

Master's Thesis Opportunity
ICON , LMU Klinikum, Munich
Prof. Merkus's Lab



We are offering a position for a **Master's thesis** for motivated master's students from LMU or TUM in the field of cardiovascular research.

Project Title: Characterisation of adipose tissue depots in models of heart failure

Obesity , diabetes and several cardiovascular diseases usually have been seen to have ectopic adipose tissue depots which act as active endocrine organs rather than passive fat stores. We hypothesize that depot specific adipose tissue dysfunction drives cardiac inflammation.

In our preliminary work, we have identified some key molecular (via proteomics analysis) factors which can influence fat cardiomyocyte crosstalk that had not been previously examined in the context of heart failure.

This project aims to validate these findings through in-depth bioinformatic analysis and molecular analysis of adipose tissues from rat, swine as well as from human epicardial fat obtained from patients undergoing heart transplants.

Methods May Include:

- Pathway and differential gene expression analysis of proteomic data (experience with R, Perseus is a plus)
- mRNA expression analysis (RT-PCR) and histological tissue analysis
- ELISA, western blotting, and immunofluorescence staining to identify signaling pathways

Your Qualifications:

- Strong motivation and curiosity for complex scientific questions
- Initiative and problem-solving abilities
- Willingness to work with human, rat and pig tissues
- Background knowledge in bioinformatics and/or cell biology is an advantage
- Excellent proficiency in English communication is a must

What We Offer:

- A dynamic and supportive research environment within a young, motivated team

- Close, interactive supervision
 - Opportunities for presenting your work at meetings and potential co-authorship
 - Weekly meetings focused on scientific discussions and updates in the field of cardiac pathology
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Application:

Please send your **motivation letter** and a **detailed CV (combined in a single PDF)** to:

 payel.sen@med.uni-muenchen.de

Please kindly note this position is **only for a thesis work** and can be combined with a internship. We do not offer short internships as the project will take several months to conclude.

Lab Info:

Merkus lab

ICONLMU

(Interfaculty Center for Endocrine and Cardiovascular Disease
Network Modelling and Clinical Transfer)

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