

Chez Pierre

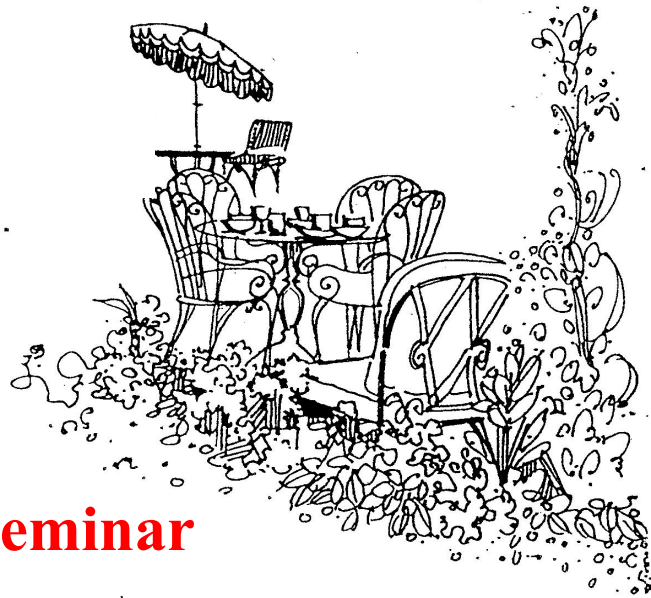
Presents ...

Monday, May 13, 2019

12:00pm Noon

MIT Room 4-331

Chez Pierre Seminar



Alessandra Lanzara– University of California, Berkeley

“The many faces of spin – orbit coupling: from new phases of matter to device applications”

Just when we thought the spin-orbit interaction in solids was finally explained, a plethora of new discoveries have appeared, challenging our understanding and imagination of what the implications and manifestation of this relativistic effect might be. New topology, new particles, broken symmetries, and exotic phases of matter have all been recently revealed and explained as the results of such interactions. Today the field of spin-orbit coupling is a vibrant one, ranging from the construction of revolutionary experimental tools for imaging the spins of electrons to the development of new theories and models aimed at predicting and explaining unexpected behaviors. In this talk I will present an overview on the state of the art in measuring spin-orbit coupling in condensed matter physics, and I will discuss a couple of examples in topological insulators and unconventional superconductors where such interaction is driving novel behavior.