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Title: Limit behavior of some Pólya urn models associated to preferential attachment graphs and random trees

Abstract:
I will discuss a family of Pólya urn models that arise when studying degree statistics in preferential attachment graphs and lengths of spanning subtrees in some generative tree models such as Remy’s algorithm for binary trees. The limiting distributions of the number of balls of a given color in the urn varies considerably across the family and can be difficult to describe. However, these limits are fixed points of certain probabilistic distributional transformations and this perspective provides proofs of convergence, sometimes with rates via Stein’s method, and leads to further properties of the limits.

This is joint work with Erol Pekoz and Adrian Roellin.