



Colloquium

Institute Colloquium: Uncertainty determines the non-locality of quantum mechanics

Stephanie Wehner

National University of Singapore

Host:

Two central concepts of quantum mechanics are Heisenberg's uncertainty principle, and a subtle form of non-locality that Einstein famously called "spooky action at a distance". These two fundamental features have thus far been distinct concepts. In this talk, we'll see that they are inextricably and quantitatively linked. Quantum mechanics cannot be more non-local with measurements that respect the uncertainty principle. In fact, the link between uncertainty and non-locality holds for all physical theories. More specifically, the degree of non-locality of any theory is determined by two factors -- the strength of the uncertainty principle, and the strength of a property called "steering", which determines which states can be prepared at one location given a measurement at another.

Monday, June 18, 2012 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.