Graphene Photonics

**Background:** Graphene, a single atomic layer of graphite, has unique properties that make it attractive for a range of opto-electronic devices, including ultrafast photodetectors, modulators, nonlinear devices, and imaging arrays operating in a wide spectral range. The Quantum Photonics Laboratory at MIT is developing novel graphene-based opto-electronic devices operating in the wavelength range from 1.3 um - 14um. These devices leverage photonic integrated circuits developed in silicon-on-insulator and GaAs for enhanced light-matter interaction and system integration.

**Project description:** The project focuses on theory and experiment of graphene opto-electronic devices, focusing on imaging systems and sensors. Experiment and theory benefit from close collaborations with academic (MIT, Columbia) and industry partners (IBM).

**Contact:** For more information, send application email with CV to Prof. Dirk Englund at englund@mit.edu. Website: qplab.mit.edu.

**References:**