

# Recent progress on Sidorenko's Conjecture

*Date* Tuesday, November 22

*Time* 4:30 pm

*Location* 303 Mudd

*Abstract:* The so-called Erdos-Simonovits, Sidorenko conjecture says that the density of a fixed bipartite graph in another graph is minimized by the random graph if the edge density is fixed. It can be equivalently formulated as an integral inequality related to statistical physics and quantum mechanics. We provide an information theoretical approach which gives a unified treatment for all the known cases and proves the conjecture for many new graphs.