



Probability Seminar

Title: Critical exponents for a percolation model on transient graphs

Speaker: Alexander Drewitz (Cologne)

Date: Wed 31st March 2021 at 3:00PM

Location: Online

Abstract: We consider the bond percolation problem on a transient weighted graph induced by the excursion sets of the Gaussian free field on the corresponding cable system. Owing to the continuity of this setup and the strong Markov property of the field on the one hand, and the links with potential theory for the associated diffusion on the other, we rigorously determine the behavior of various key quantities related to the (near-)critical regime for this model. In particular, our results apply in case the base graph is the three-dimensional cubic lattice. They unveil the values of the associated critical exponents, which are explicit but not mean-field and consistent with predictions from scaling theory below the upper-critical dimension.

This talk is based on joint works with A. Prévost (U Cambridge) and P.-F. Rodriguez (Imperial College).

Zoom Link: <https://ucd-ie.zoom.us/j/83491228915?pwd=WWV3ZkNGNzVXdGxLRlR0dkdMYUtMZz0>

Meeting ID: 834 9122 8915 Passcode: 698437