

**Opportunity Title:** Study of Volatile Organic Compounds (VOCs) and Semi-VOCs in Indoor Environment

**Opportunity Reference Code:** EPA-ORD-NRMRL-AEMD-2017-02

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

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**How to Apply** A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional references

All documents must be in English or include an official English translation.

If you have questions, send an email to [EPArpp@orau.org](mailto:EPArpp@orau.org) . Please include the reference code for this opportunity in your email.

**Description** A research opportunity is currently available at the U.S. Environmental Protection Agency's (EPA) Office of Research and Development (ORD) National Risk Management Research Laboratory (NRMRL). This appointment will be served with the Air and Energy Management Division (AEMD) in Research Triangle Park, North Carolina.

U.S. EPA ORD/NRMRL/AEMD supports EPA's environmental protection goals by providing direct support to Agency's regulatory and voluntary programs and by developing and evaluating emissions measurement, emissions control, and cost effective risk management strategies.

This research project is with the U.S. EPA ORD Chemical Safety and Sustainability (CSS) National Research Program. Understanding the transport mechanisms of VOCs and SVOCs between sources, air, particles, and interior surfaces in residential environment will help to characterize human exposures, develop/refine source-to-exposure-to-dose models, and develop strategies that enlighten risk assessments and policy decisions to minimize exposures and to protect human health. The research will support exposure models by providing chemical concentrations, emission rates, and other parameters, such as mass transfer coefficient, diffusion coefficient, and partition coefficient, as part of the basic model input.

The research participant will collaborate with a team of EPA scientists in tasks related to source and emission characterization with focus on VOCs and SVOCs. With guidance




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from the mentor, the participant may be involved in the following activities:

- Developing and evaluating sampling and analytical methods for VOCs and SVOCs, in gas phase, building materials, consumer products, and suspended and settled dust;
- Designing and conducting experiments to characterize the sources and emissions of VOCs and SVOCs;
- Designing and conducting experiments to study the fate and transport mechanisms of VOCs and SVOCs;
- Developing models to simulate and predict the fate and transport mechanisms of VOCs and SVOCs;
- Preparing reports and peer reviewed papers.


This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and EPA.

The appointment is full time for one year and may be renewed upon recommendation of EPA and contingent on the availability of funds. The participant will receive a monthly stipend. Funding may be made available to reimburse the participant's travel expenses to present the results of his/her research at scientific conferences. No funding will be made available to cover travel costs for pre-appointment visits, relocation costs, tuition and fees, or participant's health insurance. The participant must show proof of health and medical insurance. **The participant does not become an EPA employee.**

The mentor for this project is Xiaoyu Liu ([liu.xiaoyu@epa.gov](mailto:liu.xiaoyu@epa.gov)). The desired start date for this appointment is February 1, 2018.

**Qualifications** Minimum of a Master of Science degree from a STEM field within five years of the desired starting date or completion of all requirements for the degree should be expected prior to the starting date. The ideal applicant will possess basic knowledge of environmental science or engineering, environmental monitoring, analytical chemistry, and indoor air quality. Hands-on experience in chamber testing, LC/MS/MS, GC/MS, MatLab software and skill of environmental modeling and numerical computation is highly desirable.






**Eligibility Requirements**

- **Degree:** Master's Degree or Doctoral Degree received within the last 60 month(s).
- **Academic Level(s):** Postdoctoral or Post-Master's.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (4 )

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- **Computer, Information, and Data Sciences** (1 )
- **Earth and Geosciences** (1 )
- **Engineering** (2 )
- **Environmental and Marine Sciences** (1 )
- **Mathematics and Statistics** (1 )