

Opportunity Title: Atmospheric, Biological, Organic & Chemical Aerosols **Opportunity Reference Code:** ARL-C-CISD-1062007372

Organization DEVCOM Army Research Laboratory

Reference Code ARL-C-CISD-1062007372

Description About the Research

Research is conducted to improve our understanding of the atmosphere and its critical relationship to the performance of Army Systems; to create physically correct models that support the generation of realistic scenes of targets, terrain environments, cultural features, and battle damage; and to impact standards and protocols of the international modeling and simulation community. We are especially interested in physics-based models, three-dimensional visualization, and environmental and atmospheric modeling.

Research is conducted to provide the Army the technologies for information processing and presentation in the battle space, and for use of information to control systems and hardware used in land warfare. We are also interested in intelligent systems, battle space visualization, soldier-centered computer interfaces (HCI), advanced display technologies, tactical decision aids, software engineering, and data base technologies.

Research is conducted to provide the Army the technologies enabling a user-friendly synthetic environment in which all operation and support functions will be conducted with help from intelligent systems. We are also interested in advanced distributed simulation, software and intelligent systems, and high-performance computing. High-performance computing research involves developing numerical modeling techniques to achieve highly optimized, multidisciplinary physical modeling on scalable computer architectures.

ARL Advisor: Yong-Le Pan

ARL Advisor Email: yongle.pan.civ@army.mil

About CISD

The Computational and Information Sciences Directorate (CISD) conducts research in a variety of disciplines relevant to achieving and implementing the so-called digital battlefield. Problems address the sensing, distribution, analysis, and display of information in the modern battle space. CISD research focuses on four major areas: communications, atmospheric modeling, battlefield visualization, and computing

About ARL-RAP

The <u>Army Research Laboratory Research Associateship Program</u> (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:

🚯 ORAU Pathfinder



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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 <u>Research Areas</u>)
- 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 <u>ARLFellowship@orau.org</u>

Eligibility • Degree: Doctoral Degree.

- Requirements
- Academic Level(s): Faculty.
 Discipline(s):
 - Chemistry and Materials Sciences (12 (*)
 - Computer, Information, and Data Sciences (16.)
 - Earth and Geosciences (21 (19)
 - Engineering (<u>27</u> ⁽)
 - Environmental and Marine Sciences (14 (1)
 - Life Health and Medical Sciences $(45 \odot)$
 - Mathematics and Statistics (<u>10</u>)
 - Physics (<u>16</u>)
 - Science & Engineering-related (1.)
- Age: Must be 18 years of age