

PhD student position (Dr. rer. nat.) in the field of Life Sciences - Function of the heart muscle (w/d/m)

Medizinische Hochschule Hannover (MHH)

Hannover, Niedersachsen

Direkt bewerben

Aim of the project:

In vitro studies have shown that heart muscle cells can have different chemo-mechanical features, for example determined by a different composition of the myosin motor isoform. The functional syncytium of the healthy myocardium can consist of a mosaic of heart muscle cells exhibiting heterogeneous functional properties.

We want to understand how such a mosaic of heart muscle cells provides optimal mechanical performance, and in which situations a pathologic response can develop. The contractile function will be investigated at cellular and subcellular levels in direct relation to the expressed sarcomeric protein isoforms.

Bibliography:

- Kraft T. and Montag J. "Altered force generation and cell-to-cell contractile imbalance in hypertrophic cardiomyopathy". Pflüger's Archive - European Journal of Physiology (2019) 471:719-733;
- Stehle R., Iorga B. "Kinetics of cardiac sarcomeric processes and rate-limiting steps in contraction and relaxation". J Mol Cell Cardiol (2010) 48:843-850;
- Stehle R., Solzin J., Iorga B., Poggesi C. "Insights into the kinetics of Ca²⁺-regulated contraction and relaxation from myofibril studies". Pflugers Arch - Eur J Physiol (2009) 458:[337-357](#).

Activities and responsibilities

- Conducting experiments and data analysis
- Interpretations of results
- Important contribution to the publication of scientific results
- Writing a doctoral thesis
- Doctoral Thesis Presentation

Qualification profile

- A highly motivated, enthusiastic person who is interested in working on this project in our young and dynamic team.

- Creativity, reliability, an analytical and focused approach as well as an independent and meticulous way of working is advantageous.
- Very good university degree in biophysics/physics, biomedicine, biology, biochemistry or a related field (life sciences). The ability to deal with physical and technical issues is helpful.
- Participation in student teaching in Physiology and/or Physics is part of the activity and requires **very good German language skills**. **Good knowledge of English** is an advantage during scientific research activities.

We offer

- Learning highly specialized methods for studying contractile functions of subcellular myofibrils and intact cardiomyocytes in addition to common methods for protein analysis, immunostaining, fluorescence microscopy, etc.
- A very exciting, innovative project with clinical significance.
- An experienced, multidisciplinary and interactive team and a very good laboratory infrastructure.
- A position initially limited to 3 years (as doctoral title candidate in the field of life sciences).
- A remuneration according to TV-L.

For further information or to apply, please contact **APL-Prof. Dr. Bogdan Iorga:**
[email](#)

Information about the institute and the working group can be found at:

<https://www.mhh.de/molzellphys>

Für weitere Auskünfte bzw. für eine Bewerbung wenden Sie sich bitte an **APL-Prof. Dr. Bogdan Iorga**

[email](#)

Informationen über das Institut und die Arbeitsgruppe finden Sie unter:

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