



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!

At the Institute for Energy and Climate Research (IET-1), we investigate fundamental processes in energy storage and conversion—from the atomic to the industrial scale—to drive innovations that enable a sustainable energy transition. We are now inviting applications for a three-year PhD position in electrochemistry, focused on transforming nitrogen pollutants from water and air into valuable ammonia. This project offers the chance to be at the forefront of sustainable chemistry by developing cost-effective and efficient catalysts, characterizing their structural and electrochemical properties, and integrating them into functional electrochemical systems. By joining this research, you will contribute to laying the foundation of a sustainable nitrogen economy and addressing one of today's most urgent environmental and energy challenges: <https://www.fz-juelich.de/de/iet/iet-1>

We are offering a

PhD Position - Design and Integration of Efficient Catalysts for Electrochemical Conversion of Nitrogen Pollutants

Your Job:

- Catalyst synthesis and characterization: Prepare inorganic catalysts via wet-chemical methods and perform detailed chemical and physical analyses using XRD, XPS, SEM, TEM and Gas sorption analyses
- Electrode integration and processing studies: Incorporate catalysts into planar electrodes and investigate processing effects to ensure reproducible, high-performance assemblies
- Electrochemical evaluation: Assess the activity, selectivity, and stability of electrocatalysts under relevant operating conditions
- Product quantification by ions chromatography, gas chromatography, and HPLC
- Progress reporting: Prepare and submit periodic reports on research progress

We look forward to receiving your application until 24.10.2025 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

- Scientific communication: Present results at national and international conferences and publish findings in peer-reviewed journals

Your Profile:

- A Master's degree in chemistry, materials science, chemical engineering, or a related field
- Desirable background in electrocatalysis and inorganic synthesis
- Fluent command of written and spoken English
- Strong independence, commitment, and sense of responsibility
- Reliable and conscientious working style
- Excellent teamwork and collaboration skills

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:

- **Team & Environment:** You will work in a motivated team with an international and interdisciplinary focus – at one of the largest research institutions in Europe
- **Research & Infrastructure:** You will have access to excellent scientific and technical facilities for your work
- **Networking & Exchange:** You will participate in (international) conferences and project meetings and actively build your scientific network
- **Work-life balance:** Flexible working arrangements (including remote working) are generally possible upon agreement and in line with upcoming tasks and (on-site) appointments
- **Leave:** You will receive 30 days of leave plus additional days off (e.g. between Christmas and New Year's Day)
- **Knowledge & Development:** Your professional growth is important to us – we support you specifically and individually, for example through training opportunities and the structured JuDocS program for doctoral candidates
<https://www.fz-juelich.de/en/judocs>
- **Health & well-being:** Your health is important to us. You can look forward to a comprehensive company health management programme with a wide range of options, including a beach volleyball court, running groups, yoga classes and much more. In addition, our company medical service and an experienced social counselling team are available to assist you on site
- **Fair remuneration:** Depending on your qualifications and assigned responsibilities, you will be classified according to 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“). All information about the TVöD-Bund collective agreement can be found on the BMI website: <https://go.fzj.de/bmi.tvöed> (pay scale table on page 66 of the PDF download). The position is for a fixed term of 3 years.
- **Support for international employees:** Our International Advisory Service makes it easier for international employees to get started

In addition to exciting tasks and a collegial working environment, we offer you much more: <https://go.fzj.de/benefits>

Further information on diversity and equal opportunities: <https://go.fzj.de/equality> and on specific support options: <https://go.fzj.de/womens-job-journey>

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.