

The Deutsches Geodätisches Forschungsinstitut of the Technical University of Munich ([DGFI-TUM](https://www.dgfi.tum.de)) is accepting applications for a

Postdoc position (m/f/d) in ionosphere research

The investigation of temporal variations of the Earth's atmosphere by analyzing geodetic space observations has been a primary research topic of DGFI-TUM since many years. In the field of geodetic ionosphere research, DGFI-TUM is among the leading institutions in Germany.

Today, space weather is of growing relevance in science and politics. Since modern society is highly dependent on space-based technology such as communication and navigation systems, methods for monitoring space weather are being developed worldwide. Of particular importance is the determination and forecasting of the state of the ionosphere, which has a major influence on the propagation of satellite signals. The analysis of geodetic space observations that are affected by the ionosphere (e.g., GNSS, satellite altimetry, radio occultations) makes it possible to determine different ionospheric key parameters, such as the electron density.

To strengthen our team, we are looking for a scientist on postdoc level with a specific focus on ionosphere modelling. Your research will be integrated into the project MEDIs (*Modeling and forecasting of the Electron Density distribution within the Ionosphere*) which is part of the Research Unit (RU) MIPT (*Magnetosphere, Ionosphere, Plasmasphere and Thermosphere, as a coupled system*) funded by the German Research Foundation (DFG). The overarching science objective of the RU MIPT is to better understand how magnetosphere, ionosphere, plasmasphere, and thermosphere are coupled to each other, to evaluate the consequences of extreme space weather events, and to develop forecast procedures. In MEDIs, DGFI-TUM concentrates on the investigation how Machine Learning (ML) techniques can be used to quantify the relationship between ionospheric key parameters and solar and geomagnetic parameters to improve the modeling and forecasting of the electron density in the ionosphere.

Your profile

- University degree and doctorate in geodesy, geo-/atmosphere physics, mathematics, informatics or related
- Experience in data analysis, upper atmosphere (ionosphere, plasmasphere) research, mathematical and statistical model development and machine learning
- Advanced computer literacy and programming skills in Python
- Ability for independent research as part of a team, interest in the presentation and publication of scientific results
- Good command of the English language (speaking and writing)

We offer

- Independent and challenging research in an international team at DGFI-TUM in the context of the RU MIPT
- Flexible and family friendly working hours
- Fixed term contract for a period of initially 4 years, starting as soon as possible
- Salary according to the collective labor contract TV-L (full time position, 100%)
- Opportunity to participate in university teaching
- Attractive office in the Residence of Munich at the Odeonsplatz

TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women. Disabled applicants will be preferred in case of equivalent suitability, aptitude and professional performance.

Interested?

Do not hesitate to contact us for questions regarding the position. We are looking forward to receiving your application with relevant documents per email no later than **June 20, 2024** to:

Deutsches Geodätisches Forschungsinstitut der Technischen Universität München (DGFI-TUM)
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As part of your application, you provide personal data to the Technical University of Munich (TUM). Please view our privacy policy on collecting and processing personal data in the course of the application process pursuant to Art. 13 of the General Data Protection Regulation of the European Union (GDPR) at <https://portal.mytum.de/kompass/datenschutz/Bewerbung/>. By submitting your application you confirm to have read and understood the data protection information provided by TUM.