

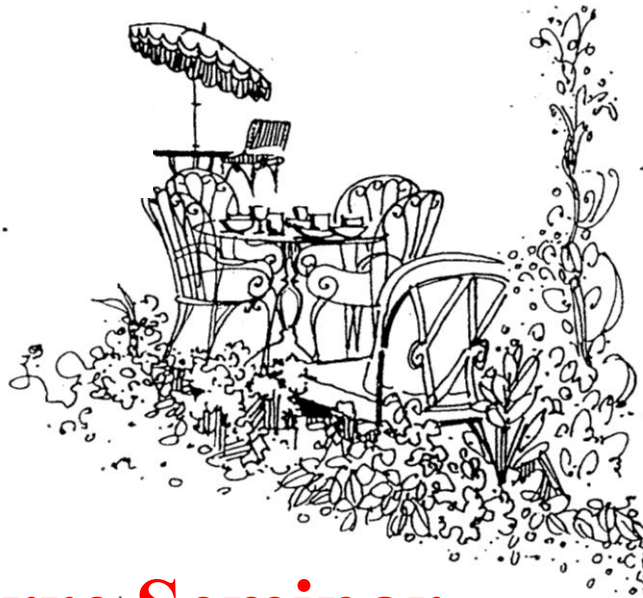
Chez Pierre

Presents ...

Wednesday, April 9, 2014

12:00pm

MIT Room 4-331



Special Chez Pierre Seminar

Andrea Cavalleri

Max Planck Institute for the Structure and Dynamics of Matter,
Hamburg - Department of Physics, University of Oxford

“Light induced dynamics in low dimensional solids”

In this talk, I will focus on our recent work aimed at studying the time dependent physics of low-dimensional solids. I will focus on experiments in which time and angle resolved photo-emission spectroscopy (T-ARPES) is used. Specifically, I will focus on our development of T-ARPES in the XUV pulses, which makes it possible to measure electronic dynamics throughout momentum space in systems with small unit cells and large Brillouin zones. Specifically, I will discuss the dynamics of the 2-D and 1-D charge density wave compounds TaS_2 and $\text{K}_{0.3}\text{MoO}_3$, addressing the photo-induced melting of CDW order and the possible excitation of coherent phasons by parametric decay of coherent amplitudons. I will also discuss some early results in Graphene, in which we assess the potential of this compound for optoelectronic applications.