Magnetic Chains hit the Surface
By
Prof. Miguel Cazalilla, Graphene Centre at NUS

Date: 1 November 2012, Thursday
Time: 4.00pm to 5.00pm
Venue: Hilbert Space (SPMS-PAP-02-02)
Host: Asst. Prof. Pinaki Sengupta

Abstract
Recent progress in atomic manipulation of atomic surfaces has allowed the creation of new magnetic systems at the nanoscale. Besides their potential interest for (quantum) information storage and manipulation, understanding these systems also poses an important challenge from the point of view of the theory of strongly correlated electrons. In this seminar, I will discuss the phase diagram of a one-dimensional spin-1/2 chain of magnetic impurities supported on metallic surface and interacting by means of (anisotropic) easy-plane exchange interactions. The latter occurs in surfaces with spin-obit interaction. Time permitting, I will also discuss our results for the easy-axis (anti-)ferromagnetic regime of the same system.

Refs:

Short Biography

• BS & PhD from the University of the Basque Country (Spain, 1999)
• Permanent Position: Spanish National Research Council (CSIC, 2007-2012, On leave)

Visiting positions (>= 3 months): University of Tokyo (2008), Institute of Solid state Physics of the University of Tokyo (2010), National Center for Theoretical Sciences, National Tsing-Hua University (Taiwan), Graphene Research Center of the National University of Singapore (2012-present).

Research Interests: Theoretical condensed matter physics.
Author of 40 publications, 28 invited talks.