

Opportunity Title: Solid Mechanics Experimentalist
Opportunity Reference Code: ARL-R-SEM-400049-F1

Organization DEVCOM Army Research Laboratory

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How to Apply

Description Opportunity at DEVCOM Army Research Laboratory for research position in the field of experimental solid mechanics, with a specific focus on the dynamic behavior of materials and advanced measurement techniques. This opportunity offers the chance to contribute to cutting-edge studies aimed at understanding and characterizing material responses under high-strain-rate conditions.

Key Research Areas Include:

- **Dynamic Behavior of Materials:** Investigating the mechanical response of materials subjected to dynamic loading conditions, including shock, impact, and high-speed deformation.
- **Digital Image Correlation (DIC):** Developing and applying advanced DIC methodologies to capture full-field strain and displacement measurements with high temporal and spatial resolution.
- **Mechanics of Advanced Materials:** Exploring the performance of modern materials such as composites, alloys, and polymers in dynamic environments.

Role and Responsibilities:

- Conduct experimental studies to evaluate the mechanical behavior of materials under dynamic conditions.
- Develop and optimize DIC techniques for precise data acquisition and analysis.
- Collaborate with multidisciplinary teams to interpret results and enhance understanding of material behavior.
- Publish findings in high-impact journals and present at leading conferences in the field.

This opportunity provides an intellectually stimulating environment, access to state-of-the-art facilities, and the potential for impactful contributions to the field of solid mechanics. Candidates passionate about advancing experimental methodologies and uncovering the complex dynamics of materials are encouraged to apply.

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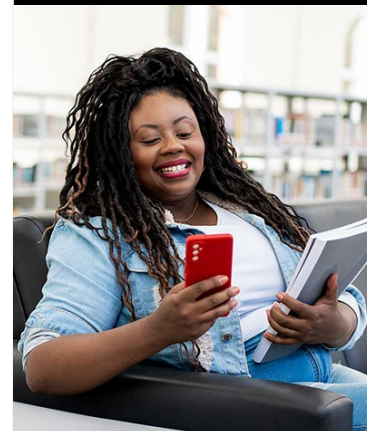
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(410) 306-1961

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 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 SCIENCE OF EXTREME MATERIALS (SEM)

Materials and related manufacturing methods focusing on mechanical response and performance extremes, including active, adaptive, and flexible/soft materials; novel manufacturing science for energetic materials.

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

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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

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 Preferred Qualifications:

- Strong background in experimental mechanics, materials science, or a related discipline.
- Experience with high-speed imaging systems, DIC software, or other advanced experimental techniques.
- Proficiency in data analysis, programming, or simulation tools is a plus.
- Excellent communication skills and the ability to work collaboratively in a research setting.

Point of Contact [ARL](#)

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

- Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Academic Level(s):** Bachelor's Degree (Journeyman Fellow), Master's Degree (Journeyman Fellow), Master's Degree 7+ years (Senior Fellow), 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](#) )