

Postdoctoral fellowship in studying early-life programming of metabolism in mouse and human

Deadline for applications: 2026-03-06

Stockholm University is a leading European university offering a multicultural environment in one of the world's most dynamic capital cities. With more than 60,000 students and 5,000 staff, the University facilitates individual and societal development by providing top quality education and research. The university is located in the National City Park with good transport links to the city. Stockholm University strives to be a workplace free from discrimination and with equal opportunities for all.

The **Department of Molecular Biosciences, Wenner-Gren Institute (MBW)** conducts experimental basic research in **molecular cell biology, integrative biology, and infection and immunobiology**. The research environment is characterized by modern and advanced methodologies and has a strong international profile. MBW is one of the larger departments within the Faculty of Science at **Stockholm University**, with over **30 research groups and approximately 180 employees, including about 65 doctoral students**.

Read more about MBW at: www.su.se/mbw

Project description

Deng lab investigates fundamental mechanisms of developmental programming, focusing on how maternal endocrine disorders, such as diabetes, shape offspring cardiometabolic trajectories across the lifespan. We combine mouse models and human cohort samples with state-of-the-art technologies, including single-cell sequencing, proteomics, and organoid co-culture, supported by in-house sequencing and computational infrastructure, to define molecular responders to maternal conditions that coordinate organ development and program future metabolic function. The overall goal is to reveal actionable targets for future diagnosis and intervention with nanomedicine. Our lab is currently affiliated to both Stockholm University and Karolinska Institutet with access to essential core facilities and resources. For more info, please visit www.thedenglab.org.

This research project is funded by Ascending Investigator grant in Endocrinology and Metabolism from Novo Nordisk Foundation (<https://researchleaderprogramme.com/recipients/qiaolin-deng/>) and aims to understand sex dimorphic effects of maternal diabetes on cardiometabolic dysfunction in offspring. You will establish and further develop mouse disease models to study molecular mechanisms of disease transmission using metabolomics and transcriptomics. Meanwhile, you will also participate in the collection of human cohort samples for multiplex imaging and mitochondrial function analyses. Furthermore, you will use established placental organoids to characterize and model disease signature by investigating cell-cell communication.

Main responsibilities

We are seeking a curious, highly motivated, and creative postdoctoral researcher with a strong background in molecular biology, mitochondrial metabolism, along with track record in working with mouse models and mammalian cell culture. Experience with next-generation sequencing and large-scale bioinformatics analysis is highly preferred. The candidate should have a PhD degree within the area of afore-mentioned research. Moreover, good interpersonal and communication skills (in English written and verbal) is required. Emphasis will be also placed on personal suitability, fitting well into the current research group.

You will have the opportunity to lead the project using techniques recently established in the lab and have access to our own sequencing facility and server. The project is a combination of practical wet-labs and preferably computational analysis (programming in R and/or Python). Your project also includes supervision of master project students and close collaboration with other lab members. You are expected to plan and execute experiments, analyze data, interpret, and present the results as well as write scientific articles, initially under partial supervision but with greater independence going forward.

Qualification requirements

The successful candidate must have received a doctoral degree from an accredited college/university outside Sweden. The degree should have been completed no more than three years before the deadline for applications. An older degree may be acceptable under special circumstances, which may involve sick leave, parental leave, clinical attachment, elected positions in trade unions, or similar.

Terms of the fellowship

The terms of this fellowship are regulated by the rules for postdoctoral fellowships at Stockholm University (<http://www.su.se/mbw/mbw-internal/scholarship/guidelines-for-scholarship>). The fellowship is for full-time postdoctoral studies during 2 years, and includes health insurance. Start date as per agreement.

Assessment criteria

It is considered an advantage if the doctoral degree or an equivalent degree was completed no more than three years prior to the application deadline. Under special circumstances, an older degree may also be an advantage. Special circumstances refer to sick leave, parental leave, elected positions in trade unions, service in the total defense, or other similar circumstances, as well as clinical attachment or service/assignments relevant to the subject area. In the appointment process, special attention will be given to research skills with track records on: Metabolomics and mitochondria function, Molecular biology and Sequencing technology, Cell culture (both primary cells and stem cells), Mouse genetics and physiology, Bioinformatics.

Additional information

Further information about the research project and about the conditions of this fellowship can be obtained from Qiaolin Deng, Qiaolin.Deng@su.se

Application

An application must contain the following documents in English:

- A complete CV, including date of the thesis defense, title of the thesis, previous academic positions, academic title, current position, academic distinctions, and committee work
- A brief motivation letter stating the reason why the candidate is interested in this project (no more than one page)
- A complete list of publications, with highlight of current work and past work that you greatly contributed
- Contact details of two reference