

Opportunity Title: Human Health Assessment - Epidemiology

Opportunity Reference Code: EPA-ORD-NCEA-DC-2018-01

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply A complete application consists of:

- An application
- Transcripts – [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 references

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

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Description The National Center for Environmental Assessment (NCEA) is responsible for scientific assessment activities related to the health effects of chemical pollutants in the IRIS (Integrated Risk Information System) program. These assessments provide key scientific support for EPA policy and regulatory decisions. 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.

The research participant may be engaged in one or more of the following training opportunities:

- Applying systematic review methods to epidemiologic data, including development and application of literature search and screening strategies, study evaluation, data extraction, and synthesis of health effects evidence within (e.g., epidemiology) and across (e.g., epidemiology, toxicology, mechanistic information) lines of evidence.
- Reviewing and analyzing epidemiologic data to conduct qualitative and quantitative analyses of cancer and noncancer health effects associated with exposure to various chemicals and environmental substances.
- Developing analyses into logical, credible health assessment documents for NCEA that reflect current scientific principles and risk assessment methodologies.
- Evaluating study quality for epidemiologic studies, and identification of critical studies and effects for use in human health assessment.
- Summarizing and extracting epidemiologic study information, and evaluation of concentration- or exposure-response relationships from epidemiologic data.
- Synthesizing and communicating various kinds of scientific information in health assessment.
- 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 the NCEA's risk assessment process, and interacting with EPA scientists to improve risk assessment methodologies.
- Using chemical-specific epidemiology literature from an IRIS assessment under development, using molecular data to test the validity of certain assumptions about biology that underlie the epidemiology models in the epidemiology literature.

The participant will learn approaches for the evaluation, analysis and integration of epidemiologic evidence on the health effects of environmental pollutant exposures 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 epidemiologic study findings and data, and to synthesize the findings to create policy-relevant assessments. The research participant will gain understanding of how scientific evidence is used to inform EPA decision-making processes.

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The research participant will be involved with scientific staff in NCEA and potentially scientists from other EPA Labs, Centers or Offices, in the evaluation of epidemiologic evidence. The research participant will have opportunities to conduct quantitative or qualitative analyses that can result in peer-reviewed publications or contribute to EPA scientific assessments. Through this process the participant would learn about risk assessment (e.g. hazard identification, mode of action analysis, dose-response analysis), systematic review, and new computational tools being utilized in evidence analysis.

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. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time in the Research Triangle Park, North Carolina or the Washington, DC area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.



The mentor for this project will be James Avery (avery.james@epa.gov). The desired start date for this appointment is September 17, 2018.

Qualifications The preferred educational background for the research participant would be to possess a Master's or Doctoral degree in epidemiology, biostatistics, or closely related sciences relevant to human health risk assessment. The degree must be received within five years of the appointment start date.

Preferred skills include: epidemiologic analysis; systematic review methods; quantitative epidemiological experience; measurement and/or modeling of human health exposure data; biostatistics; critical evaluation of published literature.

Additional skills sought (not required): knowledge of Bayesian statistical methods for the integration of animal and human evidence; knowledge of biology and statistical methods for the analysis of molecular data such as microarray, proteomic, gene ontogeny data or exposome data.

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within 60 month(s).
- **Discipline(s):**
 - **Life Health and Medical Sciences** (2 )
 - **Mathematics and Statistics** (1 )