Doctoral Research Fellow (PhD) in Computational Biology

Job description

A funded 3-year PhD candidate position is available in the Computational Biology and Systems Medicine group led by Marieke Kuijjer at the Centre for Molecular Medicine Norway (NCMM), Faculty of Medicine, University of Oslo, Norway. The NCMM is a Nordic EMBL partner.

The Computational Biology and Systems Medicine group was established in 2018 and investigates how gene regulatory networks are disrupted in cancer as well as other complex diseases. We do this by building computational tools that model networks of gene regulation, which represent for example how transcription factors or microRNAs regulate genome-wide gene expression. Using high-performance computing, we can model these networks for each individual sample in large-scale ´omics datasets. We then analyze these “big data” networks using statistical methods. This allows us to better understand both the system-wide level of changes, as well as specific disruptions in regulation that may drive the heterogeneity, development, progression, and response to treatment of cancer and other complex diseases. See https://www.kuijjerlab.org/ for a more detailed description of our research program. The PhD project will focus on expanding our current tool set to integrate individual patient regulatory networks with other ´omics data types (such as mutation data or spatial transcriptomics) and/or on expanding our comparative network analysis framework with methods from machine learning.

The candidate

We seek a highly motivated candidate who is excited about developing new computational models and tools with applications to systems medicine. The ideal candidate is collaborative and creative, has strong programming skills and a sound training in using statistics and/or machine learning for the analysis of large-scale biological datasets. Experience with analysis of genomic data sets is a requirement for this position. Experience with genomic data integration and/or biological network analysis, and being familiar with gene regulatory processes and cancer biology, is desirable. Note that we are not looking for someone to develop computational pipelines for others to use, neither for someone to apply pipelines developed by others. We are specifically looking for an individual who is excited about developing and using computational methods to answer important questions in biology.

Qualification requirements

- Master’s degree in computational biology, bioinformatics, biostatistics, computer science, (bio)physics, or a related field. Applicants with a background in biology or (bio)medicine with a strong programming background and experience in ´omics data analysis are also encouraged to apply. Applicants who do not have a degree yet, but who are expecting to graduate this summer/fall can apply to this position.
- Experience with analysis of large-scale genomics data is required, preferably transcriptomic and epigenomic data analysis
- Proficient in programming and/or scripting languages, such as R, Python, MATLAB, Bash
- Experience with high performance computing is desirable
- Knowledge in cancer biology, gene regulation, and/or network biology is desirable
- Professional proficiency in English
- Willingness to work in a team environment, sharing skills and ideas, and collaborating on projects

We offer

- The PhD candidate position will be placed as SKO 1017, with salary NOK 479 600 - 532 300 per annum, depending on qualifications.
- A professional, stimulating working environment
- Attractive welfare benefits and a generous pension agreement, in addition to Oslo’s family-friendly environment with its rich opportunities for culture and outdoor activities

How to apply

The application must include

- cover letter, stating your motivation, scientific background, and research interests,
- a detailed CV,
- 2-3 references (name, institution, e-mail, telephone number, and relation to the candidate),
- copies of diplomas and transcripts.

The application with attachments must be submitted in English and uploaded in pdf format in our electronic recruiting system linked in the announcement. Please follow the link “apply for this job”.

While the recruitment system includes a basic CV, we ask candidates to also include a separate, detailed CV in .pdf format with their application. Applications without a cover letter and detailed CV will be rejected.

Applicants may be called in for an interview.
Formal regulations

The PhD candidate must take part in the University’s approved PhD program and is expected to complete the project within the set fellowship period. Please see the guidelines and regulations for appointments to Research Fellowships at the University of Oslo.

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentlighetslova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The appointment may be shortened/given a more limited scope within the framework of the applicable guidelines on account of any previous employment in academic positions.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results etc.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

Contact information

Please contact Marieke Kuijjer with questions on the project and position.

For questions relating to the administrative aspects of the application, please contact Nina Modahl

About the University of Oslo

The University of Oslo is Norway’s oldest and highest ranked educational and research institution, with 28 000 students and 7000 employees. With its broad range of academic disciplines and internationally recognised research communities, UiO is an important contributor to society.

Centre for Molecular Medicine Norway (NCMM) was established in 2008 and is the Norwegian node in the Nordic EMBL Partnership for Molecular Medicine. NCMM is a joint venture between the University of Oslo, Health Region South-East and the Research Council of Norway. From 2017 NCMM is merged with the Biotechnology Centre of Oslo and now has altogether 11 research groups. The overall objective of NCMM is to conduct cutting edge research in molecular medicine and biotechnology as well as facilitate translation of discoveries in basic medical research into clinical practice.