COLOQUIO DE ΦÍSICA

UNIVERSIDAD DEL VALLE
Departamento de Física&
Posgrado en Ciencias-Física

Serie de Coloquios Semestre I-2013

Celebración 50 años de la Creación del Depto. de Física

Advanced atomic force microscopy methods for biology and complex materials

Dr. Arvind Raman

Professor of Mechanical Engineering and University Faculty Scholar at Purdue University

Abstract:
A key goal in the development of atomic force microscopy is the ability to map local material property contrast at high speed, quantitatively and with high resolution. These goals are especially challenged when dealing with soft live cells or viruses in liquids or while imaging complex nanocomposite materials. In this talk I will describe recent advances that enable the quantitative mapping of local material properties of eukaryotic cells, bacteria and viruses in buffer solution, quantitatively and with unprecedented resolution thus opening up the possibility of AFM to study heterogeneities in living materials. On the other hand I will describe new methods based on Kelvin Probe Force Microscopy that allow the visualization of buried, sub-surface percolating networks of carbon nanotubes in nanocomplsite films which open the door to electrical sub-surface imaging of complex nanocomposite materials.

Marzo 14 de 2013 | 11:00 am | Sala de Conferencias de Física
Edificio de Ciencias Naturales y Exactas | Espacio 320-2182