

RAM RAMESH

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Education

- Ph.D. Industrial Engineering (Operations Research) (1985)
State University of New York at Buffalo
(GPA: 4.0. Awarded Ph.D with Distinction)
Advisors: Mark H. Karwan and Stanley Zionts
- M.Tech. Industrial Engineering (1977)
Indian Institute of Technology, Madras
- B.Tech. Chemical Engineering (1975)
Indian Institute of Technology, Madras

Research Streams

- *Healthcare Analytics*
- *Digital Platforms Analytics*
- *Cloud and High Performance Computing – Availability Analytics*
- *Cloud and High Performance Computing – Markets and Contracts*
- *Conceptual Modeling & Database Systems*
- *Operations & Decision Analysis*

Employment

Professor

Department of Management Science & Systems
School of Management
State University of New York at Buffalo
(September 1998 -)

Associate Professor

Department of Management Science & Systems
State University of New York at Buffalo
(September, 1990 – September 1998)

Assistant Professor

Department of Management Science & Systems
State University of New York at Buffalo
(September, 1984 - September, 1990)

Research and Teaching Assistant

Doctoral Program in Operations Research
Department of Industrial Engineering
State University of New York at Buffalo
(January, 1981 - September, 1984)

Entrepreneur

SYMBIOSIS Consulting
Madras, India
(September, 1977 - January, 1981)

Appointments

Chair

Department of Management Science & Systems
School of Management
State University of New York at Buffalo
(September, 2005 - 2015)

Program Director

Dual Degree MS Program in *Management Science (Business Analytics) and Systems*
Collaborative Venture among SUNY at Buffalo, HP (India) and Amrita University at
Bangalore, India
(January 2007 -)

Adjunct Professor

School of Informatics
State University of New York at Buffalo
(September, 2004 - 2006)

Associate Dean for Research

School of Management
State University of New York at Buffalo
(January 2001 - 2006)

Associate Director

Center for Global Enterprise Management Systems (GEMS)
School of Engineering & School of Management
State University of New York at Buffalo
(January, 1999 - 2002)

Grants and Awards

Co-PI on the research project "Optimal SLA Design for Network Function Virtualization", funded by Huawei Technologies (2015-16), Award Amount: \$225,000

Co-PI on the research project “An Analytic Approach to Quantifying Availability (AQUA) for Cloud Resource Provisioning and Allocation”, funded by the National Science Foundation (NSF CSR: Medium: Collaborative Research: 1409809/1409256 (2014-16)). Award Amount: \$400,000

Co-PI on the research project “Disaster Resilience and Availability Prediction (DRAP) for Clouds”, funded by Google (Google Research Awards, Award # 2011_R2_549 (2012-13)). Award Amount: \$102,000

Established a successful dual degree MS program in *Management Science (Business Analytics) and Systems* in Bangalore, India in collaboration with HP (India) and Amrita University in 2007. Total gross revenue generation from 2007 – 2025: \$15 M (approx.)

Established a successful MS/MIS program at the department of Management Science & Systems, School of Management, SUNY at Buffalo. Student enrollments achieved: 55 (2011-12), 80 (2012-13), 94 (2013-14), 91 (2014-15), about approximately 120-180 students per year (2016-2025).

Actively supporting faculty in the proposal, “Computational and Data-Enabled Science and Engineering (CDSE)” that has been awarded funding after competitive reviews by the **NY SUNY 2020 3E Fund, University at Buffalo**. This funding is for the creation of a research center and new Master’s and doctoral programs in CDSE jointly among the schools of Engineering, Management, Arts and Sciences, and Pharmacy and Pharmaceutical Sciences. February 2013.

Organization Committee of Indo-US Workshop on Cyber Security, Cyber Crime and Cyber Forensics, Kochi, India, August, 2009. Funded by the Indo-US Science and Technology Forum (IUSSTF) and sponsored by Defense Research Development Organization, India (DRDO) and Department of Information Technology, Government of India (DIT) and US NSF. IUSSTF funding: \$50,000.

Corporate Grants (**Bell Atlantic Foundation, Sun Microsystems, Hewlett-Packard, Empire State Development Corporation, EDS, i2 Technologies, Microsoft, Cisco, Nortel, Student Online, Delaware North Companies, Adelpia Business Solutions, Powerware, Oracle, Pharmaceuticals Outcomes Research, Combined Financial Services and IBM (Canada)**), SUNY Buffalo Grants and Registration Income for AIWoRC’00 (1999-2000). Total Amount: \$125,000

Conference in the disciplines award for a three-day conference entitled AIWORC’00: *Virtual Enterprises and Pervasive/Mobile Technologies: An Academia/Industry Workshop on Research Challenges*, held at SUNY, Buffalo, in cooperation with ACM, IEEE, INFORMS and AIS on April 27 – 29, 2000, State University of New York at Buffalo (1998-99). Award Amount: \$7,500

Corporate Research Grants to the Center for Global Enterprise Management Systems, School of Engineering & School of Management, SUNY at Buffalo (1999 – 2000). Total Amount: \$260,000

Research Grant from Air Force Office of Scientific Research (AFOSR), (1999-2000). Award Amount: \$25,000

Research Grant from Air Force Research Laboratories, Mesa, AZ & Hughes Training Systems/Raytheon Systems Company, (1997-1998). Award Amount: \$40,000

Research Grant from Air Force Armstrong Research Laboratory, Mesa & Air Education and Training Command (AETC) of U.S. Air Force, (1995-1996). Award Amount: \$40, 000

Faculty Associate at the Air Force Research Laboratories, Air Force Office of Scientific Research (AFOSR), (1998). Award Amount: \$15,000

Interdisciplinary Research Award, State University of New York at Buffalo (1994-95). Award Amount: \$20,000

Faculty Associate at the Armstrong Research Laboratory (AL/HRA), Air Force Office of Scientific Research (AFOSR), (1994). Award Amount: \$15,000

Faculty Associate at the Armstrong Research Laboratory (AL/HRA), Air Force Office of Scientific Research (AFOSR), (1993). Award Amount: \$15,000

Faculty Co-PI in the Executive Information Technology Education Program (EITEP) for Samsung executives (conducted at the School of Management, SUNY at Buffalo), Samsung Corporation, Seoul, South Korea (1996-1997). Total Project Outlay: \$750,000

Summer Research Fellowships, School of Management, State University of New York at Buffalo (1987-2024).

Joseph T. J. Stewart Research Scholar, School of Management, State University of New York at Buffalo (1990).

Research Grant from the U.S. Army Research Institute (ARI), The Department of the Army, Orlando (1987-1989). Award Amount: \$60,000

Workshop Organization Grant, University of Laval, Quebec, Canada (1988). Award Amount: \$1000

Workshop Organization Grant, University of Laval, Quebec, Canada (1987). Award Amount: \$1000

Travel Grant to Portugal, Luso-American Educational Commission, Lisbon, Portugal (1986). Award Amount: \$1000

Travel Grant to Germany, University of Passau, West Germany (1986). Award Amount \$1000

Travel Grant to Japan, National Science Foundation (1986). Award Amount: \$500

Research Fellowship, NYS/UUP Professional Development and Quality of Worklife Committee, State of New York, (1985). Award Amount: \$650

Research Grant from the U.S. Naval Training Systems Center (NTSC), The Department of the Navy, Orlando (1981-1983). Award Amount: \$10,000

Research Grant from the Westinghouse Electric Company, Buffalo (1981). Award Amount: \$ 10,000

Rotary Foundation Fellowship (1981-1982).

Honors

Elected to the **Board of Directors of Infotech Niagara**, a society of **CIOs** in the Western New York corporate community (2000 – 2002)

Founding Board Member, AIS SIG on *Ontology Driven Information Systems* (SIG-ODIS)
Board Member, AIS SIG on *semantic Web and Information Systems* (SIG-SEMIS)

Tau Beta Pi (National Engineering Honor Society)
Omega Rho (National Operations Research Honor Society)
Rotary Foundation Fellow (1981-1982)

Selected by the Operations Research Society of America (ORSA) as a member of the EURO (IFORS) sponsored International Program on Multicriteria Analysis, Brussels, Belgium (1985)

Included in the Who is Who Among the Distinguished Computer Professionals of India, The Institute of Chartered Computer Professionals of India, Government of India, 1990.

Editorships

Area Editor, *INFORMS Journal on Computing* (2013 -)

Associate Editor, *INFORMS Journal on Computing* (2003 - 2013)

Associate Editor, *Communications of the AIS* (2003 -2005)

Editorial Advisory Board, Information Technology & Systems Network of *Social Science Research Network (SSRN)*, <http://www.SSRN.Com> (2005 -)

Guest Editor of the *Journal of AIS* for a special issue on the theme: *Ontologies in the Context of Information Systems*.

Editorial Board Member of *Information Systems Research* for a special issue on the theme: *Digital Systems and Competition*, September 2010.

Guest Editor of a special issue of the *Communications of the ACM* on the theme: *Distributed Mission Training Technologies (DMT): Emerging Frontiers in Training Systems*, Vol.42, No. 9, September 1999.

Guest Editor of two volumes of the *Annals of Operations Research* on the themes: *Interface between Operations Research and Information Systems: Models of Systems (I) and Systems for Models (II)* (1997).

Co-Editor-in-Chief, *Information Systems Frontiers: A Journal of Research and Innovations* (1998 -)

Associate Editor, *International Journal of Industrial Engineering* (1996 -).

Associate Editor, *International Journal of Semantic Web and Information Systems* (AIS – SIGSEMIS) (2003 -)

Associate Editor, *International Journal of Intelligent Information Technologies* (AIS – SIGABIS) (2003 -)

Editorial Board Member, *Enterprise Information Systems* (2006 -)

Faculty Advisor, *OR/MS Tomorrow*, the student newsletter of INFORMS (1994 - 2000).

Designer, Developer and Administrator of the *INFORMS Student Union: Research Center on the World Wide Web* (1997 - 2000).

Member, *INFORMS Task Force on the creation and maintenance of OR/MS community-wide Internet services* (1996 - 2001)

Publications

Refereed Journal Articles

Healthcare and Digital Platform Analytics

Yaraghi, N., Ramesh, R. and Tayi, G., “Pay, Pat, and Claw Back: Incentivizing Service Providers’ Participation in On-Demand Digital Platforms” forthcoming in *Management Science*.

Eftekhari, S., Yaraghi, N., Gopal, R. D., Ramesh, R., “ Impact of Health Information Exchange Adoption on Referral Patterns” *Management Science*, Vol. 69, No. 3, pp. 1615-1638, March 2023.

Yaraghi, N., West, D., Gopal, R., Ramesh, R. “(How) Did Attack Advertisements Increase Affordable Care Act Enrollments?” *PLOS One*, <https://doi.org/10.1371/journal.pone.0228185>, February 19, 2020.

Yaraghi, N., Gopal, R. D., and Ramesh, R., "Doctor's Orders or Patient's Preferences? Examining the Role of Physicians in Patients' Privacy Decisions on Health Information Exchange Platforms" *Journal of the Association for Information Systems (JAIS)*, Vol. 20, No. 7, pp. 928-952, 2019.

Eftekhari, S., Yaraghi, N., Singh, R., Gopal, R. D. and Ramesh, R., “Do Health Information Exchanges Deter Repetition of Medical Services?” *ACM Transactions on Management Information Systems*, Vol. 8 No. 1, Article 2, May 2017.

Yaraghi, N., Sharman, R., Gopal, R. D., Singh, R., and Ramesh, R., “Drivers of Information Disclosure on Health Information Exchange Platforms: Insights from an Exploratory Empirical Study,” *Journal of American Medical Informatics Association (JAMIA)* 2015; 0:1-4, August 2015.

Yaraghi, N., Du, A. Y., Sharman, R., Gopal, R. D. and Ramesh, R., "Health Information Exchange as a Multi-sided Platform: Adoption, Usage and Practice Involvement in Service Co-Production, " *Information Systems Research*, Vol. 26, No. 1, pp. 1 – 18, 2015.

Yaraghi, N., Du, A. Y., Sharman, R., Gopal, R. D., Ramesh, R., Singh, R. and Singh, S., “Professional and Geographical Network Effects on Healthcare Information Exchange Growth: Does Proximity Really Matter?” *Journal of American Medical Informatics Association (JAMIA)* 2013; 0:1-8, November 2013.

Yaraghi, N., Du, A. Y., Sharman, R., Gopal, R. D. and Ramesh, R., "Network Effects in Health Information Exchange Growth", *ACM Transactions on Management Information Systems*, Vol. 4, No. 1, April 2013, pp. 1-26.

Cloud and High-Performance Computing - Markets and Analytics

Guo, Z., Li, J., Ramesh, R., "Green Data Analytics of Supercomputing from Massive Sensor Networks: Does Workload Distribution Matter?" *Information Systems Research*, Vol. 34, No. 4, pp. 1664 – 1685, December 2023.

Guo, Z., Li, J., Ramesh, R., "Scalable, Adaptable and Fast Estimation of Transient Downtime in Virtual Infrastructures using Convex Decomposition and Sample Path Randomization," *INFORMS Journal on Computing*, Vol. 32, No. 2, pp. 321-345, Spring 2020.

Guo, Z., Li, J., Ramesh, R., "Optimal Management of Virtual Infrastructures under Flexible Cloud Service Agreements," *Information Systems Research*, Vol. 30, no. 4, pp. 1424 – 1446, December 2019.

Yuan, S., Das, S., Ramesh, R. and Qiao, C., "Service Agreement Trifecta: Backup Resources, Price and Penalty in the Availability-aware Cloud," *Information Systems Research*, Vol. 29, No. 4, pp. 947-964, December 2018.

Jingyuan, J., Jiang, M., Rottenstreich, O., Zhao Y., Guan, T., Ramesh, R., Das, S., and Qiao, C., "A Framework for Provisioning Availability of NFV in Data Center Networks," *IEEE Journal on Selected Areas in Communication*, Vol. 36, No.10, pp. 2246 – 2259, October 2018.

Yuan, S., Das, S., Ramesh, R. and Qiao, C., "Availability-aware Virtual Resource Provisioning for Infrastructure Service Agreements in the Cloud," *Information Systems Frontiers*, Vol. 25, pp. 1495 – 1512, 2023.

Du, A. Y., Das, S., Yang, Z., Qiao, C. and Ramesh, R., "Predicting Transient Downtime in Virtual Server Systems: An Efficient Sample Path Randomization Approach" *IEEE Transactions on Computers*, Vol. 64, No. 12, pp. 3541 – 3554, December 2015.

Yang, Z., Liu, L., Das, S., Ramesh, R., Du, A. Y., and Qiao, C., "Availability-aware Energy-efficient Virtual Machine Placement Algorithms," *Journal of Communication*, Vol. 10, No. 9, pp. 647 – 658, September 2015.

Du, A.Y., Das, S., Gopal, R. D. and Ramesh, R., "Optimal Management of Digital Content on Tiered Infrastructure Platforms," *Information Systems Research*, Vol. 25, No. 4, pp. 730 – 746, December 2014.

Du, A.Y., Das, S. and Ramesh, R., "Efficient Risk Hedging by Dynamic Forward Pricing: A Study in Cloud Computing," *INFORMS Journal on Computing*, Vol. 25, No. 4, pp. 625 – 642, Fall 2013.

Du, A.Y., Das, S., Gopal, R. D. and Ramesh, R., "Risk Hedging in Storage Grid Markets: Do Options Add Value to Forwards?" *ACM Transactions on Management Information Systems*, Vol. 2, No. 2, June 2011.

Das, S., Du, A.Y., Gopal, R. D. and Ramesh, R., "Risk Management and Optimal Pricing in Online Storage Grids," *Information Systems Research*, Vol. 22, No. 4, pp. 756 - 773, December 2011.

Du, A. Y., Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., ``Topographically Discounted Internet Infrastructure Resources: A Panel Study and Econometric Analysis,’’ *Information Technology and Management*, Vol. 9, No. 2, pp. 135 – 146, June 2008.

Du, A.Y., Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., ``Capacity Provision Networks: Foundations of Markets for Sharable Resources in Distributed Computational Economies,’’ *Information Systems Research*, Vol. 19, No. 2, pp.144 – 160, 2008.

Gopal, R. D., Ramesh, R. and Whinston, A. B., ``Microproducts in a Digital Economy: Trading Small, Gaining Large,’’ *International Journal of Electronic Commerce*, Vol. 8, No. 2, pp. 9-30, 2004.

Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., ``Scaling Web Services with Capacity Provision Networks,’’ Research Paper in *IEEE Computer*, Vol. 36, No. 11, pp. 64-72, Nov. 2003.

Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., ``Trading Caches: Capacity Provision Networks,’’ *IEEE IT Professional*, Vol. 5, No. 4, pp. 30-36, July/Aug, 2003.

Chandra, J., March, S., Mukherjee, S., Pape, W., Ramesh, R., Rao, H. R. and Waddoups, R., ``Information Systems Frontiers: Potentials, Barriers and Opportunities’’, *Communications of the ACM*, Vol. 42, No. 11, pp. 71-79, November 1999.

Kumara, S., Ham, I., Ohsuga, S., Tsatsoulis, C., Ramesh, R., Frost, V., and Kashyap, R. L., ``Intelligent Computer Integrated Manufacturing: Research Perspectives,’’ Special Issue Focus Paper in *Applied Artificial Intelligence*, Vol. 6, No. 4, 1992.

Conceptual Modeling and Ontologies

Kishore, R., Ramesh, R., ``Ontologies in the Context of Information Systems’’ *Journal of the Association for Information Systems (JAIS)*, 8, 2007.

Zhang, H., Kishore, R., Sharman and Ramesh, R., ``Agile Integration Modeling Language (AIML): A Conceptual Modeling Grammar for Agile Integrative Business Information Systems’’ *Decision Support Systems*, Vol. 44, No. 1, pp. 266-284, 2007.

Zhang, H. Kishore, R. and Ramesh, R., ``Semantics of the MibML Conceptual Modeling Grammar: An Ontological Analysis Using the Bunge-Wand-Weber Framework,’’ *Journal of Database Management*, Vol. 18, NO. 1, pp. 1–19, Jan – Mar, 2007.

Kishore, R., Zhang, H. and Ramesh, R., ``Enterprise Integration Using the Agent Paradigm: Foundations of Multi-agent-based Integrative Business Information Systems,’’ *Decision Support Systems*, Vol. 42, No. 1, pp. 48–78, 2006.

Raghu, T. S., Ramesh, R. and Whinston, A. B., ``Addressing the Homeland Security Problem: A Collaborative Decision Making Framework,’’ *Journal of the American Society for Information Science and Technology (JASIST)*, Vol. 56, No. 3, pp. 310 – 324, Feb, 2005.

Kishore, R., Sharman, R. and Ramesh, R., `` Computational Ontologies and Information Systems: I. Foundations,’’ *Communications of the AIS*, Vol. 14, Article 8, August 2004.

Sharman, R., Kishore and Ramesh, R., `` Computational Ontologies and Information Systems: II. Formal Specifications,’’ *Communications of the AIS*, Vol. 14, Article 9, August 2004.

Kishore, R., Zhang, H. and Ramesh, R., ``A Helix-Spindle Model for Ontological Engineering,’’ *Communications of the ACM*, Vol. 47, No. 2 pp. 69-75, Feb. 2004.

Raghu, T. S., Ramesh, R. and Whinston, A. B., "Next Steps for Mobile Entertainment Portals," *IEEE Computer*, Vol. 35, No. 5, pp. 63-70, May 2002.

Raghu, T. S., Ramesh, R., Chang, A. M. and Whinston, A. B., "Collaborative Decision-Making: A Connectionist Paradigm for Dialectical Support," *Information Systems Research*, Vol. 12, No. 4, pp. 363-383, 2001.

Ramesh, R. and Whinston, A. B., "Claims, Arguments and Decisions: Formalisms for Representation, Gaming and Coordination," *Information Systems Research*, Vol. 5, No. 3, pp. 294 - 325, 1994.

Database Systems and Distributed Computing

Sharman, R., Ramanna, S. S., Ramesh, R. and Gopal, R. D., "Cache Architecture for On-Demand Streaming on the Web", *ACM Transactions on the Web*, Vol. 1, No. 3, pp. 23 – 49, September 2007.

Wang, J., Sharman, R. and Ramesh, R., "Shared Content management in Replicated Web Systems: A Feedback Learning Design Framework Using Problem Decomposition and Controlled Simulation," *IEEE Transactions on Systems, Man and Cybernetics*, Part C, Vol. 38, No.1, pp. 110 – 124, January 2008.

Bhattacharjee, S., Zhang, H., Ramesh, R. and Andrews, D. H., "A Decomposition and Guided Simulation Framework for Large-Scale System Design: A Study in QoS-capable Intranets with Fixed and Mobile Components," *INFORMS Journal on Computing*, Vol. 19, No. 3, pp. 429 – 442, 2007.

Gopal, R. D., Ramesh, R. and Zionts, S., "Criss-Cross Hash Joins: Design and Analysis," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 13, No. 4, pp. 637 - 653, July/Aug. 2001.

Gopal, R. D., Ramesh, R. and Zionts, S., "Cascade Graphs: Design and Analysis of Algorithms for Relational Joins," *INFORMS Journal on Computing*, Vol. 13, No. 1, pp. 2-28, 2001.

Bhattacharjee, S. and Ramesh, R., "A Design Framework for e-Business Infrastructure Integration and Resource Management," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 31, No. 3, pp. 304 – 319, 2001.

Ramesh, R., "IS Relevance: Myth or Reality", *Communications of AIS*, Vol. 6, Article 21, March, 2001.

Bhattacharjee, S. and Ramesh, R., "Enterprise Computing Environments and Cost Assessment: An Object Oriented Framework," *Communications of the ACM*, Vol. 43, No. 10, pp. 74-82, October 2000.

Ramesh, R., Rao, H. R. and Silberman, G., "Next Generation Enterprises: Virtual Organizations and Pervasive/Mobile Technologies," *ACM Mobile Computing and Communications Review*, ACM SIGMOBILE, 2000.

Ramesh, R. and Andrews, D. H., "Distributed Mission Training: Teams, Virtual Reality and Real-time Networking," *Communications of the ACM*, Vol.42, No. 9, pp. 64-68, September 1999.

Aldakhilallah, K. A. and Ramesh, R., "Computer-Integrated Process Planning and Scheduling (CIPPS): Intelligent Support for Product Design, Process Planning and Control," *International Journal of Production Research*, Vol. 37, No. 3, pp. 481 - 500, 1999.

Gopal, R. D. and Ramesh, R., "The Query Clustering Problem: A Set Partitioning Approach," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 7, No. 6, pp. 885 - 899, 1995.

Gopal, R. D. Ramesh, R. and Zionts, S., "Access Path Optimization in Relational Joins," *ORSA Journal on Computing*, Vol. 7, No. 3, pp. 257-268, 1995.

Ramesh, R. and Ryan, B., "Optimal File Allocation and Report Assignment in Distributed Information Networks: Theory and Experimental Results," *Naval Research Logistics*, Vol. 37, No. 1, pp. 165-181, 1990.

Ramesh, R. Babu, A. J. G. and Kincaid, J.P., "Variable-depth Trie Index Optimization: Theory and Experimental Results," *ACM Transactions on Database Systems*, Vol. 14, No. 1, pp. 41-74, 1989.

Ramesh, R. and Drury, C. G., "EARS: An Online Bibliographic Search and Retrieval System Based on Ordered Explosion," *Information Processing and Management*, Vol. 23, No. 3, pp. 225-238, 1987.

Operations & Logistics

Vroblefski, M., Ramesh, R. and Zionts, S., "A Unified Framework for the Approximation of General Telecommunication Networks," *European Journal of Operational Research*, Vol. 163, No. 2, pp. 482-502, June 2005.

Aldakhilallah, K. A. and Ramesh, R., "Cyclic Scheduling heuristics for a Re-entrant Job shop Manufacturing Environment," *International Journal of Production Research*, Vol. 39, No. 12, pp. 2635 - 2657, 2001.

Vroblefski, M., Ramesh, R. and Zionts, S., "General Open and Closed Queuing Networks with Blocking: A Unified Framework for Approximation," *INFORMS Journal on Computing*, Vol. 12, No. 4, pp. 299-316, 2000.

Vroblefski, M., Ramesh, R. and Zionts, S., "Efficient Lot-Sizing Under a Differential Transportation Cost Structure for Serially Distributed Warehouses," *European Journal of Operational Research*, Vol. 127, No. 3, pp. 574-593, 2000.

Bhattacharjee, S. and Ramesh, R., "A Multi-Period Profit Maximizing Model for Retail Supply Chain Management: An Integration of Demand and Supply Side Mechanisms," *European Journal of Operational Research*, Vol. 122, No. 3, pp. 584-601, 2000.

Aldakhilallah, K. A. and Ramesh, R., "An Integrated Framework for Automated Process Planning: Design and Analysis," *International Journal of Production Research*, Vol. 36, No. 4, pp. 939-956, 1998.

Ramesh, R., Prasad, S. Y. and Thirumurthy, M., "Flow Control in Kanban Based Multicell Manufacturing: I. A Structural Analysis of General Blocking Design Space," *International Journal of Production Research*, Vol. 35, No. 8, pp. 2327-2343, 1997.

Ramesh, R., Prasad, S. Y. and Thirumurthy, M., "Flow Control in Kanban Based Multicell Manufacturing: II. Design of Control Systems and Experimental Results," *International Journal of Production Research*, Vol. 35, No. 9, pp. 2413-2427, 1997.

Aldakhilallah, K. A. and Ramesh, R., "Recognition of Minimal Feature Covers of Prismatic Objects: A Prelude to Automated Process Planning," *International Journal of Production Research*, Vol. 35, No. 3, pp. 635-650, 1997.

Diaby, M. and Ramesh, R., "The Distribution Problem with Carrier Service: A Dual Based Penalty Approach," *ORSA Journal on Computing*, Vol. 7, No. 1, pp. 24-35, 1995.

Ramesh, R., Yoon, Y. S. and Karwan, M. H., "An Optimal Algorithm for the Orienteering Tour Problem," *ORSA Journal on Computing*, Vol. 4, No. 2, pp. 155-165, 1992.

Rao, H. R., Thirumurthy, M. and Ramesh, R., "A Dynamic Learning Model for On-Line Quality Control Using the Taguchi Approach," *Applied Artificial Intelligence*, Vol. 6, No. 4, pp. 457-482, 1992.

Ramesh, R., and Brown, K., "An Efficient Four-Phase Heuristic for the Generalized Orienteering Problem," *Computers and Operations Research*, Vol. 18, No. 2, pp. 151-165, 1991.

Ramesh, R. and Cary, J. M., "An Efficient Approach to Stochastic Jobshop Scheduling: Algorithms and Empirical Investigations," *Computers & Industrial Engineering*, Vol. 18, No. 2, pp. 181-190, 1990.

Ramesh, R. and Sylla, C., "A Model for Instructor Training Analysis in Simulation Based Flight Training," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 20, No. 5, pp. 1070-1080, 1990.

Ramesh, R. and Sylla, C., "A Framework for Optimal Design of Instructor/Operator Stations in Flight Simulators," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 20, No. 3, pp. 571-581, 1990.

Decision Analysis

Ramesh, R., Karwan, M. H. and Zionts, S., "An Interactive Method for Bicriteria Integer Programming," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 20, No. 2, pp. 395-403, 1990.

Ramesh, R., Karwan, M. H. and Zionts, S., "Interactive Multicriteria Linear Programming: An Extension of Method of Zionts and Wallenius," *Naval Research Logistics*, Vol. 36, No. 3, pp. 321-335, 1989.

Ramesh, R., Karwan, M. H. and Zionts, S., "Preference Structure Representation Using Convex Cones in Multicriteria Integer Programming," *Management Science*, Vol. 35, No. 9, pp. 1092-1105, 1989.

Ramesh, R., Karwan, M. H. and Zionts, S., "Theory of Convex Cones on Multicriteria Decision Making," *Annals of Operations Research*, Vol. 16, pp. 131-148, 1988.

Ramesh R. and Chandra Sekar, G., "An Integrated framework for Decision Support in Corporate Planning," *Decision Support Systems*, Vol. 4, pp. 365-375, 1987.

Chandra Sekar, G. and Ramesh, R., "Microcomputer Based Multiple Criteria Decision Support Systems for Strategic Planning," *Information and Management*, Vol. 12, No. 4, pp. 163-172, 1987.

Ramesh, R., Karwan, M. H. and Zionts, S., "A Class of Practical Interactive Branch and Bound Algorithms for Multicriteria Integer Programming," *European Journal of Operational Research*, Vol. 26, No.1, pp. 161-172, 1986.

Papers under Review

Eftekhari, S. and Ramesh, R., "Influence of Health Information Exchanges on Patient Movement at Primary Care", received R&R (Major Revision) in *MIS Quarterly*, currently under second review April 2025.

Aziz, Y., Guo, Z., Yaraghi, N. and Ramesh, R., "Optimal Labor Sourcing from Gig Markets: Spot and Forward Contracts", received R&R (Major Revision) in *Management Science*, currently under revision, April 2025.

Journal Volumes, Books and Chapters

Gopal, R. D. and Ramesh, R., (Editors), Proceedings of the Eighteenth Annual Workshop on Information Technologies and Systems (WITS), Paris, France, December 13-14, 2008.

Sharman, R., Kishore, R., and Ramesh, R., (Eds.) "Ontologies – A Handbook of Principles, Concepts and Applications in Information Systems", Springer, Boston, MA, 2007.

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Teaching

Taught the following graduate level courses at the School of Management, State University of New York at Buffalo (1984-)

Information Systems

MG5 602: Information Technology and Communication Systems
MG5 607: Information Technology and e-business
MG5 616: DSS: Supply Chains and B2B systems
MG5 655: Distributed Computing
MG5 603: Analytical Methods of Planning and Control
MGQ 603: Computers and Mathematical Models

Management Science

MGQ 605: Mathematical Analysis for Management
MGQ 606: Statistical Foundations of Analytics
MGQ 301: Statistical Decisions in Management
MGQ 302: Production and Operations Management
MGQ 602: Regression Analysis and Multivariate Statistics
MGQ 614: Applied Probability Theory
MGQ 611: Deterministic Models of Operations Research
MGQ 616: Stochastic Models of Operations Research
MGQ 618: Statistical Modeling and Simulation with R

Ph.D. Seminars (MGS 695)

Developed and conducted the following doctoral seminar courses:

Digital Platform Analytics (developed in 2022)
Reinforcement Learning (developed in 2020)
Statistical Modeling and Data Science (developed in 2019)
Multisided Platforms (developed in 2010)
Design Science in Information Systems (developed in 2007)
Information Management and Systems Control (developed in 1994)
Scheduling Theory (developed in 1993)
Knowledge Engineering and Expert Systems (developed in 1986)
Special Topics in Integer Programming (developed in 1986)
Combinatorial Optimization and Computational Complexity (developed in 1985)

International EMBA Courses

Taught the following courses at the SUNY Buffalo - Renmin University joint EMBA program, Beijing, China (2001 - 2004), SUNY, Buffalo – Motorola University joint EMBA program, Beijing, China (2003 - 2004), SUNY, Buffalo – Singapore Institute of Management (SIM) joint EMBA program, Singapore (2003 - 2014) and Undergraduate program (2005 -)

MGQ 603: Computers and Mathematical Models
MGS 607: Information Technology and e-business
MGQ 301: Statistical Decisions in Management

Instructor in *Engineering Economics* and Teaching Assistant in *Introduction to Operations Research*, Department of Industrial Engineering, State University of New York at Buffalo (1981-1984)

Research Supervision

Doctoral Committees

Member of the doctoral dissertation committees of the following students in Management Science & Systems: Yousuf Aziz, Saeede Eftekhari, Shuai Yuan, Niam Yaraghi, Anna Ye Du, Jingguo Wang, Linda Volonino, Jeffrey Teich, Ram Gopal, M. Thirumurthy, Yong Seok Yoon, Kichan Nam, Eleazar Puente, Mark Vroblefski, Khalid Aldakhilallah, Sudip Bhattacharjee and Hong Zhang.

Member of the doctoral dissertation committees of the following students in other departments: Jie Xu (Industrial Engineering), Arindam Bannerjee (Marketing), Gautam Vemuganti (Industrial Engineering), Peiwu Zhao (Industrial Engineering), Lizhi Ma (Industrial Engineering), Muhammad Anwar (Industrial Engineering) and Itiakorit Osele (Electrical and Computer Engineering).

Outside reader of the dissertations at the department of Industrial Engineering: Mannur Reddy, Srinivas Y. Prasad, J. Lin and Carol Romanowski.

Chairman of the doctoral dissertation committees: Yousuf Aziz, Saeede Eftekhari, Shuai Yuan, Niam Yaraghi, Anna Ye Du, Hong Zhang, Sudip Bhattacharjee, Mark Vroblefski, Khalid Aldakhilallah, Ram D. Gopal, M. Thirumurthy.

Chairman of the second year paper research committees: Yousuf Aziz, Saeede Eftekhari, Shuai Yuan, Niam Yaraghi, Anna Ye Du, Hong Zhang, Girish Shambu, Jeffrey Teich, Joe Sarkis, M. Thirumurthy, Ram D. Gopal, Sudip Bhattacharjee, Khalid Aldakhilallah, Eleazar Puente, Mark Vroblefski and Hong Zhang.

Supervised independent studies of over thirty graduate students.

Masters Committees

Chairman of the Masters Thesis Committees of the following students at the Department of Industrial Engineering: James Cary, Barbara Hartman, Kathleen Brown and Anand Srinivasan.

Chairman of the Masters Thesis Committees of the following students in the MS in MIS program, School of Management: Enrico Reidel and Greg Howland.

Chairman of the Masters Thesis Committee of the following student in the Computer Science Department: Shiva Ramanna.

Professional Services

Invited Session/Conference Chairman/Organizer/Speaker

Invited Speaker, City University of Hong Kong, January 20-27, 2025

Invited Speaker, University of South Florida, Tampa, FL, October 28–30, 2024

Invited Speaker, University of Oklahoma, Norman, OK, April 27-29, 2023

Invited Speaker, University of Miami, Miami, FL, March 17-21, 2023

Keynote Speaker, Amrita Research & Innovation Symposium for Excellence (ARISE), Amrita Vishwa Vidyapeetham, Amritapuri, January 7 -10, 2024

Keynote Speaker, IEEE International Conference on Cloud Computing in Emerging Markets (IEEE – CCEM), Mysore, November 2 – 4, 2023.

15th INFORMS Workshop on Data Mining and Decision Analytics, National Harbor, MD, November 7, 2020.

Best Paper Awards Committee Member, INFORMS Data Mining Society, INFORMS Annual Conference, Phoenix, AZ, October 2023.

Best Student Paper Awards Committee Member, INFORMS Data Mining Society, INFORMS Annual Conference, Phoenix, AZ, October 2023.

Best Paper Awards Committee Member, 19th INFORMS Workshop on Data Mining and Decision Analytics, Phoenix, AZ, October 2023.

Best Student Paper Awards Committee Member, INFORMS Workshop on Data Mining and Decision Analytics, Phoenix, AZ, October 2023.

Invited Speaker, University of Oklahoma, Norman, OK , April 27 - 29, 2023

Invited Speaker, University of Miami, Miami, FL, March 17 -21, 2023

Best Paper Awards Committee Member, 18th INFORMS Workshop on Data Mining and Decision Analytics, Indianapolis, IN, October 16, 2022.

Best Paper Awards Committee Member, 17th INFORMS Workshop on Data Mining and Decision Analytics, Anaheim, CA, October 24, 2021.

Best Student Paper Awards Committee Member, 16th INFORMS Workshop on Data Mining and Decision Analytics, Anaheim CA, October 24, 2021.

Editors' panel on the topic "Perspectives in publishing Data Science focused papers" INFORMS Annual Conference, Anaheim CA, October 26, 2021.

Best Paper Awards Committee Member, 15th INFORMS Workshop on Data Mining and Decision Analytics, National Harbor, MD, November 7, 2020.

Editors' panel, 15th INFORMS Workshop on Data Mining and Decision Analytics, National Harbor, MD, November 7, 2020.

Editors' panel, INFORMS Annual Conference, National Harbor, MD, November 7, 2020.

Keynote Speaker, 15th INFORMS Workshop on Data Mining and Decision Analytics, National Harbor, MD, November 7, 2020.

Keynote Speaker, 12th International Conference on Algorithmic Aspects in Information and Management (AAIM), University of Texas at Dallas, Dallas, TX, December 3, 2018.

Co-Chair of Minitrack "Technical, Social and Economic Issues in Health Information Exchanges", AMCIS – 2011 - 2014.

Member of the Program Committee of IEEE International Conference on Intelligence and Security Informatics (IEEE ISI), 2005-2023.

Member of the Program Committee of INFORMS Conference on Information Systems and Technology (CIST), 2010-**2023**.

Member of the Program Committee of Workshop on Information Technology and Systems (WITS), 2004-2023.

Board member, Workshop on Information Technology and Systems (WITS), 2008 -11.

General Co-Chair, Workshop on Information Technology and Systems (WITS), Paris, France, December 13-14, 2008.

Member of the Program Committee of the International Symposium on Information Systems (ISIS) Conference, Indian School of Business (ISB), 2006 - 2012.

Member of the Program Committee of the International Conference on Globally Distributed Work (GDW), Indian Institute of Management, Bangalore, India, 2005-2008.

Member of the Program Committee on the DSS Conference, Indian Institute of Management (IIM), Calcutta, January 2007.

Member of the Program Committee of the Workshop on Electronic Business (WEB), 2004-2012.

Member of the Program Committee of CABIT Security Symposium "Information Security in the Knowledge Economy" Tempe, AZ, 2006.

Co-Chair of the track on 'Ontological Analysis in Systems Analysis and Design," AMCIS, Acapulco, Mexico, August, 2006.

Co-Chair of the track on 'Ontological Analysis in Systems Analysis and Design," AMCIS, Nebraska, Omaha August 2005.

Member of the Program Committee of the CABIT Security Symposium "Information Security in the Knowledge Economy", CABIT'05, Arizona State University, Tempe, AZ, September 8-9, 2005.

Co-Chair of the track on 'Ontology-driven Information Systems," AMCIS, New York City, New York, August 2004.

Co-Chair of the track on 'Ontology-driven Information Systems," AMCIS, Tampa, Florida, August 2003.

Conducted a tutorial on "Computational Ontologies: Foundations, Representations and Methods", AMCIS, Tampa, Florida, August 2003.

Member of the Program Committee of the 2003 Information Resources Management Association (IRMA) International Conference, New Orleans, LA, May 23-26, 2003.

Member of the Program Committee of the 2002 Information Resources Management Association (IRMA) International Conference, Seattle, Washington, May 19-22, 2002.

Invited Plenary Speaker at the conference on "IT and Supply Chain streamlining", China Business Forum and ITNewPower, Shanghai, China (April, 2003).

Invited Speaker, International Conference on *Advances in Infrastructure for Electronic Business, Science, and Education on the Internet*, SSGRR 2001 L'Aquila, Italy, August 2001.

General Chair of the conference entitled *Virtual Enterprises and Pervasive/ Mobile Technologies: An Academia/Industry Workshop on Research Challenges and Frontiers (AIWoRC)*, conducted in cooperation with ACM, IEEE, INFORMS and AIS at SUNY at Buffalo, April 2000.

Organized and chaired a session on "Metaheuristics for location and routing problems," at INFORMS, Montreal, 1998.

Organized and moderated a panel discussion on "Information Systems Frontiers: Emerging Vistas," 18th Annual International Conference on Information Systems (ICIS), Atlanta, Georgia, 1997.

Member, International Program Advisory Committee, 2nd Annual International Conference on Industrial Engineering Applications and Practice, San Diego, California, November 12 - 15, 1997.

Organized and Chaired a session and served as a Panel Discussant in another session at DSI, Miami, Florida, 1991.

Organized and Chaired a one-day workshop on the theme "Variants of the Traveling Salesman Problem" at the Operations Research Colloquium Series, Laval University, Quebec, Canada, 1988.

Speaker at the Meeting of Social Scientists, Indian Society for Individual and Social Development (ISISD), Madras, India. Addressed the topic "Optimization in Social Sciences", 1988.

Speaker at the MBA Student Congregation, Indian Institute of Management, Bangalore, India. Addressed the topic "Opportunities in Operations Research", 1988.

Organized and Chaired a one-day workshop on the theme "Designing Efficient Data Structures: Theory and Implementation" at the Operations Research Colloquium Series, Laval University, Quebec, Canada, 1987.

Organized and Chaired a session on the theme "Multicriteria Optimization" at ORSA/TIMS, St. Louis, 1987.

Organized and Chaired a session on the theme "Multiple Criteria Optimization" at ORSA/TIMS, Los Angeles, 1986.

Organized and Chaired a session on the theme "Interactive Multicriteria Programming" at ESIGMA, Lisbon, Portugal, 1986.

Principal discussant in an analysis and review forum in ESIGMA, Lisbon, Portugal, 1986.

Principal discussant in the program summary and review session at the International Conference on Multi-Attribute Decision Making via O. R. - Based Expert Systems, University of Passau, West Germany, 1986.

Organized and Coordinated a symposium on 'Artificial Intelligence and Expert Systems', for middle-level managers and executives of Western New York industrial community at the State University of New York at Buffalo, 1985.

Organized and Chaired a session on the theme "Data Structures" at ORSA/TIMS, Orlando, Florida, 1983.

Reviewing Activities

Reviewer of articles on a regular basis for following journals:

Management Science, Operations Research, Naval Research Logistics, Networks, IEEE Transactions on Software Engineering, INFORMS Journal on Computing, Information Systems Research, European Journal of Operations Research, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Systems, Man and Cybernetics, Computers and Chemical Engineering, International Journal on Production Economics, SIAM Journal on Control and Optimization, Automatica, Large-Scale Systems, IIE Transactions, Computers & Industrial Engineering, Operations Research Letters, Opsearch, Asia-Pacific Journal of Operational Research, International Journal of Man-Machine Studies, Optimization, Journal of Information Systems Research, Data and Knowledge Engineering, Omega

Reviewer of articles for the Special AI volume of SIGAI of ORSA, and several proceedings.

Book reviewer for PWS-Kent Publishing Company, John Wiley & Sons, Addison-Wesley, Harper Collins and Duxbury Press.

Member of the National Science Foundation SBIR/STTR review panel, September, 2001, September 2002, September 2003.

Regular Proposal Reviewer for the National Science Foundation and the Air Force Office of Scientific Research.

Membership

Institute for Operations Research and Management Science (INFORMS)
Association for Computing Machinery (ACM)
Institute for Electrical and Electronics Engineers (IEEE)
Association for Information Systems (AIS)
European Summer Institute Group on Multicriteria Analysis (ESIGMA)
International Special Interest Group on MCDM

University Service

University Committees

Committee of Associate Deans for Research (2001 - 2006)
University Faculty Senate (1994 – 00, 2024 -)
University Faculty Senate Executive Committee (1996 – 98, 2025 -)

School Committees

Director, MS in Information Systems Program (2001 - 2005)
Chair, Personnel Actions Committee (2001 – 2003)
Member, School Policy Committee (2005 - 2015)
Member, Personnel Actions Committee (2000 – 03, 2016-19)
Chair, Personnel Actions Committee (2024 -)
Member, Research Committee (2000 - 2005)
Member, M.B.A. Program Committee (1991 - 94)
Member, M.B.A. Program Subcommittee on Curr. Development (1991 - 94)
Member, M.B.A. Program Subcommittee on Admissions (1992 - 94)
Member, M.B.A. Program Subcommittee on Core and Options (1993 - 94)
Member, Ph. D. Program Committee (1986 - 91)
Member, Graduate School Committee for Ph.D. programs at the School of Management (1986 - 91)
Member, Computer Planning and Allocations Committee (1986 - 87)
Member, Library Resources Committee (1986 - 87)
Member, CEP207 Course Reorganization Committee (1990)

Department Committees

Member, MIS Curriculum Committee (1992 -)
Member, Organizing Committee for the Conference on World Class Manufacturing (with APICS) (1991)
Coordinator, Ph.D. Programs and Ph.D. Students' Advisement (1986 - 91)
Chairman, Committee for the review of the Ph.D. Programs (1987 - 90)
Chairman, Faculty Search Committee (1990 - 91)
Chairman, Course Upgrade Committee (MGQ 603) (1988 - 89)

Member, Committee on Mgmt. Science graduate curriculum development (1986 - 87)
Member, Committee on MIS undergraduate curriculum development (1986 - 87)
Member, Committee for the development of a decision Support Systems option at the graduate level (1985 - 86)
Coordinator and member of the organizing committee for the symposium on Artificial Intelligence and Expert Systems (1985 - 86)
Course Coordinator for the graduate course MGQ 603 (1985 -1987, 1988 -)

Other Significant Pedagogical Contributions

Substantially upgraded and developed a new MIS curriculum (1997 - 99)

Continuous curriculum, program, recruitment and placement of MS in MIS program (2005 -2015)

Key member of the core faculty team that designed, developed and delivered three executive IT training programs to executives from the Samsung Corporation. The programs involved an outlay of about \$750,000 (1996-97).

Designed and developed seven doctoral seminars that led to several doctoral dissertations and second year papers.

Was instrumental in initiating, planning and organizing a \$10000 donation of equipment (two NT servers and three SUN workstations) from Mr. Cherif Sleiman.

Designed and developed the dual-degree MS/MBA program at Bangalore, India, in collaboration with MSS faculty, Amrita faculty and HP executives. Established a tripartite agreement between UB, Amrita and HP.

Served as a consultant to New Jersey Institute of Technology (NJIT), Newark, NJ in developing a PhD program in *Data Science* in their business school (2015-17). Played a major role in the program design, development and evaluation process and contributed to the NJIT faculty team that was charged with this mission. The program has been approved by the school, university, NJIT board of trustees and the State of New Jersey, and has been successfully implemented in the fall of 2016.

Served as an International Research Advisor at the "Information Systems Workshop on IT Innovations in the next decade", City University of Hong Kong, Hon Kong, June 22-24, 2016.