Opportunity Title: Synthetic biology tools for aerobic filamentous fungi
Opportunity Reference Code: ARL-R-HRED-300156

Organization DEVCOM Army Research Laboratory

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Description **About the Research**

A opportunity is available to lead research in Biotechnology (non-medical) for DEVCOM Army Research Laboratory at Adelphi, MD. Successful applicants will lead independent research efforts in the development of synthetic biology tools and approaches to genetically harness aerobic filamentous fungi, including those that serve as the host of lichens. These efforts will drive towards larger Army efforts to develop filamentous fungi as extreme robust novel chassis for a variety of fieldable synthetic biology applications. Applicant may also support current efforts in the following areas: biomaterials, genetic engineering, automation and synthetic biology in the Synthetic Biology Tools Branch. Applicants should have experience in synthetic biology, molecular biology and microbiology. Expertise in fungal growth, genetics and phenotype assay is highly desired.

Key Responsibilities:
• Lead synthetic biology tool development for aerobic filamentous fungi as a extreme robust novel synbio chassis
• Support current synthetic biology tool development, automation, and biomaterial efforts.
• Develop, learn and perform novel synbio approaches, workflows, and high throughput assays with state-of-the-art technology
• Write technical reports for internal and external publications
• Present research plans and findings at internal and external forums
• Work on a multi-disciplinary team and contribute to publications and patents

The initial appointment is for 12 months, but may be renewed upon recognition of ARL contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. The appointment is full-time at ARL in the Adelphi, MD.

ARL Advisor: Bryn Adams

ARL Advisor Email: bryn.l.adams.civ@army.mil

About HRED

The Human Research and Engineering Directorate (HRED) is ARL's principal center for research and development directed toward optimizing Soldier performance and human-autonomy teaming. Research within HRED focuses on how to improve Soldier performance in a dynamic and changing battlefield. As technology and autonomous systems become an increasingly integral part of Soldier teams, it is critical to determine how these systems can work with and be adapted to the Soldier and their capabilities. Autonomous systems must be able to be integrated into Soldier teams and move from tools to teammates. Critical to this is an understanding of how humans and human teams perform and change in dynamic environments

and situations. HRED leverages human-robot interaction, human-informed machine learning, human cognition and adaptive teaming to improve human-autonomy teaming for future Army teams.

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.

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Questions about this opportunity? Please email ARLFellowship@orau.org.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
  - **Engineering** (4 👁)
  - **Life Health and Medical Sciences** (11 👁)