Přírodovědecká fakulta
Faculty of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

We are a research campus with a strong tradition in biosciences focused on complex ecological, evolutionary & developmental aspects of LIFE.

Within the Department of Zoology, we are now looking for a highly motivated candidate to offer a fully funded

PhD position

FLOATERS: Using individually distinct vocalizations to estimate breeding and non-breeding population of a species

The candidate will be supervised by Dr. Pavel Linhart within the EU-funded project Bioacoustic AI for wildlife protection (BiacAI, Marie Skłodowska-Curie Doctoral Networks, Grant agreement ID: 101116715). The Candidate will closely collaborate with Tuomas Virtanen (Tampere University, Finland) and Andrew Hill (Open Acoustic Devices).

Application deadline: **October 31, 2023**

The position is available from **March 01, 2024**.

The Consortium
The Bioacoustic AI Consortium is a new doctoral network focused on training the next generation of researchers at the interface of bioacoustics & AI. The network includes ten fully-funded PhD positions based in various countries: The Netherlands, Germany, France, Belgium, Czechia, Finland, and the UK. PhD candidates will work on their projects in collaboration with experts in both AI and ecology/zoology. They will also collaborate with project partners at other European institutions, including extended research visits for in-depth teamwork. The PhD projects range from developing AI/signal processing algorithms to answering questions in ecology and animal behavior.

This PhD is one of ten in the BioacAI project. Please, do also consider applying to other positions shown at the consortium webpage.

About the Project
Floaters are individuals representing a non-breeding part of the population. They are typically highly mobile and often secretive individuals prospecting for their own territory. They can form large portions (up to 70%) of the total population in many species, an important buffer for breeding populations. Changes in floater populations could thus provide early warning to conservation managers. However, it is terribly laborious to estimate the floater prevalence and numbers by existing methods. The project will aim to: 1) develop novel automatic methods for fast screening of passive recordings to detect vocalisations of specific known individuals (breeders within existing territories) and their rare vocal interactions with floaters (unknown individuals roaming through the area); 2) use these detection algorithms to estimate and validate prevalence of floaters within a population. Model species will include both common species (e.g. common woodpigeon, short-toed treecreeper), as well as species of conservation concern (e.g. wolf, little owl). To achieve the goals,

the candidate is expected to combine the expertise on animal vocal individuality (Pavel Linhart, University of South Bohemia), field audio recording (Andrew Hill, Open Acoustic Devices), and machine learning (Tuomas Virtanen, Tampere University, Finland).

The University of South Bohemia
The University and Biology Centre of Czech Academy of Sciences campus in České Budějovice provides a vibrant and International research environment. The campus is located in the historic town České Budějovice, which offers many cultural and recreational activities in addition to its close proximity to Prague (2hrs drive), Vienna (2hrs drive), Munich (3hrs), and to the wonderful Czech scenery and the Austrian Alps.
More info about the university and the Welcome guide for international staff.
More info about the city of České Budějovice.
More info about the living costs in České Budějovice.

Essential requirements:
- **Eligibility requirements** – Candidates can be of any nationality. You must fulfil the EU's "mobility rule" for this funding scheme, which means you should not have resided or carried out your main activity (work, studies, etc.) in the PhD host country (Czechia) for more than 12 months during the 36 months prior to starting the PhD. You must not already have a doctoral degree. You must also be eligible to work in Czechia according to regulations (e.g. visa requirements), and also to travel/work in other European countries for collaborations and workshops
- MSc degree in any scientific discipline including **biology, physics, mathematics, computer science, or engineering**
- strong interest in addressing biological questions using quantitative approaches
- willingness to learn skills from multiple disciplines (e.g. computer science, ecology)
- independence and the ability to proactively develop and implement research ideas
- good planning and time management skills
- the ability to work independently as well as collaboratively within the research group.
- good interpersonal skills and enthusiasm for working with an international, interdisciplinary team
- strong written and verbal communication skills in English

Desirable experience and skills:
- programming in R, Python, etc.
- analysis of audio data (sound recordings)
- machine learning algorithms, especially deep learning
- population / biodiversity monitoring
- catching and handling animals (bird banding, etc.)
- multidisciplinary research

What we offer:
- 3-year position with possible 1-year extension at the Zoology Department, Faculty of Science, University of South Bohemia, Ceske Budejovice, Czechia
- gross monthly salary ca. 2000 EUR (ca. 1500 EUR net salary) and extra mobility and family/special needs allowances if eligible (up to 1095 EUR gross), under the terms of EU MSCA DN funding; (average gross salary in Czechia is around 1720 EUR)
- PhD position also includes funds for mobility and research material and equipment
- close collaboration with AI and biodiversity experts from several European countries (Netherlands, Germany, France, Belgium, Czechia, Finland, UK)
- work-life balance in a middle-sized university city offering options for outdoor, sport & cultural activities
- administration support with relocation & settlement in the Czech Republic
- meal allowance, full health insurance

How to apply

Are you interested? Then we are looking forward to receiving your application until **October 31, 2023** on the following email: jobs@prf.jcu.cz. Please include the following documents:

- letter of motivation / research statement (2-3 pages) addressing the following points:
    - describe how you fulfil our essential requirements and which desirable experience you offer
    - describe your main scientific interests, how they developed, and how they relate to the proposed research project
    - explain what scientific questions most motivate you and why
    - Describe briefly 1-2 specific biological questions or hypotheses related to a project and explain the analytical approach(es) you would use to address them. Include a mock figure of what your results might look like (can be hand drawn, computer-generated, or made in any other way) and explain how you would interpret them.
- curriculum vitae (CV)
- academic transcripts for your BSc and MSc degrees (English, can be unofficial at this stage)
- contact information for 2 personal references (we may contact them if you are short-listed)
- sample of your scientific writing (e.g. publication or manuscript in prep, thesis, term paper, etc.)

For more information about the research part of the position, please, contact Dr. Pavel Linhart, linhap00@prf.jcu.cz. For more general information about the employment at the University of South Bohemia, salaries, and living costs in Czechia, please, contact jobs@prf.jcu.cz. General questions can also be addressed to the Bioacoustic AI Project Manager via info@bioacousticai.eu.

We welcome your application regardless of age, gender, cultural and social background, religion, ideology, disability, or sexual identity. We promote equality of the sexes; therefore, women are given priority in case of equal qualifications.

We adhere to The European Charter for Researchers and The Code of Conduct for the Recruitment of Researchers.