LENS/CMP Seminar
March 1, 2013

Speaker: Chenggang Tao, Virginia Tech
Title: "Local probe measurement of graphene nanostructures"

Abstract: Due to the high surface-to-volume ratio and quantum confinement, nanoscale structures have special properties that are dramatically different from their macroscopic version. For atomically thin 2D nanostructures, surfaces and edges strongly govern their electronic, magnetic and chemical properties. I will discuss our scanning tunneling microscopy (STM) and spectroscopy (STS) explorations of a quasi-1D graphene nanostructure, graphene nanoribbons (GNRs), where size quantization and electron-electron interactions induce novel magneto-electronic behaviors. Our results provide compelling evidence for theoretically predicted edge states and a size-tunable energy gap of chiral GNRs, both of which are crucial for potential applications of graphene in nanoelectronics, photovoltaics and spintronics.