

PhD Student (m/f)

**Chemical/Process Engineering, Chemistry, Physics, Microsystem Engineering,
Mathematics, Informatics, Material Science, Mechanical Engineering**
(or similar disciplines)

Multi-scale tomographic investigation and virtual design of fuel cells

Your task

You will be working in a German and Canadian collaborative project on hydrogen fuel cells. Aim of the project is to find the optimum structure for power density and durability in fuel cells. For this purpose the project has access to cutting edge 3D imaging methods (tomographic approaches) from the nanometer to the micrometer scale. Latest commercial solvers, a modern computer grid structure as well as equipment for experimental validation are available within our group. Based on these tools you are to solve the challenge of creating fuel cells with a maximum of power density using a given set of materials. Additionally you work on understanding ageing phenomena.

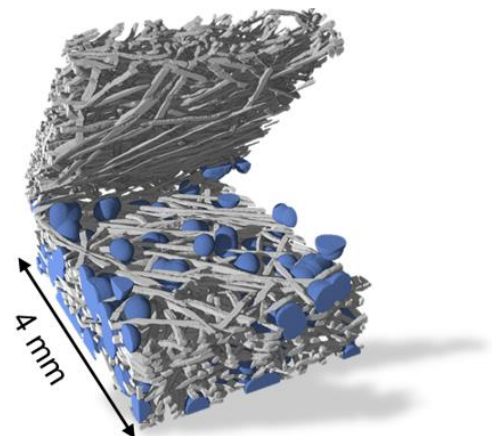


Fig. 1 Porous current collector with simulated gas bubbles

Your profile

You are interested in the development and investigation of novel energy storage methods for renewable energy. Ideally, you have experience in one or several of the following areas: electrochemistry, hydrogen fuel cells (PEMFCs), simulation methods (finite elements based or others) and programming (C/C++, Matlab, Java) or imaging by electron microscopy, X-rays or neutrons. Target-oriented and structured working as well as good communication skills and team spirit are absolutely necessary.

We offer

excellent working conditions in an interdisciplinary environment. Further information on the Porous Media Group at IMTEK can be found at www.imtek.de/anwendungen. The duration of the PhD is planned for three years (75% TV-L 13). The intended start is 1st of September 2017.

Please note: The Porous Media Group is becoming part of the Helmholtz Institute Erlangen-Nürnberg for Renewable Energy (www.hi-ern.de), giving us more space, new labs and excellent equipment! Therefore the position will start in Freiburg with the main time being spent in Erlangen.

Please send requests or applications via e-mail to:

Simon Thiele

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