Postdoc or PhD studentship opportunity:
Fur seal genomics.

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

An outstanding opportunity is available either for a postdoc (≤3.5 years) or for a Ph.D. studentship (3 years) 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. The project runs from now until 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 (NC^3).

The project: The successful candidate 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. We will collect highly detailed observational and biometric time-series data from mother-offspring pairs in two neighbouring colonies of high and low social density. We will then dissect apart the mechanistic underpinnings of fitness variation using a combination of endocrinological and immunological profiling, gene expression profiling, high-density SNP genotyping and methylation profiling. The result will be an unprecedentedly detailed understanding of the behavioural, physiological and genetic mechanisms underpinning fitness variation in a wild vertebrate, which will have important implications for understanding ecological and evolutionary dynamics as well as adaptation to climate change.

Postdoc applicants: We seek a bright and highly motivated postdoc with a strong PhD in a relevant topic (e.g. population genetics, behavioural genetics, evolutionary or conservation genomics). We are looking for two main attributes in particular: (i) The candidate must have a deep understanding as well as practical experience of working with genomic data (experience of gene expression profiling and / or whole-genome resequencing would be particularly desirable) and be proficient in writing custom scripts and working in Unix and R; (ii) As the project involves two field seasons at South Georgia in the South Atlantic, the candidate would ideally also have hands-on experience of fieldwork with vertebrates. Experience of working with long-term individual-based datasets from wild animal populations would be advantageous but is not a requirement. The candidate should be able to work both independently and as part of a multidisciplinary team, and a high standard of spoken and written English is expected.

Ph.D. applicants: Bright and highly motivated Ph.D. candidates should hold a B.Sc. or equivalent in a relevant topic (e.g. population genetics, behavioural genetics, evolutionary or conservation genomics). An M.Sc. would also be advantageous but is not necessary. Strong quantitative skills (including proficiency in R) as well as practical experience of working with next generation sequence data (e.g. gene expression profiling or related approaches) would be desirable, but training can be provided. The candidate should also be able to work both independently and as part of a multidisciplinary team, and a high standard of spoken and written English is expected.

The working environment: The successful candidate will join the Hoffman lab, a young and dynamic group comprising three 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 successful candidate 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, UK.

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 successful candidate 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, equal opportunities and early career support programmes. Full details of the SFB can be found at www.uni-bielefeld.de/biologie/crc212.

Renumeration: Salary will be paid according to Remuneration level 13 (Postdoc 100%, PhD studentship 65%) 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) for monitoring purposes only, please clearly state your nationality, age, sex, and where you saw the position advertised. All materials should be e-mailed **as a single PDF** to: claudia.petersen@uni-bielefeld.de with **'Postdoc / PhD studentship application'** (delete as applicable) in the subject line. Incomplete or incorrectly formatted applications will not be considered. The application deadline is **April 14th 2018** and interviews will take place shortly thereafter. We would ideally like the successful candidate to start before July 1st, 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. Note: this position is being re-advertised due to a limited response to our posting of December 2017.

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.