



- \* J. Gravner, C. Hoffman, J. Pfeiffer and D. Sivakoff. Bootstrap percolation on the Hamming torus. *Annals of Applied Probability*, 2015; 25(1), 287–323.
- \* C. D. Brummitt, S. Chatterjee, P. S. Dey and D. Sivakoff. Jigsaw percolation: What social networks can collaboratively solve a puzzle? *Annals of Applied Probability*, 2015; 25(4), 2013–2038.
- S. Magura<sup>‡</sup>, V. Pong<sup>‡</sup>, R. Durrett and D. Sivakoff. Two evolving social network models. *ALEA: Lat. Am. J. Probab. Math. Stat.*, 2015; 12(2), 699–715.
- M. D. Ryser, K. McGoff, D. P. Herzog, D. Sivakoff and E. R. Myers. Impact of coverage-dependent marginal costs on optimal HPV vaccination strategies. *Epidemics*, June 2015; 11, 32–47.
- \* I. Matic and D. Sivakoff. Excited deterministic walk in random environment. *Electronic Journal of Probability*, 2015; 20(44), 1–19.
- \* D. Sivakoff. Contact process on a graph with communities. *ALEA, Lat. Am. J. Probab. Math. Stat.*, 2017; 14, 9-31.
- \* J. Gravner and D. Sivakoff. Nucleation scaling in jigsaw percolation. *Annals of Applied Probability*, 2017; 27(1), 395–438.
- \* J. Gravner and D. Sivakoff. Bootstrap percolation on products of cycles and complete graphs. *Electronic Journal of Probability*, 2017; 22(29), 1–20.
- \* J. Gravner, D. Sivakoff and E. Slivken. Neighborhood growth dynamics on the Hamming plane. *Electronic Journal of Combinatorics*, 2017; 24(4) #P4.29, 1–55.
- \* J. Gravner, H. Lyu<sup>†</sup> and D. Sivakoff. Limiting behavior of 3-color excitable media on arbitrary graphs. *Annals of Applied Probability*, 2018; 28(6), 3324–3357.
- \* M. Damron, L. Petrov and D. Sivakoff. Coarsening model on  $\mathbb{Z}^d$  with biased zero-energy flips and an exponential large deviation bound for ASEP. *Communications in Mathematical Physics*. 2018; 362(1), 185–217.
- \* H. Lyu<sup>†</sup> and D. Sivakoff. Persistence of sums of correlated increments and clustering in cellular automata. In Press, *Stochastic Processes and their Applications*. 2018; Published online: doi:10.1016/j.spa.2018.04.012
- \* M. Damron, J. Gravner, M. Junge, H. Lyu<sup>†</sup> and D. Sivakoff. Parking on transitive unimodular graphs. Accepted in *Annals of Applied Probability*.

### Submitted Manuscripts and Preprints

- \* H. Lyu<sup>†</sup> and D. Sivakoff. Synchronization of finite-state pulse-coupled oscillators on  $\mathbb{Z}$ . [arXiv:1701.00319].
- \* J. Gravner, A. E. Holroyd and D. Sivakoff. Polluted bootstrap percolation in three dimensions. Submitted. [arXiv:1706.07338]
- \* J. Gravner and D. Sivakoff. Bootstrap percolation on the product of the two-dimensional lattice with a Hamming square. Submitted. [arXiv:1807.10323].
- \* S. Chatterjee, D. Sivakoff and M. Wascher<sup>†</sup>. The contact process with avoidance. Submitted. [arXiv:1811.00627].

### Conference Proceedings

- \* S. Parthasarathy, D. Sivakoff, M. Tian<sup>†</sup> and Y. Wang. A quest to unravel the metric structure behind perturbed networks. *Proceedings of the 33rd International Symposium on Computational Geometry (SoCG)*, 2017; 53:1–53:16.
- Y. Wang<sup>†</sup>, A. Chakrabarti<sup>†</sup>, D. Sivakoff and S. Parthasarathy. Hierarchical change point detection on dynamic networks. *Proceedings of the 2017 ACM on Web Science Conference*, 2017; 171–179.

- Y. Wang<sup>†</sup>, A. Chakrabarti<sup>†</sup>, D. Sivakoff and S. Parthasarathy. Fast change point detection on dynamic social networks. *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, 2017; 2992–2998.

## **Presentations**

### **Invited Conference Talks**

- MBI Workshop on Modeling and Analysis of Dynamic Social Networks, Nov 2018.
- NSF TRIPODS PI Workshop, Oct 2018.
- AMS Eastern Sectional: Special Session on Probability, Combinatorics, and Statistical Mechanics, Sep 2018.
- Canadian Discrete and Algorithmic Mathematics Conference: Special Session on Discrete Mathematical Biology, June 2017.
- INFORMS Annual Meeting: Special Session on Applications in Applied Probability, Nov 2016.
- International Workshop on Applied Probability: Special Session on Discrete Probability, June 2016.
- AMS Central Sectional: Special Session on Discrete Probability, April 2016.
- MBI Workshop on Control and Observability of Network Dynamics, April 2016.
- SIAM Conference on Applications of Dynamical Systems: Stochastic Dynamics on Neuronal Networks Mini-symposium, May 2013.
- Southeast Probability Conference, May 2013.
- SAMSI Dynamics on Networks Workshop, Mar 2011.

### **Contributed Conference Talks**

- 9th World Congress in Probability and Statistics, July 2016.
- Conference on Stochastic Processes and their Applications, July 2015.
- Conference on Stochastic Processes and their Applications, July 2013.
- 8th World Congress in Probability and Statistics, July 2012.
- Cornell Probability Summer School, June 2011.

### **Invited Seminars and Colloquia**

- University of Virginia Analysis and Probability Seminar, Oct 2018.
- Iowa State University Mathematics Colloquium, Feb 2018.
- CUNY Queens College Mathematics Colloquium, Feb 2018.
- Duke University Probability Seminar, Nov 2017.
- Purdue University Probability Seminar, Oct 2017.
- Georgia Tech Probability Seminar, Feb 2017.
- University of Cincinnati Probability Seminar, Sep 2016.
- Indiana University Probability Seminar, April 2016.
- Duke University Probability Seminar, Oct 2015.
- University of Minnesota Probability Seminar, May 2015.
- Cornell Probability Seminar, May 2015.
- UC Davis Mathematical Physics and Probability Seminar, May 2015.
- Purdue University Probability Seminar, Dec 2014.
- Portland State University Combinatorics Seminar, Nov 2014.

CUNY Probability Seminar, Apr 2014.  
Concordia University Probability Seminar Montreal, QC, Canada, Nov 2013.  
Indiana University Probability Seminar, Oct 2013.  
Colby College Mathematics and Statistics Colloquium, Feb 2013.  
OSU Mathematics Colloquium, Feb 2013.  
NYU Probability and Mathematical Physics Seminar, Dec 2012.  
University of Connecticut Probability Seminar, Dec 2011.  
University of Virginia Probability Seminar, Nov 2011.  
UCLA Probability Seminar, Nov 2009.

#### **Local and Outreach Seminars**

OSU Combinatorics and Probability Seminar, Sep 2018.  
OSU Department of Statistics Seminar, Mar 2018.  
OSU Combinatorics and Probability Seminar, Mar 2018.  
Radical Pi (OSU Undergraduate Math Club), Oct 2017.  
MBI Visitors' Seminar, Mar 2016.  
OSU Combinatorics and Probability Seminar, Sep 2015.  
STEAM Exchange (Interdisciplinary seminar series) Columbus, OH, Mar 2015.  
Radical Pi (OSU Undergraduate Math Club), Feb 2014.  
OSU Topology, Geometry and Data Analysis Seminar, Feb 2014.  
OSU Mathematics Welcome Seminar, Sep 2013.  
Duke Probability Seminar, Sep 2010.  
UC Davis Mathematical Physics and Probability Seminar, Dec 2009.

#### **Teaching**

##### **Assistant Professor**

Departments of Statistics and Mathematics, Ohio State University

Real Analysis I (Math 6211): F17( $\times 2$ )  
Probability (Stat 7201): F13, F15, F16, F18  
Probability (Math 4530): F16( $\times 2$ )  
Theory of Probability I (Math 6251): F15  
Real Analysis II (Math 6212): S15( $\times 2$ )  
Intro to Mathematical Statistics (Stat 4201): S14

##### **Visiting Assistant Professor**

Department of Mathematics, Duke University

Advanced Calculus (Math 431): S13.  
Topics in Probability: Stochastic Networks Mini-course (Math 690): F12.  
Applied Stochastic Processes (Math 541/Stat 621): F12.  
Probability (Math 135/Stat 104): F11, S12.

##### **Instructor**

Department of Mathematics, UC Davis

- Calculus C, Math 16C, Summer 2009.

- Calculus B, Math 16B, Summer 2008.

<b>Students</b>	<b>Matthew Wascher</b> 2016 – Ph.D. Statistics at OSU. Passed Qualifier II exam, Aug 2017.
	<b>Jason Bello</b> 2016 – Ph.D. Mathematics at OSU. Passed Candidacy exam, Nov 2017.
	<b>Hanbaek Lyu</b> 2014 – 2018 Ph.D. Mathematics at OSU. Thesis: “Combinatorial and Probabilistic Aspects of Coupled Oscillators” Recipient of 2016 Presidential Fellowship at OSU. Degree expected May 2018.
	<b>Ran (Wendy) Wei</b> 2014 – 2016 Ph.D. Statistics at OSU. Thesis: “On Estimation Problems in Network Sampling.” Coadvised with Dr. Elizabeth Stasny. First position: Software engineer at Twitter.
	<b>Hsien-Te Kao</b> Summer 2016 Undergraduate at Cal Poly Pomona. MBI REU project: “Discrete inhibitory pulse-coupled oscillators in one dimension.” Pursuing Ph.D. in Computer Science at University of Southern California.
	<b>Andrew Gao</b> Summer 2013 Undergraduate at Duke University Mathematical Biology REU: Modeling angiogenesis in tumor growth. Coadvised with Dr. David Herzog.
<b>Jiarou (Ivy) Shen</b> Jan 2012 - May 2013 Undergraduate at Duke University Thesis: “Merge times and hitting times of time-inhomogeneous Markov chains.”	
<b>Sam Magura and Vitchyr Pong</b> Sep 2011 - Aug 2012 High school students at North Carolina School of Science and Math. Analyzed models of dynamic random graphs. Coadvised with Dr. Rick Durrett.	
<b>Other advising</b>	<b>Candidacy Exam Committees (for Ph.D.)</b> Sunhyuk Lim, Mathematics, 2018. Yu Wang, Computer Science and Engineering, 2017. Woojin Kim, Mathematics, 2017. Anirban Roychodhury, Computer Science and Engineering, 2016. Samir Chowdhury, Mathematics, 2016. Hamed Rahimian, Integrated Systems Engineering, 2016. Sean Meehan, Mathematics, 2016. Anna Smith, Statistics, 2015. John Andrew Newman, Mathematics, 2015

#### **Dissertation Defense Committees**

Hamed Rahimian, Integrated Systems Engineering, 2018.  
Tom Dinitz, Ph.D. Mathematics, 2017.  
Anna Smith, Ph.D. Statistics, 2017.  
Greg Malen, Ph.D. Mathematics, 2016.  
John Stettler, Ph.D. Statistics, 2015.  
Jung Eun Kim, Ph.D. Mathematics, 2014.  
Fatih Olmez, Ph.D. Mathematics, 2014.  
Peter Kosek, M.S. Mathematics, 2014.

**Service and  
Outreach  
Activities**

**Conferences and Workshops Organized**

TGDA@OSU TRIPODS Center Workshop: Theory and Foundations of TGDA,  
May 2018.  
TGDA@OSU TRIPODS Center Summer School, May 2018.

**Special Sessions Organized**

International Workshop in Applied Probability: Discrete Probability, June 2016.  
AMS Central Sectional Meeting: Discrete Stochastic Models, Coorganized with  
Michael Damron, Mar 2015.

**Scientific Organizing Committee** for the 37<sup>th</sup> Midwest Probability Colloquium.  
Oct 2015.

**Sampling Advanced Mathematics for Minority Students (SAMMS) advisor.**  
Advised four undergraduate students in the program on research projects in Markov  
chains and percolation theory. OSU, Summers 2014, 2015.

**Mathematics Colloquium Committee** OSU, Autumn 2017–present.

**Combinatorics and Probability Seminar** OSU, Coorganizer, Spring 2014–present.

**Statistics Curriculum Committee** OSU, Autumn 2013–present.

**Graduate Written Exam Committees**

Statistics Ph.D. QII: S14, F14, F15, F16, F17, S18.  
Mathematics Ph.D. Real Analysis: F16, F17.

**SAMSI workshop for undergraduate students and faculty.** Helped organize a  
week long workshop in networks and epidemiological modeling. Delivered an introductory-  
level talk on networks, and assisted students with their research projects. May 2011.

**ARML Team Director.** Organized weekly problem solving seminars for Sacramento  
and Davis area high school students. Recruited, organized, and coached the North-  
ern California team for participation in the American Regions Mathematics League  
(ARML) high school competition at Las Vegas, NV. 2008-2009.

**Refereeing**

Transactions of the AMS, Random Structures and Algorithms, Annals of Applied Prob-  
ability, Electronic Journal of Probability, Electronic Communications in Probability,  
SIAM Discrete Math, Electronic Journal of Combinatorics, Annales de l'Institut Henri  
Poincaré, Physical Review E, Journal of Theoretical Probability, Journal of Applied

Probability, Internet Mathematics, Theory of Computing Systems, ACM Transactions on Knowledge Discovery from Data.

**Grant review panels** NSF (x1), TOP (x1)

**Professional Memberships** IMS, AMS.