Opportunity Title: EPA Epidemiological Mixtures Research Participant Fellowship
Opportunity Reference Code: EPA-ORD-CPHEA-CPAD-2023-03

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CPHEA-CPAD-2023-03

How to Apply ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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 5/31/2024 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.

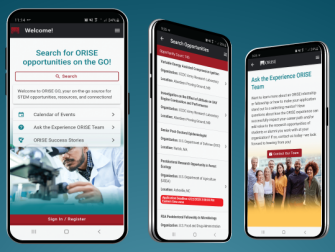
EPA Office/Lab and Location: A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Public Health and Environmental Assessment (CPHEA), Chemical and Pollutant Assessment Division (CPAD) in Cincinnati, Ohio, or Research Triangle Park, North Carolina.

Research Project: This research training opportunity is a high impact, policy-relevant research that may inform science assessments in support of EPA's mission to protect human health and the environment.

The research participant will have the opportunity to learn approaches for the evaluation, analysis, and integration of epidemiologic evidence on the health effects of environmental pollutant exposures that can inform EPA's scientific assessments. The research participant will have the opportunity to be involved in a variety of projects that can include qualitative or quantitative analyses of epidemiologic study findings and data. The participant will gain understanding of systematic review processes and how scientific evidence is integrated to create policy-relevant assessments and how those assessments may ultimately inform EPA's decision-making processes.

Under the guidance of a mentor (or co-mentors if desired), the research activities may include:

- Conducting independent epidemiological research projects, with

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guidance from EPA mentor(s), and author peer-reviewed publications and the opportunity to present at professional meetings based on this research
- Developing and conducting analyses and interpretation and synthesis of results to support epidemiological studies examining environmental mixtures in relation to chemical stressors in air and water, as well as consideration of non-chemical stressors and buffers.
- Synthesizing and communicating key approaches addressing mixtures in relation to epidemiological application
- Devising scientific approaches to facilitate epidemiological mixtures research and interacting with EPA scientists to convey relevance to and integrate in health and risk assessment methodologies
- Summarizing and extracting epidemiologic study information, and evaluation of concentration- or exposure-response relationships from epidemiologic data examining constituent species, joint toxicity, and/or more complex environmental mixtures
- Applying systematic review methods to address environmental mixtures from epidemiologic data, including development and application of literature search and screening strategies, study evaluation, data extraction, and synthesis of health effects evidence
- Dissemination of research, including study findings and related methods development, at national and international meetings is anticipated as per travel/training allowance

Learning Objectives: The research participant will have the opportunity to interact with scientific staff in CPAD, HEEAD, and PHESD, and potentially scientists from other EPA Divisions, and Centers, Offices, in the evaluation of epidemiologic evidence. The research participant will have opportunities to conduct quantitative or qualitative analyses that will contribute to EPA scientific assessments and potentially result in peer-reviewed publications. Through this process, the research participant would learn about systematic review in the context of science assessments, risk assessment, and new computational tools being utilized in evidence analysis.

Mentor(s): The mentor for this project is J. Michael Wright, ScD (wright.michael@epa.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: Winter/Spring 2024. 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 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

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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.

ORISE offers all ORISE EPA graduate students and Postdocs a free 5 year membership to the National Postdoctoral Association (NPA).

The successful applicant(s) will be required to comply with Environmental, Safety and Health (ES&H) requirements of the hosting facility, including but not limited to, COVID-19 requirements (e.g. facial covering, physical distancing, testing, vaccination).

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 master's or doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion before the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills/experience:

- Experience in epidemiologic analysis
- Quantitative epidemiological experience
- Experience in measurement and/or modeling of human health exposure data
- Knowledge of biostatistics
- Knowledge of chemical and/or non-chemical stressors
- Knowledge of environmental mixtures and methods for analyzing environmental mixtures, such as supervised machine learning, Bayesian kernel machine regression (BKMR), quantile-based g-computation or other approaches
- Interest and/or experience in integrating toxicological data to develop exposure assessment approaches for application to epidemiology (e.g., relative potency factor weights)
- Interest and/or knowledge of systematic review methods
- Experience in critical evaluation of published epidemiological literature

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Life Health and Medical Sciences** (4 👁)
  - **Mathematics and Statistics** (3 👁)
  - **Other Non-Science & Engineering** (1 👁)
  - **Social and Behavioral Sciences** (1 👁)

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