IUPUI Department of Physics Presents:

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Controlling dipole-dipole interactions with a photonic environment

Thursday,
October 26, 2017* 3:30pm,
LD 010
402 N. Blackford Street

Refreshments at 3:00 pm in the Physics Conference Room LD 154B
For additional information call 274-6900

Abstract:

Dipole-dipole interactions between atoms and molecules give rise to a myriad of phenomena ranging from Casimir forces to Forster Resonance Energy Transfer. At low temperatures, controlled dipole-dipole interactions between atoms can implement quantum gates and simulators whereas at room temperature such interactions can help boost incoherent energy transfer. This talk focusses on photonic approaches employing plasmonic metamaterials to control dipole-dipole interactions at room temperature. We experimentally demonstrate enhanced range and efficiency of dipole-dipole interactions through broadband engineering of the Coulombic near-field.

*Physics colloquium is scheduled for every Thursday during the academic year, 3:30 PM in LD 010. Changes to the schedule will be posted at www.physics.iupui.edu