Faculty of Mathematics and Natural Sciences

Postdoc Position (f/m/d) - Computational Biology

CECAD Research Center - Cabreiro Lab

The University of Cologne is one of the largest and most research-intensive universities in Germany, offering a wide range of subjects. With its six faculties and its interfaculty centres, it offers a broad spectrum of scientific disciplines and internationally outstanding profile areas, supported by the administration with its services.

The Cabreiro lab (www.cabreirolab.org) aims at understanding how microbes alter specific metabolic and signaling pathways in host cells to maintain systemic homeostasis and suppress aging. Our research interests span several fields including organismal and cell biology, metabolism, microbiology, pharmacology and systems biology. We seek a highly motivated Postdoc (f/m/d), who will investigate microbiome-related mechanisms in regulating drug effects on host immunity, metabolism and aging using computational approaches.

YOUR TASKS

- Develop computational tools to integrate multi-omics data
- Develop computational tools for studying high-throughput datasets, with the aim of identifying principles governing complex interactions between two organisms
- Develop computational tools for analyzing high-throughput imaging data
- Perform wet lab method development including the acquisition of high-throughput *C. elegans* and microbial data
- Analyze genomic microbiome data

YOUR PROFILE

- PhD degree or equivalent in computational biology or a related discipline
- Proven track-record in computational biology and method development is essential. Good background in developing machine learning pipelines. Strong experience in data management, cleaning and preparation to train models is essential. Deep learning would be desirable (mainly in Keras/Tensorflow or PyTorch).
- Evidence of high-level proficiency in at least one programming language (Java, Python, etc.) is essential
- High-level proficiency in a programmatic statistics language (ideally R) is essential
- Prior experience with the generation and analysis and integration of complex and multi-dimensional omics data sets is essential
- Prior experience with the processing and analysis of genome-wide data sets is essential
- Advanced skills in computational biology, specifically relating to the efficient processing and analysis of short read data generated by next generation sequencing experiments is essential
- Experience in working in Linux based systems is required. Ability to work in HPC (High Performance Computing) is also desired.
- Keeping computational projects well documented is essential. Ability to work with Github or related systems is required.
- Experience in *C. elegans* handling is essential
- Experience in microbiology studies (wet lab) is essential
- Knowledge of research procedures and statistical methods is essential
- A research background in microbial ecology and evolution or aging is essential
- Proficiency in written and spoken English is mandatory
- Evidence of great communication and team work skills, curiosity-driven science and excellent problem-solving skills is essential

WE OFFER YOU

- A diverse and fair working environment
- Support in reconciling work and family life
- Flexible working time models
- Extensive advanced training opportunities
- Occupational health management offers
- Local transport ticket at a discount for UoC employees

The position is available from the 01.07.2021on a full-time basis (39,83 hours per week). The position is limited for three years. If the applicant meets the relevant wage requirements and personal qualifications, the salary is based on remuneration group 13 TV-L of the pay scale for the German public sector.

The University of Cologne is committed to equal opportunities and diversity. Women are especially encouraged to apply and will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from people with disabilities / special needs or of equal status.

Please apply online with proof of the sought qualifications, including a CV and a one to two-page letter of interest (both written in English), and contact information for 1 academic reference at: https://jobportal.uni-koeln.de. The reference number is Wiss2104-05. The application deadline is 25.04.2021.
All questions regarding the post and/or project should be addressed to Prof. Dr. Filipe Cabreiro (f.cabreiro@uni-koeln.de).

University of Cologne