

Invitation to the Symposium
“From Classical to Quantum Measurement Systems – event of IQY”

**20-years Anniversary of Chair of Measurement and Sensor Systems (MST)/Czarske Lab
Spacetime: TOE/317H, Toepler-Bau, TU Dresden (TUD), Mommsenstr. 12, 01069 Dresden
Friday, 04th April 2025**

Agenda

13:00 – 13:05 Greeting by the dean of the Faculty of Electrical and Computer Engineering, TUD,
Andreas Richter

13:05 – 13:20 **Juergen Czarske**, “20th Anniversary of MST: History, Present and Future”

Session 1: Biomedical & Fiber Measurement Systems, Session Chair: Wolfgang Osten

13:20 – 13:40 **Wolfgang Osten**, Universität Stuttgart, “The wide scale of optical sensing and metrology”

13:40 – 13:50 **Lars Büttner**, MST, “Advancements for Metrology and Optogenetics by Wavefront Shaping
towards BIOLAS” - BIOLAS: Biomedical Computational Laser Systems Competence Center

13:50 – 14:10 **Caroline Murawski**, Professur für biomedizinische Sensorik, TUD, “Bright Ideas: Organic
Optoelectronics for Bioimaging and Optogenetics”

14:10 – 14:20 **Jakob Dremel**, MST, “Advancements for Medicine by Multicore Fiber Endoscopy towards
BIOLAS and EKFZ” - EKFZ: Else Kröner Fresenius Center for Digital Medicine

14:20 – 14:40 **Stefan Rothe**, Yale University, USA, “High-power single-frequency multimode fiber amplifier
with tailored output profile”

14:40 – 15:00 **Filipe Marques Ferreira**, University College London, UK, “Pushing the Limits of High
Speed Data Transmission: Unlocking Capacity in Graded-Index Multimode Fibres”

15:00 – 15:30 Coffee Break

Session 2: Quantum Technology of 2nd Generation - IQY, Session Chair: Juergen Czarske

15:30 – 15:50 **Markus Gräfe**, TU Darmstadt, Institute for Applied Physics, „Quantum sensing with
undetected light - IQY“ - IQY: The 2025 International Year of Quantum Science and
Technology (IQY) of UNESCO recognizes 100 years since the initial development of quantum
mechanics.

15:50 - 16:05 **Kambiz Jamshidi**, Chair of Radio Frequency and Photonics Engineering, TUD, “CMOS
compatible Photonics for Non-classical Applications towards Quantum Sensing, Computing and
Communication - IQY”

16:05 – 16:20 **Riccardo Bassoli**, Deutsche Telekom Chair of Communication Networks and Head of the
Quantum Communication Networks Research Group, TUD, “6G-quantum communication
networks: communication, sensing, and computing - IQY”

16:20 – 16:35 **Kay-Uwe Giering**, Fraunhofer-Institut für Integrierte Schaltungen IIS, Institutsteil Entwicklung
Adaptiver Systeme EAS, “Quantum Communication Systems for Specialized Applications -
IQY”

16:35 Transfer to MST, Barkhausen-Bau, BAR 17, Helmholtz Str. 18, 01069 Dresden

16:45 – 17:45 **Lab-Tour**

17:45 – 20:45 **Reception & get-together**

Everyone is welcome, but please register. We look forward to your participation in our celebration of MST's 20th anniversary as an official event of IQY 2025 of UNESCO and UNO.

Prof Juergen Czarske