

**PRASAD TETALI**  
**CURRICULUM VITAE**

**June 2009**

Tetali, Prasad..... Professor  
School of Mathematics & School of Computer Science  
Georgia Institute of Technology

**PERSONAL DATA:**

Born: 6/29/63, Visakhapatnam, India  
U.S. Citizen

**EDUCATIONAL BACKGROUND:**

- 9/87 - 5/91      Ph.D., Dept. of Computer Science., Courant Institute of Mathematical Sciences,  
Ph.D. Thesis: Applications and Analysis of Probabilistic Techniques  
Thesis Advisor: Prof. Joel Spencer
- 8/84 - 12/86      M.S. in Computer Sci. and Automation, Indian Inst. of Sci., Bangalore, India  
Master's Thesis: A Fast Primality Testing Algorithm-Study and Implementation
- 8/80 - 5/84      B.E. in Electronics and Communication, Andhra University, India

**EMPLOYMENT HISTORY:**

- 7/06-12/06      Visiting Researcher at Microsoft Research, Redmond, Washington;  
also during 9/02-6/03, 8/00-12/00 and 8/98-12/98
- 1/05-5/05      Visiting Professor, MSRI, University of California, Berkeley, CA
- 5/04-              Promoted to Professor
- 7/02-8/02      Visitor, Newton Institute of Mathematical Sciences, Cambridge, U.K.
- 8/01-              Joint Appointment with College of Computing
- 8/00-              Associate Professor, School of Mathematics, Georgia Institute of Technology,  
Atlanta, GA
- 2/97-3/97      Short-term DIMACS visitor to Bell Labs (Lucent Technologies), Murray Hill  
and the IAS, Princeton, New Jersey
- 9/94-7/00      Assistant Professor, School of Mathematics, Georgia Institute of Technology,  
Atlanta, GA

8/92-8/94 Postdoc MTS, Mathematical Sciences Research Center, AT&T Bell Labs,  
Murray Hill

Fall 1991 Adjunct Faculty, SEHNAP, New York University

Summer '90 Member of Technical Staff, Mathematics, Information Sciences & Operations  
Research Division, Bellcore, Morristown

Spring '90 Research Affiliate, Department of Applied Mathematics, Massachusetts

Spring '87 Lecturer, Department of Computer Science, Andhra University, India

**CURRENT FIELDS OF INTEREST:**

Markov Chains and Applications, Probabilistic Methods in Combinatorics & Computing,  
Computational & Combinatorial Number Theory, Randomized Algorithms, and Cryptography.

**TEACHING EXPERIENCE (last few years):**

Fall 2008	Math 4022	Intro to Graph Theory	20 students
	Math 2406	Abstract Vector Spaces	15 students
Spring 2008	CS 4803/8803	Computing and Coding with Probability	9 students
Fall 2007	Math 4022	Intro to Graph Theory	26 students
	Math 3012	Applied Combinatorics	25 students
Spring 2007	Math 4032	Combinatorial Analysis	7 students
	Math 8823	Topics in Probabilistic Combinatorics (jointly with Jeong Han Kim)	10 students
Spring 2006	Math 7018	Probabilistic Combinatorics	11 students
	CS 1050	Understanding & Constructing Proofs	45 students
Fall 2005	Math 6221	Advanced Classical Probability Theory	14 students
Fall 2004	Math 6221	Advanced Classical Probability Theory	12 students
Spring 2004	Math 7018	Probabilistic Combinatorics	24 students
	Math 4032	Combinatorial Analysis	18 students
Fall 2003	CS 1050	Constructing Proofs	64 students
Spring 2002	Math 4150	Intro to Number Theory	24 students
Fall 2001	Math 3012	Combinatorics	35 students

	Math 4022	Intro to Graph Theory	30 students
Spring 2001	Math 3012	Combinatorics	38 students
	Math 4150	Intro. to Number Theory	17 students
Spring 2000	Math 4150	Intro. to Number Theory	15 students
Fall 1999	Math 2602	Linear and Discrete Math	123 students
	Math 6221	Advanced Classical Probability Theory	6 students
Spring 1999	Math 6018	Probabilistic Combinatorics	7 students
Winter 1999	Math 4150	Intro to Number Theory	15 students
	Math 6221	Topics in Probability	8 students
Spring 1998	Math 2503	Intro to Algorithms & Optimization	38 students
Winter 1998	Math 2502	Elementary Difference & Diff. Equa.	35 students
	Math 4150	Intro to Number Theory	16 students
Fall 1997	Math 2503	Intro to Algorithms & Optimization	45 students
	Math 3012	Applied Combinatorics	35 students

## **PUBLICATIONS:**

### **a) Already Published:**

(R. Montenegro and P. Tetali) "How long does it take to catch a wild kangaroo," Proc. of the ACM Symp. On Theory of Computing (STOC), May 2009.

(E. Croot, A. Granville, R. Pemantle, P. Tetali) "Running Time Predictions for Factoring Algorithms," Algorithmic Number Theory Symposium (May 2008), Banff, Canada. Springer LNM 2008, 1-36.

(JH. Kim, R. Montenegro, P. Tetali), A near-optimal bound for Pollard's Rho to solve discrete logarithm, " Proc. of the Annual IEEE Symposium on Foundations of Computer Science (FOCS), Providence, RI, October 2007.

(M. Bayati, D. Gamarnik, D. Katz, C. Nair, and P. Tetali) "Simple Deterministic Approximation Algorithms for Counting Matchings," Proc. of the Annual ACM Symposium on Theory of Computing (STOC), San Diego, CA, June 2007.

(M. Madiman and P. Tetali) "Sandwich Bounds for Joint Entropy," Proc. of the International Symposium on Information Theory June 2007, Nice, France.

(Bhatnagar, Nayantara; Caputo, Pietro; Tetali, Prasad; Vigoda, Eric) Analysis of top-swap shuffling for genome rearrangements. Ann. Appl. Probab. 17 (2007), no. 4, 1424-1445.

(M. Mihail, A. Saberi, P. Tetali) "Random walks with lookahead in power law random graphs," *Internet Mathematics* 3 (2007).

(M. Krivelevich, B. Sudakov, P. Tetali) "On smoothed analysis of dense graphs and formulas," *Random Struct. & Algorithms*, 29 (2006), 180-193.

(D. Galvin and P. Tetali) "Slow mixing of the Glauber dynamics for the hard-core model on regular bipartite graphs," *Random Struct. & Algorithms* 28 (2006), 427-443.

(S. Bobkov, C. Houdré, P. Tetali) "The subgaussian constant and concentration inequalities," *Israel J. Math.* 156 (2006), 255-283.

(S. Goel, R. Montenegro, P. Tetali) "Mixing time bounds via the spectral profile," *Electronic J. Probab.* 11 (2006), 1-16.

(E. Friedgut, V. Rödl, A. Rucinski, P. Tetali) "A sharp threshold for random graphs with a monochromatic triangle in every edge coloring," *Memoirs of the AMS* 179 (2006), 66 pages.

(S. Bobkov and P. Tetali) "Modified logarithmic Sobolev inequalities in discrete settings," *Jour. of Theor. Probab.* 19 (2006), 289-336; ten-page conference version appeared in the ACM Annual Symposium on Theory of Computing, San Diego (June, 2003).

(B. Guenin, D. Mubayi, P. Tetali) "A family of switch equivalent graphs," *Discrete Math.* 288 (2004), 29-35.

(M. Jerrum, J-B. Son, P. Tetali, E. Vigoda) "Elementary bounds for Poincare and log-Sobolev constants for decomposable Markov chains," *Ann. Appl. Probab.* 14 (2004), 1741-1765.

(C. Houdré and P. Tetali) "Isoperimetric Constants for Product Markov Chains and Graph Products," *Combinatorica* 24 (2004), 359-388.

(D. Galvin and P. Tetali) "On weighted graph homomorphisms," *DIMACS-AMS special volume* 63 (2004), 97-104.

(C. Borgs, J. Chayes, M. Dyer, P. Tetali) "On the sampling problem for H-colorings on the hypercubic lattice," *DIMACS-AMS Special Volume* 63 (2004), 13-28.

(D. Galvin and P. Tetali) "Slow mixing of the Glauber dynamics for the hard-core model on the Hamming cube," *Proc. Of the Annual Symp. On Discrete Algorithms (SODA)*, January 2004.

(G. Brightwell and P. Tetali) "The number of linear extensions of the Boolean lattice," *Order* 20 (2003), 333-345.

(E. Friedgut, Y. Kohayakawa, V. Rodl, A. Rucinski, P. Tetali) "Ramsey games against a one-armed bandit," *Combinatorics, Probability, & Computing* (special issue on Ramsey theory), 12 (2003), 515-545.

(U. Feige, L. Lovasz, P. Tetali) "Approximating Min-Sum Set Cover," *J. of Algorithmica* (to appear); ten-page conference version appeared in the Proceedings of APPROX'02 (Annual

Conference on Approximation Algorithms), Rome, Italy (Sept. 2002).

(Dumitriu, P. Tetali, P. Winkler) “On Playing Golf With Two Balls,” *SIAM J. on Discrete Math.* **16** (2003), 604-615.

(D. Achlioptas, J.H. Kim, M. Krivelevich, and P. Tetali), “Two-coloring random hypergraphs,” *Random Structures & Algorithms* **18** (2002), 249-259.

(A. Kostochka, D. Mubayi, V. Rödl, P. Tetali), “On the chromatic number of set systems,” *Random Structures & Algorithms* **19** (2001), 97-98.

(A. Kundgen, D. Mubayi and P. Tetali) “Minimal completely separating systems of  $k$ -sets,” *J. Comb. Theory (Series A)* **93** (2001), 192-198.

(C. Houdré and P. Tetali) “Concentration of Measure for Products of Markov Chains via Functional Inequalities,” *Combinatorics, Probability & Computing*, **10** (2001), 1-28.

(P. Tetali and S. Vempala) “Random Sampling of Euler Tours,” *Algorithmica* **30** (2001), 376-385.

(D. Randall and P. Tetali) “Analyzing Glauber dynamics using comparison of Markov chains,” *J. Math. Physics* (1999), **41** (2000), 1598-1615.

(S. Bobkov, C. Houdré and P. Tetali) “ $\lambda_\infty$ , Vertex isoperimetry and concentration,” *Combinatorica*, **20** (2000), 153-172 .

(P. Fishburn, P. Winkler, and P. Tetali) “Optimal linear arrangements on rectangular grids,” *Discrete Math.*, **213** (2000), 123-139.

(C. Borgs, J. Chayes, A. Frieze, J. H. Kim, P. Tetali, E. Vigoda and V. H. Vu) “Torpид mixing of some MCMC algorithms in statistical physics,” *IEEE Symp. on Foundations of Computer Science* (Oct. 1999), New York.

(J. H. Kim, D. R. Simon, and P. Tetali) “Limits on the efficiency of one-way permutation-based hash functions,” *IEEE Symp. on Foundations of Computer Science* (Oct. 1999), New York.

(P. Bergstrom, M.A. Ingram, A. Vernon, J. Hughes, and P. Tetali) “A Markov Chain Model for a Shared Optical Memory Packet Switch,” *IEEE Trans. on Communications* (Oct. 1999), 1593-1603.

(P. Tetali) “Design of on-line algorithms using hitting times,” *Proc. of the Symp. on Discrete Algorithms* (1994), 402-411; *SIAM J. on Computing* **28** (1999), 1232-1246.

(R. Kannan, P. Tetali, and S. Vempala) “Simple Markov chain algorithms for generating bipartite graphs and tournaments,” *Proc. of 8th Annual ACM/SIAM Symposium on Discrete Algorithms*, Jan. 1997; *Random Structures & Algorithms* **14** (1999), 293-308.

(L. McShine and P. Tetali) “On the Mixing Time of the Triangulation Walk and Other Catalan Structures,” *SIAM Conf. on Discrete Math.* (1998), Toronto, Canada; *DIMACS-AMS volume on Randomization Methods in Algorithm Design* **43** (ed. By Pardalos et al.) (1998), 147-

160.

(D. Randall & P. Tetali) "Analyzing Glauber Dynamics Using Comparison of Markov Chains," presented at LATIN '98, Campinas, Brazil; also appeared in Lecture Notes in Computer Science **1380** (1998).

(F.R.K. Chung and P. Tetali) "Isoperimetric Inequalities for Cartesian products of Graphs," *Combinatorics, Probability and Computing* **7** (1998), 141-148.

(P. Tetali) "A characterization of UNIQUE Tournaments," *J. Combinatorial Theory (Series B)* **72** (1998), 157-159.

(P. Tetali and S. Vempala) "Random Sampling of Euler Tours," *Lecture Notes in Computer Science*, No. 1269 (July 1997), 57-66.

(P. Fishburn, J.H. Kim and P. Tetali) "Score Certificates for Tournaments," *J. Graph Theory* **24** (1997), 117-139.

(J. Palacios and P. Tetali) "A note on expected hitting times for birth and death chains," *Statistics and Probability Letters* **30** (1996), 119-125.

(N. Alon, J. Spencer, and P. Tetali) "Covering with Latin Transversals," DIMACS Technical Report **91-71**, Oct. 1991; also *Discrete Applied Math.* **57** (1995), 1-10.

(P. Erdős, M. Nathanson and P. Tetali) "Independence of Solution Sets and Minimal Asymptotic Bases," *Acta Arithmetica* **LXIX.3** (1995), 243-258.

(J. Spencer and P. Tetali) "Sidon sets with small gaps," in *Discrete Probability and Algorithms*, IMA Volumes in Applied Mathematics and its Applications (eds., D. Aldous et al.), Springer-Verlag, New York (1995).

(P. Tetali) "An Extension of Foster's Network Theorem," *Combinatorics, Probability & Computing*, special issue dedicated to the 80th birthday of Paul Erdős, No. 3 (1994) 421-427.

(P. Tetali and Winkler) "Simultaneous Reversible Markov Chains," *Combinatorics, Paul Erdős Is Eighty (Vol. 1)*, Keszthely, Hungary (1993), 433-451.

(D. Coppersmith, P. Tetali and P. Winkler) "Collisions among Random Walks on a Graph," *SIAM Journal on Discrete Mathematics* **6** (1993), 363-374.

(F.R.K. Chung and P. Tetali) "Communication Complexity and Quasi-Randomness," *SIAM Journal on Discrete Mathematics* **6** (1993), 110-123.

(P. Tetali) "Random Walks and the Effective Resistance of Networks," *Journal of Theoretical Probability* **4** (1991), 101-109.

(P. Tetali and P. Winkler) "On a Random Walk Problem Arising in Self-Stabilizing Token Management," *Proceedings of 10th Annual ACM Symposium on Principles of Distributed*

Computing, Montreal, Canada (1991).

(P. Erdős and P. Tetali) "Representations of Integers as the Sum of  $k$  Terms," *Random Structures and Algorithms* **1** (1990) 245-261.

**b) Accepted for Publication:**

(M. Sammer and P. Tetali) Concentration on the Discrete Torus using Transportation, *Comb. Probab. & Comp.*

(JH. Kim, R. Montenegro, Y. Peres, P. Tetali)  
A Birthday Paradox for Markov chains, with an optimal bound for collision in the Pollard's Rho for Discrete Logarithm, *Springer Lecture Notes in CS*, pp. 402-415; *Ann. Appl. Probab.*

(T. Carroll, D. Galvin, P. Tetali)  
"Matchings and Independent Sets of a Fixed Size in Regular Graphs", *J. Combin. Th. (Series A)*.

(M. Madiman and P. Tetali) "Information Inequalities for Joint Distributions, with Interpretations and Applications," *IEEE Trans. on Information Theory*.

**c) Submitted for Publication:**

(A. Montanari, R. Restrepo, and P. Tetali) "Reconstruction and Clustering in Random Constraint Satisfaction Problems," submitted to Special Issue of *SIAM J. on Discrete Math.*

(D. Galvin, F. Martinelli, K. Ramanan, P. Tetali) "The finite-state hardcore model on a regular tree," submitted to Special Issue of *SIAM J on Discrete Math.*

(C. Heitsch and P. Tetali) Meander Graphs, submitted.

(C. Borgs, J. Chayes and P. Tetali)  
Tight Bounds for Mixing of the Swendsen-Wang Algorithm at the Potts Transition Point, Submitted to *Probab. Th. & Rel. Fields* (July 2008); in revision.

(B. Benson, D. Chakrabarty and P. Tetali)  
G-Parking Functions, Acyclic Orientations and Spanning Trees, Submitted to *Amer. Math. Monthly* (Dec. 2008)

(E. Croot, A. Granville, R. Pemantle, P. Tetali) "Sharp Transitions in Making Squares," submitted to *Jour. of the AMS*. (Oct. 2008).

**NON-REFEREED PUBLICATIONS**

(C. Nair and P. Tetali) "Correlation decay (CD) tree and spatial mixing in multi-spin interacting spin systems," *Math Arxiv* 2007.

(J. Spencer, A. Srinivasan, P. Tetali) “The discrepancy of permutation families,” Preprint (November 2001).

(P. Fishburn, J.H. Kim, and P. Tetali) “Tournament Certificates,” Bell Labs Tech. Memo. (Feb. 1994), DIMACS Tech. Report No. **94-05** (1994).

(P. Tetali) “Electrical proofs for non-electrical results,” Proc. of the 14th IMACS World Congress on Computational and Applied Math., Atlanta, GA, July 1994, Vol. 1, 462-465.

(S. Phillips and P. Tetali) “Hitting costs via electrical resistances and the harmonic algorithm for K-servers,” Bell Labs Tech. Memo, Dec. 1993.

(A. Policriti and P. Tetali) “On the Satisfiability Problem for the Ground Case of First Order Theories,” DIMACS Technical Report **92-38**, Aug. 1992.

(P. Tetali) “Derandomization of Discrepancy Results,” preprint 1991.

(P. Tetali and P. Winkler) “Meeting Times for Random Walks on Graphs,” DIMACS Technical Report **90-65**, October 1990.

(J. Spencer and P. Tetali) “Representations of Integers as the Sum of k Terms II,” V SIAM Conference on Discrete Mathematics, Atlanta, June 1990.

(P. Tetali) “Probabilistic Methods: Algorithmic Aspects,” Technical Report **444**, Dept. of Computer Science, New York University, Feb. 1989.

#### **BOOKS PUBLISHED:**

(R. Montenegro and P. Tetali) **Mathematical Aspects of Mixing Times in Markov Chains**, In the series: Foundations and Trends in Theoretical Computer Science, now Publishers (2006), Boston-Deift.

#### **INVITED PRESENTATIONS:**

January 5-9, '09: 3-hour tutorial on Dynamical and Spatial Mixing in Spin Systems, Workshop on Graphical Models, Phase Transitions, and Algorithms, Tata Institute of Fundamental Research, Mumbai, India.

January 11-13, '09: Keynote Speaker, Jubilee Conference on Discrete Math, Bansthal University, India.

February 6, '08 : Statistics Seminar, Yale University, CT

July 14, '08 : Primetime speaker, Hampshire College Summer Camp in Math, Hampshire, MA

July 17, '08 : Stochastics Seminar speaker, Joint MIT-Microsoft Research (New England),

Cambridge, MA

November 13, '08: ACO Seminar, CMU, Pittsburgh, PA

December 4<sup>th</sup>, '08: Number Theory Seminar, Dartmouth College, Hanover, NH

December 4<sup>th</sup>, '08: Computer Science Colloquium, Dartmouth College, Hanover, NH

April 21-22, '07 : Plenary speaker, Random Combinatorial Structures, University of Nebraska, Lincoln.

May 22-24, '07 : Trinity College, Cambridge University, Combinatorics Seminar, Cambridge, U.K.

May 25-27, '07: London School of Economics, Combinatorics Seminar, London, U.K.

May 28-31, '07: Random Structures & Algorithms, Tel Aviv, Israel

June 25-26, '07: Probability workshop, Bologna, Rome, Italy

July 1-7, '07: Workshop on Interface between Statistical Physics and Computer Science, Trieste, Italy

Sept. 3-7, '07 : Conference on Stochastic Processes & Algorithms, Hausdorff Institute of Mathematics , Bonn, Germany

Oct. 6-7, '07 : Rutgers University, AMS special session on Probability & Combinatorics.

Oct. 11-12, '07 : Clemson Discrete Math & Algorithms Conference

Nov. 5-9, '07: AIM (Palo Alto) workshop on Algorithmic Convex Geometry.

Nov. 30-Dec. 1, '07: MIT, combinatorics seminar speaker.

Dec. 2-3, '07 : Harvard University, workshop on Advances in Analysis of Monte Carlo Methods.

Colloquium, Microsoft-Bangalore, India, December 2006

Theory of Computing seminar, University of Washington, November 2006

Combinatorics seminar, Georgia Tech. November 2006

Workshop on Properties of Large Graphs: From combinatorics to statistical physics and back, DIMACS, Rutgers University, October 2006

Probability Seminar, University of Minnesota, Minneapolis, September 2006

Joint Probability and Computing Seminar, Stanford University, May 2006

Workshop on the Anatomy of Integers, CRM, University of Montreal, Canada, March 2006

Workshop on Lie groups, Representations & Discrete Math, IAS, Princeton, NJ, February 2006

Current Progress and Future Trends in Combinatorics, Banff, Canada, November, 2005

Plenary Talk, AMS Southeast Regional Meeting,, Johnson City, TN, October 2005

Colloquium, Center for Mathematics of Information, Cal Tech, Pasadena, May, 2005

Probability Seminar, MSRI, Berkeley, CA, May 2005

Workshop on Sharp Thresholds for Mixing Times, American Institute of Mathematics, Palo Alto, CA (December 20-23, 2004).

Applied Mathematics Seminar, Johns Hopkins University, Baltimore, MD (November, 2004)

Special Session, Bernoulli Society World Congress, (July 2004)

Lectures on Entropy Inequalities, University of Roma (Tre), Rome, Italy (May 26– June 7, 2004)

IMA Summer Course on Combinatorics and Applications, Georgia Tech., (July 2003).

Combinatorics Seminar, Microsoft Research, Redmond (June 2003).

Probability Seminar, University of California, Berkeley, (May 2003).

Theory of Computing Seminar, University of Washington, Seattle, (April 2003)

Combinatorics Seminar, University of Washington, Seattle, (March 2003).

Invited Speaker, part of CBMS lecture series, University of Memphis, Memphis, (May 2003).

Invited Speaker, Newton Institute of Mathematical Sciences, Cambridge, England, (August 2002).

Invited Speaker, Pacific Institute of Mathematical Sciences, Vancouver, Canada (July 2002).

Seminar, Laboratoire d'informatique École Polytechnique, Orsay, France, December 17-20<sup>th</sup>, 2001.

Special Colloquium, University of Memphis, November 7-10<sup>th</sup>, 2001.

Combinatorics, Probability, and Computing, Oberwolfach, Germany (one week), January 2001.

Graphs, Morphisms, and Statistical Physics, DIMACS Workshop at Rutgers University, New Brunswick, NJ, March 2001.

Invited Speaker: Randomized and Approximation Algorithms, Edinburgh, Scotland, Sept. 19-21,

2000.

Invited Speaker: Number Theory, Conference in Memory of Paul Erdős, Budapest, Hungary, July 4-11, 1999.

Invited Speaker: Probabilistic Combinatorics, Annual meeting of the AMS, San Antonio, Texas, Jan 13-16, 1999.

Invited Speaker: From Erdős to Algorithms: Applications of the Probabilistic Method, A joint DIMACS-DIMATIA Workshop, Rutgers, NJ, June 10-12, 1998.

Invited Speaker: Random Methods in Combinatorics, Sao Sebastiao, SP, Brazil, Apr 24-May 2, 1998.

Invited Speaker: Randomization Methods in Algorithm Design, Princeton University, Princeton, NJ, Dec 12-14, 1997.

Invited Speaker: Twelfth Clemson Mini-Conference on Discrete Mathematics, Clemson University, Clemson, SC, Sept. 1997.

Invited Speaker: The Tenth Annual Cumberland Conference hosted by Emory University Mathematics Department, Atlanta, May 1997.

Invited Speaker: Applied Mathematics Seminar at University of Pennsylvania, Philadelphia, PA, March 20-21, 1997.

Invited Speaker: Combinatorics Seminar at the Institute for Advanced Study (IAS), Princeton, NJ, Feb. 1997.

Invited Speaker: Isoperimetry and Expander Graphs, Random Graphs, The Stephan Banach International Center for Mathematical Studies, Warsaw, Poland, Sept. 1996.

Invited Speaker: The International Conference on Mathematical Theory of Networks & Systems, St. Louis, July 1996.

Organized a session on Discrete Random Structures as part of the ORSA/TIMS Conference on Applied Probability, Georgia Tech, June 1995.

Invited Speaker: Dagstuhl seminar on Computing with Faulty Inputs," May 1995.

Invited Speaker: Probability seminar at Michigan Tech., December 1994.

Invited Speaker: Applied Probability session of the 14th IMACS World Congress on Computational and Applied Mathematics (organized by Bill Ames et al.), Atlanta, July 1994.

Invited Speaker: Annual meeting of the Michigan Section of the MAA, Alma College, Alma, Michigan, April 1994.

Invited Speaker: Session on Probabilistic Methods, Conference for Erdős' 80th birthday, Dekalb, Illinois, May 1993.

### **RESEARCH GRANTS AND CONTRACTS:**

“Information Inequalities and Combinatorial Applications,” NSF grant (DMS-070143) approved for Summers 2007, 2008, 2009. Total : \$202,000. Additional travel supplement awarded Nov 2008: \$11, 375.

“Graph homomorphisms, Stochastic Networks, and Discrete Mass Transport” NSF grant (DMS-0401239) approved for Summers 2004, 2005 and 2006. Total: \$148,386.

“Problems in Combinatorial Functional Analysis,” NSF grant, approved for Summers 2001, 2002 and 2003. Total: \$102,987; supplement for undergraduate research \$4001.

“Uniqueness of Gibbs Measures and Rapidly Mixing Dynamics,” NSF grant, approved for summers 1998, 1999 and 2000. Total: \$75,000

“Markov Chain Problems with Applications,” NSF grant, Oct. 1994, approved for summers 1995 & 1996. July 1-Sept. 1, 1995: \$18,319; July 1-Sept. 1, 1996: \$19,719. Total: \$38,038

### **HONORS, AWARDS, OR RECOGNITION:**

Named SIAM Fellow for contributions to Discrete Mathematics and Algorithms, May 2009.

Editor-in-Chief, SIAM J. on Discrete Mathematics, January 2009.

Keynote Speaker, International conference on Discrete Mathematics, Banasthali, India, Jan. (2009)

Keynote Speaker, Markov-chain Monte Carlo Methods, Isaac Newton Inst. Of Math. Sciences, March (2008)

Appointed SIAM SODA Action Committee (Co-chair with David Johnson)

Plenary Speaker, Conference on Random Structures, University of Nebraska, Lincoln, April (2007)

Plenary Speaker, AMS Southeast Regional Meeting, Tennessee, October (2005).

Plenary Speaker, Second International Workshop on Applied Probability, March 22-25 (2004), University of Piraeus, Greece (2004).

Principal Speaker, along with Jeong Han Kim, invited to give five lectures on “Probabilistic Combinatorics and Isoperimetric Inequalities” in the Rocky Mountain Mathematics Consortium Summer School, held in Laramie, Wyoming, June 2000.

Principal Speaker: Invited to give six lectures on “Random walks and on-line algorithms,” at Universidad Simon Bolivar, Caracas, Venezuela, May 1994.

Honorable mention by SIAM for contribution to the SIAM student paper competition, July 1990.

**GRADUATE STUDENTS SUPERVISED:**

Lisa McShine, Ph.D. student (graduated)

Steve Horton, Ph.D. student (graduated)  
(jointly with Professor Gary Parker, Industrial & Systems Engineering, Georgia Tech)

Valerie Wallace, M.S. student (graduated)

Jose Miguel Renom (Simon Bolivar Universidad, Venezuela)

Marcus Sammer (Univ. of Washington, graduated May 2005)

Teena Carroll (St. Norbert's College, WI, graduated Spring 2008)

Adam Marcus (Gibbs Instructor, Yale University, graduated Summer 2008)

**CURRENT ADVISEES:**

Ricardo Restrepo (3<sup>rd</sup> year Ph.D. student)

Kevin Costello, (Ph.D. Advisor: Van Vu) -- postdoctoral researcher

**INSTITUTE AND DEPARTMENTAL SERVICE:**

2009- current: College of Sciences P&T Committee

2007-2008: School of Math Chair Search Committee

2007-2008: College of Computing Dean's Five Year Review Committee

2007-2009 : Hiring Committee Member, Combinatorics Seminar Organizer

2005-2007 : Salary & Awards Committee

1995-2007 : Served on various committees including, Junior P&T, Faculty Advisory Committee

**PROFESSIONAL SERVICE AND MEMBERSHIP:**

2009 – current : Editor in Chief, SIAM J on Discrete Mathematics

2001-- 2007 : Advisory Board of Jour. Comb. Theory (Series A)

2006 – 2009 : Associate Editor of Annals of Applied Probability

2008—current : Editor, Random Structures & Algorithms

2008 – current: Steering Committee Member, ACM-SIAM Sponsored SODA

Member of the American Mathematical Society, Member of SIAM

Co-organizer (with Fabio Martinelli and Dana Randall) Working group on Markov Chains, Georgia Tech, Atlanta, GA (June 2009).

Co-organizer (with Olgica Milenkovic and Alon Orlitsky) Workshop on Computational and Information-theoretical approaches to Virology, UC San Diego, CA (February 2009).

Co-organizer (with R. Thomas et al) Conference on New Directions in Algorithms, Combinatorics & Optimization: also in honor of Tom Trotter's 60<sup>th</sup> Birthday, Georgia Tech (May 2008).

Co-organizer (with J. Chayes, F. Martinelli, and M. Molloy) Workshop on Phase Transitions, Hard Combinatorial Problems and Message Passing Algorithms, Banff International Research Center, Canada (June 2008).

Co-organizer (with N. Alon, J. Pach, A. Srinivasan) Workshop on Probabilistic Combinatorics & Algorithms, Conference in honor of Joel Spencer's 60 birthday, DIMACS (April, 2006).

Co-organized (with Russ Lyons) a minisymposium on "Probability & Combinatorics" as part of the joint AMS-MAA meeting at Georgia Tech., Atlanta (March 2002).

Organized a minisymposium on "Isoperimetry and Concentration," as part of the SIAM Discrete Mathematics Conference (July 1998), Toronto, Canada

Organized a minisymposium on "Markov chain Monte Carlo: theory & applications" as part of the SIAM Annual Meeting (May 1999), Atlanta, GA

Co-organized (with Dana Randall) a workshop on "Combinatorial methods for statistical physics methods," at Georgia Tech (April 1999)

Program Committee of ACM-SIAM sponsored Symposium on Discrete Algorithms, January 2000

Organizing Committee of the SIAM Discrete Mathematics Conference, June 2000