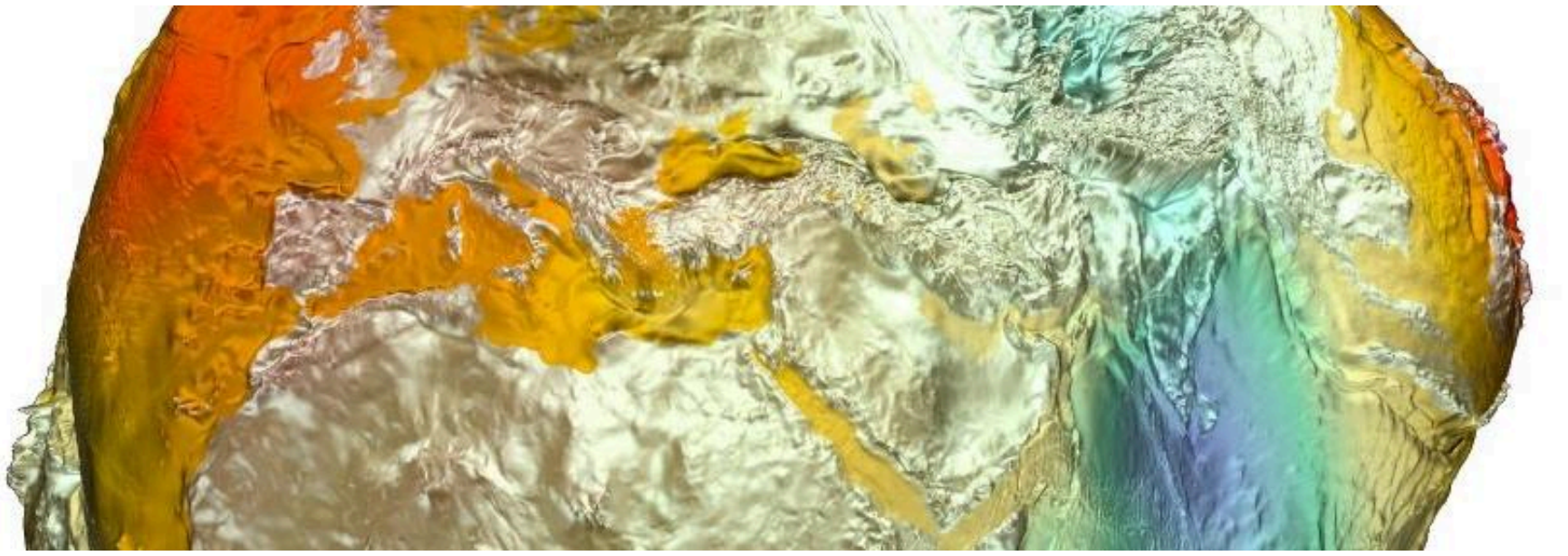
Research scientist (f_m_x) – Geothermal Reservoir Stimulation



The GFZ Helmholtz Centre for Geosciences is one of the world's leading institutions in the field of geosciences. As part of the Helmholtz Association, Germany's largest research organisation, we address global challenges such as natural hazards, climate change and the sustainable use of resources. In doing so, we combine cutting-edge research with social relevance. Our international staff - around 1,200 employees and approx. 500 guests - work in a multidisciplinary way and with a unique infrastructure to research the dynamic processes of the Earth system. Our vision: "Taking the pulse of our Earth to safeguard a habitable planet."

For the EU-funded project UPLIFT in section 4.3 Geoenergy (https://www.gfz.de/en/section/geoenergy/overview) (department 'Geosystems (https://www.gfz.de/en/departments/geosystems)'), we are looking for a:

Research scientist (f_m_x) – Geothermal Reservoir Stimulation

Reference Number 11660

UPLIFT (https://uplift-horizon.eu/)brings together key European Enhanced Geothermal System (EGS (https://www.geothermie.de/bibliothek/lexikon-der-geothermie/e/egs)) industry and research institutions to demonstrate, at Czechia's leading energy research site RINGEN, how water-only multi-stage hydraulic shear stimulation treatments can be efficiently implemented in metamorphic basement rocks in Europe, while reducing technical, social, and environmental risks.

A central focus is the development and application of adaptive stimulation designs that use real-time seismic and hydraulic data to improve treatment efficiency and safety. The project will also investigate micro-turbine drilling as an alternative to conventional perforation techniques to improve reservoir access. Laboratory experiments will assess the self-propping behaviour of European basement rocks and benchmark their stimulation response against acid- and proppant-based methods. Water-only and proppant-based stimulation treatments will also be compared at the Bedretto Underground Laboratory. In parallel, the project will develop high-fidelity, physics-based digital twins to guide stimulation design, alongside fast surrogate models to support real-time operational decision-making. The stimulation activities are supported by high-resolution, real-time seismic monitoring, conventional and adaptive traffic light systems, and social science research.

As a postdoctoral researcher, you will play a central role in planning, supervising and analysing the adaptive multi-stage hydraulic stimulation treatments at the RINGEN EGS site in Litoměřice, Czechia. This position offers the opportunity to connect advanced research with field operations and contribute directly to developing efficient, safe geothermal stimulation technologies.

Your responsibilities:

- Co-lead the hydraulic stimulation and well test activities at the Litoměřice EGS site
- Analyse stimulation and well test data to compare and understand the hydraulic and seismic response of metamorphic basement rock to different stimulation methods and injection protocols, including adaptive injection strategies
- Contribute to detailed operational planning and the preparation of tender documents
- Contribute to the techno-economic assessment of different stimulation methods and their implications for EGS development
- Publish your findings in peer-reviewed journals and communicate them at scientific conferences and to non-scientific stakeholders

About You:

Essential Qualifications:

- A Master's degree (or equivalent) and a PhD (or equivalent industry experience) in reservoir/petroleum engineering, drilling/completion engineering, geophysics, geothermal energy, applied geosciences, or equivalent
- Research or industry background in Enhanced Geothermal Systems, well stimulation or induced seismicity
- Well test analysis
- Proficiency in spoken and written English

Desirable Qualifications:

- German or Czech language skills are useful, but not required
- Strong motivation and creativity, combined with an independent, structured, reliable and results-oriented working attitude
- Excellent communication skills with the ability to engage effectively with interdisciplinary project partners, the scientific community, engineers, and non-technical stakeholders

What we offer:



- Ambitious and varied tasks in a dynamic and international research environment
- State-of-the-art equipment
- Public service benefits
- Extensive training opportunities
- Professional career advice offered by our in-house Career-Centre
- Flexible working hours and conditions
- Support with finding a good work-life balance offered by benefit@work
- Institute day-care centre on site
- Working at the Albert Einstein Science Park on the Telegrafenberg in Potsdam
- Workplace within walking distance of Potsdam main train station, or just a short ride on the shuttle bus

Start date: 1st February 2027
Fixed-term: 36 months
Salary: The position is classed as salary group 13 according to “TVöD Bund”. The salary group is determined on the basis of the Collective Wage Agreement and the respective personal qualifications.
Working hours: Full-time (currently 39 h/week); The position is generally suitable for part-time work.
Place of work: Potsdam

Have we piqued your interest?

If so, we look forward to receiving your application by **13th December 2026**. Please use our online application form only.
Required documents: letter of motivation, CV, grades/certificates

The GFZ actively promotes diversity and equal opportunities. We explicitly welcome applications from all qualified individuals, regardless of ethnic and social origin, nationality, gender, sexual orientation and identity, religion/belief, age, and physical or neurodiverse abilities.

“Diversity in perspectives” is one of GFZ's core values. As an integral part of supporting diversity at our centre, we actively promote women in science and in leadership positions. To know more about our Diversity policies, contact the diversity team. If you need more information about our gender equality policies, please do not hesitate to contact our Equal Opportunities Officer (https://www.gfz.de/en/career/the-gfz-as-an-employer/employee-representation) and check our Equal Opportunities Plan & Cascade Model (https://www.gfz.de/en/career/the-gfz-as-an-employer/equal-opportunities).

We look forward to applications from people who enjoy working in diverse teams, where everyone feels respected and valued and can fully develop their own talents. Applicants with severe disabilities and equalised persons will receive preferential consideration if equally qualified.

charta der vielfalt SIGNED

Data protection information for applicants (https://www.gfz.de/en/career/job-offers#c95430)

In case of any further queries regarding the field of activity, please contact Prof. Dr. Hannes Hofmann (mailto:hannes.hofmann@gfz.de)via email. If you have any general questions about the application process, please contact our recruiting team at our phone number +49 (0) 331-6264-28787.