

# Bachelor and Master thesis topics: Tropical birds and bats and their response to land use change



## Background

Eco-acoustics are a novel field with exciting opportunities. We have an extensive collection of sound recordings from Sumatra, in a rapidly-changing tropical landscape where lowland forest is being converted to rubber and oil palm monocultures. We are looking for a student who will analyse the recordings to count and identify birds or bats, and write a thesis about the impact of land use change on bird or bat communities.

## Method and location

The recordings come from the plots of the CRC990 (EForTS) over the last 7 years. In each sampling location, we have audible sound for birds, and in several locations we have ultrasound for bats. The recordings will be manually processed with the help of our online annotation platform <http://soundefforts.uni-goettingen.de/> or, for ambitious students, with machine learning tools.

We mainly have recordings from forest, oil palm and rubber plantations. Recordings can be chosen from Berbak national park, the oil palm management experiment, the oil palm enrichment experiment, core plots, or our landscape survey plots.

## Requirements

There is no fieldwork and the student has great flexibility in determining the exact topic. The students should ideally have experience with aural identification of birds or ultrasound recordings of bats. If not, we need to work with recordings from simpler systems where diversity is lower: for example in oil palm, about 30 different bird vocalisations should be learned to annotate the recordings successfully.



## Output

Depending on the chosen location, co-authorship of the student on the resulting papers is possible. For further details please contact Dr. Kevin Darras, Agroecology, Dept of Crop Sciences, University of Göttingen: [kdarras@gwdg.de](mailto:kdarras@gwdg.de)