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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Bangalore Probability Seminar

Title : Self-Reinforced Preferential Attachment

Speaker : Frank den Hollander (Leiden University, The Netherlands)

Date : Monday, 15 September 2025

Time : 2:00 PM (IST)

Abstract : We consider a preferential attachment random graph with self-reinforcement. Each time a new vertex comes in, it attaches itself to an old vertex with a probability that is proportional to the sum of the degrees of that old vertex at all prior times. The resulting growing graph is a random tree whose vertices have degrees that grow polynomially fast in time. We compute the growth exponent, show that it is strictly larger than the growth exponent in the absence of self-reinforcement, and develop insight into how the self-reinforcement affects the growth. Proofs are based on a stochastic approximation scheme. Joint work with Yogesh Dahiya (IISER, Mohali).

Venue : Feynman Lecture Hall

Zoom Link: <https://us02web.zoom.us/j/88670406480>

Meeting ID: 886 7040 6480