What is the anticipated start date?

November 1, 2021. 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 internships 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. Occasional flexibility in scheduling is helpful, but not required. 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)*

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

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 a Master's degree, or should currently be pursing a graduate degree with an expected graduation date by August 31, 2022. Degree must have been received within five years of the appointment start date.

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

- Exercise-science related background working with human population and performance.
- Prior experience within the field of biometrics, exercise testing, or factors of human performance.
- Experience with military population is helpful, but not required.
- Good self-efficacy and ability to adapt to a variety of projects/challenges as they arise.
- Good technical writing skills and prior experience with publication of peer-reviewed journal.
- Experience with various data analytics, statistical software, internet applications.
- Ability to communicate well with other exercise professionals.

Application Requirements

A complete application consists of:

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- Zintellect Profile
- 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 Recommendation

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity [AFRL-711HPW-2021-0023] 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:** Master's Degree or Doctoral Degree received within the last 60 months or anticipated to be received by 8/31/2022 12:00:00 AM.
- **Discipline(s):**
  - **Communications and Graphics Design** (2)
  - **Computer, Information, and Data Sciences** (7)
  - **Engineering** (1)
  - **Life Health and Medical Sciences** (18)
  - **Mathematics and Statistics** (5)
  - **Physics** (1)
  - **Science & Engineering-related** (1)
  - **Social and Behavioral Sciences** (10)