

Opportunity Title: EPA Vehicle Emissions Modeling Research

Opportunity Reference Code: EPA-OTAQ-2021-04

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-OTAQ-2021-04

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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 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.

Application Deadline 5/18/2021 3:00:00 PM Eastern Time Zone

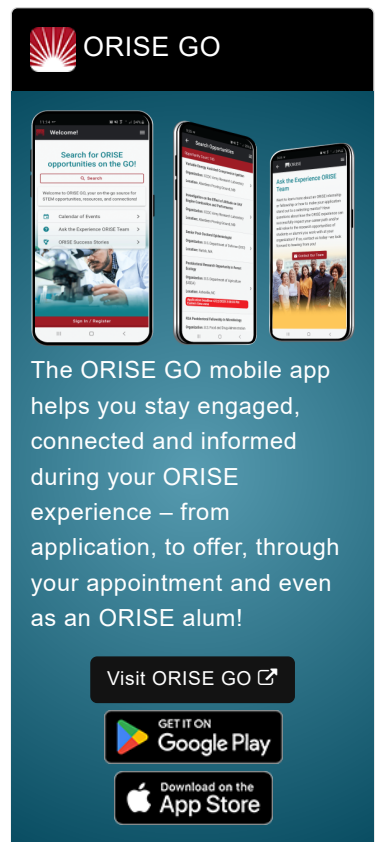
Description ***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.** Click [here](#) for information about the selection process.

EPA Office/Lab and Location: A research training opportunity is available at the Environmental Protection Agency's (EPA) Office of Transportation and Air Quality (OTAQ) located in Ann Arbor, Michigan. This project is within the Air Quality & Modeling Center within the Assessment and Standards Division.

If selected, you may perform your research remotely only for as long as the agency's facility remains closed due to Covid-19. Upon reopening of the facility, you are required to perform your research at the facility; telework will not be allowed except under special circumstances such as closure due to extreme weather.


Research Project: The participant will be engaged in analyzing vehicle activity and emissions data and in conducting research to develop data and methods to improve vehicle emissions models. The participant will have the opportunity to:


- Identify potential improvements for EPA's Motor Vehicle Emission Simulator (MOVES) through model evaluation with real-world data sets, laboratory data, and data available in the literature
- Analyze data sets to summarize data, and/or develop statistical models and algorithms for use in emissions modeling. The data may come from sources such as:
 - Vehicle activity data collected from portable activity measurement systems (PAMS)
 - Tailpipe vehicle emissions data collected from portable emission measurement systems (PEMS)
 - Large data sets of in-use vehicle emissions data collected from




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Inspection & Maintenance (I/M) Programs, and remote sensing data (RSD)

- Present research to EPA colleagues and others through presentations, technical documentation and scientific papers.
- Observe how science is used in policy decisions within Office of Transportation and Air Quality

Learning Objectives:

- Learn about the emissions modeling development process at the US EPA, including importance of emission models for informing policy relevant decisions, and the use of relevant software development tools
- Learn about the collection of vehicle activity and emissions data.
- Develop abilities to visualize, quality assure, and analyze large datasets
- Develop scientific writing and presentation skills.

Mentor(s): The mentor for this opportunity is Darrell Sonntag (sonntag.darrell@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: June 7, 2021. All start dates are flexible and vary depending on numerous factors. Click [here](#) for detailed information about start dates.

Appointment Length: The appointment will initially be for one year and may be renewed four additional years upon EPA recommendation and subject to availability of funding.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. Click [here](#) for detailed information about full-time stipends.

EPA Security Clearance: Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA.

ORISE Information: 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. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please see the [FAQ section](#) of our website. After reading, if you have additional questions about the application process please email ORISE.EPA.REG@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's, master's or doctoral degree in one of

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the relevant fields, or be currently pursuing one of the degrees with completion by May 28, 2021.

Degree must have been received within the past five years.

Preferred skills:

- Data analysis experience in a scripting language such as R or Python
- Knowledge of vehicle emissions and/or air quality
- Application of statistical tests and/or fitting statistical models
- Technical writing proficiency
- Prior research experience

**Eligibility
Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 5/28/2021 12:00:00 AM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Computer, Information, and Data Sciences** ([3](#))
 - **Earth and Geosciences** ([21](#))
 - **Engineering** ([27](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Mathematics and Statistics** ([2](#))
 - **Physics** ([16](#))