



PhD studentship (TV-L E13, 65%)

“Metabarcoding of invertebrates”

The Zoological Research Museum Alexander Koenig in Bonn (ZFMK) invites applications for a 3-year PhD position starting no later than May 1st, 2019.

The position is part of the project **"Integrative Analysis of the influence of pesticides and land use on biodiversity in Germany"** (INPEDIV). The interdisciplinary joint research of seven partner institutes¹ is led by the Zoological Research Museum Koenig and funded for 3 years by the Leibniz Competition. The aim of this study is to investigate consequences of organic and conventional farming for biodiversity in protected areas. By use of traditional methods and new technologies, we will examine agricultural land use effects on a broad range of plant and animal taxa at study sites in the Rhineland and in Brandenburg.

We seek an enthusiastic and highly motivated candidate for field sampling and metabarcoding of invertebrates in the Center for Molecular Biodiversity Research at the ZFMK in Bonn. The main task of the PhD student is to analyze insect and soil fauna samples using novel metabarcoding bioinformatic pipelines and the GBOL reference database.

The project will involve the analysis of metabarcoding sequence data from thousands of samples and their integration with data from soil pesticide and nutrient content, land-use patterns and vegetation characteristics, as well as with the occurrence of insectivorous vertebrate species. The PhD student will be supervised by a multi-disciplinary team led by Dr Sarah Boursat (metabarcoding) and Dr Livia Schäffler (biodiversity assessments) and closely cooperate with researchers at partner institutes (vegetation, invertebrate and vertebrate ecologists, ecotoxicologists).

The PhD candidate should be highly motivated, with excellent bioinformatic skills and with a strong enthusiasm for environmental molecular biodiversity, as well as field experience and a decent background in biodiversity and ecology. Desirable skills are experience in handling large sequencing datasets, python or perl scripting skills, knowledge in statistical analyses with R and in data visualization. Students are expected to acquire and develop new skills but candidates with prior expertise in analysis of high throughput data (Illumina Mi-Seq) and using tools such as Qiime or R will be given preference. The candidate should have a Master's degree, or be close to completing a Master's degree in bioinformatics, biology or a related discipline. Fluent spoken and written English is essential.

¹ INPEDIV partners are the Zoological Research Museum Koenig (ZFMK), the Museum für Naturkunde Berlin (MfN), the Senckenberg Museum of Natural History Görlitz (SMNG), the Leibniz Centre for Agricultural Landscape Research (ZALF), the Entomological Society Krefeld (EVK), as well as the Universities of Koblenz-Landau and Bonn.

The Zoological Research Museum Alexander Koenig (ZFMK) is one of three natural history research museums in the Leibniz Association and a lead institute in the documentation, research, and interpretation of animal biodiversity. The combination of classical museum work and various cutting-edge approaches with a modern molecular laboratory at the Center for Molecular Biodiversity Research and a state-of-the-art high-performance computing cluster offers a highly motivating and stimulating research environment. For more information about the museum see <http://www.zfmk.de>.

Applications should include:

- (1) Letter of motivation (relevant skills, experience and research interests)
- (2) Curriculum vitae
- (3) Official BSc and/ or MSc certificates
- (4) Contact details of two (ideally academic) references

Please submit your **application electronically as a single PDF file until March 17th**, 2019 to Mrs. Heike Lenz: h.lenz@leibniz-zfmk.de

Questions concerning the project may be directed to Dr Livia Schäffler (l.schaeffler@leibniz-zfmk.de), those on metabarcoding to Dr Sarah Bourlat (s.bourlat@leibniz-zfmk.de).

The ZFMK advocates gender equality and women are therefore strongly encouraged to apply. Equally qualified severely handicapped applicants will be given preference.