CURRICULUM VITAE

Office Address: Division of Computing, Data Science, and Society

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University of California, Berkeley
Berkeley, CA 94720
e-mail: jchayes@berkeley.edu

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
2008–2020	Managing Director, Microsoft Research New England
2010–2018	Distinguished Scientist, Microsoft Corporation
2012–2020	Managing Director, Microsoft Research New York City
2018–2020	Technical Fellow, Microsoft Corporation
2018–2020	Managing Director, Microsoft Research Montreal
2020–	Professor of Electrical Engineering and Computer Sciences, Information, Mathematics, and Statistics, University of California, Berkeley
2020–	Dean, School of Information, University of California, Berkeley
2020–	Associate Provost, Division of Computing, Data Science, and Society, University of California, Berkeley

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 Postdoctoral 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	Member, American Academy of Arts and Sciences
2015	John von Neumann Lecture Prize, Society for Industrial and Applied Mathematics (SIAM) (highest honor of SIAM)
2016	Honorary Doctorate, Leiden University
2016	Information Week's Twelve Inspiring Women in Data Science
2016	GirlStart 2016 Women in STEM Award
2017	Wheaton Inaugural Women in STEM Award
2018	Massachusetts Technical Leadership Council Distinguished Leader Award
2019	Member, National Academy of Sciences
2020	Fellow, Association of Women in Mathematics
2021	Distinguished Service Award, Association of Computing Machinery
2022	Honorary Doctorate, Science, Bard College
2022	Honorary Member, London Mathematical Society

Selected Science and Engineering 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, 2004–2015
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 Selection Committee, 2007–2013
Chair	ACM Turing Award Selection Committee, 2011
Member	Advisory Committee, Howard Hughes Medical Institute Janelia 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, 2011–2021
Member	Advisory Board, Women Entrepreneurs in Science and Technology, 2011–2013
Member	Advisory Board, Institute for Applied and Computational Science, Harvard University, 2011–
Chair	Association of Computing Machinery (ACM) Heidelberg Laureate Selection Committee, 2013–2019
Member	Heidelberg Laureate Scientific Advisory Committee, 2013–2019
Member	Corporation Visiting Committee for Sponsored Research, MIT, 2013–2019
Member	Advisory Board, WomenLead, 2013–2015
Member	Board of Trustees, Center for Discrete Mathematics and Computer Science (DIMACS), Rutgers University, 2013–2020
Member	Advisory Board, American Women in Mathematics (AWM), 2013–2017
Member	Director Selection Committee for the Simons Data Science Institute, 2013
Member	New York Steering Committee, Anita Borg Institute (ABI), 2013–2015
Member	Nomination Committee, Technical Leadership Award, Anita Borg Institute (ABI), 2013–2017
Member	Committee on Women in Science, Engineering and Medicine (CWSEM) National Research Council, 2014–2017
Member	Secretary of Energy Advisory Board (SEAB) National Laboratory Task Force, 2014–2016
Co-Chair	Scientific Advisory Board, Simons Institute for the Theory of Computing, 2014–2017
Member	Board of Directors, Center for Minorities and People with Disabilities in IT (CMD-IT), 2015–
Member	Advisory Committee, Mathematical and Physical Sciences, National Science Foundation, 2015–2018
Member	Corporation Visiting Committee for Institute for Data, Systems and Society, MIT, 2015–
Member	Prize Selection Committee for INFOSYS Prize in Mathematics, 2015–2018
Member	Scientific Advisory Board, Gordon and Betty Moore Foundation, 2016–2020
Member	External Advisory Board for Institute for Data, Systems and Society, MIT, 2016–
Member	International Advisory Board, International Centre for Theoretical Sciences, Bangalore, 2017–

Member	MIT Press Management Board, 2017– 2020
Member	Steering Committee for SysML (Systems and Machine Learing), 2017–
Member	Steering Committee for APoCS (Algorithmic Principles of Computer Science), 2018–2019
Member	International Scientific Advisory Committee, CIFAR Pan-Canadian AI Strategy, 2018–2020
Member	Advisory Board, Climate Change AI, 2018–
Member	External Advisory Council, MIT Schwarzman College of Computing, 2019–
Member	Oversight Board, UC Center for Data-Driven Insights and Innovation (CDI2), 2021–
Member	Prize Selection Committee, VinFuture Prize, 2020–
Member	External Advisory Board, Institute for AI and Fundamental Interactions, 2021–
Member	Steering Committee, UC Health Governance Task Force, 2021–

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, 2009–2012
Assoc. Editor	Internet Mathematics, 2010–2014
Sect. Editor	SIAM Review, 2012–2014
Assoc. Editor	Notices of the American Mathematical Society, 2013–2016
Assoc. Editor	SIAM Journal on Mathematics of Data Science (SIMODS), 2017–2020
Co-Editor	Harvard Data Science Review (HDSR), 2019–

Selected Invited Talks

I have given over 500 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, 1998 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 (350th 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)
2014, May	Keynote Talk, Women Think Next 2014 (Herzliya, Israel)
2014, July	Plenary Talk, Annual SIAM Meeting (Chicago)
2014, Oct.	Computer Science Distinguished Lecture (University of Massachusetts, Amherst)
2015, March	Moshe Flato Lecture (Ben Gurion University, Israel)
2015, July	Plenary Lecture, International Congress of Mathematical Physics (Santiago, Chile)
2015, Aug.	Centennial Lecture, MathFest (Washington D.C.)
2015, Aug.	John von Neumann Prize Lecture, International Congress of Industrial and Applied Mathematics (Beijing, China)
2015, Sept.	Invited Lecture, Strata and Hadoop Conference (New York, NY)
2015, Nov.	Keynote Speaker, First Stanford Women in Data Science Conference (Stanford University)
2016, Jan.	MAA-AMS-SIAM Gerald and Judith Porter Public Lecture, 2016 Joint Mathematics Meeting (Seattle, WA)
2016, May	Keynote Lecture, The Digital Future: 75 years Zuse and The Digital Revolution (Berlin, Germany)
2016, Aug.	Keynote Lecture, Knowledge, Discovery and Data Mining Conference (KDD) (San Francisc)o
2016, Oct.-Nov.	Amick Lectures in Applied Mathematics (University of Chicago)
2016, Dec.	Keynote Lecture, Women in Machine Learning (Barcelona)
2017, Feb.	Keynote, Women in Data Science (Cambridge, MA)
2017, Apr.	Invited Lecture, The Governors Conference: New Technologies in Cancer Research (Institute for Advanced Study, Princeton)
2017, Apr.	Keynote, Inaugural Wheaton Summit for Women in STEM (Wheaton College, MA)
2017, May	Invited Lecture, The 117th Statistical Mechanics Meeting (Rutgers University)
2017, May	Keynote, Women in Science and Engineering Lunch (Museum of Science, Boston)
2017, June	Plenary Lecture, ISC High Performance Computing Conference (Frankfurt, Germany)
2017, June	Plenary Lecture, ACM Conference on Economics and Computation (Cambridge, MA)
2017, Nov.	Plenary Lecture, Friends of IHES Gala: Challenges of AI (New York City)
2017, Dec.	Invited Lecture, NIPS Workshop on Machine Learning for Healthcare (Long Beach, CA)

2018, Jan.	Invited Lecture, 10th Anniversary Celebration of the International Centre for Theoretical Sciences (Bangalore)
2018, Jan.	Keynote, Stand Up to Cancer Annual Summit (Santa Monica, CA)
2018, March	Invited Lecture, Scaled ML Conference (Stanford University)
2018, May	Plenary Lecture, 15th Annual Workshop on Algorithms and Models for the Web Graph (WAW'18) (Moscow)
2018, July	Invited Lecture, Building Bridges II: Celebration of the 70th Birthday of Laci Lovasz (Budapest)
2018, Aug.	Invited Lecture, Advances in Statistical Mechanics: Celebration of the 60th Birthday of Anton Bovier, CIRM (Luminy, France)
2019, Dec.	Invited Lecture, Current Progress in Mathematical Physics: Celebration of the 75th Birthday of Arthur Jaffee (Harvard)
2019, April	Plenary Lecture, TechAide Conference (Montreal University)
2019, Aug.	Invited Lecture, MIFODS Workshop on Graphical Models, Exchangeable Models and Graphons, MIT
2019, Aug.	Keynote, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM19) (Vancouver, Canada)
2020, March	Keynote, Women in Data Science (UC Berkelely)
2020, June	Keynote, Spark + AI Summit (virtual)
2020, June	Distinguished Lecture, SIAM Mathematics of Data Science Conference (virtual)
2020, Dec.	Keynote, Climate Change AI Workshop, NeurIPS (virtual)
2021, Aug.	Wald Memorial Lectures, American Statistical Association, Joint Statistical Meetings (virtual)
2021, Sept.	Keynote, CISBAT 2021 (Lausanne, Switzerland; virtual)
2021, Sept.	Keynote, Data Science Institute Launch (University of Toronto; virtual)
2022, March	Kai Lai Chung Lecture, Seminar on Stochastic Processes (Lehigh University; virtual)
2022, July	Invited Address, 2022 International Congress of Mathematics (Helsinki; virtual)

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
Member	Organizing Committee, SIAM Annual Meeting, (Boston, MA), July 2016
Member	Organizing Committee, SIAM Discrete Mathematics Meeting, (Denver, CO), June 2018
Coorganizer	Minisymposium on Foundations of Data Science, SIAM Discrete Mathematics Meeting, (Denver, CO), June 2018
Coorganizer	Climate Change AI Workshop, NeurIPS (Montreal) 2018
Coorganizer	Climate Change AI Workshop, NeurIPS (Vancouver) 2019
Coorganizer	Graph Limits and Processes on Networks: From Epidemics to Misinformation, Simons Institute for the Theory of Computing (UC Berkeley) 2022

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 Filed:

1. *Method and system of testing software, and the methods and systems of modeling user behavior,* D. Achlioptas, C. Borgs, J.T.C., H. Robinson, J. Tierney (2001).

2. *Method and system for identifying lossy links in a computer network,* C. Borgs, J.T.C., D. Heckerman, C.A. Meek, V.N. Pabmanabhan, L. Qui, J. Wang, D.B. Wilson (2003).

3. *Newsgroup clustering based on the cross-post graph,* C. Borgs, J.T.C., M. Mahdian, A. Saberi (2003).

4. *Systems and methods that facilitate maximizing revenue for multi-unit auctions with private budgets,* C. Borgs, J.T.C., N. Immorlica, M. Mahdian, A. Saberi (2004).

5. *Generating models for directed scale-free object relationships,* B. Bollobás, C. Borgs, J.T.C., O. Riordan (2005).

6. *Evaluation and pricing of user interactions with online advertisements,* C. Borgs, J.T.C., U. Feige, J. Goodman, N. Immorlica, M. Mahdian (2005).

7. *Mechanism for allocating advertisements of varying intervals,* C. Borgs, J.T.C., U. Feige, N. Immorlica, M. Mahdian (2005).

8. *Posted price market for online search and content advertisements,* C. Borgs, J.T.C., U. Feige, J. Goodman, M. Mahdian, A. Saberi (2005).

9. *Price determination for items of low demand,* C. Borgs, J.T.C., M. Chickering, U. Feige, M. Mahdian, C. Meek, A. Saberi (2005).

10. *Keyword ad campaign optimization,* C. Borgs, J.T.C., M. Chickering, O. Etesami, N. Immorlica, K. Jain, M. Mahdian, C. Meek (2005).

11. *Automatically generating content for presenting in a preview pane for ads,* J. Biggs, C. Borgs, J.T.C., U. Feige, J. Goodman, N. Immorlica, K. Jain, Y. Li, M. Mahdian, C. Meek (2005).

12. *Pay percentage of impressions,* C. Borgs, J.T.C., M. Chickering, O. Etesami, N. Immorlica, K. Jain, M. Mahdian, C. Meek (2006).

13. *User-associated interacting advertising monetization,* C. Borgs, J.T.C., N. Immorlica, K. Jain, M. Mahdian (2006).

14. *Designing hyperlink structures,* C. Borgs, J.T.C., G. Flake, N. Immorlica, K. Jain, (2006).

15. *A unified platform for reputation and secure transactions,* C. Borgs, J.T.C., N. Immorlica, K. Jain (2007).

16. *Graph structures and web spam detection,* C. Borgs, J.T.C., K. Gade, J. Hopcroft, V. Mirrokni, A. Prakash, T. Tao (2007).

17. *Local partitioning and web spam detection,* C. Borgs, J.T.C., K. Gade, J. Hopcroft, V. Mirrokni, A. Prakash, T. Tao (2007).

18. *Score propagation and web spam detection,* C. Borgs, J.T.C., K. Gade, J. Hopcroft, V. Mirrokni, A. Prakash, T. Tao (2007).

19. *Local computation of Pagerank contributions,* R. Andersen, C. Borgs, J.T.C., J. Hopcroft, V. Mirrokni, S. Teng (2007).

20. *Robust Pagerank and locally computable spam detection features,* R. Andersen, C. Borgs, J.T.C., J. Hopcroft, K. Jain, V. Mirrokni, S. Teng (2007).

21. *Trust-based recommendation systems,* R. Andersen, C. Borgs, J.T.C., U. Feige, A. Flaxman, A. Kalai, V. Mirrokni, M. Tennenholtz (2007).

22. *Monetizing a social network platform,* R. Andersen, C. Borgs, J.T.C., K. Jain, V. Mirrokni (2007).

23. *Optimization of network solutions,* M. Bayati, C. Borgs, A. Braunstein, J.T.C., R. Zecchina (2008).

24. *Generating recommendations through a trusted network,* C. Borgs, d. boyd, J.T.C., A. Kalai, M. Tennholtz (2009).

25. *Recommendation ranking system with distrust,* C. Borgs, J.T.C., A. Kalai, A. Malekian, M. Tennenholtz (2010).

25. *Pricing mechanisms for perishable time-varying resources,* C. Borgs, U. Candogan, J.T.C., I. Lobel, H. Nazerzadeh (2010).

27. *Data center that accommodates episodic computation,* C. Belady, C. Borgs, J.T.C., N. Jain, J. Larus, I. Lobel, H. Nazerzadeh, I. Menache, D. Reed (2010).

28. *Detecting overlapping clusters,* N. Balcan, C. Borgs, M. Braverman J.T.C., S-H. Teng (2012).

29. *Efficient electronic document ranking for internet resources in sublinear time,* M. Brautbar, C. Borgs, J.T.C., S-H. Teng (2012).

30. *Determining influence in a network,* C. Borgs, M. Brautbar, J.T.C., B. Lucier (2012).

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).

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