Seminar/Talk

Interaction of clines under the prism of generalised travelling waves

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The solutions of the reaction-diffusion equations that govern many phenomena in population genetics commonly have travelling wave or standing wave forms. When several loci are studied at the same time, the interactions between them lead to complex non-linear systems. The solutions are then more complicated to describe. Here, we will develop a mathematical framework that makes it possible to describe the solutions of such systems. Taking the example of a system of two underdominant loci in diploid organisms, we will study the interactions from a mathematical point of view. A key contribution will be provided by the concept of generalized travelling wave. Phenomena observed by population geneticists will be retrieved and quantified: aggregation of clines and induced acceleration. We will also briefly show how this framework can be extended to the case of n loci, and what new questions arise.

Wednesday, May 25, 2022 12:30pm - 01:30pm

I22 Lakeside View (I22.O1.006)

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