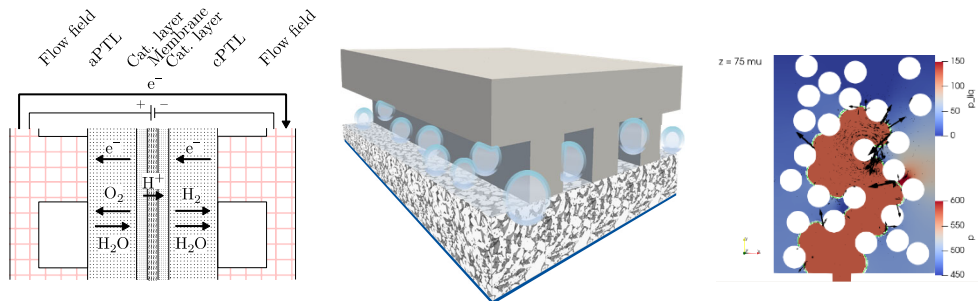


We invite applications for a research project in the field of

Modelling of two-phase flow and component transport in PEM electrolyzers



at the Institute of Fluid Mechanics and Environmental Physics in Civil Engineering in the Faculty of Civil Engineering and Geodetic Science at Leibniz University Hannover. The project is planned for a doctoral degree, but could also be carried out as a postdoctoral project. It will be carried out in cooperation with the Institute of Electric Power Systems, Section for Electric Energy Storage Systems. The project addresses numerical modelling of flow of water and gaseous oxygen and hydrogen and the related transport of the components inside the porous structures of porous transport layers (anode and cathode sides) with a numerical model (preferably OpenFoam). The focus will be on the generation and the movement of gas bubbles at the layer interfaces of the electrolyzer, as well as the transport of gas bubbles in the flow channel. With the numerical simulations the efficiency of PEM electrolyzers will be investigated, also considering larger systems. The project will build up on relevant previous work.

Besides the work on the research project, we expect that the candidate will contribute to the teaching activities of the institute. This concerns in particular courses in the BSc programme Civil and Environmental Engineering of the faculty and / or in the MSc programme Environmental Engineering and Civil Engineering. As these courses are held in German, candidates should be able to speak German.

The position will be filled as soon as possible and will run for three years with the option for an extension. Salary and benefits are according to E13 FwN TV-L. We welcome applicants with a Master degree (or equivalent) in engineering, natural sciences or computer science. Good knowledge in fluid mechanics and modeling is needed. Good knowledge in numerical methods and programming skills are required. Knowledge of flow in porous media is beneficial. The ability for interdisciplinary and independent work is required.

We offer a highly motivating environment and the ability to work independently. The institutions contributing to the project advocate gender equality. Women are therefore strongly encouraged to apply. Equally qualified severely handicapped applicants will be given preference.

Address your application electronically to Prof. Dr. Insa Neuweiler (neuweiler@hydromech.uni-hannover.de). Applications should include besides the usual documents and an indication for the preference of position a short statement of motivation.