

Berkeley-Stanford Algebraic Geometry Seminar

Tuesday, March 8, at Stanford (Rm. 383-N, 3:30–4:30 and 5:00–6:00)

PERSI DIACONIS (Stanford): Counting Integer Points in polytopes

Abstract: In practical statistical problems one needs to know the number of non negative integer points in the polytope. Gorbner bases for toric ideals are one route. In joint work with Fu Liu we give extensions of the Gale Ryser theorem as a competing route.

BRIAN OSSERMAN (Berkeley): Two Perspectives on Maps of Curves

Abstract: A map $f : C \rightarrow D$ of smooth algebraic curves is typically ramified at some points of C , which is to say that the map looks locally like $z \rightarrow z^e$ for some $e > 1$. Such points are called ramification points of f , and their images are called branch points. There are rich theories studying maps of curves in terms of their branch points, and, particularly when D is the projective line, in terms of their ramification points. We will compare and contrast these perspectives, discussing in particular their deformation theories, and we will conclude with an explanation of a ramified Brill-Noether theorem, valid in any characteristic.

There will be a dinner afterward.

This seminar alternates between Stanford and Berkeley. To organize transportation from Berkeley to Stanford, please contact David Eisenbud or Tom Graber.

<http://math.stanford.edu/~vakil/s0405/>