Kelli Talaska Curriculum Vitae

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Teaching experience

- 2013 present: **Private mathematics tutor**, *Berkeley*, *Emeryville*, & *Oakland*, *CA*. Individual and small group tutoring for high school and college students.
- 2011-2013: Visiting Assistant Professor, University of California, Berkeley, CA. Primary instructor for calculus and abstract algebra courses. Faculty mentor for one undergraduate senior thesis.
- August 2011: **Teaching assistant**, *Mathematical Sciences Research Institute, Berkeley, CA*. Teaching assistant for the Graduate Summer Workshop on Cluster Algebras and Cluster Combinatorics.
- 2010: **Course co-coordinator**, *University of Michigan, Ann Arbor, MI*. Course co-coordinator and primary exam writer for first semester calculus.
- 2004-2008: Graduate student instructor, University of Michigan, Ann Arbor, MI. Primary instructor for pre-calculus, differential calculus, and integral calculus courses.
- 2002-2004: Math teacher, Lowell High School, San Francisco, CA. Primary instructor for geometry, pre-calculus, and first and second year algebra courses.
- 1998-2002: Grader and TA, *Texas A&M University, College Station, TX.* Grader and course assistant for combinatorics, multi-variable calculus, and pre-calculus courses.
- 1999-2000: Math camp counselor, Southwest Texas Honors Summer Math Camp, San Marcos, TX. Counselor for a group of four students studying number theory, combinatorics, and analysis.
- 1996-2010: **Tutor**, *various locations*. Private tutor for undergraduate, high school, and middle school students in mathematics, statistics, and physics.

Education

- 2004 2010 University of Michigan, Ann Arbor, MI.
 Ph.D. in Mathematics.
 Advisor: Sergey Fomin.
 Dissertation: Positivity in real Grassmannians: combinatorial formulas
- 1998 2002 Texas A&M University, College Station, TX. B.A. in Mathematics, with a History minor.

Publications and preprints

- Network Parameterizations for the Grassmannians (with Lauren Williams), Algebra and Number Theory 7 (2013), 2275-2311.
- Positivity for Gaussian graphical models (with Seth Sulivant and Jan Draisma), Adv. in Appl. Math. 50 (2013), no. 5, 661-674.
- 3. Determinants of weighted path matrices, preprint.
- 4. Combinatorial formulas for Le-coordinates on a totally nonnegative Grassmannian, J. Combin. Theory Ser. A 118 (2011), no. 1, 58-66.
- 5. Trek separation for Gaussian graphical models (with Seth Sullivant and Jan Draisma), Ann. Statist. **38** (2010), no. 3, 1665-1685.
- 6. A formula for Plücker coordinates associated with a planar network, *Int. Math. Res. Not. IMRN* 2008, rnn081.
- On the multimessage capacity region for undirected ring networks (as Kelli Carlson, with S. M. Sadegh Tabatabaei Yazdi, Serap A. Savari, and Gerhard Kramer), *IEEE Trans. Inform. Theory* 56 (2010), no. 4, 1930-1947.
- 8. On the bondage number of planar and directed graphs (as Kelli Carlson, with Mike Develin), *Discrete Math.* **306** (2006), no. 8-9, 820-826.
- 9. Generalized books and C_m -snakes are prime graphs (as Kelli Carlson), Ars Combin. 80 (2006), 215-221.

Research Talks

2013	June	Formal Power Series and Algebraic Combinatorics, Paris, France.							
	Feb.	Combinatorics Seminar, University of California, Berkeley.							
2012	Aug.	Connections for Women: Joint Workshop on Comm. Alg. and Cluster Algebras, MSRI.							
	July	MSJ-SI Schubert Calculus Conference, Osaka, Japan.							
	May	Colloquium, Santa Clara University.							
	Apr.	Cluster Algebras Seminar, University of California, Berkeley.							
	Apr.	Discrete Math Seminar, Arizona State University.							
2011	Nov.	Berkeley Algebraic Statistics Seminar, University of California, Berkeley.							
	Oct.	Colloquium, Saint Mary's College, Moraga.							
	Oct.	SIAM Conference on Applied Algebraic Geometry, Raleigh.							
	Oct.	Combinatorics Seminar, University of Washington, Seattle.							
	Sept.	Math Colloquium, San Jose State University.							
	Aug.	Cluster Algebras and Statistical Physics Workshop, ICERM, Providence.							
	Apr.	Bay Area Discrete Math Day, San Francisco State University.							
	Feb.	Algebra Seminar, University of California, Santa Barbara.							
2010	Nov.	Algebra and Discrete Mathematics Seminar, University of California, Davis.							
	Nov.	Algebra-Geometry-Combinatorics Seminar, San Francisco State University.							
	June	Algebraic Combinatorics Session, CMS Summer Meeting, Fredericton, New Brunswick.							
2009	Dec.	Pure and Applied Mathematics Colloquium, University of Kent, Canterbury, UK.							
	Sept.	Statcomb Introductory Symposium, Institut Henri Poincaré, Paris, France.							
	Jan.	Discrete Mathematics Seminar, University of California, Berkeley.							
2008	Dec.	International Conference on Cluster Algebras and Related Topics, Mexico City, Mexico.							
	Nov.	Combinatorics Seminar, University of Michigan.							
	Oct.	Algebra-Geometry-Combinatorics Seminar, University of Illinois at Urbana-Champaign.							
	Sept.	Algebra and Combinatorics Seminar, North Carolina State University.							
	Apr.	Graduate Student Combinatorics Conference, University of California, Davis.							
	Apr.	Algebra-Geometry-Combinatorics Seminar, San Francisco State University.							
	Feb.	Combinatorics Seminar, Massachusetts Institute of Technology.							

Expository Talks and Poster Sessions

2012 .	July.	Honors	Summer	Math	Camp	Colloquium,	Texas	State	University,	San	Marcos.
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- 2011 Oct. Combinatorics Pre-Seminar, University of Washington, Seattle.
 - May Algebraic Combinatorixx, BIRS, Banff, AB, Canada.
 - Feb. Discrete Mathematics Seminar, University of California, Berkeley.
- 2010 Nov. Student-Run Discrete Math Seminar, University of California, Davis.
- Sept. Discrete Mathematics Seminar, University of California, Berkeley.
- 2009 July Formal Power Series and Algebraic Combinatorics, Hagenberg, Austria.
- 2008 June Formal Power Series and Algebraic Combinatorics, Valparaiso, Chile.

Professional activities

- March 2012: Co-organizer of the Algebraic Combinatorics special session at the 2012 AMS Spring Western Section Meeting.
- 2011-2012: Bay Area Discrete Math Day organizing committee.
- 2011-2012: Co-organizer of the Combinatorics Seminar at UC Berkeley.
- Fall 2009: Participant in the *Statistical physics, combinatorics and probability: from discrete to continuous models* trimester at the Centre Émile Borel, Institut Henri Poincaré in Paris.
- 2011-2012: Member of the Association for Women in Mathematics.
- 2004-2012: Member of the American Mathematical Society.
- 2006-2008: Organizer of the Student Combinatorics Seminar at the University of Michigan.
- Summers 2001, 2003: Participant in the Duluth REU (Research Experience for Undergraduates).