TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Faculty of Environmental Sciences, Department of Geosciences,** the **Chair of Geodetic Earth System Research** offers a position as

Research Associate / PhD Student (m/f/x)
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting at the **earliest possible date.** The position is limited to 3 years and comprises 67,5% of the full-time weekly hours. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The position offers the chance to obtain further academic qualification (usually PhD).

Tasks: You will work on the scientific research project "Advancing the understanding of glacial isostatic adjustment in Antarctica" (ANT-GIA) as part of the German Research Foundation's priority programme "Antarctic Research". The research project will be realised together with the GFZ Helmholtz Centre for Geosciences (Potsdam). Thus, you will closely cooperate with the PhD student at GFZ in order to link the interpretation of geodetic GNSS measurements with the modelling of glacial-isostatic adjustment (GIA). You will focus your work on the analysis and interpretation of the GNSS observations as well as on the application of geological and glacial-geomorphological findings for the reconstruction of ice-load history in Antarctic regions. Participation in the priority programme enables you to cooperate closely with further national and international partners. The main goal of the project is to significantly improve the understanding of GIA-driven processes and, hence, the GIA modelling in Antarctica.

Your tasks will comprise:

- preparation and extension of the dataset of geodetic GNSS measurements in Antarctica
- reprocessing of all available GNSS data considering the standards of GIANT-REGAIN by means of differential GNSS analysis and Precise Point Positioning, respectively
- determination of the bedrock displacement due to present-day ice-mass changes using results of satellite altimetry and of surface mass balance (SMB) modelling
- refinement of regional ice-load histories, especially in East Antarctica, based on geological and glacial-geomorphological findings
- determination of time series of 3D bedrock displacement and, subsequently, of displacement rates
- thorough characterization of uncertainty measures, especially of displacement rates
- close cooperation with the PhD student at GFZ in utilizing the GNSS results for the GIA modelling, and in performing synthesis and interpretation
- presentation and publication of results

Requirements:

- university degree (Master's or equivalent) in geodesy or a related subject (geophysics, geoinformatics, physics, mathematics)
- sound experience in applying geodetic space techniques, especially in the analysis of geodetic GNSS measurements, as well as methods of parameter estimation and stochastic modelling
- experience in analysing processes interlinking solid Earth and ice sheet would be an asset
- excellent problem-solving skills and ability to creatively apply multidisciplinary knowledge
- excellent command of programming and scripting languages
- readiness to engage in interdisciplinary collaboration at national and international level
- strong social skills and very good communication skills
- proficiency in English (level B2 to C1 according to the Common European Framework of Reference for Languages); knowledge of German would be an asset

We offer:

- an exciting and varied position in a working group engaged in geodetic and polar research with strong motivation, mutual support, and appreciation
- extensive training and further education opportunities
- flexible and family-friendly working hours

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application with the usual documents and quoting the **reference acronym "ANT-GIA"** by **September 29, 2025** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to **mirko.scheinert@tu-dresden.de** or to: **TU Dresden, Chair of Geodetic Earth System Research, Dr. Mirko Scheinert, Helmholtzstr. 10, 01069 Dresden, Germany.** Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis.