



## Einladung zum Vortrag

# Quantum Computation and Simulation with Atoms and Ions

von

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**Ort:** Josef-Stefan-Hörsaal  
9. Boltzmannngasse 5, 3. Stock

**Abstract:**

Quantum simulators and quantum computers hold the promise to allow one to study many-body quantum systems and solve problems that cannot be efficiently treated on classical computers. In my talk I will discuss theoretical schemes and experimental realisations of digital and open-system quantum simulation, as well as of topological quantum computing with atoms and ions. In particular, I will present recent work of my research group and experimental progress towards fault-tolerant quantum error correction and computation in state-of-the-art scalable trapped-ion architectures. Finally, I will outline open questions and future research plans.