



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!

At the Institute of Climate and Energy Systems - Energy Systems Engineering (ICE-1) we focus on the optimal design and operation of integrated, decentralized energy systems with a high share of renewable energy. Computer simulation and numerical optimization are our essential tools to arrive at efficient, reliable and cost-effective solutions. We contribute both to the development of mathematical models and to the development of improved simulation methods and optimization algorithms. Our methods and software-tools are validated against operating data of real systems. Furthermore, we conduct comprehensive case studies in order to test and further improve the scalability and the performance of our models and algorithms. Specially adapted methods and codes enable us to exploit the potential of high performance computing with the aim of solving particularly large and complex problems.

**We are offering an interesting**

## Internship - Modeling and Simulation of Power System Components

### Your Job:

- Literature review on power system modeling
- Reproduction of component models, especially grid-forming inverter model, from the literature
- Implementation of model in commercial simulation software
- Implementation of model in a C++ based simulation software

### Your Profile:

- Good background in electric power engineering, physics, mathematics or other related subject
- Experience in energy systems and modeling
- Interest or good knowledge in mathematical modeling and simulation
- Experience or interest in programming is a plus
- Fluent in English (spoken and written)
- Enrolled as Bachelor or Master student in a German university

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)

**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:

- Ideal conditions for gaining practical experience alongside your studies
- An interdisciplinary collaboration on projects in an international, committed and collegial team
- Excellent technical equipment and the newest technology
- Qualified support through your scientific colleagues
- The chance to independently prepare and work on your tasks
- A large research campus with green spaces, offering the best possible means for networking with colleagues and pursuing sports alongside work
- Flexible work (location) arrangements, e.g. remote work (partly)

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>