

Opportunity Title: Physics of wide bandgap and ultra-wide bandgap semiconductor electronic and optoelectronic devices

Opportunity Reference Code: ARL-R-ESS-400045-F1

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-ESS-400045-F1

Application Deadline 4/1/2026 3:00:00 PM Eastern Time Zone

Description The U.S. Army DEVCOM Army Research Laboratory (ARL), located in Adelphi, MD outside of Washington, DC, is seeking Postdoctoral Fellows to study the physics of wide bandgap and ultra-wide bandgap semiconductor electronic and optoelectronic devices. Fellows will have the opportunity to conduct their research using a wide variety of experimental capabilities, including ultrafast and continuous wave lasers and other light sources spanning the 200 nm to 2500 nm spectral range and a picosecond ultrafast electron source, coupled to experimental techniques such as time-resolved and continuous wave photoluminescence, cathodoluminescence, electron beam induced current, Terahertz spectroscopy, and other pump-probe photomodulation spectroscopies such as photoreflectance, electroreflectance, and both time domain and frequency domain thermoreflectance. The Fellows will also have the opportunity to collaborate with a multidisciplinary team that includes material growth, device fabrication, and both theoretical physics and device modeling, as well as with academic and industrial collaborators.

Advisors:

Gregory Garrett
Gregory.A.Garrett.civ@army.mil
(301) 394-1966

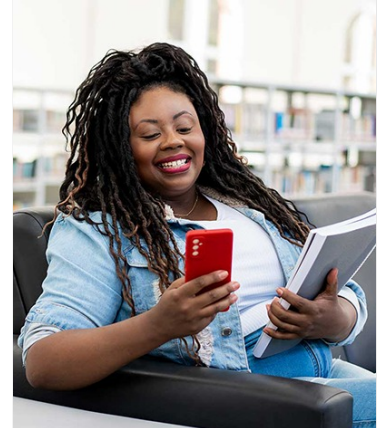
LeighAnn Larkin
leighann.s.larkin.civ@army.mil
(301) 394-1430

About 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



Whether you are just starting your career or already at a senior level, ORAU offers internships, fellowships, research opportunities, and contract positions that can provide you with invaluable experience. Download the ORAU Pathfinder mobile app and find the right opportunity to propel you along your career path!

Visit ORAU Pathfinder [↗](#)



Opportunity Title: Physics of wide bandgap and ultra-wide bandgap semiconductor electronic and optoelectronic devices

Opportunity Reference Code: ARL-R-ESS-400045-F1

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.

About ELECTROMAGNETIC SPECTRUM SCIENCES (ESS)

Novel approaches to sensing and operating across the entire electromagnetic (EM) environment; counter-sensing across the EM spectrum; protection from EM effects; emerging concepts for RF, radars, and electronic warfare (EW).

A complete application includes:

- **Curriculum Vitae or Resume**
- **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)
- **Transcripts**
 - Transcript verifying receipt of degree must be submitted with the application. Student/unofficial copy is acceptable

If selected by an advisor the participant will also be required to write a **research proposal** to submit to the ARL-RAP review panel for :

- Research topic should relate to a specific opportunity at ARL (see [Research Areas](#))
- 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

Opportunity Title: Physics of wide bandgap and ultra-wide bandgap semiconductor electronic and optoelectronic devices

Opportunity Reference Code: ARL-R-ESS-400045-F1

A link to upload the proposal will be provided to the applicant once the advisor has made their selection.

Questions about this opportunity? Please email ARLFellowship@orau.org.

Qualifications Experience in laser spectroscopy techniques and/or experimental semiconductor physics is preferred.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree.
 - **Academic Level(s):** Doctoral Degree (Postdoctoral Fellow) or Doctoral Degree 5+ years (Senior Fellow).
 - **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](#))