

Master thesis opportunity - Using ecoacoustics to monitor avian responses to innovative land-use management

Are you passionate about biodiversity, birds, and new ecological monitoring methods?

Join an exciting research project that combines ecoacoustics and land-use ecology to study how different agricultural management strategies affect bird communities in the innovative PatchCROP system!

Background:

PatchCROP is an experimental landscape farming system designed to increase agricultural sustainability and biodiversity by diversifying crops at the field level. Birds are key indicators of ecosystem health and ecosystem services—but how do they respond to such novel management approaches? And how well can their presence and activity be detected using sound?

Objectives:

- Use ecoacoustic recorders to monitor bird activity across the PatchCROP landscape.
- Apply species-specific detection algorithms to assess species richness, activity, and soundscape patterns.
- Analyse how bird vocalizations relate to different land-use management, crop diversity, and management intensity.
- Explore how ecoacoustics can be used as a tool for long-term biodiversity monitoring in agricultural settings.
- Explore how ecoacoustics can be used to assess bird movements in agricultural settings.

What You'll Do:

- Conduct fieldwork with autonomous sound recorders during the breeding season.
- Use open-source tools (e.g., R packages, Kaleidoscope, or BirdNET) to process and analyse acoustic data.
- Work with spatial data on land-use and PatchCROP field management.
- Combine acoustic results with field observations.

Requirements:

- Candidate must be registered at a University in Germany
- Interest in ecology, ornithology, and bioacoustics.
- Basic knowledge of R or willingness to learn.
- Motivation for fieldwork and data analysis.

Start Date: As soon as possible

Location: Fieldwork in Tempelberg, Brandenburg (Germany), data analysis can be partly remote

Interested?

Please send a short motivation letter and a CV to marie.perennes@zalf.de (one PDF file, max. 5 MB, stating the reference "Application Ecoacoustic YOUR NAME"). We're happy to answer any questions and look forward to receiving your application!