

Opportunity Title: EPA Fellowship: Quantification and Modeling of Chemical Partitioning and Fate in High Throughput Toxicity Systems

Opportunity Reference Code: EPA-OCSP-OPP-IO-2026-0007

Organization U.S. Environmental Protection Agency (EPA)

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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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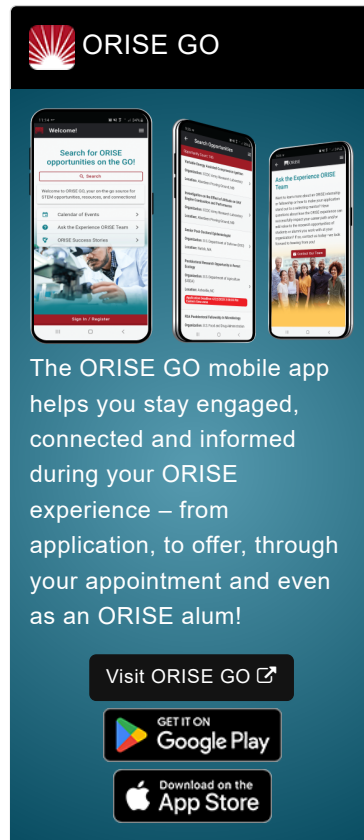
Application Deadline 10/23/2026 3:00:00 PM Eastern Time Zone

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), 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: Chemical Safety and Pollution Prevention is developing and evaluating alternative testing approaches (termed "new approach methodologies") for generating toxicity information in a more rapid and cost-effective manner, while still providing data that are equivalent to or better than those derived from traditional testing. EPA's Risk Assessment Support division is developing and applying high throughput test methods in which small aquatic



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organisms (e.g., embryo-larval fish, crustaceans, insect larva, aquatic plants and algae) are exposed to test chemicals in 96-well plate format. Previous research has demonstrated that even over relatively short durations of exposure, chemical partitioning, volatility, and transformations can lead to exposure concentrations that vary substantially from the nominal test concentrations. Therefore, there is a need to anchor testing to analytical measurements of chemical concentrations in the test wells and develop computational models that can predict chemical partitioning and fate based on physico-chemical properties and structure. Additionally, for chemicals with challenging properties, novel approaches for chemical delivery in these aqueous systems need to be designed and evaluated.

Projects associated with this ORISE post masters/post-bachelor's research opportunity will focus on quantification of chemical concentrations in these multi-well plate systems, evaluation of novel chemical delivery strategies, and/or development of computational models to predict partitioning and fate. With guidance from the mentor, you may be involved in any or all of the following training activities:

- Developing analytical methods for quantifying organic contaminants in water.
- Quantifying contaminants using gas or liquid chromatography coupled to high resolution mass spectrometry.
- Developing and evaluating exposure strategies suitable for methodologically challenging chemicals such as highly non-polar substances (e.g., high octanol-water partitioning coefficients), volatile chemicals, reactive chemicals, etc.
- Developing and applying methods for extracting organic contaminants from environmental matrices including surface waters, effluents, animal and plant tissues, soil, sediment, etc.
- Performing data quality assurance and quality control in analytical chemistry software.
- Developing predictive fate and partitioning models based on chemical properties and structures.
- Conducting molecular, biochemical, physiological, and/or histological analyses on biofluids and tissue samples collected from aquatic organisms.
- Processing and analyzing large, high content, data sets using both existing and novel computational pipelines.
- Analyzing experimental data and generating tables, figures, and other summaries of results.
- Conducting statistical analyses including the use of hypothesis testing, regression-based approaches, multi-variate statistics, concordance analyses, etc.
- Presenting research results at scientific meetings and contributing to peer-reviewed publications.

Learning Objectives: You will develop a diverse set of skills in environmental analytical chemistry and high-throughput toxicity testing. You will be trained to operate and maintain a range of scientific instruments and laboratory automation systems, and you will gain hands-on experience with aquatic organisms, analytical instrumentation, and associated software platforms.

You will learn to evaluate data quality, troubleshoot experimental results, and apply statistical methods for data analysis and interpretation. As part of a transdisciplinary research team, you will gain experience engaging in multiple aspects of project planning, communication, coordination, research implementation, and data analysis.

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You will have opportunities to interact with internationally recognized scientific leaders, both within and outside the EPA, and to contribute to original research and associated publications. This training experience is designed to provide you, as an early-career scientist, with the knowledge, skills, and abilities needed to apply analytical chemistry methods and data to regulatory decision-making at local, national, and international levels, and to prepare you for a professional career in environmental chemistry research.

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: October 1, 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. **The anticipated stipend range is \$52,500 - \$64,000 annually.**

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 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. If you have additional questions about the application process, please email ORISE.EPA.Other@ornl.gov and include the reference code for this

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opportunity.

Qualifications The qualified candidate should be currently pursuing (within 4 months of completion) or have received a bachelor's or master's degree in the one of the relevant fields within 5 years (e.g. Chemistry or related sub-disciplines like analytical chemistry, environmental chemistry, organic chemistry, biochemistry, computational chemistry, physical chemistry, etc). Bachelor's degree must also have research experience equivalent to a master's degree in one of the relevant fields.

Stipend \$52,500.00 – \$64,000.00 Yearly

Point of Contact [Rachel](#)

- 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** ([7](#) )
 - **Computer, Information, and Data Sciences** ([4](#) )
 - **Earth and Geosciences** ([1](#) )
 - **Life Health and Medical Sciences** ([4](#) )
 - **Mathematics and Statistics** ([4](#) )