

Invitation to the Oral Examination – Department CE

For the occasion of his examination for a Doctoral Degree,

Asad Ullah AWAN

will present his dissertation entitled/on

Model Reduction for Controller Synthesis of Networks of Cyber Physical Systems

on **27.01.2025** at **14:00 h (CET)**

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 Zoom.

[https://tum-conf-zoom-x.de/j/66067753347?pwd=xS57uxzoSYVP4cT4NrQv0WYbS6fMUX.1](https://tum-conf.zoom-x.de/j/66067753347?pwd=xS57uxzoSYVP4cT4NrQv0WYbS6fMUX.1)

Meeting-ID: 660 6775 3347

Kenncode: 533687

Examination committee:

Chair: **Prof. Dr. Angela Schoellig**

First Examiner: **Prof. Martin Buss**

Second Examiner: **Assoc. Prof. Majid Zamani, University of Colorado**

Third Examiner: /

Munich, the 13th of December 2024

Mailing list:

Members of the examination committee

Doctoral candidate

CIT staff

Abstract:

Synthesis of controllers for large-scale networks of cyber physical systems enforcing complex specifications (e.g. ones expressed as temporal logic formulae) presents a formidable challenge due to the high dimensionality of such network systems. This dissertation aims to enable controller synthesis by developing compositional strategies of model reduction (also known as abstraction) for various classes of such networks.