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 7,100 employees in one of Europe's biggest research centres and help us to shape change!

The Institute of Energy and Climate Research - Nuclear Waste Management (IEK-6) at Forschungszentrum Jülich (FZJ) performs cutting-edge research in the fields of nuclear waste management and safety. This comprises fundamental as well as applied research and development for the safe management of nuclear wastes, covering issues of actual waste forms and waste packages or the engineered barrier system of deep geological repositories for nuclear wastes. In this context, we apply innovative experimental and computational approaches to analyse and interpret complex coupled thermal-hydraulical-mechanical-chemical (THMC) processes relevant to radionuclide release and transport in the near- and far-field of geological repositories for radioactive wastes. In the recently acquired ERC funded project Genies (https://cordis.europa.eu/project/id/101040341), our aim is to gain deeper insights into the interactions between gases, water and minerals in the subsurface and how transport parameters of porous media are affected by chemical reactions.

We are looking to recruit a

Postdoc - Pore Scale Modelling of Multiphase Flow and Reactive Transport for Assessing Hydrogeochemical Processes

Your Job:

- Development of pore-scale models that can describe (i) coupled mineral dissolution and precipitation, (ii) mineral dissolution with gas formation, (iii) coupled mineral dissolution and precipitation with gas formation
- Development of a framework to speed up geochemical calculations for multi-phase reactive transport
- Collaboration in the implementation of crystallization mechanisms in reactive transport codes that can run in high performance computing environments
- Processing of the data and scientific interpretation of the results

We look forward to receiving your application until 16.10.2022 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

Zertifikat seit 2010
audit berufundfamilie

- Independent presentation of the results at scientific conferences and in scientific publications

Your Profile:

- PhD degree in Applied Mathematics, Earth/Environmental Sciences, Chemistry, Physics, Chemical Engineering, Petroleum engineering or a related discipline
- Expertise in lattice Boltzmann method and multiphase flow modelling
- Knowledge of working in high performance computing environment is necessary
- Scientific programming languages (such as C, C++, Python or Fortran) are necessary
- Skills in geochemical modelling skills are desirable
- Knowledge on nucleation processes is desirable
- Ability to work in an international multidisciplinary team is essential
- Excellent English communication and writing skills

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 large research campus with green spaces, offering the best possible means for networking with colleagues and pursuing sports alongside work
- Possibility to develop an own scientific profile in the topic
- An excellent environment to perform high-quality research at an international level
- Opportunities for scientific and personal further training at Forschungszentrum Jülich
- Extensive company health management
- Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
- Flexible work (location) arrangements, e.g. remote work
- A full-time position within a flexible work schedule
- 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)
- 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 within a position for a fixed term of 2 years. Salary and social benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund), pay group 13, depending on the applicant’s qualifications and the precise nature of the tasks assigned to them.

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.