74º EDAí   13 de abril de 2018

DMAT-PUC-Rio, Sala de Reuniões do Decanato do CTC (12 andar prêdio Leme)

Matinê: 14h00 – 15h00

Sincronização de produtos aleatórios Markovianos de homeomorfismos no círculo.
Edgar Matias (UFRJ)

Recentemente, Malicet estabeleceu um princípio da invariância para produtos aleatórios de homeomorfismos no círculo sobre sistemas dinâmicos não invertíveis e o aplicou para obter sincronização local no caso de produtos independentes e identicamente distribuídos. Nós iremos apresentar uma versão do princípio da invariância para produtos aleatórios sobre sistemas dinâmicos invertíveis e mostrar como podemos usa-lo para obter sincronização local no caso Markoviano.

Palestra 1: 15h10 – 16h10

Openess of the set of non-uniform hyperbolic diffeomorphisms
Karina Marín (UFMG)

It has been proved by Bochi that the set of non-uniform hyperbolic diffemorphisms is not C^1 open among partially hyperbolic symplectic diffemorphisms. More recently, with C. Liang and J. Yang, we obtained the C^r openess of the set of non-uniform hyperbolic diffeomorphisms in a subset of partially hyperbolic symplectic diffeomorphisms with 2-dimensional center bundle for any $r \geq 2$. In this talk, we are going to discuss the intermediary case between the C^1 and C^2 topology. This is a joint work with C. Liang and J. Yang.

Café: 16h10 – 16h40

Palestra 2: 16h40 – 17h40

Heterogeneously Coupled Maps:
hub dynamics and emergence across connectivity layers
Tiago Pereira (ICMC-USP-São Carlos)

We will talk about the dynamics of Heterogeneously Coupled Maps (HCM). Such systems are determined by a network with heterogeneous degrees. Some nodes, called hubs, are very well connected while most nodes interact with few others. The local dynamics on each node is chaotic, coupled with other nodes according to the network structure. Such high-dimensional systems are hard to understand in full, nevertheless we are able to describe the system over exponentially large time scales. In particular, we show that the dynamics of hub nodes can be very well approximated by a low-dimensional system. This allows us to establish the emergence of macroscopic behaviour such as coherence of dynamics among hubs of the same connectivity layer (i.e. with the same number of connections), and chaotic behaviour of the poorly connected nodes. This is a joint work with Matteo Tanzi and Sebastian van Strien.

Confraternização: Praça Santos Dumont (local a determinar), 19h00 – ∞

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