Opportunity Title: Scientist/Engineer: Distributed Systems State Estimation
Opportunity Reference Code: ARL-R-SEDD-300099-PEQS

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-SEDD-300099-PEQS

Description **About the Research**

The Army Research Laboratory's Electronics for Sense and Control seeks to enable revolutionary advances in three interconnected research spaces: 1) navigation and localization, 2) small scale autonomous systems, and 3) human physiological state monitoring. While an individual will have a specific project, it is expected that s/he will contribute across the full research space. The group's approach includes the development of novel, distributed state estimation methodologies, linear and nonlinear controls integration, computer science and hardware engineering to realize a generalized framework for information acquisition and fusion in uncertain environments.
The ESC team is comprised of a diverse technical team with highly interconnected projects. We foster an environment where hard work is rewarded; integrity is respected; and, insight, wherever it may come from, is valued. We honestly believe that a diversity of opinions should not only be respected, but it is expected, and we think that it is the only way to enable revolutionary advances. Team members each bring a unique skill set that we expect them to apply across completely novel applications. Individuals are expected to be highly self-reliant, and simultaneously capable and willing to work across disciplines in dynamic team projects. The pace of projects is very fast; the expectations are exceptionally high; but, foremost, we value each team member, and advocate for a healthy balance in everyone's life. We are looking to recruit new individual(s). They should be able to not only contribute from day 1, but be willing to learn from day 1. All eligible applicants including veterans, wounded warriors, and those with non-traditional educations are encouraged to apply.

Recent graduate with a PhD in control systems, electrical, mechanical engineering, computer science, material science, mathematics, physics or other appropriate discipline

This person will be expected to lead their own research efforts. This person will be expected to publish first author efforts in peer reviewed literature; contribute technically to peer reviewed literature in diverse areas within and outside of the team; and, develop experimental and transition efforts across the team. This opportunity will involve a mix of skill sets ranging including developing theories supporting distributed state estimation and validating those theories in hardware. This opportunity is expected to do research fluidly in Linux, ROS, Matlab, C/C++.

ARL Advisor:
Joseph Conroy
joseph.k.conroy3.civ@army.mil

Damon Conover

Opportunity Title: Scientist/Engineer: Distributed Systems State Estimation
Opportunity Reference Code: ARL-R-SEDD-300099-PEQS

damon.m.conover.civ@army.mil

About Photonics, Electronics, & Quantum Sciences (PE&QS)
Materials (and related manufacturing methods) and devices intended for achieving photonic, electronic, and quantum-based effects.

About DEVCOM Army Research Laboratory (ARL) Research Associateship Program (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 DEVCOM 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 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.

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 :

Opportunity Title: Scientist/Engineer: Distributed Systems State Estimation
Opportunity Reference Code: ARL-R-SEDD-300099-PEQS

- 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

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

Point of Contact ARL

Eligibility 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), or Doctoral Degree 5+ years (Senior Fellow).
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
- **Age:** Must be 18 years of age