

Opportunity Title: EPA Modeling Stormwater Microbial Quality for Beneficial

Reuse Fellowship

Opportunity Reference Code: EPA-ORD-CESER-WID-2020-05

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CESER-WID-2020-05

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 12/31/2020 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 Solutions and Emergency Response (CESER), Water Infrastructure Division (WID) located in Cincinnati, Ohio.

Research Project: Stormwater is a potential water source for beneficial use (e.g., onsite non-potable reuse and enhanced aquifer recharge); however, uncertain pathogen risks due to fecal contamination remain a concern. Efforts to model these risks for informing management decisions have been limited by the high variability of stormwater quality among potential collection sites. Therefore, the theme of this appointment is learning how to develop modeling approaches to estimate the microbial quality of stormwater collections. The research participant will have the opportunity to learn about EPA's water reuse activities and to contribute to the further development of these efforts.

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

- Assisting in the development of a modeling framework linking site characteristics (e.g., land use, collection surface properties, wastewater infrastructure and asset conditions) to the microbial quality of stormwater
- Reviewing scientific literature and synthesizing meta-analyses of stormwater microbial quality as impacted by collection site



Opportunity Title: EPA Modeling Stormwater Microbial Quality for Beneficial

Reuse Fellowship

Opportunity Reference Code: EPA-ORD-CESER-WID-2020-05

characteristics

- Adapting existing stormwater quality (e.g., SWMM) and asset management models to site characterization applications
- Analyzing stormwater quality data (e.g., microbial source tracking markers) to characterize differences based on site characteristics
- Conducting quantitative microbial risk assessments of stormwater reuse (e.g., for onsite non-potable reuse or enhanced aquifer recharge), including potential treatment guidance
- Participating in stakeholder meetings to inform research activities and communicate results
- Preparing guidance documents and scientific journal manuscripts

Learning Objectives:

- Understanding how site characteristics may be used to predict stormwater microbial quality
- Applying critical-thinking and analysis skills to complex environmental systems
- Developing translational modeling approaches for real-world applications
- Gaining experience in public service and government research environments
- Further developing technical and science communication skills

Mentor(s): The mentor for this opportunity is Michael Jahne (jahne.michael@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Winter 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 one year and may be renewed up 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.

Questions: Please see the [FAQ section](#) of our website. After reading, if you

Opportunity Title: EPA Modeling Stormwater Microbial Quality for Beneficial

Reuse Fellowship

Opportunity Reference Code: EPA-ORD-CESER-WID-2020-05

have additional questions about the application process please email EPArpp@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion by the appointment start date. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Coursework and/or experience related to water quality modeling, stormwater hydrology, microbial risk assessment, or wastewater asset management
- Proficiency in scientific literature review, data analysis/modeling, and science communication

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2020 11:59:00 PM.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) 👁)
 - **Earth and Geosciences** ([21](#) 👁)
 - **Engineering** ([27](#) 👁)
 - **Environmental and Marine Sciences** ([14](#) 👁)
 - **Life Health and Medical Sciences** ([45](#) 👁)
 - **Other Non-Science & Engineering** ([1](#) 👁)
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).