CURRICULUM VITAE

Sam Payne

Department of Mathematics
University of Michigan
Ann Arbor, MI 48109

Phone: (734) 277-7213
Email: sdpayne@umich.edu

Education

Ph.D.: University of Michigan, Ann Arbor. Expected April 2006.
Advisor: William Fulton.
Thesis: *Toric vector bundles.*

A.B.: Princeton University. June 2001.
Advisor: János Kollár

Fellowships

NSF Research Teaching Group Fellowship, 2005–2006.

NSF Graduate Research Fellowship, 2001–2005.

University of Michigan Regents Fellowship, 2003–2004.

Barry M. Goldwater Fellowship, 1999–2001.

Publications

Toric vector bundles, branched covers of fans, and the resolution property. In preparation.

Stable base loci, movable curves, and small modifications, for toric varieties. To appear in Math. Z.

Equivariant Chow cohomology of toric varieties. Math. Res. Lett. **13** (2006), no. 1, 29–41.

Ehrhart polynomials and stringy Betti numbers (with M. Mustaţă). Math. Ann. **333** (2005), no. 4, 787–795.

Smooth complete toric threefolds with no nontrivial nef line bundles. (with O. Fujino). Proc. Japan Acad. Ser. A Math. Sci. **81** (2005), no. 10, 174–179 (2006).

Asymptotic cohomological functions of toric divisors (with M. Hering and A. Küronya). To appear in Adv. Math.

Fujita's very ampleness conjecture for singular toric varieties. To appear in Tohoku Math. J.

Alternating graphs (with C. Adams, R. Dorman, K. Foley, and J. Kravis). J. Combin. Theory Ser. B **77** (1999) 96–120.

Selected Talks

*The Graber-Vakil * theorem and its applications.* Workshop on Gromov-Witten Theory and Moduli of Curves, University of Michigan. April 2006.

Faber's conjectures. Workshop on Gromov-Witten Theory and Moduli of Curves, University of Michigan. April 2006.

Toric vector bundles and the resolution property. Algebraic Geometry Seminar, University of Wisconsin. April 2006.

Cohomology of toric varieties. Géometrie Algébrique En Liberté XIV, Będlewo, Poland. March 2006.

Integral cohomology of singular toric varieties. Algebraic Geometry Seminar, Ohio State University. January 2006.

Toric vector bundles and the resolution property. Harvard/MIT Algebraic Geometry Seminar. December 2005.

Polyhedral complexes for tropical geometry. Tropical Geometry Seminar, University of Michigan. December 2005.

Toric vector bundles and the resolution property. Algebraic Geometry Seminar, University of Chicago. October 2005.

Asymptotic invariants of line bundles. Student seminar. Fall 2005.

Tropical geometry. Undergraduate math club. Fall 2005.

Ehrhart polynomials and stringy Betti numbers. AMS Special Session on Algebraic Geometry and Combinatorics, Santa Barbara. April 2005.

Equivariant vector bundles. Student seminar. Spring 2005.

Frobenius splittings and vanishing theorems. Student seminar. Fall 2004.

Rationality of cubic surfaces over nonclosed fields. Topics in Algebraic Geometry Seminar, University of Michigan. Spring 2004.

Gromov-Witten invariants. Student seminar. Spring 2004.

Fujita's conjectures on toric varieties. Toric Varieties Seminar, University of Michigan. Fall 2003.

The abc conjecture. Undergraduate math club. Fall 2003.

Abelian varieties with complex multiplication. VIGRE Working Group on Shimura Varieties, University of Michigan. Fall 2002.

The method of Archimedes. Undergraduate math club. Fall 2002.

Teaching Experience

Calculus Instructor. University of Michigan. Fall 2003.

Mentor. Canada/USA Mathcamp. Summers 2002–2003, 2005.

TA, second semester algebraic geometry. University of Michigan. Spring 2004.

TA, advanced calculus. Princeton University. Fall 2000.