

**Opportunity Title:** EPA Toxicokinetic Models Internship  
**Opportunity Reference Code:** EPA-ORD-CCTE-CCED-2021-01

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

**Reference Code** EPA-ORD-CCTE-CCED-2021-01

**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.

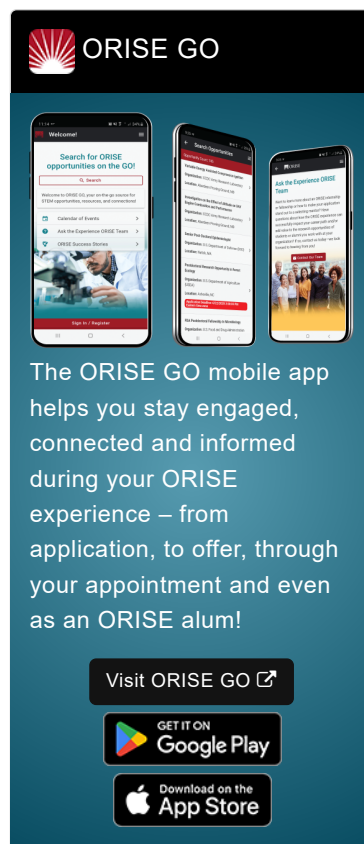
**Application Deadline** 6/18/2021 3:00:00 PM Eastern Time Zone

**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 Computational Toxicology and Exposure (CCTE), Chemical Characterization & Exposure Division (CCED) located in Research Triangle Park, North Carolina.


**Research Project:** Characterizing the uncertainty in the predictions of toxicokinetic models, including predictions based upon in vitro data, requires comparison to in vivo data. This research project works to address the current major sources of uncertainty in high-throughput toxicokinetics (HTTK). The basic outline of this research project is to conduct: 1) in vitro metabolic clearance assays of selected environmental chemicals using human and rat microsomal preparations; 2) protein binding assays with the environmental chemicals; 3) in vivo toxicokinetic studies with the environmental chemicals. The research participant may prepare dosing solutions of selected environmental chemicals, conduct in vitro microsomal clearance and protein binding assays, conduct in vivo toxicokinetic studies which involves dosing rats and collecting blood samples, processing samples for analytical analysis, and compiling and graphing data. With the in vitro clearance and binding data, in vivo toxicokinetic predictions can be developed using established toxicokinetic models. The in vivo predictions can then be compared to the determined in vivo toxicokinetic data. Sources of variability between the predicted versus the determined toxicokinetic can then be assessed.


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**Learning Objectives:** The research participant will learn about in vitro and in vivo toxicokinetics, toxicokinetic modeling, analytical chemistry, in vitro to in vivo extrapolation, good practices in quality assurance and working with laboratory animals.

**Mentor(s):** The mentor for this opportunity is Michael Hughes ([hughes.michaelf@epa.gov](mailto:hughes.michaelf@epa.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date: Spring 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 have additional questions about the application process please email [ORISE.EPA.ORD@ornl.gov](mailto:ORISE.EPA.ORD@ornl.gov) 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 and will reach completion by the end of June 2021. Degree must have been received within five years of the appointment start date.




Preferred skills:

- Basic knowledge of biology, environmental sciences, and/or chemistry
- Experience using an analytical balance and pH meter
- Preparation of buffered solutions
- Use of word processing systems, spreadsheets and laboratory notebooks

**Eligibility** • **Citizenship:** U.S. Citizen Only

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- Requirements**
- **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):**
    - **Chemistry and Materials Sciences** ([2](#) )
    - **Environmental and Marine Sciences** ([2](#) )
    - **Life Health and Medical Sciences** ([9](#) )
  - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).