
FABIO TONINELLI, CNRS and Universite Lyon 1
(2+1)-dimensional Stochastic Interface Dynamics

The goal of this talk is to discuss large-scale dynamical behavior of discrete interfaces. These stochastic processes model diverse statistical physics phenomena, such as interface growth by random deposition or the motion, due to thermal fluctuations, of the boundary between coexisting thermodynamic phases. While most known rigorous results concern (1+1)-dimensional models, I will present some recent ones in dimension (2+1). On the basis of a few concrete models, I will discuss both: (1) two-dimensional interface growth and the so-called Anisotropic KPZ universality class; and (2) reversible interface dynamics and the emergence of hydrodynamic limits, in the form of non-linear parabolic PDEs.