SEMINARIO DE MATEMÁTICA APLICADA

Nicola Fusco

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Prof. N. Fusco is a well-known mathematician known for his contributions to Calculus of Variations and PDES. He has numerous distinctions, starting with the Caccioppoli Prize of the Italian Mathematical Union (1994). He was Invited Speaker at the 2008 Congress of the European Mathematical Society, and Invited Speaker at the International Congress of Mathematicians (2010). He is a member of the Accademia Nazionale dei Lincei since 2010

Stability and minimality for a nonlocal variational problem

Abstract: We discuss the local minimality of certain configurations for a nonlocal isoperimetric problem used to model microphase separation in diblock copolymer melts. We show that critical configurations with positive second variation are local minimizers of the nonlocal area functional and, in fact, satisfy a quantitative isoperimetric inequality with respect to sets that are L^1-close. The link with local minimizers for the diffuse-interface Ohta-Kawasaki energy is also discussed. As a byproduct of the quantitative estimate, we get new results concerning periodic local minimizers of the area functional and a proof, via second variation, of the sharp quantitative isoperimetric inequality in the standard Euclidean case. As a further application, we address the global and local minimality of certain configurations.

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Hora: 12:00 horas
Lugar: Aula 209 (Seminario Alberto Dou)
Facultad de CC Matemáticas, UCM