BOSTON UNIVERSITY

Boston University Statistics and Probability Seminar Series

Trap models on Z^d and their scaling limits.

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Mathematics and Computer Science (MCS) Building, Room 135
111 Cummington Street, Boston

Abstract: This talk will be based on lecture notes by Gard Ben Arous of NYU. I will begin by discussing the continuous-time random walk (CTRW) on Z^d, which is a simple random walk that waits for a random time at each step. The waiting times we consider are sampled from a heavy-tailed distribution. With appropriate scaling of the CTRW, we obtain another process, called the fractional kinetic process, which is Brownian motion with a time change given by the inverse of an alpha-stable subordinator which is independent of the Brownian motion. We will then introduce the Bouchaud trap model, which generalizes the CTRW by adding dependence between the steps of the random walker and the waiting times. We will look at the scaling limit of this model and see some surprising results.

For directions and maps, please see *http://math.bu.edu/research/statistics/statseminar.html.*