



Physics Colloquium
Professor Mete Atature
(Cambridge University)

“Solid-State Quantum Emitters: Old Friends & New”

Friday, May 3 2019

2:30pm—3:30pm

210 Robeson Hall

Optically active spins confined in solids, such as semiconductors, silicon carbide 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 in semiconductor systems.

