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Opportunity Title: Quantitative Cell Culture Analysis Research at EPA
Opportunity Reference Code: EPA-NSSC-0005-09

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-NSSC-0005-09

How to Apply Click HERE to apply!

Description The EPA National Student Services Contract has an immediate opening for a full time Quantitative Cell Culture Analysis Research at EPA position with the Office of Research and Development at the EPA facility in Research Triangle Park, NC.

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.

What the EPA project is about

The Center for Public Health and Environmental Assessment (CPHEA) provides the science needed to understand the complex interrelationship between people and nature in support of assessments and policy to protect human health and ecological integrity. Within CPHEA, the Public Health and Integrated Toxicology Division (PHITD) performs clinical and animal toxicological research to assess the impact of environmental exposures on human health by developing and validating biological measures in all aspects of human health to better link exposure, dose, and health outcomes. This includes evaluating toxicological mechanisms and responses for target organ systems using multiple strategies related to chemical screening and prioritization including assessing in vivo predictive value of in vitro tests and test methods development and interpretation.

What experience and skills will you gain?

PHITD has designed and developed an in-vitro air liquid interface (ALI) exposure system called the Cell Culture Exposure System (CCES). The research proposed for a contractor would be to introduce select cell cultures into the CCES and to help couple the biology to the engineering to achieve successful ALI exposures. Operations are currently underway exposing cells to select volatile organic compounds (VOCs) with the CCES; however, the addition of a team member will allow for expansion of these studies that would help to successfully achieve this effort. The team member will work with other members of the team to maintain the CCES, conduct quantitative analysis (i.e. gas chromatograph, infrared spectroscopy, etc.) of exposure atmospheres, perform calibrations of the needed analytical instruments, operate generation systems specific to each chemical, quality control data, and perform downstream analysis. The participant will be a member of a multi-disciplinary research team and will be trained to support the development, maintenance, and operation of CCES and cell cultures.

How you will apply your skills

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Administrative responsibilities will include:

- Performing data entry and analysis using office and laboratory software
- Performing searches of the scientific literature
- Under supervision, writing operating procedures for routinely performed laboratory activities.
- Completing additional duties, as requested, per specifications and instructions provided by the mentor.

Communication-related responsibilities will include:

- Participating as a member of a multi-disciplinary research team
- Interacting with other members of the development team as well as EPA scientists
- Maintaining accurate laboratory records, both electronically and in designated notebooks, and organizing and collating data where appropriate.
- Assisting the team in developing oral presentations using graphics and other interactive formats
- May be asked to present work performed as a poster at a scientific conference.

Laboratory responsibilities will include:

- Interacting with laboratory researchers while conducting laboratory research studies
- Conducting quantitative analysis of air concentrations during exposures.
- Calibrating instruments used for quantitative analysis
- Operating novel generation systems used to set starting concentrations for cell culture exposures
- Independently following written laboratory protocols
- Preparing exposure systems and workspaces for laboratory experiments
- Completing experiments in an organized and efficient manner.

Required Knowledge, Skills, Work Experience, and Education

- Basic experience (at least six months) working in a laboratory setting;
- Experience following written protocols;
- Proficiency performing basic chemistry calculations, quantitative analysis and calibrating instruments;
- Basic experience with instrumental analysis, calibrating, and quantitative analysis techniques including gas chromatography, dispersive and Fourier Transform infrared, and calibration systems;
- Basic experience working with hazardous substances;
- Experience collecting data, maintaining a detailed scientific laboratory notebook and electronic record keeping;
- Experience with basic laboratory health and safety procedure;
- Strong written, oral and electronic communication skills; and

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- Strong organizational skills including experience preparing spreadsheets and PowerPoint presentations as well as demonstrated ability to adhere to assigned deadlines.

Travel: This job will be located EPA's facility in Research Triangle Park, NC.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of $23.37 for hours worked.

Hours: Full-time.

Travel: Overnight travel will not be required.

Expected start date: The position is full time and expected to begin May 2024. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The contract renews each May through 2025.

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 a bachelor's degree in chemistry, toxicology, environmental sciences, engineering, or closely related field of study from an accredited university or college within the last 24 months **and**
- Be a citizen of the United States of America or a Legal Permanent Resident.

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 👁)

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- **Social and Behavioral Sciences** (30 👁)

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Bachelor's degree in chemistry, toxicology, environmental sciences, engineering, or closely related field 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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