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Einladung

zum
Oberseminar Stochastik

Am Donnerstag, 28.04.2022, um **17:45 Uhr**, im Seminarraum 1 (Raum 005)
der Abteilung Mathematik, Weyertal 86-90, 50931 Köln spricht:

Dr. Tejas Iyer

(WIAS Berlin)

zum Thema

Preferential Attachment Trees with Neighbourhood Influence

Motivated by the structure of complex networks such as the internet, we consider
a growing model of preferential attachment trees with neighbourhood influence,
where vertices arrive one at a time, are equipped with independent weights, and
connect to existing vertices with probability proportional to their fitness function:
a function of their own weight and the weights of their neighbours. In this model
we prove almost sure limiting statements for the proportion of vertices with a given
degree having weight belonging to a given measurable set, and the proportion of
edges in the tree with endpoint belonging to a measurable set.
We show that under certain conditions, the latter quantity demonstrates a
condensation phenomenon, in which a positive proportion of edges in the network
accumulate among those of weight that confers maximal reinforcement of fitness.
Finally, we prove that in this model the degree distribution behaves like a power
law - a ubiquitous feature of many real-world complex networks. Joint work with
Nikolaos Fountoulakis.

Alle Interessenten sind herzlich eingeladen.

Die Dozenten der Stochastik