

PhD Position in Mathematics / Computer Science

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 (m/f/d) is located within the Collaborative Research Center “Mathematics of Many Body Quantum Systems and Their Collective Phenomena” and will be co-supervised by Prof. Herbert Spohn at the Department of Mathematics and Prof. Christian Mendl at the Department of Computer Science in Munich. The newly created Collaborative Research Center is a transregional cooperation between the LMU and TUM in Munich, and the University of Tübingen.

The PhD position within the research project “Hydrodynamic Equations for Integrable Many-Body Systems” is concerned with integrable field theories, like the (classical) Toda lattice and Calogero fluid model or the Lieb-Liniger δ -Bose gas and the XYZ chain as quantum models. Based on the mathematical framework of generalized hydrodynamics (GHD), the goals of the project include a mathematical analysis, specifically proving convergence to generalized Gibbs ensembles, as well as a comparison of numerically evaluated GHD predictions with accompanying molecular dynamics simulations.

Ideal candidates have

- an excellent Master's degree in mathematics, physics, computer science, or related fields
- a strong background in integrable field theories, generalized hydrodynamics, numerical simulations, or large deviations theory
- good command of the English language (knowledge of German is not required),
- openness to communicate, cooperate and exchange ideas

The 75% position with a salary according to the German TV-L civil service tariff carries no teaching load. The starting date is flexible.

Applications:

Applications should be sent as a single PDF document via email to both Herbert Spohn (spohn@ma.tum.de) and Christian Mendl (christian.mendl@tum.de). Please state “Application: B3 Hydrodynamic Equations” in the subject line.

Applications* should include:

- Curriculum vitae and 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
- Names and email addresses of two professors that may provide letters of recommendation directly to the hiring committee

Review of applications will begin on **January 31, 2023**. Applications received after this date will still be considered if the position is not yet filled.

The Technical University of Munich is an equal opportunity employer. As such, applications from women are explicitly encouraged. Preference will be given to candidates with disabilities who have essentially the same qualifications.

* 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.