



Conducting research for a changing society: This is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we aim to tackle the grand societal challenges of our time and conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. Work together with around 7,500 employees in one of Europe's biggest research centres and help us to shape change!

Would you like to contribute to the energy transition in Germany through your work? Then the Helmholtz Institute Erlangen-Nürnberg (for Renewable Energy) (HI ERN) is the right place for you! The HI ERN forms the core of the close partnership between Forschungszentrum Jülich, Helmholtz-Zentrum Berlin for Materials and Energy, and Friedrich-Alexander-Universität Erlangen-Nürnberg at the Erlangen site. The collaboration relates to the areas of innovative materials and processes for photovoltaic energy systems and hydrogen as a storage and carrier medium for CO₂-neutral energy. Support us researching and developing solutions for the climate-neutral, sustainable, and cost-effective utilization of renewable energies. Further information about the HI ERN and its pioneering research projects can be found at <https://www.hi-ern.de>

Join our team to the next possible date as

PhD Position - Degradation of electrodes in water electrolysis

Your Job:

You will be part of the Electrochemical Energy Conversion group of the Electrocatalysis research unit of the HI ERN. In fundamental and applied research, we focus on understanding the complex interplays between materials' properties and the electrochemical environment and their influences on materials' electrochemical performance. By developing and implementing new experimental tools in electrocatalysis research, we aim to significantly contribute to the development of electrochemical energy conversion as a future key player for electromobility and the energy policy in general. Your tasks primarily focus on the following topics:

- Development and application of experimental platforms for studying electrocatalysts and real electrodes for water electrolysis applications
- Integration of mass spectrometry techniques to study degradation processes, including electrocatalyst dissolution
- Mechanistic understanding of catalyst degradation processes in PEM, AEM, and alkaline water electrolysis

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our

Online-Recruitment-System!

Questions about the vacancy?

Get in touch with us by using **our contact form**.

Please note that for technical reasons we cannot accept applications via email. www.fz-juelich.de

- Implementation of AI-based tools in water electrolysis research
- Collaboration with computer science, catalyst synthesis and characterization, and theory groups to optimize water electrolysis using the knowledge obtained in the project

The following publications are related to the work to be performed within this project:

- <https://doi.org/10.1039/D3TA06651G>
- <https://doi.org/10.1021/acsmeasuresciau.4c00018>
- <https://doi.org/10.1021/acsenergylett.3c00193>

Your Profile:

- Excellent master`s degree in Chemistry, Physics, Engineering, Material science or a similar discipline
- Strong interest and enthusiasm to advance the emerging research field of AI-assisted electrochemistry and electrochemical engineering
- Background in fundamental and/or applied electrochemistry as well as AI/programming is desirable, but not mandatory
- Prior experience in the development of high-throughput screening platforms is an advantage
- High motivation for pursuing a PhD within 3 years
- Excellent organizational skills
- Ability to show initiative and work independently
- Excellent cooperation and communication skills and ability to work as part of a team
- Excellent skills in spoken and written English

Our Offer:

We work on the very latest issues that impact our society and are offering you the chance to actively help in shaping the change! We offer ideal conditions for you to complete your doctoral degree:

- Excellent environment to perform high-quality research and to implement one`s own ideas in the development process
- Work with worldwide-unique electrochemical characterization techniques
- Excellent training in electrochemistry and electrochemical technologies
- A lively scientific environment within the institute and possibilities for cooperation with excellent partners at the Friedrich-Alexander-Universität Erlangen-Nürnberg, the Forschungszentrum Jülich, the Helmholtz-Zentrum Berlin, and other national and international partners
- Ideal conditions for balancing work and private life, with 30 days of annual leave, as well as a family-friendly corporate policy
- Extensive further development opportunities, e.g. through an extensive range of training courses; a structured program of continuing education and networking opportunities specifically for doctoral researchers via JuDocS, the Jülich Center for Doctoral Researchers and Supervisors: <https://www.fz-juelich.de/en/judocs>
- Targeted services for international employees, e.g. through our International Advisory Service

The position is for a fixed term of 3 years. Pay in line with 75% of pay group 13 of the Collective Agreement for the Public Service (TVöD-Bund) and additionally 60 % of a monthly salary as special payment („Christmas bonus“). The monthly salaries in euro can be found on the BMI website: <https://go.fzj.de/bmi.tvöed.entgelt> Further information on doctoral degrees at Forschungszentrum Jülich (including its various branch offices) is available at <https://www.fz-juelich.de/en/careers/phd>

Place of employment: Nürnberg

In addition to exciting tasks and a collaborative working atmosphere in Jülich, we have a lot more to offer: <https://go.fzj.de/benefits>

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.

Further information on diversity and equal opportunities: <https://go.fzj.de/equality>