

## Appointments

- 08/2015- **Jack Hale Postdoctoral Fellow**, *Georgia Institute of Technology*, Atlanta, GA.
- 06-08/2015 **Visiting Instructor**, *Boğaziçi University*, Istanbul, Turkey.
- 2014-2015 **Dunham Jackson Assistant Professor**, *University of Minnesota*, Minneapolis, MN.
- 01-03/2014 **Research Associate**, *Paris VI, Laboratoire de Probabilités et Modèles Aléatoires*, Paris..
- 2010-2014 **Teaching and Research Assistant**, *University of Southern California*, Los Angeles, CA.
- 2007-2010 **Teaching Assistant**, *Boğaziçi University*, Istanbul, Turkey.

## Education

- 2014 **Ph.D. in Applied Mathematics**, *University of Southern California*, Los Angeles, CA, USA.  
Advisor : Jason Fulman  
Dissertation Title : Concentration inequalities with bounded couplings
- 2013 **M.Sc. in Statistics**, *University of Southern California*, Los Angeles, CA, USA.
- 2010 **M.Sc. in Mathematics**, *Boğaziçi University*, Istanbul, Turkey.  
Advisor : Alp Eden  
Thesis Title: Propp-Wilson algorithm and beyond
- 2007 **B.Sc. in Mathematics with Honors**, *Boğaziçi University*, Istanbul, Turkey.

## Research Interests

Concentration of measure inequalities, Stein's method, Subsequence problems, Random permutation/word statistics and connections to non-parametric statistics, Markov chains.

## Awards/Honors

- 2015 Dean's Postdoctoral Scholar Travel Grant.
- 2014 Graduate School Travel Award, University of Southern California. (Used for visit to Paris VI)
- 2013 Theodore Edward Harris Graduate Research Prize, University of Southern California.
- 2013 CAMS Graduate Student Prize, runner-up, University of Southern California.
- 2013 Dissertation Completion Fellowship, University of Southern California.
- 2011 University of Southern California, Math Department Summer Merit Award.
- 2010 Merit Fellowship for 2010-2011, University of Southern California.
- 2010 University of Southern California, Scholarship for 2010-2015.
- 2010 Best Graduate Instructor Award, Boğaziçi University.

## Publications/Preprints

(with Larry Goldstein) *Concentration inequalities via zero-biased couplings*, *Statistics and Probability Letters*, vol 86, pp. 17-23, <http://arxiv.org/abs/1304.5001>, 2014.

Concentration inequalities with bounded couplings, PhD Dissertation, 125 pages, 2014.

<http://digitallibrary.usc.edu/cdm/ref/collection/p15799coll3/id/420563>.

*Asymptotic results for random sums of dependent random variables*, to appear in *Statistics and Probability Letters*, <http://arxiv.org/abs/1303.2386>, 2016.

(with Deniz Topuz) *Negative cumulative dependence of random variables and applications*, Extended abstract, Proceedings of the 8th International Statistics Congress, Antalya, 2014

(with Ruoting Gong and Christian Houdré), *A Central Limit Theorem for the Optimal Alignments Score in Multiple Random Words*, 30 pages, submitted, <http://arxiv.org/abs/1512.05699>, 2015.

(with Jay Bartroff and Larry Goldstein) *Bounded size biased couplings for log concave distributions and concentration of measure for occupancy models*, 35 pages, submitted, <http://arxiv.org/abs/1402.6769>, 2014.

(with Serdar Altok) *On leaf related statistics in recursive tree models*, 13 pages, submitted, 2015.

(with Subhankar Ghosh) *Multivariate concentration inequalities with size biased couplings*, 14 pages, submitted, previous version available at <http://arxiv.org/abs/1310.5448>, 2014.

(with Christian Houdré) *A central limit theorem for the length of the longest common subsequence in random words*, 33 pages, submitted, <http://arxiv.org/abs/1408.1559>, 2014.

(with Subhankar Ghosh), *Stein couplings and concentration of Hoeffding's doubly indexed permutations statistics*, 11 pages, preprint, 2015.

(with Alperen Yaşar Özdemir), *On the number of weakly increasing subsequences of random words*, 17 pages, preprint, 2015.

*Descent-Inversion statistics in riffle shuffles*, 14 pages, not considered for publication anymore since the work with Özdemir has significant improvements, [arxiv.org/abs/1303.2387](http://arxiv.org/abs/1303.2387), 2013.

*Propp-Wilson algorithm and beyond*, Masters thesis, Boğaziçi University, 71 pages, 2010. <http://seyhan.library.boun.edu.tr/record=b1644859> S5

## **In preparation**

(with Christian Houdré and Travis Litherland) *Longest increasing subsequence asymptotics with growing alphabets*, current version 33 pages.

*A survey on the longest common subsequence problem*, current version 15 pages.

*Negative dependence of random variables and applications*, current version 21 pages.

*Convergence rates for longest alternating subsequences in random words*, current version 22 pages.

## **Talks**

- 10/2015 *A Central Limit Theorem for the Optimal Alignments Score in Multiple Random Words* , ACO Seminar, GeorgiaTech, Atlanta.
- 07/2015 *Stein's method and subsequence problems*, Boğaziçi University, Istanbul.
- 06/2015 *Stein's method and subsequence problems*, Ankara-Istanbul workshop on stochastic processes, Koc University, Istanbul.
- 05/2015 *Stein couplings, log concavity and concentration of measure*, Stochastics seminar, GeorgiaTech.
- 04/2015 *Buffon's needle problem and Monte Carlo methods*, Math Club Seminar, University of Minnesota.
- 02/2015 *Concentration inequalities with bounded couplings*, Stein's method working seminar, NSU, Singapore.

- 01/2015 *Asymptotic Laws for the Longest Common Subsequence Problem*, A Special Day in honor of Alp Eden, TMD, Istanbul.
- 12/2014 *Stein's method and concentration of extremal eigenvalues in random matrices*, Postdoc probability seminar, University of Minnesota.
- 10/2014 *Limit laws for the longest common subsequence problem*, Probability Seminar, University of Minnesota.
- 10/2014 *On limit laws for the lengths of longest common subsequences*, AMS Western Fall Sectional Meeting, San Francisco State University, San Francisco.
- 10/2014 *Poisson approximation via Stein's method*, Postdoc probability seminar, University of Minnesota, Minneapolis.
- 09/2014 *An introduction to Stein-Chen method*, Probability working group seminar, GeorgiaTech, Atlanta.
- 06/2014 *Concentration inequalities with bounded couplings*, Stochastic processes and high dimensional probability distributions, St. Petersburg.
- 04/2014 *Longest common subsequences in random words*, GSCC 2014, Auburn University.
- 04/2014 *Concentration inequalities with bounded couplings*, Stochastics Seminar, GeorgiaTech, Atlanta.
- 02/2014 *Two new applications of Chatterjee's normal approximation theorem*, Student Probability Seminar, Laboratoire de Probabilités et Modèles Aléatoires, Paris VI.
- 11/2013 *Stein's method and concentration inequalities*, Statistics and Machine Learning Seminar, Bahcesehir University, Istanbul.
- 11/2013 *Multivariate concentration inequalities with couplings from Stein's method*, AMS Western Fall Sectional Meeting, University of California, Riverside.
- 10/2013 *Concentration inequalities with bounded couplings*, AMS Fall Sectional Meeting, Washington University, St. Louis.
- 04/2013 *On the longest alternating subsequence problem*, GSCC 2013, University of Minnesota, Twin Cities.
- 02/2013 *Multivariate generalizations of non-parametric tests with spanning graphs*, USC Student Probability and Combinatorics Seminar, Los Angeles.
- 10/2012 *Negative binomial approximation with Stein's method*, USC Student Probability and Combinatorics Seminar, Los Angeles.
- 04/2012 *Concentration inequalities with couplings*, GSCC 2012, University of Illinois at Urbana-Champaign.
- 01/2010 *A Comparison of Algorithms for Inference in Probabilistic Graphical Models*, Boğaziçi University, MCMC Group Seminar, Istanbul.

## Conference Participation without Talk

- 06/2015 Ankara Matematik Gunleri, ODTU, Ankara
- 04/2015 Analytic Tools in Probability and Applications, Workshop, IMA.
- 04/2015 Information Theory and Concentration Phenomena, Workshop, IMA.
- 09/2014 Probabilistic and Extremal Combinatorics, IMA.
- 07/2014 The R User Conference, UCLA, Los Angeles.
- 04/2014 Stochastic Processes Conference, University of California at San Diego.
- 01/2014 AMS Joint Meetings, Baltimore.
- 07/2013 Stochastic Processes and Their Applications, University of Colorado at Boulder.

- 12/2012 Southern California Probability Symposium, University of California, Irvine.
- 03/2012 Wilsonfest, a conference in honor of Rick Wilson, Caltech, Los Angeles.
- 11/2011 Southern California Probability Symposium, USC, Los Angeles
- 10/2010 AMS Western Sectional Meeting, UCLA, Los Angeles.
- 06-07/2010 Probability, Statistical Mechanics and Renormalization Group Summer School, Feza Gursey Institute, Istanbul

## Teaching Experience

**Georgia Institute of Technology, Instructor, Mathematics Department**

Math 1551 - *Differential Calculus*, Fall 2015

Math 1552 - (upcoming) *Differential Calculus II*, Spring 2016

**Boğaziçi University, Instructor**

Math 344 - *Statistics*, Summer 2015

**University of Minnesota, Instructor, Mathematics Department**

Math 5651 - *Basic Theory of Probability and Statistics*, Fall 2014

Math 5651 - *Basic Theory of Probability and Statistics*, Spring 2015

**University of Southern California, Teaching Assistant, Mathematics Department**

Math 445 - *Advanced Engineering Mathematics II*, Spring 2013

Math 308 - *Statistical Inference and Data Analysis II*, Fall 2013

Math 218 - *Statistics for Business Students*, Spring 2012

Math 118 - *Calculus for Business Students*, Fall 2012

Grader for : Math 465 - *Ordinary Differential Equations*, Math 541a - *Graduate Statistics I*, Math 574 - *Applied Matrix Analysis*.

**Boğaziçi University, Teaching Assistant, Mathematics Department**

Math 344 - *Statistics*, Spring 2009, Spring 2010

Math 331 - *Real Analysis*, Fall 2009

Math 201 - *Matrix Algebra*, Spring 2008

Math 343 - *Probability Theory*, Fall 2008, Summer 2008

Math 224 - *Linear Algebra*, Spring 2008

Math 202 - *Differential Equations*, Fall 2007

FE 507 - *Mathematics of Uncertainty for Financial Engineers*, Fall 2009

Grader for : Math 102 - *Vector Calculus*

## Students

- 2014/2015 Paul Dirks, *An Introduction to the Discrete-time Binomial Model and Asian Option*, University of Minnesota, Senior Thesis.
- 2014/2015 Yu Guo, *Applications of Sequence Comparison Methods in Economy*, University of Minnesota, Senior Thesis.
- 2014/2015 Xueping Weng, *Weyl's equidistribution theorem*, University of Minnesota, Senior Thesis.
- 2014/2015 Zicheng Wang, *Negative Association of Random Variables and Applications*, University of Minnesota, Senior Thesis.

## Service

Journals refereed : Bernoulli ( $\times 2$ ), Statistics and Probability Letters ( $\times 1$ ), Turkish Journal of Mathematics ( $\times 3$ ).

Co-organized Spring 2015 Postdoc Probability Probability Seminar at UMN.

Co-organized 2011 - 2013 Student Probability and Combinatorics Seminar at USC.

Member of AMS and IMS.

## Computer skills

R, C, Matlab