Mathematisches Kolloquium

Am Freitag, dem 12. Juni 2015 spricht um 14 Uhr c. t. im Hörsaal IV
der Fachrichtung Mathematik (Gebäude E2 4)

Dr. Kristin Shaw
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über das Thema:

Matroids and smoothness in tropical geometry

Abstract: Tropical geometry can be considered as algebraic geometry over the max-plus semi-field. Varieties over this semi-field are polyhedral in nature and may arise by tropicalizing varieties over a field. This has led to many applications of this relatively new geometry to classical algebraic geometry.

However, not all tropical varieties arise in this way. One example is tropical linear spaces which are locally given by matroids. Matroids are a combinatorial abstraction of the notion of independence from linear algebra or graph theory, and were introduced by Whitney. It is well known that there exist matroids which are not representable over any field, yet every matroid is representable as a tropical linear space.

In this talk, I will explain some surprising ways in which tropical spaces build from matroidal fans retain properties of smooth spaces from differential or algebraic geometry. Examples include intersection theory, adjunction formulas, and Poincare duality of tropical homology groups.

Der Gast wird von Prof. Dr. Hannah Markwig betreut.

Alle Interessenten sind zum Vortrag herzlich eingeladen.

Kaffee und Tee ab 13.45 Uhr im Konferenzraum der Mathematik   (Erdgeschoss, Raum 1.03)

Die Dozenten der Mathematik