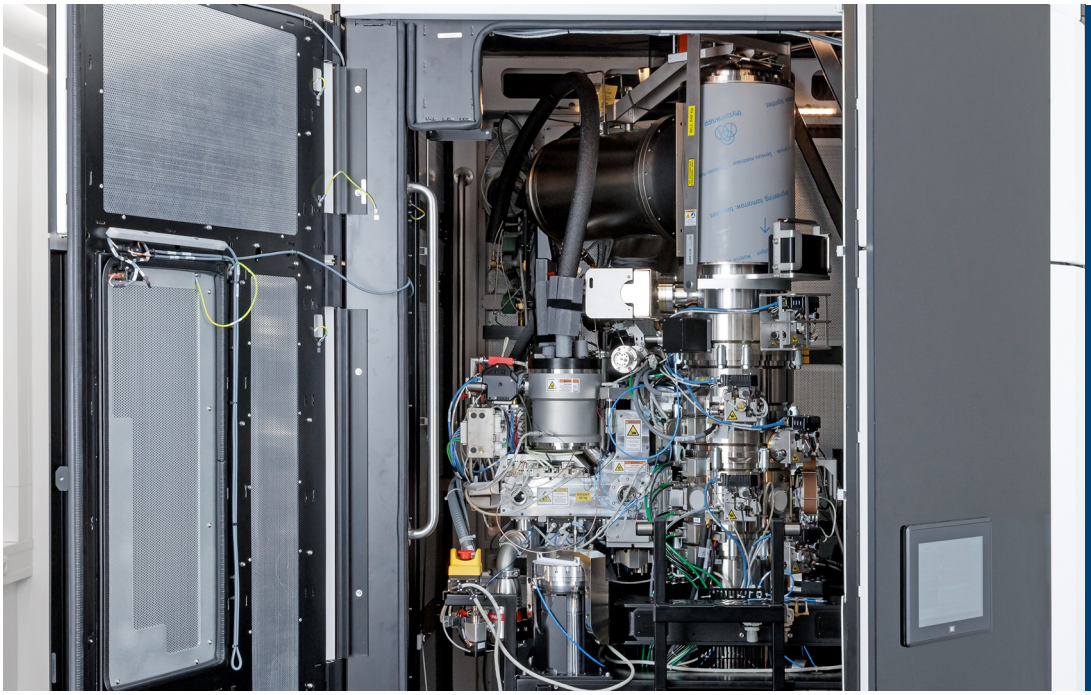
JÜLICH
Forschungszentrum



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!

The Ernst Ruska Centre (ER-C) at the Forschungszentrum Jülich is one of the world-leading electron microscopy centres with more than 15 electron microscopes. At the ER-C-3, the Structural Biology division of the ER-C, we investigate the structural and molecular mechanism of membrane biology and push the development of cryo-EM related methodology. Our main methods of investigation are single-particle electron cryo-microscopy (cryo-EM) as well electron cryo-tomography (cryo-ET) that we are also developing to advance existing imaging technologies towards high-resolution structural biology. The ER-C-3 (https://fz-juelich.de/sachse , uses a comprehensive electron microscopy approach to study the biological structures of membrane-associated protein complexes. In close cooperation with experts in the development of methodologies in multidimensional STEM, new approaches for low-dose imaging at high contrast in Cryo-EM are explored both theoretically and experimentally.

We are looking to recruit a

PhD Position – Image processing of cryo-EM data

Your Job:

We are offering a PhD position dedicated to the advancement of cryo-EM image analysis methods at the interface of Structural Biology and Electron Imaging at the Forschungszentrum Jülich.

Cryo-EM has become a very powerful method to visualize ice-embedded samples including purified proteins at close to atomic resolution. Typically, single-particle cryo-EM as well as cryo-ET are based on conventional transmission electron microscopy (TEM) exposures taken in underfocus. In this project, we aim to further develop the imaging analysis capabilities for (scanning) transmission electron microscopy (STEM) and TEM in order to advance our understanding of vitrified biological specimens.

- Develop novel methods for the application of cryo-(S)TEM methods to biological specimens including the operation of high-resolution electron microscopes.
- Perform and advance image analysis to determine high-resolution cryo-EM

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

structures of ice-embedded test specimens and in situ cellular samples.
- Employ advanced imaging and analysis methods together with an interdisciplinary team of physicists and structural biologists.

Your Profile:
- Master degree in biophysics, bioinformatics, molecular or cell biology or related field.
- Experimental skills in biophysics experiment design including associated data analysis.
- Prior knowledge of structural biology and associated data analysis techniques is of great advantage.
- Strong communication skills and ability to work in an international and interdisciplinary team.

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:
- The chance to work at one of the largest research centers in Germany, with excellent scientific equipment and leading European computational resources, located on a green campus, and near the cultural centers Köln, Düsseldorf, and Aachen. The Jülich campus also hosts a vibrant (bio)physics, bioinformatics and structural biology community.
- Direct access to high-level EM infrastructure at the Ernst-Ruska Centre including cryo-microscopes. The facility has been extended with state-of-the-art cryo-microscopes and FIB-SEMs of ThermoFisher Titan Krios, Talos Arctica and Aquilos 2.
- Access to outstanding wet-lab and sample preparation laboratories at the host institute.
- Working in a dynamic team of researchers with backgrounds in different disciplines across biology, chemistry, physics and informatics to advance cryo-(S)TEM methods
- 30 days of annual leave 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 employment of doctoral researchers at Jülich is governed by a doctoral contract, which usually has a term of three years. Pay is 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“). Pay higher than the basic pay may be possible. 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

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.