

## Interface motion in random media

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In this talk we will consider a class of models for interface motion in random media. These models feature a competition between the natural tendency of the surface to grow and the existence of pinning regions in the environment that may slow down or even block the surface motion. Although these systems bear several similarities with the advance of a first passage percolation interface, they are not sub-additive and this becomes a major obstacle in analyzing their speed of growth. For some of these models, we show the existence of a phase transition between a frozen phase (where the interface eventually stops) and a super-critical phase, in which the interface moves with positive velocity. The class of models we present includes high dimensional surfaces, dependent environments and environments with arbitrarily deep obstacles.

This talk is based on a joint work with Thierry Bodineau.