We offer a Ph.D. position at the soil group of the Faculty of Science, University of South Bohemia, Ceske Budejovice, Czech Republic focusing on:

Performance of mountain ecosystems along elevation gradients under changing environmental conditions

Starting date in January 2022 (negotiable). The PhD. position is for four years, respond till 15th December 2022.

Mountainous regions warm much faster than their counterparts at lower elevations. This accelerates the input of autochthonous C substrates and nutrients from the surrounding environment into remote oligotrophic mountain lakes, making them more productive. **The source of these inputs are terrestrial ecosystems in their catchments that are exposed to environmental changes. Their character, functioning, and response to climate change differ along the elevation gradient**.

In our study along the altitudinal gradient of the High Tatras (Slovakia), we will compare the functioning of different soil types (from forest to alpine meadows to till scree soils) along the altitudinal gradient (about 1700 to 2100 m a.s.l.). Using field and laboratory experiments, we will identify differences in key processes of nutrient (N and P) retention, mobilization, and leaching from the soil, their response to changing temperature conditions (freeze-thaw cycles, warm winters), and key soil microbial groups responsible for biogeochemical cycling. The mechanisms of leaching will be used to understand long-term trends in lake chemical and biological composition and their current variation along the elevational gradient.

Our research objectives:
Quantify (1) the effects of climate change on nutrient cycling (C, N, P) and the microbial community in soils along a mountain gradient from forest to scree area, and (2) the effects of associated changes in nutrient leaching on lake chemistry, biota, and the trajectory of their recovery from previous acidification.

We offer:

- Well-equipped laboratories with the possibility of carrying out incubation experiments and subsequent chemical, biochemical and biological soil analyses
- Competent and friendly team of scientists, technicians and students
- Financial support from the ongoing project in addition to the stipend, which is guaranteed

Our requirements and expectations:

- Basic qualifications include a MSc. in ecology, microbiology, or a related field and a strong interest in soil biology
- The ideal applicant will have a basic knowledge of soil biology, molecular biology, statistics, laboratory experiments, and field work. Applicants with only a subset of these skills are encouraged to apply
- Sufficient proficiency in English to study scientific literature and communicate in the lab
- Motivation, willingness to listen and learn new things, active attitude

Interested? See us and contact us:

University of South Bohemia, Faculty of Science, Dept. of Ecosystem Biology https://bit.ly/3D9B5Tn
(see https://www.prf.jcu.cz/en/faculty/departments/department-of-ecosystem-biology/research-kbe).

To apply, please send **your CV, a short letter of motivation** (10-20 sentences) explaining why you are interested in this research area, and **a brief description of your thesis and previous field of study** to Ass. Prof. Eva Kastovska, Ph.D., ekastovska@prf.jcu.cz.

We will respond within a short time if you have been shortlisted. Shortlisted applicants will be interviewed and the final decision will be made shortly after.