



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 7,250 employees in one of Europe's biggest research centres and help us to shape change!

At the Institute of Energy and Climate Research – Theory and Computation of Energy Materials (IEK-13), we contribute to fundamental understanding of electrochemical phenomena, development and characterization of tailored material solutions, and testing and optimization of new energy technologies. To achieve our goals, we bring to bear a diverse spectrum of methods and tools, from physical-mathematical theory and quantum mechanical simulations to continuum modelling. Our research program presents linkages for model evaluation by comparison with experiments, knowledge transfer to material design and development, and testing and analysis from materials to device level. Complementarily, we are developing an artificial intelligence-based platform for data analytics as well as materials design and development.

We are looking to recruit a

Postdoc - Theory and Simulation of ionic polymers for electrochemical energy conversion

Your Job:

Economically viable and environmentally friendly hydrogen-based energy technologies, such as fuel cells and electrolyzers, are of enormous strategic importance. Ionic polymers perform key functions in these technologies, both as solid membrane electrolytes and as components in porous electrodes. The newly hired scientist will fulfill a leading role in our programmatic research on this topic. He or she will develop theoretical and simulation-based methods to understand the aggregation and dispersion behaviour of next-generation ionomer materials from ground up and to make model-based predictions regarding their chemical and physical properties, including ionic conductivity and stability.

Your Job:

- Development of theoretical and simulation-based approaches for modeling ionic polymers in electrochemical energy converters.

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

- Contribution to the elucidation of structure-property relations of ionic polymers in their use as membranes or components in catalyst layers for fuel cells and electrolyzers.
- Laying the foundation for the descriptor-based design of ionic polymers, to be tested and exploited through collaboration with experimental partners (in synthesis, fabrication and characterization).
- Assuming tasks in supervision of students (M.Sc. and Ph.D.)
- Active role in acquisition and management of scientific projects

Your Profile:

- M.Sc. and Ph.D. in physics (polymers, soft matter, statistical physics), physical chemistry, chemical engineering or related field
- Basic knowledge of electrochemistry and experience in electrochemical energy technologies (especially polymer-based fuel cells and electrolyzers),
- Knowledge and competences in physical theory and molecular simulation methods.
- Intrinsic motivation and self-sufficiency
- Self-organized and independent work style
- Excellent collaboration and communication skills
- Highly proficient in spoken and written English and German

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 support you in your work with:

- A large research campus with green spaces, offering the best possible means for networking with colleagues and pursuing sports alongside work
- Support from the scientists at IEK-13, who have deep and diversified expertise in theoretical electrochemistry and materials modeling
- Open-minded and stimulating discussion culture
- Diverse opportunities to develop professional skills
- Networking with globally leading academic and industrial partners
- Excellent prospects and career opportunities in a highly dynamic technology sector
- Optimal conditions for balancing work and private life as well as a family-conscious company policy supported by our Equal Opportunities Office
<https://go.fzj.de/VereinbarkeitvonBerufundFamilie>
- We support you right from the start: We make it easier for new colleagues to get started with our Welcome Days and our Welcome Guide,
<https://go.fzj.de/willkommen>
- Flexible working time models, attractive flexitime arrangements and a full-time position (39 hours/week), with the option of slightly reduced working hours
- The opportunity to work flexibly (in terms of location), e.g. partly home office
- 30 days` vacation and an arrangement for bridging days off (e.g. between Christmas and New Year)
- Capital-forming benefits and a company pension scheme
- Comprehensive company health management and various sports activities (including a beach volleyball court, running groups, yoga classes and much more)
- Targeted services for international employees, e.g. through our International Advisory Service

We offer you an exciting and varied role in an international and interdisciplinary working environment. 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) depending on the applicant's qualifications and the precise nature of the tasks assigned to them.

In addition to exciting tasks and a collaborative working atmosphere at 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.