Department of Physics and Astronomy

Seminar

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Nanophotonics for Modern-Day Information Processing

Abstract:

Nanophotonics is one of the leading solutions to the challenges set by the new information paradigms such as Big Data. By studying how light and matter interact at small scales, nanophotonics provides opportunities for classical and quantum hardware speedup. On the classical side, the emerging photonic architectures and device-designing algorithms are records in low-power and high-bandwidth all-optical communication and computing. These approaches utilize standard nanofabrication techniques while surpassing the heat and charging issues that impede electronic systems. On the quantum side, nanophotonics promises to resolve noise and connectivity issues in the development of the Quantum Internet. The forerunning devices incorporate color centers in silicon carbide and diamond, and feature long spin-coherence times, optical spin-readout, and implementation of entangling schemes.

Thursday, September 13, 2018
4:30 PM in SCI 242

Refreshments will be served at 4:20 in SCI 242