



## PHD POSITION

The Institute of Molecular and Cell Physiology, Medical School Hannover is looking for talented and motivated PhD candidate (m/f/d) of all nationalities with an interest in biophysics, cell biology, molecular biology and nanotechnology.

We welcome applications from candidates (m/f/d) with a masters degree in biophysics, biomedicine, biology, biochemistry, cell biology, molecular biology and related areas (Life Sciences).

Application deadline: 25th July 2019, the project will start at the earliest possible date

### Project description:

Single point mutations in the  $\beta$ -cardiac myosin heavy chain ( $\beta$ -MHC) are the most frequent cause of Hypertrophic Cardiomyopathy (HCM) in humans that affect 1 in 500 individuals worldwide. Clinical phenotypes display a high variability ranging from being asymptomatic, to rapidly progressive failing heart or sudden cardiac death in young individuals and competitive athletes. The characteristic features of HCM include thickening of the left ventricular wall and the inter-ventricular septum of the heart, cardiomyocyte disarray, and interstitial fibrosis. Among other sarcomeric proteins, the molecular motor protein  $\beta$ -MHC is reported to harbour >300 single point mutations, dispersed throughout the molecule, accounting for about 40% of all HCM cases. So far, however, neither a common pattern of functional defects was found for the different HCM-related mutations nor effective treatment strategies.

The project aims to investigate functional changes in the  $\beta$ -MHC motor properties, induced by HCM-mutations, using state-of-the-art single molecule function investigation techniques, such as total internal reflection fluorescence microscopy (TIRF) and optical tweezers.

### We offer:

- Fully-funded PhD position
- An international and exciting working atmosphere
- State-of-the-art research facilities and a chance to work with experts from interdisciplinary background
- An exciting project with defined objectives and clinical significance

### What we are looking for:

- We expect excellent academic scores, prior research experience but most importantly, commitment and enthusiasm to face the many challenges of a PhD project.
- Good English knowledge
- Participation in teaching tasks in the physiology in limited scope is desired. German language skill is therefore a plus.

### Key competences:

Analytical and goal-oriented approach, willingness to take responsibility, willingness to learn, patience, flexibility and reliability.

### Application:

The application should include a CV and a short summary of previous research experience (if any).

The position is funded with a Deutsche Forschungsgemeinschaft (DFG) grant for three years. The classification is done according to TV-L. The MHH is committed to promoting women in professional life. Applications from women are therefore particularly welcome.

Contact Dr. Mamta Amrute-Nayak for further questions and submit your applications per email to [amrute.mamta@mh-hannover.de](mailto:amrute.mamta@mh-hannover.de)

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For more information on the lab's research interests - visit the group site at [https://www.mh-hannover.de/molzell\\_mitarbeiter.html](https://www.mh-hannover.de/molzell_mitarbeiter.html)

