

Chilean Probability Seminar

Speaker: Alexander Drewitz (Universität zu Köln, Alemania)

Title: (Near-)critical percolation with long-range correlations on transient graphs

Abstract: Percolation models have been playing a fundamental role in statistical physics for several decades by now. They had initially been investigated in the gelation of polymers during the 1940s by chemistry Nobel laureate Flory and Stockmayer. From a mathematical point of view, the birth of percolation theory was the introduction of Bernoulli percolation by Broadbent and Hammersley in 1957, motivated by research on gas masks for coal miners. One of the key features of this model is the inherent stochastic independence which simplifies its investigation, and which has led to deep mathematical results. During recent years, the investigation of the more realistic and at the same time more complex situation of percolation models with long-range correlations has attracted significant attention.

We will exhibit some recent progress for the Gaussian free field with a particular focus on the understanding of the critical parameters in the associated percolation models. What is more, we also survey recent progress in the understanding of the model at criticality via its critical exponents as well as the universality in the local geometry of the underlying graph.

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

Lugar: Sala Multimedia CMM, Torre Norte 6to Piso. Beauchef 851.
May 10th (wednesday), at 16:15.

El enlace para conectarse al seminario es:

Unirse a la reunión Zoom

<https://reuna.zoom.us/j/84521834914?pwd=OTZ6Y0NWM3pYTGtTbEt3c0luTG96UT09>

