Opportunity Title: EPA Chemical Mixtures Evaluation & Modeling Internship
Opportunity Reference Code: EPA-ORD-CPHEA-PHITD-2021-06

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CPHEA-PHITD-2021-06

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 8/13/2021 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.

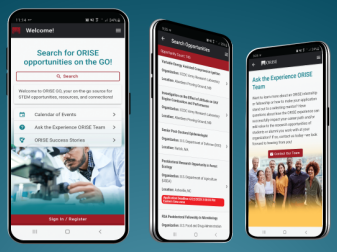
EPA Office/Lab and Location: A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Public Health Environmental Assessment (CPHEA), Public Health and Integrated Toxicology Division (PHITD) located in Research Triangle Park, North Carolina.

The Center for Public Health and Environmental Assessment (CPHEA) is tasked to provide support to the Safe and Sustainable Waters Research (SSWR) program by implementing in vitro tools for chemical toxicity and screening purposes. These methods utilize molecular initiating events (MIEs) that have been shown to activate adverse outcome pathways and related physiological/population-level adverse outcomes. Therefore, these efforts secondarily support the Chemical Safety for Sustainability (CSS) program.

Research Project: The research participant will have the opportunity to conduct research related to goals of the SSWR, and to a lesser extent the CSS, programs. Research activities may include collaboration with an EPA team of investigators involved in toxicology research to understand impacts of environmentally relevant individual compounds and mixtures on nuclear receptor signaling pathways (e.g. estrogen, ER; androgen, AR; glucocorticoid, GR; peroxisome proliferator-activated receptor, PPAR; aryl hydrocarbon, AhR signaling pathways). The participant may gain experience assessing and modeling in vitro and in vivo responses of individual compounds, defined chemical mixtures, and also environmental

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samples containing unknown chemical mixtures.

Learning Objectives: Under the guidance of a mentor, the participant will be involved in the following training activities:

- cell culture techniques
- in vitro chemical and environmental exposures and assessments
- application and comparison of chemical mixtures models
- in vivo physiological determinations relevant to ER, AR, GR and PPAR-related Adverse Outcome Pathways
- necropsy and preparation of tissues for biochemical analyses (e.g. hormone production and quantitative-real time polymerase chain reaction)
- data processing, statistical analysis, and graphical presentation
- evaluating scientific literature and toxicological databases for information relevant to the presence of novel environmental contaminants and mixtures models.
- maintain careful, easily legible, and accurate records in a laboratory notebook, electronic journal, or by other means acceptable to the mentor.

Mentor(s): The mentors for this opportunity are Elizabeth Medlock Kakaley (medlockkakaley.elizabeth@epa.gov) and Earl Gray (gray.earl@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Summer 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 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.

Questions: Please see the FAQ section of our website. After reading, if you

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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 bachelor's degree in one of the relevant fields, or be currently pursuing the degree with completion by the end of June 2021. Degree must have been received within the past five years.

Preferred skills (if you have any such experience, please describe in your application):

- Experience in molecular biology and cell culture experimental techniques
- Experience in summarizing experimental data and analyzing research results
- Knowledge of general in vitro chemical exposure procedures, and reproductive biology
- Experience in working with Adverse Outcome Pathways and mathematical chemical mixtures models
- Preparing data for scientific publication and presentations

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree received within the last 60 months or anticipated to be received by 6/30/2021 11:59:00 PM.
- **Discipline(s):**
  - **Communications and Graphics Design** (1)
  - **Computer, Information, and Data Sciences** (2)
  - **Earth and Geosciences** (1)
  - **Environmental and Marine Sciences** (2)
  - **Life Health and Medical Sciences** (8)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).