

Dynamical Models of Random Simplicial Complexes

Tejas Iyer
University of Birmingham

Models of scale free random graphs are ubiquitous in their application to network science. Such models encode information about interactions between pairs of vertices, but mechanisms that encode interactions between multiple vertices are less well studied. In this context, recently a number of authors (such as Bianconi and Rahmede) have paid special attention to random evolving simplicial complexes as a suitable model. Motivated by this, we introduce general dynamical models of random simplicial complexes and derive a formula for the asymptotic degree distribution. This asymptotic formula generalises results for a number of existing models, including random Apollonian networks and the weighted random recursive tree.

Joint work with Nikolaos Fountoulakis, Cécile Mailler and Henning Sulzbach.