

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

PhD scholarship (m/f/d) in the research area Satellite Altimetry with focus on sea level and ocean circulation in the Arctic Ocean

DGFI-TUM has long-standing experience with the analysis of observation data from satellite altimetry. The determination of sea surface changes and their interpretation in terms of ocean dynamics and climate signals has been a primary research goal for many years. In particular, DGFI-TUM is at the forefront in the determination of sea level, sea state and sea surface topography in challenging areas such as the coastal seas and polar oceans. The institute's database comprehends the complete observation record of all altimetry missions. Via its data portal OpenADB (<http://openadb.dgfi.tum.de>) DGFI-TUM provides homogenized observation data and various derived products.

The Arctic Ocean (AO) is very sensitive to climate change whose impacts result, among others, in rising sea levels and changes of the AO circulation. Satellite altimetry provides valuable information on these changes over decades, but under the challenging environmental conditions in the AO, meaningful results rely on careful pre-processing of the radar observations and an appropriate handling of missing or distorted signals due to sea ice coverage and in coastal areas.

The new project AROCCIE (Arctic Ocean Surface Circulation in a Changing Climate and its Possible Impact on Europe) within TUM's International Graduate School of Science and Engineering (**IGSSE**) targets on the creation of refined methods and algorithms to generate improved information on geostrophic surface currents in the AO based on long-term sea-level changes from satellite altimetry measurements. The generated AO surface circulation dataset will be analyzed with respect to signatures of climate change. In particular, we will study changes in direction and strength of the currents over the last two decades and exploit their possible impacts on Europe. The project is carried out jointly with the Technical University of Denmark (**DTU Space**), where a research stay of three months is foreseen.

Your profile

- University degree (M.Sc.) in geodesy, oceanography, mathematics, informatics or related
- Skills in data analysis, mathematical and statistical model development and signal processing
- Advanced computer literacy and programming skills, preferably in Matlab or 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 internationally well connected team
- Flexible and family friendly working hours
- Monthly tax-free stipend of **€ 2,000** for **3.5 years** (42 months; mid-term evaluation after two years)
- Attractive office in the Residence of Munich at the Odeonsplatz

TUM's International Graduate School of Science and Engineering (www.igsse.gs.tum.de) acts as the hub for innovative research across TUM departments and their international partners. As a PhD candidate within IGSSE you will be provided with attractive funds for equipment, research training, soft-skill programs and international mobility. Please note that there is an obligation to take out health insurance. The TUM aims to increase the number of women employees. Qualified women are therefore especially encouraged to apply. Handicapped applicants will be preferred if applicability and qualification are equivalent.

Interested?

We are looking forward to receiving your application with relevant documents per email to:

Deutsches Geodätisches Forschungsinstitut der Technischen Universität München (DGFI-TUM)

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