

postdoc:microbial-explicit soil models

Postdoc Position in Microbial-Explicit Soil Biogeochemical Modeling

Stuart Grandy and Serita Frey's collaborative research programs in soil microbial ecology and biogeochemistry have an open postdoc position at the University of New Hampshire. The postdoc will advance the capabilities of microbial-explicit soil biogeochemistry models, including the Microbial Mineral Carbon Stabilization Model (MIMICS). A key feature of MIMICS is the representation of two microbial functional types (MFTs) that are based on physiological tradeoffs that occur between microbial carbon use efficiency (CUE) and microbial growth rates (MGR). These microbial groups with unique kinetics and decomposition capacities are represented in both the original C-only version of MIMICS (Wieder et al. 2014; 2015) as well as a newly developed version of MIMICS with coupled soil C and N cycles.

Using new data from microbial genomes and laboratory studies, the postdoc will improve model parameterization of microbial physiology across variable environments, and ultimately explore the potential responses of forest and agroecosystem responses to climate change. While this position's focus is on modeling, the postdoc will also have opportunities to lead or collaborate on experimental work examining the genomic basis for CUE and MGR, determining how physiology varies with environments and substrate quality, and assessing the broader implications of variations in microbial physiology for C and N cycling in forest and agroecosystems.

Candidates are expected to be highly motivated, possess strong oral and written communication skills, and have demonstrated ability to publish high quality papers. Candidates must be experienced modelers capable of independent work, with a background that encompasses microbial ecology, biogeochemistry or related disciplines.

The position will be housed in Stuart Grandy's Lab (www.unh.edu/grandylab), which examines how soil organisms interact with their environment to regulate agroecosystem productivity and ecosystem processes such as nutrient cycling, organic matter turnover, and trace gas emissions. Serita Frey's Lab (www.unh.edu/freylab) will co-advise the position, and is interested in how anthropogenic stressors (e.g., climate change, nitrogen deposition, agricultural management, invasive species) affect the composition and diversity of soil microbial communities and microbial-mediated carbon and nitrogen cycles. The postdoc will also be expected to engage with UNH graduate and undergraduate researchers and network among project collaborators that include Will Wieder at NCAR, Seeta Sistla at Hampshire College, and Kristen DeAngelis at the University of Massachusetts.

To apply for the position please send your CV with the names of three references and a 1-2-page statement of research interests and career goals to Stuart Grandy (stuart.grandy@unh.edu). Applications will be considered until the position is filled, or until February 15, 2018.