SEMINARIO DE ANÁLISIS MATEMÁTICO Y MATEMÁTICA APLICADA

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A Weierstrass extremal field theory for nonlocal elliptic functionals

This talk will be devoted to introduce a null-Lagrangian and a calibration functional for nonlocal elliptic problems in the presence of a field of extremals.

First, I will review the classical Weierstrass theory of extremal fields from the Calculus of Variations. Next, I will explain how to extend it to the nonlocal setting, where our model functional is the one associated to the fractional Laplacian (the Gagliardo-Sobolev seminorm). Finally, I will give a first application to monotone solutions motivated by a conjecture of De Giorgi, and a second application to the viscosity theory.

This is a joint work with Xavier Cabré (ICREA-UPC-CRM) and Iñigo U. Erneta (UPC-BGSMath).

Organizado por el Departamento de Análisis Matemático y Matemática Aplicada y el Instituto de Matemática Interdisciplinar (IMI)

**Fecha: Jueves 16 de marzo de 2023
a las 13:00 horas
Lugar: Aula Alberto Dou (209)
Facultad de CC Matemáticas, UCM**