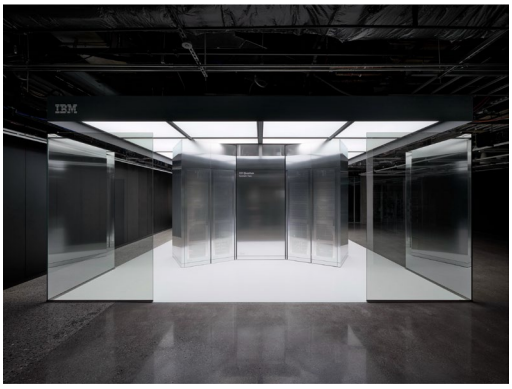
Mathematisch-Naturwissenschaftliche Fakultät
Wissenschaftliche Einrichtung Physik

Gemeinsames Kolloquium der Informatik & der Physik

Donnerstag, 02.07.2026, 16:30 Uhr – Hörsaal 5F

Quantum Computing: Hype or the Future? From Research Labs to Real-World Applications

Büsra Kösoglu-Kind
Senior Quantum Ambassador and IT-Architect at IBM,
PhD candidate at Charité – Universitätsmedizin Berlin



Quantum computing is moving beyond the research lab and steadily toward real-world applications. This talk, from the perspective of IBM Quantum, provides a concise overview of the current state of the technology — from its core principles and key technical challenges to concrete industry use cases in pharmaceuticals, finance, and logistics. In addition, the session will introduce **Qiskit**, IBM's open-source quantum software development framework, and demonstrate how quantum algorithms can already be explored and executed on real quantum hardware today. The presentation will also cover the **IBM Quantum roadmap**, recent technological progress, and practical examples of how organizations are beginning to experiment with quantum computing to solve complex optimization, simulation, and machine learning problems. This talk is designed for anyone seeking a well-founded introduction to the world of quantum computing. **No prior knowledge is required.** This 90-minute session includes a 60-minute talk on the current state of quantum computing, IBM's technology roadmap, challenges, and real-world applications, followed by a 30-minute practical introduction to Qiskit and quantum software development.

Ab 16:00 Uhr Kaffee, Tee und Gebäck im Foyer links neben dem Hörsaal 5H Math.-Nat.-Fakultät (Gebäude 25.22. Ebene 00)

Für die Dozenten der Physik & der Informatik
Prof. Dr. Dagmar Bruß & Prof. Dr. Jörg Rothe