Oberseminar
Zahlentheorie und Arithmetische Geometrie

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"Cubic surfaces over finite fields"

Cubic surfaces over algebraically closed fields were intensively studied by classical algebraic geometers, especially the combinatorics and symmetries of the famous 27 lines.

In this talk I shall discuss some of my work on cubic surfaces over the simplest non-algebraically closed fields: Finite fields!

Here we have the following fundamental questions:

(1) How many rational points can a cubic surface over a finite field have?
(2) What are the possible configurations for the lines over finite fields?

Building on work of Swinnerton-Dyer we give a complete answer to (1), which answers a question of Serre. We also address (2) and correct some mistakes that we found in Manin's famous book on "Cubic Forms".

This is joint work with Barinder Banwait and Francesc Fité.

Donnerstag, 28.04.2016
ab 12:00 Uhr, Raum a410
Hauptgebäude der Leibniz Universität Hannover

Alle Interessierten sind herzlich eingeladen.

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