

The University Heart Center Freiburg-Bad Krozingen is a highly specialised center for heart, cardiovascular and circulatory diseases and enjoys an international reputation. With 1500 staff, the heart centre is one of the largest of its kind in Europe. The vision for its translational research centre, the Institute for Experimental Cardiovascular Medicine (IEKM), is to build bridges between basic and clinical research and to drive the advancement of knowledge on cardiovascular disease and therapy.



Fully-funded post-doctoral position in cardiac electrophysiology - University of Freiburg, Germany

The Mechanobiology Section of the IEKM (<https://www.herzzentrum.de/englisch/departments-sections/institute-for-experimental-cardiovascular-medicine/research/cell-biophysics.html>) offers a 3-year post-doctoral position.

Background:

Atrial fibrillation (AF) is a common cardiac arrhythmia, affecting 59 million people worldwide. Current drug treatments are largely ineffective, and although ablation techniques often yield good results, they frequently require repeated procedures due to their limited long-term success. This project aims to enhance our understanding of the effects of pulsed-field ablation on cardiac cells and tissues, with the goal of developing more selective and longer-lasting ablation strategies.

Research will cover:

- Optimisation of pulsed-field ablation protocols to target selectively cardiomyocytes and obtain transmural lesions
- Spatial and temporal assessment of tissue electrophysiological properties in response to the ablation protocols performed
- Biological and histological assessment of ablated tissues depending on the ablation protocol performed (lesion size, depth, nature of cell damage)

Key techniques involved: whole heart Langendorff perfusion, optical mapping, immunofluorescence imaging and histology, live/dead cell assays

We offer:

- An outstanding international and interdisciplinary scientific environment with English as the working language
- Access to up-to-date laboratories, cutting-edge technologies and state-of-the-art infrastructure
- Highly personalised supervision at the forefront of integrative biomedical sciences
- A diverse, vibrant and multi-cultural environment with the beautiful Freiburg located at the crossroads of Germany, France, and Switzerland
- Membership of the Spemann Graduate School of Biology and Medicine (SGBM), offering additional networking opportunities, translational skills training, and career guidance

Qualifications and Requirements:

- Self-motivated students who hold PhD in disciplines relevant for biomedical research such as Biology, Bioengineering, Biophysics, Medicine or Physiology
- Emerging publications record in peer-reviewed scientific journals
- A sound grasp of cardiac (electro)physiology is required
- Hands-on research experience with cardiac tissue preparations and optical mapping or other electrophysiology techniques is expected
- Scientific curiosity and the desire to actively shape your own research project are a must
- Excellent communication skills in English (B2 or higher)

Contact for more details about the position:

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General information: salary is assigned according to a pay scale. Unless prevented by operational or legal reasons, full-time positions are generally open to those wishing to job share. Where two candidates are equally suitable for a post, severely disabled candidates are given priority. Employment decisions are ratified by the Personnel Department.