

PhD Position in Mathematics

Technical University of Munich

The School of Computation, Information and Technology at the Technical University of Munich (TUM) welcomes applications for a PhD position (m/f/d, 75%, German salary level E13, duration up to four years).

The DFG funded position will be associated with a joint research project of the numerical analysis groups at the Technical University München and the University of Tübingen lead by Prof. Caroline Lasser (TUM) and Prof. Christian Lubich (Univ Tübingen). The project is part of the newly created Collaborative Research Center “Mathematics of Many Body Quantum Systems and Their Collective Phenomena” between the Munich universities TUM and LMU and the University of Tübingen. The research project will focus on numerical methods for quantum many-body systems, specifically on time integration with gaussian and tensor-based methods.

The PhD student will learn the existing extensions of the time-dependent variational principle, transfer them to gaussian and tensor-based approximations, analyse the new methods and apply them to concrete quantum dynamical systems of interest. This is a mathematical project: the numerical methods are the object of research and not just a given tool to be used in applications.

The ideal candidate has

- an excellent master's / doctoral degree in mathematics, physics, computer science, or related fields,
- a strong background in numerical analysis and algorithms,
- solid experience in numerical programming with Python or Matlab or Julia or C/C++,
- good command of the English language (knowledge of German is not required).

The 75% position carries no teaching load. The starting date is flexible. Review of applications will begin on **October 15, 2023**. Applications received after this date will still be considered if the position is not yet filled.

Applications should be sent as a **single PDF document** via email to classer@ma.tum.de with “PhD Applications B4” in the subject line. They should include

- a CV,
- copies of degrees / university transcripts,
- a motivational statement (at most one page) explaining the applicant's interest in the position as well as their relevant skills and experience, and
- names and email addresses of two professors that may provide letters of recommendation directly to the hiring committee.

TUM is an equal opportunity employer. TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women. The position is suitable for disabled persons. Disabled applicants will be given preference in case of generally equivalent suitability, aptitude and professional performance.

** 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.*