

Invitation to the Oral Examination – Department EE

For the occasion of his examination for a Doctoral Degree

Jose Roberto VARGAS RIVERO

will present his dissertation entitled

Simulation of LIDAR Sensors in Real Environmental Conditions

on **31 July 2024 at 13:00 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 in room **N0507**.

Examination committee

Chair: **Prof. Dr.-Ing. Alexander W. KOCH (TUM, MST)**

First Examiner: **Prof. Dr.-Ing. Jia CHEN (TUM, ESM)**

Second Examiner: **Prof. Dr. rer. nat. Abhinav VALADA (University of Freiburg)**

Munich, the **18 of June 2024**

Mailing list

Members of the examination committee

Doctoral candidate

Abstract

Future self-driving systems have to be able to cope with adverse weather for at least as many seconds as needed for the driver to take over. From the main sensors used in autonomous driving, this thesis focuses on the LIDAR sensor. For this sensor hybrid models are presented for the simulation of weather related effects. These models are able to run in real time and are intuitive to use. The models are presented in a framework that includes validation and which can be extended to other sensors.