Istituto di MAtematica Applicata e Tecnologie Informatiche (CNR)
Dipartimento di Matematica "Felice Casorati"
via Ferrata,1 – 27100 Pavia (Italia)

Seminario di Matematica Applicata

Giovedì 17 Ottobre 2002 a Pavia, nella Sala Conferenze dell'I.M.A.T.I.-C.N.R. (ex I.A.N.), si terranno le conferenze:

– alle ore 10:00 –

Prof. David Kinderlehrer

(Department of Mathematical Sciences, Carnegie Mellon)

Remarks about grain growth in polycrystals.

Abstract. Most technologically useful materials are polycrystalline, composed of many small crystallites called grains separated by interfaces called grain boundaries. These grain boundaries play a role in many material properties, for example conductivity and fracture toughness, and across many scales. Preparing arrangements or distributions of boundaries suitable for a given purpose is a central problem in materials. To control it we must understand grain growth. For example, to what extent is grain growth like or unlike the growth of soap bubbles? In this expository talk we discuss some of the scientific challenges we encounter in the investigation of these issues. What are the strategies for determining interfacial energy? Can we simulate large grain networks? We address the mesoscale simulation of large systems. What is the 'answer' of such a simulation? This is a very pregnant question. This is joint work with Florin Manolache, Jeehyun Lee, Irene Livshits, Anthony Rollett, and Shlomo Ta'asan.

– alle ore 11:30 (precise) –

Prof. Pierre-Louis Lions

(Univ. Paris IX - Dauphine)

From Quantum Physics to Nonlinear Elasticity: a mathematical prospective.

La S.V. è cordialmente invitata.

☕ Tra le due conferenze verrà organizzato un coffee break. ☕