**Description of the position:**  
**PhD Position: Mechanobiology of Embryoid Bodies**

**Job description:**

**Our profile**

We analyze how cellular differentiation – particularly of human induced pluripotent stem cells (iPSCs) – can be controlled by cell-cell interaction, biomaterials, and mechanical stimulation. A focus of our work is to genetically modulate iPSCs and to track differentiation processes by epigenetic changes.

**Your tasks**

You will be part of the DFG-funded graduate school Mechanobiology in Epithelial 3D Tissue Constructs (ME3T; me3t.rwth-aachen.de) within project A2 'Mechanobiology of embryoid bodies'.

Embryoid bodies (EBs) can be generated by aggregation of induced pluripotent stem cells in culture. They resemble cystic structures with endodermal epithelium and epiblast cells. This self-organization recapitulates many aspects of early embryonic development. In this project, we want to understand how cell-cell interaction, cytoskeletal elements as well as external mechanical stimuli impact on directed differentiation in this model system.

All relevant techniques are established in the lab, including iPSC culture, differentiation assays, CRISPR-Cas9 technology, flow cytometry, immunofluorescence and confocal microscopy, ddPCR, blotting techniques, microarray analysis and deep sequencing technology.

**Requirements / profile:**

**Your profile**

We are looking for a highly motivated and ambitious PhD student (to receive the Dr. rer. nat. degree) with a strong background in cell biology or mechanobiology. Experience in stem cell biology or even iPSC-cell culture would be appreciated. You should hold a very good master degree. Willingness for teamwork, the ability to work independently, and excellent English language skills are a prerequisite.

We offer a highly interactive and well equipped environment in a team with international partners, a broad spectrum of methods, and a highly relevant topic. (homepage: www.stemcellbiology.ukaachen.de).

**Pay category:**  
TV-L 13 (65%)

**Hiring date:**  
July 01, 2019

**Duration of employment:**  
3 years

**Contact:**  
Univ.-Prof. Dr. Dr. Wolfgang Wagner  
Email: wagner@ukaachen.de  
phone: +49 (0)241 80-88611  
(https://www.researchgate.net/profile/Wolfgang_Wagner4)

Equal career prospects for women and men.  
Severely disabled applicants with equal qualification will be given preferential consideration.

**Application deadline:** March 15, 2019 (apply via https://me3t.rwth-aachen.de/positions)