Doctoral researcher (f_m_x) – Terrestrial and Cryo-Hydrological Gravimetry

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 the Earth to safeguard a habitable planet.”

For section 1.2 Global Geomonitoring and Gravity (https://www.gfz.de/en/section/global-geomonitoring-and-gravity-field/overview) Field (department "Geodesy" (https://www.gfz.de/en/departments/geodesy)), we are looking for a:

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Reference Number 11591

The GFZ department "Geodesy" has five independent sections that together advance the goals of the Helmholtz research programme "Changing Earth - Sustaining our Future" and provide important GFZ services and infrastructure within the Modular Earth Science Infrastructure (MESI). With this call, we are looking for a PhD student for section 1.2 "Global Geomonitoring and Gravity Field". This section focuses on developing and operating infrastructure for gravity field observations from global to local scales, with applications spanning geodynamic and climatic processes, water budgets, and hazard monitoring.

The PhD position is part of the ERC Synergy Grant Project "SnowShifts - Current and future shifts of snow regimes in extreme environments" (https://cordis.europa.eu/project/id/101224858)seeking to significantly enhance our comprehension of snow volume and mass, their non-linear dynamics and properties and, specifically, snow regime shifts within the Earth and climate systems. The PhD student will be embedded in a highly vibrant team of PhD students and Postdocs from the project partners at the University of Oslo, BOKU Vienna, EPFL Lausanne and CNRS CESBIO Toulouse. The PhD student will be responsible for high-resolution snow mass quantification at local scales based on superconducting gravimetry at focus sites in high mountains (Zugspitze, Lhasa) and polar regions (Ny-Ålesund, Syowa, Jang Bogo). The joint analysis of terrestrial and satellite gravimetry will be carried out in a team with a Postdoc who will be responsible for the quantification of regional snow mass variations using spatio-temporally downscaled data from the GRACE/GRACE-FO and the upcoming GRACE-C satellite missions.

Your responsibilities:

- Process and analyse time series of temporal gravity variations from superconducting gravimeters
- Implement a state-of-the-art toolbox for processing superconducting gravimeter time series
- Quantify snow water equivalent variations based on superconducting gravimeter time series
- Work on the gravimetric subproject in SnowShifts with personal responsibility and highly interdisciplinary cooperation with the external project partners from cryospheric sciences and remote sensing as well as colleagues from GFZ
- Write scientific publications and present results at project meetings and conferences
- Prepare a PhD thesis

About You:

Essential Qualifications:

- Completed academic university degree (master's, diploma or equivalent) in Geodesy, Geophysics, Geosciences, Physics or a similar subject
- Knowledge of temporal gravity field variations and their observation from space and from the Earth's surface
- Experience in time series analyses and statistics
- Good programming skills, e.g. in Python, MATLAB, FORTRAN
- Ability and willingness for fieldwork in high-alpine and polar regions

- Good communication and interpersonal skills
- Very good command of English

Desirable Qualifications:

- Knowledge of the German language

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: 3 years
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 4th **December 2026**. Please use our online application form only.
Required documents: CV, letter of motivation, grades/certificates
Desirable documents: references if available

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 Dr. Christian Voigt (mailto:christian.voigt@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.

GFZ Helmholtz-Zentrum für Geoforschung

HELMHOLTZ