



## Einladung zum Vortrag

# Quantum physics with trapped ions: How to turn an ion crystal into an interacting quantum many body system

von

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**Ort:** Christian-Doppler-Hörsaal  
9. Boltzmannngasse 5 / Strudlhofgasse 4, 3. Stock

### **Abstract:**

Laser-cooled trapped ions constitute a quantum system that can be prepared, controlled and measured by suitably tailored pulses of laser light. In my talk, I will discuss the basics of how to encode quantum information, how to manipulate quantum bits and how to entangle them with each other by dressing the ions with laser light. Making qubits interact with each other provides interesting perspectives for trapped-ion quantum simulations but also for spectroscopic measurements where entanglement can enhance the measurement capabilities in various ways.