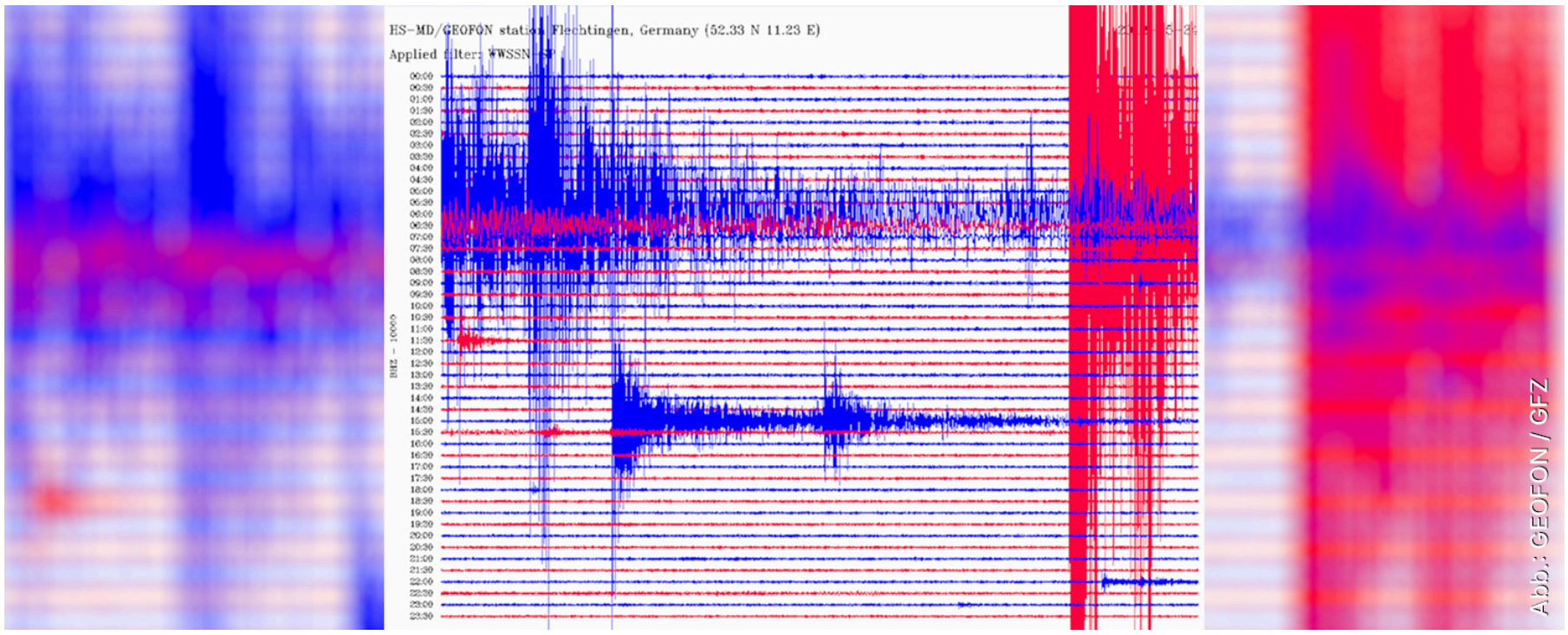
Doctoral Researcher (f_m_x) - Seismology



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 section 2.4 Seismology (https://www.gfz.de/en/section/seismology/overview) (department “Geophysics (https://www.gfz.de/en/geophysics)”), we are looking for a:

Doctoral Researcher (f_m_x) - Seismology

Reference Number 11687

The project "SCALES – Global Seismological-Geodynamic Characterisation of Lowermost Mantle Heterogeneity Across a Broad Range of Length Scales" is part of the DFG-funded Priority Programme 2404 (https://www.geo.lmu.de/deepdyn/en/), "Reconstruction of the Dynamics of the Deep Earth over Geological Time Scales (DeepDyn)". The programme brings together interdisciplinary expertise in geomagnetism, geodynamics, seismology, mineral physics and biomagnetism to advance our understanding of Earth's internal structure and dynamics.

In collaboration with a complementary project component focusing on geodynamics at LMU Munich, SCALES aims to compare the small-scale chemical and thermal heterogeneity predicted by geodynamic simulations with its signatures in the globally observed scattered seismic wavefield. This research will contribute to a better understanding of the structure and dynamics of the lowermost mantle.

The successful candidate will investigate a global dataset of multiple seismic wave phases that interact with deep Earth heterogeneity, simulate seismic wave propagation using radiative transfer theory, and apply innovative inversion approaches to image the small-scale structure of the deep mantle.

Your responsibilities:

- Review and critically assess the relevant scientific literature
- Analyse and model seismological data
- Adapt and implement numerical simulation codes to model seismic energy propagation in heterogeneous media using radiative transfer theory
- Develop models describing the distribution and characteristics of heterogeneity in the mantle
- Interpret the results in conjunction with geodynamic models
- Present research findings at international conferences and interdisciplinary workshops within the DeepDyn Priority Programme
- Publish research results in peer-reviewed scientific journals

About You:

Essential Qualifications:

- A Master's degree (MSc or equivalent) in geophysics, physics or a closely related discipline
- Experience in the analysis and interpretation of seismological data
- Programming skills in Python and C/C++
- Excellent written and spoken English.

Desirable Qualifications:

- Experience in numerical modelling, inverse methods

- Good German language skills

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: from 1st March 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: Part-time 75% (currently 29.25 h/week)
Place of work: Potsdam

Have we piqued your interest?

If so, we look forward to receiving your application by **3rd January 2027**.
Please use our online application form only.
Required documents: Curriculum vitae (including contact details of at least two references), letter of motivation and 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.

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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 Christoph Sens-Schönfelder (mailto:sens-schoenfelder@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.