**Opportunity Title:** EPA Fellowship on Developing Innovative Technologies for the Treatment of Per-and Polyfluoralkyl Substances (PFAS) Contaminated Media
**Opportunity Reference Code:** EPA-ORD-CESER-LRTD-2023-03

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

**Reference Code** EPA-ORD-CESER-LRTD-2023-03

**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** 12/29/2023 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:** Two research opportunities are 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:** High priority research and development in the division includes removal of emerging contaminants like per- and polyfluoroalkyl substances (PFAS) from contaminated media, reducing the burden of contaminated media and developing innovative technologies for sustainable management. The research participant will focus on the use of innovative techniques for PFAS remediation. Experiments will be performed in-house and in collaboration with outside partners using multiple pilot-scale and bench-scale research systems, including hydrothermal and catalytic reactors. The research participant will collaborate with other EPA researchers to develop solutions for the disposal of PFAS containing waste, a major problem facing many communities at present.

Under the guidance of a mentor, research activities may include:

- Material characterization (structure, composition, surface properties and analysis of for targeted and non-targeted PFAS, and degradation products of PFAS sampling efforts with external groups (e.g., cities)
- Evaluating innovative technologies for the treatment of PFAS contaminated media using novel adsorbents and advanced oxidation

processes
- Designing of laboratory experiments which include sampling, extraction, develop new analytical methods, maintaining and modifying experimental systems that involve the conducting particle formation experiments, water sampling, solids sampling and water quality monitoring.
- Literature review on all aspects of fate, transformation, decomposition pollutants, and sustainable management of materials
- Reducing and interpreting experimental data using spreadsheets, and statistical and graphical software packages
- Collaborate in the preparation of peer-reviewed journal articles and disseminating research results to project partners and stakeholders

**Learning Objectives:**

- Learn new sampling and analytical methods, using cutting-edge analytical instruments to evaluate liquid and gas phase emission from destruction and separation processes in PFAS remediation.
- Learn how to develop a Quality Assurance Project Plan following EPA guidelines and Good Laboratory Practice
- Learn the use of statistical and performance-based measures of data quality using quality assurance and quality control principles.
- Opportunity to participate in conferences and workshops to present research results.

**Mentor(s):** The mentor for this opportunity is Mohamed Ateia Ibrahim (ibrahim.mohamed@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date: October 2, 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 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. The annual stipend range for this opportunity is **$59,495-$71,985.** 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 master's or doctoral degree in one of the relevant fields (e.g. Chemical Engineering, Mechanical Engineering, Environmental Engineering, Chemistry). Degree must have been received within the past five years.

Preferred skills:

- Basic knowledge of scientific and/or engineering principles and practices.
- Basic knowledge of water chemistry and solids analysis methods.
- Experience with analytical chemistry instrumentation and extraction methods.
- Advanced proficiency with Microsoft Office applications (i.e., Excel, PowerPoint, Word, and Outlook) and other statistical software.
- Strong communication skills to a diversity of technical and non-technical audiences.
- Previous experience writing peer reviewed journal articles.
- Knowledge of water, wastewater and contaminated infrastructure systems.

**Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (3 👁)
  - **Engineering** (5 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Science & Engineering-related** (1 👁)