**Opportunity Title:** EPA Harmful Algal Blooms Research Opportunity
**Opportunity Reference Code:** EPA-ORD-CCTE-GLTED-2021-04

**Organization** U.S. Environmental Protection Agency (EPA)

**Reference Code** EPA-ORD-CCTE-GLTED-2021-04

**How to Apply** ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. All transcripts must be in English or include an official English translation. 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. Click here for detailed information about recommendations.

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

**Application Deadline** 5/26/2021 3:00:00 PM Eastern Time Zone

**Description** ***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.** Click **here** for information about the selection process.

**EPA Office/Lab and Location:** A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Computational Toxicology and Exposure (CCTE), Great Lakes Toxicology & Ecology Division (GLTED) located in Duluth, Minnesota.

The research participant will be mentored by and collaborate with a team of EPA scientists on projects addressing the role of aquatic species' ecological interactions and dispersal patterns in shaping the dynamics (onset, duration, and severity) of harmful algal blooms (HABs) in the Great Lakes region.

The Great Lakes provide critical ecosystem services to millions of people. These services depend on high-quality water and biological communities that are threatened by environmental stressors such as HABs, aquatic invasive species (AIS), and nutrient loading. EPA uses a variety of methods, sampling designs, and indicators to track how changes in environmental condition impact these resources. This research applies conventional limnological (often ship-based) sampling approaches and state-of-the-art technologies such as DNA-based monitoring and advanced sensor arrays. The research experience will be highly collaborative through partnerships with EPA's National Coastal Condition Assessment (NCCA), the Coordinated Science and Monitoring Initiative (CSMI), and Aquatic Invasive Species (AIS) surveys.

**Research Project:** The research participant may contribute to the

development of innovative uses of models, remote sensing, genetic approaches, and laboratory and field experiments for ecological assessments. The research participant will become familiar with environmental research being done by EPA and its partner agencies that contributes to the management of the Great Lakes. The research participant will develop skills in planning, conducting, and communicating scientific information addressing significant real-world environmental problems.

**Learning Objectives:** With guidance from the mentor, participants may be involved in any or all of the following training activities:

- Evaluating and comparing the efficacy of tools, measurements, and ecological indicators for the assessment and management of HABs in the Great Lakes (e.g., fluorescence, microscopy, eDNA/metabarcoding).
- Developing and applying innovative models, survey designs, and/or remote sensing and genetic indicators to understand the risks of HABs and/or invasive species.
- Developing statistical and numerical (or agent-based) models describing the dispersal, population, and community/food web dynamics of HAB-forming species and co-occurring aquatic organisms.
- Presenting research results at regional and national conferences and workshops.
- Contributing to the preparation of peer-reviewed journal articles and disseminating research results to project partners and stakeholders.

**Mentor(s):** The mentor for this opportunity is Aabir Banerji (banerji.aabir@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date: Spring 2021.** All start dates are flexible and vary depending on numerous factors. Click **here** for detailed information about start dates.

**Appointment Length:** The appointment will initially be for one year and may be renewed three to four additional years upon EPA recommendation and subject to availability of funding.

**Level of Participation:** The appointment is full-time.

**Participant Stipend:** The participant will receive a monthly stipend commensurate with educational level and experience. Click **here** for detailed information about full-time stipends.

**EPA Security Clearance:** Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA.

**ORISE Information:** 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. Participants do not become employees of EPA, DOE or the program administrator, and

there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

**Questions:** Please see the FAQ section of our website. After reading, if you have additional questions about the application process please email ORISE.EPA.ORD@orau.org and include the reference code for this opportunity.

**Qualifications**

The qualified candidate should have received a master's degree in one of the relevant fields, or be currently pursuing the degree and will reach completion by the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Experience conducting research/independent studies (beyond lab- and field-oriented course work)
- Experience communicating scientific information to technical and non-technical audiences
- Experience and/or coursework involving statistical/geospatial analysis, data management, bioinformatics, and/or ecological modeling
- Experience working with aquatic organisms such as fish, crustaceans, insects, plants, or microbes (apart from household pets)
- Experience with DNA extraction and other molecular techniques
- Demonstrated interest in food web ecology and/or microbial interactions

**Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree received within the last 60 months or anticipated to be received by 5/31/2021 11:59:00 PM.
- **Academic Level(s):** Graduate Students or Post-Master's.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (5 👁)
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Earth and Geosciences** (1 👁)
  - **Environmental and Marine Sciences** (8 👁)
  - **Life Health and Medical Sciences** (20 👁)
  - **Mathematics and Statistics** (3 👁)
  - **Other Non-Science & Engineering** (2 👁)
  - **Physics** (3 👁)
  - **Social and Behavioral Sciences** (2 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).