Title:

The random nearest neighbor tree

Abstract:

In this talk, inspired by the classic nearest neighbor algorithm, we will focus on trees obtained by consecutively embedding points in a metric space and connecting each point but the first one to the closest previously embedded point. More precisely, we will consider the random nearest neighbor tree where every point is embedded uniformly in a d-dimensional cube or a d-dimensional torus, as well as its natural infinite-volume analogue. We will survey a few results on the two models, with particular focus on the degree sequence and the diameter of the finite-volume version. The talk is mostly based on a joint work with Dieter Mitsche.