

Opportunity Title: Mechanical Engineer - Hyperbaric Research

Opportunity Reference Code: NEDU-2022-0002

Organization U.S. Department of Defense (DOD)

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

Description This opportunity is at the Navy Experimental Diving Unit (NEDU) in Panama City, FL. NEDU's mission is to conduct manned, unmanned, and biomedical research, development, test, and evaluation of diving, hyperbaric, life support, and submersible systems and procedures to 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.

NEDU has established a Configuration Management Plan (CMP) to provide organizational and managerial guidance and direction for all of NEDU's unique diving systems. Configuration Management (CM) is defined as a management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design and operational information throughout its life. The objectives of CM are to identify and document the characteristics of a Configuration Item (CI); to control changes to these characteristics; to provide information on the status of change action; and to audit and review the item for compliance with contractual and identification requirements.

What will I be doing?

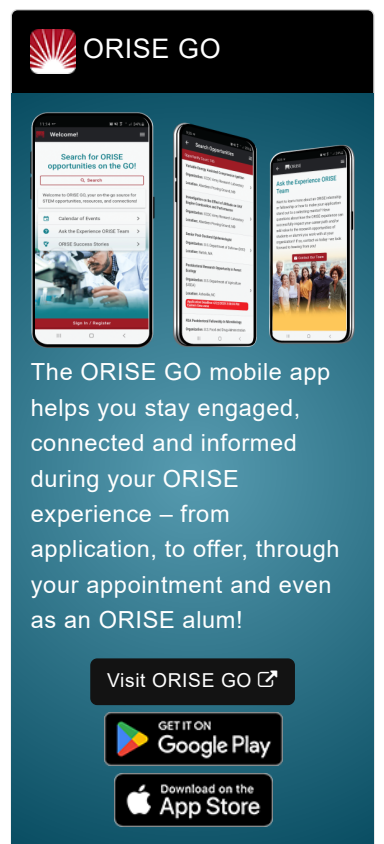
Under the guidance of a mentor, you will review of all relevant engineering documentation, manuals, AutoCAD drawing files of built systems in NEDU's possession. This project supports the establishment of a joint Configuration Management (CM) program for NEDU's hyperbaric diving systems. In addition to the Configuration Management experience, you will collaborate with the senior engineer and outside vendors to aid in the integration effort of incorporating a helium reclaim system at the Command. Tertiary research include the role of supporting all Engineering Department maintenance and modernization project endeavors.

As a participant you will gain experience in:

- Compiling all relevant hyperbaric system engineering documentation, technical manuals, and records in NEDU's possession
- Field verification of hyperbaric chamber systems, sub-systems, and components against current drawings in preparation of drawing updates
- Developing Joint Identification Drawings
- Supporting the processes to obtain required project materials including research of supplies, software, and equipment, and development of documentation for review and approval by the Design Certification Engineer and Configuration Manager
- Developing an actionable plan for the integration of a helium reclaim system for the Ocean Simulation Facility
- Developing technical documentation, conduct product and materials research, design and construct new test apparatuses, and support maintenance activities through applying the principles of engineering
- Supporting the development and implementation of Engineering Change Proposals (ECP) as necessary to execute department tasking

Why should I apply?

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You will be exposed to all aspects of mechanical engineering practice to include, hyperbarics, diving physics, diving physiology, materials science, hydraulics, pneumatics, heat transfer, electrical power, electronic controls, project plan development, design engineering, engineering report writing, and project estimation and budgeting.

What is the anticipated start date? August 1, 2022

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 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 B.S. or M.S. in mechanical or ocean engineering.

Preferred candidates should:

- Have experience developing and reviewing engineering documents, 3D models and simulations, calculations, technical manuals, and drawings with subsequent document and planning generation.
- Have experience conveying engineering related technical details with clarity and precision to engineers and non-engineers alike.
- Have experience in report writing and formatting to establish plans and processes related to engineering principles.

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

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- One (1) Recommendation - Your application will be considered incomplete and will not be reviewed until one recommendation is submitted. 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. The status will go from Started to Submitted and then to Completed once the required recommendations have been received.

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 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:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
- **Overall GPA:** 3.00
- **Discipline(s):**
 - **Engineering** ([3](#) )
- **Age:** Must be 18 years of age