

Zvi Rosen

University of California, Berkeley
Department of Mathematics
Evans Hall
Berkeley, CA 94720

Office: 1004 Evans Hall
Email: zhrosen@math.berkeley.edu
Homepage: <http://www.math.berkeley.edu/~zhrosen/>

Education

May 2015 (expected)	Ph.D. Mathematics, U.C. Berkeley. Advisor: Bernd Sturmfels.
May 2011	M.A. Mathematics, University of Pennsylvania.
December 2010	B.A. Mathematics, <i>summa cum laude</i> , University of Pennsylvania. Minor in Near-Eastern Languages and Civilizations.

Teaching Experience

Graduate Student Instructor, University of California, Berkeley.

Six weekly hours of instruction, one weekly office hour, and proctoring and grading exams.

Fall 2011	Math 1B: Calculus 2	Instructor: Per-Olof Persson
Spring 2012	Math 1B: Calculus 2	Instructor: Slobodan Simic
Spring 2014	Math 10B: Math for Life Sciences	Instructor: Per-Olof Persson

Research Products

Refereed Publications:

1. *Parameter-free methods distinguish Wnt pathway models and guide design of experiments.* (with Adam MacLean, Helen Byrne, and Heather Harrington) To Appear in PNAS.

Non-refereed Publications:

1. *Line arrangements modeling curves of high degree: equations, syzygies and secants.* (with Gregory Burnham, Jessica Sidman, and Peter Vermeire). arXiv:1201.5010. To appear in the London Math. Soc. Lecture Note Series volume in honor of Rob Lazarsfeld's 60th birthday.

Submitted for Review:

1. *Algebraic Matroids with Graph Symmetry*. (with Franz Király and Louis Theran). arXiv:1312.3777.
2. *Computing Algebraic Matroids*. arXiv:1403.8148.
3. *Matrix Completion for the Independence Model*. (with Kaie Kubjas) arXiv:1407.3254.
4. *Algebraic Systems Biology: A Case Study for the Wnt Pathway*. (with Elizabeth Gross, Heather Harrington, and Bernd Sturmfels) arXiv:1502.03188.

In Preparation:

1. *Convexity Obstructions and Embedding Dimension for Neural Ideals*. (with Carina Curto, Elizabeth Gross, Jack Jeffries, Katherine Morrison, Mohammed Omar, Anne Shiu, and Nora Youngs).
2. *Chow Polytopes and Algebraic Matroids for Projective Curves*. (with Bo Lin).
3. *Tensor Completion in Algebraic Statistics*. (with Thomas Kahle and Kaie Kubjas).

Expository Work:

1. *Graded Betti Numbers of Graph Curves*. Master's Thesis at Penn. Defended May 2011.
2. *Graph Curves*. Expository article for Bernd Sturmfels' course in Algebraic Curves. Accessible at: <http://math.berkeley.edu/~zhrosen/graphcurves.pdf>

Invited Lectures

April 20, 2015	SIAM Chapter Meeting, UC Berkeley.
April 8, 2015	Applied Algebra and Network Theory Seminar, Penn State University.
March 31, 2015	Symbolic Computation Seminar, North Carolina State University.
March 30, 2015	Statistics Seminar, University of Kentucky.
December 1, 2014	Computational Algebraic Geometry Seminar, UC Berkeley.
November 24, 2014	Student Combinatorics Seminar, UC Berkeley.
November 7, 2014	Lightning Talks, Industry Day, Simons Institute of Computing.
October 26, 2014	AMS Fall Sectional Meeting, Combinatorial Commutative Algebra Session, San Francisco State University.
October 23, 2014	Prof. J.M. Landsberg's group, Simons Institute of Computing.
October 22, 2014	Combinatorics Seminar, San Francisco State University.
December 23, 2013	Seminar on Algebraic Combinatorics, Ben-Gurion University of the Negev, Beer Sheva, Israel.
October 7, 2013	Computational Algebraic Geometry Seminar, Max-Planck Institute for Mathematics.
June 13, 2013	Diskrete Geometrie Seminar. Freie Universität Berlin.
June 4, 2013	(Poster Presentation) MEGA 2013. Goethe Universität, Frankfurt am Main, Germany

May 3, 2013	Macdonald Polynomials Seminar, UC Berkeley.
April 5, 2013	Valley Geometry Seminar, UMASS Amherst.
November 2012	Bernd Sturmfels' course in Combinatorial Commutative Algebra, UC Berkeley.
June 2012	ECCO'12: Encuentro Colombiano de Combinatoria, Universidad de Los Andes, Bogotá.
December 2011	Bernd Sturmfels' course in Algebraic Curves, UC Berkeley.

Other Workshops & Conferences Attended

July 2014	IMA Modern Applications of Representation Theory, University of Chicago.
June 2014	AMS Math Research Communities: Algebraic and Geometric Methods in Applied Discrete Mathematics. Snowbird, UT.
May 2014	Algebraic Statistics 2014. Illinois Institute of Technology, Chicago, IL.
June 2013	Summer School in Algebraic Statistics, Nordfjordeid, Norway.

Synergistic Activities

1. *Seminar Organizer.* Organized, jointly with Bernd Sturmfels, a seminar on "Computational Algebraic Geometry" in the Berkeley Math Department in Fall 2014.
2. *Code for Matroid Computation.* Wrote code for Macaulay2 and Bertini to compute algebraic matroids. Also wrote code in Sage for a matroid application in statistics. All code is available on my website.
3. *Distributing Notes.* Typed and illustrated notes for various Berkeley classes and the ECCO'12 conference, available on my website.
4. *Grant Writing.* Helped Heather Harrington and Bernd Sturmfels to write the grant Royal Society International Exchanges Scheme 2014/R1 IE140219, which allowed me to visit Prof. Harrington at Oxford University from August 13 - 18, 2014.