UNIVERSITÄTSMEDIZIN GÖTTINGEN UMG

Cellular Biophysics and Translational Cardiology Section, together with Core Facility Proteomics of the UMG offers a position:

PhD Student (m/f/d) Leducq Netwok CURE-PLaN

limited for 3 years, part time (65%) | salary according to TV-L

About us

The University Medical Center Göttingen is a tertiary care center and offers great development potential. Its 7,900 employees work in over 65 departments and facilities to provide top-quality patient care, excellent research and modern teaching. Göttingen, "City of Science", located near the center of Germany, the University Medical Center Göttingen is embedded in the city's attractive network of scientific research facilities.

The Cellular Biophysics and Translational Cardiology Section at the Heart Research Center together with the Core Facility Proteomics offer a research position for a highly motivated PhD student. The PhD project "Proteomic analysis of local molecular phospholamban nanodomain functions in human cardiomyocytes" is part of the transatlantic CURE-PLaN consortium, a competitive and highly interdisciplinary large-scale collaborative project funded by Fondation Leducq (https://www.cure-plan.online/).

Cardiac function and stress adaptation depends on protein complexes organized in membrane nanodomains at the level of the sarcoendoplasmatic reticulum that control local metabolic functions. Phosphlamban belongs to a growing micropeptide transmembrane protein family that inhibits SERCA calcium pumps in myocytes. Recent investigations identified novel protein/protein interactions of phospholamban isoforms that protect the phosphorylated state and thus enhance cardiac performance (*Menzel et al. Science Signaling 2020).

The goal of the project is to establish the disease mechanism of the human

R14del PLN mutation using in human iPSC-cardiomyocytes using biochemistry, mass spectrometry, and high-resolution imaging approaches. Of particular interest is the impact of this mutation on molecularly defined loss-of-function phosphorylation mechanisms that affect myocyte function and through altered protein complexes. The student will work with human iPSC cell models, mouse models including primary isolated cardiomyocytes, and an allele-directed therapeutic intervention to define the cardiac disease mechanim in a highly interdisciplinary setting. As part of the project, he/she will employ advanced mass spectrometry and superresolution microscopy techniques.

The candidate will be located at the Heart Research Center Göttingen and participate in the campus-wide CRC 1002 and IRTG 1816 activities.

What you will be doing:

- Applying and optimizing state-of-the-art protein-protein interaction biochemistry protocols, high-resolution subcellular (co-)localisation imaging and analysis, analyzing mass spectrometry data in samples ranging from cultured cells to cardiac tissue samples.
- Building and applying your collaborative networking and scientific portfolio through associated cardiovascular research projects in CURE-PLaN.
- Who you are: A highly motivated PhD candidate with a drive to learn and excel in science. You like to communicate with scientists and enjoy working in a highly interdisciplinary, multicultural research environment.

Your background ranked according to relevance:

- Protein biochemistry; cell and molecular biology; high-resolution imaging; and ideally mass spectrometry.

Desirable training:

- Protein biochemistry (WB, pull-down), protein and peptide separations (SDS-PAGE, HPLC), confocal and superresolution microscopy; mass spectrometry, statistical data analysis.

What our group offers:

- An exciting collaborative research environment with state-of-the-art methods and equipment at the University Medical Center Göttingen.
- Our group has established advanced techniques in mass spectrometry-based proteomics and high-resolution imaging. Our experience in methods teaching in interdisciplinary teams will provide you with the knowledge and skills you need to carry out your experiments.
- A competitive scientific project embedded in a research center with plenty of opportunities to interact and learn from researchers from

various disciplines.
- Scientific retreats and conferences are part of your work and provide opportunities for scientific networking and collaborations.
- Direct interaction with an active proteomics and imaging research community in Göttingen.

Women are especially encouraged to apply. Applicants with disabilities and equal qualifications will be given preferential treatment.

We look forward to receiving your application by March 7th, 2021:

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Please send your application only via e-mail as a PDF-file.

Travel and application fees cannot be refunded or transferred.