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Opportunity Title: EPA Fellowship Water Quality Modeling for the Chesapeake Bay
Opportunity Reference Code: EPA-REG3-2025-01

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-REG3-2025-01

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

A complete application consists of:

- An application
- Transcripts – 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. Your application will be considered incomplete and will not be reviewed until one recommendation is submitted.

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

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Application Deadline 3/14/2025 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 currently available at the Environmental Protection Agency (EPA), Chesapeake Bay Program Office (CBPO) of U.S. EPA Region 3, located in Annapolis, Maryland.

Research Project: The Chesapeake Bay Program Office (CBPO) of U.S. EPA Region 3 is seeking a candidate with educational experience in water quality modeling engineer or scientist in the field of coastal estuarine systems to conduct research on the Chesapeake Bay Water Quality Model. The research will require extensive interaction and collaboration with managers, scientists, and engineers throughout the Chesapeake Bay Program Partnership and particularly with the CBPO Modeling Workgroup and CBPO Modeling Team. The ORISE participant will also be collaborating with other CBP scientists and engineer collaborators as the research will support the development of the next generation tidal Bay Model.

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

- Research to support the information needed to develop inputs for a SCHISM or equivalent unstructured grid model of the Chesapeake Bay from the watershed, atmospheric deposition of nitrogen to surface cells, and the ocean boundary.

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- Research to support the information needed to provide a detailed linkage of flows, nutrients, and sediment between the Chesapeake Watershed Model and the estuarine unstructured grid model.
- Research to support the calibration SCHISM-ICM Main Bay Model (MBM) and Multiple Tributary Models (MTMs) to water quality and hydrodynamic observations.
- Research activities to apply the unstructured grid Chesapeake Bay model to scoping, research, and management scenarios as directed by CBP technical workgroups.
- Research activities to apply the unstructured gird Chesapeake Bay model in examining the influence climate change has on Chesapeake water quality and living resources.
- Collaboratively work with multiple model teams in different Chesapeake tributaries and collectively use the information to improve the Chesapeake Bay Model in the mainstem Bay (MBM) and its tributaries (MTMs).
- Develop documentation of specific analyses and of the overall estuarine model development, calibration, and application.
- Develop peer-review science journal articles for outreach to Chesapeake Bay Program's scientific and technical community as well as to the wider field.

Mentor(s): The mentor for this opportunity is Lewis Linker (linker.lewis@epa.gov). If you have questions about the nature of the research, please contact the mentor direct.

Anticipated Appointment Start Date: Mar/Apr 2024. All start dates are flexible and vary depending on numerous factors. Click **here** for detailed information about start dates.

Appointment Length: The appointment may 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 stipend of ~$84,601. 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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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.

Questions: Please see the FAQ section of our website. After reading, if you have additional questions about the application process, please email ORISE.EPA.REG@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. Degree must have been received within the past five years.

Preferred skills/experience:

- Evidence of strong quantitative skills.
- Evidence of experience in using numerical models for ocean and estuaries.
- Evidence of broad knowledge of coastal and estuarine systems.
- Has a record of peer-reviewed research and scholarship commensurate with experience.
- One or more of the following skills:
  - Parallel programming and scripting languages.
  - Prior SCHISM or other unstructured grid model experience.
  - Strong background in physical/biogeochemical processes in estuarine and coastal waters.
- Evidence of experience in numeric modeling using unstructured grid models, particularly SCHISM.
- Evidence of experience in interdisciplinary collaboration.

Point of Contact

Debi Ash

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 2/28/2025 11:59:00 PM.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1)
  - **Communications and Graphics Design** (6)
  - **Computer, Information, and Data Sciences** (8)
  - **Earth and Geosciences** (2)
  - **Engineering** (9)
  - **Environmental and Marine Sciences** (14)
  - **Life Health and Medical Sciences** (7)
  - **Mathematics and Statistics** (11)