

# Colloquium Notice

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**Yale University**

## *Complex Photonic Nanostructures and phenomena*

Wave optics is an old field of physics that has experienced rapid advances lately. Thanks to modern nanofabrication technology, complex nanostructures such as photonic crystals and metamaterials can be fabricated. They display unusual optical properties and phenomena, e.g., photonic bandgaps, negative refractive index, optical magnetism and cloaking. In this talk, I will start with a brief introduction of the field of nanophotonics and then focus on our studies of photonic nanostructures of random morphology. I show how we can trap light in such structures to make random lasers. Next, learning from the color generation by nanostructures in bird feathers, we use short-range order to enhance light scattering and confinement in artificial nanostructures. Finally I will talk about our latest work on coherent perfect absorbers which can be considered as time-reversed lasers

Monday

**November 22, 2010**

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326