**A Ph.D. position is available at Charité – Universitätsmedizin Berlin in a collaborative study on the role of Cldn10a in kidney injury susceptibility.**

**Background:** Following acute kidney injury (AKI), structural alterations occur throughout the renal tubules, with the proximal tubule (PT) being particularly susceptible to ischemic damage. Claudin-10a (Cldn10a), a paracellular anion channel-forming protein, is specifically expressed in PT. Our recent findings reveal that the loss of Cldn10a in mice disrupts paracellular chloride transport and activates energy-producing pathways in kidney tubules. Additionally, preliminary data suggest that female mice express higher levels of Cldn10a compared to males, and that Cldn10a expression is downregulated after AKI in both humans and mice. We hypothesize that (1) Cldn10a influences susceptibility and sex-specific outcomes following ischemic AKI in mice, (2) Cldn10a has direct cell-autonomous functions impacting hypoxia responses in isolated PT cells, and (3) elucidating the transcriptional networks linked to PT tight junction signaling will offer key insights into the mechanisms governing renal energy homeostasis and injury resilience. To test these hypotheses, we will employ Cldn10a-expressing and Cldn10a-deficient *ex vivo* and *in vitro* models of ischemic injury, physiological assessments and bulk as well as single-cell transcriptomics.

This multidisciplinary project will be conducted collaboratively between Clinical Physiology and Nutritional Medicine, Charité - Universitätsmedizin Berlin, and the Department of Nephrology and Hypertension, Hannover Medical School (MHH).

**Key References:**

* Breiderhoff et al. (2022) J Am Soc Nephrol 33, 699–717. <https://doi.org/10.1681/ASN.2021030286>.
* Hinze et al. (2022) Genome Med 14, 103. <https://doi.org/10.1186/s13073-022-01108-9>.

## Your responsibilities

## • Planning, organization and implementation of scientific studies

## • Independent evaluation and documentation of the results

## • Writing of scientific publications

## • Participation in scientific events and presentation of results at congresses

## Your profile

## • Very good University degree (equivalent diploma/master or engineer) in biology, biochemistry, biotechnology, bioinformatics, biophysics or a related subject and a strong background in physiology and bench lab experience.

## • Strong scientific motivation

## • Special interest in functional and pathophysiological-translational issues

## • Very good communication and writing skills in English

## • Personal initiative, skills in teamwork, organization and logistics

## We offer

## • Working at the Charité – Universitätsmedizin Berlin

## • An excellent scientific environment at the interface between basic and preclinical research

## • Association to our Graduate School “TJ-Train” and thus a doctoral thesis associated with an excellent qualification program

**We will only evaluate complete applications including the completed application form:** [**https://klinphys.charite.de/data/Application\_Form%20Charite%204344.docx**](https://klinphys.charite.de/data/Application_Form%20Charite%204344.docx)