Jennifer Tour Chayes April 2014

CURRICULUM VITAE

Home Address: 156 Mount Vernon
Boston, MA 02108

Office Address: Microsoft Research New England
1 Memorial Drive
Cambridge, MA 02142
tel: (857) 453-6308
e-mail: jchayes@microsoft.com

Personal: Born September 20, 1956, New York, New York

Education:

1979	B.A., Physics and Biology, Wesleyan University
1983	Ph.D., Mathematical Physics, Princeton University

Positions:

1983–1985	Postdoctoral Fellow in Mathematical Physics, Departments of Mathematics and Physics, Harvard University
1985–1987	Postdoctoral Fellow, Laboratory of Atomic and Solid State Physics and Mathematical Sciences Institute, Cornell University
1987–1990	Associate Professor, Department of Mathematics, UCLA
1990–2001	Professor, Department of Mathematics, UCLA
1997–2005	Senior Researcher and Head, Theory Group, Microsoft Research
1997–2008	Affiliate Professor, Dept. of Physics, U. Washington
1999–2008	Affiliate Professor, Dept. of Mathematics, U. Washington
2005–2008	Principal Researcher and Research Area Manager for Mathematics, Theoretical Computer Science and Cryptography, Microsoft Research
2008–	Managing Director, Microsoft Research New England
2010–	Distinguished Scientist, Microsoft Corporation
2012–	Managing Director, Microsoft Research New York City

Long-Term Visiting Positions:

1994-95, 1997	Member, Institute for Advanced Study, Princeton
1995, May–July	ETH, Zürich
1996, Sept.–Dec.	AT&T Research, New Jersey

Awards and Honors:

1977	Johnston Prize in Physics, Wesleyan University
1979	Graham Prize in Natural Sciences & Mathematics, Wesleyan University
1979	Graduated 1st in Class, Summa Cum Laude, Wesleyan University
1984	National Science Foundation Posdoctoral Research Fellowship

1989	Alfred P. Sloan Foundation Research Fellowship
1993	Mortar Board Honor Society Teaching Award, UCLA
1994	Distinguished Teaching Award, Department of Mathematics, UCLA
2003	National Associate, The National Academies
2006	Fellow, American Association for the Advancement of Science
2008	Fellow, Fields Institute
2011	Fellow, Association of Computing Machinery
2011	Leadership Award, Women Entrepreneurs in Science and Technology
2011	Leading Women Award, Girl Scouts of Eastern Massachusetts
2012	Women to Watch Award, Boston Business Journal
2012	Women of Vision Leadership Award, Anita Borg Institute
2012	Women Leader in STEM, STEM Connector
2012	Diversity Champion, Boston Globe
2013	Fellow (Inaugural Class), American Mathematical Society
2013	Top Woman Engineer in Tech, Business Insider
2013	Woman We Admire, Ad Club of Boston
2013	Distinguished Alumnus Award, Wesleyan University
2013	Catalyst Award, Science Club for Girls
2014	Elected Member, American Academy of Arts and Sciences

Selected Invited Talks:

I have given over 350 invited addresses, colloquia and seminars including:

1986, July	Invited Address, 8th International Congress on Mathematical Physics (Marseille, France)
1990, Nov.	Plenary Address, AMS Regional Meeting (UC Irvine)
1993, June	Plenary Address, 22nd International Conference on Stochastic Processes and their Applications (Vrije University, Amsterdam)
1993, Aug.	Invited Course, IMA Probability Summer School (Ohio State University)
1995, May-July	The Mark Kac Lectures (Utrecht, Holland)
1996, June-July	Invited Course, IAS/Park City Math Institute (IAS, Princeton)
1996, July	Plenary Talk, SIAM Annual Meeting (Kansas City, MI)
1996, Oct.	DIMACS Distinguished Lecture (Rutgers University)
1998, Feb.	Noether Colloquium (University of California, Berkeley)
1998, March	Class of 1927 Lectures (Renssalear Polytech)
1998, March	Invited Course, School on Phase Transitions (Charles University, Prague)
1998, March	32nd KAM (Katedra Aplikovane Matematiky) Lecture (Charles University, Prague)
1998, April	Plenary Talk, Conference on Algebraic Combinatorics and Applications (Oakland University, Rochester, Michigan)
1998, May	Interface Council Seminar (National Science Foundation, D.C.)

1998, Aug.	Invited Address, International Congress of Mathematics (Berlin, Germany)
1999, Jan.	Plenary Address, AMS Annual Meeting (San Antonio, Texas)
1999, June	Plenary Address, Institute for Mathematical Statistics Regional Meeting (Seattle, WA)
1999, July	Public Lecture, Singapore Mathematical Society (Singapore)
1999, July	Plenary Address, Joint American-Australian Math Society Meeting (Melbourne)
1999, Aug.	Invited Course, ICTP International School: Statistical Physics and Probabilistic Methods in Theoretical Computer Science (Trieste, Italy)
1999, Dec.	Public Lecture, Canadian Mathematical Society Annual Meeting (Montreal)
2000, Feb.	Topical Lecture, AAAS Annual Meeting (Washington D.C.)
2000, May	Commencement Address in Mathematics, UC Berkeley
2000, Dec.	Plenary Talk, Hua Memorial Conference (Beijing, China)
2001, Feb.	Fifth Annual Paul Erdös Lecture (University of Memphis)
2001, Aug.	Plenary Talk, Vth Brazilian School of Probability (Ubatuba, Brazil)
2002, April	Plenary Talk, Latin 2002 (Cancun)
2002, Aug.	Invited Course, ICTP School on Statistical Physics, Probability Theory and Computational Complexity (Trieste, Italy)
2003, Feb.	Mary Cartwright Lecture of the London Mathematical Society (Edinburgh, Scotland)
2003, March	Public Discussion with Sergey Brin and Donald Knuth, Commonwealth Club (Palo Alto)
2003, July	Plenary Talk, 5th International Congress of Industrial and Applied Mathematics (Sydney, Australia)
2003, Nov.	Annual Women in Computer Science Distinguished Lecture, (Carnegie-Mellon University)
2004, Feb.	Invited Talk, AAAS Annual Meeting (Seatttle)
2004, June	Miller Institute Annual Interdisciplinary Symposium, Marconi Center (Marin County, CA)
2004, June	Plenary Talk, Annual SIAM Discrete Mathematics Conference (Nashville, TN)
2005, Jan.	Plenary Talk, MSRI Special Program Opening Day (Berkeley)
2005, June	Invited Talk, Einstein Centenary Conference: Physics in the 21st Century (ETH, Zurich)
2005, June	Invited Talk, J.T. Lewis Memorial Conference (Dublin)
2006, March	Plenary Address, Dutch Mathematical Society Meeting (Delft)
2006, May	Public Lecture, Institute for Mathematical Sciences (Singapore)
2007, April	Public Lecture, Institute for Mathematics and its Applications (Minneapolis)
2007, Aug.	Earle Raymond Hedrick Lectures, Mathematical Association of America (San Jose)
2007, Oct.	Keynote Address, OurCS Conference for Undergraduate Women in CS (CMU)

2008, Aug.	Invited Talk, Building Bridges Conference (Renyi Institute, Budapest)
2009, March	University Distinguished Lecture (Northeastern University)
2009, June	Distinguished Lecture, National Science Foundation
2009, Oct.	University Distinguished University (Boston University)
2010, April	Distinguished Lecture (Brown University)
2010, April	Annenberg Lecture (Harvey Mudd College, Claremont, CA)
2010, April	Plenary Lecture, WebSci Conference (Charlotte, NC)
2010, May	Bertman Memorial Lecture (Wesleyan University)
2010, May	Invited Lecture, NetSci Conference (MIT)
2010, Sept.	Invited Lecture, Web Science: A New Frontier (350^{th} Anniversary of the Royal Society, London)
2010, Nov.	The Lewis Lectures (Rutgers University)
2010, Dec.	Plenary Talk, Workshop on Internet Economics (Stanford University)
2011, May	Plenary Talk, Random Structures and Algorithms Workshop (Georgia Tech)
2011, Nov.	The Plueker Lectures (University of Bonn)
2011, Nov.–Dec.	The Eisenbud Lectures (Brandeis University)
2012, Jan.	Plenary Talk, Symposium on Discrete Algorithms (Kyoto)
2012, Feb.	Distinguished Lecture in Computer Science (University of Southern California)
2012, May	Acceptance Speech, Women of Vision Leadership Award (San Jose)
2012, Nov.	Cheriton School of Computer Science Distinguished Lecture (Waterloo)
2012, Dec.	Plenary Talk, Social Networks Workshop (Lake Tahoe)
2013, Feb.	Dialogue of Discovery Public Lecture, (Howard Hughes Janelia Farm Institute)
2013, April	ADVANCE Campus-Wide Lecture (University of Maryland)
2013, Nov.	School of Computer Science Distinguished Lecture (Carnegie-Mellon University)
2013, Nov.	Alumnus Public Lecture (Institute for Advanced Study, Princeton)
2013, Dec.	Plenary Talk, Neural Information Processing Systems (NIPS) Conference
2014, April	Math Encounters Public Lecture, Museum of Mathematics (New York City)

Conference Organization:

Coorganizer	AMS Workshop: The Mathematics and Physics of Order and Disorder (Bowdoin College, Maine), June 1988
Coorganizer	Disordered Systems Session, 9th International Congress of Mathematical Physics, (Swansea, Wales), July 1988
Coorganizer	Special Session at Regional AMS Meeting (UC Irvine), Nov. 1990
Member	Advisory Committee, 10th International Congress of Mathematical Physics (Leipzig, Germany), Aug. 1991
Organizer	Phase Transitions Session, Annual AAAS Meeting (San Francisco), Feb. 1994
Coorganizer	IAS/DIMACS Workshop: Statistical Physics Methods in Discrete Probability, Combinatorics and Theoretical Computer Science (Institute for Advanced Study,Princeton and DIMACS), March 1997
Member	Organizing Committee, NAS 9th Frontiers of Science Symposium

	(Irvine, CA), Nov. 1997
Member	Organizing Committee, Workshop on Interfaces between Statistical Physics and Computer Science (Turin, Italy), Oct. 1998
Chair	Organizing Committee, NAS 10th Frontiers of Science Symposium (Irvine, CA), Nov. 1998
Coorganizer	ICTP School: Statistical Physics and Probabilistic Methods in Computer Science (Trieste, Italy), Aug.-Sept. 1999
Coorganizer	ICTP Workshop: NP-Hardness and Phase Transitions (Trieste, Italy), Sept. 1999
Coorganizer	NRC Workshop: The Interface between Three Areas of Computer Science with the Mathematical Sciences (Washington D.C), April 2000
Coorganizer	NRC Workshop: Homeland Defense and the Mathematical Sciences, (Washington D.C), April 2002
Coorganizer	ICTP School: Statistical Physics, Probability Theory and Computational Complexity, (Trieste, Italy), Aug.-Sept. 2002
Coorganizer	ICTP Workshop: Typical-Case Complexity, Randomness and Analysis of Search Algorithms, (Trieste, Italy), Sept. 2002
Coorganizer	AAAS Symposium: Graph Theory and Scaling for the Internet and the WWW (Denver), Feb. 2003
Coorganizer	AAAS Symposium: Community Structure of the Internet and WWW: Mathematical Analysis, (Seattle), Feb. 2004
Coorganizer	Workshop on Critical Scaling in Polymers and Percolation (Banff, Canada), May 2005
Coorganizer	Senior Leadership Workshop for Women in Technology (Redmond), Nov. 2005
Coorganizer	Random and Dynamic Graphs and Networks (Institute for Pure and Applied Mathematics, UCLA), May 2007
Coorganizer	Stochastic Processes and Algorithms (Hausdorff Institute of Mathematics, University of Bonn, Germany), Sept. 2007
Coorganizer	OurCS Conference for Undergraduate Women in CS (CMU) Oct. 2007
Coorganizer	Computational Aspects of Biological Information (CABI) I (Microsoft Research, Redmond), Dec. 2007
Coorganizer	Phase Transitions, Hard Combinatorial Problems and Message-Passing Algorithms, (Banff International Research Station, Banff, Canada), June 2008
Coorganizer	Building Bridges, (Renyi Institute, Budapest, Hungary), Aug. 2008
Coorganizer	Microsoft Research New England Opening Symposium, Sept. 2008
Coorganizer	Foo East, (Microsoft, Cambridge, MA), March 2009
Coorganizer	Foo East, (Microsoft, Cambridge, MA), April 2010
CoChair	Local Organizing Committee, Symposium on the Theory of of Computing (STOC), (Cambridge, MA) June 2010
Coorganizer	ACLU-Microsoft Research Technology Liberty Breakfasts (Microsoft, Cambridge, MA), 2010 – 2014
Coorganizer	Computational Aspects of Biological Information (CABI) II, (Microsoft Research New England), Dec. 2010

Coorganizer	Carnegie-Mellon University - Microsoft Research Mindswap in Economics (CMU), May 2012
Coorganizer	Computational Aspects of Biological Information (CABI) III, (Microsoft Research New England), Dec. 2013

Selected Scientific Community Positions:

Member	National Security Agency Panel of the American Mathematical Society, 1992–1994
Member	Western Section Program Committee, American Mathematical Society, 1996–1997
Chair	Western Section Program Committee, American Mathematical Society, 1997
Member	External Advisory Board, Center for Discrete Mathematics and Computer Science (DIMACS), 1997–2013
Member	Board of Governors, Institute for Mathematics and its Applications (IMA), 1997–2000
Member	Congressional Science Policy Study Panel (advisory panel to House of Representatives Science Committee), 1997
Member	Committee of Visitors, National Science Foundation (review committee for Division of Mathematical Sciences), 1998 and 2001
Vice President	American Mathematical Society (AMS), 1998–2001
Member	Board of Mathematical Sciences, National Research Council, 1998–2002
Member	International Union of Pure and Applied Physics (IUPAP) Commission on Statistical Physics, 1998–2006
Member	IUPAP Commission on Mathematical Physics, 1999–2002
Member	Advisory Committee, Office of the Public Understanding of Science (OPUS) of the National Academy of Sciences, 2000–2003
Chair	Mathematics Section of the American Association for the Advancement of Science (AAAS), 2002–2005
Member	Scientific Advisory Board, Banff International Research Station, 2002–2005
Member	United States Delegation, International Mathematics Union, 2002 and 2006
Member	U.S. National Committee on Mathematics of the National Academy of Sciences, 2003–2008
Member	Scientific Advisory Panel, Fields Institute, 2003–2007
Member	National Academies (NAS, NAE and IM) Committee on Facilitating Interdisciplinary Research, 2003–2004
Member	National Research Council Governing Board Review Committee on Communications Strategy, 2003–2005
Member	Board of Trustees, Mathematical Sciences Research Institute, 2004–
Member	Advisory Committee on Women in Computing, Association for Computing Machinery (ACM), 2004–2007
Member	Leadership Advisory Panel, Anita Borg Institute, 2004–2007
Member	International Mathematics Union Nominating Committee, 2005

Member	Advisory Board, Miller Institute for Basic Research in Science, 2006–2009
Member	Prize Committee, Anita Borg Technical Leadership Award, 2006–2010
Member	Review Committee, National Research Council Review Committee for the Board of Mathematical Sciences and its Applications 2006
Member	Advisory Cabinet, Olympus Center, Carnegie Mellon University, 2006–2008
Member	National Academies (NAS, NAE and IM) Committee on Insuring the Integrity of Scientific Data in the Digital Age, 2007–2009
Member	ACM Turing Award Committee, 2007–2013
Chair	ACM Turing Award Committee, 2011
Member	Advisory Committee, Howard Hughes Medical Institute Janelia Farm Research Campus, 2009 –
Member	Science Advisory Committee, Radcliffe Institute for Advanced Study, 2009–2011
Chair	National Academy of Sciences Review Panel for the Kavli Frontiers of Science Symposia, 2010
Member	Board of Trustees, Institute for Computational and Experimental Mathematics, 2011–
Member	Advisory Board, Women Entrepreneurs in Science and Technology, 2011–
Member	Advisory Board, Institute for Computational Science and Engineering, Harvard University, 2011–
Chair	Association of Computing Machinery (ACM) Heidelberg Laureate Committee, 2013–
Member	Corporation Visiting Committee for Sponsored Research, MIT, 2013–
Member	Advisory Board, WomenLead, 2013–
Member	Board of Trustees, Center for Discrete Mathematics and Computer Science (DIMACS), Rutgers University, 2013–
Member	Advisory Board, American Women in Mathematics (AWM), 2013–
Member	Director Selection Committee for the Simons Data Science Institute, 2013
Member	New York Steering Committee, Anita Borg Institute (ABI), 2013–
Member	Technical Leadership Award Nomination Committee, Anita Borg Institute (ABI), 2013–
Member	Committee on Women in Science, Engineering and Medicine (CWSEM) National Research Council, 2014–

Editorial Positions:

Assoc. Editor	Journal of Statistical Physics, 1991–1993
Assoc. Editor	Annales Henri Poincaré, 2001–2007
Assoc. Editor	Combinatorics, Probability and Computing, 2001–
Assoc. Editor	Journal of Mathematical Physics, 2002–2006
Assoc. Editor	Random Structures and Algorithms, 2002–
Assoc. Editor	Journal of Statistical Mechanics: Theory and Experiment, 2004–2007
Assoc. Editor	Research Notes in Applied Mathematics, AK Peters Publishing, 2009–
Assoc. Editor	Internet Mathematics, 2010–
Sect. Editor	SIAM Review, 2012–

Assoc. Editor	Notices of the American Mathematical Society, 2013–

Special Volumes Edited:

Special Issue	Statistical Physics Methods in Discrete Probability, Combinatorics and Theoretical Computer Science, co-edited with D. Randall, Random Structures and Algorithms **15**, 209–470 (1999).
Special Issue	Probabilistic Techniques in Equilibrium and Nonequilibrium Statistical Physics, co-edited with C. Borgs, Journal of Mathematical Physics **41**, 1033–1615 (2000).

Patents: I have 30 patents pending or granted.

Jennifer Tour Chayes April 2014

PUBLICATIONS

1. **On a sharp transition from area law to perimeter law in a system of random surfaces** (M. Aizenman, J.T.C., L. Chayes, J. Fröhlich and L. Russo) Commun. Math Phys. **92**, 19–69 (1983).
2. **The inverse problem in classical statistical mechanics** (J.T.C., L. Chayes and E. H. Lieb) Commun. Math. Phys. **93**, 57–121 (1984).
3. **The correct extension of the Fortuin-Kasteleyn result to plaquette percolation** (J.T.C. and L. Chayes) Nucl. Phys. B **235** [FS**11**], 19–23 (1984).
4. **On the validity of the inverse conjecture in classical density functional theory** (J.T.C. and L. Chayes) J. Stat. Phys. **36**, 471–488 (1984).
5. **Statistical mechanics of lattice tubes** (D. B. Abraham, J.T.C. and L. Chayes) Phys. Rev. D **30**, 841–843 (1984).
6. **Random surface correlation functions** (D. B. Abraham, J.T.C. and L. Chayes) Commun. Math. Phys. **96**, 439–471 (1984).
7. **Density functional approach to quantum lattice systems** (J.T.C., L. Chayes and M. B. Ruskai) J. Stat. Phys. **38**, 497–518 (1985).
8. **Nonperturbative analysis of a model of random surfaces** (D. B. Abraham, J.T.C. and L. Chayes) Nucl. Phys. B **251** [FS**13**], 553–563 (1985).
9. **The low-temperature behavior of disordered magnets** (J.T.C., L. Chayes and J. Fröhlich) Commun. Math. Phys. **100**, 399–437 (1985).
10. **The stochastic geometry of invasion percolation** (J.T.C., L. Chayes and C. M. Newman) Commun. Math. Phys. **101**, 383–407 (1985).
11. **Random tubes as a model of pair correlations** (J.T.C. and L. Chayes) Contemporary Mathematics **41**, 11–41 (1985).
12. **Inequality for the infinite cluster density in Bernoulli percolation** (J.T.C. and L. Chayes) Phys. Rev Lett. **56**, 1619–1622 (1986).
13. **Bulk transport properties and critical exponent inequalities for random resistor and flow networks** (J.T.C. and L. Chayes) Commun. Math. Phys. **105**, 133–152 (1986).
14. **Ornstein-Zernike behavior for self-avoiding walks at all noncritical temperatures** (J.T.C. and L. Chayes) Commun. Math. Phys. **105**, 221–238 (1986).
15. **A mean-field spin glass with short-range interactions** (J.T.C., L. Chayes, J.P. Sethna and D. J. Thouless) Commun. Math. Phys. **106**, 41–89 (1986).
16. **Percolation and random media** (J.T.C., L. Chayes) pp. 1001-1142 in **Les Houches Session** XLIII: **Critical Phenomena, Random Systems and Gauge Theories**, K. Osterwalder and R. Stora, eds. (Elsevier Science Publishers, Amsterdam, 1986).
17. **Critical points and intermediate phases on wedges of** $\mathbb{Z}^d$ (J.T.C. and L. Chayes) J. Phys. A: Math. Gen. **19**, 3033–3048 (1986).
18. **Critical behavior of the two-dimensional first passage time** (J.T.C., L. Chayes and R. Durrett) J. Stat. Phys. **45**, 933–948 (1986).
19. **On the density of states for the quantum percolation problem** (J.T.C., L. Chayes, J. R. Franz, J. P. Sethna and S. A. Trugman) J. Phys. A: Math. Gen. **19**, L1173-L1177 (1986).

20. **Finite-size scaling and correlation lengths for disordered systems** (J.T.C., L. Chayes, D. S. Fisher and T. Spencer) Phys. Rev. Lett. **57**, 2999–3002 (1986).
21. **The mean-field bound for the order parameter of Bernoulli percolation** (J.T.C. and L. Chayes) pp. 49-71 in **Percolation Theory and Ergodic Theory of Infinite Particle Systems**, H. Kesten, ed. (Springer-Verlag, New York, 1987).
22. **The phase boundary in dilute and random Ising and Potts ferromagnets** (M. Aizenman, J.T.C., L. Chayes and C.M. Newman) J. Phys. A: Math. Gen. **20**, L313–L318 (1987).
23. **Inhomogeneous percolation problems and incipient infinite clusters** (J.T. C., L. Chayes and R. Durrett) J. Phys. A: Math. Gen **20**, 1521–1530 (1987).
24. **Bernoulli percolation above threshold: An invasion percolation analysis** (J.T.C., L. Chayes and C.M. Newman) Ann. Probab. **15**, 1272–1287 (1987).
25. **On the upper critical dimension of Bernoulli percolation** (J.T.C. and L. Chayes) Commun. Math. Phys. **113**, 27–48 (1987).
26. **Exponential decay of connectivities in the two-dimensional Ising model** (J.T.C., L. Chayes and R. Schonmann) J. Stat. Phys. **49**, 433–445 (1987).
27. **Discontinuity in the magnetization of the $1/|x-y|^2$ Ising and Potts models** (M. Aizenman, J.T.C., L. Chayes and C.M. Newman) J. Stat. Phys. **50**, 1–40 (1988).
28. **The critical behavior of the Bethe lattice spin glass** (J. M. Carlson, J.T.C., L. Chayes, J. P. Sethna, D. J. Thouless) Europhys. Lett. **5**, 355–360 (1988).
29. **Connectivity properties of Mandelbrot's percolation process** (J.T.C., L. Chayes and R. Durrett) Probab. Th. Rel. Fields **77**, 307–324 (1988).
30. **Correlation length bounds for disordered Ising ferromagnets** (J.T.C., L. Chayes, D. S. Fisher and T. Spencer) Commun. Math. Phys. **120**, 501–523 (1989).
31. **Valence bond ground states in a frustrated two-dimensional spin-1/2 Heisenberg antiferromagnet** (J.T.C., L. Chayes and S.A. Kivelson), Commun. Math. Phys. **123**, 53–83 (1989).
32. **The large-N limit of the threshold values in Mandelbrot's fractal percolation process** (J.T.C. and L. Chayes), J. Phys. A: Math. Gen. **22**, L501–L506 (1989).
33. **The correlation length for the high density phase of Bernoulli percolation** (J.T.C., L. Chayes, G. R. Grimmett, H. Kesten and R. Schonmann) Ann. Probab. **17**, 1277–1302 (1989).
34. **Asymptotics of the finite cluster distribution and the Wulff construction for two-dimensional Bernoulli percolation** (K. Alexander, J.T.C. and L. Chayes), Commun. Math. Phys. **131**, 1–50 (1990).
35. **Bethe lattice spin glass: The effects of a ferromagnetic bias and external fields I. Bifurcation analysis** (J. M. Carlson, J.T.C., L. Chayes, J. P. Sethna and D. J. Thouless), J. Stat. Phys. **61**, 987–1067 (1990).
36. **Bethe lattice spin glass: The effects of a ferromagnetic bias and external fields II. Magnetized spin glass and de Almeida-Thouless line** (J. M. Carlson, J.T.C., J. P. Sethna and D. J. Thouless), J. Stat. Phys. **61**, 1069–1084 (1990).
37. **Self-organized criticality in sand piles – Nature of the critical phenomenon** (J. M. Carlson, J.T.C., E. Grannan and G. Swindle), Phys. Rev. A **42**, 2467–2470 (1990).
38. **Self-organized criticality and singular diffusion** (J. M. Carlson, J.T.C., E. Grannan and G. Swindle), Phys. Rev. Lett. **65**, 2547–2550 (1990).
39. **Gaussian fluctuations of connectivities in the subcritical regime of percolation** (M. Campanino, J.T.C. and L. Chayes), Probab. Th. Rel. Fields **88**, 269–341 (1991).

40. **Phase transitions in Mandelbrot's percolation proces in three dimensions** (J.T.C., L. Chayes, E. Grannan and G. Swindle), Probab. Th. Rel. Fields **90**, 291–300 (1991).
41. **Singular diffusion limits of a class of reversible self-organizing particle systems** (J. M. Carlson, E. R. Grannan, G. H. Swindle and J.T.C.), Ann. Probab. **21**, 1372–1393 (1993).
42. **On singular diffusion equations with applications to self-organized criticality** (J.T.C., S. J. Osher and J. V. Ralston), Comm. Pure Appl. Math. **XLVI**, 1363–1377 (1993).
43. **Phase diagram and correlation length bounds for Mandelbrot aerogels** (J.T.C., L. Chayes and J. Machta), J. Phys. A: Math. Gen. **26**, 4249–4271 (1993).
44. **The analysis of the Widom-Rowlinson model by stochastic geometric methods** (J.T.C., L. Chayes and R. Kotecky), Commun. Math. Phys. **172**, 551–569 (1995).
45. **Meissner phase for a model of oriented flux lines** (C. Borgs, J.T.C. and C. King), J. Phys. A: Math. Gen. **28**, 6483–6499 (1995).
46. **On the covariance matrix of the Potts model: A random cluster analysis** (C. Borgs and J.T.C.), J. Stat. Phys., **82**, 1235–1297 (1996).
47. **Dobrushin states for classical spin systems with complex interactions** (C. Borgs, J.T.C. and J. Fröhlich), J. Stat. Phys., **89**, 895–927, (1997).
48. **Dobrushin states in quantum lattice systems** (C. Borgs, J.T.C. and J. Fröhlich), Commun. Math. Phys., **189**, 591–619 (1997).
49. **Finite-size scaling in percolation** (J.T.C.), Documenta Mathematica, Extra Volume ICM, **III**, 113-122 (1998).
50. **Independent and dependent percolation** (J.T.C., A. Puha and T. Sweet), pp. 49–166 in **Probability Theory and Applications, Volume VI of the PCMI Series**, E.P. Hsu and S.R.S. Varadhan, eds., Amer. Math. Soc. (1999).
51. **Uniform boundedness of crossing probabilities implies hyperscaling.** (C. Borgs, J.T.C., H. Kesten, J. Spencer), Rand. Struct. Alg. 15, 368–413 (1999).
52. **The van den Berg-Kesten-Reimer inequality: A Review.** (C. Borgs, J.T.C., D. Randall). In: R. Durrett, Bramsoned, M. (eds.): "Perplexing Problems in Probability: Festschrift in Honor of Harry Kesten." Birkhäuser, Boston, 1999. Progr. Probab. **44**, 159–173 (1999).
53. **Torpid mixing of some MCMC algorithms in statistical physics.** (C. Borgs, J.T.C., A. Frieze, J.-H. Kim, P. Tetali, E. Vigoda, V. Vu), Proc. 40^{th} IEEE Symp. on Found. of Comp. Sc. (FOCS), 218–229 (1999).
54. **Mean-field lattice trees.** (C. Borgs, J.T.C., R. van der Hofstad, G. Slade), Ann. Comb. **3**, 205–221 (1999).
55. **Sharp phase boundaries for a lattice flux line model.** (C. Borgs, J.T.C., C. King, N. Madras), **98**, 1075–1113 (2000).
56. **Gibbs states of graphical representations of the Potts model with external fields.** (M. Biskup, C. Borgs, J.T.C., R. Kotecký), J. Math. Phys. **41**, 1170–1210 (2000).
57. **Anisotropic self-avoiding walks.** (C. Borgs, J.T.C., C. King, N. Madras), J. Math. Phys. **41**, 1321–1337 (2000).
58. **General theory of Lee-Yang zeros in models with first-order phase transitions.** (M. Biskup, C. Borgs, J.T.C., L. Kleinwaks, R. Kotecký), Phys. Rev. Lett. **84**, 4794–4797 (2000).
59. **The birth of the infinite cluster: Finite-size scaling in percolation.** (C. Borgs, J.T.C., H. Kesten, J. Spencer), Commun. Math. Phys. **224**, 153–204 (2001).

60. **The scaling window of the 2-SAT transition.** (B. Bollobás, C. Borgs, J.T.C., J.-H. Kim, D. Wilson), Rand. Struct. Alg. **18**, 201–256 (2001).
61. **Sharp threshold and scaling window for the integer partitioning problem.** (C. Borgs, J.T.C, B. Pittel), Proc. 33 rd ACM Symp. on Theor. of Comp. (STOC), 330–336 (2001).
62. **Phase transition and finite-size scaling for the integer partitioning problem.** (C. Borgs, J.T.C., B. Pittel), Rand. Struct. Alg. **19**, 247–288 (2001).
63. **Directed scale-free graphs.** (B. Bollobás, C. Borgs, J.T.C., O. Riordan), Proc. 14 th ACM-SIAM Symp. on Disc. Alg. (SODA), 132–139 (2003).
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