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!

Batteries move us and our world - they start our cars, keep the hands of our watches running and ensure that we can take pictures with our smartphones everywhere. At the Helmholtz Institute Münster Ion Conductors for Energy Storage (IMD-4 / HI MS), we are researching novel electrolyte formulations for new and advanced battery concepts. focusses on electrolyte research and development as a key area for future battery concepts. Major research activities comprise the design, synthesis, characterization and processing of more sophisticated battery electrolytes and chemistries. We are located at the Münster branch of the Jülich Research Centre and are operated in close cooperation with the University of Münster and the RWTH Aachen University. This enables us to pool our expertise in battery research and substantially advance this important future field of electrolyte research.

We are offering a

PhD Position - Development of advanced electrolyte formulations for sodium ion battery applications

Your Job:
Join the Safe.SIB research project to develop new battery cell chemistries or introduce new functionalities into an existing battery technology to achieve safe, ultra-high performant, sustainable and smart battery cells.

Your tasks in detail:

- You are involved in the identification and development of novel electrolyte components (conducting salts, solvents/co-solvents and functional additives) for non-aqueous aprotic sodium ion battery electrolytes with increased safety
- You determine the physicochemical (e.g., water content, viscosity, etc.) thermal (TGA, DSC) and safety related (SET determination, etc.) properties of non-aqueous aprotic electrolyte formulations
- You characterize properties and behavior of non-aqueous aprotic liquid electrolyte

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

formulations in sodium ion battery cells by means of various electrochemical (EIS, LSV, CV, galvanostatic cycling, plating-stripping experiments), spectroscopic (NMR, FT IR, Raman, UV-VIS, XPS) and safety-related methods
- You investigate the interfaces between electrolyte and electrodes and their influence on the overall performance and safety of sodium-based batteries and their chemistry
- You cooperate with partners from theory to optimize charge transport at the electrolyte/ electrode interface
- You participate in regular project meetings with the involved partners from industry and research

Your Profile:
- Completed academic studies (Master) in chemistry or materials science or a comparable field of study
- Background knowledge and proven interest in the field of electrochemistry
- Fluent in spoken and written German as well as English
- Willingness to get familiar with different characterization methods
- Strong cooperation and communication skills required for internal and external project partners, including national and international business trips
- Structured and independent way of working
- Ability to work together in an international and interdisciplinary team

Our Offer:
We work on highly relevant, current topics with strong societal impact – and offer you the opportunity to actively shape the transformation. You can expect a varied programme:
- A highly motivated working group as well as an international and interdisciplinary working environment in one of the largest research institutions in Europe
- Excellent scientific and technical infrastructure
- Opportunity to participate in (international) conferences and project meetings
- Continuous professional support from your academic supervisor
- The opportunity to work flexibly (in terms of location), e.g. from home in consultation with your supervisor and in line with required attendance dates
- 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
- Filling the position is subject to funding approval

The employment of doctoral researchers at Jülich is governed by a doctoral contract, which usually has a term of three years. Pay in line with 65% 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: Münster

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