

**Opportunity Title:** EPA Developmental Impacts of Air Pollutants Internship

**Opportunity Reference Code:** EPA-ORD-CPHEA-PHITD-2020-02

**Organization** U.S. Environmental Protection Agency (EPA)

**Reference Code** EPA-ORD-CPHEA-PHITD-2020-02

**How to Apply** 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.

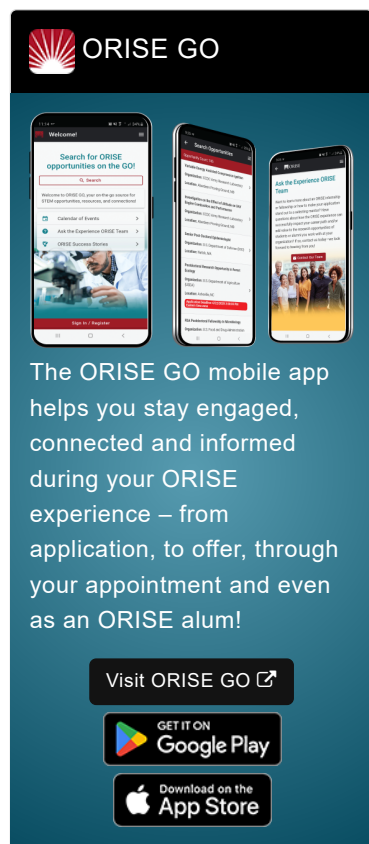
**Application Deadline** 9/30/2020 3:00:00 PM Eastern Time Zone

**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), Public Health and Integrated Toxicology Division (PHITD) located in Research Triangle Park, North Carolina. PHITD research focuses on the characterization and biological mechanisms of adverse health effects of environmental pollutants.


**Research Project:** The purpose of this research project is to characterize the health impacts of air pollutants (combustion-source; wood-burning stoves, wildland fire, oxidants; smog, ozone, or irritant pollutants; VOCs, acrolein), using complementary in vivo and in vitro approaches to define risk factors of susceptibility such as life stage of development. This research will focus on the application of multidisciplinary research methods and integrative physiology to characterize risk. To accomplish this, the research participant will have the opportunity to work with an interdisciplinary team of toxicologists and environmental engineers to collaborate on approaches to address critical goals in EPA's Air and Energy (A-E) and Sustainable and Health Community (SHC) research programs. Results of this research will be published in peer-reviewed journals, inform EPA's environmental assessments and used in planning for air quality standards.


Over the last 2 decades, we have gained increased understanding of the critical role that healthy fetal and early childhood environments play in establishing healthy adolescents and, ultimately, healthy adults later in life. Hence, research on how adverse environments or stressors may serve to increase one's risk of developing respiratory, metabolic, cardiovascular, or neurological conditions is needed. Current investigations suggest that the




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nature of the long-term health impact is dependent not only on "dose", but also on the timing of exposure. Thus, increased knowledge of windows of susceptibility and mechanisms of adverse outcome pathways are essential.

**Learning Objectives:** The participant may learn to or be involved in:

- think critically about environmental exposures, associated health concerns, and how the various body systems contribute to overall adverse health outcomes
- designing and conducting hypothesis-driven research that address environmental concerns
- using state-of-the-art equipment for physiological characterizations of both rodents and cells
- using state-of-the-art equipment for protein-based or gene-based assays
- handling laboratory animals and perform necropsy procedures
- performing cell culture, in vitro exposures, and related microscopy procedures
- preparing and submitting manuscripts for publication in peer-reviewed journals

The research participant will have the opportunity to develop skills in planning, conducting, and communicating scientific research in the context of significant real-world environmental health effects. The research participant may have opportunities to present research findings at local conferences and up to one society conference per year in order to interact with a broad group of scientists at EPA and elsewhere.

The research participant will collaborate closely with CIB postdoctoral fellows, laboratory scientists, other ORISE participants, and IHTF inhalation engineers. The research participant will have latitude in exercising independent initiative and judgment in the research commensurate with the level of education and experience.

**Mentor(s):** The mentor for this opportunity is Dr. Jan Dye ([dye.janice@epa.gov](mailto:dye.janice@epa.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** September 2020. 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 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.



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**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 [EPAapp@orau.org](mailto:EPAapp@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate should have received a bachelor's or master's degree in one of the relevant fields, or be currently pursuing a master's degree. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Experience in the design and troubleshooting of antibody-based assays (i.e., ELISA, Western Blots, Flow Cytometry)
- Experience in the maintenance and characterization of both primary cell cultures and cell lines
- Experience in the selection and application of statistical methods used in health effects research
- Entry-level experience using mammalian model systems, handling of rodents, and physiological methodologies

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Bachelor's Degree or Master's Degree.
  - **Discipline(s):**
    - **Environmental and Marine Sciences** ([2](#) )
    - **Life Health and Medical Sciences** ([13](#) )
  - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).

**Affirmation** I have received a bachelor's or master's degree within the past 5 years, or am currently pursuing a master's degree.