

**Opportunity Title:** Chemical Exposure Modeling Associate at EPA

**Opportunity Reference Code:** EPA-SSP-0010-12

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

**Reference Code** EPA-SSP-0010-12

**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 Chemical Exposure Modeling Associate with the Office of Research and Development at the EPA's Research Triangle facility in Raleigh-Durham, 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.


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. Many of the stressors of concern are organic and inorganic chemicals that are in consumer products and articles. To improve EPA's ability to assess the exposure risk for harmful chemicals, NERL is developing and applying software tools and algorithms to simulate environmental fate and transport, understand human activity patterns, evaluate exposure potential, and estimate internal dose.

The selected candidate will 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 tire crumb rubber on synthetic turf fields, recycled products and articles, and consumer product formulations (e.g. personal care products/cleaning products).

**Duties include but are not limited to:**


- Conducting internet and literature searches to compile datasets of exposure factor information relevant to chemical exposure pathways (e.g. human activity patterns, contact rates for humans with different media and surfaces, consumer product use information, environmental and personal concentration data);
- Identifying (via searches of peer-reviewed and government


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literature) simple, screening-level exposure scenarios and models for different exposure pathways relevant to tire crumb exposure via synthetic turf fields;

- Implementing these simple models into computational code using any number of open-source programming languages/environments (e.g., python, R);
- Providing pathway-specific exposure estimates for selected chemicals associated with tire crumb rubber;
- 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);
- Analyzing statistical data using Excel, the R statistical software package or other software; and
- Performing quality control of entered data (data entered by third party).

**Communications-related responsibilities will 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; and
- Communication of results via presentation(s) and/or written reports.

**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 \$28.14 for hours worked.

**Hours:** Full Time.

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

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

The selected candidate shall be supervised by a mentor who will provide day-to-day direction, as well as coach, advise and counsel the selected candidate, and review his/her work.

**Expected Start Date:** The position start date is June 2017. The selected applicant will be a temporary employee of ORAU working as a contractor to EPA. The initial contract period is

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through May 14, 2018. EPA may elect to renew the contract for an additional two (2) 12-month optional periods.

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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 engineering, statistics, chemistry, environmental science, or other closely related field 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 successful completion of at least 6 hours of coursework in chemistry and 12 hours of coursework in computer science, mathematics, and/or statistics;
- Demonstrated education and/or experience in programming (e.g., python, R, Matlab, SAS, or other languages);
- Demonstrated education and/or experience using spreadsheets and/or statistical software (e.g. SAS, R, SPSS, or other related software) to analyze data; and
- Demonstrated ability to collaborate with others as part of a team.

**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 )
  - **Earth and Geosciences** (21 )
  - **Engineering** (27 )
  - **Environmental and Marine Sciences** (14 )
  - **Mathematics and Statistics** (10 )

**Affirmation**

- I certify that I am at least 18 years of age; have earned at least a Master's degree in engineering, statistics, chemistry, environmental science, or other 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

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spouse or child of an EPA ORD employee.

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