MASTER THESIS PROJECTS at Lund University Medical Faculty
Area: neuropharmacology and neuroscience

We are looking for motivated and ambitious students interested in carrying our Master Thesis projects at the intersection between neuropharmacology and neuroscience. The projects will pursue timely questions using a solid study design, at least 2-3 different technical approaches, and new experimental tools. Projects are predicted to lead to publications in very good journals.

THE RESEACH QUESTIONS:

Parkinson's disease (PD) is characterized by severe degeneration of dopamine-producing neurons in the basal ganglia, giving rise to typical motor deficits. These deficits are treated with L-DOPA and other dopaminergic agents. However, this pharmacological dopamine replacement leads to debilitating complications in both motor and non-motor symptom domains, whose mechanisms are poorly understood. Using new tools for brain activity mapping in rodent models, we aim to determine which brain regions and cell types are responsible for the development of specific motor and neuropsychiatric disturbances. In parallel, we probe the therapeutic potential of novel treatment principles targeting specific transmitter-receptor systems. Additional projects aim at determining the effects of dopaminergic drugs on inflammatory-immune pathways. Projects will build on solid preliminary data in order to maximize the chances of a successful outcome.

TIME AND DURATION OF THESIS PROJECTS:

Several projects have been planned to start between September 2021 and March 2022 and will thereafter continue for at least 6-8 months each. The master thesis project could start any time between September 2021 and February 2022 and should have a minimum duration of 6 months, but potentially extendable to even much longer periods.

THE RESEARCH GROUP:

The Basal Ganglia Pathophysiology Unit at Lund University - bgp-lab.com - has world-leading expertise in developing PD models in rats and mice in order to investigate disease mechanisms and new treatment principles. Our projects combine several state-of-the-art methodologies, and always include advanced behavioural analyses and molecular histopathology. The group is embedded in a research centre of excellence for neurodegenerative diseases appointed by the Swedish Government, called *Multipark* (Multidisciplinary research focused on Parkinson´s disease) www.multipark.lu.se. The working environment will be highly stimulating and international.

PRIMARY ACADEMIC SUPERVISOR:

Angela Cenci Nilsson, Professor in Experimental Medical Research, Head of the Basal Ganglia Pathophysiology Unit. *Visiting address:* Wallenberg Neurocentrum, BMC A13, Sölvegatan 17. 223 62 Lund (Sweden). Angela.Cenci_Nilsson@med.lu.se

HOW TO APPLY:

Send an e-mail application to Angela Cenci Nilsson including:

(i) a short statement of motivation (why you´d be interested in doing a thesis with us);

(ii) an indication of when you would like to start and how long you would like to stay;

(iii) your curriculum vitae (including personal data and account of your previous education);

(iv) the name and e-mail address of 1-2 reference persons (please also include the academic contact person of the courses you are taking now)