

Opportunity Title: Computational Modeling and Blast Overpressure (BOP) Risk Assessment to Brain Algorithm Internship Opportunity
Opportunity Reference Code: DCPH-A-2026-0006

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 Department of Defense (DoD) is offering a graduate student fellowship at the Defense Health Agency's Defense Centers for Public Health—Aberdeen (DHA-DCPH-A).

What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will engage with a community of scientists and researchers focused on advancing computational modeling capabilities within the Health Hazard Assessment (HHA) framework to assess biological risks associated with blast overpressure (BOP) from military weapon systems. You will engage in research and applied computational activities to model blast-induced energy transfer to the brain, translate emerging toxicological action levels and Occupational Exposure Limits (OELs) into mathematical models, and establish algorithms that determine brain risk levels based on calculated Allowable Number of Rounds (ANOR).

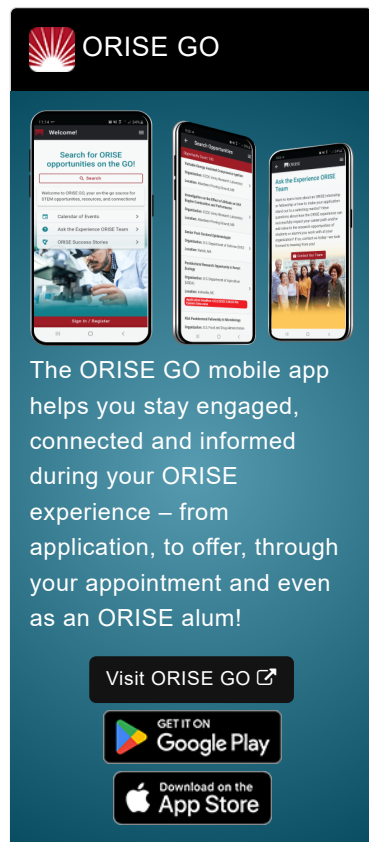
Throughout this fellowship, you will have the opportunity to gain hands-on experience in:

- **Translational Biomechanics & Computational Modeling:** Applying mathematical models to simulate and evaluate physical loading on biological structures.
- **Health Hazard Assessment & Toxicology Metrics:** Exploring how emerging OELs, action levels, and cumulative dosage models inform weapon-specific exposure limitation profiles.
- **Risk Level Stratification & ANOR Calculations:** Formulating algorithmic workflows to determine stratified risk levels and calculate recommended ANOR thresholds to mitigate overexposure risks.
- **Software Capability Development:** Translating theoretical bio-effects and exposure criteria into functional MATLAB algorithms to evaluate weapon system blast overpressure profiles.

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 learn and engage in research activities in several areas. These include, but are not limited to:

- Developing and testing MATLAB-based algorithms to assess brain injury risk from blast overpressure (BOP) exposure by converting biomedical exposure research into mathematical models of blast waves and physiological response thresholds.
- Creating analytical models for calculating weapon-specific Allowable Number of Rounds (ANOR) in alignment with occupational exposure limits (OELs) and action levels, and define algorithmic risk classifications for varying exposure scenarios.
- Collecting, analyzing, and interpreting blast sensor data, waveform measurements, and historical exposure records to validate computational models and confirm the accuracy of ANOR thresholds and health risk predictions.
- Engaging with multidisciplinary teams including biomechanical engineers, health physicists, and toxicologists to refine modeling assumptions, improve validation methods, and advance scientific research objectives.
- Preparing technical documentation, research summaries, and briefing presentations that communicate algorithm design, validation methods, computational performance, and risk



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assessment findings.

What is the anticipated start date?

October 2026. 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 provisions?

You will receive a stipend to be determined by DCPH-A. Stipends are typically based on a participant's academic standing, discipline, experience, and research facility location. Other provisions may include the following:

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

Security Clearance

While participants will not enter an employment relationship with DoD or any other agency, this opportunity will require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation.

About DCPH-A

DHA's Defense Centers for Public Health - Aberdeen's mission is to enhance Army readiness by identifying and assessing current and emerging health threats, developing and communicating public health solutions, and assuring the quality and effectiveness of the Army's Public Health Enterprise. Their vision is to be a world-class provider of public health services across the Army and DOD.

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 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 currently be pursuing a master's degree in any of the disciplines listed in the opportunity's Eligibility criteria.

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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 - 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 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-PHC@orise.orau.gov. Please list the reference code of this opportunity [DCPH-A-2026-0006] 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!

Stipend \$10,500.00 – \$10,609.00 Monthly

Point of Contact [Brittany](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Currently pursuing a Master's Degree.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([2](#) 👁)
 - **Engineering** ([3](#) 👁)