

Position for Electrochemical Scientist

Tasks: Your responsibilities include researching, developing, and improving catalysts for PEM electrolyzers, using knowledge-based optimization with in-situ and operando synchrotron methods.

PEM electrolysis offers the possibility to store renewable power from solar and wind as green hydrogen. However, a major obstacle is the cost of the frequently used materials for the anode. Therefore, the project aims to enhance these anode materials for PEM electrolyzers. Starting with Ir- and Ru-based catalysts, they are produced using flame spray pyrolysis and characterized using various methods such as XRD, SEM, TEM, and electrochemical analysis. For further investigations, a new in-situ cell for X-ray absorption spectroscopy (XAS) and other synchrotron methods is being developed to examine the catalysts in an environment similar to industrial PEM electrolyzers. These synthesized catalysts will be studied at synchrotron radiation sources in Germany and Europe using this cell. The results will be published as scientific articles in professional journals and presented at national and international conferences.

Qualifications: You have a university degree (Diplom (Uni)/Master) in the field of chemistry/physics/material sciences with a completed doctorate, as well as extensive experience in the field of electrochemistry, particularly in the area of water electrolysis. Additionally, experience and fundamental understanding of X-ray absorption spectroscopy and synchrotron methods are expected. Experience in the design/development of setups for electrochemical measurements under operando conditions would be advantageous. Excellent English skills and documented publications complement your profile.