Opportunity Title: EPA Fellowship on Development of In Vitro Blood-Brain Barrier Models for Environmental Chemical Testing
Opportunity Reference Code: EPA-ORD-CCTE-BCTD-2023-25

Organization U.S. Environmental Protection Agency (EPA)

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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 1/19/2024 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 with the Advanced Experimental Toxicology Models Branch (AETMB) at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Computational Toxicology and Exposure (CCTE), Biomolecular & Computational Toxicology Division (BCTD), located in Durham, North Carolina. If selected for the opportunity, the participant will need to relocate to the appropriate EPA facility. The relocation costs are not reimbursable. The opportunity is not 100% remote, but limited telework may be considered at the mentor's discretion.

Research Project: The Center for Computational Toxicology & Exposure (CCTE) within the United States Environmental Protection Agency's (US EPA) Office of Research and Development (ORD) is a scientific organization working to support Agency decisions by providing solutions-driven research to rapidly evaluate the risks associated with environmental chemical exposures on human health. The agency is committed to developing and applying New Approach Methodologies (NAMs) that aim to reduce or replace vertebrate animal testing while providing accurate and reliable data to safeguard human health and the environment.

Within the CCTE, the Biomolecular & Computational Toxicology Division (BCTD) focuses on developing physiologically relevant in vitro models, high-throughput screening assays, and computational and informatics approaches to address contemporary toxicological challenges. As a part of our in vitro NAM development, we are actively seeking a skilled and motivated research participant to join our team and contribute to the advancement of in vitro blood-brain barrier (BBB) models. The research participant will collaborate in the development, validation and testing of

advanced BBB in vitro models evaluating the impact of emerging environmental contaminants on the BBB functionality.

Learning Objectives: The research participant will gain hands-on experience under the guidance of a mentor, focusing on human primary cell cultures, high-content imaging and analysis, gene expression assays (qPCR, RNA-Seq etc.), advanced in vitro culture methods (3D spheroids, organoids, and tissue chips) and diverse toxicology assay endpoints. Additionally, the research participant will also be involved in curating scientific literature, preparing reports, presenting research at national meetings, and authoring manuscripts for publication in peer-reviewed journals.

The research participant will have the opportunity to collaborate with a multidisciplinary team of EPA scientists in the field of in vitro toxicology, new approach methods (NAMs) and next-generation chemical risk assessment.

Mentor(s): The mentor for this opportunity is Sreenivasa Ramaiahgari (ramaiahgari.sreenivasa@epa.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: November 1, 2023. 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 five 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 bachelor's or master's degree in one

of the relevant disciplines or be currently pursuing the degree with completion before the appointment start date. Degree must have been received within the past five years.

Preferred Skills/Experience:

- Experience with in vitro culture methods and assay techniques
- Familiarity with high-content imaging systems (epifluorescence or confocal)
- Experience with immunofluorescence/immunohistochemistry methods and molecular biology techniques (e.g. DNA/RNA extraction)
- Experience with basic statistical methods
- Experience communicating scientific research work through oral presentations and peer-reviewed publications
- Experience and/or course work with open-source computer programming languages (R, Python)
- Highly self-motivated, organized, and innovative

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (3 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (48 👁)