zintellect
climb higher

Opportunity Title: Tribology and Lubrication Science for High Performance Power Transmission
Opportunity Reference Code: ARL-R-VTD-3247574244

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-VTD-3247574244

Description

About the Research

A research opportunity is available with the U.S Army Research Laboratory's (ARL) Vehicle Technology Directorate (VTD), located at Aberdeen Proving Ground, MD. VTD is seeking a postdoctoral candidate with a background in Mechanical, Aerospace, Chemical, or related Engineering discipline, Physics, Chemistry, Materials Science, or similar Physical Science.

Power transmission for military vehicle propulsion relies on highly stressed, contacting mechanical components under extreme lubrication conditions. Innovative approaches are needed to understand the chemical and physical processes at work in these high performance contacts and to create material and tribological solutions to increase power transfer capability. One area of study will be determination of the active lubrication mechanisms in tribological interfaces both under liquid and dry sliding conditions with a focus on measurement in situ in operating contacts with advanced techniques. The second area of study will be to design and explore approaches to increasing the capability of contacts to carry a load, which may consist of engineered surface structures, thin solid films, coatings, graded composite materials, tailored surface chemistry, nanoscale or colloidal lubricant additives, and novel lubricant chemistries which enable continual lubrication in extreme environments and conditions.

ARL Advisor: Stephen Berkebile

ARL Advisor Email: stephen.p.berkebile.civ@mail.mil

About VTD

The CCDCArmy Research Laboratory's Vehicle Technology Directorate (VTD) is the principal Army organization responsible for the pursuit of mobility-related science and technologies leading to advanced capabilities and improved reliability for Army air and ground vehicles. VTD leads the ARL Major Laboratory Program in mobility and the RDECOM Technology Focus Team in mobility and logistics. The technology focus areas within the ARL and RDECOM programs have been defined as platform, propulsion, intelligent systems and logistics.

The VTD mission is accomplished through in-house basic and applied research, and from collaborations with other ARL functions, RDECOM, Navy, Air Force, academia and industry leaders. The mission is enhanced through teaming with and leveraging of research efforts associated with Collaborative Technology Alliances (CTAs) and Multidisciplinary University Research Initiatives (MURIs). For example, VTD is actively involved with two CTAs (Robotics and Micro Autonomous System Technologies), several cooperative agreements, and a unique partnership with the National Aeronautics and Space Administration (NASA) at the Langley Research Center in Hampton, VA and the Glenn Research Center in Cleveland, OH.

zintellect
climb higher

Opportunity Title: Tribology and Lubrication Science for High Performance Power Transmission
Opportunity Reference Code: ARL-R-VTD-3247574244

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.

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

zintellect
climb higher

Opportunity Title: Tribology and Lubrication Science for High Performance Power Transmission
Opportunity Reference Code: ARL-R-VTD-3247574244

Eligibility Requirements

- **Degree:** Any degree .
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **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 👁)