



## Student Research Assistant (HiWi)

### Work on Green Energy Technologies: PEM Electrolysis

#### Research area

- ☐ Batteries
- ☒ Fuel cells and electrolysis
- ☒ Electrocatalysis

#### Alignment

- ☒ Experimental
- ☒ Electrical Characterization
- ☐ Material analysis
- ☒ Development of measurement technology
- ☐ Modelling
- ☐ Simulation
- ☐ Literature Research

#### Course of study

- ☒ Electrical engineering and IT
- ☒ Mechanical Engineering
- ☒ Chemical Engineering
- ☐ Physics
- ☐ Techno mathematics
- ☒ Industrial Engineering

#### Language

- ☒ English
- ☒ German

#### Starting date

As soon as possible /  
Upon agreement

#### Contact person

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#### Motivation

Hydrogen plays a central role in the energy transition and it is an excellent storage form for the energy generated from the renewable energy systems. In that regard, water electrolysis is a favorable hydrogen production method and polymer electrolyte membrane electrolysis (PEMEL) is of particular interest due to its high-power density, high-pressure operation possibility and partial load capability.

For the investigations on the performance of PEMEL cells, electrochemical characterization of the incremental single cells under system-relevant operating conditions will be conducted in the labs of IAM-ET. Different loss processes in the cell are to be identified and quantified by adopting dynamic electrochemical measurement methods.



#### Areas of responsibility:

- Mechanical adaptations on the test bench
- Conducting electrochemical measurements
- Reporting the results

#### Application

We offer lively atmosphere and the opportunity to work in an interdisciplinary team on an innovative topic. **Interested candidates are asked to send their curriculum vitae (CV) and grades to the email address mentioned.** Please contact Ms. Kardes for more detailed information.

Prof. Dr.-Ing. Ulrike Krewer