Paul Cahen (Univ. Lyon 1 / U. de Chile): A new stochastic domination for FK-percolation

Abstract:

FK percolation is a model of bond percolation on a (a priori) finite graph, which depends (as well as on the classical edge parameter p) on a global positive parameter q. The model specializes to classical Bernoulli percolation for $q = 1$, and in the regime $q \to 0$ one can recover classical models like the uniform spanning tree or the uniform spanning forest. The case $q = 2$ is deeply connected to the Ising model, one of the main reason for which it has been introduced in the first place. Like Bernoulli percolation, for a given $q \geq 1$, the model (stochastically) increases in the parameter p but the reason for which it's true is more involved. In this talk, I will present a prove a stochastic domination which strictly improves on this, and actually allows to compare distinct FK-percolation for distinct values of q. This is joint work with Avelio Sepúlveda.