

Institut für Diskrete Mathematik

## Combinatorics Seminar

Friday 18th March 14:15

Online meeting (Webex)

### Uniform spanning trees of dense graphs

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(Tel Aviv University)

We will present two theorems concerning the global and local structure of a uniform spanning tree (UST) of a connected simple graph with degrees linear in the number of vertices. The first theorem states that the diameter of the UST on such graphs is of order square root of the number of vertices with high probability. The second theorem provides the asymptotic frequency of the appearance of any small subtree (i.e., the local limit of the UST) in terms of the associated graphon. The proof of both theorems illustrates how to combine Szemerédi-like partition theorems with Kirchhoff's electric network theory.

Based on joint works with Noga Alon and Matan Shalev and with Jan Hladký and Tuan Tran.

Meeting link:

<https://tugraz.webex.com/tugraz/j.php?MTID=m40f85343e56ff5051d731ace1bea82e4>

Meeting number: 2731 089 0467

Password: btHRJxCa252

Joshua Erde, Mihyun Kang