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

Freitag, 5. Juni 2015, 14.00 Uhr

Ort: Raum 055, Takustr. 9, 14195 Berlin

Disputation über die Doktorarbeit von

Herrn Tillmann Miltzow

Thema der Dissertation:
**Geometric and Combinatorial Problems
of Matching and Partitioning in Theoretical Computer Science**

Thema der Disputation:
The three-sum-problem

Die Arbeit wurde unter der Betreuung von **Prof. Dr. G. Rote** durchgeführt.

Abstract: Given a finite set of real numbers. The three-sum problem asks whether, there are three of them, which add to zero.

1994 Anka Gajentaan and Mark Overmars conjectured that the three-sum problem has no algorithm with subquadratic running time. This conjecture is interesting because it implies a series of lowerbounds for other algorithmic questions.

We present consequences to selected algorithmic questions, draw connections to other influential conjectures, discuss relevant subquadratic algorithms and explain meaningful lower bounds in certain models of computation.

Despite recent progress, the conjecture is deeply connected to the underlying model of computation and no truely subquadratic algorithm is known up to date.

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. Dr. G. Rote