

**Opportunity Title:** EPA Faculty Opportunity in Environmental Risk Assessment

**Opportunity Reference Code:** EPA-OLEM-ORCR-2022-08

**Organization** U.S. Environmental Protection Agency (EPA)

**Reference Code** EPA-OLEM-ORCR-2022-08

**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
- Statement of Research Interests
- Salary Certification
- 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.

**Application Deadline** 3/25/2022 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 faculty research training opportunity is currently available at the U.S. Environmental Protection Agency's (EPA), Office of Land and Emergency Management (OLEM), Office of Resource Conservation and Recovery (ORCR) located in Washington, DC. The participant may complete appointment on location at the sponsoring office or at the faculty's home university, contingent on approval by EPA.

**Research Project:** ORCR's mission is to protect human health and the environment by ensuring responsible national management of hazardous and nonhazardous waste. In support of this mission, ORCR has developed and maintained various models to characterize the potential for contaminant transport through the environment. MINTEQA2 is one such model, which calculates non-linear adsorption isotherms that are used to define how contaminants will partition between soil and groundwater under a specified set of environmental conditions. This goal of this research project is to investigate ways in which the modeling of adsorption isotherms and selection of relevant partitioning coefficients might be further refined, with emphasis on capturing variability among different soil types.

Research activities may include:

- Reviewing and synthesizing available literature on contaminant adsorption, which may include information on the performance of specific models or the behavior and prevalence of various sorbents.
- Evaluating how available data might be applied to refine estimates of adsorption onto different soil types under a range of environmental conditions
- Comparing modeled results with available empirical data for different



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soil types.

- Identifying real-world datasets that can inform selection of appropriate partitioning coefficients for use in groundwater modeling when site-specific data are not available.

**Learning Objectives:** Participant will have the opportunity to apply and advance the skills acquired through their education and prior work experience. The participant will have the opportunity to develop deeper understanding of RCRA programs and policies, risk assessment, and groundwater modeling. Participant will collaborate with EPA staff and contractors on research that may support future updates to Agency models and inform decision making. The participant will have the opportunity to share research through public presentations and technical manuscripts submitted to peer-reviewed journal publications.

**Mentor(s):** The mentor for questions about this opportunity is Jason Mills ([mills.jason@epa.gov](mailto:mills.jason@epa.gov)). If you have questions about the nature of the research please contact the mentor(s) directly.

**Anticipated Appointment Start Date:** **Summer 2022.** All start dates are flexible and vary depending on numerous factors. Click [here](#) for detailed information about start dates.

**Appointment Length:** The appointment initially may 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 (this is negotiable).

**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.

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, including but not limited to, COVID-19 requirements (e.g. facial covering, physical distancing, testing, vaccination).

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

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have additional questions about the application process please email [ORISE.EPA.REG@orau.org](mailto:ORISE.EPA.REG@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate must be a full-time faculty member at an accredited U.S. college or university.

Preferred skills:

- Experience with MINTEQA2 or similar models
- Groundwater fate and transport modeling
- Risk assessment
- Soil and water chemistry
- Geohydrology
- Database management
- Statistical analysis
- Strong written and verbal communication

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
  - **Degree:** Doctoral Degree.
  - **Discipline(s):**
    - **Chemistry and Materials Sciences** ([12](#) 👁)
    - **Earth and Geosciences** ([21](#) 👁)
    - **Engineering** ([3](#) 👁)
    - **Environmental and Marine Sciences** ([14](#) 👁)

**Affirmation** I certify that I am a full-time faculty member at an accredited U.S. college or university.