UNIVERSITETET I OSLO

Jobbnorge ID: 253224
Deadline: 12/17/2023
Website: http://www.uio.no/
Scope: Fulltime
Duration: Temporary

Postdoctoral Fellow/Researcher in Computational Biology & Gene Regulation

Centre for Molecular Medicine Norway (NCMM), Nordic EMBL Partnership for Molecular Medicine

The Computational Biology & Gene Regulation group led by Anthony Mathelier at the NCMM, a part of the Nordic EMBL Partnership for Molecular Medicine, is seeking an ambitious and highly motivated Postdoctoral Fellow or Researcher for a two-year position, starting as soon as possible in 2024. The selected candidate will play a pivotal role in a collaborative project spanning internationally renowned groups, namely those of Drs. Anshul Kundaje at Stanford University, USA, Wyeth Wasserman at the University of British Columbia, Canada, and Anthony Mathelier, NCMM, Norway. The position will be based in Norway. More information about the group can be found at https://mathelierlab.com/.

Join us to not only advance your career but also contribute to meaningful scientific discoveries and resources in the world of computational biology and gene regulation.

Position Description

The selected candidate will contribute to a cutting-edge project aimed at enhancing and expanding computational resources to decipher transcription factor (TF) - DNA interactions. The focus will be on the enhancement of the JASPAR (https://jaspar.elixir.no) and UniBind (https://unibind.uio.no) databases, which are officially recognized by ELIXIR Norway as Norwegian bioinformatics services. Specifically, the candidate will utilize advanced deep learning techniques to provide refined models and data crucial for the analysis of disease mutations affecting gene expression.

The candidate can refer to the following publications: https://doi.org/10.1093/nar/gkac1143, https://doi.org/10.1186/s12864-021-07760-6, https://doi.org/10.1038/s41588-021-00782-6, https://doi.org/10.1101/2022.12.20.520743, https://doi.org/10.48550/arXiv.1704.02685, https://doi.org/10.48550/arXiv.1811.00416.

Key responsibilities

- Generation of BPnet deep learning models on ChIP-seq datasets from the GEO database.
- Employing interpretation tools like DeepLIFT and TF-MoDISco to meticulously extract TF-DNA interactions.
- Development of a framework for integrating these models into JASPAR and enriching the UniBind database with high-resolution interactions.

Requirements

The ideal candidate should meet the following criteria:

- Ph.D. in Computational Biology, Bioinformatics, or a related field.
- Proficiency in programming and experience with computational genomics data analysis.
- Experience in machine learning, particularly deep learning techniques.
- Experience in web development for scientific applications or databases; ideally proficiency in frameworks such as Django.
- Ability to collaborate with researchers from different fields and at different career stages.
- Willingness to be part of a team to share knowledge and skills.
- Documented ability to communicate science.
- Excellent written and verbal communication skills in English.

The following qualifications will count in the assessment of the applicants:

Advantageous skills

- Familiarity with TF-DNA interaction models and genomic interpretation tools would be a distinct advantage.
- Track record of developing reproducible computational pipelines, preferably with workflow management systems like Snakemake or Nextflow would be an advantage.
- Ability to containerize applications using Docker or Singularity for better software management and reproducibility.
- Prior experience with genomic databases, especially JASPAR or UniBind, is desirable.

What we offer

- A salary of NOK 575 400 - 646 000 per annum depending on qualifications in position as Postdoctoral Fellow (position code 1352)/Researcher (position code 1109)
- A stimulating research project that will have an impact on the scientific community.
- A role within an ambitious and multi-disciplinary team that combines the strengths of both experimental and computational sciences, aimed at delivering high-impact research.
- Attractive welfare benefits including a generous pension agreement.
- A family-friendly environment in Oslo, known for its high quality of life, rich cultural scene, and abundant opportunities for outdoor activities.

Collaborative Environment

This position offers the unique opportunity to engage with leading experts in the field and to be part of a supportive and dynamic local and international research environment. The collaboration with the groups of Drs. Kundaje and Wasserman provides an enriching cross-institutional experience.

Application Procedure

The application should include

- Applicants should include (1) a cover letter outlining motivations, career goals, relevant experience, and research interests, (2) a CV with list of publications, and (3) two-three referees contact information. These should be uploaded as a single PDF document in the electronic recruiting system. All documents should be in English.

The application with attachments must be delivered in our electronic recruiting system. Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English.

It is expected that the successful candidate will be able to complete the project in the course of the period of employment.

Formal regulations

Please see the guidelines and regulations for appointments to Postdoctoral fellowships at the University of Oslo.

No one can be appointed for more than one Postdoctoral Fellow period at the University of Oslo.

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

Inclusion and diversity are a strength. The University of Oslo has a personnel policy objective of achieving a balanced gender composition. Furthermore, we want employees with diverse professional expertise, life experience and perspectives.

If there are qualified applicants with disabilities, employment gaps or immigrant background, we will invite at least one applicant from each of these categories to an interview.

Contact information

Inquiries about the position can be directed to Anthony Mathelier

About the application: 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 7 500 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.

Additional information

Place of service:

Oslo Science Park 0349 Oslo (Oslo Municipality)