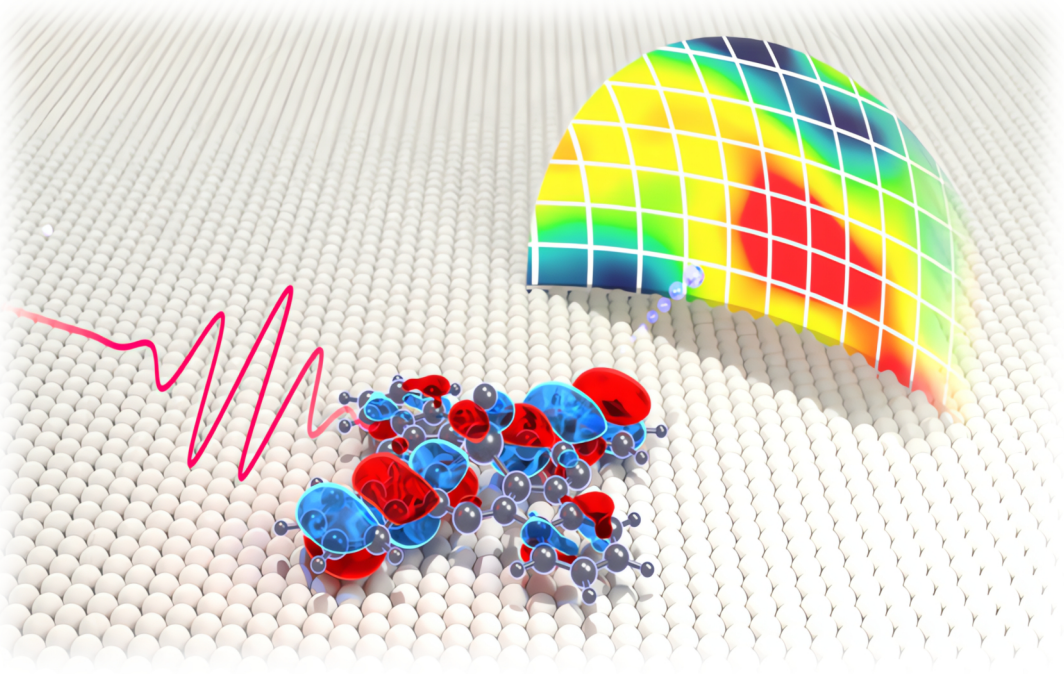
JÜLICH
Forschungszentrum



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!

Understanding the fundamental physicochemical properties of energy materials is crucial to a sustainable design of our environment. At the Jülich Centre for Neutron Science - Neutron Analytics for Energy Research (JCNS-3), we aim to address the dynamic, structural and electronic properties of energy materials and nanostructured interfaces employing neutron spectroscopy.

Examples of our research interests covered through this position are
i) the diffusion dynamics of water and small ligand molecules on the surface of metal oxide nanoparticles,
ii) distinction of coexisting magnetic excitations in iron oxide nanoparticle as observed via QENS and INS, and
iii) the binding states of adsorbate molecules on catalyst surfaces.

Join our team to the next possible date as

Postdoc – Water and magnetic dynamics at nanostructured interfaces - QENS and INS

Your Job:

- QENS and INS experiments to investigate the diffusion dynamics of water and ligand molecules on metal oxide nanoparticle surfaces, accompanied by complementary experimental techniques or theoretical simulations
- Characterization of the magnetic modes in iron oxide nanoparticles using neutron spectroscopy
- Synthesis and physicochemical characterization of iron and metal oxide nanoparticles
- Participation in experiments as well as design and construction of instruments and/or sample environments with practical work at neutron sources
- Supervision of MSc and BSc students
- Presentation of research results at conferences and publication in peer-reviewed

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

journals
- Establishment of cooperation projects with other institutes at Forschungszentrum Jülich

Your Profile:
Required qualifications and skills:
- Masters and subsequent PhD in Physics, Chemistry, Material Science or related disciplines
- Experience in neutron spectroscopy, e.g. INS, QENS, NSE
- Good knowledge of the structural characterization of matter with e.g. powder diffraction
- Experience with wet chemical synthesis, e.g. nanoparticles

A distinct advantage would be:
- Experience with high-level programming languages, e.g. Python
- Knowledge in magnetism
- A good command of written and spoken English
- The ability to work independently, along with a highly motivated and creative approach to research
- Demonstrated teamwork, cooperation and communication skills
- Previous supervision of graduate students, as well as laboratory or instrument responsibilities

Our Offer:
We work on highly pertinent, socially relevant topics and offer the opportunity to actively shape this change.

We support you in your work through:
- Access to a strong research network at the FZJ, such as transmission electron microscopy at the Ernst-Ruska-Zentrum, the Julich Supercomputing Centre, the Neutron-SimLab or various physicochemical characterization methods and workshops.
- The opportunity to help shape a new department.
- Access to the infrastructure of the Institute of Crystallography, RWTH Aachen University.
- Comprehensive training programs and individual opportunities for personal and professional development
- Comprehensive company health management
- Optimal conditions for balancing work and private life as well as a family-conscious company policy
- Flexible working hours in a full-time position with the option of slightly reduced working hours (https://go.fzj.de/near-full-time)
- 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)
- The opportunity to work flexibly (in terms of location), e.g. from home (partly)
- A large research campus in the countryside, which offers the best opportunities to network with colleagues and to do sports outside of work
- Targeted services for international employees, e.g. through our International Advisory Service
- Exploration and preparation of next career opportunities supported by our Career Center & Postdoc Office (https://www.fz-juelich.de/careercenter)

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a

lot more to offer:
https://go.fzj.de/benefits

The position is initially for a fixed term of 2 years, with possible long-term prospects. Salary and social benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund), pay group 13, depending on the applicant's qualifications and the precise nature of the tasks assigned to them. All information about the Collective Agreement for the Public Service (TVöD-Bund) can be found on the BMI website: https://go.fzj.de/bmi.tvoed The monthly salaries in euro can be found here: https://go.fzj.de/bmi.tvoed.entgelt

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