UCCS Mathematics Colloquium

Thursday, August 26th

SENG A204

12:30 pm – 1:30 pm

(Refreshments at 12:15)

Dr. Florian Sobieczky, Friedrich Schiller University

Annealed bounds for the return probability of Delayed Random Walk on finite critical percolation clusters

Abstract: Critical Bernoulli percolation on a unimodular transitive graph and on the 2 dimensional Euclidean lattice has almost surely finite connected components. Estimating the expected return probability of the simple random walk is difficult, due to the heavy tails of the cluster-size distribution. Annealed upper and lower bounds are presented for bond percolation on plane graphs. The crucial argument giving meaningful estimates involves comparison theorems between random walks involving the whole spectrum, instead of only estimates of the spectral gap.

F.S.: `Bounds for the return probability of the delayed random walk on finite percolation clusters in the critical case', arXiv:0812.0117