

**Opportunity Title:** Biomechanical Data Science/Engineering Research Fellowship

**Opportunity Reference Code:** AFRL-711HPW-2024-0011

**Organization** U.S. Department of Defense (DOD)

**Reference Code** AFRL-711HPW-2024-0011

**How to Apply** Click on *Apply* at the bottom of the opportunity to start your application.

**Description** The Air Force Research Laboratory 711 Human Performance Wing (HPW) is offering a fellowship at Wright Patterson Air Force Base.

**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 support the Advanced Research in Musculoskeletal Modeling for Operational Readiness (ARMMOR) Team as part of the Biodynamics Section within the 711 HPW. The ARMMOR research portfolio consists of R&D to develop the infrastructure and pipelines to integrate wearable technology into musculoskeletal and AI/ML models to inform injury risk and intervention points.

**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:

- Data/code process optimization and/or development
- Research application of machine learning models
- Sparse sensing (minimum viable sensor sets)
- Collect and analyze biomechanical data
- Participate in the generation of manuscripts
- Gain exposure to collaborations across the Tri-Services, international partners, NASA, industry, and academia

**Where will I be located?**

Dayton, Ohio

**What is the anticipated start date?**

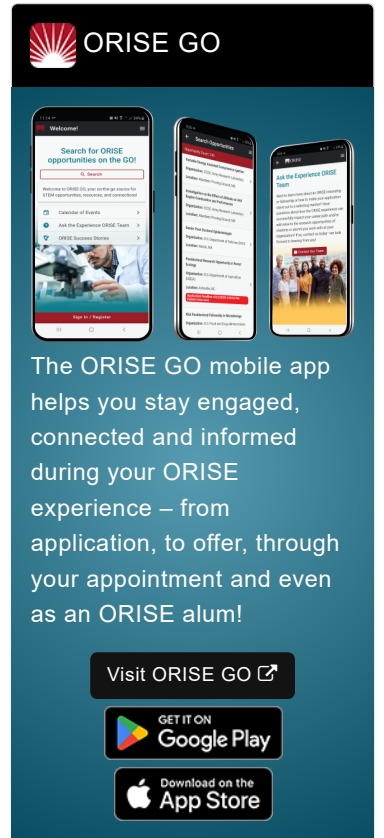
Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and internships or fellowships will be filled as qualified candidates are identified.

**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:




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- Health Insurance Supplement (*Participants are eligible to purchase health insurance through ORISE*)
- Relocation Allowance
- Training and Travel Allowance

#### About AFRL 711HPW

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 or be currently pursuing a degree in any of the disciplines in the eligibility section of the opportunity. Postgraduate candidates must have earned their degree within 5 years of the appointment start date.

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

- Demonstrated software development skills and experience with designing and/or implementing network protocols, OpenGL or DirectX experience and interfacing with external devices (input devices and/or measurement devices)
- Planning, building, testing, optimization, and maintenance of data ecosystems
- MATLAB, Python, TensorFlow, LabView, SQL, Google Cloud, OpenSim
- Biomedical signal processing
- Biomechanics
- Writing technical documentation based upon specifications for both software and hardware development. This includes, but is not limited to Functional Requirements Documents, System Design Documents, use cases, system topologies, Test plans, Deployment Plans, and training material
- Experience working in a research laboratory environment and strong communication skills

#### Application Requirements

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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-2024-0011] 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!

**Point of Contact** [Alecia](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Computer, Information, and Data Sciences** ([17](#) )
    - **Engineering** ([11](#) )
    - **Life Health and Medical Sciences** ([2](#) )
    - **Mathematics and Statistics** ([2](#) )
    - **Physics** ([1](#) )