At the Institute of Energy and Climate Research – Energy Systems Engineering (IEK-10) we focus on the development of models and algorithms for simulation and optimization of decentralized, integrated energy systems. Such systems are characterized by high spatial and temporal variability of energy supply and demand as well as by a high degree of interdependence of material and energy flows. Our research at IEK-10 aims to provide scalable and faster than real-time capable methods and tools which enable the energy-optimal, cost-efficient and safe design and operation of future energy systems.

We are looking to recruit a

**Postdoc - HPC solutions for Energy Systems**

**Your Job:**
Computing performance plays a very critical role in the use of model-based approaches to the planning, design, and operation of energy systems. At IEK-10, the department of High-Performance Computing focuses on the development of innovative methodologies for the parallelization of simulation algorithms as well as on the best exploitation of hardware architectures. In this context, we are developing an innovative solver for the simulation of multi-modal energy system with founding from Helmholtz Foundation and DFG.

Your areas of research will include among others:
- Define innovative parallelization algorithms for DAE and ODE systems
- Explore the use of heterogenous architectures for best runtime performance
- Supervision of students and doctoral candidates
- Acquisition and leading of research projects
- Representation in national and international networks
- Presentation of your research results at (international) meetings and conferences, as well as in the form of publications in relevant journals

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:
- Very well completed scientific university studies (Master’s with subsequent PhD) in electrical/electronic/computer engineering, computer or computational science
- Strong mathematical background
- Extended publication record
- Excellent knowledge and experience in programming (Python, C, C++)
- Excellent knowledge of state-of-the-art parallel programming paradigms (e.g. MPI, OpenCL, SYCL)
- Very good communication skills in English

Furthermore you have significant previous experience in at least two of the following areas:
- Classical parallel computer architectures (i.e. shared and distributed memory)
- Heterogeneous computer architectures with accelerators such as FPGAs
- Energy systems modelling

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 highly motivated research group in one of the biggest research centers in Europe
- An excellent scientific and technical infrastructure (both at IEK-10 and at JSC)
- Participation in project meetings and conferences
- Full-time position with the option of slightly reduced working hours and 30 days of annual leave
- 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 in conformity with the provisions of the Collective Agreement for the Civil Service (TVöD).

Forschungszentrum Jülich promotes equal opportunities and diversity in its employment relations.

We also welcome applications from disabled persons.