Lund University is one of Europe's leading universities. Here, history and tradition lay the ground for the study and research environments of tomorrow. We offer education and research within engineering, science, law, social sciences, economics and management, humanities, theology, fine art, music and theatre. Through interaction with business and the community we ensure that knowledge and innovations benefit society. The University has 47 000 students and 7 200 staff from all over the world, based mainly in Lund, Malmö and Helsingborg. We work with 680 partner universities in more than 50 countries.

Lund University invites applications for the following position:

**Post-doctoral scholarship**

**Placement:** Department of Experimental Medical Science  
**Ref No:** V 2021/1322  
**Duration:** 6 months. The scholarship can be drawn for a total of two years.  
**Starting time:** 2021-09-01  
**Last day for applying:** 2021-07-01

**Description:**  
The mechanism behind beta cell dysfunction in Type 2 diabetes are still not known. To address this, cell type-specific impact of T2D on the transcriptome will be assessed with 10X and SmartSeq3 single cell RNA sequencing in islets from T2D patients and controls using established pipelines. Cell type-specific Gene-regulatory networks (GRNs) will be computed using a novel algorithm. GRNs representing key components of beta cell pathology have been identified (using the transcriptional profiles of 5000 cells) and will now be subjected to functional validation. GRNs will be functionally validated using CROP-seq and whole genome CRISPR-screens. Selected hub genes in the GRNs, with previously unknown function in beta cells, will be functionally validated using CRISPR-Cas9 gene targeting and state of the art techniques for assessment of beta cell function.

The project will be pursued at Lund University Diabetes Centre, one of the strongest centers for T2D research in the world. A wide group of collaborators will provide expertise, including bioinformatics and development of novel algorithms. CROP-seq and CRISPR-screens will be performed in collaboration with SciLifeLab, Karolinska Institutet, Stockholm. The position will include a high degree of molecular biology wet lab duties, as well as bioinformatic analysis and interpretation of data. The person will be trained in planning and running
experiments, as well as finalizing scientific reports independently, but with close supervision by the group leader and aid from our mentoring program.

**Qualifications**

The project needs a highly motivated person with documented excellence in molecular biology and basic skills in bioinformatics.

Applicants should have a Ph.D. in a relevant area.

Good communication skills in the English language (written and spoken) is a prerequisite.

A strong background in the diabetes field is a merit but not necessary.

Documented expertise in CRISPR-Cas9 technology, single cell RNAseq, or computational biology is meriting, but not necessary.

Eligible candidates must have obtained their PhD within the last three years. Moreover, eligible candidates must not have held positions at Lund University within the last two years.

**The application should contain:**

CV, publication list with top 5 publications indicated, personal letter, reference letter from at least one internationally recognized senior scientist, diplomas of university degree and high school grades.

**Information:**

Professor Nils Wierup  
Tel: +46703786624  
E-mail: nils.wierup@med.lu.se

**Appointment procedure:**

Applications with CV is to be sent to Professor Nils Wierup via e-mail: nils.wierup@med.lu.se

Dnr V2021/ 1322 shall be indicated on the application.

**Information regarding post doc scholarships at Lund University**

- The scholarship amounts are paid quarterly.

- The scholarship follows the regulations laid down by the University Vice-Chancellor (LS 2010/68, A13).
• The scholarship is intended for the holder’s own education/professional development and does not constitute remuneration for work or other service that has been carried out or will be carried out on behalf of the University.

• The scholarship does not give any entitlement to sickness benefit, parental allowance, holiday pay or pension.

• The host faculty/department and the scholarship holder shall draw up in writing an agreed plan for the studies/development.

• The Scholarship holder is to be informed about the length of the stay, assured social conditions, and continual review of the scholarship holder’s development.

• The Scholarship holder is to be informed about insurance covering the scholarship holder and the need to check his/her own insurance requirements.

• The scholarship holder is to be treated equally to students/researchers in the same situation but with different sources of funding.

• The scholarship holder is to be assured and to contribute to a good working environment.

• The Scholarship holder is to be informed about the risk of possible retrospective taxation in Sweden in cases where the scholarships are administered and paid out by LU and the scholarship holder gains employment at LU shortly after the period of the scholarship.

• There may be a risk of the scholarship holder being taxed in his/her home country; the scholarship holder should investigate this before the period of the scholarship.