

PHYSICS DEPARTMENT COLLOQUIUM

“BIOLOGICAL APPLICATIONS OF PLASMON RESONANT NANOPARTICLES”

BY

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Noble metal nanoparticles strongly scatter and absorb visible light due to localized surface plasmon resonance (LSPR) of their free electrons. "Plasmonics" is an emerging field in which these plasmon resonances are manipulated through nanoparticle size, shape, and assembly to create nanophotonic devices. Several biological applications of visible plasmon resonant nanoparticles have been demonstrated, including microscopic imaging applications and a powerful set of optical biosensors. When one tunes the plasmon resonance into the near-IR, significant therapeutic and diagnostic biomedical applications can be realized. I will describe our work on the synthesis, biological conjugation, and optical properties of near-IR resonant gold nanoshells and nanorods.

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4:00 PM IN 102 JFB
REFRESHMENTS AT 3:30 PM IN 219 JFB