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**Opportunity Title:** EPA Fellowship on the Fate and Transport of Tire Wear Particles and Associated Pollutants in Stormwater
**Opportunity Reference Code:** EPA-ORD-CEMM-GEMMD-2023-02

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

**Reference Code** EPA-ORD-CEMM-GEMMD-2023-02

**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** 3/29/2024 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 at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Environmental Measurement and Modeling (CEMM), Gulf Ecosystem Measurement and Modeling Division (GEMMD), Biological Effects and Population Response (BEPR) Branch located in Gulf Breeze, Florida.

**Research Project:** This research project aims to study the fate and transport of tire wear particles and associated pollutants from source areas (highways, roads, and parking lots) through stormwater filtration systems and retention ponds to estuarine ecosystems. Special emphasis will be placed on examining the speciation and concentrations of heavy metals and microplastics in stormwater treatment ponds that represent different site conditions, for example, varying levels of traffic capacity and different engineering design of retention systems.

By identifying the source, impact, and varying degree to which different stormwater treatment techniques remove tire particles and associated pollutants, this research will provide the needed technical basis for the design of effective stormwater treatment facilities. The results can be transferable to other regions in terms of stormwater management and controlling tire wear pollutants.

**Learning Objectives:** Under the guidance of a mentor, and while interacting with an interdisciplinary team, the research learning objectives may include:

- Evaluating scientific literature to design experiments and interpret data.
- Attaining proficiency in inorganic and organic analysis techniques using a variety of methods and analytical equipment (i.e. ICP-MS, GC-MS, GC-FID/ECD).
- Developing and/or adhering to standard operating and quality assurance procedures for these techniques as well as data analyses, and study methods.
- Conducting short and long-term studies to examine the fate and transport of pollutants in stormwater.
- Presenting research findings at branch and division meetings, and local and national/international scientific conferences in the form of posters, platform talks, and/or invited seminars.
- Assisting in writing of original manuscripts containing research results to peer-reviewed journals for publication.
- Maintaining careful, easily legible, and accurate records in approved laboratory notebooks and/or electronic journals. All notebooks, journals and data produced under this plan will be the property of the U.S. EPA.

**Mentor(s):** The mentor for this opportunity is Victoria Deycard (deycard.victoria@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

**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 three to 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, 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 fields, or be currently pursuing one of the degrees with completion before the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Knowledge of principles, theories, practices and procedures related to environmental sciences.
- Skills in routine chemical laboratory procedures such as reagent preparation, maintenance of laboratory notebook and records, and preparation of environmental samples for analysis.
- Ability to assist with laboratory analysis of chemical parameters (e.g., metals) of environmental samples.
- Ability to manage large data sets.
- Ability to effectively communicate both verbally and in writing.
- GIS and Remote Sensing experience.
- R Statistical Software experience.

**Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or anticipated to be received by 11/10/2023 11:59:00 PM.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (5 👁)
  - **Earth and Geosciences** (3 👁)
  - **Engineering** (2 👁)
  - **Environmental and Marine Sciences** (5 👁)
  - **Life Health and Medical Sciences** (1 👁)
  - **Mathematics and Statistics** (1 👁)