

**Opportunity Title:** Biomechanics Engineering Research  
**Opportunity Reference Code:** NAMRU-Dayton-2020-0012

**Organization** U.S. Department of Defense (DOD)  
**Reference Code** NAMRU-Dayton-2020-0012  
**How to Apply** Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Resume (PDF)
- Transcripts/Academic Records -[Click here for detailed information about acceptable transcripts](#)
- References

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](mailto: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.

## Description

The Environmental Health Effects Laboratory at the Naval Medical Research Unit Dayton researches the physical, physiological and cognitive effects of exposure to environmental stressors, to include chemicals, particulate matter, noise, temperature/humidity and altitude effects, in addition to other physiological stressors (such as fatigue, dehydration, etc).

This research opportunity involves neck and back pain initiatives through activities/projects in support of the Spine Health Improvement Program (SHIP) at the Naval Medical Research Unit Dayton. Participants will take part in projects studying neck and back pain in aviators and aircrew as well as biomechanical systems integration/evaluation. This opportunity provides hands-on, educational experience with biomechanics/ergonomics research, utilization of biomechanical measurement technologies such as motion capture/tracking, studying concepts of electromyography and force transducers in the effects of interventions for the warfighter. The participant will also have the opportunity to collect and analyze biomechanical data as well as gain exposure to DoD collaborations with Air Force and Army colleagues.

## Appointment Length

An ORISE appointment period can be up to one year. 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 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.*




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- 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.

#### **Qualifications**

Minimum bachelor's degree in engineering (i.e., mechanical, biomedical/bioengineering, aerospace, electrical, etc.) or kinesiology/movement sciences. Coursework completed (minimum) in statics and dynamics (highly favorable), experience with programming in MATLAB / LabVIEW (highly favorable), biomechanical measurement tools such as motion capture, electromyography, force transducers, and physiologic sensors (desired, but not required).

#### **Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 )
  - **Communications and Graphics Design** (1 )
  - **Computer, Information, and Data Sciences** (16 )
  - **Earth and Geosciences** (21 )
  - **Engineering** (27 )
  - **Environmental and Marine Sciences** (14 )
  - **Life Health and Medical Sciences** (45 )
  - **Mathematics and Statistics** (10 )
  - **Other Non-Science & Engineering** (5 )
  - **Physics** (16 )
  - **Social and Behavioral Sciences** (28 )
- **Age:** Must be 18 years of age