

# CURRICULUM VITAE

## Jeffrey P. Kharoufeh

Professor

Department of Industrial Engineering

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### Education

Ph.D. Industrial Engineering and Operations Research, Penn State University, 2001

Emphasis: Stochastic operations research

M.S. Industrial and Systems Engineering, Ohio University, 1997

Emphasis: Stochastic operations research

B.S. Industrial and Systems Engineering, *Summa Cum Laude*, Ohio University, 1995

Minor: Mathematics

### Professional Experience

2021 – **Professor and Co-Director of the Clemson OR Institute (CORI)**  
Department of Industrial Engineering, Clemson University

2019 – 2021 **Professor and Department Chair**  
Department of Industrial Engineering, Clemson University

2016 – 2019 **Professor and Co-Director of the SMAC Laboratory**  
Department of Industrial Engineering, University of Pittsburgh

2008 – 2016 **Associate Professor and Co-Director of the SMAC Laboratory**  
Department of Industrial Engineering, University of Pittsburgh

2007 – 2008 **Associate Professor of Industrial Engineering**  
Department of Mechanical & Industrial Engineering, Northeastern University

2005 – 2007 **Associate Professor of Operations Research** (with tenure 2006)  
Department of Operational Sciences, Air Force Institute of Technology

2001 – 2005 **Assistant Professor of Operations Research**  
Department of Operational Sciences, Air Force Institute of Technology

1991 – 1994 **Engineering Co-op**  
Diamond Power Specialty Company, Lancaster, Ohio  
(Now Diamond Power International, Inc.)

## Editorial Appointments

### Current Appointments

Associate Editor	<i>Operations Research Letters</i>	2021 – present
Senior Editor	<i>Maynard's Industrial &amp; Systems Engineering Handbook</i>	2019 – present
Editorial Board	<i>Probability in the Engineering &amp; Informational Sciences</i>	2017 – present
Associate Editor	<i>Operations Research</i>	2012 – present

### Past Appointments

Area Editor	<i>Operations Research Letters</i>	2011 – 2020
Area Editor	<i>Wiley Encyclopedia of Operations Research &amp; Mgt Science</i>	2007 – 2013
Department Editor	<i>IIE Transactions</i>	2009 – 2012
Associate Editor	<i>Naval Research Logistics</i>	2009 – 2012
Associate Editor	<i>Operations Research Letters</i>	2006 – 2011
Associate Editor	<i>IEEE Transactions on Reliability</i>	2003 – 2008

## Professional Affiliations

Fellow	Institute of Industrial and Systems Engineers (IISE)
Member	Institute for Operations Research and the Management Sciences (INFORMS)
Member	INFORMS Applied Probability Society (APS)
Member	Military Operations Research Society (MORS)
Member	Tau Beta Pi, National Engineering Honor Society
Member	Omega Rho, International Operations Research Honor Society

## Publications

### Refereed Journal Papers

1. Bhattacharya, A., Kharoufeh, J.P. and B. Zeng. A nonconvex regularization scheme for the stochastic dual dynamic programming algorithm. Submitted to *INFORMS Journal on Computing*.
2. Cordeiro, J.D., Kharoufeh, J.P. and M.O. Oxley (2019). On the ergodicity of a class of level-dependent quasi-birth-and-death processes. *Advances in Applied Probability*, 51 (4), 1109–1128.
3. Abdul-Malak, D.T., Kharoufeh, J.P. and L.M. Maillart (2019). Maintaining systems with heterogeneous spare parts. *Naval Research Logistics*, 66 (6), 485–501.
4. Dehghanian, A. and J.P. Kharoufeh (2019). Optimal stopping with a capacity constraint: Generalizing Shepp's urn scheme. *Operations Research Letters*, 47 (4), 311–316.
5. Bhattacharya, A., Kharoufeh, J.P. and B. Zeng (2018). Structured storage policies for energy distribution networks. *IIE Transactions*, 50 (8), 683–698.
6. Abdul-Malak, D.T. and J.P. Kharoufeh (2018). Optimally replacing multiple systems in a shared environment. *Probability in the Engineering and Informational Sciences*, 32 (1), 179–206.
7. Bhattacharya, A., Kharoufeh, J.P. and B. Zeng (2018). Managing energy storage in microgrids: A multistage stochastic programming approach. *IEEE Transactions on Smart Grid*, 9 (1), 483–496.

8. van Oosterom, C., Maillart, L.M. and J.P. Kharoufeh (2017). Optimal maintenance policies for a safety-critical system and its deteriorating sensor. *Naval Research Logistics*, 64 (5), 399–417.
9. Bhattacharya, A. and J.P. Kharoufeh (2017). Linear programming formulation for nonstationary, finite-horizon MDP models. *Operations Research Letters*, 45 (6), 570–574.
10. Dehghanian, A., Kharoufeh, J.P. and M. Modarres (2016). Strategic dynamic jockeying between two parallel queues. *Probability in the Engineering and Informational Sciences*, 30 (1), 41–60.
11. Flory, J.A., Kharoufeh, J.P. and D.T. Abdul-Malak (2015). Optimal replacement of continuously degrading systems in partially observed environments. *Naval Research Logistics*, 62 (5), 395–415.
12. Degirmenci, G., Kharoufeh, J.P. and O.A. Prokopyev (2015). On optimal clustering in mobile wireless sensor networks under uncertainty. *Military Operations Research*, 20 (2), 19–33.
13. Sullivan, K.M., Abdul-Malak, D.T., Kharoufeh, J.P. and R.O. Baldwin (2015). Optimally locating application virtualization resources on a network. *Military Operations Research*, 20 (1), 5–20.
14. Bian, L., Gebraeel, N. and J.P. Kharoufeh (2015). Degradation modeling for real-time estimation of residual lifetimes in dynamic environments. *IIE Transactions*, 47 (5), 471–486. (***IIE Transactions Best Paper Award, Quality and Reliability Engineering, 2016.***)
15. Özkan, E. and J.P. Kharoufeh (2015). Incompleteness of results for the slow-server problem with an unreliable fast server. *Annals of Operations Research*, 226 (1), 741–745.
16. Özkan, E. and J.P. Kharoufeh (2014). Optimal control of a two-server queueing system with failures. *Probability in the Engineering and Informational Sciences*, 28 (4), 489–527.
17. Degirmenci, G., Kharoufeh, J.P. and O.A. Prokopyev (2014). Maximizing the lifetime of query-based wireless sensor networks. *ACM Transactions on Sensor Networks*, 10 (4), Article 56. (DOI: 10.1145/2523814).
18. Flory, J.A., Kharoufeh, J.P. and N. Gebraeel (2014). A switching diffusion model for lifetime estimation in randomly-varying environments. *IIE Transactions*, 46 (11), 1227–1241.
19. Kharoufeh, J.P., Cox, S.M. and M.E. Oxley (2013). Reliability of manufacturing equipment in complex environments. *Annals of Operations Research*, 209 (1), 231–254.
20. Degirmenci, G., Kharoufeh, J.P. and R.O. Baldwin (2013). On the performance evaluation of query-based wireless sensor networks. *Performance Evaluation*, 70 (2), 124–147.
21. Ulukus, M.Y., Kharoufeh, J.P. and L.M. Maillart (2012). Optimal replacement policies under environment-driven degradation. *Probability in the Engineering and Informational Sciences*, 26 (3), 405–424.
22. Cordeiro, J.D. and J.P. Kharoufeh (2012). The unreliable  $M/M/1$  retrial queue in a random environment. *Stochastic Models*, 28 (1), 29–48.
23. Perry, M.B., Kharoufeh, J.P., Shekhar, S., Cai, J. and M.R. Shankar (2012). Statistical characterization of nanostructured materials from severe plastic deformation in machining. *IIE Transactions*, 44 (7), 534–550.

24. Sherman, N.P. and J.P. Kharoufeh (2011). Optimal Bernoulli routing in an unreliable  $M/G/1$  retrial queue. *Probability in the Engineering and Informational Sciences*, 25 (1), 1–20.
25. Kharoufeh, J.P., Solo, C.J. and M.Y. Ulukus (2010). Semi-Markov models for degradation-based reliability. *IIE Transactions*, 42 (8), 599–612.
26. Kurt, M. and J.P. Kharoufeh (2010). Monotone optimal replacement policies for a Markovian deteriorating system in a controllable environment. *Operations Research Letters*, 38 (4), 273–279.
27. Kurt, M. and J.P. Kharoufeh (2010). Optimally maintaining a Markovian deteriorating system with limited imperfect repairs. *European Journal of Operational Research*, 205 (2), 368–380.
28. Flory, J.A. and J.P. Kharoufeh (2010). Optimal satellite payload selection and specification. *Military Operations Research*, 15 (3), 43–57.
29. Kharoufeh, J.P. and D. Mixon (2009). On a Markov-modulated shock and wear process. *Naval Research Logistics*, 56 (6), 563–576.
30. Sherman, N.P., Kharoufeh, J.P. and M.A. Abramson (2009). An  $M/G/1$  retrial queue with unreliable server for streaming multimedia applications. *Probability in the Engineering and Informational Sciences*, 23 (2), 281–304.
31. Mann, C.R., Baldwin, R.O., Kharoufeh, J.P. and B.E. Mullins (2008). A queueing approach to optimal resource replication in wireless sensor networks. *Performance Evaluation*, 65 (10), 689–700.
32. Mann, C.R., Baldwin, R.O., Kharoufeh, J.P. and B.E. Mullins (2008). Energy-efficient search for finite-lifetime resources in sensor networks with time-constrained queries. *ACM SIGMOBILE: Mobile Computing and Communications Review*, 12 (2), 31–39.
33. Mann, C.R., Baldwin, R.O., Kharoufeh, J.P. and B.E. Mullins (2007). A trajectory-based selective broadcast query protocol for large-scale, high-density wireless sensor networks. *Telecommunication Systems*, 35 (1-2), 67–86.
34. Offutt, E., Kharoufeh, J.P. and R.F. Deckro (2006). Distorted risk measures with application to military capability shortfalls. *Military Operations Research*, 11 (4), 25–39.
35. Sherman, N.P. and J.P. Kharoufeh (2006). An  $M/M/1$  retrial queue with unreliable server. *Operations Research Letters*, 34 (6), 697–705.
36. Kharoufeh, J.P., Finkelstein, D. and D. Mixon (2006). Availability of periodically inspected systems with Markovian wear and shocks. *Journal of Applied Probability*, 43 (2), 303–317.
37. Peterson, B.S., Baldwin, R.O. and J.P. Kharoufeh (2006). Bluetooth inquiry time characterization and selection. *IEEE Transactions on Mobile Computing*, 5 (9), 1173–1187.
38. Flannery, A., Kharoufeh, J.P., Gautam, N. and L. Elefteriadou (2005). Queueing delay models for single-lane roundabouts. *Civil Engineering and Environmental Systems*, 22 (3), 133–150.
39. Kharoufeh, J.P. and S.M. Cox (2005). Stochastic models for degradation-based reliability. *IIE Transactions*, 37 (6), 533–542.

40. Kharoufeh, J.P. and J.A. Sipe (2005). Evaluating failure time probabilities for a Markovian wear process. *Computers and Operations Research*, 32 (5), 1131–1145.
41. Kharoufeh, J.P. and N. Gautam (2004). A fluid queueing model for link travel time moments. *Naval Research Logistics*, 51 (2), 242–257.
42. Kharoufeh, J.P. and N. Gautam (2004). Deriving link travel-time distributions via stochastic speed processes. *Transportation Science*, 38 (1), 97–106.
43. Sherman, N.P. and J.P. Kharoufeh (2004). Analytical modeling of joint reception, staging, onward movement, and integration. *Mathematical and Computer Modelling*, 39 (6-8), 799–815.
44. Kladitis, P., Bright, V. and J.P. Kharoufeh (2004). Uncertainty in manufacture and assembly of multiple-joint solder self-assembled microelectromechanical systems (MEMS). *Journal of Manufacturing Processes*, 6 (1), 32–50.
45. Kharoufeh, J.P. (2003). Explicit results for wear processes in a Markovian environment. *Operations Research Letters*, 31 (3), 237–244.
46. Peterson, B., Baldwin, R.O., Kharoufeh, J.P. and R. Raines (2003). Refinements to the packet error rate upper bound for Bluetooth networks. *IEEE Communications Letters*, 7 (8), 382–384.
47. Flietstra, T., Bauer, K. and J.P. Kharoufeh (2003). Integrated feature and architecture selection for radial basis neural networks. *International Journal of Smart Engineering System Design*, 5, 507–516.
48. Kharoufeh, J.P. and K. Goulias (2002). Nonparametric identification of daily activity durations using kernel density estimators. *Transportation Research Part B: Methodological*, 36 (1), 59–82.
49. Kharoufeh, J.P. and M.J. Chandra (2002). Statistical tolerance analysis for non-normal or correlated normal component characteristics. *International Journal of Production Research*, 40 (2), 337–352.

#### ***Refereed Journal Papers*** (In Progress)

1. Bhattacharya, A. and J.P. Kharoufeh. Dynamic optimal control of stored energy in micro-grids: A consumer's perspective.
2. Abdul-Malak, D.T., Kharoufeh, J.P. and A.J. Schaefer. Staffing and pricing call centers under uncertainty with co-sourced agents.
3. Cordeiro, J.D. and J.P. Kharoufeh. Dynamic optimal control of the  $M/M/1$  retrial queue in a random environment.
4. Kharoufeh, J.P., Baker, W., Oxley, M. On the transient distribution of Markov reward processes.
5. Flory, J.A., Kharoufeh, J.P. and D.T. Abdul-Malak. Optimal replacement in partially observed environments with noisy degradation signals.

**Books or Edited Books**

1. Cochran, J.J., Cox, L.A., Keskinocak, P., Kharoufeh, J.P. and Smith, J.C. (Eds.) *Wiley Encyclopedia of Operations Research and Management Science*. John Wiley & Sons, New York, NY. Published January 1, 2011.

**Refereed Book Chapters**

1. Flory, J.A. and J.P. Kharoufeh. Stochastic models for industrial and systems engineering. Forthcoming in *Maynard's Industrial & Systems Engineering Handbook*, B. Bidanda (Editor), pp. XXX–XXX, 2021, McGraw-Hill Publishers, New York, NY.
2. Bountourelis, T., Ulukus, M.Y., Kharoufeh, J.P. and S.G. Nabors. The modeling, analysis, and management of intensive care units. In *Handbook of Healthcare Operations Management: Methods and Applications*, B.T. Denton (Editor), pp. 153–182, 2013, Springer, New York, NY.
3. Kharoufeh, J.P. The  $M/G/s/s$  queue. In *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran, T. Cox, P. Keskinocak, J.P. Kharoufeh, J.C. Smith (Eds.), 2011. John Wiley & Sons, New York, NY.
4. Kharoufeh, J.P. Level-dependent quasi-birth-and-death processes. In *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran, T. Cox, P. Keskinocak, J.P. Kharoufeh, J.C. Smith (Eds.), 2011. John Wiley & Sons, New York, NY.
5. Cordeiro, J.D. and J.P. Kharoufeh. Batch Markovian arrival processes (BMAP). In *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran, T. Cox, P. Keskinocak, J.P. Kharoufeh, J.C. Smith (Eds.), 2011. John Wiley & Sons, New York, NY.

**Refereed Conference Proceedings**

1. Anhalt, A.N., Kharoufeh, J.P. and A. Bhattacharya (2017). Improving access to healthcare by minimizing appointment delays. In *Proceedings of the 2017 Industrial and Systems Engineering Research Conference*, Pittsburgh, PA, May 20–23, 2017, pp. 579–584.
2. Anhalt, A.N. and J.P. Kharoufeh (2015). Comparative study of lung cancer screening policies and cost impacts. In *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, Nashville, TN, May 30–June 2, 2015, pp. 1563–1571. (**Best Paper Award**, Operations Research Track.)
3. Bhattacharya, A. and J.P. Kharoufeh (2014). Optimal microgrid energy storage strategies in the presence of renewables. In *Proceedings of the 2014 Industrial and Systems Engineering Research Conference*, Montreal, Canada, May 31–June 4, 2014, pp. 1348–1355.
4. Flory, J.A. and J.P. Kharoufeh (2011). Estimating lifetime distributions in a random environment. In *Proceedings of the 2011 Industrial Engineering Research Conference*, Reno, NV, May 21–25, 2011, CD-ROM.
5. Flory, J.A., Kharoufeh, J.P. and L.M. Maillart (2010). Optimal procurement and deployment of irreparable, multi-component systems. In *Proceedings of the 2010 Industrial Engineering Research Conference*, Cancun, Mexico, June 5–9, 2010, CD-ROM.
6. Ulukus, M.Y., Kharoufeh, J.P. and L.M. Maillart (2010). Optimal replacement of a system with Markov-modulated degradation. In *Proceedings of the 2010 Industrial Engineering Research Conference*, Cancun, Mexico, June 5–9, 2010, CD-ROM.

7. Booher, T.B. and J.P. Kharoufeh (2008). Optimal periodic inspection of complex degrading systems. In *Proceedings of the 2008 Industrial Engineering Research Conference*, Vancouver, BC, Canada, May 17–21, 2008, pp. 87–92.
8. Cordeiro, J.D. and J.P. Kharoufeh (2007). Analysis of an unreliable retrial queue in a random environment. In *Proceedings of the 2007 Industrial Engineering Research Conference*, Nashville, TN, May 19–23, 2007, pp. 1328–1333. (**Best Paper Award**, Operations Research Track.)
9. Crawford, B. and J.P. Kharoufeh (2007). Approximate analysis of an unreliable multiserver retrial queue. In *Proceedings of the 2007 Industrial Engineering Research Conference*, Nashville, TN, May 19–23, 2007, pp. 1746–1751.
10. Kharoufeh, J.P. and N.P. Sherman (2006). Performance analysis and control of an unreliable  $M/G/1$  retrial queue. In *Proceedings of the 2006 Industrial Engineering Research Conference*, Orlando, FL, May 20–24, 2006, CD-ROM.
11. Peterson, B., Baldwin, R., and J.P. Kharoufeh (2004). A specification-compatible Bluetooth inquiry simplification. In *Proceedings of the 37th Hawaii International Conference on System Sciences (HICSS)*, Waikaloa, Hawaii, January 5–8, 2004, pp. 307–315. (Published by the IEEE Computer Society.)
12. Flietstra, T., Bauer, K. and J.P. Kharoufeh (2002). Feature and architecture selection for radial basis neural networks. In *Proceedings of the Artificial Neural Networks in Engineering Conference: Smart Engineering System Design*, Nov 10–13, pp. 123–128.
13. Flannery, A., Kharoufeh, J.P., Gautam, N. and L. Elefteriadou (2000). Estimating delay at roundabouts. In *Proceedings of the 70th Annual Meeting of the Institute of Transportation Engineers*, Nashville, Tennessee, August 6–9, 2000, CD-ROM.
14. Bush, Brian O., Kharoufeh, J.P., and Luis Rabelo (1996). Development of an evolutionary scheme for adaptive fuzzy design. In *Proceedings of the Adaptive Distributed Parallel Computing Symposium*, Dayton, OH, August 8–9, 1996, pp. 125–136.

#### **Other Conference Proceedings**

1. Kharoufeh, J.P., Maillart, L.M. and N. Gebraeel (2011). Adaptive maintenance planning based on evolving residual life distributions. In *Proceedings of the 2011 NSF Engineering Research and Innovation Conference*, Atlanta, GA, January 4–7, 2011.
2. Kharoufeh, J.P. (2008). Unreliable retrial queueing systems in time-varying environments. *Air Force Office of Scientific Research, Optimization and Discrete Mathematics Program Review*, Arlington, VA, April 21–23, 2008.
3. Kharoufeh, J.P. (2007). Analysis and optimal control of unreliable retrial queueing systems. *Air Force Office of Scientific Research, Optimization and Discrete Mathematics Program Review*, Arlington, VA, May 7–9, 2007.

#### **Presentations**

##### **Invited University Seminars**

1. Kharoufeh, J.P. (2021). Maintaining systems with heterogeneous spare parts. Department of Industrial and Manufacturing Engineering Seminar Series, **University of Missouri**, Fall 2021 (scheduled).

2. Kharoufeh, J.P. (2021). Optimally replacing systems in a shared environment. Department of Industrial Engineering Seminar Series, **University of Houston**, Fall 2021 (scheduled).
3. Kharoufeh, J.P. (2021). A primer on personal finance. IISE Student Chapter Seminar Series, **Clemson University**, March 24, 2021.
4. Kharoufeh, J.P. (2019). Staffing and pricing in co-sourced call centers. Department of Industrial and Systems Engineering, **University of Minnesota**, September 25, 2019.
5. Kharoufeh, J.P. (2019). Building success in publishing. Swanson School of Engineering Seminar, **University of Pittsburgh**, April 4, 2019.
6. Kharoufeh, J.P. (2018). Building success in publishing. Swanson School of Engineering Seminar, **University of Pittsburgh**, March 1, 2018.
7. Kharoufeh, J.P. (2017). Staffing and pricing call centers under uncertainty with co-sourced agents. Operations Research Colloquium, **Pennsylvania State University**, September 26, 2017.
8. Kharoufeh, J.P. (2015). Call center co-sourcing: A joint pricing and staffing framework. Department of Industrial Engineering, **Clemson University**, March 6, 2015.
9. Kharoufeh, J.P. (2014). Optimal replacement of wind energy systems. **Keynote Address**, EURANDOM's Young European Queueing Theorists Workshop, **Eindhoven University**, The Netherlands, November 3–5, 2014.
10. Kharoufeh, J.P. (2013). Optimal replacement policies for wind energy systems. Department of Industrial Engineering, **University of Arkansas**, June 27, 2013.
11. Kharoufeh, J.P. (2013). Analysis and lifetime maximization of query-based wireless sensor networks. Department of Industrial and Systems Engineering, **Auburn University**, April 24, 2013.
12. Kharoufeh, J.P. (2012). Performance analysis and optimization of query-based wireless sensor networks. Department of Mathematical Sciences, **United States Air Force Academy**, April 11, 2012.
13. Kharoufeh, J.P. (2011). Asymptotic approximations for a cumulative degradation process. Department of Mathematics and Statistics, **Air Force Institute of Technology**, April 7, 2011.
14. Kharoufeh, J.P. (2011). A mathematical framework for reliability assessment in randomly-varying environments. Department of Industrial and Systems Engineering, **Georgia Institute of Technology**, March 11, 2011.
15. Kharoufeh, J.P. (2010). Some results for unreliable queueing systems with retrials. Department of Industrial and Systems Engineering, **Rutgers University**, March 30, 2010.
16. Kharoufeh, J.P. (2009). Unreliable retrieval queues in a random environment. Operations Research Colloquium, **Pennsylvania State University**, March 24, 2009.
17. Kharoufeh, J.P. (2008). Unreliable retrieval queues with time-varying parameters. Department of Operations Management, Statistics and Management Science, **University of Alabama**, December 5, 2008.



18. Kharoufeh, J.P. (2008). Unreliable retrial queues with time-varying parameters. Department of Industrial Engineering, **University of Pittsburgh**, January 18, 2008.
19. Kharoufeh, J.P. (2007). A stochastic service system with disruptions and retrials. Department of Decision Sciences, **Drexel University**, January 26, 2007.
20. Kharoufeh, J.P. (2007). A mathematical framework for condition-based reliability. Department of Mechanical and Industrial Engineering, **Northeastern University**, January 12, 2007.
21. Kharoufeh, J.P. (2006). Maximizing the availability of a periodically inspected system with hidden failures. Cincinnati-Dayton Chapter of INFORMS Business Meeting, **Wright State University**, November 16, 2006. (*Outstanding Young Chapter Member Lecture.*)
22. Kharoufeh, J.P. (2006). Maximizing the availability of a periodically inspected system with hidden failures. Department of Mechanical and Industrial Engineering, **University of Iowa**, October 19, 2006.
23. Kharoufeh, J.P. (2006). Some limit theorems for a cumulative degradation process. Department of Mathematics and Statistics, **Wright State University**, May 5, 2006.
24. Kharoufeh, J.P. (2006). Optimal periodic inspection of a system subject to wear and shock degradation. Department of Systems and Information Engineering, **University of Virginia**, Charlottesville, VA, February 10, 2006.
25. Kharoufeh, J.P. (2005). Availability of periodically inspected systems subject to Markovian wear and shocks. Distinguished Lecture Series, Industrial Engineering Colloquium, **Pennsylvania State University**, April 7, 2005.
26. Kharoufeh, J.P. (2000). Stochastic analysis of link travel time distributions. Department of Operational Sciences, **Air Force Institute of Technology**, Dayton, OH, August 2000.
27. Kharoufeh, J.P. (2000). An analysis of vehicle travel times via a modified queueing network approach. Department of Engineering Management, **Old Dominion University**, April 2000.
28. Kharoufeh, J.P. (2000). An analysis of vehicle travel times via a modified queueing network approach. Department of Industrial and Systems Engineering, **Virginia Polytechnic Institute and State University**, March 2000.
29. Kharoufeh, J.P. (2000). Performance analysis of freeway systems using a modified queueing network approach. Systems and Industrial Engineering Department, **University of Arizona**, February 14, 2000.
30. Kharoufeh, J.P. and K.G. Goulias (1998). Longitudinal and cross-sectional kernel density-based nonparametric identification of daily activity and travel patterns. **University of Toronto**, August 1998.

#### *Invited Conference Presentations*

1. Soltani, M., Kharoufeh, J.P. and A. Khademi (2021). Maintenance optimization of an offshore wind turbine subject to weather conditions. INFORMS Annual Meeting, Anaheim, CA, October 24-27, 2021.

2. Soltani, M., Kharoufeh, J.P. and A. Khademi (2021). Optimal co-sourcing strategies in call centers. Industrial and Systems Engineering Research Conference, Online, May 22-25, 2021.
3. Dimas, G.L, Trapp, A.T. and J.P. Kharoufeh (2020). Modeling the United States defensive asylum process: A queueing approach. INFORMS Annual Meeting, Online, November 7-13, 2020.
4. Cordeiro, J.D. and J.P. Kharoufeh (2019). Drift conditions for the ergodicity of a class of level-dependent  $M/G/1$ -type processes. INFORMS Applied Probability Society Conference, Brisbane, Australia, July 3-5, 2019.
5. Abdul-Malak, D.T. and J.P. Kharoufeh (2018). Maintaining systems with heterogeneous spare parts. INFORMS Annual Meeting, Phoenix, AZ, November 4-8, 2018.
6. Abdul-Malak, D.T. and J.P. Kharoufeh (2018). Maintaining systems with heterogeneous spare parts. Industrial and Systems Engineering Research Conference, Orlando, FL, May 19-22, 2018.
7. Abdul-Malak, D.T. and J.P. Kharoufeh (2017). Optimally replacing multiple systems in a shared environment. INFORMS Annual Meeting, Houston, TX, October 22-25, 2017.
8. Anhalt, A.N., Bhattacharya, A. and J.P. Kharoufeh (2017). Strategies for improving specialty care appointment scheduling. INFORMS Annual Meeting, Houston, TX, October 22-25, 2017.
9. Bhattacharya, A., Kharoufeh, J.P. and B. Zeng (2017). Managing stored energy in microgrids via multistage stochastic programming. INFORMS Annual Meeting, Houston, TX, October 22-25, 2017.
10. Bhattacharya, A. and J.P. Kharoufeh (2017). Managing stored energy in microgrids via multistage stochastic programming. INFORMS Applied Probability Society Conference, Northwestern University, Evanston, IL, July 10-12, 2017.
11. Abdul-Malak, D.T. and J.P. Kharoufeh (2017). Staffing and contract pricing of co-sourced call centers. Industrial and Systems Engineering Research Conference, Pittsburgh, PA, May 20-23, 2017.
12. Anhalt, A.N., Kharoufeh, J.P. and A. Bhattacharya (2017). Improving access to healthcare by minimizing appointment delays. Industrial and Systems Engineering Research Conference, Pittsburgh, PA, May 20-23, 2017.
13. Bhattacharya, A. and J.P. Kharoufeh (2017). Structured storage policies for energy distribution networks. Industrial and Systems Engineering Research Conference, Pittsburgh, PA, May 20-23, 2017.
14. Abdul-Malak, D.T. and J.P. Kharoufeh (2016). Wind farm replacement in a Markov modulated environment. INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.
15. Anhalt, A.N. and J.P. Kharoufeh (2016). Improving access to healthcare by minimizing appointment delays. INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.
16. Bhattacharya, A., Kharoufeh, J.P. and B. Zeng (2016). Managing stored energy in microgrids via multistage stochastic programming. INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.

17. Anhalt, A.N., Bhattacharya, A. and J.P. Kharoufeh (2016). A robust optimization framework for optimal energy management in microgrids. Industrial and Systems Engineering Research Conference, Anaheim, CA, May 21-24, 2016.
18. Mirzaeian, N., Mousavi, M. and J.P. Kharoufeh (2016). Market prices for call centers with co-sourcing. POMS Annual Conference, Orlando, FL, May 6-9, 2016.
19. Bhattacharya, A. and J.P. Kharoufeh (2016). Energy storage management in microgrids: A consumer's perspective. POMS Annual Conference, Orlando, FL, May 6-9, 2016.
20. Abdul-Malak, D.T. and J.P. Kharoufeh (2015). Multi-component replacement in a Markov modulated environment. INFORMS Annual Meeting, Philadelphia, PA, November 1-4, 2015.
21. Bhattacharya, A. and J.P. Kharoufeh (2015). Energy storage management in microgrids: A supplier's perspective. INFORMS Annual Meeting, Philadelphia, PA, November 1-4, 2015.
22. Bhattacharya, A. and J.P. Kharoufeh (2015). Optimal energy storage management in grid-connected microgrids. Industrial and Systems Engineering Research Conference, Nashville, TN, May 30 - June 2, 2015.
23. Anhalt, A.N. and J.P. Kharoufeh (2015). Comparative study of lung cancer screening policies and cost impacts. Industrial and Systems Engineering Research Conference, Nashville, TN, May 30 - June 2, 2015.
24. Xia, Y., Kurt, M. and J.P. Kharoufeh (2015). Optimal management of a finite supply of spares under random reconditioning durations. Industrial and Systems Engineering Research Conference, Nashville, TN, May 30-June 2, 2015.
25. Kharoufeh, J.P. (2014). Optimal replacement in partially observed environments. INFORMS Annual Meeting, San Francisco, CA, November 9-12, 2014.
26. Abdul-Malak, D.T. and J.P. Kharoufeh (2014). Optimal allocation and pricing of servers under uncertainty with co-sourcing. INFORMS Annual Meeting, San Francisco, CA, November 9-12, 2014.
27. Bhattacharya, A. and J.P. Kharoufeh (2014). Optimizing energy storage in smart microgrids with renewables. INFORMS Annual Meeting, San Francisco, CA, November 9-12, 2014.
28. Kharoufeh, J.P. (2014). A switching diffusion model for lifetime estimation in randomly-varying environments. Industrial and Systems Engineering Research Conference, Montreal, Canada, May 31 - June 3, 2014.
29. Abdul-Malak, D.T. and J.P. Kharoufeh (2014). Optimal scheduling of servers under uncertainty with recourse. Industrial and Systems Engineering Research Conference, Montreal, Canada, May 31 - June 3, 2014.
30. Bhattacharya, A. and J.P. Kharoufeh (2014). Optimal microgrid energy storage strategies in the presence of renewables. Industrial and Systems Engineering Research Conference, Montreal, Canada, May 31 - June 3, 2014.
31. Kharoufeh, J.P. and J.A. Flory (2013). Optimally replacing a wind turbine component in a partially-observed environment. INFORMS Annual Meeting, Minneapolis, MN, October 6-9, 2013.

32. Abdul-Malak, D.T. and J.P. Kharoufeh (2013). Optimal routing in a channel with failure-prone links. INFORMS Annual Meeting, Minneapolis, MN, October 6-9, 2013.
33. Esmaili, N., Maillart, L.M. and J.P. Kharoufeh (2013). Optimal equipment replacement for a Markov additive process with Brownian noise and jumps. INFORMS Annual Meeting, Minneapolis, MN, October 6-9, 2013.
34. van Oosterom, C., Maillart, L.M., Kharoufeh, J.P. and H. Peng (2013). Optimal maintenance policies for a safety-critical system and its deteriorating sensor. INFORMS Annual Meeting, Minneapolis, MN, October 6-9, 2013.
35. Flory, J.A. and J.P. Kharoufeh (2013). Optimal replacement of a component in a partially-observable environment. INFORMS Applied Probability Society Conference, San Jose, Costa Rica, July 15-17, 2013.
36. Parlak, A.I. and J.P. Kharoufeh (2013). Optimally locating application virtualization resources on a network. Industrial and Systems Engineering Research Conference, San Juan, Puerto Rico, May 18-22, 2013.
37. Ozkan, E. and J.P. Kharoufeh (2012). Optimal control of a two-server queueing system with failures. INFORMS Annual Meeting, Phoenix, AZ, October 14-17, 2012.
38. Flory, J.A. and J.P. Kharoufeh (2012). Optimal replacement models for a wind turbine component. INFORMS Annual Meeting, Phoenix, AZ, October 14-17, 2012.
39. Parlak, A., Kharoufeh, J.P., Baldwin, R.O. and R. Reston (2012). Optimally locating military healthcare virtualization resources. INFORMS Annual Meeting, Phoenix, AZ, October 14-17, 2012.
40. Degirmenci, G., Kharoufeh, J.P. and O.A. Prokopyev (2012). Optimal operating strategies for lifetime maximization of query-based wireless sensor networks. Industrial and Systems Engineering Research Conference, Orlando, FL, May 19-23, 2012.
41. Kurt, M., Kharoufeh, J.P. and L.M. Maillart (2012). Optimally provisioning spares and repair capacity for a vital deteriorating component. Industrial and Systems Engineering Research Conference, Orlando, FL, May 19-23, 2012.
42. Degirmenci, G., Kharoufeh, J.P. and O.A. Prokopyev (2012). Maximizing the lifetime of query-based wireless sensor networks via dynamic parameter selection. INFORMS Telecommunications Conference, Boca Raton, FL, March 15-17, 2012.
43. Flory, J.A. and J.P. Kharoufeh (2011). Maximum likelihood estimation of component lifetime distributions in a random environment. INFORMS Annual Meeting, Charlotte, NC, November 13-16, 2011.
44. Degirmenci, G., Kharoufeh, J.P., and O.A. Prokopyev (2011). Dynamic resource replication and transmission range setting in query-based wireless sensor networks. INFORMS Annual Meeting, Charlotte, NC, November 13-16, 2011.
45. Perry, M.B. and J.P. Kharoufeh (2011). Designed experiments for characterizing nanostructured surfaces created by machining processes. INFORMS Annual Meeting, Charlotte, NC, November 13-16, 2011.

46. Ulukus, M.Y., Kharoufeh, J.P. and L.M. Maillart (2011). Structured replacement policies for a system subject to Markov-modulated degradation. Industrial Engineering Research Conference, Reno, NV, May 21-25, 2011.
47. Flory, J.A. and J.P. Kharoufeh (2011). Estimating lifetime distributions in a random environment. Industrial Engineering Research Conference, Reno, NV, May 21-25, 2011.
48. Bountourelis, T., Luangkesorn, L., Nabors, S. and J.P. Kharoufeh (2011). Statistical analysis and modeling of intensive care units. Industrial Engineering Research Conference, Reno, NV, May 21-25, 2011.
49. Kharoufeh, J.P., Maillart, L.M. and N. Gebraeel (2011). Adaptive maintenance planning based on evolving residual life distributions. 2011 NSF Engineering Research and Innovation Conference, Atlanta, GA, January 4-7, 2011. (Poster session)
50. Degirmenci, G. and J.P. Kharoufeh (2010). Optimizing resource replication in wireless sensor networks with non-uniform topologies. INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.
51. Flory, J.A. and J.P. Kharoufeh (2010). Estimating a stochastic operating environment via degradation observations. INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.
52. Ulukus, M.Y., Kharoufeh, J.P. and L.M. Maillart (2010). Optimal replacement of a system with Markov-modulated degradation. INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.
53. Keskin, B., Kharoufeh, J.P. and S.H. Melouk (2010). Analysis of a production-inventory system with unreliable supplier. INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.
54. Flory, J.A., Kharoufeh, J.P. and L.M. Maillart (2010). Optimal deployment of irreparable, multi-component systems. Industrial Engineering Research Conference, Cancun, Mexico, June 5-9, 2010.
55. Ulukus, M.Y., Kharoufeh, J.P. and L.M. Maillart (2010). Optimal replacement of a system with Markov-modulated degradation. Industrial Engineering Research Conference, Cancun, Mexico, June 5-9, 2010.
56. Degirmenci, G. and J.P. Kharoufeh (2009). Optimal resource replication in query-based wireless sensor networks. INFORMS Annual Meeting, San Diego, CA, October 11-14, 2009.
57. Degirmenci, G. and J.P. Kharoufeh (2009). Queueing models for optimal resource replication in wireless sensor networks. Industrial Engineering Research Conference, Miami, FL, May 30-June 3, 2009.
58. Khojandi, A., Kharoufeh, J.P. and L.M. Maillart (2009). Control of a retrial queueing system with unreliable, heterogeneous servers. Industrial Engineering Research Conference, Miami, FL, May 30-June 3, 2009.
59. Sherman, N.P. and J.P. Kharoufeh (2009). Optimal Bernoulli routing in an unreliable  $M/G/1$  retrial queue. Industrial Engineering Research Conference, Miami, FL, May 30-June 3, 2009.
60. Cordeiro, J.D. and J.P. Kharoufeh (2009). Optimal rate selection for an unreliable retrial queue in a random environment. Industrial Engineering Research Conference, Miami, FL, May 30-June 3, 2009.

61. Kharoufeh, J.P. (2008). Some limit theorems for a cumulative degradation process. INFORMS Annual Meeting, Washington, D.C., October 12-15, 2008.
62. Kharoufeh, J.P. and T.B. Booher (2008). Optimal periodic inspection of complex degrading systems. Industrial Engineering Research Conference, Vancouver, BC, May 17-21, 2008.
63. Cordeiro, J.D. and J.P. Kharoufeh (2008). Stability of an unreliable  $M/G/1$  retrial queue with time-varying parameters. Industrial Engineering Research Conference, Vancouver, BC, May 17-21, 2008.
64. Kharoufeh, J.P. (2008). Unreliable retrial queueing systems in time-varying environments. Air Force Office of Scientific Research, Optimization and Discrete Mathematics Program Review, Arlington, VA, April 21-23, 2008.
65. Kharoufeh, J.P., Mann, C.R. and R.O. Baldwin (2007). A selective broadcast query protocol for high-density wireless sensor networks. INFORMS Annual Meeting, Seattle, WA, November 4-7, 2007.
66. Cordeiro, J.D. and J.P. Kharoufeh (2007). Analysis of an unreliable retrial queue in a random environment. Industrial Engineering Research Conference, Nashville, TN, May 19-23, 2007.
67. Crawford, B. and J.P. Kharoufeh (2007). Approximate analysis of an unreliable multiserver retrial queue. Industrial Engineering Research Conference, Nashville, TN, May 19-23, 2007.
68. Kharoufeh, J.P. (2007). Analysis and optimal control of unreliable retrial queueing systems. Air Force Office of Scientific Research, Optimization and Discrete Mathematics Program Review, Arlington, VA, May 7-9, 2007.
69. Kharoufeh, J.P. (2006). Degradation-based prognostics via phase-type approximations. INFORMS Annual Meeting, Pittsburgh, PA, November 5-8, 2006.
70. Flory, J.A. and J.P. Kharoufeh (2006). Satellite payloads for inclusion on a satellite bus. Air Force Operations Research Symposium, Albuquerque, NM, October 17-20, 2006.
71. Kharoufeh, J.P. and N.P. Sherman (2006). Performance analysis and control of an unreliable  $M/G/1$  retrial queue. Industrial Engineering Research Conference, Orlando, FL, May 20-24, 2006.
72. Kharoufeh, J.P. and M. Abramson (2005). Optimal periodic inspection of a system subject to wear and shock degradation. INFORMS Annual Meeting, San Francisco, CA, November 13-16, 2005.
73. Finkelstein, D. and J.P. Kharoufeh (2004). Availability of inspected systems subject to environmental wear and shocks. INFORMS Annual Meeting, Denver, CO, October 23-27, 2004.
74. Cox, S.M. and J.P. Kharoufeh (2003). Markov reward models for lifetime estimation in prognostics. INFORMS Annual Meeting, Atlanta, GA, October 19-22, 2003.
75. Cox, S.M. and J.P. Kharoufeh (2002). Stochastic models for aircraft prognostics. INFORMS Annual Meeting, San Jose, CA, November 17-20, 2002.
76. Flietstra, T., Bauer, K. and J.P. Kharoufeh (2002). Feature and architecture selection for radial basis neural networks. Artificial Neural Networks in Engineering Conference: Smart Engineering System Design, November 10-13, 2002.

77. Kharoufeh, J.P. (2001). Stochastic analysis of link travel times in transportation networks. INFORMS Annual Meeting, Miami Beach, FL, November 4-7, 2001.
78. Kharoufeh, J.P. and N. Gautam (2000). Travel time distribution for a vehicle with state-dependent velocity. INFORMS Annual Meeting, San Antonio, TX, November 5-8, 2000.

#### *Contributed Conference Presentations*

1. Degirmenci, G and J.P. Kharoufeh (2011). Analysis and optimal operation of query-based wireless sensor networks. Industrial Engineering Research Conference, Reno, NV, May 21-25, 2011.
2. Perry, M.B., Shekhar, S., Cai, J., Shankar, M.R. and J.P. Kharoufeh (2010). Statistical characterization of nanostructured surfaces created by machining processes. INFORMS Annual Meeting, Austin, TX, November 7-10, 2010.
3. Khojandi, A. and J.P. Kharoufeh (2009). Optimal control of an unreliable multiserver retrial queue. INFORMS Annual Meeting, San Diego, CA, October 11-14, 2009.
4. Sherman, N.P. and J.P. Kharoufeh (2005). An infinite-capacity retrial queue with unreliable server. INFORMS Annual Meeting, San Francisco, CA, November 13-16, 2005.
5. Offutt, E., Kharoufeh, J.P. and R.F. Deckro (2005). Distorted risk measures with application to military capability shortfalls. 73rd Military Operations Research Society Symposium, United States Military Academy, West Point, NY, June 21-23, 2005.
6. Plourde, J. and J.P. Kharoufeh (2005). Time-adaptive sampling of a chemical hazard area. 73rd Military Operations Research Society Symposium, United States Military Academy, West Point, NY, June 21-23, 2005.
7. Solo, C. and J.P. Kharoufeh (2005). Phase-type approximations for wear processes in a semi-Markov environment. 73rd Military Operations Research Society Symposium, United States Military Academy, West Point, NY, June 21-23, 2005.
8. Woodward, W.E., Deckro, R.F., Kharoufeh, J.P. and S.P. Chambal (2004). Modeling and measuring military capability risk. CORS/INFORMS Joint International Meeting, Banff, Alberta, Canada, May 16-19, 2004.
9. Peterson, B., Baldwin, R. and J.P. Kharoufeh (2004). A specification-compatible Bluetooth inquiry simplification. 37th Hawaii International Conference on System Sciences (HICSS), Waikoloa, Hawaii, January 5-8, 2004.
10. Lacksonen, T.A. and J.P. Kharoufeh (1996). Optimal material flow through groups of machines. INFORMS Annual Meeting, Atlanta, GA, November 3-6, 1996.
11. Bush, B.O., Kharoufeh, J.P. and L. Rabelo (1996). Development of an evolutionary scheme for adaptive fuzzy design. Adaptive Distributed Parallel Computing Symposium, Dayton, OH, August 8-9, 1996.

## Funded Research

### *Funding Summary*

- Principal Investigator (PI): 17 of 21 projects
- Total funding awarded (all roles): \$5,706,724
- Total funding awarded (as PI): \$3,045,763

### *Peer-Reviewed Grants*

1. Daniel Jiang (PI) and J.P. Kharoufeh (co-PI)  
*Dynamic Risk-Averse Optimization of Distributed Energy Resource Aggregators*  
National Science Foundation (ECCS-1807536)  
August 2018 – July 2021  
Amount: \$350,892
2. J.P. Kharoufeh (PI)  
*Antagonistic Graph Coloring Under Uncertainty*  
Defense Advanced Research Projects Agency (DARPA) via AFRL (FA8750-17-1-0090)  
February 2017 – April 2018  
Amount: \$135,592
3. J.P. Kharoufeh (PI)  
*Effective Management of Operating and Maintenance Activities for Wind Turbines*  
National Science Foundation (CMMI-1266194)  
May 2013 – April 2016  
Amount: \$275,000
4. O. Prokopyev (PI); co-PIs: J.P. Kharoufeh, L.M. Maillart, D. Saure, A.J. Schaefer, J.P. Vielma  
*CEMOR: Computing Equipment for Military Operations Research at the University of Pittsburgh*  
Air Force Office of Scientific Research  
Defense University Research Instrumentation Program (DURIP)  
June 2012 – May 2013  
Amount: \$245,286
5. J.P. Kharoufeh (PI) and L.M. Maillart (co-PI); N. Gebraeel (co-PI), Georgia Tech  
*Collaborative Research: Adaptive Maintenance Planning Based on Evolving Residual Life Distributions*  
National Science Foundation (CMMI-0856702)  
September 2009 – August 2012  
Amount: \$499,200 (Pitt: \$324,732; Georgia Tech: \$174,468)
6. J.P. Kharoufeh (PI) and R.O. Baldwin (co-PI), AFIT  
*Collaborative Research: NECO: A Mathematical Framework for the Performance Evaluation of Large-Scale Sensor Networks*  
National Science Foundation (CNS-0831707)  
September 2008 – August 2011  
Amount: \$411,994 (Pitt: \$299,994 + \$12,000 REU; AFIT: \$100,000)
7. A.J. Schaefer (PI); J. Rajgopal (co-PI); J. Kharoufeh, L. Maillart, O. Prokopyev (co-Investigators)  
*Veterans Engineering Resource Center*  
Department of Veterans Affairs: Health for Operations and Management



July 2009 – September 2011  
Amount: \$1,800,000

8. J.P. Kharoufeh (PI)  
*Analysis and Optimal Control of Unreliable Retrieval Queueing Systems*  
Air Force Office of Scientific Research (F1ATA-06-0-34J001 and FA9550-08-1-0004)  
January 2006 – June 2008  
Amount: \$245,312
9. J.P. Kharoufeh (PI)  
*Remaining Lifetime Prognosis via Stochastic Degradation Models*  
Air Force Office of Scientific Research (FQ8671-04-0-0359)  
January 2004 – December 2004  
Amount: \$120,494
10. K. Bauer, Jr. (PI); J.P. Kharoufeh (co-PI)  
*Mathematical Models for Aircraft Diagnostics/Prognostics*  
Air Force Office of Scientific Research (FQ8671-02-0-0542)  
January 2002 – December 2002  
Amount: \$105,608

#### ***Other Grants and Contracts***

1. J.P. Kharoufeh (PI)  
*Engineering Access to Care*  
Department of Veterans Affairs (VA240-14-D-0038 and VA701-16-J-0148)  
VA Pittsburgh Healthcare System  
October 2015 – September 2017  
Amount: \$169,820
2. J.P. Kharoufeh (PI); Roe Teper (co-PI), Department of Economics  
*Smart Microgrids: Optimization and Equilibrium Analysis*  
Center for Industry Studies (University of Pittsburgh)  
July 2015 – June 2016  
Amount: \$50,000
3. J.P. Kharoufeh (PI)  
*Optimal Energy Arbitrage in Smart Microgrids with Storage*  
Mascaro Center for Sustainable Innovation (University of Pittsburgh)  
January 2015 – August 2015  
Amount: \$25,000
4. J.P. Kharoufeh (PI)  
*Optimal Microgrid Energy Procurement and Storage Strategies in the Presence of Renewables*  
Mascaro Center for Sustainable Innovation (University of Pittsburgh)  
November 2013 – October 2014  
Amount: \$20,000
5. J.P. Kharoufeh (PI)  
*Comparative Study of Lung Cancer Risk Models: Impacts on the VHA Screening Process*  
Department of Veterans Affairs (VA244-13-C-0540)

- VA Pittsburgh Healthcare System  
October 2013 – September 2015  
Amount: \$227,221
6. J.P. Kharoufeh (PI)  
*Analysis and Optimization of Telephone Systems at VA Pittsburgh Health System*  
Department of Veterans Affairs (VA244-12-C-0161)  
VA Pittsburgh Healthcare System  
February 2012 – August 2013  
Amount: \$154,198
  7. J.P. Kharoufeh (PI)  
*Optimizing Mean Mission Duration Specification for Multiple-Payload Satellites*  
U.S. Department of Defense (Organization classified) (F448528)  
July 2005 – September 2006  
Amount: \$57,372
  8. J.P. Kharoufeh (PI)  
*Degradation-Based Lifetime Modeling*  
U.S. Department of Defense (Organization classified) (E448444)  
July 2004 – September 2005  
Amount: \$65,497
  9. J.P. Kharoufeh (PI)  
*Optimal Sampling of a Chemical Hazard Area*  
Air Force Research Laboratory (NGWSHE00472511)  
Chemical-Biological Defense Programs  
July 2004 – September 2005  
Amount: \$59,377
  10. J.P. Kharoufeh (PI)  
*Stochastic Model for Joint Reception, Staging, Onward Movement, and Integration*  
United States Transportation Command  
April 2002 – March 2003  
Amount: \$18,283
  11. J.P. Kharoufeh (PI)  
*Modeling and Analysis of Link and Path Travel Times in Stochastic and Dynamic Transportation Networks*  
AFIT Cooperative Research and Development Agreement Salary Funds  
October 2001 – October 2002  
Amount: \$20,000

**Contributions to Teaching***Courses Taught or Assisted*

Course No.	Course Title	Institution	Level	Term(s)
IE 3600	Industrial Apps of Probability & Stats I	Clemson	Ugrad	Sp 20, Fa 21
IE 3140	Seminar in Industrial Engineering	Clemson	Ugrad	Fa 20, Sp 21
IE 8090	Modeling Systems Under Risk	Clemson	Grad	Fa 20, Sp 21
IE 8930	Foundations of Probability for IE	Clemson	Grad	Fa 21
IE 2072	Probability (measure-theoretic)	Pitt	Grad	Fa 08–11,13–18
IE 2084	Stochastic Processes	Pitt	Grad	Sp 09–18
IE 3083	Operations Research in Energy	Pitt	Grad	Sp 14
IE 3085	Queueing Theory	Pitt	Grad	Sp 09; Fa 10,12,14,16
IE 3998	Ph.D. Independent Study	Pitt	Grad	Sp 10,12
IE 1070	Prob, Random Vars and Distributions	Pitt	Ugrad	Fa 15–18
ENGR 0020	Probability and Stats for Engineers I	Pitt	Ugrad	Fa 11–13, Su 18
MIM U515	Operations Research	NEU	Ugrad	Fa 07
IEM G230	Probabilistic Operations Research	NEU	Grad	Sp 08
OPER 540	Stochastic Modeling & Analysis I	AFIT	Grad	Wi 02–07
OPER 601	Operations Research Seminar	AFIT	Grad	Sp 04–07
OPER 641	Stochastic Modeling & Analysis II	AFIT	Grad	Su 01,02; Sp 03–07
OPER 647	Queueing System Analysis	AFIT	Grad	Fa 01, 03–06; Su 02
OPER 741	Advanced Stochastic Modeling	AFIT	Grad	Fa 05
OPER 747	Queueing Networks	AFIT	Grad	Fa 02
OPER 699	Special Topics in Queueing Theory	AFIT	Grad	Wi 02
OPER 699	Special Topics in Stochastic Modeling	AFIT	Grad	Sp 05
OPER 899	Special Topics in MDPs	AFIT	Grad	Sp 04; Su 04
OPER 899	Special Topics in Math. Reliability	AFIT	Grad	Fa 05
IE 424	Process Quality Engineering	PSU	Ugrad	Fa 00, assisted
IE 425	Operations Research	PSU	Ugrad	Sp 99, assisted
ISE 304	Applied Engineering Statistics	Ohio	Ugrad	Wi and Sp 1997
ISE 305	Engineering Statistics I (Probability)	Ohio	Ugrad	Sp 96, assisted
ISE 306	Engineering Statistics II	Ohio	Ugrad	Sp 96, assisted

Average teaching evaluations over the past six years = 4.5/5.0

Pitt = University of Pittsburgh

NEU = Northeastern University

AFIT = Air Force Institute of Technology

PSU = Pennsylvania State University

Ohio = Ohio University

***Contributions to Non-classroom Teaching***

- Undergrad Seminar: “A Primer on Personal Finance” for B.S. students (Sp 21, Clemson)
- Graduate Seminar:  
“Building Success in Publishing” for Ph.D. students (Sp 18, 19 Pittsburgh)
- Undergrad Seminar: “Personal Finance” for B.S. students (Sp 14-18, Pittsburgh)
- Graduate Seminar: “Introduction to Latex” for M.S. and Ph.D. students (Sp 06, AFIT)
- Graduate Seminar: “Introduction to Ph.D. Research” for Ph.D. students (Sp 04-07, AFIT)
- OPER 699 Special Studies: Topics in Queueing Theory (Wi 02, AFIT)
- OPER 699 Special Studies: Topics in Stochastic Modeling (Sp 05, AFIT)
- OPER 899 Special Studies: Topics in Markov Decision Processes (Sp 04; Su 04, AFIT)
- OPER 899 Special Studies: Topics in Mathematical Reliability (Fa 05, AFIT)

**Student Advising*****Ph.D. Students*** (In Progress)

1. **Soltani, Morteza** (2019 – present)  
Clemson University, Expected May 2023  
Dissertation: *Multi-System Maintenance in Random Environments*  
Sponsor: Departmental Graduate Research Assistantship

***Ph.D. Students*** (Completed)

1. **Abdul-Malak, David T.**  
University of Pittsburgh, December 2018  
Dissertation: *Maintenance and Service System Optimization: Three Essays*  
Sponsor: NSF grant CMMI-1266194  
Current Position: Senior Quantitative Analyst, PNC Bank
2. **Bhattacharya, Arnab**  
University of Pittsburgh, December 2017  
Dissertation: *Optimal Energy Storage Strategies in Microgrids*  
Sponsor: Pitt Mascaro Center for Sustainable Innovation and Center for Industry Studies  
Current Position: Energy System Optimization & Control Engineer, Pacific Northwest NL
3. **Flory, John A.**  
University of Pittsburgh, August 2013  
Dissertation: *Optimal Replacement Strategies for Wind Energy Systems*  
Sponsor: NSF grant CMMI-0856702 and Post-9/11 GI-Bill  
Current Position: Operations Research Analyst, Sandia National Laboratories
4. **Degirmenci, Guvenc**  
University of Pittsburgh, April 2013  
Dissertation: *Performance Analysis and Optimization of Query-Based Wireless Sensor Networks*  
Sponsor: NSF grant CNS-0831707  
Current Position: Senior Scientist at Amazon

5. **Cordeiro, James D.**

Air Force Institute of Technology, September 2007

Dissertation: *Unreliable Retrieval Queues in a Random Environment*

Sponsor: Air Force Office of Scientific Research

Current Position: Assistant Professor, Department of Mathematics, University of Dayton

6. **Sherman, Nathan P.**

Air Force Institute of Technology, June 2006

Dissertation: *Analysis and Control of Unreliable, Single-Server Retrieval Queues with Infinite-Capacity Orbit and Normal Queue*

Sponsor: Air Force Office of Scientific Research

Current Position: United States Air Force

7. **Cox, Steven M.**

Air Force Institute of Technology, September 2004

Dissertation: *Hybrid Stochastic Models for Remaining Lifetime Prognosis*

Sponsor: Air Force Office of Scientific Research

Current Position: United States Air Force

**M.S. Students Completed** (Without Thesis)

1. Anhalt, Ashley (IE, Pittsburgh). August 2015. Project: *Comparative Study of Lung Cancer Screening and Cost Impacts*. Sponsor: U.S. Department of Veterans Affairs.
2. Parlak, Ayse (IE, Pittsburgh). December 2014. Project: *Optimally Locating Virtual Resources for the Military Health System*. Sponsor: Air Force Research Laboratory via Oak Ridge Association of Universities.
3. Özkan, Erhun (IE, Pittsburgh). August 2013. Project: *Optimal Control of a Two-Server Queueing System with Failures*. Sponsor: U.S. Department of Veterans Affairs. (Erhun is now an Assistant Professor at Koç University, Turkey.)
4. Khojandi, Anahita (IE, Pittsburgh). December 2009. (Anahita is now an Associate Professor with tenure in the Department of ISE at the University of Tennessee.)

**M.S. Students Completed** (With Thesis)

1. Crawford, Brian (Operations Research, AFIT). *Approximate Analysis of an Unreliable M/M/2 Retrieval Queue*. March 2007. Sponsor: Air Force Office of Scientific Research.
2. Kallemyn, Benjamin (Operations Research, AFIT). *Prioritizing Satellite Payload Selection via Optimization*. March 2007. Sponsor: U.S. Department of Defense. (Co-advisor: David P. Morton.)
3. Booher, Timothy (Operations Research, AFIT). *Optimal Periodic Inspection of a Stochastically Degrading System*. March 2006. Sponsor: Air Force Office of Scientific Research.
4. Flory, John A. (Operations Research, AFIT). *Optimizing Mean Mission Duration for Multiple-Payload Satellites*. March 2006. Sponsor: U.S. Department of Defense.
5. Cook, Timothy (Operations Research, AFIT). *Optimal Maintenance for Stochastically Degrading Satellite Constellations*. March 2005. Sponsor: U.S. Department of Defense.

6. Gulyas, Cole (Operations Research, AFIT). *Stochastic Capability Models for Satellite Constellations*. March 2005. Sponsor: U.S. Department of Defense.
7. Offutt, Edwin (Operations Research, AFIT). *Selection and Application of Distorted Risk Measures*. March 2005.
8. Plourde, Jennifer (Operations Research, AFIT). *Optimal Sampling of a Chemical Hazard Area*. March 2005. Sponsor: Air Force Research Laboratory: Chemical-Biological Defense Programs. (Jennifer has since completed medical school at the University of New Mexico.)
9. Chapin, Patrick (Operations Research, AFIT). *Age Replacement and Service Rate Control of Stochastically Degrading Queues*. March 2004. (Patrick earned a Ph.D. in Statistics at Iowa State University and was Assistant Professor of Statistics, Air Force Institute of Technology.)
10. Finkelstein, Daniel (Applied Mathematics, AFIT). *Analytical Results for Single-Unit Systems Subject to Markovian Wear and Shocks*.<sup>1</sup> March 2004. Sponsor: Air Force Office of Scientific Research. (Dan later earned a Ph.D. in Systems Engineering at the University of Virginia.)
11. Solo, Christopher (Operations Research, AFIT). *Phase-Type Approximations for Wear Processes in a Semi-Markov Environment*. March 2004. Sponsor: Air Force Office of Scientific Research. (Chris later earned a Ph.D. at Penn State, was Assistant Professor in the Department of Mathematical Sciences at the U.S. Air Force Academy, and is now adjunct at Penn State.)
12. Cho, Jae Il. (Systems Engineering, AFIT). *Shortest Path Problems in a Stochastic and Dynamic Environment*. March 2003. Sponsor: Royal Korean Army.
13. Hendrixson, Jennifer (Operations Research, AFIT). *Analysis of Scheduling Policies for a M/G/1 Queue with Rework*. March 2003.
14. Sherman, Nathan P. (Operations Research, AFIT). *A Stochastic Model for Joint Reception, Staging, Onward Movement, and Integration (JRSOI)*.<sup>2</sup> March 2003. Sponsor: United States Transportation Command. (Nate continued his studies at AFIT and earned a Ph.D. in OR.)
15. Sipe, Jeffrey (Applied Mathematics, AFIT). *Transient Analysis and Applications of Markov Reward Processes*. March 2003. (Jeff later earned an M.S. degree in Statistics at Duke University.)
16. Sumter, Brad (Operations Research, AFIT). *Optimal Replacement Policies for Satellite Constellations*. March 2003. Sponsor: Air Force Space Command, Space Analysis Center.
17. Yager, Nicholas (Operations Research, AFIT). *Models for Sortie Generation with Autonomic Logistics Capabilities*. March 2003. Sponsor: Air Force Office of Scientific Research.

#### **Membership on Ph.D. and M.S. Committees**

1. Wan, Yijia (Ph.D., IE/OR, Pittsburgh). *Structured Strategies for Learning and Exploration in Sequential Decision Making*. Expected May 2022. Advisor: Dr. Daniel Jiang.
2. Shadi Sanoubar, Shadi (Ph.D., IE/OR, Pittsburgh). *Temporal and Spatial Considerations in Maintenance Planning*. Expected May 2022. Advisors: Drs. Lisa Maillart and Oleg Prokopyev.

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<sup>1</sup>Most Exceptional M.S. Thesis in Applied Mathematics, 2004, Grad School of Engineering and Management, AFIT.

<sup>2</sup>Most Exceptional M.S. Thesis in Operational Sciences, 2003, Grad School of Engineering and Management, AFIT.

3. Gulcan, Berkay, (Ph.D., IE/OR, Clemson). *Stochastic Optimization for Renewable Energy System Design and Operations*. August 2021. Advisor: Dr. Yongjia Song.
4. Javier, Kayla (Ph.D., Mathematical Sciences, Clemson). *A Study of Quasi-Birth-Death Processes and Markovian Bitcoin Models*. August 2020. Advisor: Dr. Brian Fralix.
5. Streiner, Scott (Ph.D., IE, Pittsburgh). *A Systematic Inquiry on Global Engineering Education: Strategies and Impact*. August 2017. Advisors: Drs. Mary Besterfield-Sacre and Larry Shuman.
6. He, Kai (Ph.D., IE/OR, Pittsburgh). *Optimal Maintenance Planning in Novel Settings*. December 2016. Advisors: Drs. Lisa Maillart and Oleg Prokopyev.
7. Dehghanian, Amin (Ph.D., IE/OR, Pittsburgh). *Optimal Incentive Alignments in Paired Kidney Exchange*. August 2015. Advisor: Dr. Andrew Schaefer.
8. Korytowski, Matthew J. (Ph.D., Electrical Engineering, Pittsburgh). *Effects of the Phase Locked Loop on the Stability of a Voltage Source Converter in a Weak Grid Environment*. December 2014. Advisor: Dr. Greg Reed.
9. Khademi, Amin (Ph.D., IE/OR, Pittsburgh). *Managing HIV Treatment in Resource-Limited and Dynamic Environments*. August 2013. Advisor: Dr. Andrew Schaefer.
10. Icten, Zeynep Gozde (Ph.D., IE/OR, Pittsburgh). *Markov Decision Process Models for Improving Equity in Liver Allocation*. December 2011. Advisor: Dr. Lisa Maillart.
11. Claypool, Erin (Ph.D., IE, Pittsburgh). *Assessing and Mitigating Risk in a Design for Supply Chain Problem*. May 2011. Advisors: Drs. Bryan Norman and Kim Needy.
12. Shenoy, Rashmi (M.S., IE, Northeastern University). *Misuse and Performance of Individuals Charts in Statistical Process Control for Single Parameter Distributions of Unknown Stability*. May 2008. Advisor: Dr. James Benneyan.
13. Mann, Christopher (Ph.D., Electrical Engineering, AFIT). *Energy-Efficient Querying of Wireless Sensor Networks*. September 2007. Advisor: Dr. Rusty Baldwin.
14. Flint, Matthew (Ph.D., Electrical Engineering, University of Cincinnati). *Cooperative Unmanned Aerial Vehicle (UAV) Search in Dynamic Environments Using Stochastic Methods*. June 2005. Advisor: Dr. Emmanuel Fernandez.
15. Decker, Douglas (Ph.D., Aerospace Engineering, AFIT). *Decision Factors for Cooperative Multiple Warhead UAV Target Classification and Attack with Control Applications*. March 2005. Advisor: Dr. David Jacques.
16. Peterson, Brian (Ph.D., Electrical Engineering, AFIT). *Device Discovery in Frequency Hopping Wireless Ad Hoc Networks*. September 2004. Advisor: Dr. Rusty Baldwin.
17. Clutz, Tom (Ph.D., Operations Research, AFIT). *A Framework for Prognostics Reasoning*. March 2003. Advisor: Dr. Kenneth Bauer, Jr.
18. Woodward, William (M.S., Operations Research, AFIT). *Measuring the Risk of Shortfalls in Air Force Capabilities*. March 2004. Advisor: Dr. Richard Deckro.

19. Flietstra, Timothy (M.S., Operations Research, AFIT). *An Integrated Architecture and Feature Selection Algorithm for Radial Basis Neural Networks*.<sup>3</sup> March 2002. Advisor: Dr. Ken Bauer, Jr.

### ***Hosted Scholars***

1. van Oosterom, Chiel D. (Ph.D., Industrial Engineering, Eindhoven University, The Netherlands). Spring 2013. Chiel was funded by his university to study for one semester under the guidance of myself and Dr. Lisa Maillart.

### ***Undergraduate Researchers***

1. Polk, Kristen E. (B.S., Biology, Westminster College). Summer 2016. Kristen helped initiate collaboration with Prof. Young Jae Chun and was funded by discretionary research funds.
2. O'Donnell, Patrick O. (B.S., Industrial Engineering, University of Pittsburgh). Summer 2012. Funded by the Air Force Research Laboratory via Oak Ridge Association of Universities.
3. McNamara, Sean (B.S., Information Engineering/OR, Cornell University). Summer 2012. Funded by the Air Force Research Laboratory via Oak Ridge Association of Universities.
4. Warmbrand, Elissa (B.S., Industrial Engineering, University of Pittsburgh). Spring 2012. Elissa was funded by REU supplemental funds on NSF grant CNS-0831707.
5. Bistline, Christopher (B.S., Industrial Engineering, University of Pittsburgh). Spring 2012. Chris was funded by REU supplemental funds on NSF grant CNS-0831707.
6. Lynch, Julia M. (B.S., Industrial Engineering, University of Pittsburgh). Summer 2010. Julia was funded by a Summer Research Internship awarded by Swanson School of Engineering.
7. Migliozi, John J. (B.S., Industrial Engineering, University of Pittsburgh). Summer 2010. John was funded by REU supplemental funds on NSF grant CNS-0831707.
8. Schell, Gregg (B.S., Industrial Engineering, University of Pittsburgh) Summer 2010. Gregg was funded by REU supplemental funds on NSF grant CNS-0831707.

### **Honors and Awards**

- *Fellow Award*, Institute of Industrial and Systems Engineers (IISE), 2018
- *IIE Transactions Best Paper Award*, Quality and Reliability Engineering, 2016
- *Best Paper Award*, Operations Research Track, ISE Research Conference, 2015
- *Keynote Speaker*, EURANDOM Young European Queueing Theorists Workshop, 2014
- *Finalist, Outstanding Educator Award*, Swanson School of Engineering, 2013, 2014, 2015
- *Air Force Research Laboratory Faculty Intern* (via ORAU), Summers 2012, 2013, 2015–2018
- *Best Paper Award*, Operations Research Track, IE Research Conference, 2007
- *Outstanding Young Chapter Member Award*, Cincinnati/Dayton Chapter of INFORMS, 2006

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<sup>3</sup>Most Exceptional M.S. Thesis in Operational Sciences, 2002, Grad School of Engineering and Management, AFIT.



- *PECASE Award* Nominee, Air Force Office of Scientific Research, 2006
- *Barchi Prize* Nominee, Military Operations Research Society, 2005
- *Outstanding Alumnus Distinguished Lecturer*, Department of Industrial and Manufacturing Engineering, Penn State University, April 7, 2005
- INFORMS Young Researcher Roundtable, INFORMS Conference on OR Practice, 2005
- <sup>4</sup>*Operations Research Instructor of the Quarter*, Air Force Institute of Technology, Winter 2005
- <sup>5</sup>*Dr. Leslie M. Norton Teaching Excellence Award*, Air Force Institute of Technology, 2003
- Omega Rho, International Operations Research Honor Society, 2002
- NSF Engineering Education Scholars Program, Penn State University, 2000
- <sup>6</sup>Weiss Dissertation Scholar, Penn State University, 1999–2000
- <sup>7</sup>Weiss Graduate Fellowship, Penn State University, 1997–1998
- Stocker Engineering Fellowship, Russ College of Engineering and Technology, Ohio University, 1995-1997
- <sup>8</sup>Ohio Board of Regents Fellowship, Ohio University, 1995–1997
- E.R.H./Phi Delta Graduate Scholarship, Ohio University, 1996
- Dwight D. Gardner Scholarship, IIE, Ohio University, 1994–1995
- Phi Kappa Phi National Honor Society, Ohio University, 1994
- *Top Junior in Industrial and Systems Engineering*, Ohio University, 1994
- Fritz and Dolores Russ Scholarship, Ohio University, 1993–1994
- Charles H. and Evelyn Matthews Scholarship, Ohio University, 1993–1994
- Tau Beta Pi, National Engineering Honor Society, 1993
- Alpha Pi Mu, National Industrial Engineering Honor Society, 1993
- *Top Sophomore in Industrial and Systems Engineering*, Ohio University, 1992
- Dean's Scholarship, Ohio University, 1991–1993

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<sup>4</sup>Top teaching award among 22 faculty members in the Department of Operational Sciences, AFIT.

<sup>5</sup>Top teaching award among 120+ faculty members in the Graduate School of Engineering and Management, AFIT.

<sup>6</sup>Awarded to only five Ph.D. candidates in the College of Engineering at Pennsylvania State University.

<sup>7</sup>Awarded to only five Ph.D. students in the College of Engineering at Pennsylvania State University.

<sup>8</sup>Awarded to only one graduate student (across all academic disciplines) at Ohio University.

## Professional Service and Leadership Activities

### *Department, College and University Service*

Appointment	Institution	Dates
Chair, IE Tenure, Promotion & Reappointment Committee	Clemson	2021–present
Special Assistant to the Dean for Strategic Hiring	Clemson	2021–present
Faculty Advisor, Student Chapter of IISE	Clemson	2021–present
IE Faculty Mentoring Task Force	Clemson	2021–present
IE Honors and Awards Committee	Clemson	2019–2020
IE Undergraduate Committee	Pitt	2017–2019
Provost Area’s Planning and Budgeting Committee	Pitt	2016–2018
Diversity Committee, Department of Industrial Engineering	Pitt	2016–2017
Chair, Swanson School of Engr. Planning & Budgeting Committee	Pitt	2015–2018
IE Undergraduate Committee	Pitt	2013–2015
Swanson School of Engineering Leadership Committee	Pitt	2013–2014
Swanson School of Engineering Planning & Budgeting Committee	Pitt	2012–2015
IE Space Planning Committee	Pitt	2011–2012
IE Space Planning Committee	Pitt	2009–2010
IE Faculty Search Committee	Pitt	2011,15,17
IE Faculty Search Committee	Pitt	2008, 2009
IE Graduate Committee	Pitt	2008, 2009
Faculty co-Advisor, Student Chapter of IIE	NEU	2007–2008
IE Cooperative Education Committee	NEU	2007–2008
Head’s Search Committee, Dept of Operational Sciences	AFIT	2006–2007
Head’s Search Committee, Dept of Operational Sciences	AFIT	2005–2006
Faculty Search Committee, Dept of Operational Sciences	AFIT	2003–2004
Departmental Webmaster, Dept of Operational Sciences	AFIT	2002–2007
Departmental Catalogue Rep, Dept of Operational Sciences	AFIT	2002–2007
Dean’s Ad Hoc Promotion and Tenure Process Review Committee	AFIT	2006
Dean’s Representative, Ph.D. dissertation in Electrical Engineering	AFIT	2006
Dean’s Representative, Ph.D. dissertation in Physics	AFIT	2005
Academic Review Board, Grad School of Engineering & Management	AFIT	2003–2007
Faculty Council Secretary, Grad School of Engineering & Management	AFIT	2002–2003

Pitt = University of Pittsburgh

NEU = Northeastern University

AFIT = Air Force Institute of Technology

***Service to the Profession***

Fundraising Chair	INFORMS Optimization Society Conference	2021–2022
Panelist:		
<i>INFORMS New Faculty Colloquia</i>	INFORMS Annual Meeting	2021
Panelist:		
<i>QSR Student Interaction Session</i>	INFORMS Annual Meeting	2020
Organizing Committee	2019 IISE Annual Conference & Expo	2018–2019
Panelist:		
<i>QSR Student Interaction Session</i>	INFORMS Annual Meeting	2017
Panelist:		
<i>Building Success in Publishing</i>	IISE New Faculty Colloquium	2017
Organizing Committee	INFORMS APS Conference	2013
Immediate Past President	IIE Operations Research Division	2012–2013
President	IIE Operations Research Division	2011–2012
President–Elect	IIE Operations Research Division	2010–2011
Chair	<i>IIE Transactions</i> Best Paper Award Committee	2010
Organizing Committee	Industrial Engineering Research Conference	2009
Board of Directors	IIE Operations Research Division	2007–2009
Executive Committee	Cincinnati/Dayton Chapter of INFORMS	2006–2007
Past President	Cincinnati/Dayton Chapter of INFORMS	2005–2006
Immediate Past President	Cincinnati/Dayton Chapter of INFORMS	2004–2005
President	Cincinnati/Dayton Chapter of INFORMS	2003–2004
VP/President-Elect	Cincinnati/Dayton Chapter of INFORMS	2002–2003
Secretary	Cincinnati/Dayton Chapter of INFORMS	2001–2002

***Conferences, Tracks and Sessions Organized***

1. Track Co-Chair for Invited Sessions, *Quality Control and Reliability Engineering Track*, Industrial and Systems Engineering Research Conference, May 18-21, 2019, Orlando, FL.
2. *Energy Storage in Smart Grid Applications*. Energy Track, Industrial and Systems Engineering Research Conference, May 30-June 2, 2015, Nashville, TN.
3. *Queueing Models*. Telecomm Cluster, INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN.
4. *Maintenance Optimization*. QSR Cluster, INFORMS Annual Meeting, October 6-9, 2013, Minneapolis, MN (co-chair with Lisa Maillart).
5. *INFORMS Applied Probability Society Conference*, July 15-17, 2013, San Jose, Costa Rica (member of Organizing Committee).
6. *Algorithmic and Policy-Level Applications of Probability*. INFORMS Applied Probability Society Conference, July 15-17, 2013, San Jose, Costa Rica (co-chair with David Goldberg).
7. *Performance Evaluation of Wireless Sensor and Ad-Hoc Networks*. Telecomm cluster, INFORMS Annual Meeting, November 13-16, 2011, Charlotte, NC.
8. *Stochastic Maintenance and Reliability Models*. Operations Research Track, Industrial Engineering Research Conference, May 21-25, 2011, Reno, NV.

9. *Prognostics and Predictive Maintenance*. INFORMS Annual Meeting, November 7-10, 2010, Austin, TX (co-Chair with Nagi Gebraeel).
10. *Stochastic Maintenance Optimization Models*. Industrial Engineering Research Conference, June 5-9, 2010, Cancun, Mexico.
11. Track co-Chair, *Operations Research Track*, Industrial Engineering Research Conference, May 30-June 3, 2009, Miami, FL.
12. *Unreliable Queueing Systems with Retrials*. Operations Research Track, Industrial Engineering Research Conference, May 30-June 3, 2009, Miami, FL.
13. *Stochastic Models*. Operations Research Track, Industrial Engineering Research Conference, May 17-21, 2008, Vancouver, BC, Canada.
14. *Stochastic Programming*. Operations Research Track, Industrial Engineering Research Conference, May 17-21, 2008, Vancouver, BC, Canada.
15. *Theory and Applications of Stochastic Processes*. Operations Research Track, Industrial Engineering Research Conference, May 19-23, 2007, Nashville, TN.
16. *Stochastic Modeling in Systems Prognosis*. Applied Probability Cluster of the INFORMS Annual Meeting, October 19-22, 2003, Atlanta, GA.
17. *Stochastic Modeling in Military Applications I*. Applied Probability Cluster, INFORMS Annual Meeting, November 17-20, 2002, San Jose, CA.
18. *Stochastic Modeling in Military Applications II, Panel: Threats, Security, and Stochastic OR*. Applied Probability Cluster, INFORMS Annual Meeting, November 17-20, 2002, San Jose, CA.

### ***Ad Hoc Reviewing Service***

- **Journals:** *Operations Research*, *Operations Research Letters*, *Naval Research Logistics*, *IIE Transactions*, *Probability in the Engineering & Informational Sciences*, *Queueing Systems: Theory & Applications (QUESTA)*, *INFORMS Journal on Computing*, *European Journal of Operational Research*, *Applied Stochastic Models in Business & Industry*, *IEEE Transactions on Reliability, Quality and Reliability Engineering International*, *Computers and Mathematics With Applications*, *Journal of the Franklin Institute*, *Journal of the Australian Mathematical Society*, *Military Operations Research*, *Mathematical and Computer Modelling*, *Computers and Industrial Engineering*
- **Proposals and Conferences:** National Science Foundation (2007, 2010, 2011, 2013, 2014, 2016, 2017, 2019, 2021), U.S. Defense Threat Reduction Agency proposals (2010), Elsevier book proposal (2015), Industrial and Systems Engineering Research Conference (annually)
- **Judging Competitions:** *INFORMS QSR Student Poster* (2020, 2017), *IIE Transactions Best Paper Award* (2017), *INFORMS Nicholson Student Paper Competition* (2016), *ISERC OR Division Best Paper Award* (2016), *IIE Student Paper Competition*, *Northeast Regional Conference* (2013), *INFORMS Quality, Statistics, and Reliability Student Paper Contest* (2009)

### **Consulting Activities**

- Systems and Technology Research (STR), Woburn, MA, 2015-2018
- Lockheed Martin, Cherry Hill, NJ, 2015-2018
- Air Force Research Laboratory, Wright Patterson AFB, OH, 2012, 2013, 2015-2019