Opportunity Title: Commercial Satellite Water Quality Methods and Visualization
Opportunity Reference Code: EPA-ORD-NERL-EMMD-2019-02

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply A complete application consists of:

- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 5/28/2019 3:00:00 PM Eastern Time Zone

Description A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), National Exposure Research Laboratory (NERL), Exposure Methods and Measurements Division (EMMD) in Durham, North Carolina.

Data from satellite remote sensing can address and inform communities on water quality changes that impact societal uses, such as consumption and recreation. This research project explores issues relevant to understanding the general utility of remotely sensed data for cyanobacteria and seagrass occurrence monitoring using commercial satellite sensors such as Planet Dove and RapidEye, and Digital Globe World View platforms. This research project develops scientific approaches for mainstreaming satellite water quality capabilities into U.S. fresh and estuarine water quality management decisions (e.g. www.epa.gov/cyanoproject). This research project is on the cutting edge of water quality monitoring and applied satellite operations transitioning to high performance and cloud computing resources. The research participant will be involved in geospatial statistics, computer coding, and ecological/human health exposure related research.

The research participant may have the opportunity to interact with multiple federal agencies and academics involved in a broader research effort addressing various issues related to satellite water quality research for inland waters and estuaries. The research participant will have the opportunity to gain experience using data and tools developed by multiple federal agencies and academic institutions. The research participant will also have an opportunity to gain experience in problem formulation, data analysis and interpretation, statistical and mathematical programming, and technical communication. The research participant will be encouraged to participate in writing manuscripts and presentations.

Research training activities may include:

- Atmospheric correction and algorithm development for water quality variables on commercial satellites such as Dove, RapidEye, and WorldView
- Demonstration of commercial satellite applications for water quality monitoring
- Data visualization using new technologies such as HoloLens

This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established

through an interagency agreement between DOE and EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at EPA in the Durham, North Carolina, area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

Qualifications

The qualified candidate should have received a master's degree or be close to completing the degree in one of the relevant fields. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Knowledge in applying computer coding knowledge and GIS skills
- Relevant ecology or similar background

Eligibility Requirements

- **Degree:** Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **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** (5)
  - **Physics** (16)
  - **Social and Behavioral Sciences** (28)