



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 successful implementation of the energy transition and structural change requires the expansion of photovoltaics on all roof surfaces. However, many roofs do not have the necessary load-bearing capacity for conventional, heavy solar modules. These roofs include textile architecture, which is used, for example, on the roofs of industrial buildings, warehouses and event halls. That is why we are developing lightweight solar modules at the Institute of Energy Materials and Devices - Photovoltaics (IMD-3), in which the heavy glass front sheet is replaced by polymer foils. In the Light.P.Roof project, highly efficient lightweight solar modules and textile architecture are to be brought together using an integrated fastening technology in order to open up previously unusable roof surfaces for photovoltaics. Three project partners from NRW are working together to achieve this.

**We offer you to the next possible date an exciting**

## **Master Thesis - Electrical interconnection concepts of lightweight silicon heterojunction solar modules**

### **Your Job:**

- Development of concepts for lightweight solar modules and manufacturing of these modules
- Development of concepts for solar cell interconnection within solar modules for higher mechanical and electrical stability and manufacturing of modules with this interconnection
- Test of new interconnection concepts like laser interconnection or interconnection using electrically conductive tape
- Characterization of the electrical properties of the new solar module concepts
- Simulation of electrical and optical properties of solar modules

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](http://www.fz-juelich.de)

**Your Profile:**

- Bachelor's degree in electrical engineering, mechanical engineering, physics, materials science or a comparable field
- Experience in material processing and analytics
- Basic experience with programming software for data analysis
- Ability to work independently
- Enjoy developing new processes
- Ability to work in a team
- Good knowledge of German and/or English

**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:

- An interesting and socially relevant topic for your thesis with a future-oriented theme
- Interdisciplinary collaboration on projects in an international, motivated, committed and collegial team of scientists, technicians and engineers
- Exciting research topics in one of the most relevant and interdisciplinary areas of renewable energy
- Excellent scientific equipment and the latest technology
- Insights into various specialist areas from materials science to electrical engineering and the opportunity to gain experience in these areas
- Qualified and intensive support from scientific colleagues
- Support in developing and realizing your own ideas
- It is possible to fill the position for 6 or 12 months

In addition to exciting tasks and a collegial working environment, we offer you much more: <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.

Further information on diversity and equal opportunities: <https://go.fzj.de/equality>