



Colloquium

The Institute Colloquium: Probing and Controlling Ultracold Quantum Matter

Immanuel Bloch

Max Planck Institute of Quantum Optics

Host:

The realization of ultracold quantum gases at Nanokelvin temperatures has marked a milestone in modern quantum physics. With the help of laser light, these ultracold atom clouds can be stored in artificial periodic potentials created by laser light - so called optical lattices - that allow us to explore fundamental aspects of strongly interacting fermionic and bosonic quantum matter. In very recent experiments, we have been able to record single snapshots of a quantum fluid in which individual atoms are detected with single lattice site resolution. This opens unprecedented novel opportunities for analyzing and manipulating strongly interacting quantum system. In my talk, I will review some of the recent experiments on strongly correlated quantum gases in optical lattices and highlight connections to condensed matter physics, quantum information science and atomic- and molecular physics.

Monday, February 25, 2013 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.