PhD position (m/f/d) in ecoaocustics within the German Biodiversity Exploratory Programme

University of Freiburg and University of Augsburg are starting a research collaboration (HearTheSpecies) to investigate the drivers of soundscape composition, and to predict parasitation rates based on vocalisations of bird species.

HearTheSpecies is an interdisciplinary project involving the Chair of Geobotany from the University of Freiburg and the Chair of Embedded Intelligence for Health Care and Wellbeing from the University of Augsburg. Its primary goals are i) to annotate existing data that enable the training of AI algorithms and collect new data in order to apply those in new conditions, ii) to develop AI-based automatic diarization and separation tools that allow for the coarse separation of biophony, anthropophony, and geophony from entangled soundscapes and the fine-grained detection and separation of species and distinct anthropogenic sounds, iii) to use these separated sounds in order to model the impact of local and regional land-use intensity, landscape configuration, and vegetation structure on soundscape composition and individual species of the acoustic community, and iv) to predict parasitation rates in birds through their separated vocalisations.

The main objective for the ecoacoustic PhD-project will be the ***application*** of AI based algorithms on acoustic datasets to identify drivers of spatio-temporal patterns of soundscape composition (point iii and iv above).

We are looking for candidates with a deep interest for bio- and ecoacoustics. We offer a three-year TV-L 65 % contract, excellent working conditions, and an inspiring atmosphere at the University of Freiburg.

The project is part of the German Biodiversity Exploratory Programme (https://www.biodiversity-exploratories.de/en/), a DFG-funded Infrastructure Priority Programme (SPP 1374) for functional biodiversity research. At three regions within Germany, international researchers from several institutions are working together to understand the drivers of biodiversity change and the impacts on ecosystem functions and services.

We offer:

- Cutting-edge research projects in ecoacoustics and computer audition within one of the largest biodiversity study programmes worldwide
- Outstanding, interdisciplinary and integrative research environment, offering many networking opportunities
- Individual supervision by internationally recognized scientists in ecoacoustics and computer audition and biodiversity research
- Training opportunities to advance analytical and methodological skills

Requirements/expected profile:

- Excellent M.Sc. degree in a project-related field (e.g. biology, ecology, bio-/ecoacoustics)

- Very good ecological knowledge and great interest to work interdisciplinary
- Very good quantitative and statistical skills in R (experience in data management, glm, mixed-models and/or multivariate approaches)
- Excellent communication skills in English - writing and speaking
- Very good aural identification skills for one or more soniferous animal groups (birds, orthopteran)
- Motivated to be a proactive team player in an international, interdisciplinary research consortium
- There will be some field work involved in setting up the audio-recorders, but the main focus of this PhD is on processing and analysing acoustic datasets and synthesising ecoacoustic indices with datasets on land-use intensity, habitat features and associated biodiversity
- We expect candidates to acquire the basic principles of deep-learning methods for ecoacoustic event detection and sound source separation at our partners from Computer Audition at the University of Augsburg (PI Björn Schuller)
- In order to reach field sites a driving license is a must

Application deadline: 15.01.2023
Please submit your application **as one single pdf-file** including:

- Cover letter in English describing your motivation, research interests and relevant experience
- Curriculum vitae in tabular form
- Digital copy of the master`s certificate and transcript of records or equivalent
- Names and contact details of at least two scientific references
- Working email address

Please submit your application for HearTheSpecies position only in English and via the contact addresses given below. The University of Freiburg is an equal opportunities employer and place emphasis on fostering career opportunities for women. Qualified female applicants are therefore strongly encouraged to apply. Our university intends to raise the number of disabled persons in their employment. In the case of equally qualified applicants, disabled persons will be preferentially considered.

Preselected candidates will be invited to recruitment interviews taking place end of January 2023. The position starts at 01.03.2023.

Please submit your application to **sekretariat.geobotanik@biologie.uni-freiburg.de**.

For questions about the project, please contact Sandra Müller:

sandra.mueller@biologie.uni-freiburg.de.