
JIMMY GARNIER, CNRS - University Savoie Mont-Blanc

Evolutionary dynamics of populations : nonlocal PDEs approaches

In this talk I will present some results about evolutionary dynamics of populations using nonlocal PDEs. More precisely, I will focus on the evolution of sexual or asexual population facing environmental change. Starting with a Individual Based Model, we obtain an analytical description of this microscopic model using nonlocal partial differential equations. In a special regime of small variance, we are able to approximate analytically the behavior of the microscopic model and we deduce qualitative as well as quantitative effects of the environmental change on the evolutionary dynamics of the population.