Opportunity Title: Role of Volatile Chemical Products in Ambient Air Quality
Opportunity Reference Code: EPA-ORD-NERL-CED-2019-08

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-NERL-CED-2019-08

How to Apply A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. All transcripts must be in English or include an official English translation. 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 recommendations

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

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

Application Deadline 9/11/2019 3:00:00 PM Eastern Time Zone

Description ***Applications will be reviewed on a rolling-basis.**

A research opportunity is currently available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), National Exposure Research Laboratory (NERL), Computational Exposure Division (CED) located in Research Triangle Park, North Carolina.

EPA develops tools in support of clean air and chemical safety regulation. Specifically, EPA's Office of Research and Development develops the state-of-the-science Community Multiscale Air Quality (CMAQ) model (https://www.epa.gov/cmaq). The model represents the lifecycle of organic compounds from release into the atmosphere, through chemical and physical processing, to removal by deposition. The CMAQ model requires estimates of emissions as input. The primary source of emission information is the EPA National Emission Inventory (NEI). This project has the potential to inform both CMAQ model development and NEI methodologies.

Volatile chemical product usage results in direct human exposure to chemicals as well as exposure to secondary pollutants such as PM2.5 and ozone that form in ambient air. This research project may involve collaborating with a team of scientists to understand the magnitude, speciation, and transformation products associated with volatile chemical products. The research participant may be involved with the development of scientific hypotheses and perform data analysis to investigate how semivolatile, intermediate volatility, and volatile organic compounds contribute to organic aerosol and ozone. Techniques employed may include box modeling, emission inventory development, regional chemical transport modeling, exposure modeling, and/or the interpretation of field and laboratory data.

The mentor for this opportunity is Havala Pye (pye.havala@epa.gov).

This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds.

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The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at EPA in the Research Triangle Park, North Carolina, area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

Qualifications

The qualified candidate should be currently pursuing or have received a bachelor's, master's or doctoral degree in one of the relevant fields. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Knowledge of a data processing/data analysis language (MATLAB, R, Fortran, Python, etc.)
- Knowledge of emission inventory development or consumer product exposure modeling

Eligibility Requirements

- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Physics** (16 👁)