

The [International Doctorate Program M³OCCA](#) funded by the Elite Network of the Bavarian State Ministry of Science and The Arts invites applications for a

doctoral candidate position (Entgelt-/Bes.Gr. TV-L E13, 75%, 4 years)

at the Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) in Erlangen, Germany. The position will **start 1 June 2026** (fixed start date).

The candidate shall develop novel deep learning methods to estimate the radar penetration bias into snow and ice from interferometric synthetic aperture radar (InSAR) data. The research will concentrate on the investigation of multiple frequencies (x-, C-, and L-band) from various spaceborne SAR missions (e.g., TanDEM-X, Sentinel-1, NISAR), aiming at the generation of highly-accurate digital surface models (DSMs) and of the corresponding prediction uncertainty over both alpine terrain and ice sheets. The goal is to develop a reliable deep learning-based framework for the quantification of height changes over snow-covered areas.

Required skills:

- MSc in Telecommunication Engineering, Aerospace Engineering, Geography, Earth Sciences, Physics, Computer Sciences, Applied Mathematics or a related field
- Programming skills (Python)
- Affinity for scientific computing and development of processing algorithms
- Knowledge of synthetic aperture radar theory and basic concepts
- Good reporting and presentation skills
- Excellent level of written and spoken English
- Ability to work independently, to critically assess own results and to cooperate within a wider research team across disciplines

Desired and advantageous skills are:

- Interest for understanding Earth System processes and their complex interactions
- Background in signal processing and machine learning
- Experience in big data handling and high-performance computing
- Demonstrated capacity for independent thinking and diligence

The position is part of the coordinated international doctorate program M³OCCA (9 core funded and up to 11 associated doctoral researchers). The active participation and interaction in the joint research seminars, workshops and annual research retreats is mandatory.

The official working language is English. German knowledge is welcome but not mandatory. However, we strongly recommend to learn German for daily life (funds for German language classes are available).

The candidate will be placed at the German Aerospace Center (DLR), Microwaves and Radar Institute, Weßling, which offers a vivid working environment with specific research focus on synthetic aperture radar.

The Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) and DLR are seeking to augment the number of women in research and teaching and specifically addresses female

scientists to apply for this position. We further encourage persons with disabilities to apply. If desired, a member of the equal opportunity office of FAU can participate in the selection process without any disadvantage for the applicant.

For your application, please send a single PDF to idp-mocca@fau.de stating "MOCCA SP 2.2" as subject. The PDF should comprise:

- Cover letter (stating your background and motivation for this project)
- CV, list of publications (if any)
- University degree certificates
- Transcript of records, other certificates (if any)
- Two addresses for potential reference (if any)
- A short research concept how you would approach the topic (max. 2 pages)

Deadline for application: **7 December 2025**, the position is open until filled.

Further information on the sub-project:

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