

Opportunity Title: Connections between Gas and Aerosol Organic Carbon

Opportunity Reference Code: EPA-ORD-NERL-CED-2016-01

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. Please include the reference code for this opportunity in your email.

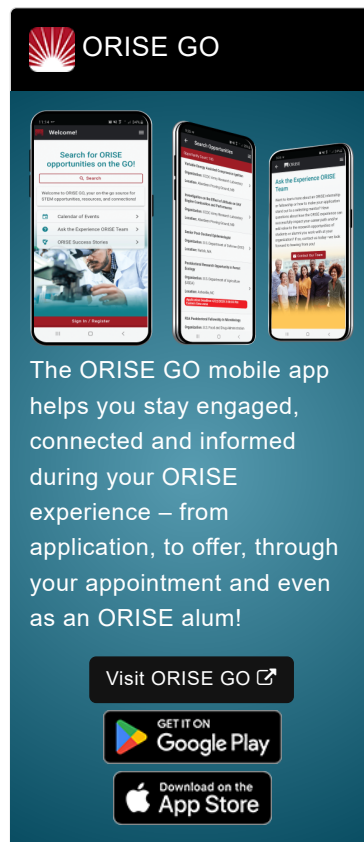
Description A postgraduate research training opportunity is currently available at the U.S. Environmental Protection Agency's (EPA), Office of Research and Development (ORD)/National Exposure Research Laboratory (NERL). This appointment will be served with the Computational Exposure Division (CED) in Research Triangle Park, NC.

Recent research has demonstrated a direct link between certain gas-phase species found in the ambient atmosphere and organic aerosol phase constituents. These linkages include isoprene epoxy diols (IEPOX) (e.g. Pye et al., 2013) and organic nitrates (e.g. Pye et al., 2015) as major particulate precursors. In addition to these direct links, a proper representation of gas-phase chemistry is necessary to produce the right balance of oxidants and later generation products that will determine secondary organic aerosol (SOA) formation in air quality models. Currently, CMAQ tends to overestimate ozone and underestimate organic aerosol in the southeast U.S. As both these constituents (ozone and PM) are regulated by the National Ambient Air Quality Standards (NAAQS), a good representation of their formation in air quality models is critical for informed air quality management.

The participant's research will focus on improving the Community Multiscale Air Quality (CMAQ) model. He/she will use ambient measurements from recent field campaigns (e.g. the Southern Oxidant and Aerosol Study (SOAS), Southeast Atmosphere Study (SAS)) to improve the CMAQ model representation of gas and aerosol-phase chemistry.

The research participant will learn how the Community Multiscale Air Quality (CMAQ) model functions, post-processing of model data, and how to use field or laboratory data to inform model development. He/she will also learn how different aspects of atmospheric science (field, laboratory, and modeling) interact.

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

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DOE and EPA.

Qualifications A bachelor's degree or higher in engineering, atmospheric science, or chemistry within five years of the starting date, or completion of all requirements for the degree should be expected prior to the start date. Knowledge of a data processing/data analysis language (MATLAB, R, FORTRAN, etc.) is desired. Applicants wishing to connect laboratory/ambient measurements with model formulation are encouraged to apply.

The appointment is full time for three months 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 Havala Pye (pye.havala@epa.gov). The desired start date is June 15, 2016.

- Eligibility Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 month(s).
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Earth and Geosciences** ([6](#))
 - **Engineering** ([27](#))
 - **Environmental and Marine Sciences** ([1](#))
 - **Physics** ([1](#))