colmea
Colóquio Interinstitucional
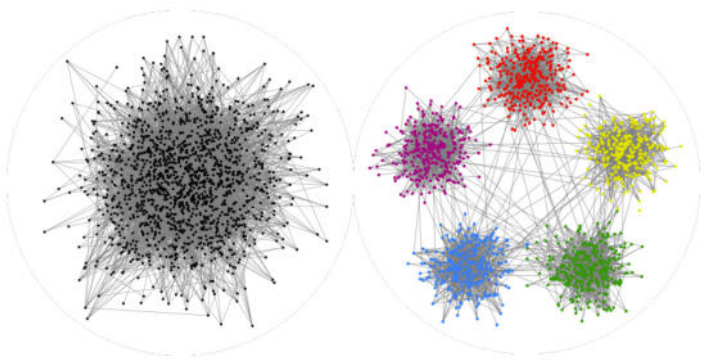# Modelos Estocásticos e Aplicações

Quarta-feira, 17 de maio de 2023

Programa

### 14:15 - 15:35 – **Andressa Cerqueira (UFSCar)**

Community detection in weighted networks

Network models have received increasing attention from the statistical community, in particular in the context of analyzing and describing the interactions of complex random systems. In this context, community structures can be observed in many networks where the nodes are clustered in groups with the same connection patterns. In this talk, we address the community detection problem for weighted networks in the case where, conditionally on the node labels, the edge weights are drawn independently from a Gaussian random variable with mean and variance depending on the community labels of the edge endpoints. We will present a fast and tractable EM algorithm to recover the community labels that achieves the optimal error rate.

15:50 - 17:10 – **Gábor Lugosi (ICREA - U. Pompeu Fabra)**

Problems in network archaeology: root finding and broadcasting
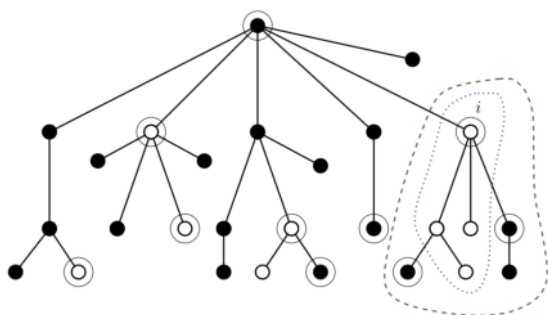
Large networks are often naturally modeled by random processes in which nodes of the network are added sequentially, according to some stochastic rule. Uniform and preferential attachment trees are among the simplest examples of such dynamically growing networks. The statistical problems we address in this talk regard discovering the past of the network when a present-day snapshot is observed. We present results that show that, even in gigantic networks, a lot of information is preserved from the very early days. In particular, we discuss the problem of finding the root and the broadcasting problem.

17:10 - 18:00 – Discussão e lanche

Local

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Realização:

Apoio: