

Opportunity Title: EPA Postgraduate Research in Underground Water Protection

Opportunity Reference Code: EPA-REG9-WD-2022-03

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-REG9-WD-2022-03

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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 12/16/2021 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 postgraduate research opportunity is currently available at the U.S. Environmental Protection Agency (EPA), Region 9 Water Division located in San Francisco, California. This research opportunity is with the Underground Injection Control (UIC) Program in the Groundwater Protection Section.

Research Project: The Groundwater Protection Section is responsible for administering the Underground Injection Control (UIC) Program under the Safe Drinking Water Act. Program responsibilities are mainly related to the protection of underground sources of drinking water. This opportunity will focus on the implementation of research and planned activities related to UIC Class VI injection wells. Class VI wells are used to inject carbon dioxide (CO₂) into deep rock formations. This long-term underground storage is called geologic sequestration. Geologic sequestration refers to technologies to reduce CO₂ emissions to the atmosphere and mitigate climate change.

The selected participant will research, compile, analyze and summarize information and data related to Class VI carbon dioxide (CO₂) geologic sequestration permit applications. The selected participant will be involved in the Region's analysis of multiple Class VI CO₂ permit applications to determine best practices for evaluation of permit application modules, including geologic site characterization, plume modeling, well construction and operation, testing and monitoring, well plugging, and post-injection.

Learning Objectives: Under the guidance of a mentor, the participant will



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gain a broad understanding of EPA's Underground Injection Control (UIC) program and the nexus with climate change mitigation through geologic carbon sequestration. The participant will have an opportunity to conduct research and analysis to support EPA's role in geologic sequestration (GS) permitting and collaborate with EPA Regions, researchers, states, and local stakeholders to improve EPA's abilities in evaluating Class VI permit applications and overseeing GS projects. The participant will learn first-hand about the interaction between the various levels of government and the private sector on these issues. This opportunity will provide the participant with exposure to a broad range of technical and policy issues surrounding carbon sequestration and groundwater protection.

Mentor(s): The mentor for this opportunity is David Albright (Albright.david@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Winter 2021/2022. 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 up to three 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. **At this time the annual stipend for master's degree ~\$68,000/year and doctoral degree ~\$82,000/year. A travel allowance will be provided for pertinent conferences, meetings, and/or trainings, with approval of the project coordinator or mentor.**

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).

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.

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Qualifications The qualified candidate should have received a master's or doctoral degree in one of the relevant fields, or be currently pursuing one of the degrees with completion by the end of December 2021. Degree must have been received within the past five years.

Preferred skills/experience (including practical work experience or research knowledge) in:

- Scientific literature review, including experience with data and literature search engines
- Data and literature assemblage and evaluation
- Injection well construction, logging, and testing
- Deep reservoir structural geology
- Reservoir simulation modeling for enhanced oil recovery or CO2 storage
- Reservoir engineering
- Formal course work in structural geology, well logging, reservoir simulation, geochemistry, well drilling and construction, ground water hydrology/hydrogeology, and reservoir engineering
- Ability to communicate research findings and technical expertise to science/policy workgroups

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2021 11:59:00 PM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) 👁)
 - **Earth and Geosciences** ([21](#) 👁)
 - **Engineering** ([27](#) 👁)
 - **Environmental and Marine Sciences** ([14](#) 👁)
 - **Physics** ([16](#) 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).