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:

Proteomic and Molecular Analysis of Right Ventricular Tissue in a Swine Model of Tetralogy of Fallot

Heart tissue remodeling in Tetralogy of Fallot is not yet fully understood. To address this gap, we have developed swine models with sequential pulmonary artery banding and pulmonary valve insufficiency to study signaling pathways in the heart.
In our preliminary work, we identified key molecular (via proteomics analysis) and hemodynamic changes that had not been previously examined in the context of this disease.

This project aims to validate these findings through in-depth bioinformatic analysis and the examination of pig right ventricular tissues.

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 and pig heart tissues
- Background knowledge in bioinformatics and/or cell biology is an advantage
- Proficiency in English communication

What We Offer:

- A dynamic and supportive research environment within a young, motivated team
- Close, interactive supervision
- Opportunities for presenting your work at conferences and potential co-authorship

- Weekly meetings focused on scientific discussions and updates in the field of cardiorenal pathology

---

Application:
Please send your **motivation letter** and a **detailed CV (combined in a single PDF)** to:
payel.sen@med.uni-muenchen.de

Lab Info:
Merkus lab
ICONLMU
(Interfaculty Center for Endocrine and Cardiovascular Disease
Network Modelling and Clinical Transfer)
Feodor-Lynen-Straße 19 | 81377 München