



Solid-State Spin-Photon Interfaces: Old Friends & New

METE ATATURE

November 07, 2018

12:00

Seminar Room

Optically active spins confined in solids, such as semiconductors or diamond, are exciting physical systems as quantum-bit candidates for quantum science and its applications. Their inherently mesoscopic nature leads to a multitude of dynamics within the solid state environment of spins, charges, vibrations and light. Implementing a high level of control on these constituents and their interactions with each other creates exciting opportunities for realizing stationary and flying qubits within the context of spin-based quantum information science. Quantum optics, developed originally for atomic systems, provides a valuable toolbox for this endeavour. In this talk, I will provide a snapshot of the progress and

challenges for quantum light sources, spin-photon interfaces and optical interconnection of distant spins, both in conventional semiconductors, as well as first steps involving atomically thin layered materials.

Wednesday, November 7, 2018, 12:00. ICFO's Seminar Room

Hosted by Prof. Darrick Chang