CMUP
Centro de **Matemática**
Universidade do Porto

Matinée in Dynamical Systems

Date and place: December 20, Room FC1.031

Schedule:

Time	Speaker
14h00 - 14h50	Ana Rodrigues (Univ. Exeter)
15h00 - 15h50	Armando Castro (UFBA)
15h50 - 16h10	Coffee break
16h10 - 17h00	Paulo Varandas (FCT-CMUP/UFBA)

Titles and Abstracts

Speaker. Ana Rodrigues (Exeter)

Title. *Recent advances on fair measures and fair entropy*

Abstract. In this talk I will discuss how to compute the entropy following backwards trajectories in a way that at each step every preimage can be chosen with equal probability introducing fair measure and fair entropy (joint with M. Misiurewicz). I will discuss some advances on the study of fair entropy for non-invertible interval maps under the framework of thermodynamic formalism, showing that the fair measure is usually an equilibrium state (joint with Y. Zhang). I will then talk about some recent results (joint with S. and Z. Roth) about transitive countable state Markov shift maps and extend our results to a particular class of interval maps, Markov and mixing interval maps.

Speaker. Armando Castro (UFBA),

Title. *Espaços Anisotrópicos e Cones convexos com aplicações a linear response*

Abstract. Nessa palestra, falaremos de artigo recentemente submetido em que construímos um esquema abstrato para provar uma propriedade de gap espectral para operadores positivos. Entre as possíveis aplicações, destacaremos a diferenciabilidade de medidas de equilíbrio com respeito à dinâmica.

Speaker. Paulo Varandas (FCT-CMUP/UFBA),

Title. *Minimality and points with historic behavior*

Abstract. The celebrated Birkhoff ergodic theorem is among the most useful tools in ergodic theory. Dual to the law of large number, it ensures that Cèsaro averages of continuous observables are almost everywhere convergent and that the limit is explicitly determined by the invariant measure. It turns out that the set of points where the convergence fails (also known as points with historic behavior) can have large topological complexity. In this talk I will describe a simple and sufficient condition for the existence of a Baire residual set of points exhibiting historic behavior. This criterium is satisfied not only by dynamics satisfying some gluing orbit property as it also applies to a minimal and non-uniquely ergodic maps and open classes of robustly transitive partially hyperbolic diffeomorphism. This is a joint work with M. Carvalho.