

Opportunity Title: Nonlinear Optical Cavities for Quantum Networks

Opportunity Reference Code: ARL-R-CISD-300134-NCCS

Organization DEVCOM Army Research Laboratory

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How to Apply Applications must be submitted in [Zintellect](#).

A complete application includes:

1. Curriculum Vitae or Resume

- List relevant coursework and lab experience as well as all papers, presentations, or publications you may have authored or co-authored. Include any reprints or abstracts if they are available.

2. Three References Forms

- An email with a link to the reference form will be available in Zintellect to the applicant upon completion of the on-line application. Please send this email to persons you have selected to complete a reference.
- References should be from persons familiar with your educational and professional qualifications (include your thesis or dissertation advisor, if applicable)

3. Transcripts

- Transcript verifying receipt of degree or current enrollment in an undergraduate or graduate program at an accredited university or technical institute. Student/unofficial copy is acceptable

4. Research Proposal

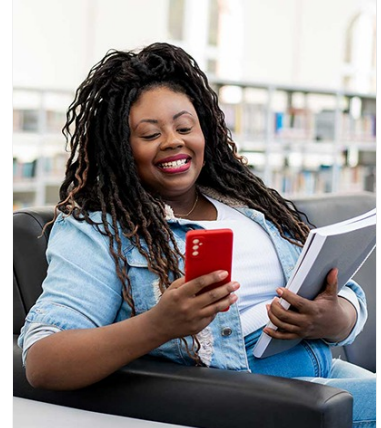
- Research topic should relate to a specific opportunity at ARL
- The objective of the research topic should be clear and have a defined outcome
- Explain the direction you plan to pursue
- Include expected period for completing the study
- Include a brief background such as preparation and motivation for the research

References of published efforts may be used to improve the proposal

Description About the Research

A postdoctoral fellowship is open for an experimental physicist within the Computational and Information Science Directorate (Network Science Division) of the U.S. Army Research Laboratory. Suitable candidates should have a PhD in physics or engineering with a background in quantum optics, integrated photonics, nonlinear optics, or optical cavities.

The fellow will lead a research project focused on the design, characterization, and experimental demonstration of nonlinear optical cavities suitable for controlling and manipulating light in quantum networks. Programming experience in MATLAB or a similar language is mandatory. Prior experience with optical pulse shaping, photonic integrated circuits, photonic crystal cavities, or sources/detectors for quantum light will be considered favorably.



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The above project will be conducted in close collaboration with MIT, and offers plentiful opportunities for collaboration with other leading universities and government agencies. The primary research location will be the Adelphi Laboratory Center in Adelphi, MD.

You must be a U.S. Citizen to be considered for this project.

Interested candidates should email inquiries and a CV to Dr. Dashiell Vitullo <Dashiell.L.Vitullo.civ@army.mil>.

ARL Advisor: Dashiell Vitullo

ARL Advisor Email: Dashiell.L.Vitullo.civ@army.mil

About Network Cyber & Computational Sciences (NC&CS)

Sciences to enable and ensure secure resilient communication networks for distributed analytics in Multi-Domain Operations.

About Army Research Directorate (ARD)

ARL's Army Research Directorate (ARD) focuses on exploiting concept development, discovery, technology development, and transition of the most promising disruptive science and technology to deliver to the Army fundamentally advantageous science-based capabilities through laboratory's 11 research competencies. This intramural research directorate also manages the laboratory's essential research programs, which are flagship research efforts focused on delivering defined outcomes.

About ARL-RAP

The [Army Research Laboratory Research Associateship Program](#) (ARL-RAP) is designed to significantly increase the involvement of creative and highly trained scientists and engineers from academia and industry in scientific and technical areas of interest and relevance to the Army. Scientists and Engineers at the CCDC Army Research Laboratory (ARL) help shape and execute the Army's program for meeting the challenge of developing technologies that will support Army forces in meeting future operational needs by pursuing scientific research and technological developments in diverse fields such as: applied mathematics, atmospheric characterization, simulation and human modeling, digital/optical signal processing, nanotechnology, material science and technology, multifunctional technology, combustion processes, propulsion and flight physics, communication and networking, and computational and information sciences.

Questions about this opportunity? Please email

ARLFellowship@ora.u.org.

Point of Contact [ARL-RAP](#)

Eligibility • **Citizenship:** U.S. Citizen Only

Requirements • **Degree:** Master's Degree or Doctoral Degree received within the last 60

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month(s).

- **Academic Level(s):** Any academic level.
- **Discipline(s):**
 - **Engineering** ([27](#) 👁)
 - **Physics** ([16](#) 👁)
- **Age:** Must be 18 years of age