

123º EDAÍ
23 de outubro de 2026



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PGMAT-UFF
Sala 407
4º andar, Bloco H
Campus do Gragoatá



Matinê: 14h00 – 15h00
Percolation on Hierarchical Lattices
Rangel Baldasso (PUC-Rio)

Percolation is a classical probabilistic model that describes the flow of a fluid through a porous medium. In general, the understanding of this model strongly depends on the underlying discrete geometry. In this talk we examine families of hierarchical lattices, with focus on their percolative properties. The self-similar structure of these graphs leads naturally to recursive descriptions of the model, which can be analyzed using ideas from dynamical systems. In particular, we exploit connections with hyperbolic dynamics to study critical phenomena and scaling properties of percolation. These tools are further combined with probabilistic methods to yield sharp results. No background in percolation is assumed, only basic knowledge of probability theory is required.

Palestra 1: 15h10 – 16h10
Hyperbolic Homoclinic Classes of Surface Endomorphism
Matéo Ghezal (USP)

In the last few years, symbolic codings of non-uniformly hyperbolic systems have been developed extensively and have proved very fruitful, considerably improving our understanding of equilibrium states in this context. Such symbolic techniques are particularly effective when restricted to specific invariant subsets of the dynamics, namely homoclinic classes, which consist of points exhibiting transverse intersections between their stable and unstable manifolds. Indeed, any homoclinic class can be coded by a transitive Markov shift, and many remarkable properties of equilibrium states can be derived from this coding. It therefore seems very natural today to study homoclinic classes in non-uniformly hyperbolic settings. Buzzi, Crovisier, and Sarig have provided a thorough understanding of these sets in the case of smooth surface diffeomorphisms. A natural next step is to understand homoclinic classes in the setting of surface local diffeomorphisms. Here, homoclinic classes can exhibit two very different behaviours, hyperbolic or expanding, depending on the unstable dimension. We will see that the set of hyperbolic homoclinic classes with sufficiently large entropy is finite. We will also discuss partial results on hyperbolic homoclinic classes of positive entropy, where the two behaviours, expanding and hyperbolic, can interact.

Pausa de café: 16h10 – 16h40

Palestra 2: 16h40 – 17h40
Limites de Estados de Equilíbrio para Sistemas Acoplados de Interação Fraca:
Aplicação à Medida de Entropia Máxima
Renaud Leplaideur (L'Université de la Nouvelle-Calédonie)

Investigamos a metaestabilidade em dinâmica simbólica. Consideramos um sistema composto por dois subshifts independentes acoplados através de um pequeno buraco e estudamos o comportamento dos estados de equilíbrio associados para um potencial contínuo de Lipschitz. Conforme o tamanho do buraco tende a zero, provamos que o estado de equilíbrio global converge para uma combinação convexa dos estados de equilíbrio dos subsistemas desacoplados. Dependendo das hipóteses sobre os tempos de residência em cada componente, surgem dois regimes distintos de convergência. Como aplicação, mostramos que nossos resultados se estendem a uma classe de sistemas dinâmicos geométricos e, em particular, para medidas de entropia máxima.

Confraternização: Cantareira 18h00 – ∞



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