

Opportunity Title: 2026 High School STEM Summer Internship - Protective Materials Development Team
Opportunity Reference Code: DEVCOM-CBC-2026-0012

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 U.S. Army Combat Capabilities Development Command - Chemical Biological Center (DEVCOM-CBC) is offering a STEM internship program for high school students with DEVCOM-CBC's Protective Materials Development Team.

What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will participate in a project that will explore the design, fabrication, and evaluation of 3D printed tortuous path structures for applications in air filtration and protective systems. Tortuous pathways—complex, winding flow channels—offer a promising strategy to enhance particle capture and vapor interaction while maintaining low pressure drop, a critical balance for respiratory protection technologies. You will participate in resin-based additive manufacturing (e.g., Digital Light Processing, DLP) to fabricate a series of geometrically controlled lattice and channel architectures. By systematically varying structural parameters such as path length, curvature, cross-sectional area, and feature size, the project aims to establish relationships between geometry and performance.

Fabricated samples will be experimentally evaluated to quantify:

- Pressure drop across the structure as a function of flow rate
- Filtration efficiency using model aerosols or particles
- Structure–property relationships linking design features to performance outcomes

Testing may involve standard aerosol generation and measurement techniques (e.g., particle counting, gravimetric analysis) and airflow characterization. You will participate in designing experiments, collecting and analyzing data, and visualizing trends.

Why should I apply?

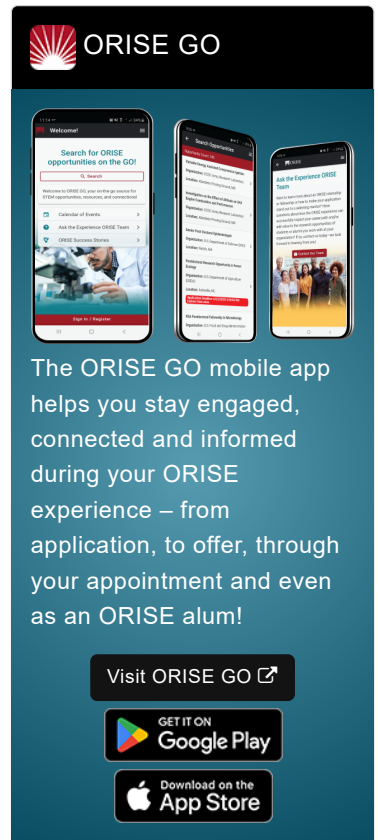
Your participation in the internship program will grant you invaluable first-hand experience under the mentorship of PhD-level scientists in experimental design, application of additive manufacturing and filtration research techniques, and data analysis. Opportunities for active participation include:

- **Experimental:** You will learn how to engage in 3D printing of novel filtration devices and the testing of filtration devices against aerosol challenges.
- **Data Management:** You will learn how to record observations, enter data into analysis software packages, and perform preliminary statistical analyses.

At the end of this internship, you will have gained real-world lab skills and experience with common scientific techniques, mentorship from researchers who are leaders in their respective fields, and a deeper understanding of the types of careers possible in science.

Where will I be located?

Edgewood, Maryland



ORISE GO

The ORISE GO mobile app helps you stay engaged, connected and informed during your ORISE experience – from application, to offer, through your appointment and even as an ORISE alum!

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What is the anticipated start date?

DEVCOM-CBC 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?

An ORISE appointment period can be a short-term (less than 2 weeks), summer (10-12 weeks), or yearlong appointment. 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-CBC. Stipends are typically based on a participant's academic standing, discipline, experience, and research facility location. Other provisions may include the following:?

- Training and Travel Allowance

About DEVCOM-CBC

The U.S. Army Combat Capabilities Development Command - Chemical Biological Center (DEVCOM-CBC) is the primary Department of Defense technical organization for non-medical chemical and biological defense. (DEVCOM-CBC) activities at the Edgewood portion of Aberdeen Proving Ground, Maryland, provide an extraordinary capability against emerging biological and chemical threats by merging intelligence assessments with its world-renowned chemistry, biology, physiology and engineering expertise at every stage of the acquisition life cycle. We provide a unique blend of distinguished scientists and engineers for the research and development of innovative technological solutions to solve chemical and biological defense threats to our nation—both abroad and on the homeland.

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 This research internship opportunity is open to current high school students who are interested in hands-on experience in the subjects of chemicals and materials science in real-world laboratory environments.

Application Requirements

A complete application consists of:

- Zintellect Profile

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- 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-RDECOM@orise.orau.gov. Please list the reference code of this opportunity [DEVCOM-CBC-2026-0012] 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 • **Citizenship:** U.S. Citizen Only

Requirements • **Degree:** Currently pursuing a High School Diploma/GED.

- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Communications and Graphics Design** ([2](#))
 - **Computer, Information, and Data Sciences** ([17](#))
 - **Earth and Geosciences** ([21](#))
 - **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](#))
- **Age:** Must be 16 years of age