

Seminario Conjunto Modelamiento Estocástico y Núcleo Milenio MESCYD

Expositor

Enrique Chávez
(IMPA)

Title: A martingale approach to convergence to the Kingman's coalescent

Abstract: We consider the following dynamic. We start with a fix number of labeled, i.i.d. Markov chains over a finite state space, let the time pass, and when two chains meet, they behave as one chain. This dynamic induces a process in the set of partitions of the first natural numbers. We are interested in the asymptotic behavior of this process. On the late eighties J. T. Cox obtained some limit theorems for coalescing random walks on the discrete torus, when the Markov chains we considered before are simple random walks and we start with one random walk in each vertex of the torus. Since then the asymptotic behavior of the coalescence time, the first time all the chains meet, has been the subject of several papers. And the result of Cox has being extended in different ways. In this talk we describe some of these extensions, and show how to use a martingale approach to prove, under certain conditions, the convergence of the process in the set of partitions of the first natural numbers, we described before, to the Kingman's coalescent starting from a finite number of partitions.

Martes 28 de mayo del 2019, a las 16:00 hrs. Sala de Seminarios John Von Neumann CMM, Beauchef 851, Torre Norte, Piso 7.