Università di Perugia
Dipartimento di Fisica
Via A. Pascoli, Perugia

AVVISO di SEMINARIO

Il **Prof. Adekunle Adeyeye** dell' *Information Storage Materials Laboratory, Department of Electrical and Computer Engineering, National University of Singapore* terrà il seguente Seminario, presso l'AULA RIUNIONI del nostro Dipartimento:

MERCOLEDI' 16 SETTEMBRE – ORE 11

"Patterned Ferromagnetic Nanostructures: *An Experimental Platform for Spintronics*"

ABSTRACT - Ferromagnetic nanostructures are of scientific interest both from a fundamental viewpoint and also because of their potential in a wide range of emerging spintronic applications. A major challenge for technological applications utilizing arrays of magnetic nanostructure is the precise control of the magnetic switching processes. The fabrication of high quality, large area magnetic nanostructures is a major challenge in nanomagnetism research. The first part of this talk will focus on our recent research work on the use of deep ultra violet lithography technique at 248nm exposure wavelength in fabricating arrays of magnetic nanostructures of varying geometrical parameters over a very large area. In the second part of this talk, results of systematic investigations of magnetic spin states evolution, in-plane anisotropy and magnetostatic interaction in arrays of elongated $Ni_{80}Fe_{20}$ rings and nanowires will be presented. The magnetization reversal mechanism, the switching field distributions and the transition fields between different magnetic configurations will be shown to be strongly dependent on the inter-ring spacing, film thickness. A comprehensive investigation of the spin states and magnetic anisotropy in magnetic anti-dot nanostructures will also be presented. Our understanding of the reversal process is facilitated by micromagnetic modeling.

Tutti gli interessati sono invitati a partecipare.

Perugia, 9 settembre 2009