

Opportunity Title: Quantum Materials Faculty Fellowship at DEVCOM-SC

Opportunity Reference Code: DEVCOM-SC-2026-0002F

Organization U.S. Department of Defense (DOD)

Reference Code DEVCOM-SC-2026-0002F

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 faculty fellowship opportunity at the U.S. Army Combat Capabilities Development Command Soldier Center (DEVCOM SC).

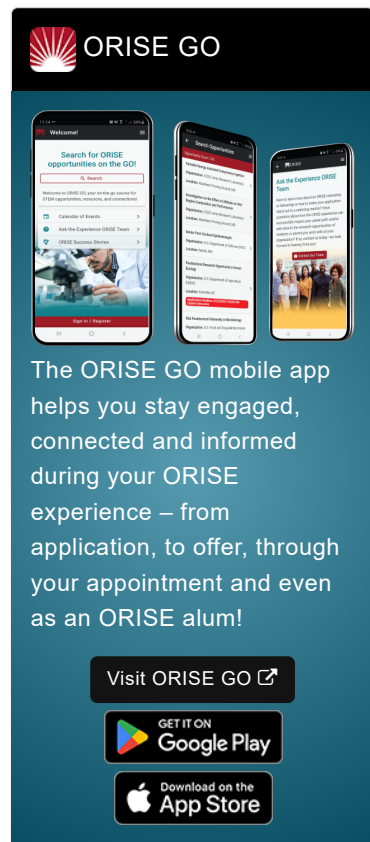
What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will engage with a community of scientists, engineers, and researchers investigating, under a basic research program at DEVCOM SC, quantum and nonlinear optics in semiconductor-free emerging sensing materials (plasmonic metal metasurfaces). You will consider how this might represent the first steps to a new generation of inexpensive and uncooled sensors, whether the experimentally observed optical rectification (OR) current is a new quantum mechanical effect, and whether this could enable new high-sensitivity and/or high-selectivity sensing (including potentially quantum sensing). In addition, you will gain experience carrying out basic fabrication, experiments, design, and theory of new DEVCOM SC nonlinear plasmonic optoelectronic material metasurfaces.

Why should I apply?

Under the guidance of a mentor, you will engage in activities and research that will expanding your learning in several areas. These include, but are not limited to:

- Fabricating new plasmonic (gold) metasurfaces for optoelectronic and nonlinear optical experiments.
- Participating in quantum mechanical investigations into how spin-orbit scattering, Berry curvature, and Berry curvature dipole, which explain the nonlinear Hall effect, could potentially explain the observed experimental OR current.
- Using experimental probes such as x-ray and other material analysis techniques, imaging, probe-based microscopy, visible/infrared spectroscopy, etc., compare new experimental results from these metasurfaces, newly fabricated during this ORISE appointment, to theoretical predictions created by you, described above.
- Evaluating new technology for protecting and enabling Soldiers and Warfighters, including sensing/imaging, quantum sensing, and quantum communications using these new sensing materials. These new materials could enable new power transfer and/or communications capabilities.
- Publishing scientific results above and presenting them for peer review at optics and optoelectronics conferences such as SPIE, Optica, or MRS conferences.
- Designing and fabricating detailed heat trapping and thermal management materials and stacks of materials, using infrared (IR)



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management principles (radiation physics and resonant nanoparticles).

Where will I be located?

Natick, Massachusetts

What is the anticipated start date?

The DEVCOM SC 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?

Faculty appointments are generally for 10-12 weeks during the summer, but appointments during the academic year are also available. 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 DEVCOM-SC. 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 into 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 DEVCOM SC

The U.S. Combat Capabilities Development Command - Soldier Center (DEVCOM SC) is located at the U.S. Army Natick Soldier Systems Center in Natick, Massachusetts, under the Army's Futures Command. Stretching back to 1954, the CCDC Soldier Center's history of support for the Soldier has continued uninterrupted for more than six decades, with a focus on Soldier-related research, development, testing and evaluation efforts. If Soldiers wear it, eat it, sleep under it, or have it airdropped to them in theater, it can be traced back to the CCDC Soldier Center. Diverse expertise comprised of scientists, engineers, technologists and equipment designers, the CCDC Soldier Center provides a wide range of capabilities to the Soldier, to include field feeding and life support systems, protective clothing, precision airdrop systems, and ballistic, chemical and laser-protection systems, and human performance optimization.

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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 will be current faculty at an accredited 4-year university or 2-year college.

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)
- 1 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-RDECOM@orise.orau.gov. Please list the reference code of this opportunity [DEVCOM-SC-2026-0002] 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!

Point of Contact [Richard](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Any degree .
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([2](#) )
 - **Computer, Information, and Data Sciences** ([17](#) )
 - **Earth and Geosciences** ([21](#) )

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- **Engineering** ([29](#) )
- **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](#) )

Affirmation I confirm I am a current full-time faculty member at an accredited U.S. College, University, or Technical Institute.