

AGCO Seminar

Speaker: Mario Bravo, UAI.

Title: Almost sure convergence in evolutionary models with vanishing mutations.

Abstract:

We analyze the long-term behavior of evolutionary models where mutations gradually vanish over time. Our focus is on the almost sure convergence of the empirical occupation measure—that is, the time-averaged distribution of states—as the mutation parameter decays in a controlled manner. Under suitable conditions, we prove that this measure converges almost surely to a specific invariant distribution of a limiting Markov chain, while also establishing explicit convergence rates. Our analysis is carried out within a class of time-inhomogeneous Markov chains on a finite state space, where the so-called energy barrier of the limiting dynamics determines the required decay rate of the mutation parameter.

This is joint work with Michel Benaïm and Mathieu Faure.

When: July 30, 3:00 pm - 4:00 pm.

Where: Sala de Seminario John von Neumann, 7th floor, CMM, Av. Beauchef 851, torre norte.

