

**Opportunity Title:** Health Exposure Modeling Support at EPA

**Opportunity Reference Code:** EPA-SSP-0010-19

**Organization** U.S. Environmental Protection Agency (EPA)

**Reference Code** EPA-SSP-0010-19

**How to Apply** Submit application and supporting documents by clicking on Apply Now button.

*For more information, contact [EPAjobs@orau.org](mailto:EPAjobs@orau.org). Do not contact EPA directly.*

**Description** The EPA Environmental Research and Business Support Program has an immediate opening for a Health Exposure Modeling Support position with the Office of Research and Development at the EPA's Research Triangle facility in Raleigh-Durham, NC.

The Office of Research and Development (ORD) 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 National Exposure Research Laboratory (NERL) of the U.S. Environmental Protection Agency (EPA) conducts research to improve the ability of EPA to assess human and ecological exposures to environmental stressors. Of particular concern is the ubiquitous environmental contamination by poly- and perfluorinated substances (PFAS). Indications of widespread environmental contamination have been observed and human exposure largely remains uncharacterized. To improve EPA's ability to assess the exposure potential for these chemicals, NERL is developing and applying software tools and algorithms to simulate environmental fate and transport, understand human activity patterns, evaluate contact and exposure potential, and estimate internal dose.

The selected candidate shall work within a multi-disciplinary research team and shall provide technical support for the development of computational models of exposure to chemicals via multiple pathways, including contact with consumer products (e.g., upholstered furniture, apparel, consumer packaged goods) and contaminated environmental media (e.g., air, water).

**Specific duties shall include, but are not limited to:**

- Conducting internet and literature searches to compile datasets of exposure-related information (e.g., chemical concentrations in environmental and biological media, consumer product use);
- Conducting internet and literature searches of chemical-specific pharmacokinetics-related information (absorption rates, half-lives, volumes of distribution);
- Collecting, extracting, transcribing, and organizing data (e.g., in spreadsheets and databases);
- Identifying (via searches of peer-reviewed and government literature) simple, screening-level exposure scenarios for different exposure pathways relevant to PFAS;



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- Implementing simple models into computational code using any number of open-source programming languages/environments (e.g., python, R);
- Providing route- and pathway-specific exposure estimates for selected chemicals;
- Curating data on consumer product chemical concentrations from Material Safety Data Sheets using EPA-designed curation tools (e.g. assigning products to exposure-related product categories, scraping data from files using scripts, or hand-curating chemical information and concentrations from PDF files);
- Performing statistical analysis of data using Excel, the R statistical software package or other software; and
- Performing quality control of curated data (data entered by third party).

**Communications-related duties shall include:**

- Compilation and summarization of data and literature references into organized computer files;
- Participation in team discussions on progress and planned activities;
- Interaction with other members of the development team as well as EPA scientists;
- Preparation of graphs and charts to display data and modeling results;
- Communication of results via presentation(s) and/or written reports; and
- Thorough documentation of all work as directed by EPA mentor to comply with EPA quality assurance procedures for transparency and reproducibility of work.

**Location:** This job will be located at EPA's Research Triangle facility in Raleigh-Durham, NC.

**Salary:** The selected applicant will become a full time temporary employee of ORAU and will receive an hourly wage of \$28.56 for hours worked.

**Hours:** Full Time.

**Travel:** Occasional overnight travel may be required.

**Working Conditions:** The selected candidate shall be supervised by a mentor who will provide day-to-day direction, as well as coach, advise and counsel him/her and review his/her work. The mentor for this position will be a federal EPA employee.

This position will involve work in an administrative setting and is not expected to involve exposure to hazardous elements.

**Expected Start Date:** The position start date is November 2018. The selected candidate will be a temporary employee of ORAU working as a contractor to EPA. The initial contract period is through May 14, 2019. EPA may elect to renew the contract for an additional one (1) 12-month optional period.

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**Qualifications Eligible applicants must:**

- Be at least 18 years of age and
- Have earned at least a Master's degree in physics, chemistry, biology, engineering, applied sciences, environmental health, public health, exposure science, computer sciences, information technology, or a 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.*

**Required Knowledge, Skills, Work Experience, and Education**

Successful candidates shall have:

- Demonstrated experience in computer programming languages (e.g., python, R, Matlab, SAS);
- Demonstrated education and/or experience using spreadsheets and/or statistical software (e.g. SAS, R, SPSS, etc.) to analyze data; and
- Demonstrated ability to collaborate with others as part of a team.

**Desirable Knowledge, Skills, Work Experience, and Education**

It is desirable for the candidate shall have:

- Experience applying knowledge of exposure assessment and/or computing and mathematical modeling to the assessment of chemical exposures.

**Eligibility Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree received within the last 24 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** ([12](#) 👁)
  - **Computer, Information, and Data Sciences** ([16](#) 👁)
  - **Engineering** ([27](#) 👁)
  - **Environmental and Marine Sciences** ([1](#) 👁)
  - **Life Health and Medical Sciences** ([45](#) 👁)
  - **Mathematics and Statistics** ([10](#) 👁)
  - **Physics** ([16](#) 👁)

**Affirmation**

- I certify that I am at least 18 years of age; have earned at least a Master's degree in physics, chemistry, biology, engineering, applied sciences, environmental health, public health, exposure science, computer sciences, information technology, or a 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

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EPA ORD employee.

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