

# SEMINÁRIO

## ANÁLISE E EQUAÇÕES DIFERENCIAIS

**22 de Maio | 15h30 | sala 6.2.33**

### **Equilibrium states for non-uniformly hyperbolic maps: statistical properties, joint continuity and analyticity of the potential**

Jaqueline Siqueira  
(Universidade Federal do Rio de Janeiro)

**Abstract:**

We consider a wide family of non-uniformly hyperbolic maps and hyperbolic potentials and prove that the unique equilibrium state associated to each element of the family is given by the eigenmeasure and the eigenfunction of the transfer operator (both having the spectral radius as an eigenvalue). We prove that the transfer operator has the spectral gap property in the space of Holder continuous observables. From this we derive that the unique equilibrium state satisfies a central limit theorem and that it has exponential decay of correlations. Moreover, we prove continuity and analyticity with respect to the potential. (Based on various joint works with S. Afonso, J. Alves, V. Ramos.)

*Financiado por Fundos Nacionais através da FCT – Fundação para a Ciência e a Tecnologia no âmbito do projeto UID/MAT/04561/2019*

