Berkeley-Stanford
Joint Algebraic Geometry Seminar

Tuesday, March 11, at Berkeley

BRENDAN HASSETT
Rice University
3:45–4:45, Rm. 344 Evans Hall
Towards a canonical model for the moduli space of curves

Abstract: (Joint with D. Hyeon) Consider the moduli space of stable curves as a log-variety, with boundary Delta corresponding to the nodal curves. We seek to describe its log canonical model with respect to $K + A\Delta$. When $A = 1$, we recover the moduli space of stable curves; for $A = 0$, this would be the canonical model of the moduli space, which is expected to exist for $g > 23$ by work of Eisenbud, Harris, and Mumford. For intermediate values of A, the log canonical model can be constructed with Geometric Invariant Theory. As A decreases, the log canonical model parametrizes curves with increasingly complicated singularities: cusps, tacnodes, and worse.

PERSI DIACONIS
Stanford University
5:00-6:00, Rm. 344 Evans Hall
Upper Triangular Matrices???

Abstract: The group of $n \times n$ upper-triangular matricies with elements in a finite field is a simple, friendly-sounding object *but* it is a nightmare for representation theorists. You can prove that the conjugacy classes and characters are indescribable. Recently, Andre, Carter, and Yan have developed a super-class theorem which has elegant combinatorics and solves some problems we usually use character theory for. I will explain and illustrate on a simple random walk problem. This is joint work with Ery Arias-Castro and Richard Stanley.

There will be a dinner afterward.

This seminar alternates between Stanford and Berkeley. To organize transportation from Stanford to Berkeley, please contact Jun Li or Ravi Vakil.

`http://math.stanford.edu/~vakil/bs.html`