

Our junior research group "Electrochemical Energy Systems" works on fuel cells, batteries and electrolyzers. We are dedicated to integrating latest material developments into state-of-the-art electrochemical energy systems. We are looking for a

## Student assistant (f/m/d)

In the area of

### Development and characterization of anion-exchange membrane fuel cells

In contrast to fuel cells with proton exchange membranes (PEM), which are used in commercially available vehicles (Toyota Mirai, Hyundai Nexo), fuel cells with anion exchange membranes (AEM) promise a significant cost reduction. AEM fuel cells enable the use of inexpensive catalyst materials (not platinum, but nickel or other inexpensive transition metals) and inexpensive, environmentally friendly polymers (no fluorine chemistry) as well as the possibility of using alcohol as a fuel.

However, one of the biggest challenges regarding the development of this technology is the critical watermanagement. In-situ micro-CT measurements can be carried out to investigate the water content during fuel cell experiments. Since conventionally used fuel cell fixtures prevent the penetration of X-rays into the cell, a new type of cell design has to be developed for these measurements. Additionally, the AEM fuel cells that will be examined must be manufactured using various materials and devices. This means that a wide range of work is waiting in the laboratory and at the PC.☺



#### Your profile

- You are student in a STEM related program
- You are interested in the development of a new cell design for fuel cells and their development
- You work target-oriented and self-organized
- You have experience in CAD design (e.g. SolidWorks)

#### The position

- We offer work in an intercultural and interdisciplinary team in a nice working atmosphere and a well equipped lab
- Flexible working times
- Possibility to write a subsequent thesis

For further information:

[www.imtek.de/laboratories/mems-applications/research/electrochemical-energy-systems](http://www.imtek.de/laboratories/mems-applications/research/electrochemical-energy-systems)

If you are interested in this position, please send you application including CV, transcript of records and short motivation letter via e-mail to

Carolin.Klose@imtek.de

**Carolin Klose**  
Electrochemical Energy Systems  
Laboratory for MEMS Applications  
Department of Microsystems Engineering – IMTEK  
University of Freiburg  
Georges-Koehler-Allee 103, D-79110 Freiburg  
Phone: +49 761 203 54062

