

# Quantum Colloquium

**June 1, 2023**

**16:30**

University of Latvia, House of Science  
Auditorium 501, Jelgavas iela 3, 5th floor



## **Quantum Technology Competence Center (QTZ) at Physikalisch-Technische Bundesanstalt**

**Dr. Nicolas Spethmann**

Physikalisch-Technische Bundesanstalt (PTB)

Quantum technologies and in particular the second quantum revolution will have a substantial impact on worldwide economy. PTB as the National Metrology Institute of Germany has a long tradition in quantum technology and performs world-leading research in several fields, with a focus on quantum sensing and metrology. Examples include, but are not limited to, precise quantum standards for electrical quantities, ultracold atoms and ion traps, sensitive sensors for magnetic fields, single photon sources and detectors and ultrastable and precise optical clocks. This expertise in quantum technology, together with PTB's mission to support industry in metrology as a governmental body, puts PTB into an ideal and natural position to transfer quantum technology from science to application in collaboration with industry and academia. For this task, PTB has recently established the Quantum Technology Competence Center (QTZ) at PTB. In my talk I will present several ongoing projects in this spirit, including the "Umbrella Project Quantum Communication Germany" ([squad.ptb.de](http://squad.ptb.de)) and activities in the regional innovation network "Quantum Valley Lower Saxony" ([qvls.de](http://qvls.de)).



## **Technology Transfer: Standardization on Quantum Technologies**

**Dr.-Ing. Thomas Gerster**

Physikalisch-Technische Bundesanstalt (PTB)

To successfully transfer quantum technologies from the lab to the market, standardization is a highly needed prerequisite. Standardization can take place at every stage of technological development, starting from basic science to real world applications in the industry. It helps to define e.g. metrics, terminology, fabrication technology, (full system) interoperability, test infrastructure, reliability and many more topics in an open, neutral and consensus way among academia, industry and other stakeholders.

The author will outline recent activities in Europe, starting with the publication of the Standardization Roadmap on Quantum Technologies by the CEN-CENELEC Focus Group (FGQT). This work paved the way to officially establish the new CEN-CENELEC Joint Technical Committee 22 (JTC-22) covering all major areas of quantum technologies in March 2023. After an in-depth look at this new standardization efforts on European level and their significance for European quantum tech industry, an open discussion about possible ways to contribute for Latvian experts and stakeholders is suggested.