Externe Stellenausschreibung

As a member of the Helmholtz Association, Forschungszentrum Jülich makes an effective contribution to solving major challenges facing society in the fields of information, energy, and bioeconomy. It focuses on varied tasks in the area of research management and utilizes large, often unique, scientific infrastructure. Come and work with around 6,400 colleagues across a range of topics and disciplines at one of Europe’s largest research centres.

We look forward to receiving your application until 03.05.2020 via our Online-Recruitment-System!

Questions about the vacancy?
Contact us by mentioning the reference number 2020D-047: career@fz-juelich.de
Please note that for technical reasons we cannot accept applications via email.

www.fz-juelich.de

The Institute of Energy and Climate Research – Electrochemical Process Engineering (IEK-14) specializes in electrochemical converters with electrolytes composed of polymer membranes (PEM-FCs & EC) and ceramics (SOCs) as well as chemical converters for autothermal reforming, catalytic gas treatment, and fuel synthesis. In the quest towards improving the rate capability of alkaline electrolyzers while maintaining a reasonable degree of efficiency, significant focus has been directed towards reducing ohmic losses by developing more advanced separators and electrolyte concepts. The more recent focus has been on developing anion exchange membranes (AEMs).

We are offering a

2020D-047 - PhD Position - Development of Novel Electrode Architectures for AEM Electrolyzers

Your Job:
Our project aims at optimizing, as well as integrating new and redefined, AEM materials and electrocatalysts solutions into functional membrane electrode assemblies. World-leading and highly experienced industrial and research partners are working to develop the first functional generation of anion exchange membrane electrolyzers.

The focus of the PhD study is to integrate our optimized non-PGM electrocatalysts and novel ionomers into highly efficient and durable membrane electrode assemblies, enabling AEM based electrolysers to operate at high efficiency and long-term durability. Your tasks include:

- Optimization of ink/paste formulations and as well as to investigate suitable coating deposition technique for electrode manufacture using AEM ionomers and membrane materials
- Development of novel electrodes design and composition
• Physical chemical and electrochemical characterization of electrodes, MEAs, and short stacks
• Assessment of durability profiles and degradation mechanisms as well as development of accelerated stress tests

Detailed project descriptions and planning will be undertaken directly with the successful candidate.

Your Profile:
• Master's degree in chemistry, material science or a related field with above-average results
• Previous experience in electrode fabrication (e.g. Fuel Cells, Batteries, Solar Cells, or Electrolyzers)
• Previous experience in electrochemical characterization using half-cell and or single cell testing platforms
• Previous experience in physical chemical characterization methods and/or analytical chemistry
• Full competence in the English language (written and spoken)
• Good command of German (written and spoken) is an advantage

Our Offer:
• World-class infrastructure and laboratory facilities – ideal conditions for successfully completing a doctoral degree
• A highly motivated group as well as an international and interdisciplinary working environment at one of Europe’s largest research establishments
• Chance of participating in (international) conferences and project meetings
• Continuous scientific mentoring by your scientific advisor
• Participation in overarching seminars including certificate
• Further development of your personal strengths, e.g. via a comprehensive further training Programme
• Usually a contract for the duration of 3 years
• Pay in line with 75 % of pay group 13 of the Collective Agreement for the Public Service (TVöD-Bund)
• Information on employment as a PhD candidate at Forschungszentrum Jülich can be found here http://www.fz-juelich.de/gp/Careers_Docs

Forschungszentrum Jülich promotes equal opportunities and diversity in its employment relations.

We also welcome applications from disabled persons.