CURRICULUM VITAE

Natarajan Gautam

Syracuse University
3-171 CST, 111 College Pl., Syracuse NY 13244
Ph: (315) 443-2046
Email: ngautam@syr.edu
https://ecs.syracuse.edu/faculty-staff/natarajan-gautam

Areas of Interest

Methodological domains: Stochastic modeling, control, and optimization; data science; prediction and forecasting; prescriptive analytics; queues and networks; applied probability and statistics.
Application domains: Logistics and scheduling; Energy management; Computer-communication and information networks; Smart-manufacturing systems; Service industry.

Education

Ph.D., Operations Research, The University of North Carolina at Chapel Hill, July 1997.
Dissertation: *Quality of Service for Multi-Class Traffic in High-Speed Networks*
Advisor: Prof. V.G. Kulkarni

M.S., Operations Research, The University of North Carolina at Chapel Hill, December 1995.
Thesis: *Effective Bandwidth Methodologies for Network Management*

B.Tech., Mechanical Engineering, Indian Institute of Technology, Madras, India, July 1993.
Title: *Graph Theoretic Approach to Facility Layout Problem*

Experience

Syracuse University

Professor of Electrical Engineering and Computer Science (with tenure)	2022 – present

Amazon Corporate LLC, Seattle WA

Amazon Scholar	2019 – present

Texas A&M University

Professor of Industrial & Systems Engineering (with tenure)	2014 – 2022
Courtesy Appointment in Electrical & Computer Engineering	2005 – 2022
Associate Department Head for Graduate Affairs	2021 – 2022
Associate Department Head for Undergraduate Affairs	2014 – 2018
Associate Professor of Industrial & Systems Engineering (with tenure)	2005 – 2014

Texas A&M University Qatar

Associate Professor (Mechanical Engineering)	Summer 2014

Singapore University of Technology and Design

Visiting Associate Professor (Engineering Systems & Design)	Spring 2014

Imperial College, London, UK

Visiting Associate, AESOP Group (Computing Department)	Fall 2013

The Pennsylvania State University

Associate Professor of Industrial Engineering (with tenure)	2003 – 2005
Assistant Professor of Industrial Engineering	1997 – 2003

The University of North Carolina at Chapel Hill

Research Assistant at the Department of Operations Research	1995 – 1997
Research Assistant at UNC-Hospitals	1994 – 1995
Instructor at the Department of Mathematics	1993 – 1994

Editorship

- Operations Research Series Editor, CRC Press, Taylor and Francis group, 2019 – present.
- Department Editor, IISE Transactions (formerly IIE Transactions), 2017 – 2026.
- Associate Editor, INFORMS Journal on Computing, 2001 – 2019.
- Associate Editor, Omega, 2010 – 2014.
- Area Editor, IISE Transactions (formerly IIE Transactions), 2011 – 2017.
- Co-editor, IISE Transactions Special Issue: Energy Systems Modeling and Analysis, 2016-2017.

Research Awards/Honors

- Second place, The PG&E Energy Analytics Challenge, May 2024.
- IEEE Region 1 Technological Innovation Award (Academic), November 2023.
- Amazon Scholar, Amazon Corporate LLC, May 2019.
- Fellow, IISE (Institute of Industrial and Systems Engineers, formerly IIE), May 2017.
- William O. and Montine P. Head Fellow Award (College of Engineering Faculty Fellow), January 2017.
- Jill and Charles F. Milstead `60 Faculty Fellow (endowed fellowship appointment), May 2013 – April 2015.
- Research highlights in *Industrial Engineer* magazine (most potentially impactful journal articles among those that appear in IIE Transactions every month are highlighted)
    - September 2013, "Want to save energy in data centers without making too many hardware changes? IE has some answers!".
    - February 2011, "Reducing Carbon Footprint in Process Industries".
    - November 2010, "How to deliver video contents efficiently".
- Outstanding Young Industrial Engineer Award (education category), by IIE, May 2006.
- Best Paper Award in the Computers and Information Systems Category at the Industrial Engineering Research Conference, IIE Annual Conference, Atlanta, May 2005.
- Best Paper Award in the Computers and Information Systems Category at the Industrial Engineering Research Conference, IIE Annual Conference, Houston, May 2004.
- Best Invited Paper Award in the Operations Research Division of IIE at the Industrial Engineering Research Conference, IIE Annual Conference, Houston, May 2004.

Teaching and Mentoring Awards/Honors

- *Texas A&M-IISE Most Influential Faculty Award, April 2017.*
    - A faculty member in Texas A&M Industrial & Systems Engineering department is elected by the undergraduate students in the department to determine the faculty member that was most influential to them. Conducted by the IISE student chapter of Texas A&M.
- *Texas A&M-IIE Professor of the Year Award (joint-winner), April 2013.*
    - Each year a Texas A&M Industrial & Systems Engineering professor is chosen for this award. Selection based on current and former undergraduate students in the department. Conducted by the IIE student chapter of Texas A&M.
- *Texas A&M College of Engineering: Tenneco Meritorious Teaching Award, April 2012.*
    - Each year the Dwight Look College of Engineering forms a committee to evaluate nominations submitted by various departments and select the best candidates. Conducted and conferred by the College of Engineering.
- *PSU-IIE Outstanding Faculty Award, April 2005.*

    - Each year one Penn State Industrial Engineering professor is chosen for this award. Selection based on secret ballot of junior and senior class students in the department. Conducted by the IIE student chapter of Penn State.
- *PSU-IIE Outstanding Faculty Award, April 2003.*
- *Penn State Engineering Society: Outstanding Teaching Award, March 2003.*
    - Each year the College of Engineering forms a committee of faculty, students and alumni to evaluate nominations submitted by various departments and select the best candidates. Conducted and conferred by the Penn State Engineering Society.
- *Outstanding Faculty in Engineering, Yearbook-1999: La Vie, July 1999.*
    - Each year the Penn State Yearbook created by graduating seniors recognizes one professor from each college for contributing towards the students' education.

Service Awards/Honors

- *Texas A&M-Industrial and Systems Engineering Outstanding Faculty Service Award, Nov. 2020.*
    - A faculty member that made outstanding contributions in terms of service to the department of Industrial and Systems Engineering is selected to receive the award. Conducted by the Industrial and Systems Engineering Department of Texas A&M.
- *Texas A&M College of Engineering: William Keeler Memorial Award, April 2018.*
    - Each year the College of Engineering forms a committee to evaluate nominations submitted by various departments for outstanding engineering service and selects the winning candidates. Conducted and conferred by the College of Engineering.
- *Texas A&M-Industrial and Systems Engineering Outstanding Faculty Service Award, April 2018.*
- *Texas A&M-INFORMS Outstanding Faculty Award, April 2018.*
    - A faculty member that made outstanding contributions to the INFORMS chapter at Texas A&M University is elected by the graduate students. Conducted by the INFORMS student chapter of Texas A&M.
- *Texas A&M IIE Advisor Appreciation Award, April 2012.*
    - A special award conferred by the IIE student chapter of Texas A&M University for advising and mentoring undergraduate students.

Student Awards/Honors

- Soongeol Kwon - INFORMS ENRE Young Researcher Prize, 2018.
- Samyukta Sethuraman – MP2 Energy Institute Fellowship, 2014.
- Arupa Mohapatra – 2013 U.S. Senator Phil Gramm Doctoral Fellowship award for contributions in research, teaching and mentoring, March 2013 (University-wide recognition)
- Young Myoung Ko – Winner of 2012 Doctoral Dissertation Award for Operations Research in Telecommunications, INFORMS Telecommunications Section.
- Young Myoung Ko - Distinguished Graduate Student Award for Excellence in Doctoral Research, Texas A&M University, March 2011 (University-wide recognition)
- Ezgi Can Eren - Student Poster Contest, 2nd Place Award, Energy Forum 2011: Energy Security and Sustainability - Global Challenges, Texas A&M Energy Engineering Institute, TX.

Patents

- Rohit Malshe, Liron David Yedidsion, Abhilasha Prakash Katariya, Dipal Patel Gupta, Jin Ye, Natarajan Gautam (2023) Dynamic package selection algorithm for delivery, US Patent Number 11720850.
- Rohit Malshe, Dipal Patel Gupta, Liron David Yedidsion, Abhilasha Prakash Katariya, Jin Ye, Natarajan Gautam (2024) Geographical unit generation, US Patent Number 11971263.

Books

- Gautam, N. (2012) Analysis of Queues: Methods and Applications, 802 pages, *CRC Press (Taylor and Francis), Boca Raton, FL*.
- Gautam, N. (2026) Solar Power Forecasting: Using Time Series and Machine Learning, *CRC Press (Taylor and Francis), Boca Raton, FL*.

Publications (Published in Refereed Journals)

- Karia, P. and Gautam, N. (2026) Learning When to Leave: Reinforcement Learning for Service Systems with Virtual Queues and Reservation Deposits, (*to appear in Applied Operations and Analytics*).
- Dube, R., Gautam, N., Banerjee, A. and Nagarajan, H. (2026) Hierarchical Semi-Markov Models with Duration-Aware Dynamics for Activity Sequences, *Energy & Buildings*, Vol. 360, 117338, https://doi.org/10.1016/j.enbuild.2026.117338.
- Gautam, N. (2025) Using Operational Data Analytics for Planning Decisions Under Uncertainty (*to appear in print in INFORMS Journal on Data Science, online version available in https://pubsonline.informs.org/doi/10.1287/ijds.2024.0051?ai=2c4v&ui=bk5h&af=T*).
- Diaz, N.O. and Gautam, N., (2025) Non-periodic Traffic Allocation in Time-Aware TSN Networks, *(to appear in IEEE Access* DOI: 10.1109/ACCESS.2025.3627206).
- Gautam, N. and Geunes, J.P. (2024) Analysis of Real-Time Order Fulfillment Policies: When to Dispatch a Batch? *INFORMS Service Science*, Vol. 16, No. 2, 85-106.
- Kio, A.E., Xu, J., Gautam, N. and Ding, Y. (2024) Wavelet Decomposition and Neural Networks: A Potent Combination for Short Term Wind Speed and Power Forecasting, *Frontiers in Energy Research*)., Vol. 12 (https://doi.org/10.3389/fenrg.2024.1277464).
- Hanchate, A., Dave, P., Verma, A., Tiwari, A., Mishra, C., Kumara, S.R.T, Srivastava, A. , Yang, H., Narayanan, V., Sampson, J.M., Kandemir, M.T., Lee, K.H., Pugh, T.M., Jorden, A., Gautam, N., Sagapuram, D., and Bukkapatnam, S.T.S (2023) A Graphical Representation of Sensor Mapping for Machine Tool Fault Monitoring and Prognostics for Smart Manufacturing, *ASTM Journal of Smart and Sustainable Manufacturing Systems*, Vol. 7, No. 1, 82-110.
- Rajan, S., Sundar, K., and Gautam, N., (2022) Routing Problem for Unmanned Aerial Vehicle Patrolling Missions - A Progressive Hedging Algorithm, *Computers & Operations Research*, Vol. 142.
- Wang, K., Dave, P., Hanchate, A., Sagapuram, D., Gautam, N., and Bukkapatnam, S.T.S. (2022) Implementing an open-source sensor data ingestion, fusion, and analysis capabilities for smart manufacturing, *Manufacturing Letters,* Vol. 33, 893-901.
- Xu, J., Hou, I.-H. and Gautam, N. (2022) Age of information for single buffer systems with vacation server, *IEEE-Trans. on Network Science and Engineering*, Vol. 9, No. 3, 1198 – 1214.
- Xu, J. and Gautam, N. (2021) Peak Age of Information in Priority Queueing Systems, *IEEE Transactions on Information Theory*, Vol. 67, No. 1, 373-390.
- Xu, J. and Gautam, N. (2020) On Competitive Analysis for Polling Systems, *Naval Research Logistics*, Vol. 67, No. 6, 404-419.
- Ejaz, I., Alvarado, M., Gautam, N., Gebraeel, N. and Lawley, M. (2019) Condition-Based Maintenance for Queues with Degrading Servers, *IEEE Transactions on Automation Science and Engineering,* Vol. 16, No. 4.
- Kwon, S., Ntaimo, L. and Gautam, N. (2019) Demand Response in Data Centers: Integration of Server Provisioning and Power Procurement, *IEEE Transactions on Smart Grid,* Vol. 51, No. 4.
- Xu, J., Tran, H., Gautam, N. and Bukkapatnam, S. (2019) Joint Production and Maintenance Operations in Smart Custom-Manufacturing Systems, *IISE Transactions*, Vol. 51, No. 4, 406-421.

- Bjorkqvist, M., Gautam, N., Birke, R., Chen, L.Y. and Binder, W. (2018) Optimizing for Tail Sojourn Times of Cloud Clusters, *IEEE Transactions on Cloud Computing,* Vol. 6, No. 1, 156-167.
- Kwon, S., Xu, Y. and Gautam, N. (2017) Meeting Inelastic Demand in Systems with Storage and Renewable Sources, *IEEE Transactions on Smart Grid,* Vol. 8, No. 4, 1619-1629.
- Kwon, S., Ntaimo, L. and Gautam, N. (2017) Optimal Day-Ahead Power Procurement with Renewable Energy and Demand Response, *IEEE Transactions on Power Systems,* Vol. 32, No. 5, 3924-3933.
- Kwon, S. and Gautam, N. (2016) Guaranteeing Performance based on Time-stability for Energy-efficient Data Centers, *IIE Transactions*, Vol. 48, No. 9, 812-825.
- Gong, S., Duan, L. and Gautam, N. (2016) Optimal Scheduling and Beamforming in Relay Networks with Energy Harvesting Constraints *IEEE Transactions on Wireless Communications*, Vol. 15, No. 2, 1226-1238.
- Kwon, S. and Gautam, N. (2016) Time-Stable Performance in Parallel Queues with Non-Homogeneous and Multi-class Workloads, *IEEE/ACM Transactions on Networking*, Vol. 24, No. 3, 1322-1335.
- Chan, W., Zhang, P., Nevat, I., Nagarajan, S., Valera, A., Tan, H. and Gautam, N. (2015) Adaptive Duty Cycling in Sensor Networks with Energy Harvesting using CTMC and Fluid Models, *IEEE Journal of Special Areas in Communications,* Vol. 33, No. 12, 2687 – 2700.
- Hsu, Y., Abedini, N., Gautam, N., Sprintson, A. and Shakkottai, S. (2015) Opportunities for Network Coding: To Wait or Not to Wait, *IEEE Transactions on Networking,* Vol. 23, No. 6, 1876 – 1889.
- Eren, E.C., Dixit, R. and Gautam, N. (2015) Stochastic Modeling, Analysis and Predictions for Plant Microtubule Systems, *Journal of Mathematical Biology,* Vol. 71, No. 6-7, 1353-1385.
- Ying, Y., Birke, R., Wang, C., Chen, L.Y. and Gautam, N. (2015) On Energyaware Allocation and Execution for Batch and Interactive MapReduce *ACM SIGMETRCIS Performance Evaluation Review*), Vol. 42, No. 4, 22-30.
- Gautam, N. and Mohapatra, A. (2015) Efficiently Operating Wireless Nodes Powered by Renewable Energy Sources, *IEEE Journal of Special Areas in Communications,* Vol. 33, No. 8, 1706 – 1716.
- Polansky, R.J., Sethuraman, S. and Gautam, N. (2015) Obtaining Optimal Thresholds for Processors with Speed-Scaling, *Electronic Notes in Theoretical Computer Science,* Vol. 310, 135-155.
- Mohapatra, A., Gautam, N., Sprintson, A. and Shakkottai, S. (2014) Optimal Network Coding Decisions in Delay-sensitive Wireless Transmission, *IEEE Transactions on Communications,* Vol. 62, No. 8, 2965-2976.
- Reddy, V., Ramaswamy, V., Shakkottai, S., Sprintson, A. and Gautam, N. (2014) Multipath Wireless Network Coding: An Augmented Population Game Perspective, *IEEE Transactions on Networking,* Vol. 22, No. 1, 217-229.
- Gallego, J., Ko, Y.M., Polansky, R., Perez, E., Ntaimo, L. and Gautam, N. (2013) Integrating Virtualization, Speed Scaling and Powering On/Off Servers in Data Centers for Energy Efficiency, *IIE Transactions,* Vol. 45, No. 10, 1114–1136.
- Ko, Y.-M. and Gautam, N. (2013) Critically loaded multi-server queues with abandonments, retrials, and time-varying parameters, *INFORMS Journal on Computing,* Vol. 25, No. 2, 285-301.
- Mohapatra, A., Gautam, N. and Gibson, R. (2013) Combined Routing and Node Replacement in Energy-efficient Underwater Sensor Networks for Seismic Monitoring, *IEEE Journal of Ocean Engineering*, Vol. 38, No. 1, 80-90.
- Parvin, H., Goel, P. and Gautam, N. (2012) Policies for Testing, Prevention and Treatment of Two-stage Contagious Diseases, *Annals of Operations Research,* Vol. 196, 707-735.
- Eren, E.C., Gautam, N. and Dixit, R. (2012) Computer simulation and analytical studies of the noncentrosomal plant cortical microtubule cytoskeleton, *Cytoskeleton,* Vol. 69, No. 3, 144-154.

- Eren, E.C. and Gautam, N. (2011) Efficient Control for a Multi-Product Quasi-Batch Process via Stochastic Dynamic Programming, *IIE Transactions*, Vol. 43, No.3, 192-206.
- Ko, Y.-M. and Gautam, N. (2010) Epidemic-Based Information Dissemination in Wireless Mobile Sensor Networks, *IEEE Trans. On Networking*, Vol. 18, No. 6, 1738-1751.
- Ko, Y.-M. and Gautam, N. (2010) Transient Analysis of Queues for Peer-Based Multimedia Content Delivery," *IIE transactions,* Vol. 42, No. 12, 881-896.
- Eren, E.C., Dixit, R. and Gautam, N. (2010) A Three-Dimensional Computer Simulation Model Reveals the Mechanisms for Self-Organization of Plant Cortical Microtubules into Oblique Arrays, *Molecular Biology of the Cell,* Vol. 21, 2674-2684.
- Lee, S., Kumara, S. and Gautam, N. (2008) Market-Based Model Predictive Control for Large-Scale Information Networks: Completion Time and Value of Solution*, IEEE Transactions on Automation Science and Engineering,* Vol. 5, No. 4, 630-640.
- Mahabhashyam, S.R., Gautam, N. and Kumara, S.R.T. (2008) Resource-Sharing Queueing Systems with Fluid-Flow Traffic, *Operations Research,* Vol. 56, No. 3, 728-744.
- Squillante, M.S., Zhang, Y., Sivasubramaniam, A., Gautam, N. (2008) Generalized Parallel-Server Fork-Join Queues with Dynamic Task Scheduling, *Ann. of OR,* Vol. 160, No. 1, 227-255.
- Lee, S., Kumara, S. and Gautam, N. (2007) Efficient scheduling algorithm for component-based networks, *Future Generation Computer Systems - The Int. J. Grid Computing: Theory, Methods and Applications*, Vol. 23, No. 4, 558-568.
- Mahabhashyam, S.R. and Gautam, N. (2005) On Queues with Markov Modulated Service Rates, *Queueing Systems: Theory and Applications*, Vol. 51, No. 1-2, 89-113.
- Flannery, A., Kharoufeh, J.P., Elefteriadou, L. and Gautam, N. (2005). Queuing Delay Models for Single-Lane Roundabouts, *Civil Engr. and Environmental Systems*, Vol. 22, No. 3, 133-150.
- Chen, Y., Das, A., Qin, W. B., Sivasubramaniam, A., Wang, Q. and Gautam, N. (2005) Managing Server Energy and Operational Costs in Hosting Centers, *ACM SIGMETRICS Performance Evaluation Review,* Vol. 33, No. 1, 303-314.
- Gautam, N. (2005) Pricing Issues in Web Hosting Services, *Journal of Revenue and Pricing Management*, Vol. 4, No. 1, 7-23.
- Foster, E.J., Barton, R.R., Gautam, N. and Truss, L.T. (2005) The Process-oriented Multivariate Capability Index, *International Journal of Production Research*, Vol. 43, No. 10, 2135-2148.
- Sarangan, V., Ghosh, D., Gautam, N. and Acharya, R. (2005) Steady State Distribution for Stochastic Knapsack with Bursty Arrivals, *IEEE Communication Letters*, Vol. 9, No. 2, 187-189.
- Chen, Y., Das, A., Gautam, N., Wang, Q. and Sivasubramaniam, A. (2004) Pricing-Based Strategies for Autonomic Control of Web Servers with Time-Varying Request Arrivals, *Journal of Engineering Application of Artificial Intelligence* (special issue on Autonomic Computing), Vol. 17, No. 7, 841-854.
- Aggarwal, V., Gautam, N., Kumara, S.R.T. and Greaves, M. (2004) Stochastic Fluid Flow Models for Determining Optimal Switching Thresholds with an Application to Agent Task Scheduling, *Performance Evaluation,* Vol. 59, No. 1, 19-46.
- Kharoufeh J.P. and Gautam, N. (2004) A Fluid Queueing Model for Link Travel Time Moments, *Naval Research Logistics*, Vol. 51, No. 2, 242-257.
- Cherukuri, N., Kandiraju, G., Gautam, N. and Sivasubramaniam, A. (2004) Analytical Model and Performance Analysis of a Network Interface Card, *International Journal of Modelling and Simulation*, Vol. 24, No. 3, 179-189.
- Kharoufeh, J.P. and Gautam, N. (2004) Deriving Link Travel-Time Distributions Via Stochastic Speed Processes, *Transportation Science*, Vol. 38, No. 1, 97-106.
- [*]Yacoubi, M., Emelianenko, M. and Gautam, N. (2003) Pricing in Next-Generation Networks: A Queuing Model to Guarantee QoS, *Performance Evaluation*, Vol. 52, No. 1, 59-84.

[*] This paper was one of the top-10 downloaded papers during the first half of 2003 from the journal web site.

- Gautam, N. (2002) Buffered and Unbuffered Leaky Bucket Policing: Guaranteeing QoS, Design and Admission Control, *Telecommunication Systems*, Vol. 21, No. 1, 35-63.
- Gautam, N. (2002) Performance Analysis and Optimization of Web Proxy Servers and Mirror Sites, *European Journal of Operational Research*, Vol. 142, No. 2, 396-418.
- Gautam, N. and Seshadri, S. (2002) Performance Analysis for E-Business: Impact of Long Range Dependence, *Electronic Commerce Research*, Vol. 2, No. 3, 233-253.
- Squillante, M.S., Zhang, Y.Y., Sivasubramaniam, A., Gautam, N., Franke, H. and Moreira, J. (2002) Analytic Modeling and Analysis of Dynamic Coscheduling for a Wide Spectrum of Parallel and Distributed Environments, *ACM SIGMETRICS Performance Evaluation Review*, Vol. 30, No. 1, 43-54.
- Ozmutlu, H.C., Gautam, N. and Barton, R.R. (2002) Managing End-to-end Network Performance via Optimized Monitoring Strategies, *The Journal of Network and System Management*, Special Issue on Management of Converged Networks, Vol. 10, No. 1, 107-126.
- Gelenbe, E., Srinivasan, V., Seshadri, S. and Gautam, N. (2001) Optimal Policies for ATM Cell Scheduling and Rejection, *Telecommunication Systems*, Vol. 18, No. 4, 331-358.
- Evans, J.L., Elefteriadou, A. and Gautam, N. (2001) Probability of Breakdown at Freeway Merges using Markov Chains, *Transportation Research Part B*, Vol. 35, No. 3, 237-254.
- Gautam, N. and Kulkarni, V.G. (2000) Applications of SMP Bounds to Multi-Class Traffic in High-Speed Networks, *Queuing Systems: Theory and Applications*, Vol. 36, No. 4, 351-379.
- Gautam, N., Kulkarni, V.G., Palmowski, Z. and Rolski, T. (1999) Bounds for Fluid Models Driven by Semi-Markov Inputs, *Probability in Engineering and Informational Sciences*, Vol. 13, No. 4, 429-475.
- Kulkarni, V.G. and Gautam, N. (1997) Admission Control of Multi-Class Traffic with Service Priorities in High-Speed Networks, *Queueing Systems: Theory and Applications*, Vol. 27, No. 1-2, 79-97.

Publications (in Refereed Conference Proceedings)

- Gautam, N. (2024) Analyzing Real-time Delivery Policies with Non-Linear Holding Costs, (*proceedings of IISE Annual Conference*).
- Wang, K., Dave, P., Hanchate, A., Sagapuram, D., Gautam, N., and Bukkapatnam, S.T.S. (2022) Implementing an open-source sensor data ingestion, fusion, and analysis capabilities for smart manufacturing, *Proc. of North American Manufacturing Research Conference*.
- Diaz, N.O. and Gautam, N., (2020) On Latency for Non-scheduled Traffic in TSN, *Proc. of IEEE GLOBECOM* 2020.
- Rajan, S., Sundar, K., and Gautam, N., (2019) Routing Problems for Reconnaissance Patrolling Missions, *Proc. of ICUAS Conference*.
- Bassett, B. and Gautam, N. (2019) The Effect of Adding Stops to a Delivery Route, Proceedings of the Industrial & Systems Engineering Research Conference, *Proc. of the IISE Annual Conference*.
- Botcha, B., Wang, Z., Rajan, S., Gautam, N., Bukkapatnam, S., Korambath, P., Miller, S.S., Mathawar, A. and Schneider, D. (2018) Implementing the Transformation of Discrete Part Manufacturing Systems into Smart Manufacturing Platforms, *Proc. of the ASME MSEC Conference*.
- Chan, W.H.R., Zhang, P., Zhang, W., Nevat, I., Valera, A.C., Tan, H.-X. and Gautam, N. (2015) Adaptive Duty Cycling in Sensor Networks via Continuous Time Markov Chain Modelling, *Proc. of the IEEE International Conference on Communications (ICC)*, 6669-6674.
- Ying, Y., Birke, R., Wang, C., Chen, L.Y. and Gautam, N. (2015) Optimizing Energy, Locality and Priority in a MapReduce Cluster, *Proc. of IEEE Intl. Conf. on Autonomic Computing (ICAC)*, 21-30.
- Gautam, N., Xu, Y. and Bradley, J.T. (2014) Meeting Inelastic Demand in Systems with Storage and Renewable Sources, *Proc. of IEEE SmartGridComm '14*.

- Hsu, Y., Ramasamy, S., Abedini, N., Gautam, N., Sprintson, A. and Shakkottai, S. (2011) Opportunities for Network Coding: To Wait or Not to Wait, *Proc. Of IEEE International Symposium on Information Theory*.
- Reddy, V., Shakkottai, S., Sprintson, A. and Gautam, N. (2010) Multipath Wireless Network Coding: A Population Game Perspective, *Proc. Of IEEE INFOCOM*.
- Chen, Y. and Gautam, N. (2009) Server Frequency Control Using Markov Decision Processes, *Proc. Of IEEE INFOCOM*.
- Gautam, N. (2009) Teaching Courses on Probability and Statistics for Engineers: Classical Topics in the Modern Technological Era, *Proceedings of ASEE Conference*, Austin, TX.
- Curry, G.L. and Gautam, N. (2008) Characterizing the Departure Process From a Two Server Markovian Queue: A Non-renewal Approach, *Proceedings of Winter Simulation Conference*.
- Ko, Y.-M., Chamberland, J.-F. and Gautam, N. (2007) Optimal Policies for Control of Peers in Online Multimedia Services, *Proceedings of the IEEE Conference on Decision and Control*, 3800-3805.
- Qin, W. B., Wang, Q., Chen, Y. and Gautam, N. (2006) A First-Principles Based LPV Modeling and Design for Performance Management of Internet Web Servers, *Proceedings of the American Control Conference.*
- Jayabalan, D., Gautam, N. and Elefteriadou, A. (2006) Short-term Direct Travel time Prediction for Freeway Segments, *Proceedings of the Industrial Engineering Research Conference*.
- Venkateswaran, A., Sarangan V., Gautam, N. and Acharya, R. (2005) Impact of Mobility Prediction on the Temporal Stability of MANET Clustering Algorithms, *Proc. of PE-WASUN'05*.
- Gnanasambandam, S., Lee, S., Kumara, S.R.T., Gautam, N., Peng, W., Manikonda, V., Brinn, M. and Greaves, M. (2005) Survivability of a Distributed Multi-Agent Application - A Performance Control Perspective, *Proceedings of IEEE MASS*.
- [1]Gnanasambandam, S., Lee, S., Kumara, S.R.T., and Gautam, N. (2005) A Framework for Performance Control of Distributed Autonomous Agents, *Proceedings of the Industrial Engineering Research Conference*.
- Gnanasambandam, S., Lee, S., Kumara, S.R.T., Gautam, N., Peng, W., Manikonda, V., Brinn, M. and Greaves, M. (2005) An Autonomous Performance Control Framework for Distributed Multi-Agent Systems, *Proceedings of the AAMAS*.
- Surana, A., Gautam, N., Kumara, S. and Greaves, M. (2005) Designing a network infrastructure for survivability of multi-agent systems, *Proceedings of IASTED Conference on Parallel and Distributed Computing and Networks.*
- Gnanasambandam, S., Lee, S., Gautam, N., Kumara, S.R.T., Peng, W., Manikonda, V., Brinn, M. and Greaves, M. (2004) Reliable MAS Performance Prediction Using Queueing Models, *Proceedings of the IEEE MASS*.
- Mahabhashyam, S.R. and Gautam, N. (2004) Dynamic Resource Allocation of Shared Data Center Supporting Multiclass Requests, *Proceedings of the International Conference on Autonomic Computing (ICAC),* 222-229.
- Chen, Y., Das, A., Gautam, N., Wang, Q. and Sivasubramaniam, A. (2004) Pricing and Autonomic Control of Web Servers with Time-Varying Request Patterns, *Proceedings of the International Conference on Autonomic Computing (ICAC),* 290-291.
- [2]Mahabhashyam, S.R. and Gautam, N. (2004) Performance Analysis of a Web Server Supporting Multiple Classes of Requests, *Proceedings of the Industrial Engineering Research Conference*.
- [3]Hertel, L. and Gautam, N. (2004) A Mathematical Programming Model for Scheduling Pharmaceutical Sales Representatives, *Proceedings of the Industrial Engineering Research Conference*.

[1] Best paper award in the computers and information systems category.
[2] Best paper award in the computers and information systems category.
[3] Best invited paper award in the Operations Research division.

- Zhang, J., Sivasubramaniam, A., Franke, H., Gautam, N., Zhang, Y. and Nagar, S. (2003) Synthesizing Representative I/O Workloads for TPC-H, *Tenth International Symposium on High Performance Computer Architecture (HPCA-10).*
- Kapur, A.K., Gautam, N., Brooks, R.R., and Rai, S., (2003) Performance and Design of P2P Networks for Efficient File Sharing, *Proc. of the Industrial Engineering Research Conference*.
- Aggarwal, V. and Gautam, N. (2003) Fluid models for evaluating threshold-based control policies for survivability of a distributed network, *Proc. of the Industrial Engineering Research Conf*.
- Cherukuri, N., Kandiraju, G., Gautam, N. and Sivasubramaniam, A. (2003) Queueing Model for Performance Analysis of a Network Interface Card, *Proc. of the Industrial Engineering Research Conference*.
- Hong, Y., Gautam, N., Kumara, S.R.T., Surana, A., Gupta, H., Lee, S., Narayanan, V., Thadakamalla, H., Brinn, M. and Greaves, M. (2002) Survivability of Complex System – Support Vector Machine Based Approach, *Proceedings of the Artificial Neural Networks in Engineering (ANNIE) Conference*.
- Lee, S., Gautam, N., Kumara, S.R.T., Hong, Y., Gupta, H., Surana, A., Narayanan, V., Thadakamalla, H., Brinn, M. and Greaves, M. (2002) Situation Identification using Dynamic Parameters in Complex Agent-based Planning Systems, *Proceedings of the Artificial Neural Networks in Engineering (ANNIE) Conference*.
- Kapur, A., Gautam, N., Brooks, R.R. and Rai, S. (2002) Design, Performance and Dependability of a Peer-to-peer Network Supporting QoS for Mobile Code Applications, *Proceedings of the 10th International Conference on Telecommunication Systems, Modeling and Analysis*.
- Ramakrishnan, S., Gautam, N. and Wysk, R.A. (2002) Tunnel Freezing Process with Adaptive Control: A Stochastic Modeling Approach, *Proc. of Industrial Engineering Research Conference*.
- Srinivasan, G. and Gautam, N. (2002) Optimal Location of Web Servers, *Proceedings of the Industrial Engineering Research Conference*.
- Nagar, S., Liu, C., Kandiraju, G., Sivasubramaniam, A. and Gautam, N. (2002) Incorporating Quality-of-Service in the Virtual Interface Architecture, *Proceedings of the International Parallel and Distributed Symposium (IPDPS)*.
- Ozmutlu, H.C., Gautam, N. and Barton, R.R. (2002) Zone Recovery Methodology for Probe-Subset Selection in End-to-end Network Monitoring, *Proceedings of the Network Operations and Management Symposium (NOMS)*.
- Chinnusamy, P. and Gautam, N. (2001) A Quantitative Approach to the Performance of Internet Telephony to E-business Sites, *Proceedings of the Industrial Engineering Research Conference*.
- Estep, J.L. and Gautam, N. (2001) Quantitative Models for Performance Enhancement of Information Retrieval from Relational Databases, *Proceedings of the Industrial Engineering Research Conference*.
- Gautam, N. and Seshadri, S. (2000) Approximations for System Performance Under Self-similar Traffic, *Proceedings of the 3rd International Conference on Telecomm. and E-Commerce.*
- Flannery, A., Kharoufeh, J.P., Gautam, N. and Elefteriadou, A. (2000) Estimating Delay at Roundabouts, *Proceedings of the Institute of Transportation Engineers Annual Conference.*
- Phoha, S., Gautam, N. and Horn, A. (2000) Tactical Intelligence Tools for Distributed Agile Control of Air Operations, *Proceedings of the 2nd DARPA JFACC Symposium on Advances in Enterprise Control*.
- Ozmutlu, H.C., Gautam, N., Barton, R.R. and Hery, W. (1999) Network Monitoring: Probe-Subset Selection Using the Constrained Coverage Problem, *Proceedings of the Performance and Control of Network Systems Conference, OPIE*.
- Kulkarni, V.G. and Gautam, N. (1996) Leaky Buckets: Sizing and Admission Control, *Proceedings of the 35th IEEE Conference on Decision and Control* (invited paper).

Refereed Book Chapters

- Gautam, N. (2012) Quality of Service Metrics, *Distributed Sensor Networks, 2nd edition* (Eds.: S.S. Iyengar and R.R. Brooks).
- Gautam, N. (2011) CTMC with costs and rewards, *Wiley Encyclopedia of Operations Research and Management Science*.
- Gautam, N. (2011) Transient Behavior of DTMCs, *Wiley Encyclopedia of Operations Research and Management Science*.
- Gautam, N. (2011) Definition and Examples of DTMCs, *Wiley Encyclopedia of Operations Research and Management Science*.
- Gautam, N. (2011) The M/G/\infty queue, *Wiley Encyclopedia of Operations Research and Management Science*.
- Gautam, N. (2007) Queueing Theory, *Operations Research and Management Science Handbook,* A. Ravindran, Ed., CRC Press, Taylor and Francis Group, Boca Raton, FL, Pages 9.1 – 9.37
- Gautam, N. (2004) Quality of Service Metrics, *Frontiers in Distributed Sensor Networks* (Eds.: S.S. Iyengar and R.R. Brooks).
- Gautam, N. (2003) Stochastic Models in Telecommunications for Optimal Design, Control and Performance Evaluation, *Handbook of Statistics* Vol. 21: Stochastic Processes: Modeling and Simulation (Eds.: C.R. Rao and D.N. Shanbhag).
- Gautam, N. (1999) Erlang Distribution: Description and Case Study, *Industrial Engineering Applications and Practice: Users Encyclopedia* (Eds.: A. Mital and J. Chen).

Publications (under review/revision)

- Xu, J., Wang, W., and Gautam, N. (2025) On the Distribution of Age of Information in Time-varying Updating Systems (*revised and resubmitted to IEEE Transactions on Information Theory* *http://arxiv.org/abs/2507.03799*).
- Dube, R., Nagarajan, H., Gautam, N., and Banerjee, A. (2026) LARO: Learning-Accelerated Two-Stage Adaptive Robust Optimization with Relaxation Guarantees (*under revision*).
- Dube, R., Gautam, N., Banerjee, A. and Nagarajan, H. (2026) Interval Prediction of Electricity Demand Using a Cluster-Based Block Bootstrapping Method, (*under revision*).
- Xu, J. and Gautam, N. (2026) Multimodal Shared Queues with Threshold Switching: Performance Analysis and Optimization (*submitted to QUESTA*).
- Uwamahoro, N., Karia, P., Arabilli, S., Yang, B., and Gautam, N. (2026) Adaptive Hybrid Ensemble Learning Method for Robust Net Load Forecasting in Power Grid, (*submitted to IEEE Power and Engineering Society Conference*).

Other Publications

- Gautam, N. (2012) Solutions Manual for exercise problems in "Analysis of Queues: Methods and Applications".
- Gautam, N. and Ntaimo, L. (2011) Achieving Energy-Efficiency in Data-Center Industry: A Proactive-Reactive Resource Management Framework, *Proc. Of NSF CMMI Engineering Research and Innovation Conference*.
- Lee, S., Kumara, S.R.T. and Gautam, N. (2008), Self-Organizing Resource Allocation for Minimizing Completion Time in Large-Scale Distributed Information Networks, *Journal of Autonomic and Trusted Computing (accepted but never appeared)*.
- Gautam, N. (2002) An Integer Programming Formulation of the Web Server Location Problem, *URL: http://ise.tamu.edu/people/faculty/Gautam/papers/gweb.pdf* .
- Gautam, N. (1997) Quality of Service for Multi-class Traffic in High-speed Networks, *Ph.D. Thesis*, Dept. of OR, University of North Carolina, Chapel Hill.
- Gautam, N. (1996) Quality of Service for Multi-Class Traffic in High-Speed Networks, poster session, *IBM-CASCON'96*, Toronto, Canada.

- Gautam, N. (1995) Effective Bandwidth Methodologies for Network Management, *M.S. Thesis*, Dept. of OR, University of North Carolina, Chapel Hill.

Sponsored Research Projects

National Science Foundation (NSF):

- EAGER: Reducing Energy Consumption in Data Centers, 2009-2011; Sponsor: NSF; Co-PIs: N. Gautam and L. Ntaimo.
- ITR: Data-driven Autonomic Performance Modulation for Servers, 2003-2006; Sponsor: NSF (under the ITR initiative); Co-PIs: A. Sivasubramaniam, N. Gautam and Q. Wang.
- Travel Time Route Reliability, 2003-2005; Sponsor: NSF; Co-PIs: L. Elefteriadou, N. Gautam and P. Johnson.
- ITR: Routing of Dynamic Service Level Agreement Requests Between Inter-domain Bandwidth Brokers, 2002-2005; Sponsor: NSF (under the ITR initiative); Co-PIs: R. Acharya, N. Gautam and G. Kesidis.

Federal Agencies (AFOSR, DARPA, ONR, US Marine Corps, DoE):

- Clean Energy Smart Manufacturing Innovation Institute, 2020-2022; Sponsor: DOE; PI: S. Bukkapatnam.
- TRIAD: An Integrated Approach for Managing Microgrids with Uncertain Renewable Sources, Demand Response and Energy Markets, 2021-24; Sponsor: DOE (TAMU-LANL); PI: N. Gautam.
- A Holistic Approach to Networked Information Systems Design and Analysis, 2013-16; Sponsor: AFOSR; Co-PIs: P.R. Kumar, N. Gautam, S. Shakkottai and A. Sprintson.
- Integration of Diagnostics into Ground Equipment Study, 2003-2004; Sponsor: US Marine Corps; PI: S. Kumara.
- Enabling Logistics with Portable and Wireless Technology Study, 2003-2004; Sponsor: US Marine Corps; PI: S. Kumara.
- Mobile Ubiquitous Security Environment: 2001-2006; Sponsor: ONR; PI: R.R. Brooks.
- Chaos, Situation Extraction, and Control: A Novel Integrated Approach to Robust and Scalable Cognitive Agent Design, 2001-2006; Sponsor: DARPA; PI: S.R.T. Kumara.
- Analysis of the Information Systems and Information Requirements Supporting the USMC TFS and HRD Models, 2000-2001; Sponsor: US Marine Corps; PI: J. Wise.
- Controller Optimization Support to the JFACC Adaptive Air Campaign Project, 1999-2000; Sponsor: DARPA; PI: S. Phoha.

Industry:

- Prescriber Targeting and Sales Force Optimization, 2001-2002; Sponsor: MERCK; PI: N. Gautam.
- Multivariate, Graphical and Geographical Approach to Statistical Process Control for OTD/CXD: Performance Measures and Tracking System, 2000-2001; Sponsor: General Motors; PI: R.R. Barton.
- Bayesian Network Applications in Information Retrieval, Filtering and Automated Query Generation for a Relational Database, 1999-2000; Sponsor: Raytheon Systems; Co-PI: S.R.T. Kumara and N. Gautam.
- Proactive Problem Avoidance and QoS Guarantees for Large Heterogeneous Networks, 1997-1999; Sponsor: Lucent; PI: R.R. Barton.

Internal:

- Analytics for Renewable Energy Management in Microgrids, 2019-2020; Sponsor: TAMU President's Excellence Fund (T3 – round 2); Co-PIs: A. Bhattacharya, K. Davis, N. Gautam.

Equipment Grants

- Center for Manufacturing and Enterprise Integration; Equipment donation including: switches, media converters, optical devices, patch panels, etc. Sponsor: 3M; Co-PI: V.V. Prabhu and N. Gautam.
- Center for Manufacturing and Enterprise Integration; Funds for equipment including: servers, routers, connectivity, etc. Sponsor: PA State Education Equipment Funds; Co-PI: N. Gautam and V.V. Prabhu.

Travel Grants

- Big-12 Faculty Fellowship; 2007 (Sponsor: Texas A&M University).
- Travel grant for IEEE-CDC; 1996 (Sponsor: NSF/IEEE-CSS).

Presentations (in Invited Colloquia)

- Indian Institute of Science, Bangalore, India, Center for Network Intelligence Seminar, *Planning Decisions Under Uncertainty: A Data-driven Approach*, July 2026.
- Arizona State University (Industrial Engineering seminar), Tempe, AZ, *Planning Decisions Under Uncertainty: A Data-driven Approach*, March 2026.
- NPTEL-Plus, Online Workshop, *Forecasting using ML Tools,* June 2025.
- NPTEL-Plus, Online Workshop, *Forecasting using ML Tools,* January 2025.
- Syracuse University (Brethen Institute SCM Research seminar), Syracuse, NY, *Match, Batch, and Dispatch: Analysis of Order Fulfilment Policies*, April 2023.
- ACM, IEEE-CS, and CSI (Webinar), Online, *Data to Decisions: Creating, Consuming, Interpreting, and Using Information*, August 2022.
- The Ohio State University (ISE seminar), Columbus, OH, *Match, Batch, and Dispatch: Analysis of Order Fulfilment Policies*, March 2022.
- University of Florida (ISE seminar), Gainesville, FL, *Match, Batch, and Dispatch: Analysis of Order Fulfilment Policies*, February 2022.
- NPTEL (Special Lecture Series), Online, *Lies, Damn Lies and Statistics: Lessons on Consuming and Interpreting Data,* April 2020.
- NPTEL (Special Lecture Series), Online, *The Art and Science of Forecasting,* May 2020.
- McMaster University, Hamilton, ON, Canada, Academic Congress at The Great Canadian Data Centre Symposium, *Sustainable Computing*, June 2019.
- Amazon Corporate LLC (Amazon Tech Talk), Seattle, WA, *Match, Batch, and Dispatch: Analysis of Order Fulfillment Policies*, May 2019.
- Indian Institute of Technology, Madras, India, Department of Electrical Engineering Research Seminar, *Managing Power in Micro Grids with Renewable Sources and Storage*, August 2018.
- Anna University, Madras, India, Department of Mathematics Seminar, *On Stochastic Models for Maintenance and Operations in Smart-Manufacturing Systems*, August 2018.
- Indian Institute of Science, Bangalore, India, Robert Bosch Center for Cyber-Physical Systems Research Seminar, *Operations-Aware Maintenance in Smart-Manufacturing Systems*, August 2018.
- Texas A&M University (Smart-Grid Center EPPE seminar), College Station, TX, *Managing Power in Micro Grids with Renewable Sources and Storage*, April 2018.
- University of Texas (ORIE seminar), Austin, TX, *Managing Power in Micro Grids with Renewable Sources and Storage*, April 2018.
- Penn State Univ. OR Colloquium, State College, PA, *Managing operations for consumers with energy storage, stochastic demand and renewable supply*, October 2015.
- LatentView (Executive Seminar), Chennai, India, *Managing Operations in Time-Varying Systems*, June 2014.

- POSTECH University (Industrial and Management Engineering Seminar), Pohang, South Korea, *Managing Operations in Systems with Energy Storage, Stochastic Demand and Renewable Supply*, April 2014.
- Institute for Infocomm Research (Sense and Sense-abilities Group), Singapore, *Multi-timescale Model for Wireless Nodes with Energy Harvesting*, April 2014.
- Singapore University of Technology and Design (Wireless Networks and Decision Systems Group), *Multi-timescale Model for Wireless Nodes with Energy Harvesting*, April 2014.
- Singapore University of Technology and Design (Engineering Systems Design Pillar), *Managing Time-Varying Systems with Applications in Healthcare and Energy*, April 2014.
- National University of Singapore (Decision Sciences Seminar), *Managing Power Supply in Systems with Renewable Energy Sources*, April 2014.
- National University of Singapore (Industrial and Systems Engineering Seminar), *Multi-timescale Model for Wireless Nodes with Energy Harvesting*, March 2014.
- Bristol University (Probability and Statistics Seminar), Mathematics Department, Bristol, United Kingdom, *Two-tier Model for Balancing Power and Performance in Renewable-Energy-Based Wireless Nodes*, November 2013.
- Lancaster University (Statistics and Operations Research Seminar), Management Science Department, Lancaster, United Kingdom, *Multi-timescale Model for Wireless Nodes Powered by Renewable Energy Sources*, November 2013.
- IBM Research (Zurich Research Laboratory), Zurich, Switzerland, *Stabilizing Queues with Non-Homogeneous and Multi-class Workloads in Data Centers*, November 2013.
- Budapest University of Technology and Economics (Department of Networked Systems and Services), Budapest, Hungary, *Efficiently Operating Wireless Nodes Powered by Renewable Energy Sources*, October 2013.
- Newcastle University (Department of Computing Science), Newcastle, United Kingdom, *Managing energy harvesting wireless networks*, October 2013.
- University of Edinburgh (ERGO Seminar, School of Mathematics), Edinburgh, United Kingdom, *Multi-tier model for managing power and performance in renewable-energy-based wireless nodes*, October 2013.
- Imperial College (AESOP Lab, Department of Computing), London, United Kingdom, *Managing energy harvesting wireless networks*, September 2013.
- University of California-Berkeley (ORIE seminar), Berkeley, CA, *Stabilizing Queues with Non-Homogeneous and Multi-class Workloads for Effective Analysis and Control*, February 2013.
- Los Alamos National Lab, Los Alamos, NM, Center for Non-Linear Studies (Smart-Grid Seminar Series), *Resource Management under Non-Homogeneous and Multi-class Workloads in Data Centers*, January 2013.
- Indian Institute of Technology, Madras, India, Department of Management Studies Research Seminar, *Multi-hop wireless networks: distributed optimization and control,* December 2010.
- Texas A&M INFORMS Student Chapter Seminar, *O.R. Models in Multi-hop Wireless Networks*, November 2010.
- Texas A&M University IE Seminar, *Optimizing Energy Consumption in Data Centers*, September 2009.
- PSU OR Colloquium, State College, PA, *Operations Research for Energy Efficiency with Applications to Data Centers*, April 2009.
- University of Michigan (IOE seminar), Ann Arbor, MI, *Energy Conservation in Industries - A Case Study on Data Centers*, March 2009.
- University of Texas (ORIE seminar), Austin, TX, *Using Energy Efficiently in Data Centers: Controlling Resources for Quality of Service and Green Computing*, January 2008.
- Industrial Engineering Research Conference Vancouver, *New Faculty Colloquium Speaker: Promotion and tenure process: lessons learned*, May 2008.

- Oklahoma State University (Industrial engineering seminar), Stillwater, OK, *Towards Green Computing: Energy Management in Data Centers*, October 2007.
- Hindustan College of Engineering, Anna University, Padur, India, Technical Seminar, *Resource Management and Control for Data Centers and Web Hosting Services,* July 2007.
- Indian Institute of Technology, Madras, India, Department of Management Studies Research Seminar, *Optimization and Control for Energy Management in Data Centers and Web Hosting Services,* June 2007.
- Texas A&M University Networking Seminar, *Oh LoRD (LOng Range Dependence), what do we do?*, March 2007.
- Industrial Engineering Research Conference Orlando, *Doctoral Colloquium Speaker: Building an Academic Reputation; Enhancing Internal Reputation*, May 2006.
- Texas A&M University IE Seminar, *Resource Management in Web Hosting Centers for Energy Conservation*, May 2006.
- Texas Systems Day, *Performance Analysis of Resource Sharing Schemes in Mobile Ad-Hoc Networks*, October 2005.
- Industrial Engineering Research Conference Atlanta, *Doctoral Colloquium Speaker: Building an Academic Reputation; Enhancing Internal Reputation*, May 2005.
- Rutgers University IE Seminar, *Modeling Computer Systems Using Queues with Markov Modulated Service Rates*, April 2005.
- PSU Alpha Pi Mu Seminar, *Service Engineering*, March 2005.
- Texas A&M University IE Seminar, *Stochastic Models for Performance Optimization of Computer Systems*, February 2005.
- PSU OR Colloquium, *Performance Analysis of Multi-class Queues with Applications to Computer Systems*, January 2005.
- PSU IE department Freshman Seminar (Discover IE), *Probability and Statistics in Industrial Engineering*, September 2004.
- Industrial Engineering Research Conference Houston, *Faculty Advisor Colloquium*, May 2004.
- PSU Civil Engineering Department, *Queueing Models for Vehicular Traffic Performance and Control*, March 2004.
- Teachers Program for Atlanta Area Math Teachers, INFORMS Atlanta, *Teaching Probability*, October 2003.
- PSU IE Colloquium, *Engineering the Service Industry*, September 2003.
- Lehigh University OR Seminar, *Multi-class Fluid Queues: An Application to Agent Task Scheduling*, September 2002.
- PSU OR Colloquium, *A Web Server Location Problem*, September 2002.
- PSU ARL and ONR, *QoS in Peer-to-peer Networks*, July 2002.
- Air-Force Institute of Technology OR Seminar, *Optimal Locations for Mirror Servers in the Internet*, February 2002.
- PSU MS&IS Department, *Mathematical Programming Applications in the Internet*, November 2001.
- Pittsburgh Super-computing Center, *Network Management and QoS via Optimized Monitoring Strategies,* June 2001.
- Lucent Technologies, *Managing End-to-end Network Performance via Optimized Monitoring Strategies*, May 2001.
- PSU CICTR Seminar, *Performance Analysis and Optimization of Replicated Web Servers*, November 2000.
- PSU 3rd Annual manufacturing technology showcase, *How Much Bandwidth do we Need*, June 2000.
- PSU OR Colloquium, *Monitoring the Internet to Provide Quality of Service*, October 1999.
- INFORMS Cincinnati, *Teaching Effectiveness Colloquium*, April 1999.

- PSU 2nd Annual manufacturing technology showcase, *A Network Approach to Shopfloor Planning and Analysis*, April 1999.
- SUNY-Buffalo IE seminar, *Performance Analysis of Client-Server Systems: A Queueing Networks Approach*, October 1998.
- PSU IE Colloquium, *Guaranteeing QoS in High-speed Networks*, December 1997.
- PSU OR Colloquium, *Optimal Design and Admission Control of Leaky Bucket Networks*, November 1997.

Courses Taught

Syracuse

- CIS 600 (Grad analytics course): Analytics for Sequential Data; Spring 2025.
- CIS 662 (Grad data science course): Intro to Machine Learning Algorithms; Spring 2023 (taught as CIS 600 / CSE 691), Spring 2024, Spring 2025, Spring 2026.
- CIS 477 (UG algorithms course): Intro to Analysis of Algorithms; Fall 2023, Fall 2024, Fall 2025, Fall 2026.
- CIS 400 (UG data science course): Intro to Machine Learning; Fall 2023.
- CIS 400/600, CSE 400/691 (Stacked Grad/UG data science course): Intro to Machine Learning*; Fall 2022.
- ECE 603 (Graduate Linear Algebra course): Functional Methods of Engr. Analysis; Fall 2022.

NPTEL (IIT-Madras)

- Decision-Making Under Uncertainty* (MOOC taught through Swayam at NPTEL, IIT-Madras, India); Fall 2019, Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024, Fall 2025.

Texas A&M

- ISEN 310: Uncertainty Modeling for Industrial Engineering* (Undergraduate course on probability and statistics); Fall 2016, Fall 2018.
- ISEN 314: Statistical Control of Quality (Undergraduate course on quality control); Fall 2007, Fall 2008.
- ISEN 316: Production Systems Operations (Undergraduate course on stochastic models in production); Summer 2006 (team taught), Summer 2010, Spring 2012, Spring 2015.
- ISEN 340 / ISEN 421: Operations Research II (Undergraduate course on stochastic models); Fall 2005, Fall 2009, Fall 2020, Fall 2021.
- ISEN 424: Systems Simulation (Undergraduate course on discrete event simulation); Spring 2011, Summer 2012, Fall 2012 (2 sections), Fall 2014.
- ISEN 453: Manufacturing Operations (Undergraduate elective on queueing models in production); Summer 2017.
- ISEN 602: Applications of Random Processes (Graduate course on measure-theoretic probability); Spring 2008, Spring 2011, Spring 2018.
- ISEN 609/689**: Probability for Engineering Decisions (Graduate course on probability and stochastic processes); Spring 2007, Spring 2009, Summer 2009, Spring 2010, Summer 2011, Fall 2011, Spring 2013, Fall 2015, Fall 2016, Fall 2017.
- ISEN 618: Stochastic Processes in the Assurance Sciences (Graduate course on advanced stochastic processes); Fall 2008, Fall 2011.
- ISEN 624: Introduction to Queueing Theory (Graduate course on queueing theory); Spring 2006, Summer 2008, Fall 2010, Spring 2016.
- ISEN 659: Modeling and Analysis of Manufacturing Systems (Graduate course on queueing network applications in manufacturing); Spring 2010.
- ISEN 681: Seminar (Graduate seminar course); Fall 2007, Spring 2008, Fall 2021.
- ISEN 689*: Operations Research Models for Computer-Communication Networks (Graduate course on performance models); Fall 2006.

- ISEN 689**: Forecasting for Renewable Energy (Graduate course on forecasting and optimization); Spring 2021.

Penn State

- IE 097E**: Managing the Real Unpredictable World (First year seminar on decision making in engineering and everyday life); Spring 1999, Spring 2000, Spring 2001.
- IE 322: Quantitative Methods in IE - I (Undergraduate course on probability models); Fall 1998, Fall 1999, Fall 2000, Fall 2002, Fall 2003, Fall 2004, Spring 2005.
- IE 425: Introduction to Operations Research (Undergraduate course on deterministic and stochastic O.R.); Fall 1997, Summer 1999, Spring 2002, Spring 2004.
- IE 509: Waiting Line Models (Graduate course on queueing theory); Spring 2001, Spring 2004.
- IE 516: Applied Stochastic Processes (Graduate course on basic stochastic processes); Fall 1997, Fall 1998, Fall 1999, Fall 2000, Fall 2001, Fall 2002, Fall 2003.
- IE 590: Industrial Engineering Colloquium (Graduate course based on seminar speakers); Spring 2005.
- IE 597A*: Mathematical Models in Computer and Communication Networks (Graduate course on performance models); Spring 2000, Spring 2003.
- IE 597B**: Financial Engineering (Graduate course on financial models); Fall 2004.
- IE 597F*: Applied Stochastic Processes II (Graduate course on advanced stochastic processes); Spring 1999.

(* denotes new course developed by N. Gautam
** denotes new course co-developed by N. Gautam).

Ph.D. Students (Advisor/Co-Advisor)

Graduated:

- Rohit Dube, "*A Data Driven Integrated Approach for Managing Microgrids with Uncertainties*", December 2025.
- Neil Diaz, "*On the Allocation of Aperiodic Traffic in TSN/TAS Networks*", August 2023. (Texas A&M University)
- Sudarshan Rajan, "*Analysis of Sequential Decision Making Processes Under Exogenous Uncertainty*", December 2020. (Walmart)
- Jin Xu, "*Online Scheduling in Smart Manufacturing*", August 2020. (The Chinese University of Hong Kong, Shenzhen)
- Soongeol Kwon, "*Demand-Side Management for Energy-Efficient Data Center Operations with Renewable Energy and Demand Response*", May 2017. (SUNY Binghamton)
- Samyukta Sethuraman, "*On Fork-join Queues and Maximum Ratio Cliques*", December 2015. (Co-Advisor) (Amazon)
- Arupa Mohapatra, "*Energy Management in Wireless Sensor Network Operations*", August 2013. (Oracle)
- Ezgi Can Eren, "*Stochastic Modeling and Analysis of Plant Microtubule System Characteristics*", May 2012. (PROS)
- Young Myoung Ko, "*Transient Analysis of Large Scale Stochastic Service Systems*", May 2011. (Sabre Holdings; POSTECH, Korea)
- Piyush Goel, "*Stochastic Dynamic Programming and Stochastic Fluid-Flow Models in the Design and Analysis of Web-Server Farms*", August 2009. (American Airlines)
- Cesar Rincon Mateus, "*Dynamic Resource Allocation for Energy Management in Data Centers*", December 2008. (Northwest Airlines; Delta Airlines)
- Yiyu Chen, "*Performance and Control of Parallel Multi-server Queues with Applications to Web Hosting Services*", December 2006. (IBM)
- Sai Rajesh Mahabhashyam, "*Queueing Models for Resource Sharing in Computer Systems*", August 2006. (Oracle; Serus Corp.)

- Seokcheon Lee, "*An Adaptive Control Approach for Survivability of Distributed Information Systems with Finite Load*", December 2005. (Co-Advisor) (Purdue University)
- H. Cenk Ozmutlu, "*Anomaly Detection in Heterogeneous Communication Networks*", August 2001. (Co-Advisor) (Uludag University, Turkey)
- Jeff P. Kharoufeh, "*Stochastic Analysis of Link Travel Times: Distributions, Moments, and Approximations*", May 2001. (AFIT; Northeastern University; University of Pittsburgh)

Current:

- Brianna Gillfillian, "*Data-driven Approaches for Logistics*", expected May 2029.
- Polina Kozyreva, "*Analytical Models in Wireless Networks*", expected May 2028.

M.S. Students with thesis (Advisor/Co-Advisor)

Graduated:

- Hoda Parvin, "*Policies for Prevention and Cure of Cervical Cancer caused by Human Papilloma Viruses*", May 2007.
- Yongma Moon, "*Option Prices Under the Stochastic Volatility Model Using the Volatility Index*", August 2005.
- Vidya Narayanan, "*QoS and Survivability of a Distributed Network*", May 2005. (Co-Advisor)
- Deepak Jayabalan, "*Travel Time Predictions*", May 2005.
- Hemant Mallya, "*Factory Location in Supply Chains with Stochastic Demand*", December 2003.
- Christina Galli, "*Static Switchover Policies for a Two-Product Reliable Production Line*", August 2003.
- Lauren Hertel, "*A Mathematical Programming Model for Scheduling Pharmaceutical Sales Representatives*", May 2003.
- Ramesh Yechangunja, "*Evaluating Congestion-control Algorithms*", December 2002.
- Amit K. Kapur, "*Optimal Design of P2P Networks Supporting QoS Issues for Efficient File Sharing*", December 2002.
- Vineet Aggarwal, "*Threshold-based Policies for Distributed Multi-agent Systems*", August 2002.
- Naveen Cherukuri, "*Performance Analysis of a VIA Network Interface Card*", May 2002.
- Girish Srinivasan, "*Optimal Allocation Algorithms for Web Servers to Guarantee QoS*", August 2001.
- Prathiusha Chinnusamy, "*A Quantitative Approach to the Performance of Internet Telephony to E-business Sites*", May 2001.
- Jenna L. Estep, "*Designing Optimal Information Retrieval Techniques Given a User Profile*", December 2000.
- Mohamed Yacoubi, "*Optimization in High-Speed Communication Networks Using Quality of Service and Pricing*", December 1998.

B.S. Honors Students (Advisor)

Graduated:

- George Caruso, "*Optimal Resource Allocation in Digital Networks With Cyclical, Time-varying Traffic Patterns*", December 2001.
- Holly S. Hawkins, "*Sample Selection and Its Effect on Survey Results*", December 2001.
- Adebola A. Adewumi, "*Optimal Inventory Policies*", December 2000.
- Matthew Houle, "*Optimizations in Health-Care Management*", May 2005.
- Breanna Bassett, "*Decision-Making Under Uncertainty*", May 2020.
- Dexter Chin, "*Implementing Processor Throttling in Cloudsim Plus*", May 2025.
- Kritika Verma, "*Optimizing Delivery Time and Efficiency Using a Dynamic Algorithm*", May 2025.

Student Organization Advising

- Faculty Advisor, TAMU Global Engineering Brigades Chapter, 2018-2019.
- Faculty Advisor, TAMU IIE Student Chapter, 2009-2012.
- Faculty Advisor, PSU INFORMS Student Chapter, 1998 - 2004.
- Faculty Co-advisor for events, PSU Industrial Engineering Graduate Association, 2002-2005.
- Faculty Advisor, PSU IIE Student Chapter, 2003-2005.
- Faculty Advisor, PSU Engineering Graduate Students Council, 2003-2005.
- Faculty Expert, IIE student advising program, 2004-2007.

Honors (see Teaching/Mentoring and Research Awards Described Earlier)

- INFORMS Senior Member, March 2024.
- Finalist (runner up), IISE OR Track Best Paper Award, May 2024.
- Finalist, INFORMS Telecommunications and Network Analytics 2022 Best Paper Award.
- Finalist, INFORMS Telecom Section Best Paper Finalist, 2014.
- Who's Who in America, *Marquis Who's Who*, August 2002, August 2011.
- Nominated for 2005 PSES Outstanding Research Award, February 2005.
- Nominated for 2004 PSES Outstanding Advising Award, February 2004.
- Nominated for 2003 PSES Outstanding Advising Award, February 2003.
- Nominated for 2001 PSES Outstanding Teaching Award, February 2001.
- Best Paper Award Certificate at the European Applied Business Research Conference, Venice, Italy, June 2003.
- Faculty Marshall for College of Engineering, Penn State Commencement, December 2000.
- INFORMS Doctoral Colloquium, November 1996.
- IBM Cooperative Dissertation Fellowship Award, August 1996.
- NSF Student Travel Grant, 35th IEEE Conf. on Decision and Control, Japan, December 1996.
- Institute Blues Award for All-round Excellence, Indian Institute of Technology, July 1993.
- Certificate of Merit, for All-India top 1% in Mathematics, July 1989.
- All India National Science Talent Scholar, October 1987.

Professional Society Activities

Membership

- Senior Member of Institute for Operations Research and Management Science (INFORMS); also member of INFORMS Applied Probability Society and INFORMS Telecommunications Section
- Fellow of Institute of Industrial and Systems Engineers (IISE)
- Senior Member of Institute of Electrical and Electronics Engineers (IEEE)

Officer Positions

- Member of Volunteer Service Award Committee, INFORMS, 2024-2028.
- Chair of Volunteer Service Award Committee, INFORMS, 2026.
- Chief Editor of IISE's Industrial Engineering Body of Knowledge, 2016-2020.
- Member of IISE Technical Operations Board, 2016-2020.
- Past-President, IIE's CIS division Board, 2010-2011.
- President, IIE's CIS division Board, 2009-2010.
- President-Elect, IIE's CIS division Board, 2008-2009.
- Director, IIE's CIS division Board, 2006-2008.
- Treasurer, Omega Rho, 2010-2012.
- Central North America Regional Director of Omega Rho (Operations Research International Honors Society), 2006-2010, 2012-2016.
- Northeastern North America Regional Director of Omega Rho (Operations Research International Honors Society), 2003-2006.
- Member-of-council for INFORMS Telecommunication Section, 2006-2010.

- Dissertation Award Committee for INFORMS Telecommunication Conference, College Park, MD, 2007-2008.
- Newsletter Editor, Website Editor and officer, INFORMS Applied Probability Society, 2000 – 2003.

Conference Program Committee

- The 56th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN-26), Charlotte, USA, June 2026.
- The 6th international workshop on Big Data and Cloud Performance, Nara, Japan, June 2016.
- Eighth International Workshop on Practical Applications of Stochastic Modelling, Munster, Germany, April 2016.
- Seventh International Workshop on Practical Applications of Stochastic Modelling, Newcastle University, Newcastle, United Kingdom, May 2014.
- INFORMS Applied Probability Conference Program Committee, San Jose, Costa Rica, July 2013.
- INFORMS Annual Conference Organizing Committee, Invited Cluster Co-chair, Austin TX, November 2010.
- IERC Conference Organizing Committee, IIE Annual Conference, Cancun, Mexico, June 2010.
- Technical Program Committee for SENET 2008 (International Conference on Sensor Networks), Sliema, Malta, October 2008.
- Technical Program Committee for SENET 2007 (International Conference on Sensor Networks), Cap Esterel, French Riviera, France, August 2007.
- Technical Program Committee for SENET 2006 (International Conference on Sensor Networks), Tahiti, French Polynesia, November 2006.
- IERC Conference Organizing Committee, IIE Annual Conference, Orlando FL, May 2006 (Responsible for organizing 7 invited and 6 contributed sessions with 3-4 papers in each session)
- Technical Program Committee for SENET 2005 (International Conference on Sensor Networks), Montreal, Canada, August 2005.
- Applied Probability Cluster Chair: INFORMS conference, Philadelphia PA, November 1999 (Responsible for organizing 9 sponsored sessions with 3-4 papers in each session).

Conference Session Organization

- Panel Organizer: INFORMS Telecommunications and Network Analytics Cluster, Amazon Last Mile Research Science, Seattle, October 2024.
- Session Chair, INFORMS Applied Probability Conference, San Jose, Costa Rica, July 2013 (session title: Queueing Models for Computer Systems).
- Session Co-Chair for the Cloud Computing Cluster, INFORMS Annual Conference, Phoenix, October 2012 (session title: Resource Management).
- Session Chair, INFORMS International, Beijing, China, June 2012 (session title: Queueing Systems: Performance Analysis and Control).
- Session Chair, INFORMS Applied Probability Conference, Stockholm, Sweden, July 2011 (session title: Markov processes and applications).
- Sponsored Session Chair for the Applied Probability Cluster, INFORMS Annual Conference, Austin, TX, November 2010 (session title: Control and Constrained Optimization In Stochastic Systems).
- Invited Session Co-Chair for the Complex Systems Cluster, INFORMS Annual Conference, Austin, TX, November 2010 (session title: Emergent Dynamics and Behavior in Biology and Life Sciences).
- Sponsored Session Co-Chair for the Telecommunications Cluster, INFORMS Annual Conference, Austin, TX, November 2010 (session title: Design and Operation of Sensor Networks).

- Sponsored Session Chair for the IIE Industrial Engineering Research conference, Cancun Mexico, June 2010 (session title: Information and Sensor Networks).
- Sponsored Session Chair for the Applied Probability Cluster, INFORMS Annual Conference, San Diego, CA, October 2009 (session title: Analysis of Multi-server and Non-stationary Queues).
- Sponsored Session Chair for the IIE Industrial Engineering Research conference, Vancouver BC, May 2008 (session title: Information Networks).
- Sponsored Session Chair for INFORMS telecommunications conference, College Park, MD, April 2008 (session title: Networking).
- Sponsored Session Chair for INFORMS southwest conference, College Station, TX, April 2008 (session title: Networks).
- Sponsored Session Chair for the Telecommunications Cluster: INFORMS conference, Seattle WA, November 2007 (session title: Performance Analysis and Resource Management in Computer-communication Systems).
- Session Chair: IIE Industrial Engineering Research Conference, Atlanta, TX, May 2005 (session title: Applications of RFID Technology, Computer and Information Systems Track).
- Session Chair: IASTED International Conference on Parallel and Distributed Computing and Networks, Innsbruck, Austria, February 2005 (session title: Computer Networks).
- Session Organizer/Chair: IIE Industrial Engineering Research Conference, Houston, TX, May 2004 (session title: Performance Analysis and Resource Optimization, Operations Research Track).
- Session Organizer/Chair: IIE Industrial Engineering Research Conference, Houston, TX, May 2004 (session title: Web Applications, Computers and Information Systems Track).
- Session Chair: European Applied Business Research Conference, Venice, Italy, June 2003 (session title: Management).
- Session Organizer/Chair: IIE Industrial Engineering Research Conference, Portland, OR, May 2003 (session title: Survivable Enterprise Systems I).
- Session Organizer/Chair: IIE Industrial Engineering Research Conference, Orlando FL, May 2002 (session title: Modeling and Performance of Stochastic Systems, Operations Research Track).
- Sponsored Session Chair for the 6th INFORMS Telecommunications conference, Boca Raton FL, March 2002 (session title: Performance Modeling and QoS Issues).
- Sponsored Session Chair for the Applied Probability Cluster: INFORMS conference, Salt Lake City UT, May 2000 (session title: Probabilistic Models in Telecommunications).
- Sponsored Session Chair for the Applied Probability Cluster: INFORMS conference, Seattle WA, October 1998 (session title: Applied Probability Models in Communication Networks).
- Session Chair for the Telecommunications Cluster: CORS/INFORMS conference, Montreal, Canada, April 1998 (session title: Telecommunications II).

Other activities

- External reviewer of UTRGV's MSE in Manufacturing Engineering program, February 2026.
- Invited Panelist - IISE Conference, "Industrial and Academia Partnership" panel, May 2025.
- Invited Panelist - IISE Conference, Townhall for Operations Research "Industrial and Academia Partnership" panel, May 2022.
- Invited Participant – Institute for Mathematics and Its Applications' Workshop Forging a New Discipline: Data-driven Supply Chain Management, Univ. of Minnesota, October 2018.
- Reviewer for INFORMS JFIG paper competition in 2005, 2008, 2016.
- Associate Editor, Journal of Industrial and Systems Engineering, 2007 – present.
- Invited Participant – NSF Workshop on the Frontiers of Stochastic Systems, Networks and Control, Texas A&M, October 2012.
- Presented at the Texas A&M ILSB mini-symposium.

- Invited participant – SPEC (Standard Performance Evaluation Corp.) Research Group, April 2010 onwards.
- Invited Participant – Workshop on the Frontiers of Controls, Games and Network Science, Univ. of Texas at Austin, February 2010.
- Invited Participant – Winedale Workshop on Networks and Learning, Texas A&M, Univ. of Texas at Austin and Rice University, October 2009.
- Invited Participant – Workshop on Educating Industrial and Systems Engineering Students to Meet the NAE Grand Challenges, NC State Univ., December 2009.
- External reviewer of grant proposals for the Center for Multimodal Solutions for Congestion Mitigation (USDOT), Gainesville, Florida, December 2007.
- Faculty mentor at IIE annual conference in 2005.
- Tenured faculty mentor for MentorNet, The E-Mentoring Network for Diversity in Engineering and Science, 2005-2009.

Community Service Activities

- Co-facilitated *Happiness, Habits, and Success* for IIT-Madras, Fall 2024, Spring 2025, Fall 2025, Spring 2026, Fall 2026.
- Presentation and discussion to Student Consultants on Teaching at Center for Teaching and Learning Excellence, Syracuse University, September 2024, 2025.
- "Teaching at SU" Panelist for Center for Teaching and Learning Excellence at New Faculty Orientation, August 2024.
- Partner of KRUU focused on project-based learning; facilitated workshop "The Energy Detectives: Saving Energy Through Data Science", April 2024.

Service at Syracuse University

Department

- Faculty Chair (September 2024-August 2026)
- Member, Promotion Committee for Teaching Faculty (January 2026 – December 2026)
- Member, Promotion, Reappointment, & Tenure Committee (January 2025 – December 2025)
- Member, Promotion Committee for Teaching Faculty (January 2025 – December 2025)
- Member, Promotion, Reappointment, & Tenure Committee (January 2024 – December 2024)
- Member, AdHoc PhD Program Committee (September 2023-August 2024)
- Member, Search Committee (September 2023-August 2024)
- Member, Promotion, Reappointment, & Tenure Committee (January 2023 – December 2023)
- Member, Promotion, Reappointment, & Tenure Committee (January 2022 – December 2022)

College

- Dean's Faculty Fellow for Graduate Student Engagement (September 2024 – August 2026)
- College Faculty Council (August 2026 – present)
- Director of MS program in Operations Research and System Analytics (September 2024 – present)

University

- Provost's Faculty Salary Advisory Committee, (January 2024 – December 2026).

Service at Texas A&M University

Department

- Associate Department Head for Graduate Affairs (June 2021 – January 2022)
- Member, Graduate Committee (September 2021 – January 2022)
- Member, Promotion & Tenure Committee (January 2021 – December 2021)
- Member, IT and Education Technology Committee (September 2020 – December 2021)

- Member, Data Engineering Task Force (September 2020 – August 2021)
- Member, Graduate Committee (September 2020 – August 2021)
- Member, Promotion & Tenure Committee (September 2018 – December 2018)
- Chair, Standard Operating Procedures Task Force (September 2018 – August 2020)
- Member, Undergraduate Committee (September 2018 – August 2019)
- Associate Department Head for Undergraduate Affairs (September 2014 – August 2018)
- Member, Promotion & Tenure Committee (September 2017 – August 2018)
- Member, Executive Committee (September 2017 – August 2018)
- Chair, Undergraduate Committee (September 2017 – August 2018)
- Member, Search Committee (September 2016 – August 2017)
- Member, Department Head Search Committee (September 2016 – August 2017)
- Member, Promotion & Tenure Committee (September 2016 – August 2017)
- Member, Executive Committee (September 2016 – August 2017)
- Chair, Undergraduate Committee (September 2016 – August 2017)
- Member, Promotion & Tenure Committee (September 2015 – August 2016)
- Member, Executive Committee (September 2015 – August 2016)
- Member, Undergraduate Committee (September 2015 – August 2016)
- Member, Promotion & Tenure Committee (September 2014 – August 2015)
- Member, Growth Committee (September 2014 – August 2015)
- Member, Undergraduate Committee (September 2014 – August 2015)
- Member, Awards Committee (September 2012 – August 2013)
- Member, Faculty Search Sub-Committee (September 2012 – August 2013)
- Member, Awards Committee (January 2012 – August 2012)
- Co-Chair, Faculty-Student Interactions Committee (September 2011 – August 2012)
- Member, Undergraduate Committee (September 2011 – August 2012)
- Chair, Undergraduate Committee (September 2010 – August 2011)
- Member, Ad-hoc committee for Faculty-Student Interactions (September 2010 – August 2011)
- Chair, Ad-hoc committee for Faculty-Student Interactions (September 2009 – August 2010)
- Member, Undergraduate Committee (September 2009 – August 2010)
- Participated in Aggieland Saturday 2009.
- Member, Ph.D. Applications Review Sub-Committee (September 2008 – August 2011)
- Chair, Undergraduate Committee (September 2008 – August 2009)
- Member, Ad-hoc committee for PhD student placement (September 2008 – August 2009)
- Chair, Faculty Search Committee (September 2007 – August 2008)
- Member, Ad-hoc committee for Undergraduate Experience (September 2007 – August 2008)
- Member, Ad-hoc committee for PhD student placement (May 2007 – August 2008)
- Member, Faculty Search Committee (September 2006 – August 2007)
- Member, Ad-hoc committee for Undergraduate Experience (September 2006 – August 2007)
- Member, Graduate Committee (September 2006 – August 2007)
- Chair, Ad-hoc committee for PhD student placement (May 2006 – August 2007)
- Member, Graduate Committee (September 2005 – August 2006)
- Department of Industrial Engineering Representative at Graduation (December 2005)

<u>College</u>

- Member UCAA (September 2018 – August 2019)
- Engineering Honors – Department Coordinator (September 2016 – August 2017)
- Member UGA (September 2014 – August 2018)
- Member Engineering Honors Coordinating Committee (July 2015-August 2016)
- Member, EFAC (November 2010 – August 2013)
- Honors and Awards Committee for Teaching and Service (September 2010 – August 2012)

- Departmental Faculty Coordinator GRFP (September 2010 – August 2012)
- Student advising as part of USRG (May-August 2006)

University

- Graduate Teaching Academy Mentor, 2011 – 2021
- Plenary Speaker: CTE TA Training Meetings, August 2012
- Panelist: Preparing Competitive Proposals in STEM, August 2012

Service at Penn State University

Department

- Scholarship Committee (January 1998 – August 1998)
- Undergraduate Committee (August 1998 – August 1999)
- Scholarship Committee (August 1999 – August 2000)
- Undergraduate Committee (August 2000 – August 2002)
- Graduate Committee (August 2002 – August 2003)
- Curriculum Revision Committee (August 2003 – August 2005)
- Promotion and Tenure Committee (August 2003 – August 2005)

College

- PSES Outstanding Teaching Awards Selection Committee (March 2004)
- Judge for Mindbend 2004, College Level Student Research Symposium (April 7-8, 2004)
- Engineering Outreach Council (September 2003 – August 2005)
- Judge for Meeting of the Minds 2003, University Level Case Study Challenge (April 8, 2003)
- Served on panels in the New Engineering Faculty Workshop (August 19, 1998, August 15, 2001 and August 21, 2002)
- IE Dept. Head Search Committee (May 2000 – May 2001)
- Department of Industrial Engineering Representative in Shreyer Honors College program (August 2001)
- Served on panel for "SUCCESS 101: A roadmap for the successful student" in Minority engineering program (November 18, 1998)