Two full-time PhD positions in biodiversity and remote sensing in Prague (4 years, starting October 2023)

I offer two fully funded, full-time PhD positions in a field spanning macroecology, biodiversity science, ecological statistics, and space-borne remote sensing. The candidates will join my international team (Dr. **Petr Keil**; https://petrkeil.github.io) at the Dpt. of Spatial Sciences at the Faculty of Environmental Sciences, Czech University of Life Sciences in Prague, Czech Republic.

The research is part of ERC-funded project BEAST ("Biodiversity dynamics across a continuum of space, time, and their scales") which studies how biodiversity has changed in time at local, regional, and continental scales, during the last 50 years. The focus is on terrestrial taxa (vertebrates, plants) and facets of biodiversity which can be remotely sensed from satellites. For a better idea about our research see our website.

The specific topics of the two positions are:

- **PhD Position 1:** The objective is to analyze temporal change of taxonomic diversity in several datasets from across the world, and to investigate if temporal biodiversity change leaves characteristic imprints in static spatial patterns of biodiversity. The project is macroecological, i.e. it aims at documenting universal ecological patterns and laws that hold across regions and taxonomic groups, similarly to the laws of physics. This can be useful when assessing biodiversity dynamics in regions with poor data.

- **PhD Position 2:** This project will analyze temporal change of remotely sensed spectral diversity, i.e. diversity of spectra captured by spaceborne satellite sensors such as MODIS or SENTINEL. The practical goal is to link this spectral diversity with locally measured taxonomic diversity (and to test the so called "spectral variability hypothesis"), and to investigate if the remotely sensed biodiversity change can be used as a proxy for temporal change of taxonomic diversity.

Training and work within both positions will involve processing of geographic data, advanced statistical analysis and modelling, dissemination of results via conferences and peer-reviewed publications, and establishing a network of international collaborators. Candidates will participate in workshops, training courses, and will assist in teaching.

Requirements

- Master or equivalent degree/diploma in a project-related field (e.g., ecology, geography, remote sensing, zoology, botany, bioinformatics, biostatistics, bioinformatics, environmental sciences). I also encourage holders of degrees in mathematics, statistics, computer science, or physics to apply.

- Prior experience with spatial data and GIS, programming, and/or statistical analysis (using scripting/command line environment) is advantageous, but motivation to learn new computational skills is essential.

- Good spoken and written English.

- **I aim to increase the diversity of my team**, and welcome applicants of all genders, cultures, backgrounds, ages, or countries. I believe that a diverse team will broaden perspective and enhance creativity.

We offer

- **Income,** consisting of two parts:

  1. Standard employment contract with starting gross salary of **31,000 CZK/month** (ca 1,200 EUR as of Dec 2022), which is roughly 25,500 CZK/month net after tax, but the latter varies depending on family situation and other circumstances.

  2. A tax-free PhD stipend of **10,000 CZK/month** during the first year. This will grow to 12,000, 14,000, and 16,000 CZK/month in years 2, 3, and 4 respectively.

  Roughly, after combining these two parts, the total starting net income can be around 35,500 CZK/month. Median gross salary in the Czech Republic in the third quarter of 2022 was 34,993 CZK/month gross (ca 28,500 CZK/month net). Living costs (childcare, transportation) are generally lower than in Western Europe. For costs of accommodation see https://www.sreality.cz/en.

- Full medical insurance and social security.

- Funds for travel to conferences and workshops abroad. Funds for additional training.

- Motivating bonus payments for high-quality publications.

- State-of-the-art scientific and computing equipment, software, access to journals and scientific databases, and comfortable office space.

- Subsidized meals at the university canteen (Menza).

- International working environment (the working language is English), green campus in Suchdol outskirts of Prague, 30 min to Prague city center by public transport or bike, 15 min walk to several natural protected areas. The campus has sports facilities, including a swimming pool, gym, athletic track, and indoor and outdoor playfields. Prague is one of the safest cities in the world, with excellent public transport, international accessibility, and healthcare.

- **Starting date: 1st October 2023**.

Applications

To apply, please send by email (beast@fzp.czu.cz), **in a single .pdf of less than 10 MB**:

- Motivation letter (1-2 pages) describing your expertise, research interests, stating why do you see yourself as a good fit to our group/research, and why are you interested in getting a PhD. Also, indicate which of the two positions you are primarily interested in.

- Your CV including your publications and any other relevant outputs (code repositories, reports, your personal website, etc.).

- Contact details for 2-3 academic referees, e.g. your former supervisor, boss, or collaborator.

- **Put "PhD application" and your surname in the file name and email subject**. At this stage, avoid attaching long .pdf files of manuscripts, theses, diplomas, or certificates, they make processing of applications difficult.

Application deadline is 15th of February 2023.