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Seminario Conjunto de Probabilidades y Área de Clima y Biodiversidad

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Title: Scaling limits of individual-based models in adaptive dynamics allowing for local extinction or survival of population

Abstract: Starting from an individual-based birth-death-mutation-selection model of adaptive dynamics with three scaling parameters (population size, mutation rate, mutation steps size), we will describe several scaling limits that can be applied to this model to obtain macroscopic models of different natures (PDE, stochastic adaptive walks), which allow to characterize long-term evolution of the population. Motivated by biological criticisms on the time-scale of evolution and the absence of local extinctions in the obtained macroscopic models, we propose a new parameter scalings under which we can characterize the evolution of population sizes of the order of K^β and which allows for local extinction of subpopulations.

This presentation is based on results obtained with Sylvie Méléard, Sepideh Mirrahimi and Viet Chi Tran.

Viernes 24 de marzo a las 16:30 hrs, Sala de Seminarios John Von Neumann, Séptimo Piso, Torre Norte, Beauchef 851