

# Condensed Matter Seminar

Thursday, May 17, 2018

705 Pupin Hall

4:00 PM

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## "Manipulating plasmon flow in 2D materials"

Polaritonic resonances in the family of 2D materials [1] can offer new and exciting opportunities in the control of light flow, both in the near- and far-field regime. In this talk, I will focus primarily on the control of light flow in the near-field, i.e. plasmon-polariton. I will discuss various strategies where the intensity and polarization of light, and the materials' unique properties, can be exploited to control the propagation of plasmons. I will touch upon concepts such as topological effects in materials, dipole-plasmon coupling, temporal modulation, parametric and resonant amplification.

Reference:

[1] Low T, Chaves A, Caldwell JD, Kumar A, Fang NX, Avouris P, Heinz TF, Guinea F, Martin-Moreno L, Koppens F. Polaritons in layered two-dimensional materials. *Nature materials*. 2017 Feb;16(2):182.