

## **MSc Internship: Bird monitoring using audio recorders**

The use of passive acoustic monitoring (PAM) in bird research is on the rise. This involves making sound recordings in a specific environment without the need for direct human presence. This is usually done using autonomous recording devices such as AudioMoth, Song Meter, or other sound recorders that can record over longer periods of time. The recordings made can be analyzed with AI models, such as BirdNET, which trace the sound fragments to species.

In the 2025 breeding season, Sovon will have setups with AudioMoths at two locations: in a marsh area in the Ketelmeer and in an agricultural area on Goeree-Overflakkee. The 25 recorders in total will make recordings every day during the night hours and around sunrise in the months of April, May and June. This results in almost 10,000 hours of audio files. An internship position is available for master students from, for example, Biological Science, Data Science or Computational Science to analyze this data. The duration of the internship is 6 months.

There is a lot of room for the student's own input in the content of the internship. Examples include:

- Determining the activity pattern of specific species during the breeding season, or during the day (day/night activity);
- Localization of singing or calling individuals by means of triangulation measurements with recordings from multiple recorders. This can provide insight into the habitat use, or the locations of territories of individual birds;
- Comparing observations of species obtained with audio monitoring with counts in the field
- Calculation of standardized indexes to translate characteristics of sound recordings into measurable units, such as the Acoustic Diversity Index;
- Training algorithms to improve the quality of automated species recognition.

### **Required skills:**

- Proficiency in statistical methods and techniques for data analysis
- Familiarity with programming languages (R, Python)
- Familiarity with AI models for automated sound recognition

### **Contact**

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