



Christian Doppler Laboratory for

EMC Aware Robust Electronic Systems

Official Opening Ceremony

**Schumpeter Laboratory for Innovation
Institute of Innovation and Industrial Management
Graz University of Technology**

Inffeldgasse 11/III, 8010 Graz
May 16, 2024, 4:30pm.



Please register here:

> survey.tugraz.at/index.php/748722?lang=en

Christian Doppler Laboratory for EMC Aware Robust Electronic Systems

Artificial intelligence (AI) is rapidly changing our lives. The Christian Doppler Laboratory for EMC Aware Robust Electronic Systems investigates and refines the leverage of AI methods to increase the reliability of electronic devices and systems.

Electromagnetic compatibility (EMC) ensures the safe and reliable operation of electronic equipment and systems by limiting unwanted electromagnetic emissions and ensuring immunity. Electronic systems are ubiquitous, and we trust their reliability and trouble-free operation, which must be granted in all imaginable scenarios.

EMC engineering relies on years-long competence as well as strict limits on electromagnetic emission and immunity. In the Christian Doppler Laboratory, we leverage the enormous speed of trained AI models to digitally generate, store, and apply data about the EMC properties of electronic devices and systems. These data

containers will be used to investigate and optimize systems in a multitude of scenarios, to predict the impact of uncertain model parameters, to perform risk assessment, and to improve the predictive power of EMC simulation. The models will be derived using both computer simulations and measurements.

The large number of model parameters, their uncertainty, the complexity and arbitrariness of system arrangements and the subtlety of the electromagnetic coupling paths are our challenge and will drive the capabilities of electromagnetic AI models beyond the present-day limits.

The Christian Doppler Laboratory for EMC Aware Robust Electronic Systems is proud to partner with world-leading companies. Our results will support our partners to continue manufacturing the most competitive products by leveraging beyond state-of-the-art AI methodologies.



PROGRAM

16:00h – Doors Open

16:30 – Welcome Addresses

Moderation: Univ.-Prof. Dipl.-Ing. Dr.techn. **Bernd Deutschmann**
Head of the Institute of Electronics, TU Graz

16:30h – 16:35h

Univ.-Prof. Dipl.-Ing. Dr.techn. **Michael Monsberger**,
Vice Rector for Infrastructure and Sustainability, TU Graz

16:35h – 16:40h

Prof.h.c. Dr. **Peter Prenninger**,
Vice-President of the CDG, AVL List GmbH

16:40h – 16:50h

CD Laboratory for EMC Aware Robust Electronic Systems

Asst. Prof. Dipl.-Phys. Dr.sc.techn. **Jan Hansen**
Head of the Christian Doppler Laboratory, TU Graz

16:50h – 17:20h

The Companies' & Partners' Perspectives:

BMW Group Steyr – Dipl.-Ing. **Christian Stempel**,
Department Head Electronic Systems & e-Drive, BMW Group, Steyr

Infineon IFAT & IFAG – Dipl.-Ing. **Robert Czetina**,
Vice President, Head of Infineon Automotive Development Center Villach

Silicon Austria Labs – Dipl.-Ing. **Alfred Binder**, MSc,
Head of Research Division Power Electronics

17:20h – 17:30h

Group Picture of the Speakers

17:30h – Buffet

Funding Bodies



Partners of the CD Laboratory



In Christian Doppler Laboratories, application-oriented basic research is pursued at a high level, and expert scientists cooperate with innovative companies. The Christian Doppler Research Association is an international best practice example for promoting this collaboration.

Christian Doppler Laboratories are financed jointly by the public purse and the participating companies. The most important public sponsor is the Federal Ministry for Labour and Economy (BMAW).