



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 actively shape the structural change in the Rhenish mining area together with us? With us you have the chance to join the newly founded Institute for a Sustainable Hydrogen Economy (INW) with your ideas right from the start. Together with the H₂ demonstration region, the INW forms the "Helmholtz Cluster for sustainable and Infrastructure-Compatible Hydrogen Economy" (HC-H₂). Here, scientific foundations are laid in the field of innovative hydrogen technologies in order to advance research and development approaches with high sustainability potential and attractive economic prospects. At the institute division "Catalytic Interfaces for Chemical Hydrogen Storage" (INW-1, Prof. Dr. Hans-Georg Steinrück), we investigate mechanisms and processes in (electro)chemical energy storage systems. For the purposes, we develop and use advanced (X-ray-based) methods as well as modern data reduction and data evaluation methods, including machine learning and big data analytics.

We are looking to recruit a

PhD Position - Design and development of an in-house X-ray beamline for long term operando investigation of chemical hydrogen storage reactors

Your Job:

- Design and development of an in-house X-ray beamline for long term operando investigation of chemical hydrogen storage reactors
- Unravelling of relationships between catalyst structure and morphology with its performance (reactivity, selectivity, efficiency) and degradation under realistic long term deployment conditions
- Coordination and execution of in-house beam times
- Collaboration with other groups, in particular at INW
- Extended visits to synchrotron facilities (DESY, ESRF)

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

- Participation in international conferences (including presenting your research results)
- Preparation of scientific publications and project reports
- Support in establishing the institute

Your Profile:

- Master's degree in physics, chemistry, materials science, chemical engineering, or a related discipline
- Extensive knowledge of X-ray methods
- Knowledge of X-ray optics
- Knowledge of synchrotron science
- Knowledge of catalysis and energy storage
- Experience with programming languages (ideally Python), SPS controls system
- Fluent in written and spoken English
- Very independent and self-motivated way of working but also excellent teamwork skills
- High motivation to take on responsibility and develop own research ideas
- Willingness for regular business trips

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:

- Outstanding scientific and technical infrastructure
- Opportunity to participate in (international) conferences and project meetings
- Continuous scientific mentoring by your scientific advisor
- Flexible work (location) arrangements, e.g. remote work
- 30 days of annual leave (depending on agreed working time arrangements)
- Further development of your personal strengths, 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, with possible long-term prospects. 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.tvod.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>

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

Place of employment: Brainergy Park Jülich

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>