A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

D I S P U T A T I O N

Montag, 15. Dezember 2014, 16.00 Uhr

Ort: Raum 005, Takustrasse 9, 14195 Berlin

Disputation über die Doktorarbeit von

Herrn Lothar Duebon Narins

Thema der Dissertation:

Extremal Hypergraphs for Ryser's Conjecture

Thema der Disputation:

Stanley-Wilf Limits Are Typically Exponential

Die Arbeit wurde unter der Betreuung von **Prof. T. Szabó, PhD** durchgeführt.

Abstract: An n-permutation σ is said to contain a k-permutation π if there are integers 1 = x_1 < ... < x_k = n such that s(x_i) < s(x_j) if and only if p(i) < p(j); otherwise σ is said to avoid p. Let S_n(p) denote the number of n-permutations avoiding p. It was a long-standing conjecture that for every k-permutation p the limit L(p) = lim_n S_n(p)^(1/n) exists. The conjecture was eventually proven in 2004 by Marcus and Tardos. Their proof gives a doubly exponential upper bound on L(p), although it was widely believed that it should be at most quadratic in k. A recent paper by Fox strongly disproves this notion, showing that L(p) = 2^O((k/log k)^(1/4)) for almost every k-permutation p. He also improves on the upper bound, showing L(p) = 2^O(k) for every k-permutation p. In this talk, I will show Fox's proof that L(p) is typically exponential in k, and if time permits, also discuss his improvement of the upper bound.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. T. Szabó, PhD