

# Colloquium Notice

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*New frontiers for light control and manipulation  
using metamaterials*

Metamaterials are artificial materials with properties well beyond what offered by nature, providing unprecedented opportunities to tailor and enhance the interaction between waves with materials. In this talk, I discuss our recent research activity in electromagnetics, nano-optics and acoustics, showing how suitably tailored *meta-atoms* and arrangements of them open exciting venues to manipulate and control waves in unprecedented ways. I will discuss our recent theoretical and experimental results, including metamaterials for scattering suppression, metasurfaces to control wave propagation and radiation, large nonreciprocity without magnetic bias, giant nonlinearities in properly tailored metamaterials and metasurfaces, and active metamaterials. Physical insights into these exotic phenomena, new devices based on these concepts, and their impact on technology will be discussed during the talk.

Monday  
**November 5, 2018**  
Starts at 12:15 PM  
Coffee at 12:00 PM  
Physics Conference Room, SB B326