Seminar/Talk

The height of the infection tree

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Host: Laszlo Erdös & Jan Maas

Consider an SIR model on the complete graph starting with one infected vertex and n sane vertices. We draw an edge between two vertices when one infects another. What does the tree look like at the end of the epidemic? This kind of tree fits into the framework of uniform attachment trees with freezing, a model of random trees which generalises uniform attachment trees where, besides the uniform attachment mechanism, we introduce a "freezing" mechanism where new vertices cannot attach to frozen vertices. We obtain the scaling limit of the total height of the infection tree depending on the infection rate. The asymptotic behaviour of the total height satisfies a phase transition of order 2. This talk is based on a joint work with Igor Kortchemski and Delphin Snizergues.

Monday, May 18, 2026 04:00pm - 05:00pm
Central Bldg / O1 / Mondi 2a (I01.O1.008)

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