



## HEIDELBERG FACULTY OF MEDICINE

Within the **Department of Cardiovascular Physiology (AG Korff)** a position is available from 1 April 2019 or later for a

### **Postdoctoral research fellow (m/f).**

The position will be funded for an initial period of three years with the possibility of extension and is dedicated to the project “Vascular control of lung responses to hypoxia”

**Project summary:** The lung forms a specialized border for gas exchange and may rapidly respond to local hypoxia by adapting its perfusion for optimized blood oxygenation. However, chronic hypoxia that is associated with many pulmonary diseases (e.g. fibrosis or chronic obstructive pulmonary disease, COPD) promotes irreversible structural remodeling and subsequent lung dysfunction. We observed that the transcription factor NFAT5 is expressed in vascular endothelial and smooth muscle cells of the hypoxic lung and seek to study its role in controlling structural remodeling and inflammatory responses. Specifically, the NFAT5-dependent modification of the vascular transcriptome and its impact on pulmonary resistance, blood oxygenation and activation of alveolar macrophages will be investigated.

### **Methods that will be used:**

The experimental portfolio of this project includes already established multiple state-of-the-art in vitro and in vivo techniques. For instance, adenovirus-based transduction will be used to overexpress/knockout NFAT5 in cultured hypoxia-exposed endothelial and smooth muscle cells. Mouse lines allowing for cell specific inducible knockout of NFAT5 are available to study the impact of NFAT5 on lung functions in the context of hypoxia. Morphological studies will be performed based on whole mount immunofluorescence analyses in combination with confocal microscopy. To unravel the mechanisms by which NFAT5 controls cellular functions microarray and proteome profiling techniques will be applied.

### **Personal qualifications:**

Successful candidates should enjoy competitive and interactive teamwork within the new CRC1366 “Vascular Control of Organ Function” ([www.sfb1366.de](http://www.sfb1366.de)) and the European Center for AngioScience (ECAS). They have a qualified PhD or equivalent degree in the life sciences, preferably biochemistry, (human) biology or pharmacy and should have great interest in modern cell and molecular biology methods as well as physiology. Experience in animal handling (FELASA B certificate or equivalent) is mandatory for application.

Detailed information about our group can be obtained from the institute’s website <http://www.medizinische-fakultaet-hd.uni-heidelberg.de/index.php?id=110926&L=en>

Interested? Then submit your curriculum vitae, copies of your certificates, a list of publications, and the names of at least two academic referees to:

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Only electronic submissions are accepted. The closing date for applications is four weeks after posting this advertisement.