Opportunity Title: Modeling Engineer at EPA
Opportunity Reference Code: EPA-SSP-0025-3

Organization	U.S. Environmental Protection Agency (EPA)
Reference Code	EPA-SSP-0025-3
How to Apply	• Submit application and supporting documents by clicking on Apply Now button. • *For more information, contact* EPAjobs@orau.org. Do not contact EPA directly.
Description	The EPA Environmental Research and Business Support Program has immediate opening for a Modeling Engineer at EPA with the Office of Research and Development at the EPA facility in Cincinnati, OH.

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 Water Supply and Water Resources Division (WSWRD) of the National Risk Management Research Laboratory (NRMRL) supports the water industry and States through its multiscale research. The home plumbing research project aims to provide data related to premise plumbing issues that impact public health. The Flint lead problem highlighted the need to understand the fate and transport of lead in home plumbing systems. The 2014 Elk River Spill demonstrated that removing contaminants from home plumbing systems can be difficult, and new approaches are needed to better understand contaminant fate and transport in homes. A home plumbing pilot system has been constructed at USEPA in Cincinnati, allowing researchers to investigate these issues. A component of this effort involves modeling of the home plumbing system, which will help expand the predictive capabilities of the home plumbing research that is currently being conducted. This project will involve developing, testing and validating of a home plumbing model and performing testing related to a range of configurations and conditions to help support the water industry, States, and associated Statutes.
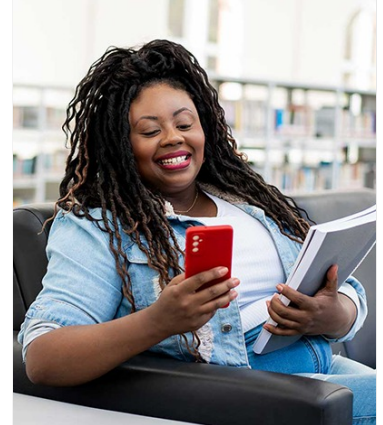
The selected candidate shall provide data management, data curation and data analysis support to the home plumbing modeling project. He/she will utilize EPA developed software, including EPANET and EPANET-MSX, and also make use of Python scripts and Excel to perform qualitative and quantitative data analysis. He/she shall work with other members of NRMRL/WSWRD's team to develop and run the models, maintain this system, quality control entered data, and perform downstream analysis. The selected candidate shall be a member of a multi-disciplinary research team and shall be trained to support the development, maintenance, and analysis using the home plumbing model.

Home Plumbing Modeling development and analysis shall include:

• Assisting with quality control of entered data (data entered by third party),

- Building EPANET maps of premise plumbing layouts,
- Running models in EPANET-MSX using Python scripts,
- Organizing and storing simulation results data,
- Developing analysis tools for exploring and visualizing Home Plumbing Model data,
- Developing scripts to provide reports on the data,
- Developing models to predict usage patterns, and
- Developing models to predict contaminant exposure risks.

Communications-related responsibilities shall include:

- Participating as a member of a multi-disciplinary research team,
- Interacting with other members of the development team as well as EPA scientists, and
- Documenting code and database development efforts.

The selected candidate may be asked to present work performed as a poster at a scientific conference.

Location: This job will be located at EPA's facility in Cincinnati, OH.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of $21.11 for hours worked.

Hours: Full time.

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 them, and review their work.

Travel: Occasional overnight travel may be required.

Expected Start Date: The position is full time and expected to begin August/September 2017. The selected applicant will be a temporary employee of ORAU working as a contractor to EPA. The initial contract period is through May 14, 2018, followed by two (2) additional 12 month option periods.

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

Qualifications **Eligible applicants must:**

- Be at least 18 years of age **and**
- Have earned at least a Bachelor's degree in engineering, mathematics, science, 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

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Successful candidate shall have:

- Coursework that includes fundamental civil, environmental or chemical engineering courses;
- Coursework in hydraulics and/or fluid dynamics;
- Coursework that involves basic computer programming;
- Demonstrated experience with mathematical model use and development;
- Demonstrated experience with Python or MATLAB programming; and
- Strong written, oral and electronic communication skills.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 24 month(s).
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (13 👁)
  - **Mathematics and Statistics** (10 👁)

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Bachelor's degree in engineering, mathematics, science, 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 EPA ORD employee.

ORAU is an Equal Opportunity Employer **(EOE AA M/F/Vet/Disability)**; visit the ORAU website for required employment notices.