



universität  
wien

Quantum Optics, Quantum  
Nanophysics &  
Quantum Information



Institut für Quantenoptik und  
Quanteninformation

**INVITATION**  
to a talk given by

**Marco Ornigotti**

Department of Physics, Politecnico di Milano, Italy

**Quantum-Optical Analogies in Waveguide-based  
Optical Structures**

Abstract :

The formal analogy that exists between the Schroedinger equation for a quantum particle in presence of a driving field and the Helmholtz equation for light that propagates in a curved optical waveguide is presented. This analogy is then used to demonstrate that either photonic devices can be used as a powerful laboratory tool for mimicking coherent quantum effects that are very difficult to observe in a real quantum system or that thanks to this analogy it is possible to use concepts from the field of quantum control for the management of light in photonic waveguides, opening the way for novel ideas for molding the flow of light along these structures.

**Thursday, 17th February, 2010**

**14:00**

Ernst-Mach-Hörsaal, Boltzmannngasse 5, 2nd floor, 1090 Wien