UNIVERSITY OF LEEDS

# CANDIDATE BRIEF

## Research Fellow in heat stress and spermatogenesis, Faculty of Biological Sciences

**Salary: Grade 7 (£41,064 – £48,822 p.a.)**

**Reference: FBSBY1210**

**Available on a fixed-term basis until 28 February 2026 (to complete specific time limited work)**

**We will consider flexible working arrangements**

# Research Fellow in heat stress and spermatogenesis
# School of Biology

**Are you interested in cellular and genetic responses to climate change? Do you have an established background in molecular aspects of evolutionary ecology or development? Do you want to further your career in one of the UKs leading research intensive Universities?**

The current climate crisis means that understanding the impacts of climate change on organisms is urgently needed. However, research has largely focused on the impact high temperature has on survival. However, in most animals, males typically lose their fertility at a far lower temperature than that required to kill them. In this BBSRC-funded project, we aim to investigate the mechanisms that underlie sensitivity to heat stress in sperm. We have shown that in many species of *Drosophila* fruit fly, males become totally sterile at temperatures 1 to 4$^{o}$C lower than their lethal limits (Parratt et al 2021 Nat Clim Change).

As a research fellow, you will lead experiments to investigate how simulated heatwaves impact: 1) the gross morphological changes to testes, 2) DNA damage in sperm and 3) gene expression. You will use a combination of molecular/ cellular techniques (RNA-seq and RT-qPCR, confocal microscopy, TUNEL assays) across multiple species of *Drosophila* fruit fly to discover why sperm in some species is more temperature sensitive than others. Having identified candidate genes across species, you will then test these functionally in *D. melanogaster* by using transgenics and chemical inhibitors. You will work with a project-dedicated technician as part of our project team, based in Leeds in the lab of Prof Amanda Bretman in collaboration with Dr Elizabeth Duncan (Leeds) and Prof Rhonda Snook (Stockholm). You will join our network on Thermal Fertility Limits funded by the European Society for Evolutionary Biology. This knowledge will be invaluable in efforts to conserve biodiversity and improve food security as the climate heats up globally.

You should have a PhD (or close to completion) in evolutionary ecology, evo-devo, cell and developmental biology or a closely allied discipline, with experience in designing, undertaking and analysing large scale experiments with invertebrates or relevant experience of spermatogenesis in other species.



## What does the role entail?

As a Research Fellow, your main duties will include:

- Designing, planning and conducting a programme of investigation in consultation with Amanda Bretman and co-investigators Elizabeth Duncan (Leeds) and Rhonda Snook (Stockholm);
- Generating independent and original research ideas and methods in heat stress on fertility with an aim to extend the Bretman Group research portfolio;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals, and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- To contribute to, and to encourage, a safe working environment;

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

## Qualifications and skills

**Essential**

- A PhD (or close to completion) in evolutionary ecology, evo-devo, cell and developmental biology or a closely allied discipline;
- Experience in designing, undertaking and analysing large scale experiments with invertebrates or relevant experience of spermatogenesis in other species;
- Molecular biology skills such as next generation sequencing (including some bioinformatics analyses), immunohistochemistry, confocal microscopy or RT-qPCR;
- Experience of caring for laboratory invertebrate stock populations;
- Strong analytical skills, with the ability to work accurately and carefully, designing, executing and writing up research independently;
- The ability to design, execute and write up research independently; A developing track record of peer reviewed publications in international journals;



- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences;
- The ability to work well both independently and as part of a team;
- Strong initiative and a pro-active approach, with excellent organisational, planning and self-management skills, including the ability to prioritise workloads to meet deadlines/demand and deliver high quality under pressure;
- A strong commitment to your own continuous professional development.

**Desirable**

- Experience in working with Drosophila, including experience with Drosophila genetics and/or RNAi to interrogate gene function, insect microdissections, confocal microscopy, hybridisation chain reaction / in situ hybridisation, immunohistochemistry, RNA-seq, RT-qPCR, TUNEL assays;
- An understanding of spermatogenesis.
- Evidence of pursuing external funding to support research.

## How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Your application should include:

- A supporting statement providing evidence to support each requirement listed on the 'What will you bring to the role' section of the Candidate Brief (no more than two sides of A4, minimum font size 11);
- An academic curriculum vitae, including a list of your publications.

## Contact information

To explore the post further or for any queries you may have, please contact:

**Dr Amanda Bretman, Associate Professor in Behavioural Ecology**
Email: a.j.bretman@leeds.ac.uk



## Additional information

The University of Leeds and the Faculty of Biological Sciences are committed to providing equal opportunities for all and offer a range of family friendly policies. The University is a charter member of Athena SWAN (the national body that promotes gender equality in higher education), and the Faculty of Biological Sciences recevied a prestigous Silver award. We are proud to be an inclusive Faculty that values all staff, and are happy to consider job share applications and requests for flexible working arrangements from our employees. Our Athena SWAN webpage provides more information.

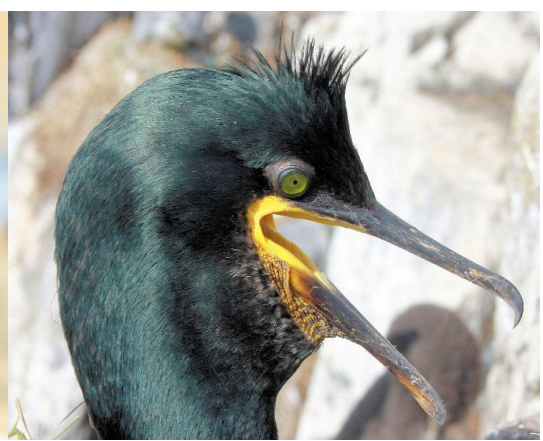
Find out more about the Faculty of Biological Sciences, the School of Biology and our Research and associated facilities - Bio-imaging and Flow Cytometry & Leeds Omics

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the School of Biomedical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.

**Working at Leeds**
We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

**Candidates with disabilities**
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.





# Criminal record information

**Rehabilitation of Offenders Act 1974**
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.

**Salary Requirements of the Skilled Worker Visa**

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen, this may be your status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information, please visit the Government's Skilled Worker visa page.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit the Government's page, Apply for the Global Talent visa.