



## Institute colloquium

# Institute Colloquium: Ultra-cold atoms: a unique playground for quantum physics

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Host:

Lasers are not only tools designed to heat or burn material objects. With well-chosen parameters, laser light can constitute a coolant for atomic gases that leads to the lowest temperatures ever achieved, in the sub-microkelvin range. For such cold gases the dual wave-particle nature of the atoms plays a much stronger role than at room temperature, and one produces novel kinds of fluids generically named as quantum matter .

These fluids can provide stringent tests of the theories that were developed to describe liquid helium superfluidity and superconductivity. They also allow one to address pending questions in other fields of physics, with the emergence of the notion of quantum simulation . The talk will present a few perspectives opened by this ultra-cold quantum matter, and outline some of its potential technological impacts.

**Monday, October 13, 2014 04:30pm - 05:30pm**

Raiffeisen Lecture Hall, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.