

2 Masters theses in ‘Soundscapes across Cityscapes’: Researching the Sound of Wellbeing & Biodiversity

Background

Urban green infrastructure can promote both human health and biodiversity conservation. In face of urban densification and climate change, it is critical to maintain and increase quality green space to provide food and shelter for diverse plant and animal species, as well as to safeguard valuable places for relaxation, social encounter and nature experience. The complex relationships between those needs are not well understood in cities. However, this is needed to plan resilient, healthy cities. The concepts of „acoustic comfort“ and „soundscapes“ (the total combined human and natural sound of an environment) can link biological diversity and human well-being to the urban environment under a Planetary Health perspective. Which soundscapes are perceived as comfortable? How might they indicate high habitat quality for different animals and plants? How can such soundscapes be identified through citizen participation and integrated into urban planning processes?

The **Professorship for Urban Productive Ecosystems** offers two related master theses positions to investigate the potentials of transdisciplinary approaches in urban soundscape research towards the ends of integrated health and biodiversity promotion in densifying cities. Both theses will contribute to developing concepts that can be implemented in the City of Munich as part of the BMBF research project ‚**CitySoundscapes**‘.

Project 1 – Citizen science and urban soundscapes in Munich

The focus of this thesis is to develop and test a citizen science approach to investigate how city park soundscapes (biophonic, geophonic vs anthrophonic sounds) vary with vegetation complexity, and how this relates to acoustic comfort of park visitors. This thesis will: **1)** create and pilot-test a concept for collecting image and audio material with citizen scientists (e.g. via smartphone based on ‚Visitor Employed Photography‘ methods); **2)** co-evaluate data collected (online/offline, e.g. via focus groups, Q-sorts) and in Living Labs (with Project 2); and **3)** assess citizen science based data with structural complexity data and acoustic comfort data obtained from ecological and psychoacoustic field research in the CitySoundscape project. This thesis aims to provide a tested and validated proof of concept to be implemented across the city of Munich in the next 2 years.

Project 2 – „Sounding board“ Living Labs in Munich

The focus of this thesis is on the development and pilot testing of so called „Living Labs“ in Munich. Living labs are a platform that facilitates cross-sectoral exchanges between stakeholders from conservation, public health and planning with the wider community. In this context, with the aim of integrated biodiversity conservation and health promotion, facilitated through the social-ecological concept of „soundscapes“ as a source and indicator of „healthy places“ for people and nature. This project will be in close collaboration with Project 1. This thesis aims to provide a tested and validated proof of concept to be implemented in three neighborhoods in the city of Munich in the next 2 years.

Requirements

Previous experience with citizen science, community engagement and science communication are highly beneficial but not required. Good communication skills and people management is especially beneficial for Projects 1-2. These projects will aim to start in summer (late July/August) 2023. The thesis can be supervised in German or English.

If you are interested or for any questions, please contact:

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References:

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