

Department of Mathematics
City University of Hong Kong

Colloquium

Organised by Dr Weifeng QIU and Dr Xianpeng HU

No Exceptional Words for Site Percolation on Z^3

by

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Abstract :

Bernoulli percolation is a model for random media introduced by Broadbent and Hammersley in 1957. In this process, each vertex of a given graph is occupied or vacant, with respective probabilities p and $1-p$, independently of the other vertices (for some parameter p). It is arguably one of the simplest models from statistical mechanics displaying a phase transition as the parameter p varies, i.e. a drastic change of behavior at some critical value p_c , and it has been widely studied.

Benjamini and Kesten introduced in 1995 the problem of embedding infinite binary sequences into a Bernoulli percolation configuration, known as percolation of words. We give a positive answer to their Open Problem 2: for percolation on Z^3 with parameter $p=1/2$, we prove that almost surely, all words can be embedded. We also discuss various extensions of this result. This talk is based on a joint work with Augusto Teixeira (IMPA) and Vincent Tassion (ETH Zürich).

Date: 29 January 2019 (Tuesday)
Time: 4:30 – 5:30pm
Venue: 2306, Li Dak Sum Yip Yio Chin Academic Building (LI)
City University of Hong Kong

**** All interested are welcome ****
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