



Master's Thesis

Development and optimization of the DiversityScanner-360° for the digitization of biological samples

New methods are being developed at the IAI to monitor insect and plankton biodiversity comprehensively and identify new species. These include the DiversityScanner-360° - an automated device for digitizing and 3D modeling biological samples by capturing images from different perspectives with a high depth of field. Building on a previous thesis, the system is to be further developed and optimized. New concepts will also be developed, tested, and evaluated. There are also plans to port the system, which currently runs on a Raspberry Pi, to the Windows platform to improve user-friendliness.



[1]



[2]

Tasks:

- Development and implementation of new concepts
- Carrying out tests and evaluating the system
- Porting to the Windows platform

Education, experience and skills:

- High motivation and ability to work independently
- Experience with Python
- Knowledge of the Windows operating system
- CAD knowledge (Creo Parametric)
- Thesis can be written in English or German

[1] L. Wühl et al. Diversityscanner-360°: An Automated System for Digitizing Invertebrate Bulk Samples, 2023

[2] <https://sketchfab.com/disc3d>