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

Mittwoch, 11. September 2013, 14.15 Uhr

Ort: Arnimallee 7, 14195 Berlin, Seminarraum E 31

Disputation über die Doktorarbeit von

Frau Lena Marie Schlipf

Thema der Dissertation:
Stabbing and Covering Geometric Objects in the Plane

Thema der Disputation:
Chan's Randomized Optimization Technique

Die Arbeit wurde unter der Betreuung von **Prof. Dr. H. Alt** durchgeführt.

Abstract:

Combinatorial optimization deals with maximizing or minimizing a function with several variables subject to a large number of (in)equality constraints.
If the number of variables is constant and the constraints are induced by geometric objects, we call such problems geometric optimization problems. Geometric optimization problems have been well studied in the last decades and many different techniques for solving them have been developed.

A very nice and general technique was presented by Timothy Chan in 1999. He showed how certain geometric optimization problems can be reduced to their corresponding decision problems.
In addition to the simplicity of his technique, the running time for the optimization problems remains asymptotically the same as that for the decision problem.
This fact distinguishes his technique from many other known reductions of optimization problems to their decision problems, e.g., parametric search.

In this talk, I will present Chan's randomized optimization technique and
give some examples using the technique.

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. H. Alt