

22J021 – Student assistant

Modelling of a dynamic water electrolyzers from single cell approach up to stack level

The European Institute for Energy Research was founded by EDF and the KIT in 2002 aiming at enhancing collaboration through joint projects applied to industrial issues. With its applied research orientation EIFER is bridging the gap between science and industry since more than 15 years. In the context of the European energy transition, EIFER provides research-based innovative energy solutions for the sustainable growth of cities, local communities and industries.

One of the most commercialized technologies for electrolysis processes are the Proton Exchange Membrane Electrolyser (PEMEL) and Alkaline Water Electrolyser (AEL). The understanding of its functioning is essential to improve the technology and make it more competitive on the market.

In regards to this subject, EIFER is looking for a student interested in developing a model of PEM electrolyser from the single cell approach up to the stack level (in a second time, a focus on AEL technology could be of interest). The models will aim to mimic both the electrochemical and thermal electrolyser behaviour under dynamic conditions.

The assigned tasks involve

- Bibliography study on model of PEM/AEL electrolyzers
- Implementation of the equation in MATLAB Simulink

Required qualifications / skills

The position is aiming to students in material sciences/energy engineering.

- Good knowledge in scientific coding
- Good knowledge in material science
- Professional working proficiency in English (institute's official working language)

What you can expect

- A stimulating, multicultural and multidisciplinary environment
- An institute at the intersection between academic research and one of the largest energy utilities

Conditions

- Duration: 3 to 6 months
- Starting date: as soon as possible
- Location: EIFER, Emmy-Noether-Str. 11, 76131 Karlsruhe, Germany or remotely
- Working hours: up to 40 hours per month
- Remuneration: 460 € basis, hourly rate depending on the student's education level

Contact

If you want to join our motivated team, please forward your electronic application with one single PDF of max. 5MB to jobs@eifer.org (cover letter + curriculum vitae). Please refer to the offer number **22J021**.

For additional information concerning the work, please contact Davide Beretta, davide.beretta@eifer.org