

Opportunity Title: Optimization Problems for Distributed Radar and RF Technologies

Opportunity Reference Code: ARL-R-ESS-300168-F1-Faculty

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-ESS-300168-F1-Faculty

How to Apply **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. 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 The U.S. Army Research Laboratory (ARL) is seeking a highly qualified individual for a visiting faculty appointment in the areas of detection and estimation, antennas, antenna arrays and active electromagnetic field manipulation, for radar and general RF applications. This position requires a strong theoretical background in complex optimization problems, as well as advanced knowledge of electromagnetic field theory, with emphasis on antenna radiation, as well as beamforming and imaging using antenna arrays. The candidate will collaborate with ARL researchers on problems of current interest to the Army in radar and RF technologies, involving sparse, multi-static arrays implemented as distributed RF systems on unmanned aerial vehicle (UAV) platforms. The position will involve algorithm development for fast solution of optimization problems, using the Matlab and/or Python languages. The algorithms will be tested on computer models, with a well-defined path to future practical applications. A Ph.D. in applied mathematics, combined with a current academic appointment is preferable for this position.

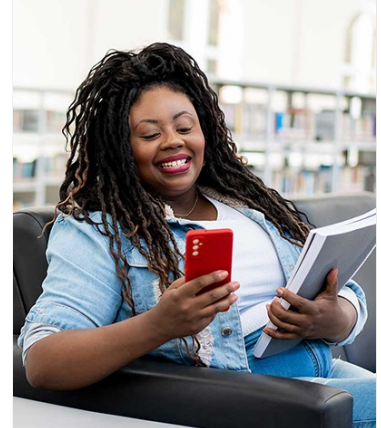
Advisor:

Dr. Traian Dogaru

traian.v.dogaru.civ@army.mil

About Army Research Directorate (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



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: Optimization Problems for Distributed Radar and RF Technologies

Opportunity Reference Code: ARL-R-ESS-300168-F1-Faculty

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 [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 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 Electromagnetic Spectrum Sciences (EMSS)

Novel approaches to sensing and operating across the entire electromagnetic (EM) environment; counter-sensing across the EM spectrum; protection from EM effects; emerging concepts for RF, radars, and electronic warfare (EW).

Questions about this opportunity? Please

email ARLFellowship@orau.org

Qualifications This position requires a strong theoretical background in complex optimization problems, as well as advanced knowledge of electromagnetic field theory, with emphasis on antenna radiation, as well as beamforming and imaging using antenna arrays. Working experience with simulation languages such as Matlab and/or Python is required. The candidate should have a Ph.D. in applied mathematics, combined with a current academic appointment.

Point of Contact [ARL-RAP](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree.
 - **Academic Level(s):** Faculty.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Communications and Graphics Design** ([2](#))
 - **Computer, Information, and Data Sciences** ([17](#))
 - **Earth and Geosciences** ([21](#))

Opportunity Title: Optimization Problems for Distributed Radar and RF Technologies

Opportunity Reference Code: ARL-R-ESS-300168-F1-Faculty

- **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](#))