

Embedding large graphs into a random graph

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In this talk we consider the problem of embedding almost spanning, bounded degree graphs in a random graph. In particular, let $\Delta \geq 5$ and let H be a graph on $(1 - o(1))n$ vertices and with maximum degree Δ . We show that a random graph $G_{n,p}$ with high probability contains a copy of H , provided that $p \gg (n^{-1} \log^{1/\Delta} n)^{2/(\Delta+1)}$. Our assumption on p is optimal (even up to the *polylog* n factor, which is the conjectured one for the spanning case) and the result verifies the so-called Kahn-Kalai Conjecture for this class of graphs.

Joint work with Kyle Luh and Oanh Nguyen (both from Yale University).