Opportunity Title: EPA Chemical Life-Cycle Research Opportunity
Opportunity Reference Code: EPA-ORD-CESER-LRTD-2021-02

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CESER-LRTD-2021-02

How to Apply ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple 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 5/17/2021 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 currently available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Environmental Solutions and Emergency Response (CESER), Land Remediation and Technology Division (LRTD) located in Cincinnati, Ohio.

Research Project: The determination and assessment of the risk that a chemical may have across the compounds life-cycle are essential to protect human health and the environment. Due to the size and limitations of current evaluation techniques, modules to generate rapid screening of chemicals would be useful to stakeholders to assess end-of-life (EoL) scenarios for tracking chemicals in waste streams and the subsequent environmental releases and worker exposures, including EoL scenarios based on chemical type, function, databases, learning-from-data process models, process simulation, and big data.

To properly study, determine, and develop the best practices in EoL scenarios of chemicals, the research participant may broadly conduct research in recycling, recovery, and disposal options for chemicals under interests. Making use of these emerging pathways are part of efforts towards a circular economy. Hence, there is an exciting opportunity for the research participant to learn the design of pathways and technologies to transform the traditional linear production paradigm (raw material extraction, manufacturing, usage, and disposal) into a circular economy structure.

The research participant's understanding of various EoL options for chemicals may be helpful in developing computational tools to quantify chemical release profiles. Under the guidance of EPA scientists, the research participant would be able to evaluate and determine chemicals present in recycling and disposal options, and prepare peer-reviewed manuscripts and reports from the conducted research.

Learning Objectives: This training opportunity will provide the research participant with state-of-

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the-art knowledge and networking opportunities to exchange experiences and information in estimating chemical releases and analysis of their presence in recycling and disposal options.

Mentor(s): The mentor for this opportunity is Gerardo Ruiz-Mercado (ruiz-mercado.gerardo@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: May 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 three months 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@orau.org and include the reference code for this opportunity.

Qualifications

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

A background in chemical process synthesis and optimization, end-of-life material management, Microsoft Excel VBA programming, Python, environmental releases and worker exposures, learning-from-data approaches, big data engineering, and multi-criteria decision-making tools is desirable.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1 👁)
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Engineering** (10 👁)
  - **Environmental and Marine Sciences** (2 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).