LITERATURE AND WORKING SEMINAR

Topic: **Stationary Micromagnetism in Thin Multidomains**

Speaker: **Prof. Rejeb Hadiji**

Time: 14:30-16:30, 5 December 2013

Venue: Room 371, Geography Building, 3663 Zhongshan Road North, Shanghai
(华东师范大学中山北路校区，地理楼 371 室)

ABSTRACT OF THE TALK

I will discuss the asymptotic analysis of a classical 3D nonconvex and nonlocal micromagnetic energy for ferromagnetic materials in three different multidomains. The first multidomain consists of a nanowire in junction with a thin film, the second consists of two joined nanowires and the third consists of two orthogonal joined films. In the first case, we obtain a 1D limit problem on the nanowire and a 2D limit problem on the thin film, and the two limit problems are uncoupled. In the second case, we obtain two 1D limit problems coupled by a junction condition on the magnetization. In the third case we obtain two 2D limit problems coupled by a junction condition on the magnetization. In all the cases, the limit problem remains nonconvex but completely local.

BIOGRAPHY

Rejeb Hadiji is a professor of mathematics at University Paris-Est Creteil, UPEC. His current interests include nonlinear partial differential equations with critical Sobolev exponent, mathematical theory of superconductors and micromagnetism.