Opportunity Title: EPA Internship: Alternatives for Assessing Toxicity of Environmental Contaminants to Aquatic Organisms
Opportunity Reference Code: EPA-OCSPP-2026-0022

Organization U.S. Environmental Protection Agency (EPA)

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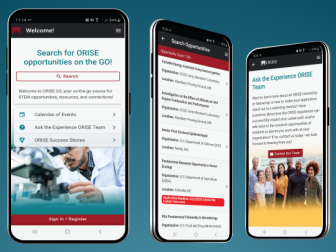
How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

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 1/1/2027 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis and applications may close before the deadline.**

EPA Office/Lab and Location: A research opportunity is currently available at the Environmental Protection Agency (EPA), Office of Chemical Safety and Pollution Prevention (OCSPP), located in Durham, North Carolina.

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: Due to the large number of chemicals in commerce and subsequently introduced into the environment, chemical safety assessments based on traditional animal testing have been unable to keep pace with the need to generate hazard information to support screening, prioritization, and both human health and ecological risk assessments. To

address this, the EPA's Office of Chemical Safety and Pollution Prevention is developing and evaluating alternative testing approaches (termed "new approach methodologies") to generate 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. The EPA's Risk Assessment Support Division is developing and applying high-throughput test methods in which small aquatic organisms (e.g., embryo-larval fish, crustaceans, insect larvae, aquatic plants and algae) are exposed to test chemicals. As part of this project, you will engage in literature reviews and hypothesis-driven studies that help establish causal relationships between perturbation of biological systems at the molecular and cellular levels and adverse effects on individuals and/or populations.

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

- Developing and running data analysis pipelines for omics data collected during ecotoxicological exposure studies, including NGS-based gene expression data and metabolomics data
- Compiling detailed documentation of data analysis methods in electronic lab notebooks and in GitHub repositories
- Applying machine learning algorithms to identify biomarkers and classify environmental toxicants
- Modeling transcriptomic dose responses and estimating points of departure (e.g., lowest observed effect concentrations, benchmark doses) from high-throughput toxicity testing data
- Providing biological interpretation of omics data and molecular pathways to contextualize toxicity findings
- Compiling and summarizing scientific information from the peer-reviewed literature and from on-line data sources
- Contributing to the preparation of peer-reviewed journal articles and disseminating research results to project partners, stakeholders, and the research community
- Presenting research at regional, national, and/or international conferences and workshops

Learning Objectives: Under the guidance of a mentor, you will have the opportunity to gain experience in the area of bioinformatics and in ecotoxicogenomics. You will learn search strategies and tools to efficiently and transparently document literature retrieval and evaluation. You will be integrated into an interdisciplinary research team and engage in multiple aspects of research project planning, communication, research implementation, and analysis. Additionally, you will learn to evaluate data quality, troubleshoot research results, and apply statistical methods for data analysis and interpretation. You will be afforded the opportunity to interact with internationally recognized leaders both within and outside the EPA and will contribute to original research and associated publications. It is expected that this training opportunity will provide an early career scientist with the knowledge, skills, and abilities needed to apply new technologies

and associated data to regulatory decision-making at local, national, and international scale, preparing you to pursue a professional career in life sciences research.

Mentor(s): The mentor for this opportunity is Olivia Torano (torano.olivia@epa.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: December 8, 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.

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.

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 a bachelor's or master's degree in one of the relevant fields (biology, (eco)toxicology, biochemistry, molecular biology, genetics, bioinformatics, computational biology, computational chemistry, chemistry, statistics, computer science or a related field). Degree must have been received within the past five years.

Preferred skills:

- Strong interdisciplinary knowledge spanning statistics, biology,

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(eco)toxicology, and computer science
- Proficiency in at least one scientific programming language, preferably R or/and Python
- Familiarity with Linux/Unix environments and basic shell scripting
- Experience with version control using Git and GitHub
- Familiarity with NGS platforms, sequencing data analysis tools, and pathway analysis software
- Demonstrated experience in NGS data analysis and data visualization, or big data mining

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 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Engineering** (4 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (51 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Physics** (16 👁)