

The Novo Nordisk Foundation Center for Basic Metabolic Research (CBMR),  
Faculty of Health Sciences, University of Copenhagen

**Postdoctoral Fellow, Bioinformatics**

The Novo Nordisk Foundation Center for Basic Metabolic Research is recruiting a post doctoral fellow for a time-limited 3 year project to work on bioinformatics. The position as postdoc fellow is in the section for Metabolic Genetics headed by Oluf Borbye Pedersen in the group for bioinformatics led by Associate Professor Manimozhiyan Arumugam. The starting date is 1<sup>st</sup> of May, 2013 or as soon as possible thereafter.

**Background**

The Novo Nordisk Foundation Center for Basic Metabolic Research has been established at the Faculty of Health Sciences, University of Copenhagen, to conduct research into basic metabolic functions. The Center consists of five scientific sections and a number of international research satellites, and was established through a grant from the Novo Nordisk Foundation. You can read more about the The Novo Nordisk Foundation Center for Basic Metabolic Research on: <http://metabol.ku.dk>.

Obesity, diabetes and several other metabolic disorders are increasing at an alarming rate across the globe. Although lifestyle changes and lack of physical activity are widely being blamed for this trend, the true cause for these diseases is more likely the interactions between human genetics, environmental factors and the human microbiome. For the past several years, researchers around the world have only been focusing on the interactions between two of these three factors, and ignoring the microbiome. The human gut microbiome plays an important role in our health, nutrition and well-being. Its imbalance may signify an unhealthy state of the host (like in Inflammatory Bowel Diseases), or worse, might be the reason for an ailment (like in *Clostridium difficile* infections). We aim to study the interactions between all three factors – human genetics, environmental factors and human microbiome – in order to understand the molecular mechanisms underlying metabolic disorders. To this end, we use (i) an array of clinical measurement data, (ii) next-generation sequencing of human genome, transcriptome, gut metagenome, and epigenome, and (iii) SNP and DNA microarrays. The section has established a genotyping and sequencing facility to generate most of these data. For analyzing the vast amount of such data, the section has acquired a brand-new high-performance computing cluster with more than 500 CPUs. We also have a strong research partnership with BGI-Shenzhen, the largest sequencing centre in the world.

**Job Description**

The position is a 3 year post-doctoral fellowship in bioinformatics, where the candidate will be responsible for developing a software pipeline for processing and analyzing large amounts of genomic, transcriptomic, metagenomic, genetic, and epigenetic data, and apply statistical and machine learning tools to identify associations with metabolic disorders. He/she is expected to interact and collaborate with other medical researchers, geneticists, and IT specialists in the section as well as the Center, to enhance and ensure proper interpretation of experimental results.

**Qualification requirements**

In connection with the appointment to the post special importance will be attached to the applicant having the professional and personal qualifications stated below:

- PhD in bioinformatics, or in computer science (informatics) with experience in bioinformatics research, or in biology with strong experience in software development.
- Experience in handling (meta)genomic and/or (epi)genetic data
- Experience in high performance computing environment,
- Academic preparation as well as experience in machine learning and statistical analysis,
- Familiarity with bioinformatics programming environments such as BioPerl/BioPython/BioRuby
- Understanding of human disease biology and/or microbiology,
- An excellent research record exemplified by strong publications
- Strong communication skills in English, both spoken and written, are essential.

All these factors will be advantageous. We do however strongly encourage motivated candidates who are lacking some of these skills to apply; however, please indicate in your cover letter how you expect to overcome this lack of relevant experience. Candidates falling short of most or all of these skills may not be considered for the position.

Candidates who are highly motivated to build a research career towards an independent position at the end of this fellowship will be strongly assisted in their goals – through training in grant proposal writing, and assistance in obtaining independent funding.

We encourage all, regardless of their personal background and status, to apply.

## Terms of Employment

General reference is made to the ministerial order on the employment of scientific staff at Danish universities – [www.ubst.dk](http://www.ubst.dk).

The gross basic salary range for Postdoctoral Fellows is approximately DKK 33,000 per month (level 6 to 8). A supplement may be negotiated in addition to the basic salary but this is dependent on the candidate's experience and qualifications. An additional 17.1% monthly contribution to pension will be paid by the employer.

For more information on working and living in Denmark: <http://ism.ku.dk/>, and [www.workingconditions.ku.dk](http://www.workingconditions.ku.dk)

## Questions

For further information, please contact Associate Professor Manimozhiyan Arumugam at [arumugam@sund.ku.dk](mailto:arumugam@sund.ku.dk). For any administrative queries, please contact Academic Officer Sara Barazi [Barazi@sund.ku.dk](mailto:Barazi@sund.ku.dk)

## Application

Please apply by visiting the link below, or copying the URL into your browser, and then clicking “Apply Online” at the bottom of the page. Please note that only online applications will be accepted.

<http://metabol.ku.dk/vacancies/postdoctoral-fellow-bioinformatics/>

Applications - in English - must include:

- A letter of motivation
- Curriculum vitae
- Publications list
- Documentation of research and teaching qualifications

The deadline for applications is **1<sup>st</sup> of April, 2013**. Any applications received after this time will not be considered. Applicants failing to submit the online application form will not be considered either.

As an equal opportunities employer, the University welcomes applications from suitable qualified people, regardless of age, race, religion, gender or ethnic background.

In addition to the material the applicant wishes to be included in the assessment, the Assessment Committee may include further material in their assessment of the applicant. In such circumstances, it is the responsibility of the applicant, on request, to send the material to the Committee.

Receipts of the applications will be acknowledged within 24 hours, and the applicant will be kept continuously informed of the progress of the application.

The applicant will be assessed according to the Ministry of Science Technology and Innovation Executive Order no. 284 of 25. April 2008.