

PHYSICS DEPARTMENT

COLLOQUIUM

“Flat Optics”

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LHSB 1.104 (Brownsville)

Physical Science Building 1.119 (Edinburg)

10:50am – 12:20pm

Abstract: The subject of this talk is flat optical devices, which utilize strong interactions between light and two-dimensional nanostructured interfaces (“metasurfaces”) to control light at will. An optical interface is conventionally considered as merely the boundary between two dissimilar optical media, and for centuries people have been relying on light propagation in bulky optical media to create optical devices. The research on flat optics aims to break away from the reliance on light propagation and transfer an optical interface into functional devices. I will describe the effort of my research lab in creating flat optical devices that show record-breaking performance or new functionalities. These include flat optical modulators, flat lenses, integrated photonic devices, and radiative cooling coatings.