

# RAM RAMESH

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82 Prestonwood Lane  
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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*
- *Cloud Computing – Availability Analytics*
- *Cloud Computing – Markets and Contracts*
- *Conceptual Modeling & Database Systems*
- *Supply Chains & 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 – 2013: \$4.2 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).

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 (1987-2014).

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)

## Patents

Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., `` Systems and Methods for Cache Capacity Trading Across A Network,” US Serial No. 60/424,939, 60/449,255, 60/487,367 (Pending)

## Publications

### ***Refereed Journal Articles***

#### **Healthcare Analytics**

Yaraghi, N., West, D., Gopal, R., Ramesh, R. “(How) Did Attack Advertisements Increase Affordable Care Act Enrollments?” forthcoming in *PLOS One*.

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 Computing - Markets and Analytics**

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.

Guo, Z., Li, J., Ramesh, R., "Scalable, Adaptable and Fast Estimation of Transient Downtime in Virtual Infrastructures using Convex Decomposition and Sample Path Randomization," forthcoming in *INFORMS Journal on Computing*.

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.

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., Yaraghi, N., Gopal, R. D., Ramesh, R., "Adoption of Health Information Exchanges and Physicians' Referral Patterns: Are they Mutually Reinforcing?" under third review in *Information Systems Research*.

### **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.

Chen, H, Raghu, T. S., Ramesh, R., Vinze, A. and Zeng, D., (Eds.) "National Security", Handbook in Information Systems, Volume 2, Elsevier, Netherlands, 2007.

Ramesh, R. and Kishore, R., (Eds.) "Ontologies in the Context of Information Systems," special issue of the *Journal of AIS*, Vol. 8, Issue, 2007.

Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., "Topographical Leveraging of Sharable Services: The Concept of Capacity Provision Networks," in *Electronic Commerce and the Digital Economy*, Michael Shaw (Ed.), M.E. Sharpe Publishers, 2006.

Geng, X., Gopal, R. D., Ramesh, R. and Whinston, A. B., "Capacity Provision Networks: A Technology Framework and Economic Analysis of Web Cache Trading Hubs," in *Innovations in Financial and Economic Networks*, Anna Nagurney (Ed.), Edward Elgar Publishers, 2003.

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Eftekhari, S., Yaraghi, N., Gopal, R., Ramesh, R. "An Empirical Analysis of Physician Referral Networks" INFORMS Healthcare conference, Cambridge, MA, August, 2019.

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Ramesh, R. "Availability Analytics in Cloud Computing: Downtime Prediction, SLA Management, and Network Function Virtualization", Keynote Address at the 12th International Conference on Algorithmic Aspects in Information and Management (AAIM), University of Texas at Dallas, Dallas, TX, December 3, 2018.

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- Zhang, H, Kim, D. J. and Ramesh, R., ``Multiagent Systems: An Ontological Meta-model'', in the *Proceedings of the Association of Information Systems (AIS) Conference*, Boston, MA August 2001.
- Aldakhilallah, K. A. and Ramesh, R., ``Cyclic Scheduling in Reentrant Jobshops: Algorithms and Analysis'', in the proceedings of *INFORMS & KORMS*, pp. 240 - 249, Seoul, Korea, 2000.
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- Bhattacharjee, S. and Ramesh, R., ``An Object oriented Modeling Framework for an Enterprise-wide Distributed Computing System'', in the *Proceedings of the Association of Information Systems (AIS) Conference*, Baltimore, MD, August 1998.
- Raghu, T.S., Ramesh, R., Chang, A.M. and Whinston, A.B., ``Defeasible Arguments in Collaborative Processes: A Connectionist Framework for Assessment'', in the *Proceedings of the Association of Information Systems (AIS) Conference*, Baltimore, MD, August 1998.
- Bhattacharjee, S. and Ramesh, R., ``Client/Server based Enterprise Computing: Research Issues and a Framework for Infrastructure & Resource Planning'', in the *Proceedings of the Third INFORMS Conference on Information Systems and Technology, College on Information Systems, INFORMS Conference*, Montreal, 1998.
- Chandra, J., Gasser, L, March, S., Mukherjee, S., Pape, W., Ramesh, R., Rao, H. R. and Waddoups, R., ``Information Systems Frontiers: Emerging Vistas'', in the *Proceedings of the 18<sup>th</sup> International Conference on Information Systems (ICIS)*, Atlanta, GA, 1997.
- Ramesh, R., ``Modeling and Analysis of Distributed Mission Training Systems'', *Air Force Office of Scientific Research (AFOSR): Research Archives*, 2000.
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- Gopal, R. D. and Ramesh, R., ``Multiple Query Optimization'', in the *Proceedings of the Annual DSI Conference*, Miami, Florida, 1991.
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- Ramesh, R., Karwan, M. H. and Zionts, S., ``Interactive Bicriteria Integer Programming: A Performance Analysis'', in *Interactive Fuzzy Optimization and Mathematical Programming*, (Eds.) M. Fedrizzi, J. Kacprzyk and M. Roubens, Springer-Verlag, 1991.

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Ramesh, R., Karwan, M. H. and Zionts, S., "Performance Characteristics of Three Interactive Solution Strategies for Bicriteria Integer Programming," in the *Proceedings of the VIIth International Conference on MCDM*, Manchester, England, 1989.

Shambu, G., Ramesh, R. and Rao, H. R., "A Rule-Based System for Scheduling in a Hybrid Group Technology Environment," in the *Proceedings of the 3rd International Conference on Expert Systems and the Leading Edge in Production and Operations Management*, Hilton Head, South Carolina, 1989.

Ramesh, R. and Sylla, C., "A Decision Support System for Design Optimization of Multiphase Trainer Instructor/Operator Stations in Flight Simulators," in the *Proceedings of the 9th Annual International Conference on Information Systems (ICIS)*, Minneapolis, Minnesota, 1988.

Ramesh, R. and Sylla, C., "Optimal Design of Instructor/Operator Stations in Flight Simulators," in the *Proceedings of the 10th Annual International Conference on Computers and Industrial Engineering*, Dallas, Texas, 1988.

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Ramesh, R. and Sylla, C., "A Graphic Identification Procedure for an Expert Authoring System," in the *Proceedings of the 9th Annual International Conference on Computers and Industrial Engineering*, Atlanta, Georgia, 1987.

Volonino, L., Chandra Sekar, G. and Ramesh, R., "Decision Quality and Information Load," in the *Proceedings of the 20th Annual Hawaii International Conference on System Sciences (HICSS)*, Honolulu, Hawaii, 1987.

Ramesh, R., Karwan, M. H. and Zionts, S., "An Empirical Assessment and Insights on Two Multicriteria Integer Programming Algorithms," in *Multiple Criteria Decision Making - Towards Interactive and Intelligent Decision Support Systems* (Eds. Y. Sawaragi, K. Inoue and H. Nakayama), Springer-Verlag, 1987.

Ramesh, R., Karwan, M. H. and Zionts, S., "Degeneracy in Efficiency Testing in Bicriteria Integer Programming," in the *Proceedings of the International Workshop on Methodology and Software for Interactive Decision Support*, Albena, Bulgaria, published by the International Institute for Applied Systems Analysis (IIASA), Austria, 1987.

Karwan, M. H., Zionts, S., Villarreal, B. and Ramesh, R., "An improved Interactive Multicriteria Integer Programming Algorithm," in *Decision Making with Multiple Objectives* (Eds. Y.Y. Haimes and V. Chankong), Springer-Verlag, 1985.

## Teaching

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

### ***Information Systems***

MGS 602: Information Technology and Communication Systems  
MGS 607: Information Technology and e-business  
MGS 616: DSS: Supply Chains and B2B systems  
MGS 655: Distributed Computing  
MGS 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 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

### ***Ph.D. Seminars (MGS 695)***

Developed and conducted the following doctoral seminar courses:

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 - ), SUNY, Buffalo – Motorola University joint EMBA program, Beijing, China (2003 - ), SUNY, Buffalo – Singapore Institute of Management (SIM) joint EMBA program, Singapore (2003 - ) and Undergraduate program (2005 -)

MGQ 603: Computers and Mathematical Models  
MGS 607: Information Technology and e-business  
MGQ 301: Probability and statistics

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, 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)

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.