PhD student Neurochemistry

Ref. No. SU FV-3134-20

at the Department of Biochemistry and Biophysics. Closing date: 22 September 2020.

The Department is mainly located with the other Departments of Chemistry and Life Sciences in the Arrhenius Laboratories for Natural Sciences, which are situated in the northern part of the University Campus at Frescati. Presently more than 300 people are working at the Department of which about 100 are PhD students engaged in internationally highly recognized research covering a broad range of subjects. The Department is also deeply involved in teaching, with courses at all undergraduate levels, including a wide range of Master courses. A close link between the undergraduate program and the research projects has since long been a tradition and a trademark of the Department. Science for Life Laboratory, where many of our researchers are based, is also closely linked to the department.

Project description

Your postgraduate studies in Neurochemistry with a focus on cell biology will be conducted within the project "Deciphering cell-cell communication in health and amyotrophic lateral sclerosis (ALS)".

The lethal disease amyotrophic lateral sclerosis (ALS) is defined by the loss of somatic motor neurons, that innervate all voluntary muscles in the body, leading to muscle wasting and paralysis. Motor neurons follow a distinct 'dying-back' pattern of degeneration in ALS. The specialized synapses with muscle, neuromuscular junctions (NMJs), and the distal axons are early pathological targets in ALS and are disrupted before motor neuron cell bodies in the spinal cord are lost. The mechanisms governing this pathological process are largely unknown but is likely due to an early disruption in communication between motor neuron and muscle leading to destabilization of the NMJ.

In this project, we will use induced pluripotent stem cells and specify these into muscle and motor neurons and then study cell-cell signaling through cell biological and molecular biological methods, including CRISPR-Cas9 genome editing, single-cell RNA sequencing and proteomics.

Students with a background in cell biology, neurochemistry, neuroscience, biochemistry, or biotechnology are eligible to apply. Experience of microfluidic systems, cell culture and especially stem cells is important and a general interest in scientific issues is crucial.

For an overview of our work: Eva Hedlund/Research

Qualification requirements

In order to meet the general entry requirements, the applicant must have completed a second-cycle degree, completed courses equivalent to at least 240 higher education credits, of which 60 credits must be in the second cycle, or have otherwise acquired equivalent knowledge in Sweden or elsewhere.

In order to meet the specific entry requirements for acceptance in Neurochemistry with Molecular Neurobiology program the applicant must have passed courses within the first and second cycles of at least 120 credits in Chemistry/Life Sciences, including at least 15 credits Neurochemistry/Chemistry/Life Sciences at the second cycle level and a Degree Project (Thesis) also in Neurochemistry/Chemistry/Life Science of 30 credits. Of the 120 credits, at least 45 credits must be in chemistry.

Selection

The selection among the eligible candidates will be based on their capacity to successfully complete the program. Important criteria when assessing this capacity are; documented knowledge and skill in the field of the thesis project, written and oral proficiency in English, the capacity for analytical thinking, the ability to collaborate, as well as creativity, initiative, and independence. The assessment will be based on previous experience and grades, the quality of the degree project, references, relevant experience, interviews and the candidate’s written motivation for seeking the position.

Admission Regulations for Doctoral Studies at Stockholm University are available at: www.su.se/rules and regulations.
**Terms of employment**

Only a person who will be or has already been admitted to a third-cycle programme may be appointed to a doctoral studentship.

The term of the initial contract may not exceed one year. The employment may be extended for a maximum of two years at a time. However, the total period of employment may not exceed the equivalent of four years of full-time study.

Doctoral students should primarily devote themselves to their own education, but may engage in teaching, research, and administration corresponding to a maximum of 20% of a full-time position.

Please note that admission decisions cannot be appealed.

Stockholm University strives to be a workplace free from discrimination and with equal opportunities for all.

**Contact**

For more information, please contact the project leader, Eva Hedlund, eva.hedlund@dbb.su.se.

General information about the PhD programs can be given by the Director of Doctoral Studies, Pia Adelroth, pia.adelroth@dbb.su.se, or the Head of the Department, Lena Mäler, lenam@dbb.su.se.

**Union representatives**

Ingrid Lander (Saco-S), telephone: +46 708 16 26 64, saco@saco.su.se, Alejandra Pizarro Carrasco (Fackförbundet ST/Lärarförbundet), telephone: +46 8 16 34 89, alejandra@st.su.se, sek@seko.su.se (SEKO), and PhD student representative, doktorandombud@sus.su.se.

**Application**

Apply for the PhD student position at Stockholm University’s recruitment system by clicking the "Apply" button. It is the responsibility of the applicant to ensure that the application is complete in accordance with the instructions in the job advertisement, and that it is submitted before the deadline.

Please include the following information with your application

- Your contact details and personal data
- Your highest degree
- Your language skills
- Contact details for 2–3 references

and, in addition, please include the following documents

- Cover letter
- CV – degrees and other completed courses, work experience and a list of degree projects/theses
- Research proposal (no more than 3 pages) describing:
  - why you are interested in the field/project described in the advertisement
  - why and how you wish to complete the project
  - what makes you suitable for the project in question
  - outline a scientific question/project (maximum 1 page) you would be interested to work on.
  (The purpose of this document is not to design the successful candidate’s doctoral studies, but to evaluate the scientific thinking of the applicant).
- Degree certificates and grades confirming that you meet the general and specific entry requirements (no more than 6 files)
- Letters of recommendation (no more than 6 files)
- Degree projects/theses (no more than 6 files).

The instructions for applicants are available at: Instructions – Applicants.

You are welcome to apply!

*Stockholm University contributes to the development of sustainable democratic society through knowledge, enlightenment and the pursuit of truth.*

**Closing date:** 22/09/2020