



4-year postdoc opportunity: Fur seal genomics.

With Dr Joe Hoffman (Bielefeld University, Germany)
and Dr Jaume Forcada (British Antarctic Survey, UK)

An outstanding opportunity is available for a postdoctoral researcher to work on the ecological and evolutionary genomics of fur seals. The position is available in Joe Hoffman's research group (www.thehoffmanlab.com) in the Department of Animal Behaviour at Bielefeld University. It runs from early 2018 to the end of 2021 and is 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 project: The postdoc will exploit and continue to build upon an exceptionally detailed long-term study of Antarctic fur seals (*Arctocephalus gazella*) at Bird Island, South Georgia. High quality genome and transcriptome assemblies have already been generated and microsatellite and high density SNP data will be available for ≤ 7000 marked individuals spanning a time series from the mid 1980's to the current day. The aim of this project (sub-project A01 of the collaborative research centre) is to determine how fitness variation is shaped by interactions between individual genetic quality (inbreeding) and the social environment within breeding colonies. Highly detailed observational and biometric time-series data will be collected from mother-offspring pairs in two neighbouring colonies of high and low social density. The mechanistic underpinnings of fitness variation will then be dissected apart using a novel combination of endocrinological and immunological profiling, high-density SNP genotyping, transcriptomics and genome-wide methylation profiling. This will generate unprecedentedly detailed insights into fitness variation in a wild vertebrate, with major implications for understanding ecological and evolutionary dynamics as well as adaptation to climate change.

The applicant: We seek a bright and highly motivated postdoc with a strong PhD in a relevant topic (e.g. population genetics, behavioural, evolutionary or conservation genomics, bioinformatics, animal behaviour, behavioural ecology). A deep understanding as well as extensive practical experience of working with high-throughput sequencing data (including RADseq, transcriptomic and whole-genome resequencing data) is highly desirable, as is proficiency in writing custom scripts and working in Unix and R. Experience of working with large-scale, long-term datasets from wild animal populations would also be a bonus. As the postdoc involves two field seasons at South Georgia in the South Atlantic, experience of fieldwork with vertebrates and ideally large mammals would also be highly beneficial. The ideal candidate will also be able to work both independently and as part of a team. A very high standard of spoken and written English is required and a proven track record of publishing in high quality international peer-reviewed journals would be advantageous.

The working environment: The postdoc will join the Hoffman lab, a young and dynamic group comprising five PhD students and two postdocs. They will be based at the Department of Animal Behaviour at Bielefeld University (www.uni-bielefeld.de/biologie/vhf/index.html). The department is the oldest of its kind in Germany and currently hosts around six principal investigators, ten postdocs and twenty PhD students. It offers a stimulating international environment and an excellent research infrastructure including brand new molecular laboratories. The working language of the Department is English. The postdoc will also have the opportunity to interact closely with the cooperation partner (Dr Jaume Forcada) during two Antarctic field seasons and via placements at the British Antarctic Survey in Cambridge.

Bielefeld University is particularly committed to the career development of its employees. It offers attractive internal and external training and further training programmes. 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. Bielefeld is a city of

325,000 inhabitants with an attractive historical centre and easy access to the Teutoberger Wald for hiking and other outdoor pursuits. It offers a very high standard of living and is well connected to most major European cities.

The collaborative research centre: The postdoc 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.

Remuneration: Salary will be paid according to Remuneration level 13 of the Wage Agreement for Public Service in the Federal States (TV-L) and includes health insurance.

Application procedure: To apply, please provide: (i) a letter of motivation including a statement of your research interests and skills and experience relevant to the position; (ii) a CV including publication list; (iii) names and contact details of two referees willing to write confidential letters of recommendation; (iv) Please also state where you saw the position advertised. All materials should be e-mailed **as a single PDF** file to: joseph.hoffman@uni-bielefeld.de with '**Postdoc application**' in the subject line. The application deadline is **January 7th 2018** and interviews will take place shortly thereafter. After the decision, the position should start as soon as possible, although there is some scope for flexibility depending on the timeframe of the most qualified applicant. For further information, please see www.thehoffmanlab.com and / or contact Joe Hoffman (joseph.hoffman@uni-bielefeld.de) with any informal inquiries.

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.

Representative publications:

Hoffman JI *et al.* (2007) Female fur seals show active choice for males that are heterozygous and unrelated. *Nature* 445: 912–914

Hoffman JI *et al.* (2014) High-throughput sequencing reveals inbreeding depression in a natural population. *Proc Nat Acad Sci USA*, 111: 3775–3780.

Forcada J & Hoffman JI (2014). Climate change selects for heterozygosity in a declining fur seal population. *Nature*, 511: 462–465.

Stoffel *et al.* (2015) Chemical fingerprints encode mother-offspring similarity, colony membership, relatedness and genetic quality in fur seals. *Proc Nat Acad Sci USA*, 112: E5005-E5012

See www.thehoffmanlab.com/publications for a full list together with downloadable PDFs.