

**Opportunity Title:** EPA Fellowship in Fate and Transformation of Plastic Pollution and Associated Organic and Inorganic Contaminations of the Environment

**Opportunity Reference Code:** EPA-ORD-CESER-LRTD-2024-05

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

**Reference Code** EPA-ORD-CESER-LRTD-2024-05

**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** 3/28/2025 3:00:00 PM Eastern Time Zone

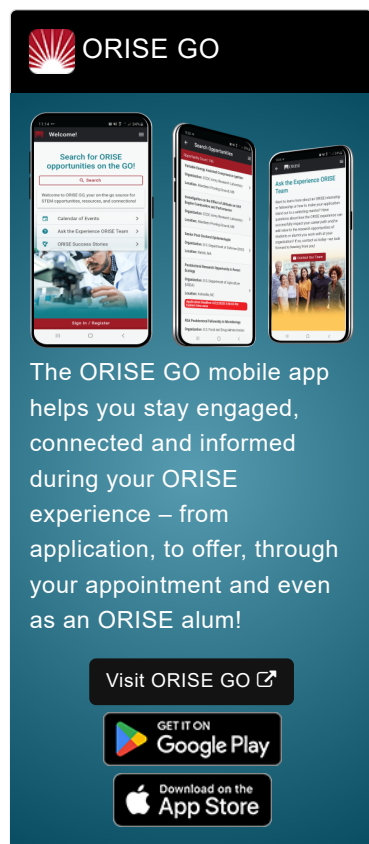
**Description** \*Applications may be reviewed on a rolling-basis and this posting could close before the deadline. Click [here](#) for information about the selection process.

**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. ORD is the scientific research arm of the US EPA. Its leading-edge research informs Agency decisions and supports the emerging needs of EPA stakeholders, including the Agency's state, territorial, tribal, and community partners.

**Research Project:** Under the guidance of a mentor, the research participant will conduct research on emerging contaminants characterization, quantification, and fate to understand adverse effects on environmental and human health. The research project will involve conducting research experiments, analyzing data, and writing peer-reviewed journal articles. A major component of the research will be to study the detection, characterization, and transformations of nano- and microplastics. The primary focus of the research will be on nano- and microplastic environmental contamination and associated additives to the plastics such as dyes, other halogenated persistent organic pollutants (POPs) such as PFAS and inorganic metals. Secondary focus will be studying volatile organic compounds and particulate from emission related to Li-ion batteries fires and management.

**Learning Objectives:** The research participant will have access to a large array of analytical/physical technologies in their research activities, including, but not limited to:

- Gas Chromatography – Pyrolysis Tandem Mass Spectrometry (GC-MS-MS)
- Liquid Chromatography - Tandem Mass Spectrometry (LC-MS-MS)
- Transmission Electron Microscopy (TEM)
- Scanning Electron Microscopy (SEM) -VP/BSE/X-ray Analysis/Mapping



**ORISE GO**

The ORISE GO mobile app helps you stay engaged, connected and informed during your ORISE experience – from application, to offer, through your appointment and even as an ORISE alum!

Visit ORISE GO 

GET IT ON  
 Google Play

Download on the  
 App Store

**Opportunity Title:** EPA Fellowship in Fate and Transformation of Plastic Pollution and Associated Organic and Inorganic Contaminations of the Environment

**Opportunity Reference Code:** EPA-ORD-CESER-LRTD-2024-05

- Dynamic Light Laser Direct Infra-Red, particle counters, Nano Tracking Analyzer (NTA), Fourier Transform Infrared Spectroscopy (FTIR), X-Ray Diffraction (XRD), and single particle - Inductively Coupled Plasma with Mass Spectrometry?

Additionally, the research participant will have the opportunity to interact and apply the research to understand and find solutions to real life environmental problems and propel their knowledge and experience to prepare them for future endeavors.

**Mentor(s):** The mentor for this opportunity is Souhail R. Al-Abed ([al-abad.souhail@epa.gov](mailto:al-abad.souhail@epa.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date:** January 2, 2025. 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.

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.

**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 doctoral degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred Skills/Experience:

**Opportunity Title:** EPA Fellowship in Fate and Transformation of Plastic Pollution and Associated Organic and Inorganic Contaminations of the Environment

**Opportunity Reference Code:** EPA-ORD-CESER-LRTD-2024-05

- Strong verbal and writing skills are required for presenting research to a variety of audiences and for preparation of manuscripts.
- Basic knowledge of analytical instrumentation related to analysis of organic compounds in environmental media including, but not limited to:
  - Gas chromatography - tandem mass spectrometry (GC-MS-MS)
  - Laser Direct Infra-red (LDIR)
  - Fourier transform infrared spectroscopy (FTIR)
  - Raman spectroscopy.

- Eligibility Requirements**

- **Citizenship:** LPR or U.S. Citizen
  - **Degree:** Master's Degree or Doctoral Degree received within the last 60 month(s).
  - **Discipline(s):**
    - **Chemistry and Materials Sciences** ([4](#) )
    - **Communications and Graphics Design** ([2](#) )
    - **Engineering** ([4](#) )
    - **Environmental and Marine Sciences** ([1](#) )
    - **Science & Engineering-related** ([1](#) )