



**ASTROPHYSICS
SEMINAR SERIES**

**"The evolution of dusty galaxies as seen through their
infrared spectral energy distributions"**

**Anna Sajina
Tufts University**

**Monday, October 28, 2013
Refreshments at 3:15pm in CAS 500
Talk begins at 3:30pm in CAS 502**

Abstract:

I will present recent results on characterizing the infrared spectral energy distributions (SEDs) of mid-IR selected $z \sim 0.3-3.0$ and $L_{\text{IR}} \sim 10^{10}-10^{13} L_{\text{sun}}$ galaxies, and study how their SEDs differ from those of local and high- z analogs. Infrared SEDs depend both on the power source (AGN or star-formation) and the dust distribution. Therefore, differences in the SEDs of high- z and local galaxies provide clues as to differences in their physical conditions. I will show that there is strong evolution in the SEDs between local and $z \sim 2$ IR-luminous galaxies, as well as that there is a wide range of SEDs among high redshift IR-luminous sources. I will discuss possible explanations for this SED evolution as revealed in the morphology (based on HST NICMOS images) of our sources, and as revealed by theoretical SED models (based on GADGET+SUNRISE simulations).