

A U S H A N G

FREIE UNIVERSITÄT BERLIN
Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Dienstag, 27. September 2016, 14.00 Uhr

Ort: Seminarraum, Arnimallee 2 (Villa), 14195 Berlin

Disputation über die Doktorarbeit von

Herrn Philip Brinkmann

**Thema der Dissertation:
f-Vector Spaces of Polytopes, Spheres and Eulerian Lattices**

**Thema der Disputation:
The Happy Ending Problem**

Die Arbeit wurde unter der Betreuung von **Prof. G. M. Ziegler, PhD** durchgeführt.

Abstract:

In 1932 the group of mathematicians around Paul Erdos raised the question whether for any positive number n there is a number N such that every set of N points in general position in the plane contains n points in convex position.

Erdos and Szekeres could answer this question to the affirmative and gave both, an upper and lower bound on N , which are, however, quite far apart.

They also conjectured the lower bound to be tight, but it was not until the end of the 1990ies that there was some progress on the upper bound. Still this progress was very little, until recently Andrew Suk could prove an upper bound for large n that is almost of the size of the lower bound.

In this talk we will learn about the history of the problem, see the ideas behind the proof by Suk, and will discuss the related problem of finding an empty polygon.

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. G. M. Ziegler, PhD