



PhD Position in Role of the hypoxia-inducible factor-1 α in metabolic changes in the hypothalamus of obese mice

 [University of Lübeck](http://www.uni-luebeck.de)  Lübeck

The Graduiertenkolleg 1957 “Adipocyte-Brain Crosstalk” was established in 2014 with the funding from the German Research Foundation. It aims at providing structured doctoral training at the interface of neuroscience, biology and translational medicine. The DFG-funded Graduiertenkolleg 1957 “Adipocyte-Brain Crosstalk” studies the effects of adipose tissue hormones on CNS function and, in turn, the control of adipose tissue physiology by the brain. We are looking for highly motivated candidates for the following PhD project (supervisors in brackets). Tentative start: **May 2020**. Earlier start date from January 2020 could be discussed with the PIs in the interview.

Activities and responsibilities

Supervisor: Prof. Olaf Jöhren, Institute of Pharmacology and Toxicology

Project Description:

Astrocyte glucose metabolism is essential for the delivery of energy substrates to neurons and may regulate a variety of brain functions. The transcription factor hypoxia-inducible factor-1 α (HIF-1 α) regulates astrocytic glycolysis and lactate production (J Neurosci 32,9727, 2012). In obesity, low-grade inflammation occurs within the hypothalamus and astrocyte activity as well as glucose uptake is changed. Using *in vitro* and *in vivo* systems we will analyze the effect of dietary and inflammatory factors on HIF-1 signaling and target gene regulation in cultured astrocytes and within the hypothalamus of obese mice.

Experimental Methods:

- Primary cell cultures (astrocytes, microglia, brain endothelial cells), co-culture systems
- Mouse experiments including of rAAV vectors application and phenotyping (energy expenditure, body weight)
- DNA and RNA extraction, PCR, qPCR
- Western blotting, immunocytochemistry
- Chromatin Immunoprecipitation (ChIP), pyrosequencing of DNA methylation, reporter gene assays

<https://www.grk1957.uni-luebeck.de/research/3rd-generation-projects/role-of-the-hypoxia-inducible-factor-1a-in-metabolic-changes-in-the-hypothalamus-of-obese-mice.html>

Qualification profile

- Research-based master's degree or equivalent (e.g. diploma) passed with an above-average grade in neuroscience, biology, biochemistry, molecular life science, nutrition & biomedicine, pharmacology or a related subject (if you are working on the master thesis and expect to graduate until end of 2019/beginning of 2020, you can still apply - please state it in your motivation letter and upload the transcript to date)
- Excellent English language skills in speaking and writing
- Pro-active attitude, good communication skills and ability to work independently in an interdisciplinary team

We offer

- 3-year employment contract, salaries according to German civil service tariff (TV-L 13, 65%)
- All research groups are located at the Center of Brain, Behavior and Metabolism (CBBM) with state-of-the-art lab facilities incl. MRT scanner, metabolic core unit, LC-MS, microscopy
- Comprehensive academic support, e.g. project-specific courses, soft skills training, funding for research stays abroad and international conferences, individual career coaching
- Relaxed life style in city of Lübeck among many UNESCO World Heritage sites and directly on the Baltic Sea coastline and part of the Metropolitan area of Hamburg, Germany's second largest city and home to a wide range of cultural and leisure attractions

Send application to

Application deadline: 30.10.2019

<https://www.grk1957.uni-luebeck.de/grk-1957/application-form.html>

The complete application should include

- a letter of motivation
- a detailed CV
- master's degree certificate AND transcript
- a summary of the master thesis
- bachelor's degree certificate AND transcript
- two letters of recommendation (if you do not have the letters immediately available, please give us the contact details of two referees)

Documents issued in a language other than English or German must be translated into English AND certified by a public notary/German Consulate with an official seal.

 Vollzeit, Befristete Anstellung  Promotionsstelle  Aktualisiert am 04.10.2019