

# Mixing Times for Random Walks on Dynamical Percolation

*Monday, 17 September 2018 14:00 (40 minutes)*

In this talk, I will discuss the mixing behavior of random walk on dynamical percolation. In this model, the edges of a graph  $G$  are either open or closed and they refresh their status at rate  $\mu$ , while at the same time a random walker moves on  $G$  at rate 1, but only along edges which are open. Restricting to the  $d$ -dimensional torus with side length  $n$ , I will discuss the mixing time (how long it takes to get close to equilibrium) as a function of  $n$  both when the bond parameter is subcritical for percolation and when it is supercritical for percolation. The behavior in these two regimes is very different. No background in percolation or mixing times of Markov chains will be assumed.

This is based on two joint works, one with Y. Peres and A. Stauffer and one with Y. Peres and P. Sousi.

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