

TEMPLE UNIVERSITY MATHEMATICS COLLOQUIUM

Igor Pak

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will speak on

Universality theorems in algebra and geometry

ABSTRACT: Universality theorems, also called the Murphy laws, are the kind of results which can be loosely described as "when things can go wrong, they so go wrong". The best known result of this type is the Mnev's Universality Theorem, characterizing realization spaces of matroids and convex polyhedra. I will give a survey of such results from various areas including combinatorics, algebraic geometry, group theory, and computational complexity. I will then describe what's known and our recent progress towards the Higman's Conjecture on the number of conjugacy classes of the group of upper triangular matrices over the finite field. The talk is aimed at a general audience and hopefully will be somewhat entertaining.

MONDAY, SEPTEMBER 15

LECTURE AT 4:00 PM

COFFEE, TEA, AND REFRESHMENTS FROM 3:40 PM

ROOM 617, WACHMAN HALL

DEPARTMENT OF MATHEMATICS