Opportunity Title: Engineering the Next Generation of Batteries for Army Operations
Opportunity Reference Code: ARL-ES-20261102-F1

Organization DEVCOM Army Research Laboratory

Reference Code ARL-ES-20261102-F1

How to Apply **How to Apply**

Applications must be submitted in Zintellect.

A complete application includes:

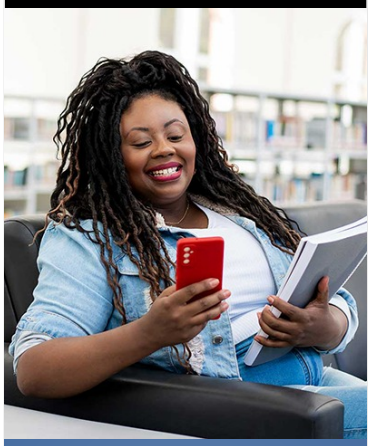
1. **Curriculum Vitae or Resume**
   - List relevant coursework and lab experience as well as all papers, presentations, or publications you may have authored or co-authored. Include any reprints or abstracts if they are available.
2. **Three References Forms**
   - An email with a link to the reference 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 The Battery Science Branch at the DEVCOM Army Research Laboratory (ARL) is seeking an exceptional, highly motivated postdoctoral chemist, materials scientist, or engineer from a related field to pioneer next-generation energy storage technologies which can support the Army Mission.

Operating at the forefront of defense energy innovation, this position focuses on addressing foundational challenges in battery safety, ultra-high energy density cell chemistries, and supply-chain resilience for systems operating in extreme environments. As a key contributor to the Electrolyte and Interface Science Team, you will design, synthesize, and evaluate advanced electrolyte formulations and active materials for advanced lithium-ion, multivalent, and beyond-Li chemical systems.

DEVCOM ARMY RESEARCH LABORATORY

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What You Will Do (Key Objectives)

Cutting-Edge Synthesis & Formulation: Design and execute the chemical synthesis of advanced battery materials, novel electrolyte solvents, functional salts, and targeted performance-enhancing additives.

Electrochemical & Spectroscopic Characterization: Evaluate electrolyte dynamics, interfacial mechanisms, and active materials using rigorous electrochemical techniques (e.g., EIS, cyclic voltammetry, galvanostatic cycling) and advanced spectroscopic/microscopic characterization methods.

Collaborative Research Design: Co-develop research roadmaps in direct collaboration with senior staff scientists, contributing innovative ideas to solve complex energy storage bottlenecks.

High-Impact Dissemination: Translate experimental findings into peer-reviewed publications in high-impact journals, file intellectual property/patent disclosures, and present findings at major national and international scientific conferences.

Why Join DEVCOM ARL?

Mission-Driven Impact: Your fundamental and applied discoveries will directly support the U.S. Army's operational capabilities and technological superiority in demanding operational domains.

World-Class Mentorship & Infrastructure: Work alongside renowned leaders in energy storage science with access to state-of-the-art synthetic facilities, advanced diagnostic tools, and national laboratory-scale characterization suites.

Career Launchpad: Gain direct experience at the intersection of government, defense, and academic science while building an influential portfolio of publications, patents, and professional connections.

ARL Advisor:

Marshall Schroeder
marshall.a.schroeder.civ@army.mil

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 Army Research Laboratory Research Associateship Program (ARL-RAP)

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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@orau.org

Point of Contact ARL-RAP

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Academic Level(s):** Doctoral Degree (Postdoctoral Fellow).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12)
  - **Engineering** (29)
  - **Physics** (16)
  - **Science & Engineering-related** (2)