

KELLI TALASKA

CURRICULUM VITAE

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Teaching experience

- 2015 - present: **Lecturer**, *University of California, Berkeley, CA*. Primary instructor for upper division courses for math majors.
- 2015 - present: **Instructor**, *various locations*. Math enrichment classes for elementary and middle school students in miscellaneous programs, including Berkeley Math Circle, Santa Cruz Math Circle, and Epsilon Camp.
- 2013 - present: **Owner/instructor/tutor**, *Octopus Math, Berkeley, CA*. Individual and small group tutoring and enrichment for elementary, middle school, 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, community college, high school, and middle school students in mathematics, statistics, and physics.

Education

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

Awards and other notables

- National Science Foundation (NSF) Mathematical Sciences Postdoctoral Research Fellowship, taken at UC Berkeley 2010-2013.
- Participant in the prestigious NSF Research Experience for Undergraduates at the University of Minnesota, Duluth.
- Multiple national, statewide, and local scholarships for undergraduate education, including National Merit Scholarship, Texas Livestock Show and Rodeo Scholarship, Robert C. Byrd Scholarship, Terry Foundation Scholarship, Texas A&M Mathematics Department Scholarship, National Honor Society Scholarship.

Publications and preprints

1. Network Parameterizations for the Grassmannians (with Lauren Williams), *Algebra and Number Theory* **7** (2013), 2275-2311.
2. Positivity for Gaussian graphical models (with Seth Sulivant and Jan Draisma), *Adv. in Appl. Math.* **50** (2013), no. 5, 661-674.
3. Combinatorial formulas for Le-coordinates on a totally nonnegative Grassmannian, *J. Combin. Theory Ser. A* **118** (2011), no. 1, 58-66.
4. Trek separation for Gaussian graphical models (with Seth Sullivant and Jan Draisma), *Ann. Statist.* **38** (2010), no. 3, 1665-1685.
5. A formula for Plücker coordinates associated with a planar network, *Int. Math. Res. Not. IMRN* 2008, rnn081.
6. 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.
7. On the bondage number of planar and directed graphs (as Kelli Carlson, with Mike Develin), *Discrete Math.* **306** (2006), no. 8-9, 820-826.
8. 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.
- 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 (and frequent speaker) of the Student Combinatorics Seminar at the University of Michigan.
- Summers 2001, 2003: Participant in the Duluth REU (Research Experience for Undergraduates).

References

- Sergey Fomin (Ph.D. advisor, University of Michigan)
fomin@umich.edu
- Lauren Williams (NSF postdoc supervisor and coauthor, UC Berkeley)
williams@math.berkeley.edu
- Karen Smith (former instructor, colleague, and mentor, University of Michigan)
kesmith@umich.edu