Invitation to the Oral Examination – Department CS

For the occasion of his examination for a Doctoral Degree

Hannah Susanne Eichhorn

will present her dissertation entitled
Physics-Informed Deep Learning for Motion-Robust Quantitative Brain Magnetic Resonance Imaging
on **Wednesday, 22nd of April 2026 at 2:30 am** (German time)

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 in room 0.001, EG (IAS-Auditorium, Lichtenbergstr. 2a, 85748 Garching) and online via Teams:

https://teams.microsoft.com/meet/38973197928095?p=40kdR2pWcylBLtWpPd
Besprechungs-ID: 389 731 979 280 95
Passcode: ii7F5Kc7

Examination committee:
Chair: **Prof. Daniel Cremers**
First Examiner: **Prof. Julia Schnabel**
Second Examiner: **Prof. Jana Hutter, FAU**
Third Examiner: **Prof. Efrat Shimron, Technion**

Garching, the 1st of April, 2026

Mailing list:
Members of the examination committee
Doctoral candidate

Abstract:

Learning-based motion correction has emerged as a promising solution to mitigate motion artifacts in magnetic resonance imaging (MRI). Despite recent advances, several challenges limit the clinical translation potential of learning-based motion correction methods. The contributions of this thesis advance the field of motion-robust MRI by providing a systematic review and categorization of existing approaches, integrating domain knowledge to address data scarcity, and promoting rigorous evaluation strategies.