Postdoctoral Research Fellowship in Molecular Microbiology

Job description

A 3-year full time postdoctoral research fellow position, position code 1352 to study tuberculosis (TB) and the search for novel drug targets, is available in the Genome Dynamics (GD) group, Department of Microbiology, Institute of Clinical Medicine, University of Oslo (UiO). The candidate will be part of a collaborative project between the GD group and Institute of Basic Medicine, UiO, and Institute of Pharmacy, UiO, as well as an international JPI-AMR collaboration. Second announcement.

More about the position

The Genome Dynamics (GD) group at the UiO has performed frontline research in molecular microbiology for the past 20 years and is currently part of the research network Turning the Tide of Antimicrobial resistance (TTA). The group collaborates intimately with scientists and clinicians at Oslo University Hospital, where the PI is the head of the clinical tuberculosis (TB) lab and has unique access to clinical materials. The GD group studies bacterial protein structure and function in health and disease, including TB.

GD research involves delineating evolution, genome maintenance and bioenergetics in Mycobacterium tuberculosis, the cause of TB. Our discoveries on short-term and long-term evolution in M. tuberculosis help explain the emerging antimicrobial resistance (AMR). Recently, we have addressed the occurrence and impact of post-translational modifications (PTMs) on M. tuberculosis physiology and AMR.

In the current project, the consortium aims to address the challenge of drug resistance in M. tuberculosis. The background of the project is the discovery of potential drug candidates that have effect against M. tuberculosis under the host cellular stress that is induced under TB infection. These drug candidates also improve the function of known drugs. We aim to discover the mechanism of action of these drugs, optimizing the current leads and in the long term develop the leads into new treatments for TB. We also want discover how the new drugs work by delineating their mechanism of action using molecular biology, mutant analysis, transcriptional studies and proteomics.

The GD group has recently demonstrated that M. tuberculosis cells are decorated with PTMs (see Birhanu AG et al J Proteome Res. 2017; Sci Rep 2018; JPR 2020). The new discoveries represent a paradigm shift in our understanding of the abundance and impact of M. tuberculosis PTMs. By directly building on that information, this part of the project aims to identify novel TB drugs and their mechanism of action and search for the presence and impact of PTMs on M. tuberculosis-related components and pathways.

For more information on the GD group, please follow this link.

The postdoctoral research fellowship candidate will be working at the University of Oslo and collaborate closely with fellow postdocs in mycobacteriology at the University of Oslo, Faculty of Medicine. The successful candidate will work under the supervision of Tone Tønjum (UiO). More information about Professor Tønjum can be found here.

The main purpose of the fellowship is to qualify researchers for work in higher academic positions within their disciplines.

Qualification requirements

The candidate must hold a PhD in molecular biology, microbiology or related subjects, and must have a strong academic background. Detailed knowledge and hands-on experience in mycobacterial work and drug testing is required.

Essential qualifications and skills:

- Experience in analyzing M. tuberculosis cells.
- Hands-on experience in drug testing.
- Prior experience in generation of genetically modified bacteria.
- Strong experience in molecular biology to study mycobacterial pathways.
- Strong experience in genetics and molecular biology to generate and modify DNA constructs.
- Motivation to contribute to efficient and successful cooperation between the groups involved.
- High level report writing and presentational skills in English.

Desired knowledge and skills:

- Background in drug design.
- Hands-on experience in analysis of microbe host interaction and macrophage function.
Hands-on experience in sample preparation from prokaryotic and eukaryotic cells.
Advanced skills in bioinformatics analysis of -omics data.
Experience in characterization of viral drug resistance.

Personal skills

- Individual suitability for the project.
- Scientific and technical proficiency, high ambitions and problem-solving.
- Good cooperation skills.
- Well-developed communication skills.
- Must be willing to perform part of the project in other laboratories.
- Other members of the research group should have benefit of the candidate’s expertise.
- Highly motivated individuals who enjoy working in an international and interactive environment are welcome to apply.

We offer

- Salary NOK 523 200 - NOK 583 900 (pay grade 59-65) per annum depending on qualifications in position as Postdoctoral Research Fellow (position code 1352).
- a professionally 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 (statement of motivation, summarizing scientific work and research interests)
- CV (summarizing education, positions, pedagogical experience, administrative experience and other qualifying activity)
- Copies of educational certificates (academic transcripts only)
- A complete list of publications with brief statements of candidate contributions
- List of 2-3 references (name, relation to candidate, e-mail and phone number)

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.

In assessing the applications, special emphasis will be placed on the documented academic qualifications, the project description (whenever this is required in the call for applicants), and the quality of the project as well as the candidates motivation and personal suitability. Interviews with the best qualified candidates will be arranged.

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.

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

- Professor Tone Tønjum, phone number : +47 23079018 / +47 90152936, e-mail tone.tonjum@medisin.uio.no
- HR Adviser Karoline Berg-Eriksen (questions regarding the online application form), e-mail: Karoline.berg-eriksen@medisin.uio.no

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.

The Institute of Clinical Medicine (Klinmed) is one of three institutes under the Faculty. Klinmed is responsible for the Faculty's educational and research activities at Oslo University Hospital and Akershus University Hospital. With about 800 employees spread over approximately 425 man-labour years, Klinmed is the university's largest institute. Our activities follow the clinical activity at the hospitals and are spread across a number of geographical areas.

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