Opportunity Title: EPA Fellowship on Coastal Eutrophication Research
Opportunity Reference Code: EPA-ORD-CEMM-ACESD-2022-04

Organization	U.S. Environmental Protection Agency (EPA)
Reference Code	EPA-ORD-CEMM-ACESD-2022-04
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	12/26/2022 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 project training opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Environmental Measurement and Modeling (CEMM), Atlantic Coastal Environmental Sciences Division (ACESD) located in Narragansett, Rhode Island. ACESD conducts research to enhance the understanding of the effects of human activity on land and waters of the Atlantic seaboard. Researchers collect and analyze data to provide tools for diagnosing and predicting the effects of this activity on aquatic resources and wildlife. ACESD provides research support to EPA Program & Regional Offices and state & local governments. For additional information regarding the Atlantic Coastal Environmental Sciences Division, visit the home page at https://www.epa.gov/aboutepa/about-atlantic-coastal-environmental-sciences-division. **Research Project:** The research participant will collaborate with a team of EPA scientists to develop, test and demonstrate methods to quantify or predict ecological status, ecological processes, or ecological changes in shallow estuarine ecosystems that receive anthropogenic nutrient loads and that may experience increased or decreased nutrient loading over time. Study areas principally include southern New England estuaries such as Narragansett Bay, Long Island Sound, and associated sub-estuaries and embayments. The research participant's research may include field or laboratory-based measurements of water quality characteristics and ecological processes such as plankton production and respiration, sediment production and respiration, and sediment-water nutrient exchanges and their relationship to internal and external drivers. Research may also involve statistical modeling or ecological process modeling to better understand and predict eutrophication-related ecological processes at a variety of temporal and spatial scales and in relation to anthropogenic and climate drivers. **Learning Objectives:** The research participant will improve their ability to frame scientific research questions around issues in coastal ecology and management, plan and implement data collection, conceive and implement complex quantitative data analysis, and identify and communicate scientific research results to a variety of audiences. Opportunities may include but are not limited to learning to use and apply the Water Quality Analysis Simulation Program (WASP) model to assess the ecosystem health of coastal ecosystems, learning to use any apply the Environmental Fluid Dynamics Code (EFDC) to simulate estuarine hydrodynamics, conducting in situ measurements of water quality parameters like benthic fluxes of nutrients

and dissolved oxygen, conducting laboratory analysis of nutrients and other water quality parameters, analyzing nitrogen and carbon stable isotopes using an isotope ratio mass spectrometer, and participation in monthly research cruises on nearby Narragansett Bay.

Mentor(s): The mentor for this opportunity is James Hagy (hagy.jim@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: October 1, 2022. 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 up 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.

ORISE offers all ORISE EPA graduate students and Postdocs a free 5 year membership to the National Postdoctoral Association (NPA).

The successful applicant(s) will be required to comply with Environmental, Safety and Health (ES&H) requirements of the hosting facility, including but not limited to, COVID-19 requirements (e.g. facial covering, physical distancing, testing, vaccination).

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 be currently pursuing or have received a bachelor's or master's (preferred) degree in one of the relevant fields (e.g. Marine Ecology, Marine Science). Degree must have been received within five years of the appointment start date.

Coursework included in pursuit of a degree may include marine ecology, biological oceanography, marine or estuarine biogeochemistry, physical oceanography, environmental engineering, statistics or related quantitative analysis, and numerical modeling of ecological systems. Candidates having a bachelors or masters degree in STEM fields such as environmental engineering, biology, chemistry, or physical science may also attain the desired educational background if they have some course work in the same subjects combined with research experience in estuarine or coastal marine ecology.

Preferred Skills:

- An educational background and independent research experiences in estuarine and coastal ecology and seeking to advance their ability to plan and conduct independent research in a collaborative research environment.

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- Candidates who are motivated to engage in all aspects of this research opportunity and have some experience in these elements will make the most of this opportunity. These include field and laboratory-based, data analysis and modeling, and scientific communication, including presenting and writing.
- An ability to think and work independently, to formulate research questions, and to link questions with research and analysis approach will enhance the research experience.
- Candidates who have experience working in a scientific computing environment such as R or MATLAB, or who are motivated to rapidly expand their skills in this area will be able to make the most of this opportunity.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1 👁)
  - **Earth and Geosciences** (1 👁)
  - **Engineering** (2 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (2 👁)