

Invitation to IQST Seminar

on Monday, January 15, 2018, 3pm
University of Stuttgart, NWZ II
Pfaffenwaldring 57
Room 2.136



Prof. Dr. Susanne Yelin
University of Connecticut

Title: Photon manipulation and entanglement with cooperative atomic systems

Abstract: While many-body interaction are commonly seen as detrimental to quantum manipulation and measurements, this presentation aims to demonstrate some ideas where they can be exploited instead.

How are cooperative effects, Dicke states, and entanglement related, and how can these effects be used for quantum information science, or quantum nonlinear optics and topological optical physics? I'll first introduce Dicke states and dipole-dipole interaction caused cooperative effects, and briefly talk about the role of entanglement in this system. At the end, these ideas will be applied to a 2D atomically thin mirrors that allows resonant linear and non-linear photon operations using a clear division between radiant and subradiant modes and how this idea can be used for quantum information science

Host: Prof. Dr. Tommaso Calarco, Institute for Complex Quantum Systems, Ulm University