# CURRICULUM VITAE

**Satish K. Tripathi**
Provost and Executive Vice President for Academic Affairs
The State University of New York at Buffalo
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## I. PERSONAL DATA

Born: January 20, 1951.
Married, two children
Naturalized US Citizen

## II. EDUCATION

D.Sc. (Honorary), I. I. I. T. Allahabad, India, 2006.
Ph.D. (Computer Science), University of Toronto, 1979.
M.S. (Computer Science), University of Toronto, 1976.
M.S. (Statistics), University of Alberta, 1974.
M.Sc. (Statistics), Banaras Hindu University, First Rank, 1970.
B.Sc. (Physics, Math, and Statistics), Banaras Hindu University, First Rank, 1968.

## III. POSITIONS HELD

**State University of New York at Buffalo**
2004-present: Provost and Executive Vice President for Academic Affairs
Professor of Computer Science and Engineering

**University of California, Riverside**
1997-2004: Dean and Johnson Professor of Engineering
Distinguished Professor of Computer Science and Engineering

**University of California, Riverside**
March 2002-June 2002: Acting Executive Vice Chancellor

**University of Maryland College Park**
1978-97: Department of Computer Science. Lecturer, 8/78-8/79; Assistant Professor, 8/79-8/83; Associate Professor, 8/83-8/88; Professor, 8/88-2/97.

**1971-72: Electronics Corporation of India Limited, Hyderabad, India.** Technical Officer. Developed system software for TDC-16 series of computers.

## IV. HONORS AND AWARDS

**Eminent Alumni,** Banaras Hindu University, 2007

**Doctorate of Sciences**, Indian Institute of Information Technology, Allahabad, 2006

**Chair, Award Committee**, ACM Sigmetrics Achievement Award, 2001-2002

**Fellow** (Elected), IEEE and IEEE Computer and Communication Societies, 1997

**Fellow** (Elected), American Association for Advancement of Science, 1997

**Visiting Professorships**: University of Paris-Sud, Paris, France, 1984-85; University of Erlangen-Nuremberg, Erlangen, Germany, 1985

**Member** (Elected), IFIP Working Group 7.3

**Member** (Elected), IFIP Working Group 6.3

**Fellow**, Humboldt Foundation, 1985.

**Best Paper Award**, Computer Performance Evaluation Users Group (CPEUG), October 1979.

**Postgraduate Fellowship**, National Research Council of Canada, May 1977 - April 1978.

**C.S.I.R. Junior Fellowship**, Government of India, September 1970 - August 1971

**Gold Medal** for obtaining First position in the University, Banaras Hindu University, 1970.

**National Merit Scholarship**, Government of India, 1968-1970.

**Merit Scholarship**, U.P. Government (India) 1964 - 1968.

## V. EDITORIALSHIPS

Founding Member of Editorial Board, IEEE Pervasive Computing, 2002-2006

Guest Editor/Co-editor for many journals, including IEEE Transactions on Software Engineering, International Journal of Theoretical Computer Science, IEEE Journal of Selected Area of Communications, ACM Multimedia Systems, IEEE Network Magazine, International Journal of High Speed Networks, Journal of Parallel and Distributed Computing.

Member of the Editorial Board, *Theoretical Computer Science* (1990-1997)

Member of the Editorial Board, *IEEE Transactions on Computers* (1994-2000)

Member of the Editorial Board, *ACM Multimedia Systems* (1996-Current)

Member of the Editorial Board, *ACM/IEEE Transactions on Networking* (1996-2000)

Member of the Editorial Board, *International Journal of High-Speed Networks* (1996-Current)

Associate Editor, *International Journal of Applied Software Technology*, (1997-Current)

Book Series Editor, *Topics in Computer and Communication Systems*, IOS Press.

Member of the Advisory Board, *Frontiers in Computing Systems Research*

## VI. GRANTS, CONTRACTS AND AWARDS

NSF via UCLA ($500,000) October 2003 – September 2007, Co-Principal Investigator (with Krinamurthy and Molle), "Scalable Testbed for Next-Generation Mobile Wireless Networking Technologies."

DARPA ($2,496,587) July 2001 – September 2004, Co-Principal Investigator (with Ravishankar, Faloutsos, Krishnamurthy), SWIFT, "Secure Wireless Fault-Tolerance Tunable Networks."

UC-DIMI ($233,405) February 2001 – February 2003, Co-Principal Investigator (with Ravishankar, Faloutsos and Molle), "Information Support for Network-Based Content Delivery."

TCS ($154,000 plus $500,000 in-kind) February 2001 – February 2003, Co-Principal Investigator (with Ravishankar, Faloutsos and Molle), "Information Support for Network-Based Content Delivery."

TCS ($154,287), April 2000 – March 2001, Co-Principal Investigator (with Ravishankar, Faloutsos, and Molle), "Inter-Related Research in the Areas of Support for Voice Over IP, Directory Services and Security."

UC-CORE ($78,820), July 2000 – December 2000, Co-Principal Investigator (with Molle and Faloutsos), "Improving QoS for Next Generation Internet."

Nortel Networks ($105,000), July 1999 – December 2000, Co-Principal Investigator (with Molle and Faloutsos), "An Approach tfor Combining QoS Routing and Congestion Control in Wide Area IP Networks."

NSF (15,300), March 1997 – October 1999, Principal Investigator "Design and Analysis of Highly Available Distributed Systems."

AFOSR ($15,000), March 1996 - December 1996, Co-Principal Investigator (with Subrahmanian): "Workshop on Multimedia Information Systems."

ARPA ($303,116), August 1995 - August 1997, Co-Principal Investigator (with Agrawala): "Maruti Technology for Temporal Determinate Executions."

AFOSR ($10,000), June 1995 - December 1995, Co-Principal Investigator (with Subrahmanian): "Workshop on Multimedia Information Systems."

NSF ($15,300), November 1995 - October 1998, Principal Investigator: "Design and Analysis of High Available System - International Collaboration Grant."

IBM (~ $61,000), 1995, Equipment Award (Part of the SUR Grant to the University of Maryland), "Mobile and Multimedia Lab."

NSF ($180,000), September 1994 - August 1997, Principal Investigator: "Assignment and Allocation of Processors in Parallel Processing Systems."

IBM (~ $150,000), 1994, Equipment Award (Part of the SUR Grant to the University of Maryland), "Mobile and Multimedia Lab."

ARPA ($1,570,000), April 1993 - March 1996, Co-Principal Investigator (with Agrawala and Gerber): "Advanced Hard Real-Time Operating Systems."

DARPA via Honeywell ($1,197,958), August 1991 - July 1995, Co-Principal Investigator (with Agrawala): "Domain Specific Software Architecture Program."

TASC ($20,000), December 1992 - July 1993, Principal Investigator, "High Speed Networking."

NSF ($45,000), April 1992 - March 1993, Principal Investigator, "Indo-US Workshop."

SPC ($25,000), January 1991-December 1991, Principal Investigator: "Decomposition Approaches in Performance Modelling."

NSF ($212,811), December 1990 - May 1995, Principal Investigator: "Assignment and Allocation of Processors in Parallel Processing Systems."

ARMY ($1,469,691), September 1987 - October 1991, Co-Principal Investigator (with Agrawala): "Interconnection and Fault-Tolerance Studies."

IRS ($76,105), August 1989 - December 1990, Principal Investigator: "Training Program for IRS."

ONR ($15,000), August 1989 - February 1990, Co-Principal Investigator (with Dr. Agrawala): "Workshop on Operating Systems for Mission Critical Computing."

ONR ($3,000), April 1989 - September 1989, Principal Investigator: “Workshop on Integrated Approach to Application Level Fault-Tolerance.”

IBM ($25,000), January 1989 - August 1989, Principal Investigator: “Measurements on TCP/IP.”

SPC ($25,000), February 1989 - December 1989, Principal Investigator: “Study of Decomposition in Queueing Networks.”

NSF ($50,000), July 1988 - June 1989, Co-Principal Investigator (with Agrawala, Carson, Jalote, Purtilo and Shankar): “Research in Distributed Computing.”

ONR ($50,000), June 1987 - September 1988, Principal Investigator: “Clock Synchronization on Factory Floor.”

UNISYS ($225,000), January 1987 - September 1987, Co-Principal Investigator (with Dr. Agrawala): “Performance Analysis of TCP/IP.”

ONR ($256,000), January 1987 - January 1989, Co-Principal Investigator (with Drs. Agrawala, Shankar, Jalote and Carson): “Methodologies for Real Time Distributed Systems.”

BBN ($50,000), February 1987 - August 1987, Co-Principal Investigator (with Dr. Agrawala): “Interconnection of Butterfly and AOSP.”

NOSC (DARPA/RADC) ($195,000), April 1986 - December 1986, Co-Principal Investigator (with Dr. Agrawala): “Interconnection of Multiprocessor Systems.”

NASA ($75,060), July 1984 - June 1985, Co-Principal Investigator (with Dr. Agrawala): “Study and Development of Distributed Systems Approach for Sensor Data Analysis.”

NSF ($116,730), July 1984 - June 1986, Principal Investigator (with Dr. Agrawala): “Modeling of Parallel Software.”

NASA ($93,130), October 1984 - September 1985, Principal Investigator (with Dr. Agrawala): “Uniform Access to Distributed Heterogeneous Databases.”

NSA ($45,000), April 1983 - September 1983, Principal Investigator (with Drs. Agrawala and Elsanadidi): “Satellite and Packet-switched Networks.”

NASA ($74,000), July 1983 - June 1984, Principal Investigator (with Dr. Agrawala): “Distributed Systems for the Information Extraction.”

US Forest Service ($99,913), April 1982 - September 1983, Principal Investigator (with Dr. Agrawala): “Studies in Benchmarking.”

NSF ($91,392), May 1982 - April 1984, Principal Investigator (with Dr. Agrawala): “Models of Routing and Software in Computer Systems.”

US Forest Service ($139,358), December 1979 - August 1981, Co-Principal Investigator: "Evaluation of Software Instrumentation Packages."

## VIII. TECHNICAL PUBLICATIONS

### A. Journal, Books and Book Chapters

1. Improving approximations of aggregated queueing network subsystems, (with Sevcik, Levy, and Zahorjan) *Computer Performance*, North-Holland (Reiser and Chandy, eds.) 1-22, 1977.

2. Transient solution of the virtual waiting time of a single server queue and its applications, (with A. Agrawala) *Information Sciences*, 21 (3): 141-158, 1980.

3. On the optimality of semidynamic routing schemes, (with A. Agrawala), *Information Processing Letters*, 13 (1): 20-22, 1981.

4. Adaptive routing using a virtual waiting time technique, (with Agrawala and Ricart), *IEEE Trans. on Software Engineering*, 8 (1): 76-81, 1982.

5. An approximate analysis of M(t)/M/1 queue, (with R. Upton), *Performance Evaluation*, 2 (2): 118-132, 1982.

6. On an exponential server with general cyclic arrivals, (with A. Agrawal), *Acta Informatica*, 18: 319-334, 1982.

7. On characterizing the inter-departure process of a server (with A. Agrawala), *Performance Evaluation*, 2 (4): 251-255, 1983.

8. PERFORMANCE '83, (with A. Agrawala), North-Holland, Amsterdam, 1983.

9. A stochastic optimization algorithm minimizing expected flow times on uniform processors, (with A. Agrawala, Coffman, and Garey), *IEEE Trans. on Computers C-33*, (4): 251-256, 1984.

10. On the load sharing policies in distributed systems, (with A. Agrawala), *Topics in Applied Statistics*, Concordia University Press, Montreal, *In* Dwivedi, T. D. and Y.P. Chaube (eds.), pp. 737-748, 1984.

11. STEP-1: A user friendly performance analysis tool, (with A. Agrawala, Abrams, Ramakrishnan, Singhal, and S. Son), *Modeling Techniques and Tools for Performance Analysis*, North-Holland, *In* Potier, D. (ed.), pp. 201-221, 1984.

12. Evaluation of the Hub node in a star network: A case study, (with T. Clausner), Performance '84, North Holland, *In* Gelenbe, E. (ed.), pp. 177-198, 1984.

13. Approximate solutions to queueing networks with state dependent parameters (with J. Agre), *Performance Evaluation*, 45-55, 1985.

14. Finite state model and compatibility theory: New analysis tool for permutation networks (with S. Huang), *IEEE Trans. on Computers* C-35, (7): 591-601, 1986.

15. Optimal allocation of file servers in local network environment, (with M. Woodside), *IEEE Trans. on Software Engineering*, 12 (8): 844-848, 1986.

16. On detecting parallelism in software, *The Journal of Systems and Software*, 6 (1): 133-136, 1986.

17. Time dependent analysis of queueing systems, (with A. Duda), *INFOR Journal*, 24 (3): 199-220, 1986.

18. Workload representation and its impact on the performance prediction using queuing network models, (with L. Dowdy), *Workload Characterization of Computer Systems and Computer Networks*, North-Holland, pp. 159-178. *In* Serazzi (ed.), 1986.

19. Availability of distributed systems with failures, (with Gelenbe and Finkel), *Acta Informatica* 23: 643-655, 1986.

20. Distributed database systems: recovery management techniques, (with A. Son), *In* Encyclopedia of Systems and Control, Pergamon Press 1987, Oxford, 1987.

21. Local area networks: Software and related issues, (with Huang and Jajodia), *IEEE Trans. on Software Engineering*, 13 (8): 872-879, 1987.

22. Self-routing techniques in perfect-shuffle networks using control tags, (with Y. Huang), *IEEE Trans. on Computers*, 37 (2): 251-256, 1988.

23. On vertex allocation theorem for resources in queuing networks, (with M. Woodside), *Journal of ACM*, 35 (1): 221-230, 1988.

24. On the performance evaluation of fine-grained SIMD computer architectures: an analysis of connection machine, (with R. Upton), *High Performance Computing*, Elsevier, pp. 129-144. *In* Gelenbe, E. (ed.), 1988.

25. Load sharing in distributed systems with failures, (with Finkel and Gelenbe), *Acta Informatica*, 25: 677-689, 1988.

26. Performance analysis of synchronization for two communicating processes, (with B. Plateau), *Performance Evaluation*, 8: 305-320, 1988.

27. On fault tolerance in manufacturing systems, (with Chintamaneni, Jalote, and Shieh), *IEEE Network*, 2 (3): 32-39, 1988.

28. Clock synchronization on the factory floor, (with Gora and Herzog), *IEEE Trans. on Industrial Electronics*, 35 (3): 372-380, 1988.

29. An analysis of cube-connected cycles and circular shuffle networks with parallel computation, (with G. Jain), *Journal of Parallel and Distributed Computing*, 5: 741-754, 1988.

30. A generalized bitonic sort, (with Nakatani, Huang, and Arden), *IEEE Tran. on Computers*, 38 (2): 283-288, 1989.

31. On optimal file allocation with sharing, (with Huang and Towsley), *Performance of Distributed and Parallel Systems*, Elsevier, pp. 1-14. *In* Hasegawa, T. et al (eds.), 1989.

32. A testbed for evaluating dynamic load sharing policies, (with Dikshit and Jalote), SAHAYOG: *Software Practice and Experience*, 19 (5): 411-435, 1989.

33. The MARUTI hard real-time operating system, (with Levi, Carson, and Agrawala), *Operating Systems Review*, 23 (3): 90-105, 1989.

34. Modeling of hierarchical distributed systems with fault tolerance, (with Shieh, Ghosal, and Chintamaneni), *IEEE Trans. on Software Engineering*, 16 (4): 444-457, 1990.

35. A scheme for allocating task graphs on hypercubes, (with Lo and Ghosal), *High Performance*, North-Holland, *In* Delhaye, J. (ed.), 1990.

36. Performance modeling of local area networks: an overview, (with S. Setia), INDOLAN 90, Elsevier, *In* Raghavan, S.V. (ed.), 1990.

37. Synchronization in hard real-time systems, (with S. Nirkhe), *Frontier of Computing Systems Research*, 1: 187-230, 1990.

38. Workshop on integrated approaches for fault tolerance - current state and future requirements, (with P. Jalote), *Operating Systems Review*, 24 (1): 44-57, 1990.

39. A performance analysis of a buddy system for fault tolerance, (with D. Finkel), *Performance Evaluation*, 177-185, 1990.

40. Reactive scheduling for a single machine: problem definition, analysis, and heuristic solution, (with Huang and Kanal), *International J. of Computer Integrated Manufacturing*, 1990.

41. Processor working set and its use in scheduling multiprocessor systems, (with Ghosal and Serazzi), *IEEE Trans. on Software Engineering*, 15 (5): 443-453, 1991.

42. Pre-scheduling for synchronization in hard real-time systems, (with S. Nirkhe), *Operating Systems of the 90's*, Springer-Verlag, *In* Karshmer and Nehmer (eds.), pp. 102-108, 1991.

43. Predictive congestion control, (with Ko and Mishra), High-Speed Wide-Area Networks, Protocols for High-Speed Networks, *In* Johnson (ed.), Elsevier Science, 1991.

44. Special issue on modeling parallel computers - guest editors' introduction, (with W. Rego), *Journal of Parallel and Distributed Computing*, 12: 297-299, 1991.

45. Single server priority queue with server failures and queue flushing, (with D. Towsley), *OR Letters*, 10: 353-362, 1991.

46. On the routing problem of p-shuffle-exchange networks, (with Huang, Chen, and Tseng), *IEEE Trans. on Computers*, 40 (11): 1292-1298, 1991.

47. Performance study of two protocols for voice/data integration on ring networks, (with Yang and Ghosal), *ISDN and Networks*, 23: 267-285, 1992.

48. Single class bounds of multi-class queuing networks, (with Dowdy, Carlson, and Krantz), *JACM*, 39 (1): 188-213, 1992.

49. Scheduling issues in heterogeneous multiprocessor systems, (with D. Menasce), TRANSPUTER '92, IOS Press, 1992.

50. Enhancement to TCP flow control scheme, (with Mishra and Sanghi), *In* Raghavan, S.V. (ed.), NETWORK '92, Elsevier Science, 1992.

51. Interaction among virtual circuits using predictive congestion control, (with Ko and Mishra), *ISDN and Networks*, 25: 681-699, 1993.

52. Resource allocation for primary-site fault-tolerant systems, (with Y. Huang), *IEEE Trans. on Software Engineering*, 19 (2): 108-119, 1993.

53. A multi-class priority-based slotted-ring LAN and its analysis, (with Mukherjee and Ghosal), *IEEE Transactions on Computers*, 42 (8): 1015-1020, 1993.

54. Capacity of voting systems, (with Rangarajan and Jalote), *IEEE Trans. on Software Engineering*, 19 (7): 608-706, 1993.

55. Static heuristic processor assignment in heterogeneous multiprocessors, (with Menasce and Porto), *International Journal of High Speed Computing*, 6 (1): 115-137, 1994.

56. Analysis of processor allocation in multiprogrammed parallel processing systems, (with Setia and Squillante), *IEEE Transactions on Parallel and Distributed Systems*, 5 (4): 401-420, 1994.

57. IP on ATM local area networks, (with Saha, Ghosal, and Chao), *IEEE Communication Magazine*, 32 (8): 52-59, 1994.

58. PARALLEL PROCESSING, (edited with Prasanna, Bhatkar, and Patnaik), Tata-McGraw Hill, 1994.

59. Computing reliability intervals for k-resilient protocols, (with Rangarajan and Huang), *IEEE Transactions on Computers*, 44 (3): 462-466, 1995.

60. Performance evaluation of preemptive protocol for voice data integration in a ring-based LAN/MAN, (with Mukherjee and Saha), *Performance Evaluation*, 23: 1-29, 1995.

61. Static and dynamic processor scheduling disciplines in heterogeneous parallel architectures, (with Menasce, Saha, Porto, and Almeida), *Journal of Parallel and Distributed Computing*, 28 (1): 1-18, 1995.

62. A performance study of real-time optimistic concurrency control with knowledge of execution time, (with Chen and Hwang), *International Journal of Computers and Their Applications II*, (3): 114-122, 1995.

63. A fault-tolerant algorithm for replicated data management, (with Rangarajan and Setia), *IEEE Transactions on Parallel and Distributed Systems*, 6 (12): 1271-1282, 1995.

64. Adaptive redundancy for fault-tolerance real-time systems, (with Chen and Cheng), *IEEE Press, Fault-Tolerant Parallel and Distributed Systems*, 182-187, 1995.

65. Synchronization representation and traffic source modelling in orchestrated presentation, (with Raghavan and Prabhakaran), *IEEE Journal of Selected Areas in Communication, Special Issue on Multimedia Synchronization*, 14 (1): 104-113, 1996.

66. On hop-by-hop rate-based congestion control, (with Mishra and Kanakia), *IEEE/ACM Transactions on Networking*, 4 (2): 224-239, 1996.

67. Performance analysis of long-lived transaction processing systems with rollbacks and aborts, (with D. Liang), *IEEE Trans. On Knowledge and Data Engineering*, 8 (5): 802-815, 1996.

68. An analysis of average message complexity of replica control protocols, (with Saha and Rangarajan), *IEEE Trans. on Parallel and Distributed Systems*, 7 (10): 1026-1034, 1996.

69. Network layer mobility: An architecture and survey, (with Bhagwat and Perkins), *IEEE Personal Communication*, 3 (3): 54-64, 1996.

70. Signal stability based adaptive routing (SSA) for ad-hoc mobile networks, (with Dube, Rais, and Wang), *IEEE Personal Communications*, 4 (1): 36-45, 1997.

71. Improving NFS performance over wireless links, (with Dube and Rais), *IEEE Transactions on Computers*, 46 (3): 290-298, 1997.

72. Impact of video scheduling on bandwidth allocation for multiplexes MPEG streams, (with M. Krunz), *ACM Multimedia Systems*, 5 (6): 347-357, 1997.

73. On the scalability and mean-time to failure of k resilient protocols, (with Rangarajan and Huang), *Acta Informatica*, 34 (7): 543-556, 1997.

74. Multirate scheduling of VBR video traffic in ATM networks, (with Saha and Mukherjee), *IEEE Journal of Selected Areas of Communications*, 15 (6): 1132-1147, 1997.

75. Handling QoS negotiations in orchestrated multimedia presentation, (with Raghavan and Prabhakaran), *Journal of High Speed Networking*, 5 (3): 277-292, 1997.

76. Enhancing throughput over wireless LANS using channel state dependent packet scheduling, (with Bhagwat, Bhattacharya, and Krishna), *ACM Wireless Networks*, 3 (1): 91-102, 1997.

77. Reliability analysis of replicated and-or graphs, (with D. Liang), *Networks*, 29: 195-203, 1997.

78. Multimedia Networked Systems: Concept, Architecture and Design, (with S.V. Raghavan), Prentice Hall, 1997.

79. Reducing router-crossings in a mobile intranet, (with Korpeoglu and Dube), *Journal of System and Network Management*, 6 (1): 15-30, 1998.

80. Journal of High Speed Networks, (with D. Saha as Co Guest-editors), Special Issue: Multimedia Networking, 7(3,4): 187, 1998.

81. A resource reservation scheme for synchronized distributed multimedia sessions, (with W. Zhao), *Multimedia Information Systems*, 7 (1/2): 129-146, 1998.

82. Carry over round robin: A simple cell scheduling mechanism for ATM networks, (with Saha and Mukherjee), *IEEE/ACM Transaction on Networking*, 6 (6): 779 – 796, 1998.

83. On reducing the processing cost of on-demand QoS path computation, (with Apostolopoulos, Guerin, and Kamat), *Journal of High Speed Networking*, 7 (2): 77-98, 1998.

84. Studying vertical dependence to improve NFS performance in wireless networks, (with C. D. Rais), *Cluster Computing*, 1 (2): 225-235, 1998.

85. Intra-domain QoS routing in IP networks: A feasibility and cost/benefit analysis, (with Apostolopoulos, Guerin, Kamat, and Orda), *IEEE Network Magazine*, 13 (5): 42 – 54, 1999.

86. A distributed scheduling algorithm for real-time communication on slotted shared medium, (with Mukherjee, Saha, and Saksena), *Journal of Parallel and Distributed Computing*, 58: 1-25, 1999.

87. Bandwidth allocation and admission control schemes for the distribution of MPEG streams in VOD systems, (with Krunz and Apostolopoulos), *International Journal of Parallel and Distributed Systems and Networks*, 3 (2): 108-121, 2000.

88. On performance prediction of parallel computations with precedent constraints, (with De-Ron Liang), *IEEE Transactions on parallel and distributed systems*, 11 (5): 491 – 508, 2000.

89. Using statistical data for Reliable Mobile Communicating, (with Jobin, Gokhale and Faloutsos), *Journal of Wireless Communication and Mobile Computing*, 2 (1): 101-111, 2002.

90. A Time-Slotted-CDMA Architecture and Adaptive Resource Allocation Method for Connection with Diverse QoS Guarantees, (with Singh and Samar), *Wireless Networks*, 9, 479-494, 2003.

91. Challenges in the Evolution from Single-hop to Multi-hop Wireless Networks, (with Sinha), In *Performance Evaluation – Stories and Perspective*, Gabriele Kotsis (Ed.), Austrian Computer Society, 333-351, 2003.

92. A Routing Framework for Providing Robustness to Node Failures in Mobile Ad Hoc Networks, (with Ye and Krishnamurthy), *Ad Hoc Networks*, 2 (1): 87-107, 2004.

93. Improving TCP Performance in Ad Hoc Networks Using Signal Strength Based Link Management, (with Klemm, Ye and Krishnamurthy), Ad Hock Networks 3 (2): 175-191, 2005.

94. The Cast for a Systematic Approach to Wireless Mobile Network Simulation, (with Jobin and Faloutsos), *Journal of High Speed Networks*, 14 (3): 243-262, 2005.

95. Improving TCP Performance in Ad Hoc Networks using Signal Strength based Link Management, (with Klemm, Ye and Krishnamurthy), Ad Hoc Networks, 3 pp. 175-191, 2005.

96. Wireless Network Simulation: Towards a Systematic Approach, (with Jobin and Faloutsos), in Computer Systems Performance Modeling in Perspective (Gelenbe, Ed.), Imperial College Press, pp. 75-100, 2006.

97. Challenges in Design of Next Generation Networks, (with Sharma, Raghavan), in Modeling and Simulation Tools for Emerging Telecommunications Networks (Ince and Topuz, Eds.), Springer, pp. 19-42, 2006.

98. Predictive Channel Reservation for Handoff Prioritization in Wireless Cellular Networks, (with Ye, Law, Krishnamurthy, Xu and Dhirakhosal), *Computer Networks Journal* (COMNET), 2006.

**B. Symposia/Conference Proceedings**

*{Proceeding articles go through a thorough refereeing process in Computer Science}*

1. A stochastic model of urbanization, (with Krishnan), Annual Meetings of the Statistical Science Association of Canada, Toronto, Canada, May - June 1974.

2. Analytic models of computer systems, (with K. Sevcik), Intl. Dedication Conf. Recent Advances in Mathematics and its Applications, Banaras Hindu University, India, January 1977.

3. The influence of multiprogramming limit on interactive response time in a virtual memory system, (with K. Sevcik), SIGMETRICS/CMG VIII Intl. Conf. Computer Performance, Measurement, and Management, pp. 121-130, Washington, DC, November 1977.

4. Approximate solutions to queueing network models of computer systems: A unified approach, Workshop on the Theory and Application of Queueing Models to ADP System Performance Prediction College Park, Maryland, March 1979.

5. Computer performance prediction via analytic modeling - An experiment, (with L. Dowdy, A. Agrawala, and K. Gordon), Proc. ACM SIGMETRICS Conf. Simulation, Measurement and Modeling of Computer Systems, pp. 13-18, August 1979.

6. An optimal sample size allocation scheme for benchmark design, (with K. Gordon and A. Agrawala), Proc. CPEUG, pp. 105-111, October 1979.

7. Analysis of design alternatives for a packet-switched I/O system, (with R. Upton), Proc. Performance '80, pp. 159-172, Toronto, Canada, May 1980.

8. Models of load sharing policies in distributed systems, (with A. Agrawala), Proc. Decision and Control Conf., San Diego, California, December 1981.

9. On updating buffer allocation, (with A. Thareja and R. Upton), Proc. ACM Computer Network Performance Symp., pp. 101-110, San Francisco, California, April 1982.

10. A model of transport-level flow control, (with A. Harbitter), Proc. 1982 ACM SIGMETRICS Conf. Measurement and Modeling of Computer Systems, pp. 222-232, Seattle, WA, August - September 1982.

11. Modeling reentrant and non-reentrant software, (with J. Agre), Proc. 1982 ACM SIGMETRICS Conf. Measurement and Modeling of Computer Systems, pp. 163-178, Seattle, WA, August - September 1982.

12. An analysis of two flow control techniques, (with A. Harbitter), Proc. 1982 ACM SIGMETRICS Conf. on Measurement and Modeling of Computer Systems, pp. 241-249, Seattle, WA, August - September 1982.

13. A common framework for studying the performance of channel access protocols, (with K. Ramakrishnan), Proc. CPEUG 82, pp. 365-373, San Diego, California, October 1982.

14. A software tool for evaluation of computer and communication systems, (with A. Agrawala and A. Thareja), Proc. CPEUG 82, pp. 139-154, San Diego, California, October 1982.

15. Buffer sharing in dynamic load environment, (with A. Thareja), Proc. IEEE INFOCOM '84, pp. 369-379, San Francisco, CA, April, 1984.

16. On the availability of distributed computer systems with failing components, (with E. Gelenbe and D. Finkel), Proc. ACM SIGMETRICS, pp. 13-16, Austin, Texas, August 1985.

17. Distributed resource scheduling for a large scale network of processors: HCSN, (with Y. Huang), Proc. 6th Intl. Conf. Distributed Computing Systems, pp. 321-328, Cambridge, Massachusetts, May 1986.

18. Equivalence between cube-connected cycles networks and circular shuffle networks, (with B. Jain), Proc. 15th Intl. Conf. Parallel Processing, pp. 8-11, University Park, PA, August 1986.

19. Clock synchronization on the factory floor, (with W. Gora and E. Herzog), Proc. Workshop on Factory Communications, Gaithersburg, Maryland, March 1987.

20. Fault tolerant remote procedure call, (with K. Yap and P. Jalote), Proc. 8th Intl. Conf. Distributed Computing Systems, pp. 48-54, San Jose, CA, June 1988.

21. Experimental performance evaluation of distributed mutual exclusion algorithms, (with S. Yuan and A. Agrawala), Proc. Intl. Computer Symp. (ICC'88), pp. 1359-1365, Taipei, Taiwan, December 1988.

22. On optimal file allocation with sharing, (with Y. Huang and D. Towsley), Intl. Seminar on Performance of Distributed and Parallel Systems, Kyoto, Japan, December 1988.

23. Application of Petri Net models for evaluation of fault-tolerant techniques in distributed systems, (with Y. Shieh, D. Ghosal, and D. Chintamaneni), Proc. 9th Intl. Conf. Distributed Computing Systems, Newport Beach, CA, June 1989.

24. Analysis of computation-communication issues in dynamic dataflow architectures, (with D. Ghosal, L. Bhuyan, and H. Jiang), Proc. 16th Annual Intl. Symp. Computer Architecture, pp. 325-333, Jerusalem, Israel, May-June 1989.

25. Modeling fault-tolerant techniques in hierarchical systems, (with Y. Shieh and D. Ghosal), Proc. IEEE 19th Intl. Symp. Fault-Tolerant Computing, Chicago, Illinois, June 1989.

26. The MARUTI hard real-time system, (with S. Levi and A. Agrawala), Proc. Israel Conf. Computer Systems and Software Engineering, Jerusalem, Israel, June 1989.

27. Scheduling N jobs in one machine: with insert-idle-time constraint, (with Y. Huang and L. Kanal), Proc. 2nd Intl. Conf. Industrial and Engineering Application of Artificial Intelligence and Expert Systems, pp. 344-347, Tullahoma, Tennessee, June, 1989.

28. Scheduling N jobs on a single machine with the hard-boundary constraint, (with Y. Huang and L. Kanal), Proc. 6th IFAC/IFIP/IFORS/IMACS Symp. Information Control Problems in Manufacturing Technology, Madrid, Spain, September 1989.

29. Dynamic scheduling problem solving: an object-oriented approach, (with Y. Huang and L. Kanal), Proc. Intl. Conf. Artificial Intelligence in Industry and Government, Hyderabad, India, November 1989.

30. Predictive congestion control in high-speed networks, (with K. Ko and P. Mishra), Proc. 2nd IFIP WG6.1/WG6.4 Intl. Workshop on Protocols for High-Speed Networks, San Jose, California, November 1990.

31. Language support for the Maruti real-time system, (with S. Nirkhe and A. Agrawala), Proc. 11th Real-Time Systems Symp., pp. 257-266, Lake Buena Vista, Florida, December 1990.

32. Resource allocation for fault tolerant systems using external backups, (with Y. Huang), Proc. Intl. Computer Conf., pp. 226-231, Taipei, Taiwan, December 1990.

33. Optimal end-to-end sliding window flow control in high speed networks, (with K. Ko), Proc. 10th Annual IEEE Intl. Conf. Computers and Communications, Phoenix, Arizona, March 1991.

34. Effective load and resource sharing in parallel protocol-processing systems, (with T. Lakshman, D. Ghosal and Y. Huang), Proc. 1991 Intl. Conf. Parallel Processing, pp. 382-390, Austin, Texas, August 1991.

35. Resource allocation for distributed systems with fault tolerant nodes, (with Y. Huang), Proc. 5th Intl. Conf. Fault-Tolerant Computing Systems, pp. 241-252, Berlin, Germany, September 1991.

36. A robust distributed mutual exclusion algorithm, (with S. Rangarajan), Proc. 5th Intl. Workshop on Distributed Algorithms (WDAG-5), pp. 295-308, Delphi, Greece, October 1991.

37. Efficient synchronization of clocks in a distributed system, (with S. Rangarajan), Proc. 12th IEEE Real-Time Systems Symp. '91, pp. 22-33, San Antonio, Texas, December 1991.

38. A Fault-tolerant algorithm for replicated data management, (with S. Rangarajan and S. Setia), Proc. 8th Intl. Conf. Data Engineering, pp. 230-237, Phoenix, Arizona, March 1992.

39. Processor assignment in heterogeneous parallel architectures, (with D. Menasce and S. Porto), Proc. Intl. Parallel Processing Symp., IEEE Computer Society Press, pp. 186-191, Beverly Hills, California, March 23-26, 1992.

40. Analysis of processor allocation in multiprogrammed parallel processing systems, (with S. Setia and M. Squillante), Proc. 2nd ORSA Telecommunications Conf., Boca Raton, Florida, March 1992.

41. Analyzing tradeoffs between temporary consistency and concurrency with rollbacks and aborts, (with D. Liang), Proc. 21st Intl. Conf. Parallel Processing, pp. 24-27, Ann Arbor, Michigan, August 1992.

42. Computing threshold times for k-resilient protocols for distributed systems, (with S. Rangarajan and Y. Huang), Proc. 1992 Intl. Conf. Parallel Processing, Vol. II, pp. 24-28, Boca Raton, Florida, August 1992.

43. A Comparative analysis of static partitioning policies for parallel computers, (with S. Setia), Proc. Intl. Workshop on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS'93), Durham, North Carolina, January, 1993.

44. Dynamic bandwidth allocation in high speed integrated service networks, (with P. Mishra), IEEE INFOCOM '93, San Francisco, California, April 1993.

45. Processor scheduling on multiprogrammed, distributed memory parallel computers, (with S. Setia and M. Squillante), Proc. 1993 ACM SIGMETRICS Conf. Measurement and Modeling of Computer Systems, pp. 158-170, Santa Clara, California, May 1993.

46. Average message complexity of replica control protocols, (with D. Saha and S. Rangarajan), Proc. 13th Intl. Conf. Distributed Computing Systems, pp. 474-481, Pittsburgh, Pennsylvania, May 1993.

47. A Comparative study of media access control protocols for integrated services ring LANs, (with S. Mukherjee), Proc. Intl. Conf. Computer Communications and Networks, June 1993.

48. An optimistic concurrency control algorithm in real-time database systems, (with C. Chen), Proc. ISCA Intl. Conf. Parallel and Distributed Computing and Systems, pp. 275-280, 1993.

49. Automated time scale decomposition and analysis of stochastic Petri Nets, (with A. Blakemore), Proc. 5th Intl. Workshop on Petri Nets and Performance Models (PNPM ’93) Toulouse, France, October 1993.

50. A bandwidth allocation scheme for time constrained message transmission on a slotted ring LAN, (with S. Mukherjee, D. Saha and M. Saksena), Proc. IEEE 14th Real-Time Systems Symp. (RTSS ’93), pp. 44-55, Raleigh-Durham, North Carolina, December 1993.

51. A methodology for the performance prediction of massively parallel applications, (with D. Menasce and S. Noh), Proc. IEEE Symp. Parallel and Distributed Processing, Dallas, Texas, December 1993.

52. Time constrained message transmission in a LAN environment, (with S. Mukherjee), Proc. MASCOTS, Durham, North Carolina January - February 1994.

53. Performance prediction on parallel computers, (with D. Liang), Proc. 8th Intl. Parallel Processing Symp. (IPPS ’94), pp. 625-629, Cancun, Mexico, April 1994.

54. Distributed multimedia applications, (with S. Raghavan and B. Prabhakaran), Proc. INDC '94, Portugal, Spain, April 1994.

55. On guaranteed delivery of time-critical messages in DQDB, (with D. Saha, M. Saksena, and S. Mukherjee), Proc. INFOCOM '94, pp. 272-279, Toronto, Canada, June 1994.

56. Design of error control strategies for reliable multicast, (with P. Bhagwat and P. Mishra), Proc. INFOCOM '94, Toronto, Canada, June 1994.

57. Quality of Service considerations for distributed, orchestrated multimedia presentation, (with S. Raghavan and B. Prabhakaran), Proc. High Performance Networking '94 (HPN'94), pp. 217-238, Paris, France, July 1994.

58. Multi-rate traffic shaping and end-to-end performance guarantees in ATM. (with D. Saha and S. Mukherjee), Proc. IEEE Intl. Conf. Network Protocols (ICNP ’94), October 1994.

59. A resource synchronization protocol for multiprocessor real-time systems, (with C. Chen and A. Blackmore), Proc. 1994 Intl. Conf. Parallel Processing (ICPP ’94), pp. 159-162, Chicago, Illinois, August 1994.

60. A Fault-tolerance model for real-time systems, (with C. Chen and S. Cheng), Proc. 1994 IEEE Workshop on Fault-Tolerant and Distributed Systems, 1994.

61. Transparent resource discovery for mobile computers, (with P. Bhagwat and C. Perkins), Proc. Workshop on Mobile Computing Systems and Applications, Santa Cruz, California, December 1994.

62. Adaptive redundancy for fault-tolerant real-time systems, (with C. Chen and S. Cheng), Proc. Fault-Tolerant Parallel and Distributed Systems, IEEE Computer Society Press, 1995.

63. Fault-tolerance scheduling in real-time systems, (with C. Chen), Proc. ISCA Intl. Conf. Computer Applications in Industry and Engineering, pp. 80-83, Santa Margherita Ligure, Italy, June 1995.

64. An analytic model for the reliability of real-time systems, (with C. Chen), The Intl. Assoc. Science and Technology for Development (IASTED) Intl. Conf. Applied Modeling, Simulation and Optimization, pp. 245-248, 1995.

65. A source model for MPEG-coded video movies, (with M. Krunz and H. Hughes), Proc. 1st IEEE Workshop on ATM Networks, Washington, D.C., October 1995.

66. Carry-over round robin: A simple cell scheduling mechanism for ATM networks, (with D. Saha and S. Mukherjee), Proc. IEEE INFOCOM 96, San Francisco, California, March 1996.

67. Enhancing throughput over wireless LANs using channel state dependent packet scheduling, (with P. Bhagwat, A. Bhattacharya, and A. Krishna), Proc. IEEE INFOCOM '96, San Francisco, California, March 1996.

68. Bandwidth allocation for multiplexed VBR video streams with deterministic guarantees, (with M. Krunz), Proc. IEEE ATM Workshop '96, San Francisco, CA, August 1996.

69. A resource reservation scheme for synchronized distributed multimedia sessions, (with W. Zhao), Proc. 2nd Intl. Workshop on Multimedia Information Systems (MIS'96), West Point, New York, September 1996.

70. Multirate scheduling for guaranteed and predictive services in ATM networks, (with D. Saha and S. Mukherjee), Proc. IEEE RTSS, Washington, D.C., December 1996.

71. Simple input/output streaming in roadrunner operating system. Workshop on Resource Allocation Problems in Multimedia Systems, (with F. Miller, and G. Apostolopoulos), 17th IEEE Real-Time Systems Symp., Washington, D.C., December 1996.

72. Exploiting the temporal structures of MPEG video for the reduction of bandwidth requirements, (with M. Krunz), Proc. INFOCOM '97 Conf., pp. 67-74, Kobe, Japan, April 1997.

73. Practical experience with a smoothing algorithm for video streaming, (with F. Miller, H. Lam, X. Mei, and K. Zhang), 7th Network and Operating System Support for Digital Audio and Video Workshop (NOSSDAV '97), pp. 219-225, May 1997.

74. Efficient transport of stored video using stream scheduling and window-based traffic envelopes, (with W. Zhao and M. Krunz), Proc. IEEE ICC'97 Conf., pp. 793-797, Montreal, Canada, June 1997.

75. On the characterization of VBR MPEG streams, 25(1), (with M. Krunz), Proc. ACM SIGMETRICS '97 Conference, pp. 192-202, June 1997.

76. Routing guaranteed quality-of-service connections in integrated services packet networks, (with W. Zhao), Proc. IEEE Intl. Conf. Network Protocols (ICNP'97), Atlanta, Georgia, October 28 – 31, 1997.

77. An integrated input/output system for kernel data streaming, (with F. Miller), Proc. SPIE/ACM Multimedia Computing and Networking, pp.57-68, January 1998.

78. Supporting interactive scanning operations in VOD systems, (with G. Apostolopolous and M. Krunz), Proc. SPIE Multimedia Computing and Networking Conf., pp. 84-95, San Jose, CA, 1998.

79. Mobile-end transport protocol: An alternative to TCP/IP over wireless links, (with K. Wang), Proc. IEEE INFOCOM '98 Conf., pp. 1046-1055, San Francisco, CA, March 1998.

80. On the effectiveness of path pre-computation in reducing the processing cost of on-demand QoS path computation, (with G. Apostolopoulous), Proc. IEEE Symp. Computer and Communications, pp. 42-46, Athens, Greece, June 1998.

81. QoS routing: A performance perspective, (with G. Apostolopoulous, R. Guerin, and S. Kamat), Proc. ACM SIGCOMM Conf., pp. 17-28, Vancouver, British Columbia, September 1998.

82. On reducing the processing cost of on-demand QoS path computation, (with G. Apostolopoulos, R. Guerin, and S. Kamat), Proc. Intl. Conf. Networking Protocols (ICNP), Austin, TX, October 1998.

83. Estimating end-to-end cell delay variation in ATM networks, (with I. Korpeoglu and X. Chen), Intl. Conf. Communications Technologies, pp. 472 - 483, Beijing, China, October 1998.

84. General data streaming, (with F. W. Miller and P. Keleher), 19$^{th}$ IEEE Real-Time Systems Symp. pp. 232 - 241, Madrid, Spain, December 1998.

85. Server based QoS routing, (with G. Apostolopoulos, R. Guerin, and S. Kamat), Proc. Globecomm'99, pp. 762 - 768, Rio de Janeiro, Brazil, December 5 – 9, 1999.

86. Bandwidth-efficient continuous media streaming through optimal multiplexing, (with W. Zhao). Proc. ACM SIGMETRICS'99 – Intl. Conf. Measurement and Modeling of Computer Systems, pp.13 – 22, Atlanta Georgia, May 1 – 4, 1999.

87. Cordless dialup networking for palmtop computers, (with P. Bhagwat, C. Bisdikian, I. Korpeoglu, M. Naghshineh), Proc. ACM/IEEE MOBICOM'99 Conf., pp. 69 – 76, Seattle, WA, August 1999.

88. Effect of unreliable nodes on QoS routing, (with S. S. Gokhale), Proc. 1999 Intl. Conf. Network Protocols, pp. 173 – 181, Toronto, Canada, October 31 – November 3, 1999.

89. Performance Evaluation of Mobile Wireless Networks: a New Perspective, (with Jobin and Faloutsos), *Proceedings of the Fourth ACM International Workshop on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, pp. 65-72, Rome, Italy, July 2001.

90. QoS Specification and Adaptive Bandwidth Monitoring for Multimedia Delivery, (with Cheng, Basu and Zhang), *Proceedings of IEEE EUROCON 2001*, pp. 483-486, Slovakia, June 2001.

91. Simplifying the Analysis of Wireless Network Simulation, (with Jobin and Faloutsos), *Proceedings on Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2002)*, pp. 582-586, San Diego, CA, June 2002.

92. On the Effect of the Size of the Pre-reservation Area on Handoff Performance in Wireless Cellular Networks, (with Ye and Krishnamurthy), *Proceedings of IASTED Wireless and Optical Communications WOC 2002*, pp. 570-577, Banff, Canada, July 2002.

93. A New Adaptive Channel Reservation Scheme for Hand-off Calls in Wireless Cellular Networks, (with Xu, Ye, Krishnamurthy, and Molle), *Proceedings of IFIP Networking 2002*, pp. 672-784, Pisa, Italy, May 2002.

94. QoS-Aware Path Protection Schemes for MPLS Networks, (with Gupta and Jain), *Proceedings of Fifteenth International Conference on Computer Communications (ICCC 2002)*, pp. 103-118, Mumbai, India, August 2002.

95. Routing Metrics for Best-Effort Traffic, (with Gokhale), *Proceedings of Eleventh International Conference on Computer Communications and Networks (ICCCN 02)*, Miami, FL, October 2002.

96. Split TCP for Mobile Ad Hoc Networks, (with Kopparty, Swastik, Krishnamurthy and Faloutsos), *Globecom*, Taipei, China, 2002

97. A Framework for Reliable Routing in Mobile Ad Hoc Networks, (with Ye and Krishnamurthy), *IEEE INFOCOM 2003*, San Francisco, CA, 2003.

98. Alleviating Effects of Mobility on TCP Performance in Ad Hoc Networks using Signal Strength Based Link Management, (with Klemm and Krishnamurthy), *IFIP Personal and Wireless Communications (PWC)*, Venice, Italy, 2003.

99. MaxDomino: Efficiently Mining Maximal Set, (with Krishnamurthy and Bhasker), *BNCOD 2003, LNCS 2712*, pp. 131-139, 2003.

100. Synchronization of Multiple Levels of Data Fusion in Wireless Sensor Networks, (with Yuan and Krishnamurthy), *IEEE GLOBECOM 2003,* San Francisco, CA, 2003.

101. Understanding the Effects of Hotspots in Wireless Cellular Networks, (with Jobin, Faloutsos and Krishnamurthy), *IEEE INFOCOM 2004*, Hong Kong, 2004.

102. Multi-server Optimal Bandwidth Monitoring for Collaborative Distributed Retrieval, (with Cheng, Basu and Zhang), *ISCAS 2004*, pp. 201-204.

103. Improving the Reliability of Event Reports in Wireless Sensor Networks, (with Yuan and Krishnamurthy), *The Ninth IEEE Symposium on Computers and Communications 2004*, pp. 220-225.

104. TCP Friendly Medium Access Control for Ad Hoc Wireless Networks: Alleviating Self Contention, (with Berger, Ye, Sinha, Krishnamurthy and Faloutsos), *IEEE MASS 2004*, Ft. Lauderdale, FL.

105. Use of Congestion Aware Routing to Spatially Separate TCP Connections in Wireless Ad Hoc Networks, (with Ye and Krishnamurthy), *IEEE MASS 2004*, Ft. Lauderdale, FL.

106. Effects of Multipath Routing on TCP Performance in Ad Hoc Networks, (with Ye and Krishnamurthy), *IEEE GLOBECOM 2004*, Dallas, TX.

107. Multi-server Optimal Bandwith Monitoring for Collaborative Distributed Retrieval, (with Ying and Basu), *Circuits and Systems, ISCAS '04, Proceedings of the 2004 International Symposium*, May 2004.

108. A Lightweight Framework for Source-to-Sink Data Transfer in Wireless Senor Networks, (with Jobin, Ye, Rawat and Krishnamurthy), *Broadband Networks, 2nd International Conference*, October 2005.

109. Node Localization using Received Signal Statistics, (with Sharma), *Proceedings of Second International Conference on Mobile Ad Hoc and Sensor Systems, MASS 2005*.

110. Geolocation Using Received Signal Statistics, (with Sharma), *GLOBECOM 2006*.

111. Energy Conservation in Sensor Networks through Selective Activation of Nodes using Thresholding, (with Sharma, Khan, Narasimha and Ramalingam), *Proceedings of IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks WoWMoM*, pp. 115-124, 2006.

112. An Energy-Efficient Mobile Triangulation-based Coverage Scheme, (with Khan, Qiao and Sharma), *International Conference on Communications ICC 2007* (to appear 2007).

## XI. GRADUATE STUDENTS

**Post-Doctoral Students:**

***University of Maryland, College Park***

Prasad Chintamaneni, Ph.D. Vanderbilt University (1986-1988)
Employment: Started his own company

Dipak Ghosal, Ph.D. University of Louisiana (1988-90)
Employment: University of California, Davis

Sampath Rangarajan, Ph.D. University of Texas, Austin (1990-92)
Employment: Faculty Member, Northeastern University

Marwan Krunz, Ph.D. Michigan State University (1995-97)
Employment: Faculty Member, University of Arizona

***University of California, Riverside***

Swapana Gokhale, Ph.D. Duke University (1998-99)

Yibo Xhang, Ph.D. University of Tokyo (2000-2002)
Employment: Ericsson

Prasun Sinha, Ph.D. University of Illinois, Urbana (2003)
Employment: Faculty position at The Ohio State University

***University at Buffalo, SUNY***

Prachee Sharma, Ph.D. University of Massachusetts at Lowell (2004-2006)
Employment: Scalable Networks

**Ph.D. Students:**

***University of Maryland, College Park***

Rick Upton (1984)
Title: "A Transient Analysis of Computer Communication Networks"
Vice President and Technology Director, TASC, Reading, MA

Shing-Tsaan Huang (1985)
Title: "On the Shuffle-Exchange Type Interconnection Networks for Multiprocessor Systems"
Professor of Computer Science, National Tsing-Hua University, Taiwan

Yen-nun Huang (1989)
Title: “Resource Allocation with Fault-Tolerance”
Member of the Technical Staff, AT&T Bell Labs, Murray Hill, NJ

Yuan-Bao Shieh (1989)
Title: “Modeling and Integration of Fault-Tolerant Techniques in Distributed Systems”
Member of the Technical Staff, IBM, Research Traingle Park, NC

Yuan-Geng Huang (1990) Co-Advisor
Title: “Dynamic Scheduling Problem Solving”
Member of the Technical Staff, IBM, Houston, TX

Keng-Tai Ko (1991)
Title: “On Congestion Control in High-Speed Wide-Area Networks”
Manager, SUN Microsystems, CA

Vivek Nirkhe (1992)
Title: “Application of Partial Evaluation to Hard Real-Time Programming”
Program Manager, Interactive TV, Microsoft, Redmond, WA

Win-Tsung Lo (1992)
Title: “Efficient Algorithms for Location on Tree Networks and Allocation on Hypercube Multiprocessors”
Associate Professor, Feng Chia University, Taichung, Taiwan

De-Ron Liang (1992)
Title: “Synchronization Issues in Modeling Parallel Computation”
Research Associate, Academica Sinica, Taiwan

Sarit Mukherjee (1993)
Title: “A Multiclass Preemptive Protocol for High Speed Local and Metropolitan Area Networks”
Assistant Professor, University of Nebraska

Sanjeev Setia (1993)
Title: “Scheduling in Multiprocessor Systems”
Assistant Professor, George Mason University

Partho Mishra (1993)
Title: “Congestion Control in Integrated Service Networks”
Member of the Technical Staff, AT&T Bell Labs (Murray Hill)

Chia-Mei Chen (1995)
Title: “Scheduling Issues in Real-time Systems”
System Architect Citicorp (VA)

Debanjan Saha (1995)
Title: “Supporting Multimedia Application on ATM Networks”
Member of the Technical Staff, IBM TJ Watson Research Center (Yorktown Heights)

Pravin Bhagwat (1995)
Title: “A Framework for Integrating Mobile Hosts within Internet”
Member of the Technical Staff, IBM TJ Watson Research Center (Yorktown Heights)

Alex Blakemore (1997)
Title: “Efficient Analysis of Generalized Stochastic Petri Nets”
Independent Consultant

Cynthia Davis (1998)
Title: “Supporting Intermittent Connectivity in Mobile Networks”
Assistant Professor, Computer Science, Georgetown University

Frank Miller (1998)
Title: “Input/Output System Design for Streaming”
Owner, Cornfed Systems, Inc.

Kuang-Yeh Wang (1999)
Title: “Improving Performance of Wireless Networks in the Internet
Cisco Systems

George Apostolopoulos (1999)
Title: Cost and Performance Trade-Offs of Quality of Service Routing
Readbank Networks

Wei Zhao (1999)
Title: Adaptive Streaming of Scalable Multimedia over Heterogeneous Environment
Netpliance Inc.

Ibrahim Korpeoglu (2000)
Title: Mobile and Wireless Networking for Palmtop and Laptop Computers
Ericsson

***University of California, Riverside***

Jobin James (2003)
Title: Performance Analysis of Wireless Networks: Challenging the Assumptions in Simulation and Modeling
Research Associate, University of California, Riverside

Zhengiang Ye (2004)
Title: Connection Robustness in Mobile Wireless Networks
Packet-Train, California

**Current Students**

***University at Buffalo, SUNY***

Asheq Khan (Candidate)

**M.S. Students:**

*Over 30 Students*

## XIII. OTHER PROFESSIONAL ACTIVITIES

- Member, Program Committee, IFIP International Conference on Performance Evaluation (PERFORMANCE 2002)
- Member, Program Committee, Fourth Annual ACM International Workshop on Wireless Mobile Multimedia, 2002
- Member, Program Committee, IEEE INFOCOM, 2002 and 2003
- Member, Program Committee, ACM Sigmetrics Conference, 2001 and 2002
- Member, Program Committee, International Conference on Computer Communications (ICCC) 2002
- Member, Program Committee, International World Wide Web Conference (WWW 10 and 11), 2001 and 2002
- Member, Program Committee, International Conference on Networking (ICON) 2001 and 2002
- Member, NSF Panel on Networking Research, 2000
- Member, Program Committee, IEEE International Conference on Network Protocols, 2000
- Member, External Review Panel, Department of Computer Science, Purdue University, 1999
- Scientific Reviewer, Proposal for the Kplus Center, "Advanced Multimedia Internet Technology (AMMIT)," Salsburg, Austria, 1999
- Member, NSF Panel on IGERT, 1999
- Member, Steering Committee, International Conference Multimedia Computing and Systems, 1999

- Member, National Science Foundation (NSF) Panel, Career Award, 1999

- Chair, UC Office of the President's MICRO Review Committee, 1998

- Member, Steering Committee, International Conference on High Performance Computing, Madras, 1998

- Technical Co-chair, IEEE INFOCOM '99, March, 1999

- Program Committee, ACM Sigmetrics, 1998

- Organizer, Mini-Conference on Computer Networking in the 21st Century, April 3-4, 1998

- Member Program Committee, IEEE INFOCOM, Kobe, Japan, March 1997.

- Member, India/Asia –Riverside Sister City Committee, 1997-

- Participant, City of Riverside Technology/Economic Development Steering Committee, 1997

- Member, National Science Foundation Panel, 1997

- Member, UC Office of the President's Engineering Advisory Committee, 1997-

- Program Chair, IEEE 17th International Conference on Distributed Computing Systems (ICDCS), 1997

- Program Committee, IEEE Real-time Systems Symposium, 1997

- Program Committee, 9th International Conference on Modelling Techniques and Tools for Computer Performance Evaluation, Saint-Malo, France, 1997

- Guest Editor, *ACM Multimedia Systems*, 1996.

- Guest Editor, *IEEE-JSAC*, 1996.

- Member Advisory Committee, International Conference on High Performance Computing, Trivendrum, India, December 1996.

- Member Program Committee, NETWORK '96, Bombay, India, January 1996.

- Member Program Committee, IEEE INFOCOM, San Francisco, March 1996

- Member Program Committee, 5th IEEE International Symposium on High Performance Computing, Syracuse, August 1996.

- Program Co-Chair, 2nd International Workshop on Multimedia Information Systems, West Point, NY, October 1996.

- Member Program Committee, IEEE International Performance and Dependability Symposium, Urbana, IL, September 1996.

- Member Program Committee, IFIP 7.3 International Conference PERFORMANCE '96, Switzerland, October 1996.

- Program Co-Chair, IFIP 7.3 Workshop on Performance Evaluation, NJ, May 1996.

- Member Advisory and Program Committees, International Conference on High Performance Computing, New Delhi, 1995.

- Member Advisory Committee, 13th Conference on the Foundations of Software Technology and Theoretical Computer Science, Bangalore, India, December 1995.

- Member Program Committee, 7th International Conference on Modeling Techniques and Tools for Computer Performance Evaluation, Germany 1995.

- Member Program Committee, Seventh European Simulation Symposium, Erlangen, October 1995.

- Program Co-Chair, 1st International Workshop on Multimedia Information Systems, Virginia, October 1995.

- Member Program Committee, IEEE International Computer Performance and Dependability Symposium, Erlangen, April 1995.

- Member Program Committee, 7th IEEE Symposium on Parallel and Distributed Processing, San Antonio, October 1995.

- Member Program Committee, Fourth International Symposium on High-performance Distributed Computing, Washington, D.C., August 1995.

- Vice-Chair Program Committee, International Conference on Distributed Computing Systems, Vancouver, June 1995.

- Chair Program Committee, 1995 ACM Sigmetrics/Performance '95 Conference, Ottawa, May 1995.

- Chair program Committee, International Workshop on Parallel Processing, Bangalore, December 1994.

- Member Program Committee, IFIP NETWORK '94, Madras, December 1994.

- Member Program Committee, TRANSPUTERS'94, Evry, France, 1994.

- Member Program Committee, 15th IEEE Real-Time Systems Symposium, December 1994.

- Member Advisory Committee, 12th Conference on the Foundations of Software Technology and Theoretical Computer Science, New Delhi, India, December 1994.

- Member Program Committee, Third International Symposium on High-Performance Distributed Computing, San Francisco, August 1994.

- Member Program Committee, 1994 ACM SIGMETRICS CONFERENCE, Nashville, May 1994.

- Member Program Committee, Fifth International Workshop on Computer-Aided Modeling, Analysis, and Design of Communication Links and Networks, Princeton, April 1994.

- Member Program Committee, 7th International Conference on Modeling Techniques and Tools for Computer Performance Evaluation, Vienna, April 1994.

- Vice-Chair Program Committee, Session Chair, and Invited Panelist 1993 International Conference on Parallel and Distributed Systems, Taipei, Taiwan, December 1993.

- Member Advisory Committee, 12th Conference on the Foundations of Software Technology and Theoretical Computer Science, New Delhi, India, December 1993.

- Member Program Committee, and Session Chair, 14th IEEE Real-Time Systems Symposium, Durham, NC, December 1993.

- Member Program Committee, Second International Conference of the Austrian center for Parallel Computation, Gmunden, Austria, October 1993.

- Member Program Committee, PERFORMANCE'93, Rome, Italy, September-October 1993.

- Member Program Committee, 7th International Parallel Processing Symposium, Newport Beach, April 1993.

- Guest Editor, *Theoretical Computer Science*, special issue on Dependable Computing.

- Member Program Committee, Workshop on Realistic and Dependable Parallel Computing (READPAC), Stony Brook, NY, August 1992.

- Member Program Committee, NETWORK'92, Trivendrum, India, October 1992.

- Member Advisory Committee, 12th Conference on the Foundations of Software Technology and Theoretical Computer Science, New Delhi, India, December 1992.

- Member Program Committee, Symposium on Experiences with Distributed and Multiprocessor Systems (SEDMS III), Newport Beach, CA, March 1992.

- Member Program Committee, Session Chair, Invited Panelist, and Invited Tutorial Speaker, 1992 International Conference on Parallel and Distributed Systems, Tsinchu, Taiwan, December 1992.

- Member Program Committee, TRANSPUTERS'92, Evry, France, May 1992.

- Chairman Program Committee, Indo-US Workshop on Cooperative Research in Computer Science, Bangalore, India, August 1992.

- Member Program Committee, 12th IEEE Real-Time Systems Symposium, San Antonio, December 1991.

- Member International Advisory Committee, ICIE '91 International Conference on Information Engineering, Singapore, December 1991.

- Guest Editor, *Journal of Parallel and Distributed Computing*, special issue on Modeling of Parallel Systems, 1991.

- Invited Speaker, First International Conference of the Austrian Center for Parallel Computation, Salzburg, Austria, October 1991.

- Program Committee and Session Chair, Workshop on OS of 90's and Beyond, Dogstuhl, Germany, July 1991.

- Session Chair, 1991 ACM SIGMETRICS Conference, San Diego, May 1991.

- Member Program Committee and Session Chair, The 11th International Conference on Distributed Systems, Arlington, Texas, May 1991.

- Member Program Committee and Session Chair, Symposium on Experience with Distributed and Multiprocessor Systems (SEDMS), Atlanta, March 1991.

- Session Chair, 2nd Annual Workshop on Very High Speed Networks, Greenbelt, Maryland, March 1991.

- Member Program Committee, Fifth International Conference on Modeling Techniques and Tools for Computer Performance Evaluation, Turin, Italy, February 1991.

- Invited Speaker, CSI Annual Conference, Calcutta, India, October 1990.

- Member Program Committee, IEEE Workshop on Experimental Distributed Systems, Huntsville, October 1990.

- Invited Speaker, International Seminar: Computer Science in the 90's, Belo Horizonte, Brazil, September 1990.

- Member Program Committee, ACM SIGMETRICS CONFERENCE, Colorado, May 1990.

- Session Chairman, Workshop on High Speed Networks, Greenbelt Maryland, March 1990.

- Member Program Committee, Invited Speaker, and Session Chairman, INDOLAN '90 International Conference on Local Area Networks, Madras, January 1990.

- Invited Participant, India-US Workshop on Cooperation for Research in Computer Sciences, Hyderabad, August 1989.

- Program Co-organizer, Workshop on Integrated Approach for Fault Tolerance - Current State and Future Requirements, UMIACS, College Park, May 1989.

- Session Chairman, 1988 ACM SIGMETRICS CONFERENCE, New Mexico, May 1988.

- Member Program Committee, 1988 ACM SIGMETRICS CONFERENCE, New Mexico, May 1988.

- Workshop Co-Chairman, Minnowbrook Workshop on Evaluation of High Performance Computers, July 1987.

- Guest Editor, IEEE Transactions on Software Engineering, special issue on LAN Software, 1986-87.

- Program Co-organizer, Workshop on Design and Performance Issues in Parallel Architectures, UMIACS, College Park, Maryland, March 1986.

- Invited Tutorial on Performance of Local Area Networks, Performance '86, May 1986.

- Invited Participant, Working Group 7.3 meeting, May 1986.

- Member Program Committee, ACM SIGMETRICS/Performance Conference, North Carolina, May 1986.

- Session Chairman, ACM SIGMETRICS Conference, Austin, Texas, August 1985.

- Invited Speaker, International Symposium on Modeling and Performance of Parallel Systems, Grenoble, France, December 1984.

- Member Program Committee, International Symposium on Modeling and Performance of Parallel Systems, Grenoble, France, December 1984.

- Session Chairman, International Symposium on Modeling and Performance of Parallel Systems, Grenoble, France, December 1984.

- Member Program Committee, International Conference on Modeling Techniques and Tools for Performance Analysis, Sophia Antipolis, France, June 1985.

- Invited Speaker on Local Area Networks at Performance '84, Paris, France, December 1984.

- Session Chairman, Performance '84, Paris, France, December 1984.

- Workshop Chairman for Database Modeling, Performance '84, Paris, France, December 1984.

- Member Program Committee, 1984 ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems, Boston, August 1984.

- Session Chairman, 1983 IEEE International Conference on Systems, Man, and Cybernetics, December 1983 - January 1984, Bombay and New Delhi, India.

- Organized and participated in a Two-day Tutorial on Computer Workload Characterization, IEEE International Conference on Systems, Man, and Cybernetics, Bombay, December 1983.

- Session Chairman, ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems, Minneapolis, August 1983.

- Member, Program Committee, ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems, Minneapolis, August 1983.

- Program Chairman, PERFORMANCE '83, The 9th International Symposium on Computer Performance Modeling, Measurement, and Evaluation, College Park, May 1983.

- Session Chairman, Local Area Network Workshop, Worcester Polytechnic Institute, Worcester, April 1983.

- Member, Program Committee, ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems, Seattle, August 1982.

- Invited Speaker at 69th Session of the Indian Science Congress, Mysore, 1982.

- Presented an invited paper at the International Conference on Advances in Information Sciences and Technology, Indian Statistical Institute, Calcutta, 1982.

- Session Chairman, International Conference on Advances in Information Sciences and Technology, Indian Statistical Institute, Calcutta, 1982.

- Local Arrangements Chairman, ACM Network Performance Symposium, College Park, 1982.

- Presented an invited paper at the Canadian Conference in Applied Statistics Montreal, 1981.

- Session Chairman, NCC, Chicago, 1981.

- Presented a talk at NCC, Chicago, 1981.

- Invited to participate in IFIP Working Group 7.3 meeting, Toronto, 1981.

- Presented an invited talk at Workshop on Queueing Network Model at College Park, 1979.

- Presented an invited talk at International Conference on Recent Advances in Mathematics and its Applications, B.H.U., India, 1977.