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Opportunity Title: EPA Quantitative Bioassay Development for Aquatic Vertebrates
Opportunity Reference Code: EPA-OCSPP-2026-0009

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-OCSPP-2026-0009

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

A complete application consists of:

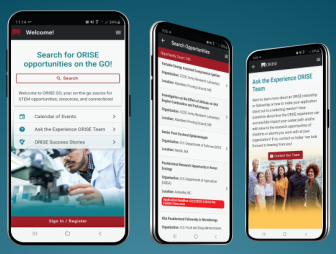
- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations. Your application will be considered incomplete, and will not be reviewed until one recommendation is submitted.

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

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Application Deadline 11/9/2026 3:00:00 PM Eastern Time Zone

Description ***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.**

EPA Office/Lab and Location: A research opportunity is currently available at the Environmental Protection Agency (EPA), Great Lakes Coastal Environmental Science Laboratory, located in Duluth, Minnesota.

The mission of EPA is to protect human health and the environment. EPA works to ensure that: Americans have clean air, land and water; national efforts to reduce environmental risks are based on the best available scientific information; federal laws protecting human health and the environment are administered and enforced fairly, effectively and as Congress intended; Environmental stewardship is integral to U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy; All parts of society have access to accurate information sufficient to effectively participate in managing human health and environmental risks; Contaminated lands and toxic sites are cleaned up; and chemicals in the marketplace are reviewed for safety.

Research Project: The US EPA is mandated to address the endocrine disrupting potential of thousands of chemicals. For the majority of these chemicals there is a lack of information regarding whether they have the potential to cause adverse effects from impacts on thyroid hormone status. Understanding the important targets within the network of processes

involved in maintaining normal functioning thyroid hormone levels, and what approaches to best assess activity at those targets are important to developing a comprehensive approach to evaluating thyroid hormone disrupting potential of large numbers of chemicals.

Recently, a number of thyroid-related in vitro high-throughput screening (HTS) assays have been developed to broaden assay coverage for molecular targets potentially leading to thyroid disruption and were implemented to screen US EPA's ToxCast Phase 1, 2 and E1K chemical libraries. This battery of thyroid-related in vitro HTS assays can be employed to rapidly assess potential interference with these targets. However, this screening approach leaves uncertainties regarding the meaning of in vitro activity data as it relates to in vivo adverse outcomes. Part of this research effort aims to develop a translational process that integrates relevant information, models, and data streams to provide richer context to interpret in vitro results related to thyroid disruption. As part of the translational process, this position will focus on the development of a bio-assay to quantitative monitor thyroid hormone synthesis as a complimentary assay to existing in vitro thyroid-related assays. Assay development will be followed by the analysis of canonical and suspected thyroid disrupting chemicals to understand whether, or how, in vitro activity of chemicals translates to in vivo outcomes. Additionally, this research will employ existing computational tools such as the octanol-water partition coefficient (logKow) and quantitative structure-activity relationships (QSAR) models to provide deeper interpretation of in vitro data and further prioritize chemicals most likely to impact thyroid function in aquatic systems. The translational principles employed will have much broader applicability across ToxCast HTS assays and aquatic vertebrates.

With guidance from the mentor, you may be involved in any or all of the following training activities:

- Learn how analytical methods are developed and applied to quantify biomolecules, such as thyroid hormones and proteins, in biological tissues collected from aquatic organisms using liquid chromatography-mass spectrometry techniques.
- Gain experience exploring alternative high-throughput detection strategies for measuring biomolecules in biological tissues.
- Develop knowledge of data quality assurance and quality control practices used in laboratory and computational research settings.
- Learn how chemoinformatic and quantitative structure–activity relationship (QSAR) approaches are used to examine relationships between chemical structure and biological effects.
- Process and analyze large, high-content data sets using established and emerging computational analysis pipelines.
- Build skills in analyzing experimental data and preparing tables, figures, visual summaries, and other materials used to communicate scientific findings.
- Apply statistical analysis approaches such as hypothesis testing,

regression methods, multivariate statistics, and concordance analyses to support interpretation of research results.
- Strengthen scientific communication skills through opportunities to present research findings at scientific meetings and contribute to written reports and peer-reviewed journal articles.

Learning Objectives: You will learn how to collaborate effectively within a transdisciplinary research team while gaining experience in project planning, scientific communication, research implementation, and data analysis activities. Through collaboration with researchers and staff, you will develop an understanding of how multidisciplinary scientific projects are designed, managed, and executed. You will also have opportunities to learn from and interact with internationally recognized scientific leaders within EPA and across external research organizations and institutions.

You will build knowledge of laboratory, analytical, and computational techniques that are broadly applicable across life sciences research fields. Through hands-on participation and mentorship, you will learn how to operate and use a variety of scientific instruments and equipment and gain familiarity with laboratory and research workflows. You will also learn approaches for evaluating data quality, troubleshooting research results, and applying statistical methods for scientific data analysis, interpretation, and communication. Opportunities may be available to contribute to original research efforts and support the development of scientific publications and related research products.

Mentor(s): The mentor for this opportunity is Heather Brown (brown.heather@epa.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: Fall 2026. All start dates are flexible and vary depending on numerous factors.

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.

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR) only.

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

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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.

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

Qualifications

The qualified candidate should have received or be currently pursuing a master's or bachelor's degree in one of the relevant fields (chemistry with a focus in a sub-discipline such as analytical chemistry, biochemistry, environmental chemistry, etc).

Candidates with a bachelors in chemistry or biochemistry may be considered if they can demonstrate strong mathematical and computational skills.

Preferred skills:

- Familiarity and/or experience with analytical instrumentation, particularly LC-MS/MS.
- Previous experience with statistical data analysis (e.g. R-based statistics)
- Experience conducting in vitro and in vivo bioassays.
- Coursework in statistics, chemoinformatics, quantitative chemistry, and/or instrumental analysis, basic coursework in biology.
- Previous research experience, beyond lab-oriented coursework alone.
- Familiarity with literature search tools and strategies
- Previous experience with science communication to a diversity of technical and non-technical audiences.
- Previous experience writing peer reviewed journal articles.
- Previous experience working with aquatic organisms such as fish or amphibians.

Stipend $50,460.00 – $61,722.00 Yearly

Point of Contact Rachel

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**

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- **Chemistry and Materials Sciences** (5 👁)
- **Environmental and Marine Sciences** (2 👁)
- **Life Health and Medical Sciences** (4 👁)