

Opportunity Title: EPA Minimizing Environmental Impacts Research

Opportunity

Opportunity Reference Code: EPA-ORD-NRMRL-LMMD-2020-01

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 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

All documents must be in English or include an official English translation.

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 7/27/2020 3:00:00 PM Eastern Time Zone

Description **Applications will be reviewed on a rolling-basis.*

A research opportunity is currently available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), National Risk Management Research Laboratory (NRMRL), Land Materials Management Division (LMMD) located in Cincinnati, Ohio.

Anthropogenic nutrient pollution, primarily consisting of nitrogen and phosphorus, is one of the most widespread water quality problems facing the U.S., which originates from excess nutrient runoff from agricultural land, improperly managed farming operations, and point sources such as wastewater treatment plants. Some nutrient pollution impacts include harmful algal blooms (HABs), hypoxia, and eutrophication.

More efficient nutrient source management would aid in reducing nutrient pollution, and subsequent effects on watersheds and waterbodies which pose quality of life challenges, ecological impairments, and economic impacts. This phenomenon involves multiple scales and is tightly linked to the topography of the landscape surrounding water bodies, the timing of nutrient releases, and regional nutrient imbalances.

To better understand the best practices in managing nutrients and sources, the research participant may broadly conduct research utilizing models, tools, and databases to identify locations for nutrient-rich material storage and transportation; design and evaluate technologies for nutrient and energy recovery; nutrient transport to consider time and location of nutrient flow releases to water bodies; nutrient



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impacts; and assess ecosystem responses (e.g., HABs). In collaboration with EPA scientists, the research participant may aid in the preparation of peer-reviewed manuscripts and reports from the conducted research.

In addition, the research participant will be studying and acquiring training experience in diverse topics that include geographic information system datasets, nutrient pollution, management, recovery, and legacy, watershed and waterbody management, bioenergy generation, life cycle nutrient assessment, performance indicators, among others. This training opportunity will provide the research participant with state-of-the-art knowledge and networking opportunities to exchange ideas, experiences and best practices in managing nutrients, policies, environmental impacts, energy, among others.

Anticipated Appointment Start Date: Summer 2020

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. The initial appointment is for eight months, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at EPA in the Cincinnati, Ohio, area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.






Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA. OPM can complete a background investigation only for individuals, including non-US Citizens, who have resided in the US for the past three years.

Qualifications

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

A background in supply chain development, end-of-use material management, sustainable energy, stochastic and mixed-integer programming, learning-from-data approaches, big data engineering, process synthesis and optimization, 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.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (1 )
 - **Earth and Geosciences** (1 )
 - **Engineering** (7 )
 - **Environmental and Marine Sciences** (3 )
 - **Life Health and Medical Sciences** (1 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).

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Affirmation I have received a bachelor's or master's degree within the past five years, or am currently pursuing a master's or doctoral degree.