

Opportunity Title: Directed Energy Health Effects Directorate: Modeling and Simulation Engineer - Internship

Opportunity Reference Code: NAMRU-SA-2024-0014

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 Naval Medical Research Unit - San Antonio (NAMRU-SA) Directed Energy Health Effects Directorate (DEHE) is located in the Tri-Service Research Laboratory, Joint Base San Antonio-Fort Sam Houston, TX. NAMRU-SA's mission is to conduct gap driven directed energy, combat casualty care, and craniofacial health research to improve survival, operational readiness, and safety of Department of Defense personnel engaged in routine and expeditionary operations. NAMRU-SA scientists conduct basic, applied, and advanced technology research and development through prototype demonstration in an operational environment. The focus of the research in the DEHE Directorate is acute or chronic health effects because of exposure to the spectrum of non-ionizing electromagnetic energy from radiofrequencies through ultraviolet radiation. The Tri-Service Research Laboratory (TSRL) building consists of a 181,000 square foot facility with a 46,000 square foot vivarium that is fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care. The facility was built specifically for directed energy research and includes dedicated laser laboratories and shielded anechoic chambers for radiofrequency and microwave research. The surgical space available to NAMRU-SA, consisting of sterile and non-sterile operating rooms is 3,000 square feet with an additional 2,200 square feet of laboratory and procedure space.

What will I be doing?

Under the guidance of a mentor, you will have the opportunity to learn how to design in silico experiments and perform analysis pertaining to health effects of laser and microwave systems relevant to Navy operations. You will participate closely with staff within the DEHE and Combat Casualty Care and Operational Medicine Directorates at NAMRU-SA.

Why should I apply?

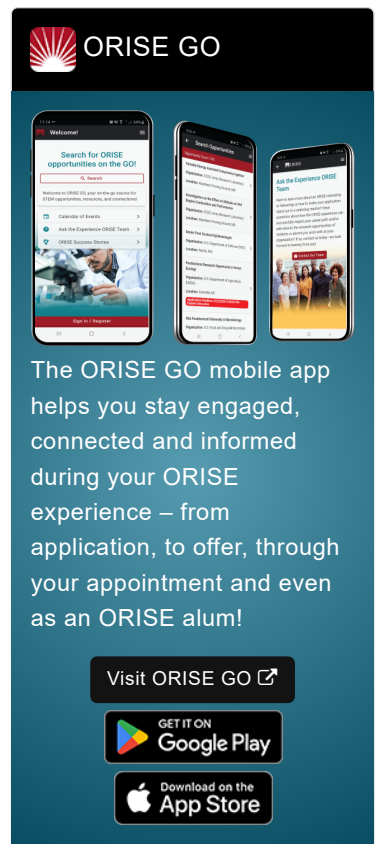
You may have the opportunity to be involved in research activities that will expand your knowledge in the following areas:

- Using and developing cutting-edge M&S tools and algorithms to help address some of the most challenging issues regarding directed energy interactions with biological systems.
- Analyzing user needs, concept of operations, and high-level systems architectures to develop M&S requirements.
- Developing algorithms, performing analyses, and automating data processing.
- Applying Digital Engineering concepts, processes, and tools to help the government better support mission operations.
- Generating documentation on software operation.
- Testing new instrumentation and participating in experiment design.
- Preparing proposals, reports, presentations, or journal articles communicating research activities and findings.
- Participating as a collaborating scientist in project proposal development and design.

Where will I be located?

San Antonio, Texas

What is the anticipated start date?



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NAMRU-SA 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 internships will be filled as qualified candidates are identified.

What is the appointment length?

This appointment is a 12-month, full time 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 NAMRU-SA. 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 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 The qualified candidate is a U.S. Citizen who is currently perusing a B.S. or M.S. degree in applied mathematics, physical science, or engineering, or has obtained such a degree within 5 years of the application submission date. The qualified candidate will have a thorough knowledge of advanced physics principles of electromagnetic energy.

The highly qualified candidate will have coursework and laboratory experience related to laser energy and/or microwave energy and familiarity with the following:

- Experience using one or more of the following: C++, Python, R, SQL, PostgreSQL, Linux, MATLAB, VBA, or STK.
- Engineering analysis (collecting, organizing, analyzing data) experience.
- Ability to collaborate effectively in cross-functional teams with program managers, scientists, and engineers for experiment development and execution.
- Strong written and verbal communication skills that will allow the presentation of findings to internal and external customers.
- Interim Secret clearance required, with ability to obtain a Secret clearance.

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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. 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 navy@orise.orau.gov. Please list the reference code of this opportunity NAMRU-SA-2024-0014 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.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) 👁)
 - **Communications and Graphics Design** ([2](#) 👁)
 - **Computer, Information, and Data Sciences** ([17](#) 👁)
 - **Earth and Geosciences** ([21](#) 👁)
 - **Engineering** ([27](#) 👁)
 - **Environmental and Marine Sciences** ([14](#) 👁)
 - **Life Health and Medical Sciences** ([51](#) 👁)
 - **Mathematics and Statistics** ([11](#) 👁)
 - **Physics** ([16](#) 👁)
 - **Science & Engineering-related** ([2](#) 👁)
 - **Social and Behavioral Sciences** ([29](#) 👁)