Eugene Demler  
Harvard  

“Exploring universal properties of many-body systems in cold atoms and electron systems”

Abstract: Ultracold atoms provide a new platform for studying fundamental problems of quantum and statistical physics. I will review examples where the insights gained from experiments with ultracold atoms lead to a new understanding of solid state systems. In particular, I will discuss interferometry as a crucial aspect of measurements of topological order with cold atoms in optical lattices and h-map analysis of STM experiments. I will also explain how non-equilibrium quantum dynamics plays a crucial role in recent studies of impurities in atomic Fermi systems and resonant Xray scattering experiments in high Tc cuprates.

Host: Will Cole  
Web: http://www.physics.umd.edu/cmtc/seminars.html