

Ph.D. Student position in the diversity and evolution of insect symbioses at the Institute of Environmental Sciences at Jagiellonian University in Kraków, Poland

The Symbiosis Evolution Research Group (www.symbio.eko.uj.edu.pl) at the Institute of Environmental Sciences of Jagiellonian University (www.eko.uj.edu.pl) in Kraków, Poland **is seeking a motivated Ph.D. Student** to join the project “*Micro-allies during mega-crisis? The role of the microbiome in insect community responses to climate change*”, funded by the National Science Centre (NCN) Opus 22 project no. 2021/43/B/NZ8/03376.

Microorganisms can play essential roles in insect biology, affecting insects' ability to respond and adapt to various environmental challenges. However, our understanding of the microbiome diversity, distribution, transmission, and functions across wild insect communities remains limited. **This project aims to describe the roles of microbial symbionts in responses of multi-species insect communities to the changing climate, focusing on East Greenland** - an area that is warming rapidly, and where we can plausibly capture and characterize most insect species. We ask about the microbiome composition across the taxonomic diversity of insects, the transmission of microbial strains across species, and the effects of seasonal changes, geographic variation, and environmental factors on the microbiota of selected broadly distributed insect species.

We address these questions using large numbers of historical and newly sampled insects from several areas of Greenland, and a combination of innovative high-throughput sequencing-based approaches, custom bioinformatics solutions, and advanced statistical models. The Ph.D. Student will initially share their time between lab work and the bioinformatic analysis of sequencing data. Later, depending on interests, they may participate in field collections, analysis of expanding marker gene datasets, phylogenomics and comparative genomics analyses, or the development and implementation of statistical models. The Student will be encouraged to work closely with other team members and Polish and international project collaborators, including Tomas Roslin (Swedish Agricultural University) and Brandon Cooper (University of Montana).



Insect sampling in Zackenberg Valley in NE Greenland

The Student will be enrolled in the structured Ph.D. Program in Biology at Jagiellonian University (https://science.phd.uj.edu.pl/en_GB/recruitment/phd-biology). They will also join a dynamic, multi-lingual, collaborative research group based at one of the top research institutes in the fields of Ecology and Evolution in Central Europe, in a medieval city known as the cultural capital of Poland, with good access to outdoor recreation opportunities and well-connected to the rest of Europe. The Ph.D. Student will be supported by a four-year stipend from the Ph.D. Program, they may also receive an additional stipend from the research project. The official start date is 1st October 2023.

Requirements:

- M.Sc. degree in Biology or a related field by July 2023;
- Demonstrated interest in Evolution, Entomology, Microbiology, and/or Genomics;
- Experience with, or a keen interest in learning, Bioinformatics and Computational Biology;
- Strong English language, communication, and organizational skills;
- Previous experience with insect diversity, ecology, evolution and symbioses, molecular biology, microbiome surveys, phylogenomics and/or comparative genomics, and willingness to travel are advantageous

The candidates are requested to send a letter explaining their experience and interest in the project, a CV, and the details of two references, to Dr. Piotr Łukasik (p.lukasik@uj.edu.pl), before 12th June 2023. The applicants recommended for the Ph.D. Program will then need to formally apply through the University system by 21st June 2023.