



Colóquio Interinstitucional

Modelos Estocásticos e Aplicações

Quarta-feira, 26 de março de 2014

Programa

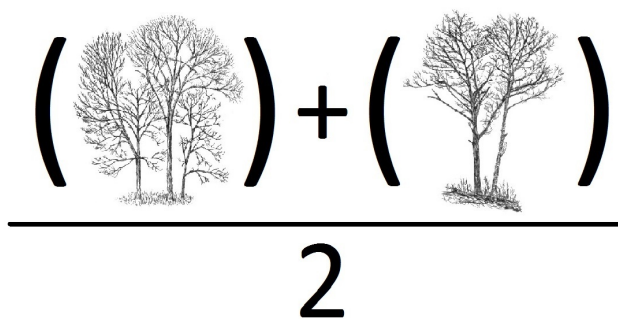
14:00 - 15:20 – **Thomas Mountford (EPFL - Lausanne)**

Dynamic random walks with contact process environment

We discuss joint work with M.E. Vares concerning a "random walk" on \mathbb{Z} whose jump rates depend on an underlying contact process in (supercritical) upper equilibrium. We show an invariance principle, though without finding an i.i.d. regenerative structure.

15:40 - 17:00 – **Roberto Imbuzeiro de Oliveira (IMPA)**

Looking at the past as little as possible



A typical stochastic process has infinite memory in the sense that its conditional distribution at time 0 depends on the whole infinite past. In this talk we consider a class of processes, in discrete time and space, where this distribution can be approximated arbitrarily well by looking at finite portions of the past. These processes are represented by "mixtures of context trees," and coincide with processes with almost surely continuous transition probabilities. As such, they generalize well-known classes of processes in the literature, such as finite-order Markov chains, context tree processes and regular g measures.

We prove the existence and uniqueness of a minimal representation for such processes, which (in some technical sense) looks at the past as little as possible. This minimality property will be shown to have important consequences. In particular, an estimator for the transition probabilities based on this representation will be shown to have good statistical properties, such as nearly optimal performance for discrete-time renewal processes.

17:00 – Discussão e lanche

<http://www.natureinstitute.org/pub/ic/ic14/trees.htm>

Local

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Realização:



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