Invitation to the Oral Examination – Department CS

For the occasion of his examination for a Doctoral Degree,

Jernej Rudi Finžgar

will present his dissertation entitled

Quantum optimization algorithms for near-term hardware

on **29.04.2026** at **09:00 am**

Attendance to the presentation is open to the public.
The presentation will be in English.

The candidate, all members of the Examination Committee, and authorized examiners of the TUM School of CIT are invited to the presentation and subsequent oral examination.

The presentation and subsequent examination will take place online via MS Teams:

https://teams.microsoft.com/meet/323238533235 52?p=TIbQwMJXTOPvYmTaSi

Besprechungs-ID: 323 238 533 235 52, Passcode: kT3Y9iW3

And in room MUE03 (Meeting Room)– Garching (B2.03),
Friedrich-Ludwig-Bauer-Str. 5, 85748 Garching

Examination committee:

Chair: **Prof. Dr. Robert Wille**

First Examiner: **Prof. Dr. Christian Mendl**

Second Examiner: **Prof. Dr. Michael Walter, Ludwig-Maximilians-Universität**

Third Examiner:

Garching, the 20 March of 2026

Mailing list:

Members of the examination committee

Doctoral candidate

Abstract:

This thesis develops algorithmic approaches for near-term quantum optimization. We use Bayesian optimization to design improved quantum annealing schedules, validated on neutral-atom hardware. We then introduce a counterdiabatic driving scheme with rigorous performance guarantees. Finally, we propose a hybrid quantum classical family of recursive optimization algorithms and benchmark them on paradigmatic problems.