Opportunity Title: EPA Exposure Science Research Fellowship
Opportunity Reference Code: EPA-ORD-CPHEA-HEEAD-2022-02

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CPHEA-HEEAD-2022-02

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 4/28/2022 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 Environmental Assessment (CPHEA), Health & Environmental Effects Assessment Division (HEEAD) located in Research Triangle Park, North Carolina.

HEEAD is responsible for scientific assessment activities related to the health effects of air pollutants within the Integrated Science Assessments (ISA). These assessments provide key scientific support for EPA policy and regulatory decisions as it relates to the
National Ambient Air Quality Standards (NAAQS). Exposure science is a key element of these assessments in that it furthers understanding of how populations within the U.S. encounter pollutants, how pollutants are measured within the body using relevant biomarkers, and how pollutants are absorbed, distributed, metabolized, and ultimately excreted. This research participation opportunity is to analyze, evaluate and integrate scientific evidence for the development of scientific assessments that support EPA policy and regulatory decisions.

Research Project: The research participant may have the opportunity to be engaged in one or more of the following training opportunities:

- Applying systematic review methods to exposure data, including development and application of literature search and screening strategies, study evaluation, data extraction, and synthesis of evidence within and across lines of evidence.

- Developing and applying the skills needed to prepare ISAs. These may include participation as a section author or coauthor, i.e., reviewing and analyzing exposure data to conduct qualitative and quantitative assessments of exposure routes, relevant biomarkers, or toxicokinetics associated with exposure to various air pollutants, including lead (Pb).
- Developing analyses to support logical, credible risk assessment documents for CPHEA that reflect current scientific principles and risk assessment methodologies.
- Evaluating study quality for exposure studies, and identification of critical studies and effects for use in human health assessment.
- Summarizing and extracting exposure assessment information, and evaluation of relationships between biomarker levels in humans and pollutant concentrations in environmental media.
- Synthesizing and communicating various kinds of scientific information in risk assessments.
- Identifying and researching cross-cutting scientific issues that arise in EPA risk assessment, such as application of methodologies and procedures for calculations.
- Devising scientific approaches for CPHEA's ISA process, and interacting with EPA scientists to improve risk assessment methodologies.
- Conduct independent exposure science research projects, with guidance from an EPA mentor, and author peer-reviewed publications based on this work.

Learning Objectives: The research participant will have the opportunity to learn approaches for the evaluation, analysis, and integration of environmental pollutant exposure evidence that 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 exposure assessment findings and data, and to synthesize the findings to create policy-relevant documents. The research participant may gain understanding of how scientific evidence is used within ISAs and ultimately inform EPA's decision-making processes.

The research participant will have the opportunity to interact with scientific staff in HEEAD and potentially scientists from other EPA Centers or Offices, in the evaluation of exposure 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 may learn about systematic review in the context of science assessments, risk assessment (e.g., hazard identification, mode of action analysis, dose-response analysis), and new computational tools being utilized in evidence analysis.

Mentor(s): The mentor for this opportunity is Peter Byrley (byrley.peter@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Spring 2022. 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 or 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.

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 one of the degrees with completion by the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Familiarity with and interest in investigating exposure of U.S. populations to air pollutants, and related concepts such as dosimetry and bioaccessibility
- Knowledge of lead (Pb) exposure science
- Experience with statistics and/or meta-analysis
- Experience producing figures and manipulating data using coding languages such as R, python, and/or MATLAB
- Demonstrated research experience (e.g., relevant publications), or

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academic training in quantitative research

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or anticipated to be received by 5/31/2021 11:59:00 PM.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (4 👁)
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Earth and Geosciences** (1 👁)
  - **Engineering** (5 👁)
  - **Environmental and Marine Sciences** (3 👁)
  - **Life Health and Medical Sciences** (13 👁)
  - **Mathematics and Statistics** (3 👁)
  - **Other Non-Science & Engineering** (1 👁)
  - **Physics** (1 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).