Li-Chun Zhang: Graph sampling

Abstract: For a statistical approach to graphs one may choose to model the entire population graph as a random realisation, or to exploit the variation over possible sample graphs taken from a given fixed population graph. Graph sampling theory deals with the latter perspective. In this talk, we synthesise the existing fragmented theory of graph sampling. We propose a formal definition of finite-graph sampling, and provide a classification of potential graph parameters. We develop a general approach of Horvitz-Thompson estimation to T-stage snowball sampling, and present a united BIG-reformulation of so-called “network” sampling methods in the literature in terms of the outlined graph sampling theory.