

Opportunity Title: EPA Storm Water Modeling Fellowship
Opportunity Reference Code: EPA-ORD-CEMM-EPD-2020-04

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-ORD-CEMM-EPD-2020-04

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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 11/25/2020 3:00:00 PM Eastern Time Zone

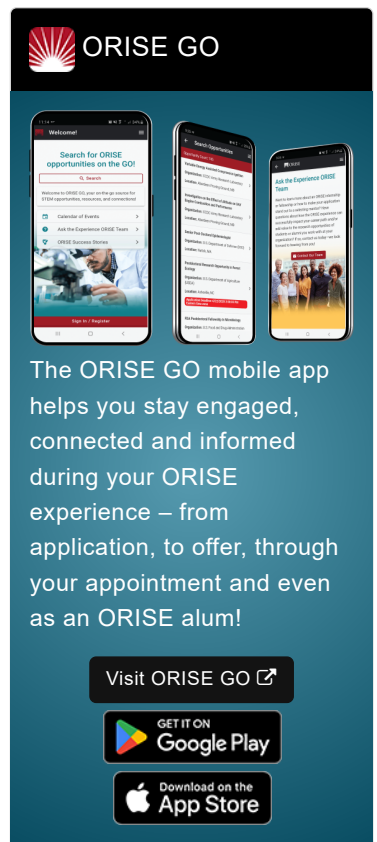
Description *Applications may be reviewed on a rolling-basis and this posting could close before the deadline. Click [here](#) for information about the selection process.


EPA Office/Lab and Location: Two research opportunities are available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Environmental Measurement & Modeling (CEMM), Ecosystems Processes Division (EPD), Landscape and Aquatic Systems Modeling Branch (LASMB) located in Athens, Georgia.

Research Project: This research project is focused on modeling storm water hydrology, water quality, and green infrastructure practices for human health protection. Decentralized, nature-based, rainwater harvesting and storm water management systems, broadly referred to as Green Infrastructure (GI), are promising climate change adaptation strategies, but due to contaminants and pathogens, may pose risks to human health. Exposure to chemical and microbial stressors can occur during reuse, especially in the case of aquifer recharge that impacts groundwater quality. Guidance is needed to better manage fit-for-purpose reuse, to improve water quality using best practices, and to make decisions regarding water treatment.


This research project is achieved through the application of models that simulate the various sources, fate, and transport of the various stressors. We propose using the best available storm water data to constrain physically-based simulation models to forecast pathogen dynamics and evaluate the effectiveness of GI practices. Use of storm water as captured surface water for enhanced aquifer recharge and for beneficial uses will be evaluated through modeling of field studies that are underway at the EPA.


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Under the guidance of a mentor, the participant may be involved in the following training activities:

- Developing datasets to support storm water modeling of pathogen fate and transport
- Using VELMA or SWMM to evaluate GI practices for urban storm water management
- Enhancing aquifer recharge and fit-for-purpose uses of harvested rainwater
- Uncertainty analysis and spatial scaling methods
- Model evaluation

Learning Objectives: The research participant will have the opportunity to gain knowledge by collaborating with a diverse, multidisciplinary team of EPA researchers and engineers. Through regular interactions with this team, the research participant will gain insight into the process of developing, evaluating, and applying models and decision support tools to make decisions regarding water treatment. The research participant will have an opportunity to communicate their finding through publication of manuscripts and participation in scientific conferences. The research participant is encouraged to collaborate on writing of manuscripts for publication and project reports.

Mentor(s): The mentor for this opportunity is John Johnston (johnston.johnm@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Winter 2020/2021. 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 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.

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Questions: Please see the [FAQ section](#) of our website. After reading, if you 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 be currently pursuing or have received a master's or doctoral degree in one of the relevant fields. Degree must have been received within five years of the appointment start date.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Communications and Graphics Design** ([1](#))
 - **Computer, Information, and Data Sciences** ([16](#))
 - **Earth and Geosciences** ([2](#))
 - **Engineering** ([6](#))
 - **Environmental and Marine Sciences** ([6](#))
 - **Life Health and Medical Sciences** ([5](#))
 - **Mathematics and Statistics** ([2](#))
 - **Social and Behavioral Sciences** ([1](#))
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).