

Jian Ding

CONTACT INFORMATION	Department of Statistics, University of Chicago 5734 S. University Avenue, Chicago, IL 60637 email: jianding@galton.uchicago.edu cell: 510-323-5852 http://www.stat.uchicago.edu/~jianding/
EDUCATION	Ph.D. in Statistics/Probability theory UC Berkeley, Berkeley, CA, 2006-2011 Advisor: Yuval Peres B.S. in Mathematics Peking University, Beijing, China, 2002 -2006
EMPLOYMENT	Associate Professor at Statistics department, University of Chicago, Chicago, IL, US, since July 2016. Assistant Professor at Statistics department, University of Chicago, Chicago, IL, US, September 2012 – June 2016. Visiting Researcher at Microsoft Research Redmond, WA, US, Summer 2012, 2014. Postdoc fellow at MSRI Berkeley, CA, US, January 2012 – May 2012. Szegő Assistant Professor at Department of Mathematics, Stanford University, Stanford, CA, US, September 2011 – June 2012. Postdoctoral position at University of Washington, Seattle, WA, US, June 1 – August 31, 2011 Mentor: James Lee Research Intern at Microsoft Research New England, Cambridge, MA, US, May 24 – August 13 2010, Mentor: Jennifer Chayes
RESEARCH INTERESTS	Probability theory with focus on interactions with statistical physics and theory of computer science. In particular, extreme values of Gaussian processes, random constraint satisfaction problems, random planar geometry.
GRANTS	NSF DMS-1313596, PI, 2012-2015. NSF Career Award, PI, 2015-2020. Alfred P. Sloan Fellowship, 2015-2017.
PUBLICATIONS	[1] J. Ding, E. Lubetzky and Y. Peres. The mixing time evolution of Glauber dynamics for the mean-field Ising model, <i>Communications in Mathematical Physics</i> , 289(2): 725-764 (2009).

- [2] J. Ding, E. Lubetzky and Y. Peres. Censored Glauber Dynamics for the mean field Ising Model. *Journal of Statistical Physics*, 137(3): 407-458 (2009).
- [3] J. Ding, E. Lubetzky and Y. Peres. Total-variation cutoff in birth-and-death chains. *Probability Theory and Related Fields*, 146(1-2):61-85 (2010).
- [4] J. Ding, E. Lubetzky and Y. Peres. Mixing time of critical Ising model on trees is polynomial in the height. *Communications in Mathematical Physics*, 295(1):161-207 (2010).
- [5] J. Ding, J.H. Kim, E. Lubetzky and Y. Peres. Anatomy of a young giant component in the random graph. *Random Structures and Algorithms*, 39(2): 139-178 (2011).
- [6] J. Ding, J.H. Kim, E. Lubetzky and Y. Peres. Diameters in supercritical random graphs via first passage percolation. *Combinatorics, Probability and Computing*, 19 (5-6): 729-751 (2010).
- [7] M.T. Barlow, J. Ding, A. Nachmias and Y. Peres. The evolution of the cover time. *Combinatorics, Probability and Computing*, 20(3): 331-345(2011).
- [8] C. Borgs, J. Chayes, J. Ding and B. Lucier. The Hitchhiker's Guide to Affiliation Networks: A Game-Theoretic Approach. *Innovations in Computer Science*, 389-400 (2011).
- [9] J. Ding and Y. Peres. Mixing time for the Ising model: a uniform lower bound for all graphs. *Annales de l'Institut Henri Poincaré - Probabilités et Statistiques*, 47(4): 1020-1028 (2011).
- [10] J. Ding, E. Lubetzky and Y. Peres. Mixing time of near-critical random graphs. *Annals of Probability*, 40 (3): 979-1008 (2012).
- [11] J. Ding, J. Lee and Y. Peres. Cover times, blanket times, and majorizing measures. Conference version at STOC 2011; Journal version in *Annals of Mathematics*, 175(3) : 1409-1471 (2012).
- [12] J. Ding. On cover times for 2D lattices. *Electronic Journal of Probability*, 17(45): 118, (2012).
- [13] J. Ding and O. Zeitouni. A sharp estimate for cover times on binary trees. *Stochastic Processes and Applications*, 122 (5) : 2117-2133, (2012).
- [14] J. Ding. Scaling window for mean-field percolation of averages. *Annals of Probability*, Volume 41, Number 6 (2013), 3697-4427.
- [15] A. Demob, J. Ding, F. Gao. Persistence of iterated partial sums. *Annales de l'Institut Henri Poincaré*, Volume 49, Number 3 (2013), 611-914.
- [16] J. Ding. Exponential and double exponential tails for maximum of two-dimensional discrete Gaussian free field. *Probability Theory and Related Fields*, Volume 157, Issue 1-2 (2013), 285-299.
- [17] P. Cuff, J. Ding, O. Luidor, E. Lubetzky, Y. Peres and A. Sly. Glauber Dynamics for the mean-field Potts Model. *Journal of Statistical Physics*, Volume 149 (2012), Issue 3, 432-477.

- [18] J. Ding, E. Lubetzky and Y. Peres. Anatomy of the giant component: The strictly supercritical regime. *European Journal of Combinatorics*, Volume 35(2014), 155-168.
- [19] J. Ding, J. Lee and Y. Peres. Markov type and threshold embeddings. *Geometric and Functional Analysis*, Volume 23 (2013), Issue 4, 1207-1229.
- [20] J. Ding and Y. Peres. Sensitivity of mixing times. *Electron. Commun. Probab.*, 18 (2013), no. 88, 1–6.
- [21] J. Ding. Asymptotics of cover times via Gaussian free fields: bounded-degree graphs and general trees. *Annals of Probability*, 2014, 42(2), 464–496.
- [22] J. Ding and O. Zeitouni. Extreme values for two-dimensional discrete Gaussian free field. *Annals of Probability*, 42(2014), 1480–1515.
- [23] J. Ding and E. Mossel. Mixing under monotone censoring. *Electron. Commun. Probab.*, 19(2014), no. 46, 1–6.
- [24] O. Dekel, J. Ding, T. Koren and Y. Peres. Bandits with Switching Costs: $T^{2/3}$ Regret. *STOC' 14*, 459–467.
- [25] J. Ding, R. Eldan and A. Zhai. On multiple peaks and moderate deviations for supremum of Gaussian field, *Annals of Probability*, to appear, 25 pages.
- [26] M. Bramson, J. Ding and O. Zeitouni. Convergence in law of the maximum of the two-dimensional discrete Gaussian free field. *Communications on Pure and Applied Mathematics*, 69(2015), 1:62-123.
- [27] J. Ding, A. Sly and N. Sun. Satisfiability threshold for random regular NAE-SAT. Conference version at *STOC' 14*, journal version in *Communications in Mathematical Physics* 341(2016), 2: 435-489.
- [28] J. Ding, A. Sly and N. Sun. Maximum independent sets on random regular graphs, accepted by *Acta Mathematica*.
- [29] M. Bramson, J. Ding and O. Zeitouni. Convergence in law of the maximum of nonlattice branching random walk. *Annales de l' Institut Henri Poincare*, to appear.
- [30] S. Bubeck, J. Ding, R. Eldan and M. Rácz. Testing for high-dimensional geometry in random graphs. *Random Structures and Algorithms*, to appear.
- [31] J. Ding and S. Goswami. Percolation of averages in the stochastic mean field model: the near-supercritical regime. *Electronic Journal of Probability*, 20(2015), no.124, 1-21.
- [32] J. Ding, Y. Peres and G. Ranade. A Tiger by the Tail: When Multiplicative Noise Stymies Control. *ISIT*, 2016.
- [33] J. Ding, R. Roy and O. Zeitouni. Convergence of the centered maximum of log-correlated Gaussian fields. *Annals of Probability*, accepted.
- [34] J. Ding and A. Sly. Distances in critical long range percolation. *Preprint*, 22 Pages.
- [35] S. Chatterjee and A. Dembo and J. Ding. On level sets of Gaussian fields, *Preprint*, 7 pages.

- [36] A. Dembo, J. Ding, J. Miller and Y. Peres. Cut-off for lamplighter chains on tori: dimension interpolation and phase transition, *Preprint*, 31 pages.
- [37] J. Ding, A. Sly and N. Sun. Proof of the satisfiability conjecture for large k . Conference version in STOC 2015, full version submitted, 118 pages.
- [38] J. Ding, N. Sun and D.B. Wilson. Supercritical minimum mean-weight cycles. *Preprint*, 28 pages.
- [39] J. Ding, and F. Zhang. Non-universality for first passage percolation on the exponential of log-correlated Gaussian fields. *Preprint*, 26 pages.
- [40] J. Ding and S. Goswami. First passage percolation on the exponential of two-dimensional branching random walk. *Preprint*, 15 pages.
- [41] J. Ding and A. Dunlap. Liouville first-passage percolation: subsequential scaling limit at high temperature. *Preprint*, 34 pages.
- [42] J. Ding and L. Li. Chemical distances for percolation of planar Gaussian free fields and critical random walk loop soups. *Preprint*, 27 pages.
- [43] J. Ding and S. Goswami. Liouville first passage percolation: the weight exponent is strictly less than 1 at high temperatures. *Preprint*, 64 pages.

GRADUATE
STUDENTS

Rishideep Roy: Ph.D 2016 at University of Chicago (now at IIM Bangalore).

Subhajit Goswami: currently Ph.D student at University of Chicago.

Li Li: currently Ph.D student at University of Chicago.

SELECTED
TALKS

Workshop on Infinite Particle Systems in honor of Thomas M. Liggett, Peking University, June 2009.

Probability seminar, New York University, October 2009.

Probability seminar, MIT, October 2009.

Probability seminar, National University of Singapore, November 2009.

Probability seminar, UCLA, April 2010.

AMS meeting, Los Angeles, October 2010.

Special seminar, MIT, December 2010.

Probability seminar, National University of Singapore, January 2011.

Probability seminar, Harvard University, March 2011.

Probability seminar, New York University, March 2011.

Probability seminar, Stanford University, April 2011.

STOC, San Jose, June 2011.

Seminar on stochastic processes, ETH Zurich, November 2011.

MSRI workshop on random walks and random media, Berkeley, May 2012.

Probability seminar at Cornell University, October 2012.

Probability seminar at University of Minnesota, October 2012.

Probability seminar at UC Berkeley, November 2012.

Probability seminar at MIT, November, 2012.

Workshop on planar statistical physics (3rd Tsinghua University mathematics forum), Sanya, January 2013.

Workshop on branching diffusions and Gaussian free fields in physics, probability and number theory, Marseille, June 2013.

Hangzhou international symposium on probability and statistics, Hangzhou, December 2013.

Workshop on random gradient fields, University of Warwick, May 2014.

Seymour Sherman Lecture and Conference Probability and Statistical Physics, Bloomington, May 2015.

Workshop on new trends in stochastic analysis, International Institute of Advanced Study, Kyoto, June 2015.

Northeast probability seminar, New York, November 2015.

Probability seminar, Princeton, March 2016.

Workshop at NYU-Shanghai, March 2016.

Pacific Rim Conference on Mathematics (plenary), Seoul, June 2016.

World Congress in Probability and Statistics, Toronto, July 2016.

Probability seminar and Statistics colloquium, U. Penn, September 2016.

Probability seminar, MIT, September 2016.

TEACHING
@ U. CHICAGO

STAT 383, Measure Theoretical Probability Theory II, Spring 2013, 2016.

STAT 381, Measure Theoretical Probability Theory I, Winter 2014.

STAT 386, Social Networks: Probability, Learning, and Game Theory, Winter 2014.

STAT 251, Introduction to Mathematical Probability, Spring 2013/2014/2015.

STAT 312, Introduction to Stochastic Processes, Fall 2014.

TEACHING
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MATH 51, Linear Algebra and Multivariable Calculus, Fall 2011.

MATH 136/STAT 219, Stochastic Processes, Fall 2011.

PROFESSIONAL
SERVICE

Referee for journals: *Random Structures and Algorithms*, *Journal of Physics A*, *Annals of Applied Probability*, *Annals of Probability*, *Probability Theory and Related Fields*, *Journal of Theoretical Probability*, *Journal of American Mathematical Society*, etc.

Referee for proceedings: *Symposium on Discrete Algorithms*, *RANDOM*, *FOCS*, *STOC*.

Organizer of Stanford Probability Seminar, fall 2011.

Organizer of statistics department seminar, 2013-2015, University of Chicago.

Co-organizer of probability seminar, 2012– present, University of Chicago.

Co-organizer of AMS Special Session on Probability Theory, 2015, Chicago.

Co-organizer of AIM workshop on Phase transitions in randomized computational problems, June, 2017.