



Joint Quantum Sciences Seminar
Wednesday, November 2, 4:00 pm
Jefferson 250

Mete Atature

University of Cambridge

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

Optically active spins confined in solids, such as semiconductors or diamond, are interesting and rich physical systems 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. While the quantum optics provides a toolbox for advanced spectroscopic investigations for these interaction mechanisms, it also offers solution possibilities for their detrimental effects for the realisation of operational quantum devices. 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. In this talk, I will provide a snapshot of the progress and challenges for interconnected solid-state spins, as well as first steps towards hybrid quantum devices involving emergent materials.

Student Presentation by Mihir Bhaskar will begin at 4:00 PM

Guest Presentation will begin at 4:30 PM

Refreshments will be provided