CENTRO DE MATEMÁTICA E APLICAÇÕES FUNDAMENTAIS

Grupo de Física Matemática da Universidade de Lisboa

SEMINÁRIO CONJUNTO DO CMAF E DO GFM

Dia **2 de Dezembro** de 2011 **(sexta-feira)**, às **14h30m**, na **Sala B1-01**

Deterministic Sets Visited by Random Paths

Marta Sanz-Solé

(University of Barcelona, Spain)

http://www.mat.ub.edu/~sanz/

Abstract: We are interested in the geometric measure properties of deterministic sets reached by random fields. More specifically, we will analyze conditions which provide upper and lower bounds for hitting probabilities of random fields in terms of the Hausdorff measure and the Bessel-Riesz capacity, respectively. The role of the regularity of the sample paths, and of the properties of probability densities will be highlighted. As an illustration, we shall consider systems of stochastic wave equations in spatial dimension $k \geq 1$. In the non-Gaussian case, k will be restricted to {1, 2, 3}, and we will apply Malliavin calculus. For the sake of completeness, a brief introduction to these techniques will be presented. Applications to other examples of stochastic partial differential equations will be mentioned.

This is joint work with Robert Dalang (EPFL, Switzerland).

Local:

INSTITUTO PARA A INVESTIGAÇÃO INTERDISCIPLINAR DA UNIVERSIDADE DE LISBOA

Av. Prof. Gama Pinto, 2

1649-003 Lisboa, Portugal