Announcement of post-doc scholarship at the Department of Clinical Sciences, division of Neurology

Generation of a 3D in vitro model of a lysosomal storage disorder combining stem cells and genome editing

In this project we will use human induced pluripotent stem cells from patients of a lysosomal storage disorder and isogenic controls generated with crispr/cas9 to develop in vitro brain organoids as a model to understand the underlying molecular and cellular mechanisms of the disease as well as the neurodevelopmental and functional impairments occurring in the patient’s brain. The organoids will be analyzed using immunocytochemistry, Gene expression, calcium imaging, electrophysiology and multi-electrode arrays.

The scholarship holder will get the opportunity to learn novel and state of the art stem cell culture and differentiation techniques, genome engineering using crispr/cas9 and a broad range of molecular, cellular and functional techniques for the analysis of the generated organoids.

Importantly, the holder will acquire substantial knowledge in early-onset neurodegenerative lysosomal storage disorders and human neurodevelopment.

Reference number: V 2020/2218

Scholarship period: The scholarship covers a period of 6 months with possibility of prolongation up to a maximum of 24 months in total.

Preliminary start date: 2021-03-01 (to be discussed)

Supervisor/contact person: Isaac Canals, isaac.canals@med.lu.se

Qualifications:

- To be eligible for a post-doc scholarship at Lund University the recipient must hold a PhD degree within a relevant field. The PhD degree must not be from Lund University. The PhD degree must not be older than three years. The applicant must not have been employed at Lund University in the past two years.
- The applicant should have a strong background in cellular biology
- Experience with human pluripotent stem cells and neural differentiation for establishing multicellular cultures is also required
- Experience with brain organoids, calcium imaging and other functional assays is meriting
- Furthermore, the applicant should be fluent in English and have a keen interest in learning cutting edge technologies that can be applied to better understand human neurological disorders and neurodevelopment

Written application, including reference number, is to be sent via e-mail to the supervisor and must include the following:
- CV
- Personal letter stating the reasons why the study suits the applicant (maximum one page)
- List of publications
- References (2)
- PhD diploma

Application deadline: 2021-01-10

Information regarding scholarships at Lund University
- The scholarship sum is paid out quarterly
- A scholarship awarded will be reviewed every six months
- Scholarships are tax-exempt
- Scholarships do not give rise to sickness benefits, compensation from the Social Insurance Office or retirement pension.
- A scholarship holder cannot be hired after the scholarship period due to tax reasons.
- The scholarship follows the regulations established by the Vice-Chancellor of Lund University (October 1st 2020; Reg. No STYR 2020/1283).