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Areas of Interest: Distributed Systems, Discrete Event Systems, Software Engineering

Education:
Ph.D. in Electrical Engineering and Computer Science, University of California at Berkeley, December 1988.
M.S. in Electrical Engineering and Computer Science, University of California at Berkeley, December 1985.
B.Tech. in Computer Engineering, Indian Institute of Technology (IIT) at Kanpur, India, May 1984.

Academic Positions:
Cullen Trust for Higher Education Endowed Professor, The University of Texas at Austin, beginning September 2006.
Engineering Foundation Endowed Professor, The University of Texas at Austin, 9/98 - 8/06.
Associate Professor, The University of Texas at Austin, 9/94 - 8/98.
General Motors Foundation Centennial Teaching Fellow in Electrical Engineering, effective September 1993.
Assistant Professor, The University of Texas at Austin, January 1989 - August 1994.
Post Graduate Researcher, Electronics Research Laboratory, University of California at Berkeley, 9/86 - 10/88.
Research Assistant, Electronics Research Laboratory, University of California at Berkeley, 8/84 - 9/86.
Teaching Assistant, Electrical Engineering and Computer Science Department, University of California at Berkeley, 8/84-12/84.

Other Professional Experience:
Manager, High Performance Computing Group, IBM India Research Lab, Delhi, India, 8/07 - 5/09.
Visiting Member of Research Staff, IBM India Research Lab, Delhi, India, 6/05 - 7/05.
N. Rama Rao Distinguished Visiting Chair Professor, IIT Kanpur, India, 7/02 - 12/02.
Software Engineer, Patni Computer Systems, Bombay, India, 5/84 - 7/84.

Publications:
A0. Books/Research Monographs

1. V.K. Garg, *Lattice Theory with Applications to Computer Science*, under preparation.

2. V.K. Garg, *Concurrent and Distributed Computing in Java*, John Wiley and Sons, 2004 ISBN 0-471-43230-X.

3. V.K. Garg, *Elements of Distributed Computing*, John Wiley and Sons, 2002, 424 pp. ISBN 0-471-03600-5.

4. V.K. Garg, *Principles of Distributed Systems*, research monograph, Kluwer Academic Publishers, Norwell Massachusetts, 1996. 254 pp. ISBN 0-7923-9668-5.

5. R. Kumar, V.K. Garg, *Modeling and Control of Logical Discrete Event Systems*, research monograph, Kluwer Academic Publishers, Norwell Massachusetts, 1995, 160 pp. ISBN 0-7923-9538-7.

A1. Refereed Archival Journal Publications:

1. Bharath Balasubramanian, Vijay K. Garg, Fault Tolerance in Distributed Systems using Fused Data Structures, *IEEE Transactions on Parallel and Distributed Systems* 24(4): 701-715 (2013).

2. Vijay K. Garg, Anurag Agarwal, Vinit Ogale Modeling, Analyzing and Slicing Periodic Distributed Computations, *Information and Computation*, accepted.

3. Venkatesan T. Chakaravarthy, Anamitra R. Choudhury, Vijay K. Garg, Yogish Sabharwal, Efficient Decentralized Algorithms for the Distributed Trigger Counting Problem. *Theory of Computing Systems* 51(4): 447-473 (2012).

4. Rahul Garg, Vijay K. Garg, Yogish Sabharwal: Scalable algorithms for global snapshots in distributed systems. *IEEE Transactions on Parallel and Distributed Systems*, May 2010.

5. Neeraj Mittal, Alper Sen and Vijay K. Garg, Solving Computation Slicing Using Predicate Detection, *IEEE Transactions on Parallel and Distributed Systems* 18(12): 1700-1713 (2007).

6. Neeraj Mittal, Ranganath Atreya, Ajay Kshemkalyani, Vijay K. Garg, and Mukesh Singhal Efficient Detection of a Locally Stable Predicate in a Distributed System, *Journal on Parallel and Distributed Computing* 67(4): 369-385 (2007)

7. V.K. Garg, C. Skawratananond, N. Mittal, Timestamping Messages and Events in a Distributed System using Synchronous Communication, *Distributed Computing* 19(5-6): 387-402 (2007).

8. Alper Sen and Vijay K. Garg, Formal Verfication of Simulation Traces using Computation Slicing , *IEEE Transactions on Computers*, 56(4): 511-527 (2007).

9. Anurag Agarwal, Vijay K. Garg, Efficient Dependency Tracking for Relevant Events in Concurrent Systems, *Distributed Computing* 19(3): 163-183 (2007).

10. Vijay K. Garg, Algorithmic Combinatorics based on Slicing Posets , *Theoretical Computer Science*, Vol. 359, August 2006, pp. 200 - 213.

11. Shailesh Patil, Vijay K. Garg, Adaptive Algorithms for Perfectly Periodic Schedules, *Information Processing Letters* Vol. 98, No. 3, May 2006, pp. 107 – 114.

12. Sujatha Kashyap, Vijay K. Garg, Intractability Results in Predicate Detection, *Information Processing Letters*, Vol. 94, No. 6, pp. 277 - 282, June 2005.

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13. Neeraj Mittal and Vijay K. Garg, "Techniques and Applications of Computation Slicing," *Distributed Computing* 17(3): 251-277 (2005).

14. R. Kumar, V. K. Garg, "Computation of State Avoidance Control for Infinite State Systems in Assignment Program Framework," *IEEE Transactions on Robotics and Automation*, Volume 2, No. 1, January 2005, pp. 87 - 91.

15. Neeraj Mittal and Vijay K. Garg, "Finding missing synchronization in a distributed computation using controlled re-execution," *Distributed Computing* Vol. 17, 2004, pp. 107–130.

16. A. Tarafdar, V. K. Garg, "Predicate Control: Synchronization in Distributed Computations with Look-Ahead," *Journal of Parallel and Distributed Computing*, Vol. 64, No. 2, 2004, pp. 219 – 237.

17. O. Damani, Yi-Min Wang and V. K. Garg, "K-Optmistic Message Logging," *Journal on Parallel and Distributed Computing*, Volume 63, Issue 12, December 2003, Pages 1193-1218.

18. R. Kumar, V. K. Garg, "Control of Stochastic Discrete Event Systems Modeled by Probabilistic Languages," *IEEE Transactions on Automatic Control*, Volume 46, No. 1, April 2001, pp. 593 – 606.

19. V. K. Garg, M. Raynal, "Normality: A Consistency Condition for Concurrent Objects," *Parallel Processing Letters*, Vol. 9, No. 1, March 1999, pp. 123 - 134.

20. V. K. Garg, R. Kumar, S. I. Marcus, "A Probabilistic Language Formalism for Stochastic Discrete Event Systems," *IEEE Transactions on Automatic Control*, Vol. 44, No. 2, February 1999, pp. 280 – 293.

21. C. M. Chase, V. K. Garg, "Efficient Detection of Global Predicates in a Distributed System," *Distributed Computing*, Vol. 11, No. 4, 1998, pp. 169 – 189.

22. V. K. Garg, C. M. Chase, R. Kilgore and J. R. Mitchell, "Efficient Detection of Channel Predicates in a Distributed System," *Journal of Parallel and Distributed Computing*, Vol. 45, No. 2, September 1997, pp. 134 – 147.

23. V. K. Garg, "Methods for Observing Global Properties in Distributed Systems," *IEEE Concurrency*, Vol. 5, No. 4, October 1997, pp. 69 – 77.

24. V. K. Garg, J. R. Mitchell, "Efficient Detection of Conjunctions of Global Predicates in a Distributed System," *Information Processing Letters 63*, 1997, pp. 295 – 302.

25. V. K. Garg, A. I. Tomlinson, "Using the Causal Domain to Specify and Verify Distributed Programs," *Acta Informatica*, Vol. 34, 1997, pp. 667 – 686.

26. A. I. Tomlinson, V. K. Garg, "Monitoring Functions on Global States in Distributed Programs," *Journal of Parallel and Distributed Computing*, Vol. 41, No. 2, March 1997, pp. 173 – 189.

27. V. K. Garg, B. Waldecker, "Detection of Strong Unstable Predicates in Distributed Programs," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 7, No. 12, Dec. 1996, pp. 1323 – 1333.

28. D. D. Cofer, V. K. Garg, "Supervisory Control of Real-Time Discrete Event Systems Using Lattice Theory," *IEEE Transactions on Automatic Control*, Vol. 41, No. 2, February 1996, pp. 199-209.

29. R. Kumar and V. K. Garg, "Extremal Solutions of Inequations over Lattices," *Theoretical Computer Science*, 148, August 1995, pp. 67 – 92.

30. R. Kumar, V. K. Garg, S. I. Marcus, "Finite Buffer Realization of Input-Output Discrete Event Systems," *IEEE Transactions on Automatic Control*, Vol. 40, No. 6, June 1995, pp. 1042 – 1053.

31. S. Young, V. K. Garg, "Model Uncertainty in Discrete Event Systems," *SIAM Journal on Control and Optimization*, Vol. 33, No. 1, January 1995, pp. 208 – 226.

32. R. Kumar, V. K. Garg, "Optimal Supervisory Control of Discrete Event Dynamical Systems," *SIAM Journal on Control and Optimization* Vol. 33, No. 2, March 1995, pp. 419 – 439.

33. V. K. Garg, J. Ghosh, "Repeated Computation of Global Functions in a Distributed Environment," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 5, No. 8, August 1994, pp. 823 – 834.

34. V. K. Garg, B. Waldecker, "Detection of Weak Unstable Predicates in Distributed Programs," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 5, No. 3, March 1994, pp. 299-307.

35. R. Kumar, V. K. Garg, S. I. Marcus, "Language Stability and Stabilizability of Discrete Event Dynamic Systems," *SIAM Journal on Control and Optimization*, Vol. 31, No. 5, September 1993, pp. 1294-1320.

36. R. Kumar, V. K. Garg, S. I. Marcus, "A Predicate Transformer Approach to Control of Discrete Event Systems," *IEEE Transactions on Automatic Control*, Vol. 38, No. 2, February 1993, pp. 232-247.

37. R. Kumar, V. K. Garg, S. I. Marcus, "On ω-Controllability and ω-Observability of Discrete Event Dynamic Systems," *IEEE Transactions on Automatic Control*, Vol. 37, No. 12, December 1992, pp. 1978-1985.

38. V. K. Garg, "Some Optimal Algorithms for Decomposed Partially Ordered Sets," *Information Processing Letters*, 44, November 1992, pp. 39-43.

39. V. K. Garg, M. T. Raghunath, "Concurrent Regular Expressions and their Relationship to Petri Net Languages," *Theoretical Computer Science*, 96 (1992), pp. 285-304.

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41. R. Kumar, V. K. Garg, S. I. Marcus, "On Controllability and Observability of Discrete Event Dynamic Systems," *System & Control Letters*, Vol. 17, No. 3, 1991, pp. 157-168.

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43. C. V. Ramamoorthy, V. K. Garg, A. Prakash, "Reusability Support in GENESIS," *IEEE Transactions on Software Engineering*, Vol. 14, No. 8, August 1988, pp. 1145-1154.

44. C. V. Ramamoorthy, A. Prakash, V. K. Garg, T. Yamaura, A. Bhide, "Issues in the Development of Large, Distributed, and Reliable Software," *Advances in Computers*, Vol. 26, 1987, pp. 396-443.

45. C. V. Ramamoorthy, S. Shekhar, V. K. Garg, "Software Development Support for AI Programs," *IEEE Computer,* January 1987, pp. 30-40.

46. C. V. Ramamoorthy, V. K. Garg, A. Prakash, "Programming in the Large," *IEEE Transactions on Software Engineering,* Vol. 12, No. 7, July 1986, pp. 769-783.

B1. Refereed Conference Proceedings (Published/Accepted)

1. Nitin Vaidya, Vijay K. Garg Byzantine Vector Consensus in Complete Graphs, ACM Principle of Distributed Computing (PODC) 2013.

2. Wei-Lun Hung, Vijay K. Garg, AutoSynch: An Automatic-Signal Monitor Based on Predicate Tagging, ACM Programming Languages Design and Implementation (PLDI) 2013.

3. Himanshu Chauhan, Vijay K. Garg, Democratic Elections in Faulty Distributed Systems Proc. of Distributed Computing and Networking - 14th International Conference, ICDCN 2013, pp. 176-191.

4. Vijay K. Garg, Maximal Antichain Lattice Algorithms for Distributed Computations "Proc. of Distributed Computing and Networking - 14th International Conference, ICDCN 2013" , pp. 240-254.

5. John Bridgman, Vijay K. Garg All-to-All Gradecast Using Coding with Byzantine Failures SSS 2012, Toronto, Canada, pp. 285-298.

6. Vijay K. Garg, Lattice Completion Algorithms for Distributed Computations In Proc. of Principles of Distributed Systems - 16th International Conference, OPODIS 2012, pp. 166-180.

7. John Bridgman, Vijay K. Garg Brief Announcement: All-to-All Gradecast Using Coding with Byzantine Failures PODC 2012, Madeira, Portugal, pp. 95-96. 2011

8. Vijay K. Garg, John Bridgman, Bharath Balasubramanian Accurate Byzantine with Feedback OPODIS 2011, pp. 465-480.

9. Bharath Balasubramanian, Vijay K. Garg Fusion-based DFSMs for Fault Tolerance in Distributed Systems ,Proc. OPODIS 2011, pp. 266-282.

10. Vijay K. Garg, John Bridgman, Bharath Balasubramanian Brief Announcement: Accurate Byzantine with Feedback PODC 2011, pp. 215-216.

11. Bharath Balasubramanian, Vijay K. Garg: A fusion-based approach for tolerating multiple faults in distributed systems. ICDCS 2011, pp. 677-688

12. Vijay K. Garg, John Bridgman The Weighted Byzantine Agreement Problem, IPDPS'2011, pp. 524-531.

13. Venkatesan T. Chakaravarthy, Anamitra R. Choudhury, Vijay K. Garg, Yogish Sabharwal: A Decentralized Algorithm for Distributed Trigger Counting, ICDCN 2011, pp. 53-64.

14. Vijay K. Garg Implementing Fault-Tolerant Services Using State Machines: Beyond Replication DISC'2010 Sept 2010, pp. 450-464.

15. Anurag Agarwal, Vijay K. Garg, Vinit Ogale, Modeling and Analyzing Periodic Distributed Computations SSS'10 Sept 2010, 191-205. (**Best Paper Award**).

16. Vinit A. Ogale, Bharath Balasubramanian, Vijay K. Garg: A fusion-based approach for tolerating faults in finite state machines. IPDPS 2009: 1-11.

17. Sujatha Kashyap, Vijay K. Garg: Producing Short Counterexamples Using "Crucial Events". CAV 2008: 491-503

18. Ankur Narang, Vikas Agarwal, Monu Kedia, Vijay K. Garg Highly Scalable Algorithms for Distributed Real-Time Text Indexing ,Proceedings of the Sixteenth IEEE International Conference on High Performance Computing (HiPC 2009) December 2009, pp. 332–341, Cochin, India.

19. Vaibhav Saxena, Prashant Agrawal, Yogish Sabharwal, Vijay K. Garg, Vimitha A. Kuruvilla, John A. Gunnels: Optimization of BLAS on the Cell Processor. HiPC 2008: 18-29.

20. Bharath Balasubramanian, Vinit A. Ogale, Vijay K. Garg: Fault Tolerance in Finite State Machines Using Fusion. ICDCN 2008: 124-134.

21. Vinit A. Ogale, Vijay K. Garg: Detecting Temporal Logic Predicates on Distributed Computations. DISC 2007: 420-434.

22. Vijay K. Garg, Vinit A. Ogale: Fusible Data Structures for Fault-Tolerance. ICDCS 2007: 20

23. Selma Ikiz and Vijay K. Garg, Efficient Incremental Optimal Chain Partition of Distributed Program Traces, Proc. IEEE International Conference on Distributed Computing Systems (ICDCS) 2006.

24. Rahul Garg, Vijay K. Garg, Yogish Sabharwal, Scalable Algorithms for Global Snapshots in Distributed Systems, ACM International Conference on Supercomputing 2006

25. Sujatha Kashyap, Vijay K. Garg, Exploiting Predicate Structure for Efficient Reachability Detection, 20th IEEE/ACM International Conference on Automated Software Engineering (ASE), Long Beach, California, November 2005, pp. 4 - 13.

26. Anurag Agarwal, Vijay K. Garg, Chain Clock: Efficient Causality Tracking for Shared Memory Systems, ACM Symposium on Principles of Distributed Computing (PODC'2005) Las Vegas, July 2005, pp. 19-28

27. Vijay K. Garg, Anurag Agarwal, Distributed Maintenance of a Spanning Tree Using Labeled Tree Encoding, Euro'Par September 2005, pp. 606 - 616.

28. Selma Ikiz, Vinit Ogale, V. K. Garg, Coordinated Energy Conservation in Ad Hoc Networks, International Workshop on Distributed Algorithms and Applications for Wireless and Mobile Systems (DAAWMS), Phoenix, Arizona, September 2005.

29. Alper Sen, Jayanta Bhadra, Vijay K. Garg, and Jacob Abraham, Formal Verification of a System-on-Chip Using Computation Slicing, International Test Conference, October 2004.

30. Neeraj Mittal, Alper Sen, Vijay K. Garg, and Ranganath Atreya, Finding Satisfying Global States: All for One and One for All, In Proceedings of International Parallel and Distributed Processing Symposium (IPDPS), April 2004.

31. Neeraj Mittal, Ranganath Atreya and Vijay K. Garg, Detecting Locally Stable Predicates without Modifying Application Messages *7th International Conference on Principles of Distributed Systems* La Martinique, France, December 10-13 2003.

32. Alper Sen and Vijay K. Garg, Detecting Temporal Logic Predicates in Distributed Programs Using Computation Slicing, *7th International Conference on Principles of Distributed Systems* La Martinique, France, December 10-13 2003.

33. Alper Sen and Vijay K. Garg, On Checking Whether a Predicate Definitely Holds, 3rd International Workshop on Formal Approaches to Testing of Software (FATES 2003) Montreal, Quebec, Canada, October 2003.

34. V. K. Garg, "Enumerating Global States of a Distributed Computation in Lexicographic and Breadth-First Manner," *Intl Conference on Parallel and Distributed Computing and Systems (PDCS 2003)* (**nominated for the best paper award**).

35. Alper Sen and Vijay K .Garg, Partial Order Trace Analyzer (POTA) for Distributed Programs, *Proc. Workshop on Runtime Verification*, Boulder, Colorado, 2003, pp. 22 – 43.

36. Neeraj Mittal and Vijay K. Garg, Software Fault Tolerance of Distributed Programs using Computation Slicing, *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS)*, Baltimore, Maryland, 2003, pp. 105 – 113.

37. Vijay K. Garg, Algorithmic Combinatorics based on Slicing Posets, *Proc. 22nd Conference on the Foundations of Software Technology & Theoretical Computer Science (FSTTCS)*, Kanpur, India, December 2002, pp. 169 – 181.

38. Vijay K. Garg, C. Skawratananond, On Timestamping Synchronous COmputations, *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS'02)*, Vienna, July 2002, pp. 552–560.

39. Alper Sen and Vijay K. Garg, Detecting Temporal Logic Predicates in the Happened Before Model, International Parallel and Distributed Processing Symposium (IPDPS'02). April, Florida, pp. 76.

40. Neeraj Mittal and Vijay K. Garg, Computation Slicing: Techniques and Theory, 5th International Symposium on DIStributed Computing (DISC'01), Lisbon, Portugal, pp. 78 – 92.

41. Vijay K. Garg, C. Skawratananond, String Realizers of Posets with Applications to Distributed Computing, ACM Symposium on Principles of Distributed Computing (PODC'01), August 26-29, 2001, Newport, Rhode Island, pp. 72 – 80.

42. Neeraj Mittal and Vijay K. Garg, Efficient Algorithms for Detecting Global Properties in Distributed Computations, *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS'01)*, Phoenix, May 2001, pp. 3 – 10.

43. Vijay K. Garg and Neeraj Mittal, On Slicing a Distributed Computation, *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS'01)*, Phoenix, May 2001 (**nominated for the best paper award**), pp. 322 – 329 .

44. Neeraj Mittal, Vijay K. Garg, Debugging Distributed Programs Using Controlled Re-execution, ACM Symposium on Principles of Distributed Computing (PODC'00), Portland, Oregon, July 2000, pp. 239 – 248.

45. A. Tarafdar, V. K. Garg, "Software fault-tolerance of concurrent programs using controlled reexecution", 3rd International Symposium on DIStributed Computing (DISC'99), Bratislava, Slovakia, September 27-29, 1999, pp. 210 – 224.

46. Om P. Damani and Ashis Tarafdar and Vijay K. Garg,, Optimistic Recovery in Multi-threaded Distributed Systems, Proceedings of the 18th IEEE Symposium on Reliable Distributed Systems (SRDS'99), Lausanne, Switzerland, October 1999, pages 234 - 243.

47. C. Skawratananond, N. Mittal, V. K. Garg, A Lightweight Algorithm for Causal Message Ordering in Mobile Computing Systems, *Proc. 12th International Conference on Parallel and Distributed Computing Systems(ICPDCS)*, Fort Lauderdale, Florida, August 1999, pp. 245 – 250.

48. C. Skawratananond, V. K. Garg, A Quorum-Based Distributed Channel Allocation Algorithm for Mobile Systems Proc. PIMRC, Japan, 1999.

49. V. K. Garg, J. R. Mitchell, "Implementable Failure Detectors for Asynchronous Systems," *Proc. 18th Conference on the Foundations of Software Technology & Theoretical Computer Science (FSTTCS'98)*, Chennai, India, December 1998, pp. 158 – 169.

50. R. Kumar, V. K. Garg, "Control of stochastic discrete event systems: Synthesis" *Proc. Conference on Decision and Control (CDC'98)*, December 1998.

51. G. Brat, V. K. Garg, "Analyzing non-deterministic real-time systems with (max,+) algebra," *Proc. Real-Time Systems Symposium (RTSS'98)*, December 1998.

52. J. R. Mitchell and V.K. Garg, "A Non-Blocking Recovery Algorithm for Causal Message Logging," *Symposium on Reliable Distributed Systems (SRDS'98)*, October 1998.

53. R. Kumar, V. K. Garg, "Control of stochastic discrete event systems: Existence" Workshop on Discrete Event Systems (WODES'98), Caligari, Italy, August 1998, pp. 24-29.

54. G. Brat, V. K. Garg, "A (max,+) algebra for periodic timed discrete event systems." Workshop on Discrete Event Systems (WODES'98), Caligari, Italy, August 1998, pp. 237-242.

55. G. Brat, V. K. Garg, "A max-plus algebra for periodic real-time systems," The 9th Symposium of the International Federation of Automatic Control on Information Control in Manufacturing, Nancy-Metz, France, June 24-26, 1998.

56. A. Tarafdar, V. K. Garg, "Addressing False Causality while Detecting Predicates in Distributed Programs," *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS'98)*, Amsterdam, Netherlands, May 1998, pp. 94 – 101.

57. V. K. Garg and J. R. Mitchell, "Distributed Predicate Detection in a Faulty Environment," *Proc. IEEE International Conference on Distributed Computing Systems (ICDCS'98)*, Amsterdam, Netherlands, May 1998, pp. 416 – 423.

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59. O. Damani, V. K. Garg, "Fault-tolerant Optimistic Distributed Simulation " *Proc. ACM Workshop on Parallel and Distributed Simulation (PADS'98)*, Canada, May 1998, pp. 38 – 45.

60. A. Tarafdar V. K. Garg, "Debugging in a Distributed World: Observation and Control," *Proc. IEEE Workshop on Application-Specific Software Engineering and Technology (ASSET'98)*, Dallas, Texas, March 98, pages 151 – 156 (invited paper).

61. A. Tarafdar V. K. Garg, "Predicate Control for Active Debugging of Distributed Programs," *Proc. of the IEEE 9th Symposium on Parallel and Distributed Processing (SPDP)*, pages 763 – 769, Orlando, USA, April 1998.

62. O. Damani, Y. M. Wang, V. K. Garg, "Optimistic Distributed Simulation Based on Transitive Dependancy Tracking," *Proc. ACM Workshop on Parallel and Distributed Simulation (PADS)*, Lockenhaus, Austria, June 1997, pp. 90 – 97.

63. J. R. Mitchell, V. K. Garg, "Optimistic Agreement in Asynchronous Distributed Systems," *Proc. International Conference on Parallel and Distributed Processing Techniques and Applications*, Las Vegas, Nevada, 1997, pp. 885 – 889.

64. Y. M. Wang, O. Damani, V. K. Garg, "Distributed Recovery with K-Optimistic Logging," *Proc. IEEE International Conference on Distributed Computing Systems*, Baltimore, Maryland, 1997, pp. 60 – 67.

65. V. V. Murty, V. K. Garg, "Characterization of Message Ordering Specifications and Protocols," *Proc. IEEE International Conference on Distributed Computing Systems*, Baltimore, Maryland, 1997, pp. 492 – 499.

66. V. K. Garg, R. Kumar, S. I. Marcus, "Modeling Stochastic Discrete Event Systems Using Probabilistic Languages," in *Mathematical Theory of Networks and Systems*, St. Louis, MO, June 1996.

67. O. Damani, V. K. Garg, "How to Recover Efficiently and Asynchronously when Optimism Fails," *Proc. IEEE International Conference on Distributed Computing Systems*, Hong Kong, May 1996, pp. 108 – 115.

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70. D. D. Cofer, V. K. Garg, "Control of Event Separation Times," *Proc. 34th Conference on Decision and Control*, New Orleans, December 1995, pp. 2005 – 2010.

71. V. K. Garg, A. I. Tomlinson, E. Fromentin, M. Raynal, "Expressing Control Flow Properties of Distributed Computations," *Proc. Symposium on Parallel and Distributed Processing*, San Antonio, Texas, October 1995, pp. 432 – 438.

72. C. Chase, V. K. Garg, "Efficient Detection of Restricted Classes of Global Predicates," *Proc. 9th International Workshop on Distributed Algorithms* , Le Mont-Saint-Michel, France, *Lecture Notes in Computer Science*, 972, September 1995, pp. 303 – 317.

73. J. Roger Mitchell, V. K. Garg, "Deriving distributed algorithms from a general predicate detector," *Proc. The Nineteenth Intl. Computer Software and Applications Conference*, Dallas, Texas, August 1995, pp. 268 – 273.

74. V. K. Garg, C. Chase, "Distributed Detection of Conjunctive Predicates," *Proc. IEEE International Conference on Distributed Computing Systems*, Vancouver, Canada, June 1995, pp. 423 – 430.

75. V. V. Murty, V. K. Garg, "Synchronous Message Ordering," *Proc. International Symposium on Autonomous Decentralized Systems*, Phoenix, Arizona, April 95, pp. 208 – 214.

76. V. K. Garg, C. Chase, J. R. Mitchell, R. Kilgore, "Detecting conjunctive Channel Predicates in a Distributed Programming Environment," *Proc. of the Twenty-Eighth Hawaii International Conference on System Sciences*, January 1995, Vol. II, pp. 232 – 241.

77. D. D. Cofer, V. K. Garg, "Supervisory Control of Real-time Discrete Event Systems using Lattice Theory," *Proc. 33rd Conference on Decision and Control*, Lake Buena Vista, Florida, December 1994, pp. 978 – 983.

78. R. Kumar, V. K. Garg, "Extremal Solutions of Inequations over Lattices with Applications to Supervisory Control," *Proc. 33rd Conference on Decision and Control*, Lake Buena Vista, Florida, December 1994, pp. 3636 – 3641.

79. V. K. Garg, A. I. Tomlinson, "Causality versus Time: How to Specify and Verify Distributed Algorithms", *Proc. The Sixth IEEE Symposium on Parallel and Distributed Processing*, Dallas, Texas, October 1994, pp. 249 – 256.

80. E. Fromentin, M. Raynal, V. K. Garg, A. I. Tomlinson, "On the fly testing of Regular Patterns in distributed computations," *Proc. 23rd International Conference on Parallel Processing*, St. Charles, Illinois, August 1994, pp. 2:73–76.

81. A. I. Tomlinson, V. K. Garg, "Maintenance of Global Assertions in Distributed Systems," *Proc. International Conference on Computer Science and Education*, Bangalore, India, June 1994, Tata McGraw-Hill Publishing Company Limited, pp. 257 – 272.

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84. S. Young, V. K. Garg, "Self-Stabilizing Machines: An Approach to Design of Fault-Tolerant Systems," *Proc. 32nd Conference on Decision and Control*, San Antonio, Texas, Dec. 1993, pp. 1200–1205.

85. D. D. Cofer, V. K. Garg, "A Generalized Model for Performance Analysis of Timed and Untimed Discrete Event Systems," *Proc. American Control Conference*, San Francisco, California, June 1993, pp. 2288–2292.

86. R. Kumar, V. K. Garg, "Logical Design of a Dispatching Unit," *Proc. American Control Conference*, San Francisco, California, June 1993, pp. 1198–1202.

87. A. I. Tomlinson, V. K. Garg, "An Algorithm for Minimally Latent Global Virtual Time," *Proc. 7th Workshop on Parallel and Distributed Simulation,* San Diego, California, May 1993, pp. 35–42.

88. A.I. Tomlinson, V. K. Garg, "Detecting Relational Global Predicates in Distributed Systems," *Proc. 3rd ACM/ONR Workshop on Parallel and Distributed Debugging*, San Diego, California, May 1993, pp. 21–31.

89. V. K. Garg, B. Waldecker, "Detection of Unstable Predicate in Distributed Programs," *Proc. 12th Conference on the Foundations of Software Technology & Theoretical Computer Science*, New Delhi, India, *Lecture Notes in Computer Science* 652, Springer-Verlag, Dec. 1992, pp. 253–264.

90. V. K. Garg, "An Algebraic Approach to Modeling Probabilistic Discrete Event Systems," *Proc. 31st Conference on Decision and Control*, Tucson, Arizona, Dec. 1992, pp. 2348–2353.

91. D. D. Cofer, V. K. Garg, "A Timed Model for the Control of Discrete Event Systems Involving Decisions in the Max/Plus Algebra," *Proc. 31st Conference on Decision and Control*, Tucson, Arizona, Dec. 1992, pp. 3363–3368.

92. A. I. Tomlinson, G. Hoagland, V. K. Garg, "Distributed Resource Management Using Active Supervisory Predicate Control," *Proc. American Control Conference*, Chicago, Illinois, June 1992, pp. 2799–2803.

93. V. K. Garg, R. Kumar, "A State-Variable Approach for Controlling Discrete Event Systems with Infinite States," *Proc. American Control Conference*, Chicago, Illinois, June 1992, pp. 2809–2813.

94. D. Spanjol, S. Young, V. K. Garg, "Control of Discrete Event Systems Modeled with Infinite Languages," *Proc. American Control Conference*, Chicago, Illinois, June 1992, pp. 2814–2818.

95. B. Waldecker, V. K. Garg, "Unstable Predicate Detection in Distributed Programs," *Proc. 3rd IEEE Symposium on Parallel and Distributed Processing*, Dallas, Texas, Dec. 1991, pp. 692–699.

96. R. Kumar, V. K. Garg, S. I. Marcus, "On Using Predicate Transformers for Supervisory Control," *Proc. Conference on Decision and Control,* Brighton, United Kingdom, Dec. 1991, pp. 98–103.

97. R. Kumar, V. K. Garg, "Optimal Control of Discrete Event Dynamic Systems Using Network Flow Techniques," *Proc. 29th Allerton Conference on Communication, Control, and Computing*, Allerton, Illinois, Oct. 1991, pp. 705–714.

98. V. K. Garg, "Timed Probabilistic Languages," extended abstract in Current System Development, *IEEE Symposium on Real-time Systems*, San Antonio, Texas, Aug. 1991.

99. R. Kumar, V. K. Garg, S. I. Marcus, "Stability of Discrete Event System Behavior" *Proc. IFAC International Symposium on Distributed Intelligence Systems*, Arlington, Virginia, Aug. 1991, pp. 13–18.

100. S. Young, V. K. Garg, "Uncertainty in Discrete Event Systems," *Proc. IEEE International Symposium on Intelligent Control*, Arlington, Virginia, Aug. 1991, pp. 245–250.

101. R. Kumar, V. K. Garg, S. I. Marcus, "On $\omega-$Controllability and $\omega-$Normality of DEDS," *Proc. American Control Conference*, Vol. 3, Boston, Massachusetts, June 1991, pp. 2905–2910.

102. B. Waldecker, V. K. Garg, "Unstable Predicate Detection in Distributed Programs," *Proc. 2nd ACM/ONR Workshop on Parallel and Distributed Debugging*, Extended Abstract, Santa Cruz, California, May 1991.

103. V. K. Garg, S. Ajmani, "A Distributed Algorithm for N-process Synchronization," *Proc. 2nd IEEE Symposium on Parallel and Distributed Processing,* Dallas, Texas, Dec. 1990.

104. V. K. Garg, J. Ghosh, "Symmetry In Spite of Hierarchy," *Proc. 10th IEEE International Conference on Distributed Computing Systems*, Paris, France, June 1990, pp. 4–11.

105. V. K. Garg, "Modeling of Distributed Systems by Concurrent Regular Expressions," *Proc. 2nd International Conference on Formal Description Techniques for Distributed Systems and Communication Protocols,* Vancouver, Canada, Dec. 1989. Published by North-Holland, 1990, pp. 313–327.

106. R. Kumar, V. K. Garg, S. I. Marcus, "Language Stability of DEDS," *Proc. International Conference on Mathematical Theory of Control*, published as *Lecture Notes in Pure and Applied Mathematics*, Marcel Dekker, Vol. 142, edited by M. C. Joshi and A. V. Balakrishnan, Bombay, India, 1990, pp. 185–203.

107. R. Kumar, V. K. Garg, S. I. Marcus, "Control of Discrete Event Dynamic Systems: Supremal Controllable and Observable Languages," *Proc. 27th Allerton Conference on Communication, Control, and Computing*, Allerton, Illinois, Sept. 1989, pp. 501–510.

108. V. K. Garg, C. V. Ramamoorthy, "High Level Communication Primitives in the Distributed System Specification Language," *Proc. IEEE International Conference on Computer Languages,* Miami Beach, Florida, Oct. 1988, pp. 92–99.

109. V. K. Garg, "Analysis of Distributed Systems with Many Identical Processes," *Proc. 8th IEEE International Conference on Distributed Computing Systems*, San Jose, California, June 1988, pp. 358–365.

110. V. K. Garg, "Specification and Analysis of Concurrent Systems using the STOCS Model," *Proc. 1988 Computer Networking Symposium*, Washington, D.C., April 1988, pp. 192–200.

111. V. K. Garg, C. V. Ramamoorthy, "Effect of Locality in Large Networks," *Proc. 7th IEEE International Conference on Distributed Computing Systems*, Berlin, Germany, Sept. 1987, pp. 544–550.

112. C. V. Ramamoorthy, V. K. Garg, A. Prakash, "Reusability Support in GENESIS," *Proc. 10th IEEE International Conference on Computer Software and Applications,* Chicago, Illinois, Oct. 1986, pp. 299–305.

113. C. V. Ramamoorthy, A. Bhide, V. K. Garg, T. Yamaura, "Software Quality and Requirement Specification," *Proc. IEEE International Conference on Computer Languages,* Miami, Florida, Oct. 1986, pp. 75–83.

114. C. V. Ramamoorthy, V. K. Garg, R. Aggarwal, "Environment Modeling and Activity Management in Genesis," *Proc. 2nd Conference on Software Tools, Techniques and Alternatives, (SOFTFAIR II)* San Francisco, California, Dec. 1985.

C. Invited Papers

1. Vijay K. Garg, Neeraj Mittal and Alper Sen, Using Order in Distributed Computing, American Mathematical Society National Meeting (invited), San Antonio, Texas, Jan. 2006.

2. V. K. Garg, Neeraj Mittal, A Critique of Java for Concurrent Programming, IEEE Distributed Systems online, September 2005.

3. V. K. Garg, Neeraj Mittal, Global Time and State in Distributed Systems, Wiley Encyclopedia on Parallel and Distributed Computing, (edited by B. Wah), 2004.

4. Vijay K. Garg, Neeraj Mittal and Alper Sen, Applications of Lattice Theory to Distributed Computing, ACM SIGACT Notes (invited paper), September 2003, Vol. 34, No. 3, pp. 40-61.

5. V. K. Garg, "Observation and Control for Debugging Distributed Computations," *Proc. Third International Workshop on Automated Debugging (AADEBUG'97)*, Linkoping, Sweden, May 97, pp. 1 – 12.

6. R. Kumar, V. K. Garg, "Assignment Program Model for Control of Infinite State Systems," *Proc. 32nd Allerton Conference on Communication, Control, and Computing*, Allerton, Illinois, Oct. 1995, pp. 166 – 175.

7. V. K. Garg, "Observation of Global Properties in Distributed Systems," Proc. *Eighth IEEE International Conference on Software and Knowledge Engineering*, Lake Tahoe, Nevada, June 1996, pp. 418 – 425.

8. D. D. Cofer, V. K. Garg, "On Controlling Timed Discrete Event Systems," DIMACS Workshop on Verification and Control of Hybrid Systems, New Brunswick, New Jersey, Oct. 1995, *Lecture Notes in Computer Science 1066*, Springer-Verlag, pp. 340–349.

9. D. D. Cofer, V. K. Garg, "Idempotent Structures in the Supervisory Control of Discrete Event Systems," in *Idempotency*, J. Gunawardena, Ed., Cambridge University Press, 1995.

10. R. Kumar, V. K. Garg, "Computation and Formula for Supremal $\omega-$controllable sublanguage, *Proc. 32nd Allerton Conference on Communication, Control, and Computing*, Allerton, Illinois, Sept. 1994, pp. 900 – 901.

11. D. D. Cofer, V. K. Garg, "Supervisory Control of Timed Event Graphs," IEEE Conference on System, Man and Cybernetics, San Antonio, TX, Oct. 1994, pp 994-999.

12. V. K. Garg, "Parallel and Distributed Algorithms for Supervisory Control of Discrete Event Systems," *Proc. 32nd Conference on Decision and Control*, San Antonio, Texas, Dec. 1993, 2236–2241.

13. S. Young, V. K. Garg, "Optimal Sensor and Actuator Choices for Discrete Event Systems," *Proc. 31st Allerton Conference on Communication, Control, and Computing*, Allerton, Illinois, Oct. 1993.

14. V. K. Garg, "Probabilistic Languages for Modeling of DEDS" *Proc. Conference on Information Sciences and Systems*, Princeton, New Jersey, March 1992, pp. 198–203.

15. R. Kumar, V. K. Garg, "On Optimal Control of Discrete Event Systems," *SIAM Conference on Control and Its Applications*, Abstracts and Author Index, Minneapolis, Minnesota, Sept. 1992, pp. A42.

16. S. Young, V. K. Garg, "Transition Uncertainty in Discrete Event Systems," *Abstracts of the NSF Workshop on Discrete Event Systems*, Amherst, Massachusetts, June 1991.

D. Papers Reprinted in Books

1. V. K. Garg, C. M. Chase, R. Kilgore and J. Mitchell, "Efficient Detection of Unstable Global Conditions Based on Monotonic Channel Predicates," in *Tools and Environments for Parallel and Distributed Systems*, Edited by Amr Zaky, Kluwer Academic Press, 1996, pp. 195–226.

2. V. K. Garg, B. Waldecker, "Detection of Weak Unstable Predicates in Distributed Programs," in *IEEE Transactions on Parallel and Distributed Systems*, March 1994, reprinted in the book, *Global States and Time in Distributed Systems*, edited by Z. Yang and T. Marsland, IEEE Computer Society Press, 1994, pp. 44-52.

3. C. V. Ramamoorthy, S. Shekhar, V. K. Garg, "Software Development Support for AI Programs," *IEEE Computer,* January 1987, pp. 30-40, reprinted in *Computer Architectures for Artificial Intelligence*, edited by Wah and Ramamoorthy, John Wiley & Sons, 1990, pp. 513-531.

Awards and Honors:

- Best Paper Award, 12th International Symposium on Stabilization, Safety, and Security of Distributed Systems - (SSS 2010), New York, NY, USA, September 20-22, 2010.

- Cullen Trust for Higher Education Endowed Professorship No. 5, Sept 2006 - present.

- IEEE Fellow for contributions to distributed computing systems and discrete event systems, 2004.

- Represented the University of Texas at Austin for signing an MoU with the Government of India, 2005. Part of the delegation that met the President of India.

- N. Rama Rao Distinguished Visiting Chair Professor, IIT Kanpur, Fall 2002.

- Best Paper Award Nomination, International Conference on Parallel and Distributed Computing Systems, 2003.

- Dean's Fellowship, The University of Texas at Austin, 2002.

- Best Paper Award Nomination, IEEE International Conference on Distributed Computing Systems, 2001.

- Faculty Research Award, The University of Texas at Austin, Spring 2000, for research on "Software fault-tolerance of concurrent programs."

- Engineering Foundation Endowed Faculty Fellowship in Engineering, 1998 - 2006.

- Keynote Speaker at 3rd International Workshop on Automatic Debugging, Linkoping, Sweden, May 1997.

- Program Committee vice-chair, the 9th International Conference on Tools with Artificial Intelligence, Newport Beach, California.

- Invited as a distinguished speaker at the International Conference on Software and Knowledge Engineering 96, Lake Tahoe, Nevada.

- Engineering Foundation Faculty Excellence Award, 1996. (Award of Excellence by Halliburton Foundation)

- IBM gift of $140,000 in recognition of contributions to the area of distributed debugging (1993-1995).

- General Motors Foundation Centennial Teaching Fellowship in Electrical Engineering, 1993 - 1998.

- TRW Faculty Assistantship Award, 1992-95.

- Paper selected from the *Proceedings of the IEEE International Conference on Computer Languages*, 1988, for publication in the *Computer Languages* journal.

- Paper selected from the *Proceedings of the International Conference on Computer Software and Applications*, 1986, for publication in the *IEEE Transactions on Software Engineering.*

- Supervised a Ph.D. dissertation nominated by the Electrical and Computer Engineering Department for the best dissertation in The University of Texas at Austin, 1991.

- Non-Resident Tuition Scholarship, University of California, Berkeley, 1984-87.

- Merit Scholarship and Achievement Award at Indian Institute of Technology, Kanpur, India, 1980-84.

- National Talent Scholarship, India, 1979-1984.

- Second Rank in the state of Punjab in the Higher Secondary Exam 1979, India.

Patents:

1. "Method for Providing Fault Tolerance to Multiple Servers," (with Vinit Ogale) University of Texas at Austin, November 9, 2010. U.S. Patent Number 7,831,859.

2. "A method for extracting information from the Internet via speech," (with Ashish Verma, Himanshu Chauhan et al, IBM Reseach Lab), 2009.

3. "Method for Massively Parallel Multi-core Text Indexing," (with Ankur Narang, Monu Kedia et al IBM Reseach Lab), 2008.

4. "Software fault tolerance of concurrent programs using controlled re-execution," (with A. Tarafdar), U.S. Patent Number 6,772,367. Awarded 08/03/2004.

5. "Optimistic Distributed Simulation based on transitive dependency tracking," (with Om Damani and Yi-Min Wang, AT&T) U.S. Patent Number 6,031,987. Awarded 02/29/2000.

6. "An Infrastructure for Secure Collaborative Internet Applications" (with Anupam Kunwar and Jerome Froment-Curtil), filed by the University of Texas at Austin, August 2000 (UTA A-054).

7. "Distributed recovery with K-optimistic logging," (with Om Damani and Yi-Min Wang, AT&T) U.S. Patent Number 5,938,775. Awarded August 99.

Professional Activities:

- Member, Steering Committee, ICDCN, 2013.

- Member, Program Committee, ICDCN2012.

- Member, Program Committee, OPODIS 2012.

- Member, Program Committee, DISCCO 2012

- Member, Program Committee, HASE, 2012.

- Member, Program Committee, *IPDPS*, 2011.

- Member, Program Committee, *HASE*, 2010.

- Member, Program Committee, *SRDS*, 2010.

- Tutorials Chair, *ICDCN*, 2010.

- Member, Steering Committee, *ICDCN*, 2010.

- Member, Program Committee, OPODIS'09 (Principles of Distributed Information Systems),

- Member, Program Committee, *ICDCS*, 2009.

- Member, Program Committee, *SSS*, 2009.

- co-Chair, Program Committee, *ICDCN*, 2009.

- vice-Chair, Distributed Algorithms track, Program Committee, *ICDCS*, 2008.

- Member, Program Committee, *ICDCN*, 2008.

- Member, Program Committee, *Runtime Verification (RV)*, 2007.

- Invited Panelist, "Self-Stabilization from Theory to Practice", 8th International Symposium on Stabilization, Safety, and Security of Distributed Systems, Dallas, Texas, 2006.

- Member, NSF Panel for Parallel and Distributed Operating Systems, 2006.

- Member, Program Committee, *Runtime Verification (RV/FATES)*, 2006.

- Member, Program Committee, *International Workshop on Distributed Algorithms and Applications for Wireless and Mobile Systems DAAWMS 2005*, 2005.

- Member, Program Committee, *Runtime Verification*, 2005.

- Member, Program Committee, *The 25th International Conference on Distributed Computing Systems* 2005.

- Member, Program Committee, *The IEEE and ACM International Conference on Formal Methods and Models for Codesign (MEMOCODE'2005)*, 2005.

- Member, Program Committee, *The Eighth International Symposium on Autonomous Decentralized Systems (ISADS)*, 2004.

- Member, Program Committee, *The Second IEEE and ACM International Conference on Formal Methods and Models for Codesign (MEMOCODE'2004)*, 2004.

- Member, Program Committee, *Runtime Verification*, 2004.

- Member, Steering Committee, *The First IEEE and ACM International Conference on Formal Methods and Models for Codesign (MEMOCODE'2003)*, 2003.

- Member, Program Committee, *The First IEEE and ACM International Conference on Formal Methods and Models for Codesign (MEMOCODE'2003)*, 2003.

- Member, Program Committee, *The International Conference on Distributed Computing Systems*, 2002.

- Member, Program Committee, *The Fifth International Symposium on Autonomous Decentralized Systems (ISADS)*, Dallas, Texas, March 2001.

- Member, Program Committee, *IEEE Workshop on Application-Specific Software Engineering and Technology (ASSET'99)*, Dallas, Texas, March 99.

- Member, Program Committee, *The International Conference on Distributed Computing Systems*, Austin, Texas 1999.

- Member, Program Committee, *IEEE Workshop on Application-Specific Software Engineering and Technology (ASSET'98)*, Dallas, Texas, March 98.

- Vice-chair, Program Committee, *The 10th IEEE International Conference on Tools for Artificial Intelligence*, Newport Beach, California, 1997.

- Member of the panel to foster cooperation between the University of Texas at Austin and ITESM, Monterrey, Mexico, 1995.

- Registration Chair, *Parallel and Distributed Information Systems*, Austin, Texas, 1994.

- Member, Program Committee, *The 14th International Conference on Distributed Computing Systems 1994*, Poznan, Poland, 1994.

- Session Chairman, "Discrete Event Systems II," *32nd IEEE Conference on Decision and Control*, San Antonio, Texas, December 1993.

- Session Chairman, "Discrete Event Systems," *American Conference on Control*, San Francisco, California, June 1993.

- Member, Awards Panel, *The 30th Conference on Decision and Control*, San Antonio, Texas, December 1992.

- Member, Program Committee, *The Second International Conference on System Integration, 1992*, Austin, Texas, 1992.

- Mini-symposium Organizer, minisymposium on "Supervisory Control of Discrete Event Systems," *SIAM Conference on Control and Applications*, Minneapolis, Minnesota, Sept. 1992. (with Steven I. Marcus).

- Session Chairman, "Discrete Event Systems I," *American Conference on Control*, Chicago, Illinois, June 1992.

- Session Chairman, "Supervisory Control of Logical Discrete Event Systems," *SIAM Conference on Control and Applications*, Minneapolis, Minnesota, Sept. 1992.

- Secretary of IEEE Computer Society Central Texas Chapter 1991-1992.

- Member, Program Committee, *The 11th International Conference on Distributed Computing Systems, 1991*, Arlington, Texas, 1991.

- Member, Program Committee, *The First International Conference on System Integration*, Morristown, New Jersey, April 1990.

- Session Chairman, "Membership Algorithms," *IEEE The 11th International Conference on Distributed Computing Systems*, Arlington, Texas, May 1991.

- Session Chairman, "Discrete Event Dynamical Systems," *Twenty-Seventh Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, Sept 1989.

Courses Taught:

1. *Distributed Systems*: EE 382N, a *new* graduate-level course.

2. *Distributed Systems II*: EE 382N, a *new* advanced graduate-level course.

3. *Discrete Event Systems*: EE 382N, a *new* graduate-level course.

4. *Concurrent and Real-time Systems*: EE 382N, a *new* graduate-level course.

5. *Randomized Algorithms*: EE 382N, a *new* graduate-level course.

6. *Lattice Theory with Applications*: EE 382N, a *new* graduate-level course.

7. *Data Structures*: EE 322C, an undergraduate course - introduced a new text.

8. *Algorithms*: EE 360C, an undergraduate course - introduced a new text.

9. *Concurrent and Distributed Computing*: EE 360P, a *new* undergraduate course.

10. *Multicore Computing*: EE 382V/379K, a *new* crosslisted graduate and undergraduate course.

Ph.D. Degrees :

1. Brian Waldecker (co-supervised with Mario Gonzalez): *Detection of Unstable Predicates in Debugging Distributed Programs*, May 91, MCD Fellow, Currently employed at IBM, Austin, Texas.

2. Ratnesh Kumar (co-supervised with Steve Marcus): *Supervisory Control of Discrete Event Systems*, Aug. 1991, MCD Fellow, Currently Full Professor at the ECE Department, University of Iowa at Ames.

3. Stanley Young: *Control of Systems that Exhibit Faults*, December 93, Du Pont Fellow, Currently employed at UT Applied Research Laboratories, Austin, Texas.

4. Darren Cofer: *Control of Real-Time Discrete Event Dynamical Systems*, MCD Fellow, May 95. Currently Principal Research Scientist, Honeywell Research Lab, Minneapolis, Minnesota.

5. Alex Tomlinson: *Observation and Verification of Distributed Software*, MCD Fellow, August 95. Currently employed at Open Microsystems, Austin, Texas.

6. Venkat Murty: *Providing Guarantees on Ordering of Messages,* May 97. Currently employed at I2 systems, Dallas, Texas.

7. James Roger Mitchell: *Fault-tolerance in Distributed Programs,* December 97, MCD Fellow. Currently employed at Tandem, Austin, Texas.

8. Guillaume Brat: *An Algebraic approach for periodic real-time systems.* December 98. Currently employed at NASA Ames Research Center, California.

9. Om Damani: *Recovery in Distributed Systems.*
   MCD Fellow, August 99, Currently Associate Professor, IIT Mumbai, India.

10. Ashis Tarafdar: *Predicate Control in Distributed Systems.*
    MCD Fellow, August 2000, Currently employed at Akamai, Boston, Massachusetts.

11. Chakarat Swataratonand: *A Framework for Distributed Applications on Systems with Mobile Hosts.*
    May 2002, Currently employed at IBM, Austin.

12. Neeraj Mittal: *Techniques for Analyzing Distributed Computations.*
    MCD Fellow. August 2002, Currently Associate professor, CS Department, University of Texas at Dallas.

13. Alper Sen: *Techniques for Formal Verification of Concurrent and Distributed Program Traces.*
    May 2004, Currently Assistant Professor, Bogazci University, Turkey.

14. Zhengting He (co-supervised with Al Mok)

15. Vinit Ogale, *Detecting and tolerating faults in distributed systems* May 2008, Currently employed at Microsoft.

16. Sujatha Kashyap, *Applications of Lattice Theory to Model Checking*, May 2008, Currently employed at IBM.

17. Bharath Balasubramanian *Fault Tolerance in Distributed Systems: A Coding-Theoretic Approach*, July 2012, Currently employed as post-doc at Princeton.

Ph.D. in Progress:

1. John Bridgman

2. Hung Wei-Lun

3. David Alves

4. Himasnhu Chauhan

5. Yen-Jung Chang

6. Roopsha Samanta (co-supervised with Allen Emerson)