Oregon State University

Postdoctoral opportunity

Applications are invited for a postdoctoral position investigating how shifts in the microbiome of lodgepole pine forests following disturbances influence forest biogeochemical cycling and catchment exports. This position is based in the Department of Biological and Ecological Engineering at Oregon State University, with frequent visits to Lawrence Berkeley National Laboratory and field sites in the Rocky Mountains. The successful candidate will join a large, DOE-funded project focused on understanding how mountainous watersheds respond and adapt to increasing disturbances, including both pulse and press disturbances.

The project will investigate how large-scale clear-cutting of upslope forests in the Taylor watershed (Colorado) shapes the microbiome of downslope regions, and how these shifts impact water and nutrient cycling. A particular focus will be on how disturbances affect the evolution of the nitrogen cycle in forest ecosystems. For more details about the project, visit http://watershed.lbl.gov.

Key Responsibilities

- Manage field collection of soil samples for microbiology and biogeochemical measurements, including trace gas flux measurements.
- Conduct field research in high-altitude locations (above 10,000 ft).
- Collaborate with isotope biogeochemists to investigate how forest disturbance alters plant water and nutrient acquisition.
- Work with ecosystem modelers to provide key data for benchmarking and to assess the long-term recovery of ecosystems following disturbance.
- Lead data analysis and contribute to writing publications based on findings.
- Contribute to lab operations, including maintaining samples and instruments.

Required qualifications

- A recent PhD (within the last two years) in microbial ecology, terrestrial biogeochemistry, or a related field.
- Experience with sequencing datasets (e.g., amplicon, metagenomic, and metabolite data).
- Experience with biogeochemical datasets, including isotope data (e.g., $^{14/15}$N, $^{16/18}$O, $^{86/87}$Sr), gas flux data, and routine measurements of organic and inorganic species.
- Proficiency in using Matlab, R, or Python for data analysis.

Desired skills

- Previous fieldwork experience in mountainous environments.
- Knowledge of forest biogeochemistry, microbiomes, and ecological recovery processes.
- Strong ability to collaborate across disciplines, including with biogeochemists and modelers.
- Excellent organizational skills and the ability to work independently as well as part of a team.

Informal inquiries should be directed to Nick Bouskill (nick.bouskill@oregonstate.edu).