UNIVERSITÄT
LEIPZIG

PhD position in Bioinformatics

The Computational EvoDevo Group (Bioinformatics/ Institute of Computer Science) at the University of Leipzig, is currently recruiting a PhD student to work on the evolution of epigenetic gene regulation in beetles.

Doctoral Researcher
Wissenschaftliche/r Mitarbeiter/in
(Salary level TV-L E 13, 65%)

The research project focuses on the **evolution of epigenetic regulation**, i.e. DNA methylation and histone modification. Insects show a remarkable evolutionary flexibility concerning the means by which epigenetic regulation is achieved. Even within the group of **beetles**, some species rely on CpG methylation, while other species have lost the relevant DNA methyltransferases (Dnmt genes). How the interplay between DNA methylation and histone modification changes with reduction or loss of DNA methylation is therefore of great interest. Using beetles as models, our project aims to understand the evolution of epigenetic regulation systems, to elucidate alternative functions of DNA methyltransferases and to assess the mutual dependencies between DNA methylation and histone modification.

The project is part of the Priority Programme "Genomic Basis of Evolutionary Innovations (SPP 2349 GEvol, https://g-evol.com)" funded by the German Research Foundation (DFG). The goal of GEvol is to collaboratively and interdisciplinarily exploit new computational and OMICS methods to reveal the evolutionary history of genomes and epigenomes in the insect taxon using comparative approaches.

The successful candidate will explore, analyze and interpret genomic and epigenomic inter-species differences using a comparative multiomics approach. This will involve the integration of DNA methylation, histone profiling, and transcriptome **data obtained by high-throughput sequencing**. The candidate will intensively collaborate with a PhD student in the group of the project partner Prof. Joachim Kurtz, University of Münster, who will be responsible for sample preparation, sharing of sequencing data and their expertise in insect evolutionary ecology.

Qualifications and Skills

- A Master's degree or equivalent in bioinformatics, computer science, molecular biology, or a related field
- Confidence in handling a UNIX operating system
- Intermediate or beginner level programming skills, e.g. in Python
- Previous experience with bioinformatic data analysis
- A strong desire to do research and enthusiasm for basic science
- Very good English communication skills (written and spoken)
- Experience with high-throughput sequencing data analysis and/or epigenetics would be desirable

Dates and Funding

- The position runs for 3 years, and is funded for this duration by the DFG (German Research Foundation)
- Starting date: as soon as possible

Environment

The Computational EvoDevo Group at the University of Leipzig shares space, administrative stuff and computing facilities with the Bioinformatics Group. There is a collaborative and friendly working atmosphere. The Leipzig University is international and offers a broad selection of disciplines and courses. With its parks and lakes, Leipzig is a pleasant and affordable city. It has the young, hip feeling of a lively student city providing a wide range of sporting and cultural opportunities. It is one of the fastest growing cities in Germany.

Application Instructions

- Applications in English should comprise the usual documents, i.e. a statement of research interest and motivation (max. 1 page), CV, list of publications and
- contact details for at least two referees.
- Please submit your application as a single PDF document via e-mail attachment until **October 3rd, 2022** to: *Sonja.Prohaska@bioinf.uni-leipzig.de*
- Feel free to contact Prof. Sonja Prohaska in case of questions