



Ciclo de Seminários

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Competition in randomly growing processes

We consider 2-type random growth processes that compete for space over time. This is by now a classical topic in probability theory. The standard behavior expected from such processes is that, when the two types have different speeds of growth, then one of the types (usually the faster one) "wins" against the other. This means that the winning type grows indefinitely, whereas the other type stops growing after a finite amount of time. It is quite rare to find natural models showing coexistence, which refers to the situation when both types grow indefinitely. In this talk I will discuss a random growth model, which we introduced as a tool to analyze a well-known model of dendritic growth from physics. This growth model can also be regarded as a model for blocking the spread of fake news in a network. I will discuss the behavior of this process, its phase transition and the occurrence of coexistence.

This talk is based on joint works with Elisabetta Candellero, Tom Finn and Vladas Sidoravicius.

Alexandre Stauffer is an Associate Professor at the Dipartimento di Matematica e Fisica of the Università Roma Tre, and also a Reader at the Department of Mathematical Sciences of the University of Bath. He currently holds a EPSRC Early Career Fellowship, a major grant from the UK Research Council. He obtained his Ph.D. in 2011 from the University of California, Berkeley, and held a post-doctoral position at Microsoft Research.

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