



Institut für Vogelforschung

„Vogelwarte Helgoland“

Wilhelmshaven



Genomics and transcriptomics of migratory behaviour in birds

2 PhD student positions

(65 % E13 TV-L)

We offer two PhD positions investigating the molecular makeup and evolutionary/ecological genomics of migration in the European Robin (*Erithacus rubecula*) and Eurasian Blackcap (*Sylvia atricapilla*). Both positions will be based at the Institute of Avian Research “Vogelwarte Helgoland” in Wilhelmshaven and form the core of a research project embedded within the SFB1372 that aims to identify the genetic basis of traits that contribute to migratory behaviour in migratory songbirds.

We have chromosome level reference genomes available for both focal species that will serve as a backbone for both independent PhD projects. Both PhD projects will be highly interlinked and interact very closely, but follow clearly defined project trajectories investigating independent aspects of the migratory phenotype.

Both students will benefit from a highly integrative and interdisciplinary research environment and receive training in the field, molecular lab work and bioinformatics analyses. Further, the PhD students will be in an excellent position to contribute to collaborative research with other SFB1372 members and develop independent research trajectories. We are looking for students with an interest in detailed genomics analyses, but who are also interested in understanding ecological processes as well as carrying out fieldwork. Please do not hesitate to get in touch for more information on these positions (miriam.liedvogel@ifv-vogelwarte.de).

Both the blackcap and the European robin are excellent study systems to address questions related to various aspects of migratory behaviour and magnetoreception, where fundamental progress has been made using these species. Robins form a partial migratory population within our study area (NW Germany), whereas they are fully migratory in parts of Scandinavia or exclusively resident in southern Europe. With this project we set out to characterise the genetic basis of this variation and identify transcriptomic and physiological changes associated with the migratory phenotype. The SFB framework holds great potential to not only identify relevant genetic factors but further develop downstream experimental approaches together with other SFB members and disciplines once candidate genes have been identified.

The projects will compare the genetic makeup of migratory versus resident populations of robins, allow for investigation of various migratory phenotypes in the blackcap, and aim to explore whether changes of gene expression in different tissue and/or during the course of the year reflect or predict migratory behaviour. Both candidates will contribute to joint fieldwork with the goal to establish a well-characterised field population for in depth behavioural and genetic analyses in the wild.

The ideal candidate for these positions has a degree in biology, bioinformatics or related fields (MSc/Diploma), a background in using high throughput sequencing data to answer evolutionary questions, and is eager to learn and master new skills and tools to understand the genetic architecture of behavioural traits. Experience working with animals in the field or the lab, bioinformatics analyses, and skills in programming are a bonus. The core project focuses on various levels of genomic analysis, but the individual focus of both project is flexible and can be tailored to both skills and interest of the successful candidate.

Salary and conditions: The positions are available until 31.12.2026. Salary will be according to TVL E13 (65 %).

Application: Applications including (i) a cover letter outlining your motivation to work on this project as well as relevant experience, (ii) a detailed curriculum vitae with copies of certificates, and (iii) the contact details of two referees should be **sent as a single pdf file** to Miriam Liedvogel (miriam.liedvogel@ifv-vogelwarte.de). **Screening of the applications will start by 18.01.2023**, but candidates will be considered until both positions are filled.

Both the Institute of Avian Research and the University of Oldenburg are equal opportunity employers, committed to inclusion and diversity and welcomes applications from people from all groups and backgrounds. In addition, the Institute is committed to (i) increase the proportion of women in successful scientific careers (§11 of the Niedersächsisches Gleichberechtigungsgesetz), (ii) promote the equality of (severely) disabled and non-disabled people, and (iii) provide opportunities for people with a migration background. As such, it especially welcomes applications from female scientists, (severely) disabled scientists and immigrated scientists. In case of equal suitability and qualifications, these applications will be given preference.