

Postdoc (TVL13, 100%, 3 years; d/f/m)

Soundscapes across cityscapes: relationships among biodiversity, sound, and human health and wellbeing in urban green infrastructure

Project background:

Urban green spaces are critical for both biodiversity and human health. Sound and the urban soundscape can be indicators of biodiversity and environmental conditions and can have a profound impact on human health. Still, the relationship between urban features (green and grey structures) and biodiversity as well as soundscapes is understudied, as is how soundscapes impact the restorative power of urban nature. The aim of the CitySoundscapes project is to identify how the characteristics of urban soundscapes relate to the structural complexity of urban green spaces, sound-based biodiversity in urban green spaces and human health. We combine urban ecology, environmental psychology, acoustics research and urban planning to collectively provide information for the planning and management of urban green spaces in the city of Munich and beyond. Through citizen engagement and stakeholder collaboration, we aim to promote biodiversity-based health interventions.

The research is funded by the Research Initiative for the Conservation of Biodiversity (FEa), the Federal Ministry of Education and Research (BMBF), who funds scientific projects to analyze biodiversity in Germany and to develop and implement innovative, effective measures to protect and improve biodiversity.

Postdoc Topic:

We are offering **one postdoc position** to a highly motivated researcher with a background in geography and urban ecology with experience in modeling, GIS and data synthesis. Their work will determine how urban features drive species diversity, how species diversity and urban features are represented in soundscapes and how these relate to human health and wellbeing. They will use modeling approaches to combine natural and social science data.

You will focus on developing and implementing mixed modeling approaches to test pathways through which structure–biodiversity relationships are linked to acoustic comfort–restoration outcomes. The models will integrate spatially-explicit structural complexity variables, landscape imperviousness variables, biodiversity (songbird) variables, and human restoration variables. We aim to produce maps of model predictions based on biodiversity indices, restoration variables in relation to urban green and built infrastructure.

The candidate we are looking for ideally has:

- Motivation to elucidate complex processes that underly mechanisms driving biodiversity, human health, and human-nature interactions in cities
- Knowledge of urban ecology and urban ecosystems
- Enthusiasm for and competence in synthesis work
- Experience with environmental data and quantitative data analysis
- Experience modelling and relevant languages (R, Python etc.)
- Proficiency in spatial analysis and relevant GIS tools (ArcGIS Pro, QGIS, etc.)
- Interest in supervising and working with other students, as well as project partners

Job requirements:

- PhD diploma in related field
- Excellent skills in statistical analysis
- Very good knowledge of English; spoken German is a benefit
- Excellent scientific and writing skills

Who we are:

You will be based in the Professorship for **Urban Productive Ecosystems** (PI: Monika Egerer) at the Technical University of Munich. However, you will work closely with three other research groups at the Technical University of Munich: Professorship for Forest and Agroforestry Systems (Peter Annighöfer); Chair for Terrestrial Ecology (Sebastian Meyer, Wolfgang Weisser); Chair for Strategic Landscape Planning and Management (Stephan Pauleit)

What we offer:

- An innovative and lively working environment at the university and campus
- Access to modern facilities and infrastructure at a strong research department
- Scientific exchange, flexibility, independence and self-responsibility
- Extensive options of vocational training (meetings, workshops, conferences)
- TV-L E13 (100%), 36 months

Starting date:

Subject to the final funding award, as soon as possible, ideally June 2024.

Interested?

Please send your application with: (1) a 2-page letter of interest including a short outline of career goals and research experience; (2) a detailed CV; and (3) contact information of two referees. Please send these documents in the form of one single pdf-file (**CitySounds_postdoc_surname_forename.pdf**) to Monika Egerer (monika.egerer@tum.de).

Questions regarding project or position?

Please contact: Prof. Egerer or visit our webpages for more information on our research group and the kind of work we do: www.upe-lab.de

Application closing date: Friday, 03.05.2024

The research is funded by the Research Initiative for the Conservation of Biodiversity (FEa), the Federal Ministry of Education and Research (BMBF), who funds scientific projects to analyze biodiversity in Germany and to develop and implement innovative, effective measures to protect and improve biodiversity. Currently, 44 projects are part of FEa. In the spirit of "transformative" science, the initiative supports the targeted exchange between research, politics, business, agriculture and forestry, nature conservation and civil society. More information at www.feda.bio.

TUM is an equal opportunity employer. Qualified people of all gender are encouraged to apply. We strive to increase the proportion of women, so applications from women are especially welcome. Applicants with disabilities will be given preference, if they essentially have the same qualifications. As part of your application for a position at the Technical University of Munich (TUM), you are transmitting personal data. Please note our data protection information in accordance with Art. 13 General Data Protection Regulation (GDPR; Datenschutzgrundverordnung DSGVO) on collection and processing of personal data in the context of your application (<https://portal.mytum.de/kompass/datenschutz/Bewerbung/>). By submitting your application, you confirm that you have read TUM's data protection information.