



**Einladung
zum**

Physikalischen Kolloquium

**Montag, 25.01.2016
16:15 Uhr in N24/H13**



Professor Dr. Karyn Le Hur

Centre for Theoretical Physics
École Polytechnique and CNRS
Palaiseau, France

New Directions in Condensed-Matter Physics, Quantum Optics and Quantum Information

The Matter comprises many atoms and electrons, giving rise to rich condensed-matter phenomena. At the same time, the concept of quantum superposition becomes fatally subject to decoherence in the macroscopic limit. In this colloquium, we study and probe the emergence of complex phenomena in many-body quantum systems using dynamics, information and light-matter point of views. Decoherence effects and entanglement properties will be quantified. We also introduce the notion of topological quantum protection such as in quantum Hall states where the motion of particles of waves is protected at the edges against disorder. Examples of “quantum engineering” with solid-state systems, ultra-cold atoms and photon systems will be studied.

Ab 16.00 Kaffee, Tee und Kekse vor dem Hörsaal H13

Organisation: Prof. Dr. F. Jelezko, Tel. 23750

Host: Prof. Dr. S. Huelga, Tel. 22901, off.: 22911