

Alan Stapledon

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Citizenship: Australian

Academic Qualifications

Ph.D.: University of Michigan. April 2009.

Advisor: Mircea Mustața.

Thesis: *The geometry and combinatorics of Ehrhart δ -vectors.*

B.Sc. Honours: University of Sydney. November 2003.

Advisor: Robert Howlett.

Thesis: *π -special modules of π -separable and p -solvable groups.*

Professional Experience

Visiting Scholar, University of Sydney. June-August 2009.

Postdoc, MSRI. August-December 2009.

Publications

Weighted Ehrhart theory and orbifold cohomology.

Adv. Math. **219** (2008), 63-88.

Inequalities and Ehrhart δ -vectors.

Trans. Amer. Math. Soc. **361** (2009), 5615-5626.

On the log-concavity of Hilbert series of Veronese subrings and Ehrhart series.

Math. Z. (online version available) (with M. Beck).

Motivic integration on toric stacks.

To appear in Comm. Algebra.

Ehrhart theory for Lawrence polytopes and orbifold cohomology of hypertoric varieties. Proc. Amer. Math. Soc. (online version available)

Kneser's theorem and inequalities in Ehrhart theory.

Submitted. arXiv:0904.3035.

Arc spaces and equivariant cohomology.

To appear (with D. Anderson).

A geometric interpretation of Stanley's monotonicity theorem.

arXiv:0807.3543.

Honours

Wirt and Mary Cornwell Prize in Mathematics, University of Michigan, 2009.

Rackham international student fellowship, University of Michigan, 2006.

Eleanor Sophia Wood travelling scholarship, University of Sydney, 2004.

University medal, University of Sydney, 2003.

Dean's honour list prize (for gaining the highest average mark of any final year student in the faculty of science), University of Sydney, 2002.

Research Talks

Arc spaces and equivariant cohomology.

RTGC seminar, Berkeley. September 2009.

Arc spaces and equivariant cohomology.

Algebra seminar, University of Sydney. July 2009.

Kneser's theorem and inequalities in Ehrhart theory.

AIM, Palo Alto. April 2009.

Weighted Ehrhart theory.

AMS western section meeting. San Francisco State University. April 2009.

Ehrhart theory of Lawrence polytopes.

AGC seminar, San Francisco State University. February 2009.

Balanced inequalities for Ehrhart δ -vectors.

Freie Universität Berlin, Germany. January 2009.

Weighted Ehrhart theory and orbifold cohomology.

Algebraic geometry seminar, Stanford University. October 2008.

Weighted Ehrhart theory and orbifold cohomology.

Algebraic geometry seminar, University of Wisconsin. September 2008.

Weighted Ehrhart theory and orbifold cohomology.

Algebraic geometry seminar, University of Notre Dame. September 2008.

Duality of cones: mirror symmetry and equivariant cohomology.

Geometry and physics seminar, University of Michigan. September 2008.

Weighted Ehrhart theory and orbifold cohomology.

Algebra seminar, University of Sydney. June 2008.

Invited Conferences

Algebraic geometry with a view towards applications.

Institut Mittag-Leffler, Stockholm, Sweden. Spring 2011.

Combinatorial challenges in toric varieties.

American Institute of Mathematics, Palo Alto, California. April 2009.

AMS western section meeting: special session on algebra and number theory.

San Fransisco State University, California. April 2009.

Workshop on toric geometry.

Mathematisches Forschungsinstitut Oberwolfach, Germany. January 2009.

Workshop on Ehrhart δ -polynomials.

Freie Universität Berlin, Germany. January 2009.

Major Conferences Attended

Introductory workshop: tropical geometry.

MSRI, August 24 - 28, 2009.

Combinatorial, enumerative and toric geometry.

MSRI, March 23 - 27, 2009.

Modern moduli theory.

MSRI, February 23 - 27, 2009.

Classical algebraic geometry today.

MSRI, January 26 - 30, 2009.

Affine manifolds and mirror symmetry workshop.

University of Michigan, April 25 - 27, 2008.

Clay lectures in mathematics.

Tata Institute, Mumbai, December 10 - 14, 2007.

Geometry of complex projective varieties and the minimal model program.

Grenoble, June 18 - July 6, 2007.

University of Michigan/Ohio State/UIC algebraic geometry workshop

April 2006, 2007, 2008, October 2006, 2007, 2008.

Moduli spaces and arcs.

Köln, August, 2006.

Moduli space of curves and Gromov-Witten theory.

University of Michigan, April 24 - 26, 2006.

Recent developments in higher dimensional algebraic geometry.

John Hopkins University, March, 2006.

Teaching Experience

Graduate Student Instructor. University of Michigan, 2004-2008.

Courses: calculus 105, 115, 116, differential equations 216 (3 times).

TA, first semester algebraic geometry. University of Michigan, Fall 2007.

TA, first year differential calculus. University of Sydney, 2003 .

Professional Service

Reviewer for Mathematical Reviews. Reviewer number: 61665.

Reviewer for Zentralblatt Math. Reviewer number: 12000.

Co-organiser of the student algebraic geometry seminar.

University of Michigan, 2006-2007.