

Opportunity Title: EPA Exposure Pathway Modeling Fellowship

Opportunity Reference Code: EPA-ORD-CCTE-CCED-2021-02



Organization U.S. Environmental Protection Agency (EPA)

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

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

Application Deadline 5/24/2021 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 opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Computational Toxicology and Exposure (CCTE), Chemical Characterization & Exposure Division (CCED) located in Research Triangle Park, North Carolina.

Research Project: The EPA Center for Computational Toxicology and Exposure (CCTE) is responsible for developing new computational tools and providing quantitative analysis for improving public health and environmental risk assessments and regulatory decisions pertaining to chemical safety. Throughout the course of this project, the participant will collaborate with a CCTE team developing computational tools (including mechanistic and statistical models) to predict population estimates of human exposures and doses to thousands of existing and emerging chemicals in commerce. This research project will focus on characterizing exposure pathways for which predictive data or models are lacking (e.g., via ambient pathways such as via chemicals in biosolids, or occupational pathways). The models and data developed by the participant will inform EPA consensus models for these pathways.

Under the guidance of a mentor, the research participant may be involved in the following research activities:

- Analyzing innovative data describing how individuals come into contact with chemicals (such as information on chemical use and sources or activities relevant to the pathways in questions).
- Analyzing, modeling, and interpreting measurement data describing chemical concentrations measured in field studies of human exposure, including concentrations measured in occupational media.
- Assisting in the development of computational models/algorithms of chemical fate, transport, or exposure processes for priority exposure pathways.
- Parameterizing and running existing or newly developed models for various chemicals, and interpret and summarize results
- Performing reviews of literature or other available data for identifying measurements for evaluating exposure model algorithms and results.

Learning Objectives: The research participant will collaborate with an integrated team of agency scientists towards generating critical research hypotheses, developing programmatic tools to test these hypotheses, and ultimately solving complex environmental health problems. Through this research training opportunity, the research participant will have the opportunity develop their programming, analytical, and communication skills.

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Mentor(s): The mentor for this opportunity is Kristin Isaacs (isaacs.kristin@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Spring 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 up to three to 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.ORD@orau.org and include the reference code for this opportunity.









Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion by the anticipated appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Programming experience (e.g. in Python R, Matlab, or other language)
- Experience developing computational algorithms and codes for solving scientific problems
- Experience with statistical data modeling approaches (such as advanced classification and regression tools, machine learning, or quantitative structure-activity relationship models), or experience with human exposure data

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 5/31/2021 11:59:00 PM.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (2 )
 - **Earth and Geosciences** (1 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (2 )
 - **Life Health and Medical Sciences** (7 )
 - **Mathematics and Statistics** (11 )
 - **Other Physical Sciences** (12 )
 - **Physics** (16 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).