

NIKHIL SRIVASTAVA

CONTACT INFORMATION	1035 Evans Hall Department of Mathematics UC Berkeley, Berkeley CA 94720.	<i>phone:</i> +1-203-435-8538. <i>email:</i> nikhil@math.berkeley.edu <i>url:</i> http://math.berkeley.edu/~nikhil	
EDUCATION	Yale University , New Haven, CT. Ph.D. in Computer Science. Advisor: Daniel Spielman. Dissertation: “Spectral Sparsification and Restricted Invertibility.”		May ’10
	Union College , Schenectady, NY. B.S., <i>summa cum laude</i> , Mathematics and Computer Science. Minor in English. Phi Beta Kappa (’04), George H. Catlin Prize, Resch Prize in Mathematics, Williams Prize in Computer Science, Hale Prize in English (’04).		Jun ’05
POSITIONS HELD	University of California, Berkeley , Berkeley, CA. <i>Assistant Professor of Mathematics</i>		Jan’15–
	Microsoft Research , Bangalore, India. <i>Researcher, Algorithms Group</i> <i>Research Intern & Visitor, Algorithms Group</i>		Jul’12–Dec’14 Jul–Sep ’08 & ’10
	Simons Institute for the Theory of Computing , Berkeley, CA. <i>Microsoft Research India Fellow, Big Data Program.</i>		Sep–Dec’13
	Princeton University , Princeton, NJ. <i>Postdoctoral Researcher, Computer Science Department</i>		Jan–Jun’12
	Mathematical Sciences Research Institute , Berkeley, CA. <i>Postdoctoral Member, Quantitative Geometry Program.</i>		Aug–Dec’11
	Institute for Advanced Study , Princeton, NJ. <i>Member, School of Mathematics</i>		Sep ’10–Jul ’11
	Microsoft Research , Mountain View, CA. <i>Research Intern, Theory Group</i>		Jun–Aug ’09
AWARDS	SIAM George Pólya Prize, 2014. Invited speaker, International Congress of Mathematicians, Seoul, 2014. Best paper award, IEEE Symposium on Foundations of Computer Science, 2013.		
TEACHING & ADVISING	Microsoft Research , Bangalore, India. Mentored Ankit Garg and Naman Agarwal (Princeton) as summer interns.		Jun–Aug ’13 & ’14
	Princeton University , Princeton, NJ. <i>Lecturer</i> COS 521, Advanced Algorithms, co-taught with Sanjeev Arora.		Jan–May’12
	Yale University , New Haven, CT. <i>Teaching Fellow</i> CPSC 468/568, Complexity Theory. CPSC 201, Introduction to Computer Science.		Spring ’07 Fall ’06
	Union College , Schenectady, NY. <i>Tutor</i> Tutored students in mathematics, physics, computer science, and writing.		Oct ’02 - May ’05
PAPERS	“Ramanujan Graphs and the Solution of the Kadison-Singer Problem.” Adam Marcus, Daniel Spielman, and Nikhil Srivastava.		<i>Proc. ICM 2014</i>

- “Spectral Sparsification of Graphs: Theory and Algorithms.” *Comm. ACM* 2013
 Joshua Batson, Daniel Spielman, Nikhil Srivastava, and Shang-Hua Teng.
- “Interlacing Families II: Mixed Characteristic Polynomials and the Kadison-Singer Problem.” *Ann. Math*
 Adam Marcus, Daniel Spielman, and Nikhil Srivastava.
- “Interlacing Families I: Bipartite Ramanujan Graphs of All Degrees.” *Ann. Math*
 Adam Marcus, Daniel Spielman, and Nikhil Srivastava.
 IEEE FOCS 2013.
- “A New Approach to Computing Maximum Flows using Electrical Flows.” *STOC* 2013
 Yin Tat Lee, Satish Rao, and Nikhil Srivastava.
- “Graph Densification.” *ITCS* 2012
 Moritz Hardt, Nikhil Srivastava, and Madhur Tulsiani.
- “Covariance Estimation for Distributions with $2 + \epsilon$ Moments.” *Annals of Probability* 41
 Nikhil Srivastava and Roman Vershynin.
- “Zero One Rounding of Singular Vectors.” *ICALP* 2012
 Amit Deshpande, Ravindran Kannan, and Nikhil Srivastava.
- “Voting with Rubber Bands, Weights, and String.” *Mathematical Social Sciences* 64
 D. Cervone, R. Dai, D. Gnoutcheff, G. Lanterman,
 A. Mackenzie, N. Srivastava, and W. Zwicker.
- “On Contact Points of Convex Bodies.” *Geometric Aspects of Functional Analysis*
 Nikhil Srivastava.
- “An Elementary Proof of the Restricted Invertibility Theorem.” *Israel J. Math* 190
 Daniel Spielman and Nikhil Srivastava.
- “Twice-Ramanujan Sparsifiers.” *SIAM J. Comput.* 41
 Joshua Batson, Daniel Spielman, and Nikhil Srivastava.
 STOC 2009, chosen for special issue, also appeared in SIAM Review (2014).
- “Graph Sparsification by Effective Resistances.” *SIAM J. Comput.* 40
 Daniel Spielman and Nikhil Srivastava. STOC 2008, chosen for special issue.
- “Learning and Verifying Graphs Using Queries with a Focus on Edge Counting.” *ALT* 2007
 Lev Reyzin and Nikhil Srivastava.
- “On the Longest Path Algorithm for Reconstructing Trees from Distance Matrices.” *IPL* 101
 Lev Reyzin and Nikhil Srivastava.
- “Tight Bounds on Plurality.” *IPL* 96
 Nikhil Srivastava and Alan Taylor.
- INVITED TALKS
- Science Academies’ Workshop, Shivaji College, New Delhi. (2 lectures) *Oct’14*
 Stat Math Seminar, Indian Statistical Institute, New Delhi. *Oct’14*
 Colloquium, Department of Mathematics, University of Delhi. *Oct’14*
 Probability Seminar, University of California, Berkeley, CA. *Sep’14*
 Algorithmic Spectral Graph Theory Boot Camp, Simons Institute, Berkeley, CA. (3 lectures) *Aug’14*
 International Congress of Mathematicians (analysis section), Seoul, South Korea. *Aug’14*
 SIAM Discrete Math Conference, Minneapolis, MN. *Jun’14*
 Ramanujan’s Mathematics and IT Conference, IIT Bangalore. *Jun’14*
 Mathematics Colloquium, The Institute of Mathematical Sciences, Chennai. *May’14*
 Electrical Flows Workshop, ICERM, Brown University, Providence, RI. *Apr’14*
 Mathematics Colloquium, Indian Institute of Technology, Bombay. *Mar’14*

CS Seminar, UCLA, Los Angeles, CA.	<i>Mar'14</i>
CS Seminar, Stanford University, Palo Alto, CA.	<i>Mar'14</i>
Mathematics Colloquium, Stanford University, Palo Alto, CA.	<i>Mar'14</i>
Theory Seminar, University of Chicago, IL.	<i>Dec'13</i>
Functional Analysis Learning Seminar, University of Michigan, Ann Arbor, MI.	<i>Dec'13</i>
Mathematics Colloquium, University of Texas, Austin, TX.	<i>Nov'13</i>
Theory Seminar, University of Texas, Austin, TX.	<i>Nov'13</i>
Real Analysis Day, Simons Institute, Berkeley, CA.	<i>Oct'13</i>
Mathematics Colloquium, University of California, Berkeley, CA.	<i>Oct'13 Dec'13</i>
TCS+ Seminar on Google+.	<i>Oct'13</i>
CS Theory Colloquium, University of Washington, Seattle, WA.	<i>Oct'13</i>
Theory Seminar, Microsoft Research Redmond, WA. (2 talks)	<i>Oct'13</i>
East Coast Operator Algebras Symposium, Cincinnati, OH. (Plenary talk)	<i>Oct'13</i>
Theory Seminar, Stanford University, Palo Alto, CA.	<i>Oct'13</i>
Theory Seminar, Microsoft Research Silicon Valley, Mountain View, CA.	<i>Oct'13</i>
CS Theory Colloquium, University of California, Berkeley, CA.	<i>Oct'13</i>
Succinct Data Representations Workshop, Simons Institute, Berkeley, CA.	<i>Sep'13</i>
Mathematics Colloquium, Indian Institute of Science, Bangalore, India.	<i>Aug'13</i>
Mysore Park Workshop, Infosys, Mysore, India. (2 part tutorial)	<i>Aug'13</i>
Banach Spaces: Geometry and Analysis Conference, Jerusalem, Israel.	<i>May'13</i>
CS Colloquium, Tata Institute of Fundamental Research, Mumbai, India.	<i>May'13</i>
Indo-US Kavli Frontiers of Science Conference, Agra, India.	<i>Apr'13</i>
Randomized Numerical Linear Algebra Workshop, FOCS 2012, New Brunswick, NJ.	<i>Oct'12</i>
Probability Seminar, Indian Statistical Institute, Bangalore, India.	<i>Sep'12</i>
Mysore Park Workshop, Infosys Campus, Mysore, India. (2 part tutorial)	<i>Aug'12</i>
Phenomena in High Dimensions Conference, Roscoff, France.	<i>Jun'12</i>
Theory Seminar, University of Illinois, Urbana-Champaign, IL.	<i>Apr '12</i>
Discrete Math Seminar, Rutgers University, New Brunswick, NJ.	<i>Apr '12</i>
Probabilistic Techniques and Algorithms Workshop, University of Texas, Austin.	<i>Apr '12</i>
Center for Computational Intractability Meeting, Princeton, NJ.	<i>Mar '12</i>
PACM Seminar, Mathematics Department, Princeton University, NJ.	<i>Feb '12</i>
Quantitative Geometry in CS Workshop, MSRI, Berkeley, CA. (3 part tutorial)	<i>Dec '11</i>
Theory Seminar, University of California, Berkeley, CA.	<i>Oct '11</i>
Evans Lecture, University of California, Berkeley, CA.	<i>Oct '11</i>
Random Matrices, Functional Analysis, and Algorithms, Oberwolfach, Germany.	<i>May'11</i>
Theory Lunch, Carnegie Mellon University, Pittsburgh, PA.	<i>Mar '11</i>
Functional Analysis Seminar (2 talks), University of Michigan, Ann Arbor, MI.	<i>Mar '11</i>
ARC Seminar, Georgia Tech, Atlanta, GA.	<i>Feb '11</i>
Theory Group Seminar, Microsoft Research, Redmond, WA.	<i>Jan'10 & Feb'11</i>
Members Seminar, Institute for Advanced Study, Princeton, NJ.	<i>Nov '10 & Apr '11</i>
Theory Seminar, Courant Institute, New York University, NY.	<i>Oct '10</i>
CSE Seminar, Indian Institute of Technology, Kanpur, India.	<i>Sep '10</i>
ICM Satellite Conf. on Algebraic/Probabilistic Aspects of Computing, Bangalore, India.	<i>Sep '10</i>
Algorithms and Complexity Seminar, MIT, Cambridge, MA.	<i>Oct '09</i>
IP for Lunch, IBM TJ Watson Research Center, Yorktown Heights, NY.	<i>Oct '09</i>
CS/Discrete Math Seminar, Institute for Advanced Study, Princeton, NJ.	<i>Sept '09</i>
Theory Seminar, Courant Institute, New York University, NY.	<i>Oct '08</i>
CSA Seminar, Indian Institute of Science, Bangalore, India.	<i>Aug '08</i>
MMDS 2008, Stanford University, CA.	<i>Jun '08</i>
SIAM Conference on Discrete Mathematics, Burlington, VT.	<i>Jun '08</i>
Theory Lunch, Princeton University, NJ.	<i>Apr '08</i>

SERVICE

Co-organizer of MSRI Hot Topics Workshop on 'Kadison-Singer, Interlacing Polynomials, and Beyond,' March, 2015.

Organized Minisymposium on ‘Combinatorics of Hyperbolic and Real Stable Polynomials’ at SIAM DM 2014.

Co-organized FOCS 2013 workshop on ‘Zeros of Polynomials and Their Applications.’

Program Committee member: FSTTCS 2012 and STOC 2015

Reviewer for SODA, STOC, FOCS, JACM, ITCS, ESA, TOCS, Algorithmica, Random Struct. and Alg., SICOMP, Adv. Math., Israel J. Math.