

Opportunity Title: Biomedical Engineering / Mechanical Engineering / Physiology

- Postdoctoral

Opportunity Reference Code: NEDU-2021-0003

Organization U.S. Department of Defense (DOD)

Reference Code NEDU-2021-0003

How to Apply Click on APPLY now to start your application.

Description This opportunity takes place at the Navy Experimental Diving Unit (NEDU) in Panama City, Florida. NEDU's mission is to conduct manned, unmanned, and biomedical research; develop, test, and evaluate diving, hyperbaric, life support, and submersible systems and procedures; and ensure all diving equipment and procedures meet the safety standards and operational requirements to expand the U.S. Navy's advantage during any undersea military operation. NEDU is equipped with the United State's largest research hyperbaric chamber complex for wet and dry hyperbaric/diving operations, a 55,000 gallon test pool, and state-of-the-art physiological research facilities. For further information, please visit <https://www.navsea.navy.mil/Home/SUPSAIV/NEDU/>

Project collaborations will be in the Biomedical Research Department, providing technical expertise in the planning and execution of research, development, testing, and evaluation (RDT&E) related to physiology, mathematical modeling of physiological data, and computer programming. The program efficiently minimizes the incidence and severity of decompression sickness in U.S. Navy undersea diving and submarine operations. Specific emphasis is placed on synthesis of scientific data into guidance for undersea operations. This research contributes to or affects mission effectiveness and operational capabilities and safety of U.S. Navy diving and submarine operations.

What will I be doing?

You will receive mentoring by NEDU's Decompression Research Group who collectively have 80 years experience developing and testing new procedures for conducting undersea operations. Two projects have been identified which will be conducted during FY21 and provide opportunities to participate in both unmanned and manned research. The two projects are test and evaluation of prospective real-time decompression computers for acquisition by the U.S. Navy and the development of procedures to conduct surface decompression following constant 1.3 PO₂ in HeO₂ diving. In addition, you will have opportunities to conduct test protocol development, data collection, statistical analysis, decompression procedure development, and report writing will be provided. The initial appointment will be for one year of training, but may be renewed for up to three more years.

Why should I apply?

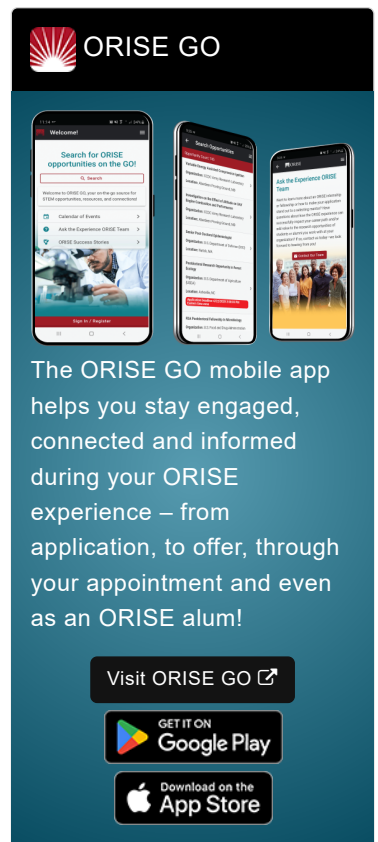
This internship provides the opportunity to independently utilize your skills and engage with experts in innovative ideas to move the proposed research forward. There are multiple opportunities available to engage in your applied research and evaluation interests.

What is the anticipated start date?

NEDU is ready to make an appointment immediately. Exact start date will be determined at the time of selection and in coordination with the selected candidate.


What is the length of the appointment?


This ORISE appointment is full-time twelve month duration. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the


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participant

What are the benefits?

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

Nature of Appointment

You 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 Research activities at NEDU will expose you to all aspects of the research process, from experimental design to collection and analysis of data, and publication of reports. You should meet the following requirements:

- . Ph.D. Engineer or scientist with a background in biomedical engineering, mechanical engineering, or respiratory or systems physiology.
- . Experience reviewing and synthesizing scientific information including journal articles, technical reports, research proposals, experimental protocols, and raw and compiled data files.
- . (Highly Desired, but not required) Experience conducting human subject research.
- . (Highly Desired, but not required) Experience and knowledge in diving and/or hyperbarics.
- . (Highly Desired, but not required) Experience with C# .Net programming language.

A complete application consists of:

- **Zintellect profile**
- **Essay Questions** - The application includes questions specific to the opportunity.
- **Academic Records** - For this opportunity, an official transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
- **Current Resume/CV**
- **One (1) Recommendation** - Applicants are required to provide contact information for at least one recommendation. You are encouraged to request a recommendation from a professional who can speak to your abilities and potential for success as well as your scientific capabilities and personal characteristics. Recommendation requests must be sent through the Zintellect application system. Recommenders will be asked to complete a recommendation in Zintellect. Letters of recommendation submitted via email will not be accepted.

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, blackened out, made illegible, etc.) prior to uploading into the application system. All documents must be in English or include an official English translation. If you have questions, send an email to navy@orise.orau.gov. Please list the reference code of this

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opportunity 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.

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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral 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** ([2](#))
 - **Physics** ([16](#))
 - **Science & Engineering-related** ([1](#))
 - **Social and Behavioral Sciences** ([27](#))
 - **Age:** Must be 18 years of age