Opportunity Title: PFAS Specialist at EPA
Opportunity Reference Code: EPA-NSSC-0009-29-4-2022

Organization	U.S. Environmental Protection Agency (EPA)
Reference Code	EPA-NSSC-0009-29-4-2022
How to Apply	Click HERE to Apply
Description	The EPA National Student Services Contract has an immediate opening for a full time PFAS Specialist 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 Computational Toxicology and Exposure (CCTE) supports ORD by providing solutions-driven research to rapidly evaluate the potential human health and environmental risks due to exposures to environmental stressors and ensure the integrity of the freshwater environment and its capacity to support human well-being. CCTE researchers are developing and applying cutting edge innovations in methods to rapidly evaluate chemical toxicity, transport, and exposure to people and environments. Within CCTE, the Chemical Characterization and Exposure Division (CCED) performs research to develop and advance analytical chemistry, computational chemistry, and cheminformatic approaches that are critical to the rapid characterization of the presence, structural characteristics, and properties of chemicals that underlie chemical exposure, environmental fate, toxicokinetics and toxicity.

What experience and skills will you gain?

As a team member, you will support research under the Chemical Safety for Sustainability (CSS) research program on developing and applying a chemotype enrichment workflow (CTEW) to analyzing chemical-activity datasets, and creating and applying customized sets of chemotypes to model chemical categories and chemicals of emerging concern to EPA, such as PFAS.

The CTEW approach involves the processing of a structure-data file, consisting of DSSTox chemical structures assigned to binary activities (1,0), to generate a set of ToxPrint molecular fingerprints (features), and determining whether a subset of the chemical features are "enriched", or statistically more concentrated, within the active portion of the dataset. The student's work shall include the further development and application of the CTEW to be applied to a variety of on-going research problems. More specifically, further automation of the various steps in the CTEW are needed in order to process large numbers of data files and allow for greater ease of use by non-experts. In addition, the student shall help to create and apply new ToxPrint-type features to describe and model areas of chemistry

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of high interest to EPA, such as PFAS (per and polyfluoroalkyl substances).

How you will apply your skills

Research-related responsibilities shall include:

- Maintaining, documenting, and updating a set of Python scripts for processing chemical-activity data files to generate chemotype-enrichment results and increase usability for non-experts;

- Interacting with researchers to guide application of chemotype approaches to their particular research questions and datasets, and generally assisting with application of the CTEW and chemotype sets to modeling projects within CCTE;

- Processing chemical-activity datasets, generating outputs, and responding to data requests from colleagues as needed (e.g. retrieve data according to specified criteria) through development of programming scripts or SQL queries; and

- Helping to develop and refine new fingerprint sets to describe chemical categories and emerging areas of chemistry, such as PFAS, using the publicly available CSRML language of ToxPrints

Communications-related responsibilities shall include:

- Participate as a member of a multi-disciplinary research team;

- Interact with other members of the development team as well as EPA scientists;

- Thoroughly document all work as directed by EPA mentor to comply with EPA quality assurance procedures for transparency and reproducibility of work; and

- Summarize work in internal reports/memos to be used by EPA scientists.

Required Knowledge, Skills, Work Experience, and Education

- Experience programming in the Python language;

- Experience with quantitative techniques, basic statistics, and use of spreadsheets; and

- Strong reading comprehension skills and experience logically interpreting pieces of data.

Desired Knowledge, Skills, Work Experience, and Education

- Master's coursework in statistics, data science, machine learning, user experience and design, and data analysis;

- Experience with computational or mathematical modeling and/or data science techniques in any discipline; and

- Experience with databases (e.g. MySQL) is desired but not required.

Location: 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 $29.57 for hours worked.

Hours: Full-time.

Travel: Travel related to the position is not anticipated.

Expected start date: The position is full time and expected to begin March 2022. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The option year renews May of each year through May, 14, 2025.

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

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

Qualifications

- Be at least 18 years of age **and**

- Have earned at least a Masters' degree in physics, chemistry, biology, engineering, applied sciences, environmental health, public health, exposure science, computer sciences, information technology, data science, or a related discipline 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.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree received within the last 24 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (1 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (46 👁)
  - **Physics** (16 👁)

Affirmation

I certify that I am at least 18 years of age; a recent graduate with at least a Masters' degree in physics, chemistry, biology, engineering, applied sciences, environmental health, public health, exposure science, computer sciences, information technology, data science, or a related discipline; 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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