Opportunity Title: Theoretical and Analytical Guidance Technologies
Opportunity Reference Code: ARL-R-WMRD-8003388591

Organization DEVCOM Army Research Laboratory

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Description **About the Research**

Located at Aberdeen Proving Ground in Maryland, the U.S Army Research Laboratory (ARL) is the Army's central laboratory. Its diverse assortment of unique facilities and dedicated workforce of government and private sector partners make up the largest source of world-class integrated research and analysis in the Army.

Exceptional candidates with MA in mathematics and numerical sciences are sought in the area of ballistics research; guidance, navigation, and control (GNC); sensor development; direct fire and indirect fire munition flight dynamics; experimental ballistics experience with design and execution of various in-situ diagnostic devices.

This research opportunity aligns with the ARL S&T Campaign in the Sciences-for-Lethality with research efforts related to desired effects at standoff ranges for moving targets in access denied environments to improve the performance of future Army systems.

Required qualification: MA in mathematics and numerical sciences. Experience related to ballistics research; guidance, navigation, and control (GNC); guided projectiles; efficient divert authority; weapon sensor development; MEMS inertial sensors; direct fire and indirect fire munition flight dynamics; experimental ballistics experience with design and execution of various in-situ diagnostic devices are highly desirable. Experience with Wavemetrics - Igor software and guided trajectory codes closely related to PRODAS software is also highly desirable.

ARL Advisor: Thomas Brown

ARL Advisor Email: thomas.g.brown66.civ@mail.mil

About WMRD

The goals of the Weapons and Materials Research Directorate (WMRD) are to enhance the lethality and survivability of weapons systems, and to meet the soldier's technology needs for advanced weaponry and protection. Research is pursued in energetic materials dynamics, propulsion/flight physics, projectile warhead mechanics, terminal effects phenomena, armor/survivability technologies, environmental chemistry, and advanced materials (energetic, metals, ceramics, polymers, composite/hybrids, and mechanics) for armor, armament, missiles, ground vehicles, helicopters, and individual soldier applications necessary for maintaining and ensuring supremacy in future land warfare.

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

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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.

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

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

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree.
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)

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- **Computer, Information, and Data Sciences** (16 👁)
- **Earth and Geosciences** (21 👁)
- **Engineering** (27 👁)
- **Environmental and Marine Sciences** (14 👁)
- **Life Health and Medical Sciences** (45 👁)
- **Mathematics and Statistics** (10 👁)
- **Physics** (16 👁)
- **Science & Engineering-related** (1 👁)

- **Age:** Must be 18 years of age