

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 Technical University of Munich (TUM), Germany. The position will **start 1 June 2026** (fixed start date).

The candidate will design and conduct series of laboratory experiments to empirically develop friction laws relating to friction between ice and solid rock as well as loose sediment. These findings are then to be integrated into a comprehensive enthalpy approach within a glacier evolution model. Both the development of friction laws and model integration should be supplemented by parallel field studies for sampling and comparative measurements.

Required skills:

- MSc/MEng in Geology, Physics, Civil or Environmental Engineering, Applied Mathematics or a related field
- Programming skills (Python, R, shell or similar)
- Affinity for designing and executing laboratory campaigns
- Thermo-mechanical modelling coupling enthalpy, frictional heating, stress–strain evolution
- 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 geomechanics or geotechnics
- Experience in planning and conducting fieldwork in high-alpine environments
- 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.

Proficiency in German is advantageous but not required, as the working language is English. However, we strongly recommend to learn German for daily life (funds for German language classes are available).

The candidate will be placed at the TUM [Chair of Landslide Research](#), which offers a vivid working environment with specific research focus on mountain and polar regions.

The Technical University of Munich (TUM) is 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.



For your application, please send a single PDF to idp-mocca@fau.de stating “MOCCA SP 3.3” 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:

Prof. Dr. Michael Krautblatter, Chair of Landslide Research, TUM, phone: +49 89 289 25871,
e-mail: m.krautblatter@tum.de