

Opportunity Title: Mechanical and Aerospace Engineering Systems and Design

Opportunity Reference Code: ARL-R-USMA-MAE-400064

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-USMA-MAE-400064

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

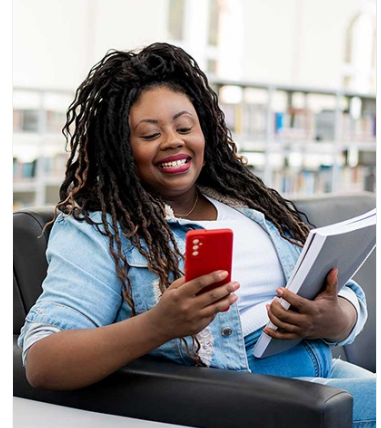
- Research topic should relate to a specific opportunity at ARL
- The objective of the research topic should be clear and have a defined outcome
- Explain the direction you plan to pursue
- Include expected period for completing the study
- Include a brief background such as preparation and motivation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

References of published efforts may be used to improve the proposal

Description This research involves conducting fundamental and applied research in the fields of Mechanical and Aerospace Engineering. The fellowship position is based at the United States Military Academy's Center for Applied Engineering in West Point, New York.

The following areas have the most opportunities (this is not an exhaustive list and is provided to convey scope):

- Advanced Manufacturing
- Materials Sciences and Research
- Unmanned Aerial System development, testing, and research
- Biomechanics research in musculoskeletal and gastrointestinal systems
- Machine learning
- Mechatronics and robotic systems
- Wind Tunnel development, uncertainty, and testing
- Weapons system engineering, development, and testing
- Vehicles, powerplant, and transmissions
- Energy infrastructure



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: Mechanical and Aerospace Engineering Systems and Design

Opportunity Reference Code: ARL-R-USMA-MAE-400064

Keywords: machine learning, mechanical systems, energy, unmanned aerial systems, advanced manufacturing, materials science, biomechanics

Research Advisors:

*LTC Wes Ogden
wesley.ogden@wespoint.edu*

*Dr. Joe Hanus
joseph.hanus@westpoint.edu*

*Dr. Todd Davidson
frederick.davidson@westpoint.edu*

About United States Military Academy (USMA) and Department of Mechanical & Aerospace Engineering (MAE)

The United States Military Academy's mission is to educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character, committed to the values of Duty, Honor, Country. USMA is the oldest engineering school in the nation and is situated 55 miles north of New York City in the picturesque Hudson Valley. USMA's rigorous programs, quality faculty, and student-to-faculty ratio of 12:1 attract a student body of 4,400 of the nation's best.

The Department of Mechanical & Aerospace Engineering (MAE) aims to build, educate, and inspire commissioned leaders of character who leverage engineering and professionalism to design and implement innovative solutions to win in complex environments. MAE's vision is to be the model learning community with preeminent undergraduate mechanical and aerospace engineering programs.

Aerospace engineering is crucial for developing and testing prototypes of aircraft and spacecraft. Mechanical engineers can work across a wide range of industries, including manufacturing, robotics, energy, and transportation. They also are involved in many aspects of the aerospace industry, including the design and development of aircraft, spacecraft, and related components.

About [Army Research Laboratory Research Associateship Program \(ARL-RAP\)](#)

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

Opportunity Title: Mechanical and Aerospace Engineering Systems and Design

Opportunity Reference Code: ARL-R-USMA-MAE-400064

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**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Academic Level(s):** Associate's Degree (Journeyman Fellow), Bachelor's Degree (Journeyman Fellow), Master's Degree (Journeyman Fellow), Master's Degree 7+ years (Senior Fellow), Doctoral Degree (Postdoctoral Fellow), Doctoral Degree 5+ years (Senior Fellow), or Faculty.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([1](#))
 - **Engineering** ([3](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([2](#))
 - **Mathematics and Statistics** ([11](#))
 - **Physics** ([16](#))