TECHNISCHE UNIVERSITÄT CHEMNITZ

Technische Universität Chemnitz 1836-2011 175 Jahre

# PHYSIKALISCHES KOLLOQUIUM

Mittwoch, den 30.11.2011, um **17:15 Uhr**

Ort: Reichenhainer Str. 90; Neues Hörsaalgebäude, Raum: 2/N013


## Prof. Gregor Weihs

Institute for Experimental Physics,
University of Innsbruck, Austria


## Quantum communication with solid state light sources


While quantum cryptography has become a commercial technology, it still mostly serves niche markets. Before we can expect widespread adoption of quantum communication technologies, intensive research on quantum optical integrated circuits will be necessary. We have created a quantum cryptography system based on quantum mechanical entanglement that spans the campus of the University of Waterloo. Motivated by this application we are developing integrated sources of entangled photon pairs, which are based on diverse semiconductor nanostructures, Bragg-reflection waveguides, quantum dots and strongly coupled quantum well microcavity systems.

In connection with efforts by other groups on further chip-based quantum optical functionality we see the dawn of a new era of the quantum optical lab on a chip.


Alle Zuhörer sind ab 17:00 Uhr zum Kaffee vor dem Hörsaal eingeladen.


Informationen zum Vortrag erteilt Prof. Dr. Rudolf Bratschitsch, Tel. (+49) 0371-531 21670