MBU Institute of Microbiology
of the Czech Academy of Sciences

Postdoc in Soil Microbial Ecology in Prague

The **Laboratory of Microbial Ecology and Biogeography** (https://kohoutlab.com/), is looking for a motivated postdoctoral fellow. The person will join the consortium of the Excellence Research Centre Project "INTER-MICRO" that aims to identify effects of global changes on microbial driven soil processes.

The postdoctoral researcher will be involved in multiple projects focused on disentangling the role of microbes in ecosystems using a range of approaches, including *in situ* vegetation transplantation experiments, controlled climate manipulations using Ecotron facilities, and studies of natural wildfires. The majority of field and laboratory work has already been completed; therefore, the postdoc will primarily focus on data analysis, interpretation of results, and preparation of research manuscripts. More detailed information about the specific projects will be provided during the interview.

The new postdoc will also gain from our long-term research collaboration with prof. Petr Baldrian (head of the Laboratory of Environmental Microbiology, Institute of Microbiology Czech Academy of Science, Czechia) and prof. Nadia Soudzilovskaia (Ecotron research group, Hasselt University, Belgium).

Project summary:

- The postdoctoral researcher will collaborate with our research team to conduct the bioinformatic analyses and ecological interpretation of metagenomic and metatranscriptomic datasets generated within two running projects in the Laboratory of Microbial Ecology and Biogeography, complemented by a third dataset from an Ecotron experiment. The overarching goal is to identify how environmental change reshapes the functional potential and in situ activity of soil microbial communities, and how these shifts translate into changes in carbon and nutrient cycling.
- **Project 1 (global-change transplant experiments):** You will analyze metagenomes and metatranscriptomes from climate-manipulation mesocosms established along elevational gradients, where intact plant-soil systems are transplanted to simulate warming. The work will focus on functional shifts linked to decomposition, greenhouse-gas related pathways, and nutrient mobilization, including profiling of carbohydrate-active enzymes and other markers of microbial C and N cycling. The analyses will integrate multi-layered metadata (community composition, soil chemistry, enzyme activities, respiration/gas fluxes) to quantify how warming alters microbial functions and their expression, and to identify key microbial taxa driving these responses.
- **Project 2 (wildfire severity and post-fire succession):** You will conduct comparative analyses of metagenomes/metatranscriptomes collected repeatedly across multiple years from forest sites differing in wildfire severity. The aim is to resolve how disturbance intensity and ecosystem recovery shape microbial functional trajectories, with a particular emphasis on temporal dynamics in C and N cycling genes and transcripts, and on linking functional profiles to changes in vegetation, soil properties, and measured ecosystem processes.
- **Project 3 (Ecotron heathland climate scenarios):** You will evaluate equivalent meta-omics data from a controlled Ecotron experiment testing contrasting climate scenarios in heathlands, enabling direct comparison of functional responses observed under field-based manipulations versus tightly controlled climate treatments.

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WE SEEK

- PhD degree in the field of microbial ecology or similar.
- First-authored papers in leading interdisciplinary journals or high-ranking IF journals in the fields of ecology, mycology or soil science research
- Experience with metagenomic and/or metatranscriptomic analyses
- Excellence in English and good communication skills
- Motivation for scientific work within the frames of the project
- During the appointment, the person will be based in Czechia

WE OFFER

- Work in an inspiring and friendly environment of an international team. For more details about the research group see: https://kohoutlab.com/
- We offer access to interesting experiments / datasets produced by the lab and their collaborators.
- Gross salary: starts from approx. 2800 EUR / month (dependent on candidate's qualification) full time job.
- Possibility to participate on students' projects as an advisor.
- 30 days paid holiday per year
- Employee benefits (discount on meals, sport/leisure activities, language courses etc.)

The position is offered for an initial period of two years but may be extended. The position is open until filled; starting date is negotiable (expected before October 31, 2026).

Please send your Curriculum Vitae, motivation letter and contacts to at least two independent professionals (such as PhD or postdoc supervisors) who can provide reference. For more information, please contact Petr Kohout (petr.kohout@biomed.cas.cz).

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