

## Curriculum Vitae

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### Affiliation and Rank

Department of Computer Science, and  
Institute for Advanced Computer Studies (UMIACS)

Rank: Professor (since July, 2006)

### Research Interests

Algorithms, networks, probabilistic methods, and computing in the service of society. Specific interests include:

- algorithms and combinatorial optimization;
- probabilistic methods in computer science;
- networking (wireless and peer-to-peer), social networks, and distributed algorithms; and
- public health: networked phenomena in infectious diseases, sensing, optimization, and climatic effects.

### Education

B.Tech.	Indian Institute of Technology, Madras	1989	Computer Science
M.S.	Cornell University	1993	Computer Science
Ph.D.	Cornell University	1993	Computer Science

## Work Experience

- 2006**– Professor, Computer Science Department, University of Maryland. (Sabbatical leave at the Network Dynamics and Simulation Science Laboratory of the Virginia Bioinformatics Institute, Virginia Tech., July 2007–June 2008.)
- 2001–2006** Associate Professor with Tenure, Computer Science Department, University of Maryland.
- 1998–2001** Member of Technical Staff, Mathematics of Networks and Systems Research Dept., Bell Laboratories, Lucent Technologies, Murray Hill, NJ, USA.
- 1998** Senior Lecturer with tenure (equivalent to *Associate Professor* in the USA), School of Computing, National University of Singapore, Singapore.
- 1997–1998** Tenure-track Senior Lecturer (equivalent to *Associate Professor* in the USA), School of Computing, National University of Singapore, Singapore.
- 1995–1997** Tenure-track Lecturer (equivalent to *Assistant Professor* in the USA), School of Computing, National University of Singapore, Singapore.
- 1994** Member, Institute for Advanced Study, Princeton, USA.
- 1993–1994** Joint postdoctoral fellow, Institute for Advanced Study and DIMACS (Center for Discrete Mathematics and Theoretical Computer Science), USA.
- 1989–1992** Teaching Assistant, Dept. of Computer Science, Cornell University, USA.

**Visiting Appointments** Various institutions including CWI – Centrum voor Wiskunde en Informatica (Center for Mathematics and Computer Science, Amsterdam, Netherlands), University of Venice (Italy), MIT, University of Melbourne (Australia), Max-Planck Institute (Germany), University of Warwick (England), and the Weizmann Institute of Science (Israel).

## Papers in Refereed Journals

1. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “A Unified Approach to Scheduling on Unrelated Parallel Machines”. *Journal of the ACM*, Vol. 56, No. 5, 2009.
2. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Scheduling on Unrelated Machines under Tree-Like Precedence Constraints”. *Algorithmica*, Vol. 55, 205–226, 2009. (Special issue dedicated to selected papers from the *APPROX 2005* conference.)
3. A. Srinivasan, “A Note on the Distribution of the Number of Prime Factors of the Integers”. *Information Processing Letters*, Vol. 109, Issue 2, 133–135, 2008.
4. S. Lee, B. Bhattacharjee, A. Srinivasan, and S. Khuller, “Efficient and Resilient Backbones for Multihop Wireless Networks”. *IEEE Transactions on Mobile Computing*, Vol. 7, 1349–1362, 2008.

5. A. Gupta, A. Srinivasan, and É. Tardos, “Cost-Sharing Mechanisms for Network Design”. *Algorithmica*, Vol. 50, 98–119, 2008.
6. E. Halperin, G. Kortsarz, R. Krauthgamer, A. Srinivasan, and N. Wang, “Integrality Ratio for Group Steiner Trees and Directed Steiner Trees”. *SIAM Journal on Computing*, Vol. 36, 1494–1511, 2007.
7. R. Morselli, B. Bhattacharjee, M. Marsh, and A. Srinivasan, “Efficient Lookup on Unstructured Topologies”. *IEEE Journal on Selected Areas in Communications* (Special Issue on *Peer-to-Peer Communications and Applications*), Vol. 25, 62–72, 2007.
8. A. Srinivasan, “An Extension of the Lovász Local Lemma, and its Applications to Integer Programming”. *SIAM Journal on Computing*, Vol. 36, 609–634, 2006.
9. R. Gandhi, S. Khuller, S. Parthasarathy, and A. Srinivasan, “Dependent Rounding and its Applications to Approximation Algorithms”. *Journal of the ACM*, Vol. 53, 324–360, 2006.
10. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, A. Srinivasan, and S. Züst, “Provable Algorithms for Parallel Generalized Sweep Scheduling”. *Journal of Parallel and Distributed Computing*, Vol. 16, 807–821, 2006.
11. S. Banerjee, S. Lee, B. Bhattacharjee, and A. Srinivasan, “Resilient Multicast using Overlays”. *IEEE/ACM Transactions on Networking*, Vol. 14, 237–248, 2006.
12. R. Gandhi, S. Khuller, A. Srinivasan, and N. Wang, “Approximation Algorithms for Channel Allocation Problems in Broadcast Networks”. *Networks*, Vol. 47, 225–236, 2006.
13. A. Gupta and A. Srinivasan, “On the Covering Steiner Problem”. *Theory of Computing*, Vol. 2, 53–64, 2006.
14. R. Gandhi, E. Halperin, S. Khuller, G. Kortsarz, and A. Srinivasan, “An Improved Approximation Algorithm For Vertex Cover with Hard Capacities”. *Journal of Computer and System Sciences*, Vol. 72, 16–33, 2006.
15. R. Sherwood, B. Bhattacharjee, and A. Srinivasan, “ $\mathcal{P}^5$ : A Protocol for Scalable Anonymous Communication”. *Journal of Computer Security*, Vol. 13, 839–876, 2005.
16. D. Dubhashi, A. Mei, A. Panconesi, J. Radhakrishnan, and A. Srinivasan, “Fast Distributed Algorithms for (Weakly) Connected Dominating Sets and Linear-Size Skeletons”. *Journal of Computer and System Sciences*, Vol. 71, 467–479, 2005.
17. H. Shachnai and A. Srinivasan, “Finding Large Independent Sets in Graphs and Hypergraphs”. *SIAM Journal on Discrete Mathematics*, Vol. 18, 488–500, 2004.
18. R. Gandhi, S. Khuller, and A. Srinivasan, “Approximation Algorithms for Partial Covering Problems”. *Journal of Algorithms*, Vol. 53, 55–84, 2004.
19. S. Eubank, H. Guclu, V. S. A. Kumar, M. V. Marathe, A. Srinivasan, Z. Toroczkai, and N. Wang. “Modelling Disease Outbreaks in Realistic Urban Social Networks”. *Nature*, Vol. 429, 180–184, 13 May 2004.

20. A. Srinivasan, “On the Approximability of Clique and Related Maximization Problems”. *Journal of Computer and System Sciences*, Vol. 67, 633–651, 2003.
21. W. Gasarch, E. Golub, and A. Srinivasan. “When does a Random Robin Hood win?”. *Theoretical Computer Science*, Vol. 304, Issues 1–3, 477–484, 2003.
22. C. Barrett, D. Cook, V. Faber, G. Hicks, A. Marathe, M. Marathe, A. Srinivasan, Y. Sussmann, and H. Thornquist. “Statistical Analysis of Algorithms: A Case Study of Market-Clearing Mechanisms in the Power Industry”. *Journal of Graph Algorithms and Applications*, Vol. 7, 3–31, 2003.
23. A. Caprara, G. Italiano, G. Mohan, A. Panconesi, and A. Srinivasan, “Wavelength Rerouting in Optical Networks, or the Venetian Routing Problem”. *Journal of Algorithms*, Vol. 45, 93–125, 2002.
24. U. Feige, M. M. Halldórsson, G. Kortsarz, and A. Srinivasan, “Approximating the Domatic Number”. *SIAM Journal on Computing*, Vol. 32, 172–195, 2002.
25. G. Konjevod, R. Ravi, and A. Srinivasan, “Approximation Algorithms for the Covering Steiner Problem”. *Random Structures & Algorithms* (Special Issue on *Probabilistic Methods in Combinatorial Optimization*), Vol. 20, 465–482, 2002.
26. F. T. Leighton, C.-J. Lu, S. B. Rao, and A. Srinivasan, “New Algorithmic Aspects of the Local Lemma with Applications to Routing and Partitioning”. *SIAM Journal on Computing*, Vol. 31, 626–641, 2001.
27. Y. Li, P. M. Long, and A. Srinivasan, “Improved Bounds on the Sample Complexity of Learning”. *Journal of Computer and System Sciences*, Vol. 62, 516–527, 2001.
28. A. Srinivasan and C.-P. Teo, “A Constant-Factor Approximation Algorithm for Packet Routing and Balancing Local vs. Global Criteria”. *SIAM Journal on Computing*, Vol. 30, 2051–2068, 2001.
29. Y. Li, P. M. Long, and A. Srinivasan, “The One-Inclusion Graph Algorithm is Near-Optimal for the Prediction Model of Learning”. *IEEE Transactions on Information Theory*, Vol. 47, 1257–1261, 2001.
30. L. A. Goldberg, M. S. Paterson, A. Srinivasan, and E. Sweedyk, “Better Approximation Guarantees for Job-Shop Scheduling”. *SIAM Journal on Discrete Mathematics*, Vol. 14, 67–92, 2001.
31. L. A. Goldberg, P. D. MacKenzie, M. S. Paterson, and A. Srinivasan, “Contention Resolution with Constant Expected Delay”. *Journal of the ACM*, Vol. 47, 1048–1096, 2000.
32. S. Chari, P. Rohatgi, and A. Srinivasan, “Improved Algorithms via Approximations of Probability Distributions”. *Journal of Computer and System Sciences*, Vol. 61, 81–107, 2000.
33. A. Baveja and A. Srinivasan, “Approximation Algorithms for Disjoint Paths and Related Routing and Packing Problems”. *Mathematics of Operations Research*, Vol. 25, 255–280, 2000.

34. P. Bai, B. Prabhakaran, and A. Srinivasan, “Retrieval Scheduling For Collaborative Multimedia Presentations”. *ACM/Springer-Verlag Multimedia Systems Journal*, Vol. 8, 146–155, 2000.
35. M. Saks, A. Srinivasan, S. Zhou, and D. Zuckerman, “Low Discrepancy Sets yield Approximate Min-Wise Independent Permutation Families”. *Information Processing Letters*, Vol. 73, 29–32, 2000.
36. J. Radhakrishnan and A. Srinivasan, “Improved Bounds and Algorithms for Hypergraph 2-Coloring”. *Random Structures & Algorithms*, Vol. 16, 4–32, 2000.
37. A. Baveja and A. Srinivasan, “Approximating Low-Congestion Routing and Column-Restricted Packing Problems”. *Information Processing Letters*, Vol. 74, 19–25, 2000.
38. A. Srinivasan and D. Zuckerman, “Computing with Very Weak Random Sources”. *SIAM Journal on Computing*, Vol. 28, 1433–1459, 1999.
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43. A. Panconesi and A. Srinivasan, “Randomized Distributed Edge Coloring via an Extension of the Chernoff-Hoeffding Bounds”. *SIAM Journal on Computing*, Vol. 26, 350–368, 1997.
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45. S. Chari, P. Rohatgi, and A. Srinivasan, “Randomness-Optimal Unique Element Isolation with Applications to Perfect Matching and Related Problems”. *SIAM Journal on Computing*, Vol. 24, 1036–1050, 1995.
46. J. P. Schmidt, A. Siegel, and A. Srinivasan, “Chernoff–Hoeffding Bounds for Applications with Limited Independence”. *SIAM Journal on Discrete Mathematics*, Vol. 8, 223–250, 1995.
47. A. Panconesi and A. Srinivasan, “The Local Nature of  $\Delta$ -Coloring and its Algorithmic Applications”. *Combinatorica*, Vol. 15, 255–280, 1995.
48. A. Srinivasan and C. Pandu Rangan, “Efficient Algorithms for the Minimum Weighted Dominating Clique Problem on Permutation Graphs”. *Theoretical Computer Science*, Vol. 91, 1–21, 1991.
49. R. Mahesh, C. Pandu Rangan, and A. Srinivasan, “On Finding the Minimum Bandwidth of Interval Graphs”. *Information and Computation*, Vol. 95, 218–224, 1991.

## Book Chapters

1. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Minimum Weighted Completion Time”. *Encyclopedia of Algorithms* (M.-Y. Kao, Editor-in-Chief), Springer, 2008.
2. S. Eubank, V. S. A. Kumar, M. V. Marathe, A. Srinivasan, and N. Wang, “Structure of Social Contact Networks and their Impact on Epidemics”. *AMS-DIMACS Volume on Discrete Methods in Epidemiology*, Vol. 70, 181–214, 2006.
3. D. Cook, G. Hicks, V. Faber, M. V. Marathe, A. Srinivasan, Y. J. Sussmann, and H. Thornquist. “Combinatorial Problems Arising in Deregulated Electrical Power Industry: Survey and Future Directions”. *Approximation and Complexity in Numerical Optimization: Continuous and Discrete Problems* (P. M. Pardalos, Editor), Kluwer Academic Publishers, pages138–162, 2000.
4. A. Srinivasan, “A Survey of the Role of Multicommodity Flow and Randomization in Network Design and Routing”. *Randomization Methods in Algorithm Design* (P. M. Pardalos, S. Rajasekaran and J. Rolim, editors), American Mathematical Society, Series in *Discrete Mathematics and Theoretical Computer Science*, Volume 43, 271–302, 1999.
5. A. Srinivasan, “Approximation Algorithms via Randomized Rounding: a Survey”. In *Lectures on Approximation and Randomized Algorithms* (M. Karoński and H. J. Prömel, editors), Series in *Advanced Topics in Mathematics*, Polish Scientific Publishers PWN, Warsaw, 9–71, 1999.

## Papers in Refereed Conferences

1. B. Saha and A. Srinivasan, “A New Approximation Technique for Resource-Allocation Problems”. To appear, *Proc. First Annual Symposium on Innovations in Computer Science (ICS)*, 2010. (ICS is a new forum aiming to be a high-quality conference in theoretical computer science.)
2. T. DuBois, J. Golbeck, J. Kleint and A. Srinivasan, “Improving Recommendation Accuracy by Clustering Social Networks with Trust”. *Proc. ACM RecSys’09 Workshop on Recommender Systems and the Social Web*, 2009. (Eight pages.)
3. T. DuBois, J. Golbeck and A. Srinivasan, “Rigorous Probabilistic Trust-inference with Applications to Clustering”. *Proc. IEEE/WIC/ACM International Conference on Web Intelligence (WI)*, 655–658, 2009.
4. S. Alaei, A. Malekian and and A. Srinivasan, “On Random Sampling Auctions for Digital Goods”. *Proc. ACM Conference on Electronic Commerce (EC)*, 187–196, 2009.
5. Y. Azar, A. Madry, T. Moscibroda, D. Panigrahi and A. Srinivasan, “Maximum Bipartite Flow in Networks with Adaptive Channel Width”. *Proc. International Colloquium on Automata, Languages, and Programming (ICALP)*, 187–196, 2009.

6. B. Han, V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Distributed Strategies for Channel Allocation and Scheduling in Software-Defined Radio Networks”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, 1521–1529, 2009.
7. A. Srinivasan, “Budgeted Allocations in the Full-Information Setting.” *Proc. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 247–253, 2008.
8. S. Pemmaraju and A. Srinivasan, “The Randomized Coloring Procedure with Symmetry-Breaking”. *Proc. International Colloquium on Automata, Languages, and Programming (ICALP)*, 306–319, 2008. 2008.
9. D. Chafekar, V. S. A. Kumar, D. Levin, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Capacity of Asynchronous Random-Access Scheduling in Wireless Networks”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, 1148–1156, 2008.
10. D. Chafekar, V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Approximation Algorithms for Computing Capacity of Wireless Networks with SINR constraints”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, 1166–1174, 2008.
11. A. Srinivasan, “Improved Algorithmic Versions of the Lovász Local Lemma”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 611–620, 2008.
12. V. Gopalakrishnan, R. Morselli, B. Bhattacharjee, P. Keleher, and A. Srinivasan, “Distributed Ranked Search”. *Proc. Annual International Conference on High Performance Computing (HiPC)*, 7–20, 2007.
13. D. Chafekar, V. S. A. Kumar, M. V. Marathe, S. Parthasarathy and A. Srinivasan, “Cross-Layer Latency Minimization in Wireless Networks with SINR Constraints”. *Proc. ACM International Symposium on Mobile Ad Hoc Networking and Computing (MOBIHOC)*, 110–119, 2007.
14. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy and A. Srinivasan, “Provable Algorithms for Joint Optimization of Transport, Routing and MAC layers in Wireless Ad Hoc Networks”. *Proc. DialM-POMC Workshop on Foundations of Mobile Computing* 2007. (Invited and refereed paper; eight pages.)
15. A. Srinivasan, “Approximation Algorithms for Stochastic and Risk-Averse Optimization”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 1305–1313, 2007.
16. A. Ambainis, W. Gasarch, A. Srinivasan, and A. Utis, “Lower Bounds on the Deterministic and Quantum Communication Complexities of Hamming-Distance Problems”. *Proc. International Symposium on Algorithms and Computation (ISAAC)*, 628–637, 2006.
17. A. Mishra, V. Brik, S. Banerjee, A. Srinivasan, and W. Arbaugh, “A Client-Driven Approach for Channel Management in Wireless LANs”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, 2006. (Twelve pages, no pagination.)

18. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Approximation Algorithms for Scheduling on Multiple Machines”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 254–263, 2005.
19. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Scheduling on Unrelated Machines under Tree-Like Precedence Constraints”. *Proc. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 146–157, 2005. (Invited to the special issue of *Algorithmica* dedicated to selected papers from the *APPROX 2005* conference.)
20. R. Morselli, B. Bhattacharjee, M. Marsh, and A. Srinivasan, “Efficient Lookup on Unstructured Topologies”. *Proc. ACM Symposium on Principles of Distributed Computing (PODC)*, 77–86, 2005.
21. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “Algorithmic Aspects of Capacity in Wireless Networks”. *ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS)*, 133–144, 2005.
22. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, A. Srinivasan, and S. Züst, “Provable Algorithms for Parallel Sweep Scheduling on Unstructured Meshes”. *Proc. International Parallel and Distributed Processing Symposium (IPDPS)*, 2005.
23. A. Gupta, A. Srinivasan, and É. Tardos, “Cost-Sharing Mechanisms for Network Design”. *Proc. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 139–150, 2004.
24. S. Banerjee, S. Lee, R. Braud, B. Bhattacharjee, and A. Srinivasan, “Scalable Resilient Media Streaming”. *Proc. ACM International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, 4–9, 2004.
25. V. S. A. Kumar, M. V. Marathe, S. Parthasarathy, and A. Srinivasan, “End-to-End Packet-Scheduling in Wireless Ad-Hoc Networks”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 1014–1023, 2004.
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27. A. Gupta and A. Srinivasan, “On the Covering Steiner Problem”. *Proc. Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FST & TCS)*, 244–251, 2003.
28. R. Gandhi, S. Khuller, A. Srinivasan, and N. Wang, “Approximation Algorithms for Channel Allocation Problems in Broadcast Networks”. *Proc. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 47–58, 2003.
29. R. Gandhi, E. Halperin, S. Khuller, G. Kortsarz, and A. Srinivasan, “An Improved Approximation Algorithm For Vertex Cover with Hard Capacities”. *Proc. International Colloquium on Automata, Languages, and Programming (ICALP)*, 164–175, 2003.

30. S. Banerjee, S. Lee, B. Bhattacharjee, and A. Srinivasan, “Resilient Multicast using Overlays”. *Proc. ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS)*, 102–113, 2003.
31. D. Dubhashi, A. Mei, A. Panconesi, J. Radhakrishnan, and A. Srinivasan, “Fast Distributed Algorithms for (Weakly) Connected Dominating Sets and Linear-Size Skeletons”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 717–724, 2003.
32. E. Halperin, G. Kortsarz, R. Krauthgamer, A. Srinivasan, and N. Wang, “Integrality Ratio for Group Steiner Trees and Directed Steiner Trees”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 275–284, 2003.
33. R. Gandhi, S. Khuller, S. Parthasarathy, and A. Srinivasan, “Dependent Rounding in Bipartite Graphs”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 323–332, 2002.
34. E. Halperin and A. Srinivasan, “Improved Approximation Algorithms for the Partial Vertex Cover Problem”. *Proc. Fifth International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)*, 161–174, 2002.
35. R. Sherwood, B. Bhattacharjee, and A. Srinivasan, “ $\mathcal{P}^5$ : A Protocol for Scalable Anonymous Communication”. *Proc. IEEE Symposium on Security and Privacy*, 58–70, 2002.
36. M. Andrews, B. Shepherd, A. Srinivasan, P. Winkler, and F. Zane, “Clustering and Server Selection using Passive Monitoring”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, Vol. 3, 1717–1725, 2002.
37. A. Srinivasan, “Distributions on Level-Sets with Applications to Approximation Algorithms”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 588–597, 2001.
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39. C. Barrett, D. Cook, V. Faber, G. Hicks, A. Marathe, M. Marathe, A. Srinivasan, Y. Sussmann, and H. Thornquist, “Experimental Analysis of Algorithms for Bilateral-Contract Clearing Mechanisms Arising in Deregulated Power Industry”. *Proc. Workshop on Algorithm Engineering (WAE)*, 172–184, 2001.
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45. A. Srinivasan, “The Value of Strong Inapproximability Results for Clique”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 144–152, 2000.
46. A. Srinivasan, K. G. Ramakrishnan, K. Kumaran, M. Aravamudan, and S. Naqvi, “Optimal Design of Signaling Networks for Internet Telephony”. *Proc. IEEE Conference on Computer Communications (INFOCOM)*, 707–716, 2000.
47. Y. Li, P. M. Long, and A. Srinivasan, “Improved Bounds on the Sample Complexity of Learning”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 309–318, 2000.
48. M. Saks, A. Srinivasan, S. Zhou, and D. Zuckerman, “Low Discrepancy Sets yield Approximate Min-Wise Independent Permutation Families”. *Proc. International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM)*, 11–15, 1999.
49. P. Bai, B. Prabhakaran, and A. Srinivasan, “Application-Layer Broker for Scalable Internet Services with Resource Reservation”. *Proc. ACM Multimedia Conference (MM '99)*, 103–106, 1999. (Poster paper.)
50. F. T. Leighton, S. B. Rao, and A. Srinivasan, “New Algorithmic Aspects of the Local Lemma with Applications to Routing and Partitioning”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 643–652, 1999.
51. J. Radhakrishnan and A. Srinivasan, “Improved Bounds and Algorithms for Hypergraph Two-Coloring”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 684–693, 1998.
52. D. Cook, V. Faber, M. V. Marathe, A. Srinivasan, and Y. J. Sussmann, “Low-Bandwidth Routing and Electrical Power Networks”. *Proc. International Colloquium on Automata, Languages, and Programming (ICALP)*, 604–615, 1998.
53. F. T. Leighton, S. B. Rao, and A. Srinivasan, “Multicommodity Flow and Circuit Switching”. *Proc. Hawaii International Conference on System Sciences (HICSS)*, 459–465, 1998.
54. A. Srinivasan, “Improved Approximations for Edge-Disjoint Paths, Unsplittable Flow, and Related Routing Problems”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 416–425, 1997.
55. P. S. Giridharan and A. Srinivasan, “Mechanism Design for Intellectual Property Rights Protection”. *Proc. International Conference on Information Systems (ICIS)*, 1997.

56. P. Auer, P. M. Long, and A. Srinivasan, “Approximating Hyper-Rectangles: Learning and Pseudo-Random Sets”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 314–323, 1997.
57. A. Srinivasan and C.-P. Teo, “A Constant-Factor Approximation Algorithm for Packet Routing, and Balancing Local vs. Global Criteria”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 636–643, 1997.
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59. A. Srinivasan, “Improving the Discrepancy Bound for Sparse Matrices: Better Approximations for Sparse Lattice Approximation Problems”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 692–701, 1997.
60. N. Alon and A. Srinivasan, “Improved Parallel Approximation of a Class of Integer Programming Problems”. *Proc. International Colloquium on Automata, Languages, and Programming (ICALP)*, 562–573, 1996.
61. A. Srinivasan, “An Extension of the Lovász Local Lemma, and its Applications to Integer Programming”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 6–15, 1996.
62. M. Naor, L. J. Schulman, and A. Srinivasan, “Splitters and Near-Optimal Derandomization”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 182–191, 1995.
63. M. S. Paterson and A. Srinivasan, “Contention Resolution with Bounded Delay”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 104–113, 1995.
64. M. Saks, A. Srinivasan, and S. Zhou, “Explicit Dispersers with Polylog Degree”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 479–488, 1995.
65. A. Srinivasan, “Improved Approximations of Packing and Covering Problems”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 268–276, 1995.
66. A. Srinivasan and D. Zuckerman, “Computing with Very Weak Random Sources”. *Proc. IEEE Symposium on Foundations of Computer Science (FOCS)*, 264–275, 1994.
67. S. Chari, P. Rohatgi, and A. Srinivasan, “Improved Algorithms via Approximations of Probability Distributions”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 584–592, 1994.
68. S. Chari, P. Rohatgi, and A. Srinivasan, “Randomness-Optimal Unique Element Isolation, with Applications to Perfect Matching and Related Problems”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 458–467, 1993.
69. J. P. Schmidt, A. Siegel, and A. Srinivasan, “Chernoff–Hoeffding Bounds for Applications with Limited Independence”. *Proc. ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 331–340, 1993.

70. A. Panconesi and A. Srinivasan, “Fast Randomized Algorithms for Distributed Edge Coloring”. *Proc. ACM Symposium on Principles of Distributed Computing (PODC)*, 251–262, 1992.
71. A. Panconesi and A. Srinivasan, “Improved Distributed Algorithms for Coloring and Network Decomposition Problems”. *Proc. ACM Symposium on Theory of Computing (STOC)*, 581–592, 1992.

### Other Papers and Theses

1. A. Srinivasan, “Randomized Algorithms and Probabilistic Analysis in Wireless Networking”. *Proc. Symposium on Stochastic Algorithms, Foundations, and Applications (SAGA)*, J. Hromkovic, R. Královic, M. Nunkesser, and P. Widmayer (Editors), Lecture Notes in Computer Science 4665, Springer, 54–57, 2007.
2. L. Fleischer, A. Meyerson, I. Saniee, B. Shepherd, and A. Srinivasan, “A Scalable Algorithm for the Minimum Expected Cost Restorable Flow Problem”. Technical Report TR-2003-10, Computational Optimization Research Center, Columbia University, 2003. (A version was presented by L. Fleischer at the *DIMACS Mini-Workshop on Quality of Service Issues in the Internet*, 2001.)
3. J. H. Spencer, A. Srinivasan, and P. Tetali. “The Discrepancy of Permutation Families”. Unpublished manuscript, 2001.
4. A. Srinivasan, “Low-Discrepancy Sets for High-Dimensional Rectangles: a Survey”. *Bulletin of the European Association for Theoretical Computer Science*, Number 70, 67–76, 2000.
5. A. Srinivasan, “Scheduling and Load-balancing via Randomization”. *Proc. Pre-Conference Workshop on Randomized Algorithms*, Annual Conference on Foundations of Software Technology and Theoretical Computer Science, 1997.
6. A. Srinivasan, “The Role of Randomness in Computation”. BRICS Notes Series NS-95-6, Basic Research Institute in Computer Science, Denmark, 1995.
7. A. Srinivasan, “Techniques for Probabilistic Analysis and Randomness-Efficient Computation”. TR 93-1378, Department of Computer Science, Cornell University, 1993.
8. A. Srinivasan, “A Generalization of Brooks’ Theorem”. TR 92-1302, Department of Computer Science, Cornell University, 1992.
9. A. Srinivasan, “Fast Algorithms for Some Problems on Interval and Permutation Graphs”. B. Tech. Thesis, Department of Computer Science & Engineering, Indian Institute of Technology, Chennai, 1989.

### Book Reviews and Technical Interviews

1. A. Srinivasan, “Review of *The Random Projection Method* by Santosh Vempala,” *ACM SIGACT News*, Vol. 37, Issue 4, 41–43, 2006.

2. A. Srinivasan, “An Interview with STOC Best Student Paper Winner Tom Hayes,” *ACM SIGACT News*, Vol. 34, Number 3, 88–89, 2003.

### Major Lectures and Invited Courses

- Lecture at the *PanIIT Research Symposium* (part of the IIT Madras Golden Jubilee Celebrations), Indian Institute of Technology Madras, December 2008.
- Invited speaker, *Forty-Sixth Annual Allerton Conference on Communication, Control, and Computing*, University of Illinois at Urbana-Champaign, September 2008. (Declined due to schedule-conflict.)
- Invited speaker, *Network Design Workshop*, Ninth INFORMS Telecommunications Conference, March 2008.
- Invited speaker, *Fourth Symposium on Stochastic Algorithms, Foundations, and Applications* (SAGA), ETH Zurich, Switzerland, September 2007.
- Distinguished invited speaker, *Fifty-Third Midwest Theory Day*, Purdue University, December 2006.
- Invited speaker, *Workshop on Mathematical Modeling and Implications for Pandemic Influenza Preparedness*, Vancouver, March 2005. (Interdisciplinary workshop sponsored by the Public Health Agency of Canada, the British Columbia Centre for Disease Control, the Centre for Mathematics of Information Technology and Complex Systems, and the Pacific Institute of Mathematical Sciences.)
- Tutorial on “Performance of Peer-to-Peer Systems” with S. Banerjee, *Joint International Conference on Measurement and Modeling of Computer Systems* (SIGMETRICS-Performance), 2004.
- Mini-course “An Invitation to Randomized Algorithms”, Indian Institute of Technology, Chennai, India, December 2003.
- One of the main hour-long invited talks, *Second Annual McMaster Optimization Conference: Theory and Applications*, McMaster University, August 2002. (The other invited speakers: J. Betts (Boeing), S. Boyd (Stanford), C. Floudas (Princeton), R. Freund (MIT), R. Tapia (Rice), and Y. Ye (Stanford).)
- Short course on “Randomized rounding”, Institute of Mathematical Sciences, Chennai, India, December 1997.
- Short course on “Approximation algorithms via randomized rounding”, Joint summer school of the Humboldt-University (Berlin) and Adam Mickiewicz University (Poznan, Poland) on *Randomized Algorithms*, Antonin, Poland, September 1997.
- Short course on “Probabilistic Methods in Integer Programming,” University of Melbourne, Australia, June–July 1996.

- Short course on “The Role of Randomness in Computation”, BRICS (Basic Research Institute for Computer Science), University of Aarhus, Denmark, May 1995.
- Invited speaker, *Workshop on Randomized Algorithms* preceding the Annual Conference on Foundations of Software Technology and Theoretical Computer Science, Kharagpur, India, December 1997.
- Keynote Speaker, Graduate Conference on Computer Science, State University of New York at Buffalo, March 1994.
- Department Colloquia: Duke University, Johns Hopkins University, Princeton University, Swarthmore College, University of Connecticut, and the University of Iowa.
- Talks given at various institutions including AT&T Research Labs, Carnegie-Mellon University, DIMACS Center, Hebrew University of Jerusalem, Institute for Advanced Study, McGill University, MIT, New York University, Oxford University, Sandia National Laboratories, Technion, University of Chicago, University of Pennsylvania, University of Texas at Austin, and the University of Toronto.
- Other invited talks since 2001 (selected): Virginia Bioinformatics Institute (series of three lectures, July 2009), McGill University (May 2009), Centrum voor Wiskunde en Informatica (July 2008), Indian Institute of Technology, Madras (December 2007), *FriezeFest*, workshop in honor of Prof. A. Frieze’s 60th birthday, Carnegie-Mellon University (October 2005), University of Southern California (October 2004), Celera Genomics (April 2004), University of California at Los Angeles (October 2003), Workshop on Network Management and Design (Institute for Mathematics and its Applications, University of Minnesota, April 2003), University of Texas at Dallas (November 2002), Institute of Mathematical Sciences (Chennai, India; June 2002), Carnegie-Mellon University (February 2002), AMS Annual Meeting, Session on *Probabilistic Methods in Combinatorics and the Internet* (January 2002), and First Arizona Workshop on Algorithms (Arizona State University, October 2001).

## Courses Taught

Fall 2009	CMSC 652	Complexity Theory
Fall 2009	CMSC 456	Cryptology
Spring 2009	CMSC 858C	The Probabilistic Method (12 students + 3 audit)
Fall 2008	CMSC 456	Cryptology (29 students)
Spring 2007	CMSC 858S	Randomness and Computation (13 students + 2 audit)
Fall 2006	CMSC 456	Cryptology (35 students)
Spring 2006	CMSC 451	Design and Analysis of Computer Algorithms (32 students)
Fall 2005	CMSC 456	Cryptology (46 students + 1 audit)
Spring 2005	CMSC 451	Design and Analysis of Computer Algorithms (42 students)
Fall 2004	CMSC 858S	Algorithms in Networking (24 students + 1 audit)
Spring 2004	CMSC 451	Design and Analysis of Computer Algorithms (31 students)
Fall 2003	CMSC 456	Cryptology (37 students)
Spring 2003	CMSC 858T	Randomized Algorithms (10 students)
Fall 2002	CMSC 451	Design and Analysis of Computer Algorithms (45 students)

Spring 2002	CMSC 451	Design and Analysis of Computer Algorithms (28 students)
Fall 2001	CMSC 858S	Randomized Algorithms (23 students)

Undergraduate and graduate-level courses at the National University of Singapore, 1995–98.

### New Courses Developed

1. *Algorithms in Networking*, taught Fall 2004.
2. *Randomized Algorithms*, taught Fall 2001 and Spring 2003.

### Grants

- *Collaborative Research: NeTS-NBD: An Integrated Approach to Computing Capacity and Developing Efficient Cross-Layer Protocols for Wireless Networks*, National Science Foundation. PI: Madhav Marathe of the Virginia Polytechnic Institute; Srinivasan is the PI for Maryland. Other co-PIs: Bobby (Samrat) Bhattacharjee and V. S. Anil Kumar. September 2006 – August 2010.
- *Public Health Preparedness for the Vancouver 2010 Winter Olympic Games: Developing Network-based Strategies for Major Public Events*, Canadian Institutes of Health Research, 2006–07. PI: Babak Pourbohloul of the Centre for Disease Control, University of British Columbia; several co-PIs.
- *Resilient Storage and Querying in Decentralized Networks*, National Science Foundation, ITR for National Priorities. PI: Bobby (Samrat) Bhattacharjee; co-PIs Sudarshan Chawathe, Jonathan Katz, Michael Marsh, and Aravind Srinivasan. September 2004 – August 2010.
- *Probabilistic Approaches in Combinatorial Optimization*, National Science Foundation, June 2002–May 2005. (Sole Investigator. No-Cost Extension, June 2005–May 2006.)
- *Algorithms for message routing and job-shop scheduling*, National University of Singapore Academic Research Fund, 1997–1998.
- *Implementation of Approximation Algorithms and Heuristics for Optimisation*, National University of Singapore Academic Research Fund, 1996–1997.
- *Travel Grants for Young Asian Scholars*, University of Melbourne, Australia, 1996.
- *Research in Parallel Computing and Combinatorial Optimisation*, National University of Singapore Academic Research Fund, 1996–1998.

### Awards, Patents, and Recognition

- Our paper “Modelling Disease Outbreaks in Realistic Urban Social Networks” that appeared in *Nature* in May 2004, received a good deal of media coverage, including *Reuters*, *MSNBC*, *International Herald Tribune*, and the *Boston Globe*.

- U. S. Patent 7,280,526, *Fast and scalable approximation methods for finding minimum cost flows with shared recovery strategies, and system using same*, with L. K. Fleischer, F. B. Shepherd, and I. Saniee. (Issued 2007; assigned to Lucent Technologies.)
- U. S. Patent 7,020,698, *System And Method For Locating A Closest Server In Response To A Client Domain Name Request*, with M. Andrews, M. Hofmann, F. B. Shepherd, P. Winkler, and F. Zane. (Issued 2006; assigned to Lucent Technologies.)
- U. S. Patent 6,687,363, *Method of Designing Signaling Networks for Internet Telephony*, with M. Aravamudan, K. Kumaran, and K. G. Ramakrishnan. (Issued 2004; assigned to Lucent Technologies.)
- Elevated to Senior Member of IEEE, February 2004.
- IBM Graduate Fellowship, 1992–1993.
- Research Fellowship, Mathematical Sciences Institute of Cornell University, Summer 1992.
- Best Paper Award for the paper “Distributed Ranked Search” coauthored with V. Gopalakrishnan, R. Morselli, B. Bhattacharjee, and P. Keleher, *Annual International Conference on High Performance Computing (HiPC)*, 2007.
- Co-Winner, Best Student Paper Award for the paper “Improved Distributed Algorithms for Coloring and Network Decomposition Problems” coauthored with A. Panconesi, *ACM Symposium on Theory of Computing (STOC)*, 1992.
- Member, winning team (team-mates: A. Nagarajan and R. Venkatasubramani), First Mathematics Contest held among the students of the Indian Institute of Technology, Chennai, 1988.
- Eighth in India, Joint Entrance Examination for the Indian Institutes of Technology, 1985.

### Recognition for Students Advised

- Ph.D. student D. Levin was an author of the paper that was co-winner of the Best Paper Award at the *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, April 2009.
- Ph.D. student D. Levin received a Microsoft Live Labs Fellowship in January 2008.
- Levon Mkrtchyan, student of Montgomery Blair High School, whose Senior Research Project on *Distributed Algorithms* was supervised by me, joined the University of Maryland (Computer Science major) in Fall 2007, supported by a four-year President’s Scholarship.
- Ph.D. student S. Parthasarathy’s thesis, *Resource Allocation in Networked and Distributed Environments*, 2006, was nominated for the ACM Doctoral Dissertation Award by the Dept. of Computer Science, University of Maryland. (One of two nominations in 2006.)
- Ph.D. student T. DuBois received a Dean’s Fellowship award for 2009-2010.

- Ph.D. student D. Levin received a Dean’s Fellowship award for 2006-2007.
- Ph.D. student S. Parthasarathy received a Dean’s Fellowship award for 2005-2006.

### Citations in Books (Selected)

1. D. P. Dubhashi and A. Panconesi, *Concentration of Measure for the Analysis of Randomized Algorithms*, Cambridge University Press, 2009.
2. S. Arora and B. Barak, *Computational Complexity: A Modern Approach*, Cambridge University Press, 2009.
3. A. Schrijver, *Combinatorial Optimization - Polyhedra and Efficiency*, Springer-Verlag, 2003.
4. M. Molloy and B. Reed, *Graph Colouring and the Probabilistic Method*, Springer-Verlag, 2002.
5. P. M. Pardalos, S. Rajasekaran, J. H. Reif and J. Rolim, editors, *Handbook of Randomized Computing (Volumes I and II)*, Kluwer Academic Publishers, 2001.
6. B. Chazelle, *The Discrepancy Method*, Cambridge University Press, 2001.
7. V. Vazirani, *Approximation Algorithms*, Springer-Verlag, 2001.
8. J. Bang-Jensen and G. Gutin, *Digraphs: Theory, Algorithms and Applications*, Springer-Verlag, 2000.
9. N. Alon and J. H. Spencer, *The Probabilistic Method*, Second Edition, Wiley, 2000.
10. D. Peleg, *Distributed Computing: A Locality-Sensitive Approach*, SIAM, 2000.
11. J. Matoušek, *Geometric Discrepancy: An Illustrated Guide*, Springer, 1999.
12. C. Scheideler, *Universal Routing Strategies for Interconnection Networks*, Lecture Notes in Computer Science 1390, Springer, 1998.
13. M. Habib, C. McDiarmid, J. Ramirez-Alfonsin and B. Reed (editors), *Probabilistic Methods for Algorithmic Discrete Mathematics*, Springer-Verlag, 1998.
14. D. S. Hochbaum (editor), *Approximation Algorithms for NP-Hard Problems*, PWS Press, 1997.
15. R. Motwani and P. Raghavan, *Randomized Algorithms*, Cambridge University Press, 1995.

### Advising

**Current Doctoral Students:** Thomas DuBois, Bo Han, and David Levin (Han and Levin are co-advised with Samrat “Bobby” Bhattacharjee).

**Graduated Doctoral Students:**

- Srinivasan Parthasarathy, *Resource Allocation in Networked and Distributed Environments*, July 2006. First employment: IBM T. J. Watson Research Center.
- Nan Wang, *Modeling and Analysis of Massive Social Networks*, June 2005. First employment: Citadel Investment Group.

**Master’s Students Advised:** Dan-Dan Lin, National University of Singapore, 1998.

**Undergraduate Projects Supervised:** Various projects on Internet applications, financial and other applications software, and combinatorial optimization, National University of Singapore.

**Ph.D. Thesis-Committee Memberships:** University of Maryland, College Park: Prasanth Anthapadmanabhan (ECE, 2009), Brooke Shrader (ECE, 2008), Tolga Girici (ECE, 2007), Guang Han (ECE, 2007), David Omer Horvitz (2007), Jae-Yoon Jung (2007), Srinivas Kashyap (2007), Nan Liu (ECE, 2007), Abhishek Kashyap (ECE, 2006), Ruggero Morselli (2006), Tamer Nadeem (2006), Yoo-Ah Kim (2005), Andrzej Kochut (2005), Justin Yung-Chun Wan (2005), Rajiv Gandhi (2003). Other universities: Deepti Chafekar (Virginia Tech., 2009), Sachin Lodha (Rutgers University, 2001), Stavros Kolliopoulos (Dartmouth College, 1998).

**Other Ph.D.-Proposal Committees:** University of Maryland, College Park: Adam Bender (2009), Saurabh Srivastava (2008), Guilherme Fonseca (2006), Chiu-Yuen Koo (2006), Julian Mestre (2006), Arunchandar Vasani (2006).

**Honors Thesis Committee Memberships:** Jonathan Roberts and Chad Rivera, Department of Government and Politics, University of Maryland, 2003.

**Supervision of Independent Study:** Jennifer Roberts (undergraduate student), *Quantum Computing*, Spring 2004; Michael Kobayakov (graduate student), *Complex Networks*, Fall 2005.

### Departmental Service

2009-10	Teaching Evaluation Committee.
2008-09	APT Committee for consideration of promotion of Prof. Bobby Bhattacharjee to Professor.
2007-08	On sabbatical leave: no university service.
2007	Graduate Admissions Committee.
2006–07	Chair, Academic Integrity Committee. Chair, Teaching Evaluation Committee.
2006	Co-organizer, Panel on <i>The Future of Computer Science</i> .
2006	Graduate Program Revision Committee.
2005–06	Chair, <i>Algorithms and Theory</i> Field Committee. Chair, Academic Integrity Committee. Graduate Admissions Committee. Graduate Course Curriculum Committee. Teaching Evaluation Committee.
2004–05	Academic Integrity Committee. Help with Graduate-Student Applications.

2004 Chair, Friday Faculty Lunch Co-ordination.  
 Coordinator, Graduate Student Orientation.  
 Coordinator, TA Training Program.

2003–04 Academic Integrity Committee.  
 Committee on Upper-Division Courses.  
 Committee on Graduate Program.  
 Chair, Friday Faculty Lunch Co-ordination.

2002–03 Departmental Self-Review Committee.

2002 Committee on Lower-Division Courses.

1995–98 Several departmental committees, National University of Singapore.

### **UMIACS Service**

June 2008 Co-organizer, CHIDS-UMIACS workshop on  
*Health Information Management: The Next Wave*.

2005–06 Search Committee for Faculty, Center for Bioinformatics and  
 Computational Biology.

2004–05 Search Committee for Director/Faculty, Center for Bioinformatics and  
 Computational Biology.

Fall 2003 Co-organizer, UMIACS–Laboratory for Telecommunications Sciences (LTS) Seminar.

### **Service to College of Computer, Mathematical, and Physical Sciences, University of Maryland**

2008–10 College-level APT (Appointments, Tenure, and Promotions) Committee.

2004 Computer Science Chairperson Review Committee.

### **Service to the Graduate School, University of Maryland**

2008–11 Graduate Council.

### **Outside Service**

#### **Editorship:**

1. Managing Editor, *Theory of Computing* (ToC), 2006 – present (Editor, 2005 – 2006).
2. Associate Editor, *Networks*, 2006 – present.
3. Associate Editor, *Journal of Computer and System Sciences* (JCSS), 2004 – present.
4. Editor, *Journal of Discrete Algorithms* (JDA), 2004 – present.
5. Guest editor (along with P. Sanders and B. Voeking), special issue of the journal *Theory of Computing Systems* (TOCS, formerly *Mathematical Systems Theory*), Volume 39, Number 6, 2006, devoted to selected papers from the *Sixteenth Annual ACM Symposium on Parallel Algorithms and Architectures* (SPAA).

6. Guest editor (along with S. Khanna), special issue of the *Journal of Computer and System Sciences* (JCSS), Volume 69, Number 3, 2004, devoted to selected papers from the *Thirty-Fifth Annual ACM Symposium on Theory of Computing* (STOC).

**Program Committee Memberships:**

1. *Forty-Second Annual ACM Symposium on Theory of Computing* (STOC), Boston, USA, 2010.
2. *Twenty-Ninth IEEE Conference on Computer Communications* (INFOCOM), San Diego, USA, 2010.
3. *Twenty-Eighth Annual ACM Symposium on Principles of Distributed Computing* (PODC), Calgary, Canada, 2009.
4. *Genetic and Evolutionary Computation Conference* (GECCO), Montréal, Canada, 2009.
5. *Twenty-Eighth IEEE Conference on Computer Communications* (INFOCOM), Rio de Janeiro, Brazil, 2009.
6. *Twenty-Seventh Annual Conference on Foundations of Software Technology and Theoretical Computer Science* (FST & TCS), Delhi, India, 2007.
7. *Eleventh International Workshop on Randomization and Computation* (RANDOM), Princeton, USA, 2007.
8. *Joint Workshop on Foundations of Mobile Computing* (DIAL-M-POMC), co-located with ACM MOBICOM, Cologne, Germany, 2005.
9. *Sixteenth ACM Symposium on Parallelism in Algorithms and Architectures* (SPAA), Barcelona, Spain, 2004.
10. *Thirty-Fifth Annual ACM Symposium on Theory of Computing* (STOC), San Diego, USA, 2003.
11. *Sixth International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications* (DIAL M for Mobility), Atlanta, USA, 2002.
12. *Twenty-First Annual Conference on Foundations of Software Technology and Theoretical Computer Science* (FST & TCS), Bangalore, India, 2001.
13. *Fourth International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications* (DIAL M for Mobility), Boston, USA, 2000.
14. *Fourth International Workshop on Randomization and Approximation Techniques in Computer Science* (RANDOM), Geneva, Switzerland, 2000.
15. *Asian Computing Science Conference* (ASIAN), Phuket, Thailand, 1999.
16. *Tenth Annual International Symposium on Algorithms and Computation* (ISAAC), Chennai, India, 1999.
17. *Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (SODA), San Francisco, USA, 1998.
18. *Sixth Scandinavian Workshop on Algorithm Theory* (SWAT), Stockholm, Sweden, 1998.
19. *Eighteenth Annual Conference on Foundations of Software Technology and Theoretical Computer Science* (FST & TCS), Chennai, India, 1998.

20. *Seventh Annual International Symposium on Algorithms and Computation (ISAAC)*, Osaka, Japan, 1996.

#### **Conference Organization:**

- Organizer and Chair, Session on Wireless Networking, *Twentieth International Symposium on Mathematical Programming (ISMP)*, Chicago, USA, 2009.
- Chair, Local Organizing Committee, *Annual ACM Symposium on Theory of Computing (STOC)*, Bethesda, MD, USA, 2009.
- Co-organizer, CHIDS-UMIACS workshop on *Health Information Management: The Next Wave*, June 2008.
- Co-organizer, *Workshop on Wireless and Sensor Networking*, Bertinoro, Italy, August 2007.
- Co-organizer, Conference on *Probabilistic Combinatorics & Algorithms* in honor of Prof. Joel Spencer's 60th birthday. DIMACS Center, Piscataway, USA, April 2006.
- Co-organizer, Workshop on *Algorithms in Networking*, co-located with the *Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FST & TCS)*, Hyderabad, India, December 2005.
- Member, Local Organizing Committee, *Annual ACM Symposium on Theory of Computing (STOC)*, Baltimore, USA, May 2005.
- Co-organizer, *Workshop on Random Graphs and Randomized Algorithms*, Bertinoro, Italy, May 2002.
- Co-organizer, *DIMACS Mini-Workshop on Quality of Service Issues in the Internet*, DIMACS Center, Piscataway, USA, February 2001.
- Chair, Session on *Data Network Routing and Modeling*, Fifth INFORMS Telecommunications Conference (BOCA 2000), Boca Raton, USA, March 2000.
- Organizer and one of the speakers, *Symposium on Parallel & Distributed Computing and Networks*, National University of Singapore, July 1998. (Speakers from Telcordia Technologies—formerly Bellcore, Carnegie-Mellon University, Harvard University, MIT, National University of Singapore, Rice University, University of Illinois at Urbana-Champaign, and the University of Texas at Austin.)

#### **Reviewing and Related Panels/Workshops:**

- Invited participant, National Science Foundation Workshop on *The Science of Power Management*, April 2009.
- Invited speaker and participant, National Science Foundation Workshop on *Bridging the Gap between Wireless Networking Technologies and Advances at the Physical Layer*, August 2007.
- Invited participant for External Partners discussion, Scientific Review of the Virginia Bioinformatics Institute, June 2007.
- Proposal reviewer, U.S. Army Research Office, 2009.
- Proposal reviewer, US-Israel Binational Science Foundation: 2009 and 2003.

- Proposal reviewer, Israel Science Foundation: 2008, 2007, 2006, and 2005.
- *Ad hoc* Reviewer, National Science Foundation, 2007.
- Reviewer, John Simon Guggenheim Memorial Foundation, 2006.
- Member, National Science Foundation Award Panel, 2006.
- Proposal reviewer, Indo-Swiss Joint Research Programme, 2005.
- External examiner for a Ph.D. candidate, National University of Singapore, 2003.
- External reviewer, research proposal submitted to the National University of Singapore, 1999.
- External reviewer for a senior researcher, HP Labs (formerly *DEC Systems Research Center*), Palo Alto, USA, 1998.
- Refereed submissions for various journals including *ACM Transactions on Algorithms*, *ACM Transactions on Computer Systems*, *Algorithmica*, *Combinatorica*, *Discrete Applied Mathematics*, *IEEE Journal on Selected Areas in Communications*, *IEEE Transactions on Computers*, *IEEE Transactions on Parallel and Distributed Systems*, *Information and Computation*, *Information Processing Letters*, *Journal of the ACM*, *Journal of Algorithms*, *Journal of Computer and System Sciences*, *Journal of Parallel and Distributed Computing*, *Mathematical Methods of Operations Research*, *Mathematical Programming*, *Operations Research*, *Probability Theory and Related Fields*, *Random Structures & Algorithms*, *Science*, *SIAM Journal on Computing*, *SIAM Journal on Discrete Mathematics*, *Statistics & Probability Letters*, *Theoretical Computer Science*, and *Theory of Computing Systems*.

#### Community and Outreach Activities:

- Volunteer mentor for an undergraduate student, *Achieving College Excellence* (ACE) Program ([www.aceum.umd.edu](http://www.aceum.umd.edu)) at the University of Maryland, 2009–2010.
- Lectured on *Mathematics for the Information Age* at the Minnesota State Community and Technical College, August 2009.
- Volunteer for free Medical Camp in inner-city Baltimore, 2008.
- Supervisor for Senior Research Project, Levon Mkrtchyan (student of Montgomery Blair High School), 2006.
- Prepared/bought and served dinner approximately once a month at a homeless-women's shelter in Rockville, Maryland; 2005–present.
- Lectured on algorithmic ideas underlying information security and web-search, *Passport* summer program for high-school students, University of Maryland, 2005.
- Co-ordinator for DOOR, a program supported by ACM, IEEE and SIAM to contribute selected conference proceedings to academic institutions in the Third World, 1993–94.

**Recent Consulting:** Research labs and technology companies including Microsoft Research (Redmond, Washington), Los Alamos National Laboratory, Navigation Technologies, and Veveo, Inc.