Doctoral student in Evolutionary Biology.

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Lund University, Faculty of Science, Department of Biology

Lund University was founded in 1666 and is repeatedly ranked among the world’s top 100 universities. The University has 40,000 students and more than 8,000 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

The Faculty of Science conducts research and education within Biology, Astronomy, Physics, Geosciences, Chemistry, Mathematics and Environmental Sciences. The Faculty is organized into nine departments, gathered in the northern campus area. The Faculty has approximately 1,500 students, 330 PhD students and 700 employees.

Project description and Work Duties

This project aims to establish the developmental basis of parallel evolution in Mediterranean wall lizards. At least six of the 26 wall lizard species have independently and repeatedly evolved a suite of exaggerated colors, morphologies, and behaviors - a syndrome. While the traits that make up the syndrome are very different, they partly develop from the same developmental cell type, neural crest cells (NCCs). This shared developmental origin in NCCs offers a potential explanation for why these traits "go together" not just in development, but also in evolution. To test this idea, the successful candidate will focus on the NCC biology of wall lizards. This first part of the project involves the analyses of embryonic gene expression profiles of key regulators of NCCs in wall lizards. The successful candidate will be involved in the establishment of cell sorting (FACS) to isolate NCCs. Once established, the PhD student will compare the transcriptomic and epigenetic state of NCCs between lizards of contrasting phenotypes (ancestral vs syndrome lizards). The successful candidate will have the opportunity to develop the research according to his/her own interest and expertise, for example, towards comparative studies that quantifies parallelism at the phenotypic and genomic and genomic level. This PhD position will provide opportunities to develop independent, critical thinking and acquire the skills necessary for conducting scientific projects. The successful candidate will have the opportunity to learn a variety of laboratory-based methods (in situ hybridization, embryology, cell sorting and microscopy), omics techniques (transcriptomics, genomics and epigenetics), multivariate statistics and phylogenetic comparative methods. The project will include working with live animals, both in the lab and in the field. An integral part of this project will be to develop a deep understanding of evolutionary theory. Evolutionary Biology is a major focus area of the Department of Biology. We address a wide range of topics (evolutionary ecology, speciation, evolutionary theory, molecular ecology, experimental evolution, etc.) and as such the successful candidate will be integrated in a lively, stimulating and diverse intellectual environment. There will be a close collaboration with the research group of Prof. Tobias Uller and other international collaborators.

Requirement Profile

It is essential that the candidate has:

- An MSc degree in Biology with a focus on Evolutionary or Developmental Biology or a closely related field
- A very good understanding of evolutionary theory, developmental biology and genetics
- A good understanding of statistics (preferably multivariate statistics)
- Excellent spoken and written English
- Demonstrated excellent organizational skills
- Experience of molecular biology (e.g., DNA/RNA extraction, gene expression analyses)

It is preferable that the candidate has:
- Experience of bioinformatics analysis of next-generation sequencing data
- Experience of embryology and developmental genetics (preferably in lizards)
- Experience of fieldwork (preferably with lizards)
- Experience of working in a team
- Skills in data handling and statistical analyses in R

We are looking for a self-motivated, creative and solution-oriented candidate with a strong scientific curiosity.

**Eligibility**

Students with basic eligibility for third-cycle studies are those who have completed a second-cycle degree, have completed courses of at least 240 credits, of which at least 60 credits are from second-cycle courses, or have acquired largely equivalent knowledge in some other way, in Sweden or abroad.

The employment of doctoral students is regulated in the Swedish Code of Statues 1998: 80. Only those who are or have been admitted to PhD-studies may be appointed to doctoral studentships. When an appointment to a doctoral studentship is made, the ability of the student to benefit from PhD-studies shall primarily be taken into account. In addition to devoting themselves to their studies, those appointed to doctoral studentships may be required to work with educational tasks, research and administration, in accordance with specific regulations in the ordinance.

**Terms of employment**

Only those admitted to third cycle studies may be appointed to a doctoral studentship. Third cycle studies at LTH consist of full-time studies for 4 years. A doctoral studentship is a fixed-term employment of a maximum of 5 years (including 20% departmental duties). Doctoral studentships are regulated in the Higher Education Ordinance (1993:100), chapter 5, 1-7 §§.

**Instructions on how to apply**

The application should include:

- A personal letter stating your motivation for conducting a PhD and your interest in this specific project (max. 2 pages)
- CV, including education and earlier employments (max. 2 pages)
- Diploma and transcripts of records (BSc and MSc)
- Title and abstract of MSc thesis and scientific publications (if any)
- Contact information (phone, email) of at least two references.

Last application date is 10.01.2021

For questions email main supervisor Dr, Nathalie Feiner. nathalie.feiner@biol.lu.se

**Type of employment**

Limit of tenure, four yeras according to HF 5 kap 7§

Lund University welcomes applicants with diverse backgrounds and experiences. We regard gender equality and diversity as a strength and an asset. We kindly decline all sales and marketing contacts.
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**Type of employment**  Temporary position longer than 6 months

**First day of employment**  2020-03-01 or according to agreement

**Salary**  Monthly salary

**Number of positions**  1

**Working hours**  100

**City**  Lund

**County**  Skåne län

**Country**  Sweden

**Reference number**  PA2020/3735

- Dr, Nathalie Feiner, nathalie.feiner@biol.lu.se

**Contact**

**Union representative**
- OFR/ST:Fackförbundet ST:s kansli, 046-222 93 62
- SACO:Saco-s-rådet vid Lunds universitet, 046-222 93 64