



4-year postdoc opportunity: Genomics and epigenetics of fur seals.

With Prof. Joe Hoffman (Bielefeld University, Germany)
Prof. Toni Gossmann (Bielefeld University, Germany)
and Dr. Jaume Forcada (British Antarctic Survey, UK)
in collaboration with Prof. Kees van Oers (Netherlands Institute for Ecology)

An outstanding opportunity is available for a postdoctoral researcher to work on the evolutionary and ecological genomics and epigenetics of fur seals. The postdoc will be jointly supervised by Joe Hoffman (www.thehoffmanlab.com) and Toni Gossman (tgossmann.github.io), and will be based in the Department of Animal Behaviour at Bielefeld University. The postdoc is funded from now until the end of 2025 and is funded by the German Research Foundation (DFG) within the 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. Here, local environmental warming and the loss of sea ice have progressively reduced the availability of Antarctic krill, the fur seal's staple diet. The aim of this project (sub-project A01 of the collaborative research centre) is to investigate how genetic and epigenetic mechanisms such as DNA methylation mediate short-term responses to environmental variation and facilitate long-term responses to environmental change. We will combine the latest cutting-edge 'omics' approaches, including high density SNP arrays and bisulphite sequencing, with detailed life-history data from ~800 individuals spanning a time series from the mid 1980s to the current day. This project will generate detailed insights into the (epi-)genetic basis of fitness variation in a wild vertebrate, with 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 or conservation genomics, ecological epigenetics, marine biology). A deep understanding as well as practical experience of working with high-throughput sequencing data (e.g. DNA methylation, RAD sequencing, SNP array or whole-genome resequencing data) is highly desirable, as is proficiency in writing custom scripts and working in Unix and R. Experience of quantifying inbreeding from molecular data and / or working with large-scale, long-term datasets from wild populations would be a bonus. The ideal candidate will also be able to work both independently and as part of a team. A 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 be based at the Department of Animal Behaviour at Bielefeld University (<https://www.uni-bielefeld.de/fakultaeten/biologie/forschung/arbeitsgruppen/behaviour>). 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 modern, well equipped molecular laboratories. The working language of the Department is English. The postdoc will also have the opportunity to interact closely with Dr. Jaume Forcada at the British Antarctic Survey in Cambridge and Prof. Kees van Oers at the Netherlands Institute for Ecology.

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 Teutoburger 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 **February 25th 2022** and interviews will take place shortly thereafter. After the decision, the position should start as soon as possible, although there is scope for flexibility depending on the timeframe of the most qualified applicant. Please contact Joe Hoffman (joseph.hoffman@uni-bielefeld.de) or Toni Gossmann (toni.gossmann@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:

Nagel R *et al.* (2021) Evidence for an Allee effect in a declining fur seal population. *Proc Royal Soc B*, 288: 20202882.

Gossmann TI *et al.* (2019) Ice-age climate adaptations trap the Alpine marmot in a state of low genetic diversity. *Curr Biol*, 29: 1712–1720.

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

See www.thehoffmanlab.com/publications and tgossmann.github.io/publications.html for a full list together with downloadable PDFs.