

Opportunity Title: Biomechanics Research Internship at the U.S. Army
Research Institute of Environmental Medicine (USARIEM)

Opportunity Reference Code: USAMRDC-RIEM-2022-0036



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. Army Institute of Environmental Medicine \(USARIEM\)](#) is offering a research opportunity to learn and train under USARIEM scientists. The mission of USARIEM is to optimize Warfighter health and performance through medical research. As military readiness is a top priority, you will assist in conducting research on the biomechanics of overuse injury risk with a focus on the spine and lower extremity. You will take part in research activities ranging from study conception to data collection and analysis to manuscript publication.

Why should I apply?

Current research protocols include exploring associations of human movement (deadlifting), performance and musculoskeletal injury risk utilizing standard motion capture techniques and musculoskeletal modeling. Under the guidance of a mentor, you will participate in activities necessary to enable data collection including IRB paperwork, subject scheduling and coordinating laboratory hours for data collections. You will process and analyze 3D motion capture data. In addition, you will also learn to write-up and present results in abstracts, manuscripts, and conferences.

For more information about this open opportunity please contact:

Vanessa J. Ramirez, PT, DPT, PhD

vanessa.j.ramirez.mil@health.mil

Where will I be located?

Natick, Massachusetts. This educational opportunity also requires traveling to off-site locations for field studies and data collection.

What is the anticipated start date?

USARIEM is ready to make appointments immediately. 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 fellowships will be filled as qualified candidates are identified.

What is the appointment length?

Appointments are initially for one year with the option to extend the appointment for up to four additional years, contingent upon project needs and funding availability.

What are the benefits?

You will receive a stipend to be determined by USARIEM. 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*)
- Relocation Allowance
- Training and Travel Allowance

About USARIEM Biomechanics

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The Center for Military Biomechanics Research is a 120' x 50' state of the art biomechanics laboratory located at the Natick Soldier Systems Center in Natick, MA shared between USARIEM and the Natick Soldier Research Development and Engineering Center (NSRDEC). The facility equipment includes multiple 3D motion capture systems (Qualisys), in-ground force platforms (AMTI), force-sensing treadmills (AMTI), surface EMG (Motion Labs), IMUs (IMeasureU), and energy expenditure (ParvoMedics). Additionally USARIEM also owns equipment to measure bone health, including dual energy x-ray absorptiometry (DEXA) and high resolution peripheral quantitative computed tomography (HR-pQCT). The USARIEM Biomechanics team collaborates with experts in bone health, physiology, occupational and physical therapy, statistics and musculoskeletal modeling.

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

Applicants must hold a Bachelor's or Master's in biomechanics or a STEM related field. 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:

- Collecting and processing three-dimensional motion and force data on humans (musculoskeletal modeling experience preferred).
- Statistical software packages and computer programming experience (SPSS, MATLAB and Python preferred).
- Excellent written and oral communication skills, including conflict resolution skills, as well as the ability to collaborate independently and as part of an interdisciplinary team.

Application Requirements

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 - 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. Your application will be considered incomplete and will not be reviewed until one recommendation is submitted. We encourage you to contact your recommender 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 ARMY-MRMC@orise.orau.gov. Please list the reference code of this opportunity [USAMRDC-RIEM-2022-0036] 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

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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:** Bachelor's Degree or Master's Degree received within the last 60 month(s).
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Earth and Geosciences** (21 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (48 )
 - **Mathematics and Statistics** (11 )
 - **Physics** (16 )
 - **Social and Behavioral Sciences** (28 )