

Opportunity Title: Atmospheric Chemistry Modeling Specialist Opportunity Reference Code: EPA-NSSC-0007-105

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-NSSC-0007-105

How to Apply Click <u>HERE</u> to apply!

Description The EPA National Student Services Contract has an immediate opening for a full time Atmospheric Chemistry Modeling position with the Office of Research and Development at the EPA facility in Research Triangle Park, 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.

What the EPA project is about

The Center for Environmental Measurement & Modeling (CEMM) conducts research to advance EPA's ability to measure and model contaminants in the environment, including research to provide fundamental methods and models needed to implement environmental statutes. Within CEMM, the Atmospheric & Environmental Systems Modeling Division (AESMD) conducts research to advance EPA's ability to characterize atmospheric and environmental processes that impact the transport, transformation, and fate of environmental contaminants in the air and the multimedia linkages of air pollutant emissions in support of the Clean Air Act and the Clean Water Act.

As part of their mission, AESMD supports EPA's mission to protect human health and the environment by developing, evaluating, and applying stateof-the-science modeling tools that are used to manage air quality at local, state, regional, and global scales. Models developed by AESMD estimate the contributions of various air emission sources to ambient air pollution and inform human/ecological exposure and effects assessment. The AESMD staff consists of atmospheric scientists, meteorologists, hydrologists, physical scientists, computational chemists, chemical engineers, computer scientists, and statisticians.

The Community Multiscale Air Quality Modeling (CMAQ) system (www.epa.gov/cmaq) is an active open-source development project of the U.S. EPA that consists of a suite of programs for conducting air quality model simulations across a range of spatial and temporal scales. CMAQ combines current knowledge in atmospheric science and air quality modeling, multi-processor computing techniques, and an open-source framework to deliver fast, technically sound estimates of ozone, particulates, toxics, and acid deposition. Within the CMAQ model, the Community Regional Atmospheric Chemistry Multiphase Mechanism (CRACMM, https://www.epa.gov/cmaq/cracmm) describes the atmospheric

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chemistry relevant for pollutant formation.

What experience and skills will you gain?

As a team member, you will work under the guidance of AESMD scientists to provide scientific programming and apply analysis techniques to further the development of CRACMM.

Responsibilities will include:

- Comparing estimates from CMAQ-CRACMM model simulations to measurement data. Such evaluation will include using routine and campaign-specific data as well as modifying and running existing Python or Fortran code. Evaluation may also include development of new techniques for model-measurement comparison including new code and methodology.
- Writing and documenting code.
- Interpreting and summarizing work in progress, including presenting findings to collaborators.
- Curation and quality control of metadata for CRACMM including interaction with GitHub repositories.
- Presenting work performed at a scientific conference as required.
- · Contributing to scientific manuscripts as warranted.

Required Knowledge, Skills, Work Experience, and Education

- Experience in scientific coding and/or computational methods;
- Proficiency in at least one programming language such as FORTRAN, Python, MATLAB, etc.;
- Experience working with output data sets from atmospheric or environmental models and/or geospatial data;
- Demonstrated ability to work independently and proactively with minimal supervision; and
- Strong written, oral, and electronic communication skills.

Desired Knowledge, Skills, Work Experience, and Education

- Experience with any of the following: Linux scripting, git, GitHub, box modeling of atmospheric chemistry, chemical transport modeling;
- Experience with design and/or testing of atmospheric chemical reactions; and
- Experience with regional or global atmospheric models.

Location: This job will be located EPA's facility in Research Triangle Park, NC.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of \$32.01 for hours worked.

Hours: Full-time.

Travel: No overnight travel will be required.

Expected start date: The position is full time and expected to begin



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November 2024. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA.

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

- Qualifications Be at least 18 years of age and
 - Have earned at least a Master's degree in atmospheric science, physical sciences (such as chemistry or physics), engineering, statistics, mathematics, computer science, or a related scientific or technological 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.

Eligibility • Citizenship: LPR or U.S. Citizen

Requirements

- Degree: Master's Degree received within the last 24 month(s).
 Overall GPA: 2.00
- Discipline(s):
 - Business (<u>11</u> [●])
 - Chemistry and Materials Sciences (12.)
 - Communications and Graphics Design (6.)
 - Computer, Information, and Data Sciences (17. (1)
 - Earth and Geosciences (21 (1)
 - Engineering (<u>27</u> ^(©))
 - Environmental and Marine Sciences (14 (1)
 - Life Health and Medical Sciences (<u>51</u>)
 - Mathematics and Statistics (11 (1)
 - Other Non-Science & Engineering (<u>13</u>)
 - Physics (<u>16</u>)
 - Science & Engineering-related (2.)
 - Social and Behavioral Sciences (<u>30</u>)

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Master's degree in atmospheric science, physical sciences (such as chemistry or physics), engineering, statistics, mathematics, computer science, or a related scientific or technological 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 spouse or child of an EPA ORD employee.

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