Opportunity Title: NGA: Advanced Research in Automation
Opportunity Reference Code: NGA-RAP-19-20

Organization U.S. Department of Defense (DOD)

Reference Code NGA-RAP-19-20

How to Apply To be considered for an ORISE fellowship with NGA, please submit the following:

- **Resume or CV**
- **Transcripts** - Transcript verifying receipt of Degree/or identifying current enrollment.
- **2 References**
  - An email with a link to the reference form will be emailed 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). Personal references are NOT acceptable.

Description The National Geospatial-Intelligence Agency (NGA) delivers world-class geospatial intelligence that provides a decisive advantage to policymakers, warfighters, intelligence professionals and first responders. Anyone who sails a U.S. ship, flies a U.S. aircraft, makes national policy decisions, fights wars, locates targets, responds to natural disasters, or even navigates with a cellphone relies on NGA. NGA enables all of these critical actions and shapes decisions that impact our world through the indispensable discipline of geospatial intelligence (GEOINT).

NGA is conducting advanced research in Automation. The NGA Research Automation Pod conducts automation research that reduces data dimensionally, provides investigative clues based on data correlation and object/change detection and drives the transformation of analysis from a forensic to a model based approach. They automate the identification and characterization of entities, objects and activity and capture essential metadata in a structured ontology that supports automated Structured Observation Management (SOM). They apply machine learning techniques to continually assess and improve automated recognition algorithm performance. And they enrich the field of GEOINT by exploiting AI methods (including Deep Learning) to process large, Multi-INT data sets and discover observables that assist in the un-cued detection of weak signatures, and unknown relationships and patterns. Join the Automation Pod to perform analytic knowledge flow analysis to support automated recognition and association processes. NGA is interested in scientists to aid our research efforts in this unique problem set that has special application to the Intelligence Community and the Department of Defense.

Headquartered in Springfield, VA, with facilities in St. Louis, MO, NGA is a member of the U.S. Intelligence Community and a Department of Defense (DoD) Combat Support Agency.

Qualifications

- Student applicants must be completing a Ph.D. or post-doctoral appointment with backgrounds in Geospatial Information Science,

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Physics, Mathematics, Statistics, Geography, Computer Science, Geometry, Visual Cognition, Nuclear Physics, Astrophysics, Remote Sensing, or a related field.

- Current college or university faculty members on sabbatical are also eligible. Other applicants will be considered on a case-by-case basis.
- NGA and the selected candidate will cooperatively define mutual research assignments and goals in support of the NGA mission and the candidate's educational pursuits.
- Applicants must demonstrate experience applying the scientific method and modern research techniques in a field directly applicable or highly related to the Research Pod.
- Applicants should have experience conducting research within a research environment and show an ability to conceptualize a broad research agenda, to plan and execute specific research projects, and to meet research expectations. Applicants should have excellent verbal and written communication skills.
- U.S. citizenship is required for the applicant. Please see further eligibility under Security Requirements.
- If the research project is classified, a background check will be conducted for a Sensitive Compartmented Information (SCI) security clearance and completion of a Questionnaire for National Security Positions will be required. Visiting scientists are also subject to Counterintelligence Polygraph examinations and drug testing in order to maintain access to Top Secret information. Please refer to section on Security Requirements.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12)
  - **Communications and Graphics Design** (1)
  - **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)
  - **Other Non-Science & Engineering** (2)
  - **Physics** (16)
  - **Science & Engineering-related** (1)
  - **Social and Behavioral Sciences** (27)