



Postdoctoral Researcher University of Idaho Deep Soil Ecotron

A successful candidate for the postdoctoral position on the CO-FAIR project will possess a unique combination of expertise in soil science and robust data management capabilities, particularly in making data Findable, Accessible, Interoperable, and Reusable (FAIR). The project requires a researcher who can bridge these two domains and work with national and international partners to advance shared research goals.

Core Scientific and Technical Skills

The ideal candidate will have a strong foundation in soil science, with specific knowledge in ecosystem sustainability, biogeochemistry, and plant–soil microbe interactions.

A significant portion of this role will involve leading the development of data interoperability practices and collaboratively establishing shared data and metadata standards with partners operating other Ecotrons. The candidate must have demonstrable skills in data management and a clear understanding of FAIR data principles.

Key technical skills include:

- **Data Integration and Management:** Experience in handling diverse and complex datasets, including developing and implementing data management plans.
- **Database and API Knowledge:** Familiarity with database systems (such as MySQL, PostgreSQL, or MongoDB) and experience with APIs, particularly RESTful APIs, for data integration and retrieval.
- **Programming and Software Proficiency:** Competence in programming languages commonly used in data science, such as Python or R. Knowledge of data visualization tools and geospatial software (GIS) would also be advantageous.
- **Metadata Standards:** Understanding of metadata schemas and standards, such as Dublin Core, FGDC, and Ecological Metadata Language (EML).
- **Data Formatting and Serialization:** Experience with formats like JSON-LD, CSV, and NetCDF for ensuring data interoperability.
- **Version Control:** Proficiency with tools like Git for collaborative software and documentation development.

Interdisciplinary and Collaborative Abilities

Given the collaborative nature of the CO-FAIR project, which aims to build a network of interconnected Ecotron facilities, strong communication and interpersonal skills are paramount. The postdoctoral researcher will work closely with soil scientists, data engineers, and policy experts, as well as with external Ecotron operators, to ensure data standards and workflows are harmonized across institutions. The ability to thrive in interdisciplinary research teams is a critical asset.

Research and Project Management Experience

The successful applicant will contribute to the intellectual development of the project, including co-developing research questions, writing peer-reviewed articles, and presenting findings at conferences. Experience in project management, including the ability to work independently and meet deadlines, is also highly desirable.

Summary

This postdoctoral position requires a candidate with a Ph.D. in soil science or a related field, combined with a strong aptitude for and experience in modern data management and data interoperability practices. The role offers the opportunity to shape and implement data standards in collaboration with a national network of Ecotron facilities, making a significant contribution to the creation of a unified and accessible data ecosystem for soil research.

If interested or for further information contact Michael Strickland (mstrickland@uidaho.edu).