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Chilean Probability Seminar

Speaker: Joost Jorritsma (TU Eindhoven, Países Bajos).

Title: Distance evolutions in growing preferential attachment graphs.

Abstract: In this talk we will study the evolution of the graph distance between two fixed vertices in dynamically growing random graph models. More precisely, we consider preferential attachment models with parameters such that the asymptotic degree distribution has infinite second moment. First, we grow the graph until it contains t vertices, then we sample u_t, v_t uniformly at random from the largest component and study the evolution of the graph distance as the surrounding graph grows. This yields a stochastic process in $t'\ge t$ that we call the distance evolution. We identify a function $f(t,t')$ such that there exists a tight strip around this function that the distance evolution never leaves with high probability as t tends to infinity.

If time permits, we will consider the generalization of graph distance to weighted distance, in which every edge is equipped with an i.i.d. copy of a non-negative random variable L. For any such edge-weight distribution L, we obtain explicit asymptotic results: either the typical weighted distance at time t tends to an almost surely finite random variable as t tends to infinity, or the typical weighted distance at time t diverges, in which case we identify a function $f_L(t,t')$ that describes the weighted-distance evolution for $t'>t$.

Based on joint work with Julia Komjathy.

El enlace para conectarse al seminario es:

Unirse a la reunión Zoom
https://reuna.zoom.us/j/84521834914?pwd=OTZ6Y0NWM3pYTGtTbEt3c0luTG96UT09

ID de reunión: 845 2183 4914
Código de acceso: 997973

Lugar: Sala Multimedia CMM, Torre Norte 6to Piso. Beauchef 851.

Wednesday, December 14, 2022, 14:30 hrs (Chilean time).