DOCTORAL PROGRAM
DISCRETE MATHEMATICS

TU & KFU GRAZ·MU LEOBEN
AUSTRIA

TU
Graz

Graz University of Technology

Institut für Diskrete Mathematik

Vortrag im Seminar für Kombinatorik und Optimierung

Dienstag 13.12.2016, 14:15

Seminarraum AE06, Steyrergasse 30, Erdgeschoss

Jigsaw Percolation on Random Graphs

Oliver Cooley

(TU Graz)

Jigsaw percolation, introduced by Brummit, Chatterjee, Dey and Sivakoff, may be viewed as a measure of whether two graphs on the same vertex set are "jointly connected": Given two such graphs, we "merge" two vertices if they are connected in both graphs, and the new vertex inherits all of the neighbours of the old vertices in both graphs. We continue until no more vertices can be merged and say the process *percolates* if it ends with a single vertex.

Bollobás and Riordan proved that if the two graphs are independent binomial random graphs $G(n, p_1)$ and $G(n, p_2)$, then there is a threshold for percolation based on the product $p_1 p_2$ of the two edge probabilities. However, they only determined the location of this threshold up to a constant factor.

In this talk we will present work in progress towards finding the exact threshold. This is based on joint work with Tobias Kapetanopoulos, Tamás Makai and Kathrin Skubch.

Mihyun Kang