

Opportunity Title: Aquaculture Research Support
Opportunity Reference Code: EPA-NSSC-0007-68-5-23-24

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply Click [HERE](#) to apply!

Description The EPA National Student Services Contract has two immediate openings for full time Aquaculture Research Support position with the Office of Research and Development at the EPA facility in Narragansett, RI.

The Office of Research and Development at the EPA supports high-quality research to improve the scientific basis for decisions on national environmental issues and help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

The Center for Environmental Measurement and Modeling (CEMM) develops, evaluates, and applies measurements and models to characterize the sources, occurrence, transformation, transport and effects of pollutants and stressors in the natural environment. Within CEMM, the Atlantic Coastal Environmental Sciences Division (ACESD) is responsible for coastal watershed, freshwater, estuarine, and coastal ecological research. ACESD scientists develop and evaluate theory, methods, models, and data to better understand and quantify the cumulative effects of multiple anthropogenic stressors and extreme weather events on the coastal waters and watersheds of the Atlantic seaboard.

What experience and skills will you gain?

Within those goals, this project develops and applies standard and novel approaches that integrate biological, physiological, and molecular information from living organisms to predict the ecological risks to marine and aquatic resources of human-mediated stressors. ACESD maintains a state-of-the-art marine aquaculture wetlab and research facilities to support these activities.

As a team member, you will contribute to a team involved in the implementation of current and advancing knowledge to maintain, culture, and monitor organisms under a variety of environmental conditions. You will assist in collection and husbandry of the full life cycle (early-through-adult life stages) of marine and aquatic species. You will also assist in the conduct of standard and novel testing studies that generate data to advance our understanding of how stressors, including toxic chemicals, affect the fitness of individual organisms and their populations in the aquatic and marine environment.

How you will apply your skills

Marine animal husbandry responsibilities:

- Training in and following approved animal care and use protocols (ACUPs) developed under the oversight of the USEPA Eco Institutional Animal Care and Use Committee (IACUC);



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- Maintenance of populations of experimental research animals (primarily the estuarine minnow, *Fundulus heteroclitus*), including daily feeding and monitoring of animal well-being, spawning fish, and care and monitoring of embryos and larvae;
- Make routine observations on the health and behavior of research animals;
- Monitoring and keeping records of aquaculture system environmental conditions (i.e., temperature, water flow, etc.);
- Record and maintain detailed records of populations of laboratory research animals;
- Managing water control system (Metasys) to maintain appropriate environmental conditions (i.e., temperature alterations, lighting adjustments, etc.);
- Preparing and maintaining diet, including live invertebrate (*Artemia*) colonies used as a food supplement;
- Fixation of fish for histology and other tissue preservation purposes; and
- Regular cleaning of tanks and other materials used in aquaculture.

Experimental responsibilities:

- Daily conduct, maintenance, and observation of ongoing animal assays;
- Measurement of animal fitness endpoints such as body/organ size;
- Imaging of embryonic, larval, or adult animals using microscopy and digital cameras;
- Measurement of animal physiological status, including heart rate and movement analysis;
- Necropsy and tissue preparation for chemical and molecular endpoints;
- Sampling and archiving of animal tissues or whole embryos/larvae;
- Synthesize and analyze data generated from experimental procedures; and
- Quality assurance and quality control of data.

Communications-related responsibilities:

- Participating as a member of a multi-disciplinary research team, including participation in all group lab meetings;
- Interacting with EPA scientists and collaborating academic scientists;
- Keeping diligent records as part of group projects; and
- Presenting work performed in internal group meetings, within ACESD/EPA and/or, at scientific conferences as required.

Other generic activities may include the following:

- Assisting EPA scientists in designing, implementing and maintaining records for laboratory experiments;
- Contributing to the preparing biological samples and evaluating gene expression – lab techniques include RNA extraction, cDNA synthesis, qPCR, and gel electrophoresis;
- Conducting (computerized) data analysis and entry, organizing and assisting in analysis, and

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- Report generation; searching, retrieving and organizing relevant scientific literature, and contributing to the development of scientific manuscripts; participation in safety and other training opportunities.

All activities will be performed according to specification, either with laboratory operating procedures, animal care and use protocols, and quality assurance plans (see section 9), information from the scientific literature, or instructions provided by their mentor.

You will maintain careful and accurate records in a paper or electronic laboratory notebook (as appropriate) and prepare electronic reports of the data in spreadsheets. The notebook(s), spreadsheets and all other data produced under this order will be the property of the U.S. Environmental Protection Agency.

Required Knowledge, Skills, Work Experience, and Education

- Academic coursework will include science courses with laboratory component;
- Field or lab experience in environmental, biological, ecological, or toxicological studies, specifically skill and experience in collecting, maintaining, and/or testing organisms (especially aquatic organisms) using measurement techniques associated with ecology, chemistry, toxicology, biology, genetics, and/or fisheries science;
- Experience in laboratory record keeping, database management, data compilation, data analysis;
- Strong written, oral, and electronic communication skills; and
- Knowledge of basic safety requirements in the laboratory.

Desired Knowledge, Skills, Work Experience, and Education

- Experience in laboratory animal husbandry and aquaculture.

Location: This job will be located EPA's facility in Narragansett, RI.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of \$25.30 for hours worked.

Hours: Full-time.

Travel: Occasional overnight travel may be required.

Expected start date: The position is full time and expected to begin June 2024. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA.

For more information, contact EPANSSC@orau.org. Do not contact EPA directly.

Qualifications














- Be at least 18 years of age **and**
- Have earned at least an undergraduate (BS/BA) degree in biology/marine biology, ecology, fisheries, environmental science, and/or toxicology from an accredited university or college within the last 24 months **and**

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- Be a citizen of the United States of America or a Legal Permanent Resident **and**

EPA ORD employees, their spouses, and children are not eligible to participate in this program.

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Bachelor's Degree received within the last 24 month(s).
 - **Overall GPA:** 2.00
 - **Discipline(s):**
 - **Business** ([11](#) )
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([6](#) )
 - **Computer, Information, and Data Sciences** ([17](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([51](#) )
 - **Mathematics and Statistics** ([11](#) )
 - **Other Non-Science & Engineering** ([13](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([2](#) )
 - **Social and Behavioral Sciences** ([30](#) )

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a undergraduate (BS/BA) degree in biology/marine biology, ecology, fisheries, environmental science, and/or toxicology, or a closely related field of study from an accredited university or college within the last 24 months; a citizen or a Legal Permanent Resident of the United States of America; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

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