



# *E I N L A D U N G*

## **Lunchseminar**

zum Vortrag

von

**David Edward Bruschi**  
(Univ. Wien)

über

*“On the weight of entanglement: the role of quantum correlations  
in physics at the overlap of relativity and quantum science”*

### **Abstract:**

In recent years, quantum correlations have gained a prominent role in many areas of physics, from quantum information science to tests of alternative theories of gravity. Quantum correlations are the core ingredient of many tasks in the most diverse areas of science, such as quantum refrigeration, quantum communication or the Hawking effect.

A thorough investigation of the nature of these correlations and their role is paramount to advance our knowledge of nature.

We present a body of work that aims at understanding the role of quantum correlations in phenomena that exhibit genuine relativistic and quantum features.

This body of work covers different aspects of relativistic quantum physics, from quantum communication in curved spacetimes, to ultra-precise measurements of the gravitational field and the contributions of quantum correlations in the theory of gravitation.

We discuss possible applications and potential attempts for experimental demonstrations.

**Zeit: Dienstag, 26.06.2018, 13.00**

**Ort: Arbeitsgruppe: Gravitation, Währinger Straße 17,  
common room 1. Stock**

gez.: P. T. Chrusciel