

# KELLI TALASKA

## CURRICULUM VITAE

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### Education

- 2004 - Present University of Michigan, Ann Arbor, MI.  
Ph.D. in Mathematics, expected May 2010.  
Advisor: Sergey Fomin.
- 1998 - 2002 Texas A&M University, College Station, TX.  
B.A. in Mathematics.

### Research interests

Algebraic and enumerative combinatorics, in particular total positivity and planar networks.

### Publications

1. Combinatorial formulas for Le-coordinates on a totally nonnegative Grassmannian, to appear in *J. Combin. Theory Ser. A*.
2. Trek separation for Gaussian graphical models (with Seth Sullivant and Jan Draisma), to appear in *Ann. Statist.*
3. Two Multimessage Capacity Regions for Undirected Ring Networks (as Kelli Carlson, with S. M. Sadegh Tabatabaei Yazdi, Serap A. Savari, Gerhard Kramer, and Farzad Farnoud), to appear in *IEEE Trans. Inform. Theory*.
4. A formula for Plücker coordinates associated with a planar network, *Int. Math. Res. Not. IMRN* 2008, rnm081.
5. On the bondage number of planar and directed graphs (as Kelli Carlson, with Mike Develin), *Discrete Math.* **306** (2006), no. 8-9, 820-826.
6. Generalized books and  $C_m$ -snakes are prime graphs (as Kelli Carlson), *Ars Combin.* **80** (2006), 215-221.

## Conference and seminar presentations

- 2009 Dec. *Pure and Applied Mathematics Colloquium*, University of Kent, Canterbury, UK.  
Sept. *Statcomb Introductory Symposium*, Institut Henri Poincaré, Paris, France.  
July *Formal Power Series and Algebraic Combinatorics*, Hagenberg, Austria.  
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.  
June *Formal Power Series and Algebraic Combinatorics*, Valparaiso, Chile.  
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.

## Professional activities

- 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.
- 2004-present: 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).

## Teaching experience

- 2004-2008: University of Michigan. Primary instructor for pre-calculus, differential calculus, and integral calculus courses.
- 2002-2004: Lowell High School, San Francisco, CA. Primary instructor for geometry, pre-calculus, and first and second year algebra courses.
- 1998-2002: Texas A&M University. Grader and course assistant for combinatorics, multi-variable calculus, and pre-calculus courses.
- 1999-2000: Southwest Texas Honors Summer Math Camp. Counselor for a group of four students studying number theory, combinatorics, and analysis.
- 1996-2008: Tutor for undergraduate, high school, and middle school students in mathematics, statistics, and physics.