

2 PhD positions in Behavioural Ecology and Functional Genomics

Two PhD positions in behavioural/evolutionary ecology and functional genomics are available at the Faculty of Biology at Bielefeld University; one in the Department of Animal Behaviour (with Dr. Peter Korsten, see <http://www.uni-bielefeld.de/biologie/animalbehaviour>) and one in the Evolutionary Biology group (with PD Dr. Tim Schmoll, see www.uni-bielefeld.de/en/biologie/Evolutionsbiologie/). The positions run from early 2018 for 36 months and are funded by the German Research Foundation (DFG) within the recently approved collaborative research centre (SFB/TRR 212) entitled: A Novel Synthesis of Individualisation across Behaviour, Ecology and Evolution: Niche Choice, Niche Conformance, Niche Construction (NC³).

The goal of this project (project B04 of the collaborative research centre) is to test how male Zebra Finches conform to their social niche as set by the prevailing level of sperm competition. This will allow us to understand how individual variation in sexual competition generates individual variation, and covariation, in both competitive traits and parenting behaviour. The two PhD students will closely collaborate to (i) quantify male social niche conformance by analysing adjustment of sexual competitiveness including behavioural (e.g. aggression) and ejaculate (e.g. sperm motility) traits. They will then (ii) identify the underlying mechanisms of social niche conformance on the hormonal (via endocrinological profiling) and the gene expression (via RNAseq) levels, (iii) assess the adaptive significance of niche conformance under a niche match/mismatch paradigm and, finally, (iv) test for trade-offs between investment in sexual competitiveness *versus* paternal care. Sub-project A will primarily focus on male social niche conformance through adjustment of behavioural traits and the hormonal mechanisms underlying niche conformance. Sub-project B will primarily focus on male social niche conformance through adjustment of ejaculate traits and the gene expression underlying niche conformance.

The collaborative research centre: The positions will be embedded within a larger collaborative research centre (SFB) comprising 18 principle investigators, 8 postdocs and 16 PhD students based at Bielefeld University, the University of Münster and the University of Jena. The aim of the SFB is to produce a conceptual and empirical synthesis of individualisation across behaviour, ecology and evolution. The SFB will provide exceptional opportunities for interdisciplinary collaboration and academic networking, together with structured training, scientific exchange and early career support programmes. Full details of the SFB can be found at www.uni-bielefeld.de/biologie/crc212.

Main responsibilities

- Research tasks (90%):
 - Designing and conducting laboratory experiments in which zebra finch males are exposed to different levels of sperm competition
 - Maintaining a zebra finch stock population and breeding of experimental birds
 - Collecting and processing of behavioural recordings (sub-project A)
 - Collecting and processing of hormone samples (sub-project A)
 - Setting up a computer-assisted sperm analysis (CASA) system (sub-project B)
 - Phenotyping sperm samples using CASA and other methods (sub-project B)
 - Processing of tissue samples for transcriptomic analyses
 - Bioinformatic processing of high-throughput sequencing data to quantify gene expression (sub-project B)

- Statistical analyses of complex experimental data
- Collaborating with other research groups in the collaborative research centre
- Writing scientific publications for international peer-reviewed journals
- Organizational tasks in the research groups and collaborative research centre (10%)

Applicants' profiles

We are seeking two bright, highly motivated and creative students with

- a university degree in a relevant discipline with specializations in one or more of the following fields: animal behaviour, behavioural ecology, behavioural physiology, bioinformatics, endocrinology, evolutionary ecology, neuro-ethology, transcriptomics, and/or veterinary science,
- a keen interest in using genetic and/or endocrinological methods to answer behavioural and life history questions,
- experience with carrying out animal experiments, preferably in birds,
- experience with bioinformatic processing of high-throughput sequencing data (sub-project B),
- experience with statistical analyses of complex data sets (preferably using R),
- ability to work both independently and as part of a team, and
- excellent oral and written communication skills in English.

The following qualifications would additionally be of advantage:

- publications in peer-reviewed international journals,
- experience with software for analysing behavioural recordings (sub-project A),
- experience with sperm phenotyping including CASA (sub-project B),
- experience with large-scale research projects.

Remuneration

Salary will be paid according to Remuneration level 13 (65%) of the Wage Agreement for Public Service in the Federal States (TV-L).

Bielefeld University is particularly committed to the career development of its employees. It offers attractive internal and external training. Employees have the opportunity to use a variety of health, counselling, and prevention programmes. Bielefeld University places great importance on a work–family balance for all its employees.

Application procedure

To apply, please provide: (i) a letter of motivation (maximum two pages) including a statement of your research interests, and skills and experience relevant to the positions and a statement for which of the two positions you apply (or your preference in case you apply for both); (ii) a CV including your publication list; (iii) names and contact details of two referees willing to write confidential letters of recommendation. **All materials should be emailed as a single PDF file to both principal investigators: peter.korsten@uni-bielefeld.de and tim.schmoll@uni-bielefeld.de.** The **application deadline is January 7th 2018** and interviews will take place shortly thereafter. After the decision, the positions should start as soon as possible. For further information on the project and the departments, please contact Peter Korsten (sub-project A) and/or Tim Schmoll (sub-project B) with any informal inquiries.

Bielefeld is a city of 325,000 inhabitants with all expected amenities and easy access to the Teutoburger Wald for hiking and other outdoor pursuits. It offers a high standard of living and is well connected to most major European cities.

Bielefeld University has received a number of awards for its achievements in the provision of equal opportunity and has been recognized as a family friendly university. The University welcomes applications from women. This is particularly true with regard both to academic and technical posts as well as positions in Information Technology and Trades and Craft. Applications are handled according to the provisions of the state equal opportunity statutes. Applications from suitably qualified handicapped and severely handicapped persons are explicitly encouraged.