



Einladung zum Oberseminar Stochastik

Am Donnerstag, 14. November 2019, um **17:45 Uhr**, im Seminarraum 2
des Mathematischen Instituts (Raum 204), Weyertal 86-90, 50931 Köln
spricht:

Joost Jorritsma
(TU Eindhoven)

zum Thema

Typical weighted distance in preferential attachment models- Interpolating small and mini worlds

Information diffusion in networks can be modeled by first passage percolation, which can also be seen as an SI (susceptible - infected) model.

In this talk I will discuss the model for two (non-spatial) preferential attachment models where the degrees follow a power law with parameter in $(2, 3)$: Once a preferential attachment graph on N vertices is created, we equip every edge with an i.i.d. non-negative weight from distribution L . In this edge-weighted graph, we find for any weight distribution the precise asymptotic behaviour of the weighted distance between two vertices picked uniformly at random from the graph.

We show that by tuning the weight distribution, the growth terms can match any arbitrary function that is $O(\log \log(N))$, while the network size N tends to infinity. Surprisingly, this includes constant order for a large class of weight distributions (including e.g. exponential), in which case we identify the distributional limit. The results are based on joint work with Julia Komjathy.

Alle Interessenten sind herzlich eingeladen.

Die Dozenten der Stochastik