JÜLICH
Forschungszentrum

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 join us in actively shaping structural change in the Rhenish mining area? With us, you have the opportunity to support 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 a 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. They will be part of the Reaction Engineering for Chemical Hydrogen Storage (INW-3) institute division. The focus here will be on detailed reaction engineering investigation of catalyst materials in relevant process environments and operating scenarios as well as the development of innovative reactor concepts. If your are interested in the topics of energy transition, sustainability and chemical hydrogen storage, then you are in your element here.

**Join our team to the next possible date as**

# PhD Student - Investigation of the Stability and Quality of Alcohol-Based LOHC Systems

**Your Job:**
As part of your doctoral project, you are investigating the cycle stability of liquid organic hydrogen carriers (LOHC) with alcohol functionality. Your focus here is on investigating the possible accumulation og by-products over several process cycles. You will also consider the influence of storage-related factors. Your task will include:

- Construction and commissioning of a test facility for the cyclic dehydrogenation and hydrogenation of alcohol-containing LOHC systems
- Investigation of the influence of typical impurities on the cyclic stability of LOHC systems
- Determination of the possible influence of storage-related factors on the LOHC purity
- Method development and application of suitable analytics (e.g. GC(-MS), NMR, etc.)

We look forward to receiving your application until 29.06.2025 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

for the qualitative and quantitative determination of by-products
- Coordination with internal and external project partners from industry and research
- Publication and presentation of research results in relevant journals and at national and international conferences
- Collaboration with other working groups at Forschungszentrum Jülich
- Participation in the development of the institute

**Your Profile:**
- Sucessfully completed scientific university degree (Master) in the fields of chemical engineering, technical chemistry, organic chemistry or a comparable discipline
- Knowledge of hydrogen and energy research is an advantage
- Independent and self-motivated way of working
- High motivation to complete the doctorate within three years
- Very good organizational skills
- Very good cooperation and communication skills and the ability to work as part of a team
- Fluency in written and spoken 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:
- Comprehensive training courses and individual opportunities for personal and professional further development
- Extensive company health management
- Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
- Flexible work (location) arrangements, e.g. remote work
- 30 days of annual leave (depending on agreed working time arrangements) and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)
- 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

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

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 euros can be found on page 66 of the PDF download: https://go.fzj.de/bmi.tvoed Further information on doctoral degrees at Forschungszentrum Jülich including our other locations is available at: https://www.fz-juelich.de/gp/Careers_Docs

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