

Melody Chan

CONTACT INFORMATION

University of California, Berkeley
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RESEARCH INTERESTS

Combinatorics and geometry, particularly tropical geometry; connections with moduli spaces, geometric group theory, cluster algebras, and matroids

EDUCATION

University of California, Berkeley, 2008-present, PhD anticipated 2012.

Advisor: Bernd Sturmfels

Princeton University, 2006-2008, M.A.

Advisor: Paul Seymour

Cambridge University, 2005-2006, Certificate of Advanced Study in Mathematics, with Merit

Yale University, 2001-2005, B.S. computer science and mathematics, summa cum laude.

The Juilliard School, 2000-2001.

Studies in violin with Itzhak Perlman, Dorothy DeLay

PUBLICATIONS

Elliptic curves in honeycomb form, preprint available at [arXiv:1203.2356](https://arxiv.org/abs/1203.2356).

Tropical hyperelliptic curves, preprint available at [arXiv:1110.0273](https://arxiv.org/abs/1110.0273).

Combinatorics of the tropical Torelli map, to appear in Algebra and Number Theory.

Three notions of tropical rank for symmetric matrices, with D. Cartwright, to appear in Combinatorica.

The 4×4 minors of a $5 \times n$ matrix are a tropical basis, with A. N. Jensen and E. Rubei, Linear Algebra and its Applications 435 (2011) 1598-1611.

The distinguishing number of the augmented cube and hypercube powers, Discrete Mathematics 308 (2008), no. 11, 2330–2336.

Improved pebbling bounds, with A. Godbole, Discrete Mathematics 308 (2008), no. 11, 2301–2306.

The distinguishing number of the direct product and wreath product action, Journal of Algebraic Combinatorics 24 (2006), no. 3, 331–345.

The maximum distinguishing number of a group, Electronic Journal of Combinatorics 13 (2006), no. 1, R70.

Stably computable properties of network graphs, with D. Angluin, J. Aspnes, M. J. Fischer, H. Jiang, R. Peralta, Distributed Computing and Sensor Systems: First IEEE International Conference, DCOSS 2005, Marina del Rey, CA, USA, June/July, 2005, Proceedings, Lecture Notes in Computer Science, volume 3560, Springer-Verlag, June 2005, 63–74.

- INVITED TALKS
- Stanford University Topology Seminar, February 2011
 - UC San Diego Algebraic Geometry Seminar, November 2011
 - Philadelphia Combinatorics and Algebraic Geometry Seminar, November 2011
 - Johns Hopkins Algebraic Geometry and Number Theory Seminar, November 2011
 - UC Irvine Algebra Seminar, October 2011
 - UC Berkeley Combinatorics Seminar, September 2011
 - Freie Universität Berlin Discrete Geometry Seminar, July 2011
 - University of Chicago Geometry/Topology Seminar, June 2011
 - UC Berkeley Representation Theory, Geometry and Combinatorics Seminar, March 2011
 - UC Berkeley Algebraic Geometry Seminar, March 2011
 - University of Warwick Algebraic Geometry Seminar, February 2011
 - PhD Students Conference on Tropical Geometry, Göttingen, January 2011
 - University of Rome III Geometry Seminar, January 2011
 - University of Pisa Seminar, January 2011
 - University of Florence Algebraic Geometry Seminar, January 2011
 - Georgia Institute of Technology Tropical Geometry Seminar, November 2010
 - FPSAC 22 (Formal Power Series and Algebraic Combinatorics), August 2010
 - SIAM Conference in Discrete Mathematics, Austin, June 2010
 - MIT Combinatorics seminar, April 2010
 - UC Davis Algebra and Discrete Mathematics Seminar, April 2010
 - Seminar on Applications of Tropical Algebra, UC Berkeley, August 2009
 - UC Berkeley Combinatorics Seminar, September 2008
 - Princeton-Oxford Combinatorics Workshop, June 2008
 - UC Davis Algebra and Discrete Mathematics Seminar, May 2008
- HONORS AND AWARDS
- NDSEG and NSF Graduate Fellowships, 2007-2012
 - Association of Women in Mathematics (AWM) Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman, 2005
 - Deforest Senior Prize in Mathematics, Yale Mathematics Department, 2005
 - Henry Fellowship for study at Cambridge University, 2005
 - Hart Lyman Prize, awarded to one member of Yale's junior class for "the best record of accomplishment intellectually and socially," 2004
 - Benjamin F. Barge, George Beckwith, and Anthony J. Stanley Departmental Prizes, Yale Mathematics Department, 2002-2004
 - Barry M. Goldwater Fellowship, 2004
- PROFESSIONAL SERVICE
- Reviewer for: Birkhauser, Electronic Journal of Combinatorics, International Journal of Computer Mathematics, Journal of Graph Theory, Springer Graduate Texts in Mathematics
 - Teaching assistant, MSRI Summer Graduate Workshop on Cluster Algebras, August 2011
 - Class consultant, Algebraic curves (Professor Bernd Sturmfels), 2011
 - Organizer, UC Berkeley Student Seminar in Discrete Mathematics, with Felipe Rincón, 2010-2011

Organizer, first-year graduate student mentoring, with Adam Booher, 2010-2012

Active member of Unbounded Representation, a graduate student group at UC Berkeley promoting dialogue on diversity in mathematics

Undergraduate mentor for the Noetherian Ring, a graduate student group at UC Berkeley for women in mathematics