



Marie Skodowska-Curie PhD student position at Karolinska Institutet

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Karolinska Institutet, Department of Medical Biochemistry and Biophysics,
Molecular Neurobiology

We are recruiting a student for doctoral education.

For more information regarding doctoral (PhD) education, see: <http://www.ki.se/doctoral>.

Research group

We offer an interesting and challenging job in an international environment focusing on education, research, public-sector consultancy and innovation, which contribute to enhancing the economy and improving social welfare. We strive for academic excellence, collegial respect and freedom tempered by responsibility.

Applications are invited from suitably qualified candidates for a position funded by the Marie Skodowska-Curie project "ASCTN-Training" within the Horizon 2020 programme of the European Union, starting in early 2019. The appointment will be on a temporary basis for a maximum period of 3 years (PhD student) and will be placed at Department of Medical Biochemistry and Biophysics of the Karolinska Institute.

ASCTN-Training is a four-year project, funded by the European Union Horizon 2020 Programme (H2020-MSCA-ITN-2018) under the Marie Skodowska-Curie Initial Training Network and Grant Agreement No. 813851. ASCTN-Training is addressing existing gaps within Human Stem Cell-based Neuronal disorders (NDs) Modelling (NDM) for research to develop new medicines for the treatment of neurological disorders (e.g. Parkinson's (PD), Huntington's (HD) and Demyelination's (DM) diseases), which occur as a result of acute or progressive loss of cells, glial or neuronal, and structures and function in the brain. ASCTN-Training sets out with the ambition to educate and train students within and across different scientific disciplines: biotechnology (Human Pluripotent Stem Cells (hPSCs) neuronal and glial differentiation using brain-on-chip technology and microfluidics, 3D tissue engineering/cerebral organoids and nanoengineering of culture conditions), molecular biology (Ex vivo gene expression, Direct cellular reprogramming, mouse genetic modification, single cell analysis)

Website for additional job details: <http://ernestarenaslab.org/>

Education project

Modeling Parkinson's Disease with iPS-derived Midbrain-on-a-chip

The intended PhD student will be a member of a multi-disciplinary international team and will be responsible for the generation of an in vitro brain-on-chip system as a model of PD by:

1. Implementing midbrain dopaminergic (mDA) neuron differentiation of human pluripotent stem cells (hPSCs) on a chip system
2. Characterization of the midbrain-on-chip model using PD-derived hPSCs (PD-on-chip).
3. Analyze the effect of striatal afferents in the brain-on-chip system by seeding control or PD-derived striatal differentiated neurons from hPSCs
4. Temporal molecular characterization of the PD-on-chip system compared to control midbrain-on-chip system.
5. Examine the effect of optogenetic stimulation of striatal afferents in the PD-on-chip system.

The candidate will have to accomplish the following tasks:

- Spend external stays at: Institute for Bioengineering of Catalonia (Barcelona, microfluidics technology), Universidad Autónoma de Madrid (Spain, neural stem cell cultures), Cairn (UK, optogenetics), subject to changes depending on the results obtained in the project.
- Participate in training events for researchers and Principal Investigators involved in the program.
- Contributing to the reporting of project milestones and deliverables in accordance with EU deadlines.
- Promote and disseminate results involved in the program, which includes contributing to newsletters and participating in outreach events.

Entry requirements for doctoral education at KI

To be eligible for doctoral education, the following requirements have to be met:

General entry requirements

A person meets the general entry requirements for doctoral/third-cycle/PhD education (according to Higher Education Ordinance Chapt 7, section 39) if he/she:

- has been awarded advanced/second-cycle/master qualification (i.e. master degree) or
- has satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the second-cycle/master level, or
- has acquired substantially equivalent knowledge in some other way in Sweden or abroad.

For more information regarding the general entry requirements, please see:

<https://ki.se/en/phd/entry-requirements-eligibility-for-doctoral-education>

Specific entry requirements

Proficiency in English equivalent to the course English B/English 6 at Swedish upper secondary school. Applicants who meet the general entry requirements (1 or 2 above) from a university in one of the Nordic countries fulfill the English language requirement.

For information on how other applicants can certify their English proficiency (such as through IELTS or TOEFL, previous upper secondary or university level studies), please see:

<https://ki.se/en/phd/entry-requirements-eligibility-for-doctoral-education>

Essential:

- Less than 4 years full time equivalent research experience and not yet been awarded a doctoral degree (PhD)
- Resided less than 12 months in Sweden in the 3 years prior to selection
- Excellent communication and organization skills
- Fluent in spoken and written English: All scientific communication will be in English and English is also widely spoken outside of the lab.
- Excellent writing and presentation skills
- Flexibility and ability to work in a team environment
- Availability to travel nationally and internationally two to three times a year

Desirable:

- Experience with outreach events
- A keen interest in pursuing pre-clinical research into Neurodegenerative diseases

Skills and personal qualities

Candidates should have a master's degree in Biomedical Sciences, Neurosciences (or a similar

degree) with background knowledge in neurodegenerative disorders.

Relevant scientific background, including one but preferably several of the following:

- Experience in cell culture, particularly cultivation of human pluripotent stem cells and neuronal differentiation
- Knowledge of developmental neurobiology
- Experience in molecular biology and microscopy.
- Experience in optogenetics

Assessment criteria

A selection will be made among qualified applicants on the basis of the ability to benefit from doctoral education. Karolinska Institutet uses the following bases of assessment:

- Documented subject knowledge of relevance to the area of research
- Analytical skill
- Other documented knowledge or experience that may be relevant to doctoral studies in the subject.

The qualifications of the applicants will be evaluated on an overall basis.

Terms and conditions

All doctoral students at KI receive financial support during their doctoral education and employment on a doctoral studentship is the most common sort of support.

Application process

The application must contain the following documents in Swedish or English:

- A personal letter and a curriculum vitae
- Academic degree diplomas, transcripts of records in original language and, if applicable, authorised translations
- Copies of degree projects and any previous publications
- Proof of English proficiency as stated in the specific requirement above

All documents certifying the entry requirements must be scans of originals (scans of copies or certified copies will not be accepted). The scanned documents must be in color and both the front and the back of the documents must be scanned. Please note that there are specific documentation requirements for a number of countries, please read the instructions at:

<https://ki.se/en/phd/entry-requirements-eligibility-for-doctoral-education>

The application and supporting documents are to be submitted through the Varbi recruitment system.

Karolinska Institutet is one of the world's leading medical universities. Its vision is to significantly contribute to the improvement of human health. Karolinska Institutet accounts for the single largest share of all academic medical research conducted in Sweden and offers the country's broadest range of education in medicine and health sciences. The Nobel Assembly at Karolinska Institutet selects the Nobel laureates in Physiology or Medicine.

Pursuant to the regulations of the Swedish National Archives, applications are kept on file for two years after the appointment has gained legal force. The regulations do not apply to attachments that have been printed or otherwise published.

Karolinska Institutet strives to provide a workplace that has approximately the same number of women and men, is free of discrimination and offers equal opportunity to everyone.

For temp agencies and recruiters, and to salespersons: We politely, yet firmly, decline direct contact with temp agencies and recruiters, as well as those selling additional job announcements.

Type of employment PhD placement

Contract type	Full time
First day of employment	1/1/19
Salary	monthly
Working hours	100%
City	Stockholm
County	Stockholms län
Country	Sweden
Reference number	2-5994/2018
Contact	Ernest Arenas / Professor , +46 8-524 876 63
Union representative	Henry Wölling, SEKO, henry.wolling@ki.se Biborka Bereczky Veress, SACO, 46 70-173 85 75 , biborka.bveress@ki.se Anne Edgren, OFR/S, P, O, 08-524 87570
Published	30.Oct.2018
Last application date	30.Nov.2018 11:59 PM CET