Canan Gunes Corlu

Contact Information

Boston University
Metropolitan College
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Education

Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania USA

Ph.D., Operations Management, December, 2010

- Dissertation: "Essays on Operations Management"
- Advisor: Bahar Biller

Minor: Finance

Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania USA

M.S., Operations Management, May, 2008

Koc University, Istanbul, Turkey

B.S., Industrial Engineering, May, 2006

Employment

Administrative Sciences Department, Metropolitan College, Boston University
Associate Professor, May 2020 – Present
Assistant Professor, July 2012 – May 2020
Co-director, Decision Sciences Research Laboratory, June 2020 – Present
Coordinator, Supply Chain Management M.S. degree programs, Spring 2017 – Present
Coordinator, Applied Business Analytics M.S. degree programs, Fall 2015 – Fall 2016

Industrial Engineering Department, Bilkent University, Ankara, Turkey
Assistant Professor, February 2011 – June 2012

Research Interests

Methodology: Business Analytics, Computer Simulation, Simulation Optimization, Uncertainty Modeling, Bayesian Statistics, High Dimensional Dependence Modeling

Applications: Inventory Management, Transportation and Logistics, Manufacturing and Service Supply Chains, Supply Chain Risk and Resilience, Finance

Articles in Refereed Journals

[1] De la Torre, R., **C. G. Corlu**, J. Faulin, S. Onggo, A. A. Juan. 2021. Simulation, optimization, and machine learning in sustainable transportation systems: Models and applications. *Sustainability*, 13 (3), 1551.

[2] De la Torre, R., S. Onggo, **C. G. Corlu**, A. A. Juan. 2021. The role of simulation and serious games in teaching concepts on circular economy and sustainable energy. Invited paper in SI Toward the Circular Economy in the Energy Sector: The Role of Higher Education. *Energies*, 14 (4), 1138.

[3] Martins, L., R. de la Torre, **C. G. Corlu**, A. A. Juan, and M. Masmoudi. 2020. Ride-sharing in smart sustainable cities: Review, open challenges, and the need for agile optimisation. *Computers & Industrial Engineering*, volume 153, 107080.

[4] **Corlu, C. G.**, A. Goyal, D. Lopez-Lopez, R. de la Torre, and A. A. Juan. 2020. Ranking enterprise reputation in the digital age: a survey of traditional methods and the need for more agile approaches. Forthcoming in the *International Journal of Data Analysis Techniques and Strategies*.

[5] **Corlu, C. G.**, A. Akcay, and W. Xie. 2020. Stochastic simulation under input uncertainty: A review. *Operations Research Perspectives*, 7, 100162.

[6] Onggo, B. S., **C. G. Corlu**, A. A. Juan, T. Monks, and R. de la Torre. 2020. Combining enterprise data storage systems with symbiotic simulation systems for real-time decision making. *Enterprise Information Systems*, 15 (2), 230 – 247.

[7] **Corlu, C. G.**, R. de la Torre, A. Serrano-Hernandez, A. A. Juan, and J. Faulin. 2020. Optimizing energy consumption in transportation: Literature review, insights, and research opportunities. *Energies*, 13 (5), 1115.

[8] Maleyeff, J. and **C. G. Corlu**. Stickley Adhesives. 2020. *INFORMS Transactions on Education*, 21 (2), 101 – 107.

[9] Juan, A.A., **C. G. Corlu**, R. F. Tordecialla, R. de la Torre, and A. Ferrer. 2020. On the use of biased-randomized algorithms for solving non-smooth optimization problems. *Algorithms*, 13 (1), 8.

[10] Onggo, B. S., J. Panadero, **C. G. Corlu**, and A. A. Juan. 2019. Agri-food supply chains with stochastic demands: A multi-period inventory routing problem with perishable products. *Simulation Modeling Practice and Theory*, 97, 101970.

[11] **Corlu C. G**, B. Biller[1], and S. Tayur. 2019. Driving inventory system simulations with limited demand data: Insights from the newsvendor problem. *Journal of Simulation*, 13 (2), 152 – 162.

[12] **Corlu, C. G**, B. Biller[1], and S. Tayur. 2017. Demand fulfillment probability in a multi-item inventory system with limited historical data. *IISE Transactions*, 49 (12), 1087 – 1100.

- *Finalist for INFORMS 2018 MIF (Minority Issues Forum) Best Paper Competition*

[13] Akcay, A. and **C. G. Corlu**. 2017. Simulation of inventory systems with unknown input models: A data-driven approach. *International Journal of Production Research*, 55 (19), 5826 – 5840.

- *Finalist for INFORMS 2017 MIF (Minority Issues Forum) Best Paper Competition*

[14] **Corlu, C. G.**, M. Meterelliyoz and M. Tinic[2]. 2016. Empirical distributions of daily equity index returns: A comparison. *Expert Systems with Applications*, 54 (C), 170 – 192.

[15] **Corlu, C. G.** and A. Corlu[1]. 2015. Modeling exchange rate returns: Which flexible distribution to use? *Quantitative Finance*, 15 (11), 1851 – 1864.

[16] **Corlu, C. G.** and M. Meterelliyoz. 2014. Estimating the parameters of the Generalized Lambda Distribution: Which method performs best? *Communications in Statistics – Simulation and Computation*, 45 (7), 2276 – 2296.

[1] Industry collaborator

[2] was an M.S. student at Bilkent University, Turkey

[17] Biller, B. and **C. G. Corlu**. 2012. Copula-based multivariate input modeling. *Surveys in Operations Research and Management Science* (incorporated into *Computers & Operations Research*), 17 (2), 69 – 84.

[18] Biller, B. and **C. G. Corlu**. 2011. Accounting for parameter uncertainty in large-scale stochastic simulations with correlated inputs. *Operations Research*, 59 (3), 661 – 673.

Articles in Refereed Conference Proceedings

[1] Martins, L., M. Torres, E. Perez, **C. G. Corlu**, A. Juan, and J. Faulin. Solving an urban ridesharing problem with stochastic traveling times: A simheuristic approach. *Proceedings of the 2021 Winter Simulation Conference* (to appear 2021).

[2] Lu, Danqi[3], J. Maleyeff, and **C. G. Corlu**. Knee optimization for queuing systems: A customized approach. *Proceedings of the 2021 Decision Sciences Institute* (to appear 2021).

[3] **Corlu, C. G.**, J. Maleyeff, C. Yang[3], T. Ma[3], and Y. Shen[3]. Decision support system with simulation-based optimization for healthcare capacity planning. *Proceedings of the 2021 Simulation Workshop of the Operational Research Society*, 2020, 277 – 286.

[4] Maleyeff, J., **C. G. Corlu**, and X. Wang. Simulation metamodeling to support hospital capacity planning. *Proceedings of the 2020 Winter Simulation Conference* (Poster Abstract).

[5] Maleyeff, J., D. Lu, and **C. G. Corlu**. Using lean to improve the customer experience in call centers: A meta-analysis approach. *Proceedings of the 51st Annual Conference of the Decision Sciences Institute*, November 2020, 256 – 273.

[6] **Corlu, C. G.**, J. Panadero, B. B. Onggo, and A. A. Juan. On the scarcity of observations when modeling random inputs and the quality of solutions to stochastic optimization problems. *Proceedings of the 2020 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 2105 – 2113.

[7] **Corlu, C. G.**, J. Maleyeff, J. Yang[3], K. Yip[3], and J. Farris. Real-time nurse dispatching using dynamic priority decision framework. *Proceedings of the 2020 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 782 – 793.

[8] Ghorpade, T.[4] and **C. G. Corlu**. Selective pick-up and delivery traveling salesman problem: A simheuristics approach. *Proceedings of the 2020 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 1468 – 1479.

[9] Doddavaram, R. and **C. G. Corlu**. Teaching risk analytics using R. *Proceedings of the 2020 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 3272 – 3281.

[10] **Corlu, C. G.**, B. Biller[1], E. Wolf[1], and E. Yucesan. Inventory management with disruption risk. *Proceedings of the 2020 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 2625 – 2636.

[11] Maleyeff, J. and **C. G. Corlu**. Monte Carlo simulations to teach the effect of lean methods to improve business processes. *Proceedings of the 2019 Winter Simulation Conference*. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 3356 – 3367.

[3] M.S. student at Boston University
[4] Ph.D. student at IIT Bombay, India

[12] Onggo, B. S., A. A. Juan, J. Panadero, **C. G. Corlu**, and A. Agustin. Inventory-routing problem with stochastic demand and stock-out: A solution and risk analysis using simheuristic. *Proceedings of the 2019 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 1977 – 1988.

[13] Wang, B.[5], W. Xie, T. Martagan, A. Akcay, and **C. G. Corlu**. Stochastic simulation model development for biopharmaceutical production process risk analysis and stability control. *Proceedings of the 2019 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 1989 – 2000.

[14] Panadero, J., A. Juan, **C. G. Corlu**, J. M. Mozos, and B. S. Onggo. Agent-based simheuristics: Extending simulation-optimization algorithms via distributed and parallel computing. *Proceedings of the 2018 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 869 – 880.

[15] Akcay, A., T. Martagan, and **C. G. Corlu**. Risk assessment in pharmaceutical supply chains under unknown input-model parameters. *Proceedings of the 2018 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 3132 – 3143.

[16] Biller, B.[1], S. Biller[1], **C. G. Corlu**, and O. Dulgeroglu[1]. The role of learning on industrial simulation design and analysis. *Proceedings of the 2017 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 3287 – 3298.

[17] Biller, B.[1], O. Dulgeroglu[1], **C. G. Corlu**, M. Hartig[1], R.J. Olson[1], P. Sandvik[1], and G. Trant[1]. Semiconductor manufacturing simulation design and analysis with limited data. *Proceedings of the 2017 Advanced Semiconductor Manufacturing Conference (ASMC)*, 298 – 304.

[18] **Corlu, C. G.**, B. Biller[1], and S. Tayur. Demand fulfillment probability under parameter uncertainty. *Proceedings of the 2016 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 2316 – 2325.

[19] **Corlu, C. G.** and B. Biller[1]. Subset selection for simulations accounting for input uncertainty. *Proceedings of the 2015 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 437 – 446.

[20] Biller, B., A. Akcay, **C. G. Corlu**, and S. Tayur. A simulation-based support tool for data-driven decision making: Operational testing for dependence modeling. *Proceedings of the 2014 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 899 – 909.

[21] **Corlu, C. G.** and B. Biller. A subset selection procedure under input parameter uncertainty. *Proceedings of the 2013 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers. 463 – 473.

[22] Biller, B. and **C. Gunes**. Capturing parameter uncertainty in simulations with correlated inputs. *Proceedings of the 2010 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 1167 – 1177.

[23] Biller, B. and **C. Gunes**. Tutorial: Introduction to simulation input modeling. *Proceedings of the 2010 Winter Simulation Conference.* Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, 49 – 58.

[5] Ph.D. student at Northeastern University

[24] **Gunes, C.**, W-J van Hoeve, and S. Tayur. Vehicle routing for food rescue programs: A comparison of different approaches. *Proceedings of the 2010 International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR), Lecture Notes in Computer Science 6140, 287 – 291. Springer.*

Reports

van Thiel, J. and **C. G. Corlu**. Forecasting procurement life in obsolescence using machine learning algorithms.

Weidman, D., Y. Zhang, J. Maleyeff, **C. G. Corlu**, and Y. Song. Impacts of COVID-19 on the work environment of professional workers: Implications for educators and human resource managers.

Working Papers

Juan, A. A., **C. G. Corlu**, M. Nogal, N. Campos, and C. Caliz. World wide interdisciplinary education: Teaching computer simulation and data analytics to students with heterogeneous backgrounds. In Submitted to *Journal of Simulation.*

Ghorpade, T. and **C. G. Corlu**. Simheuristic approach for the stochastic one commodity pick-up and delivery traveling salesman problem. Submitted to *Journal of Simulation.*

Inventory management under catastrophic risk (with B. Biller, E. Wolf, and E. Yucesan).

Measuring the impact of limited input data on the outcome of stochastic optimization problems (with S. B. Onggo, J. Panadero, and A. A. Juan).

Inventory budget-optimization with heavy-tailed demand (with B. Harris).

Honors and Awards

Recipient of the INFORMS Volunteer Service Award, INFORMS, 2021.

Recipient of the Chadwick Fellowship Award, Metropolitan College, Boston University, 2017.

Recipient of Committee on Underrepresented Minorities and Women (CUMW) award of INFORMS Simulation Society, 2009.

Scholarship to attend Humanitarian Logistics Conferences, Atlanta, GA, 2009 and 2010.

Recipient of William Larimer Mellon Fellowship for doctoral studies at Carnegie Mellon University, Tepper School of Business, 2006 – 2010.

Recipient of Werner von Siemens Excellence Award for Science and Innovation, Koc University, in recognition of excellence in BS Industrial Engineering program, 2006.

Recipient of undergraduate scholarship, Koc University, 2001 – 2006.

Grants

International Partner, "Efficient and sustainable transport systems in smart cities: Internet of things, transport logistics, and agile algorithms (trans analytics)" funded by *Spanish Ministry of Science (PID2019-111100RB-C21)*, 2020 - 2023 (200,000 Euro)

Principle Investigator. "Comparison of fitting methods for the generalized lambda distribution and development of improved fitting methods," funded by *the Scientific and Technological Research Council of Turkey-ARDEB 1002*, November 2011- November 2012 (8000YTL)

"How much data are needed: Estimation of inventory service levels with limited historical demand data," funded by *the Scientific Research Society Sigma Xi, Grants-in-Aid-of-Research Program*, 2010 (1000USD)

Invited Seminars

[1] Simulation of inventory systems with unknown input models, McKinsey & Company, Boston, MA, June 2018, Northeastern University, October 2018.

[2] The role of input risk on industrial simulation design and analysis, McKinsey & Company, Boston, MA, Feb 2018.

[3] Simulation of inventory systems with unknown input models: A data-driven approach, Naval Postgraduate School, Monterey, CA, 2017.

[4] Analytics for service-estimation in inventory systems with unknown demand models, Boston University, Metropolitan College, 2017.

[5] Development of a new graduate program in supply chain management (joint work with E. Sonmez, J. Maleyeff, V. Zlatev), Boston University Metropolitan College Fall 2016 Research Colloquium Series, 2016.

[6] Preparatory hands-on laboratories as prerequisites & skills test centers for selected graduate programs & courses (joint work with V. Zlatev, C. Corlu, I. Vodenska, and MET ETI Group), Boston University Metropolitan College Fall 2016 Research Colloquium Series, 2016.

[7] A new decision support tool for data driven inventory control, Boston University, Metropolitan College, 2015.

[8] Quantification of demand parameter uncertainty in inventory simulations, Boston University Metropolitan College, Middle East Technical University, UMASS Lowell, 2012.

[9] Capturing parameter uncertainty in simulations with correlated inputs, Bilkent University, 2011.

[10] A Bayesian model for representing parameter uncertainty in simulations with correlated inputs, Koc University, 2009.

Conference Presentations

Invited Presentations

[1] Inventory management with disruption risk. *Winter Simulation Conference*, virtual, 2020 (talk given by E. Yucesan).

[2] Measuring the impact of limited input data on the outcome of stochastic optimization problems. *IISE Conference*, New Orleans, LA, 2020.

[3] Inventory routing problem with stochastic demand and stock-out: A solution and risk analysis using simheuristic. *Winter Simulation Conference*, National Harbor, MD, 2019 (talk given by S. Onggo).

[4] Stochastic simulation model development for biopharmaceutical production process risk analysis and stability control. *Winter Simulation Conference*, National Harbor, MD, 2019 (talk given by B. Wang).

[5] Driving inventory system simulations with unknown demand models. *POMS Conference*, Washington, DC, 2019.

[6] Maximizing demand fulfillment probability under input uncertainty. *POMS Conference*, Washington, DC, 2019.

[7] Agent-based simheuristics: Extending simulation-optimization algorithms via distributed and parallel computing. *2018 Winter Simulation Conference*, Gothenburg, Sweden (talk given by J. Panadero).

[8] Risk assessment in pharmaceutical supply chains under unknown input-model parameters. *2018 Winter Simulation Conference*, Gothenburg, Sweden (talk given by A. Akcay).

[9] Demand fulfillment probability in a multi-item inventory system with limited historical data. *INFORMS Annual Meeting*, Phoenix, AZ, 2018.

[10] Supply failure probability in pharmaceutical supply chains under input-model uncertainty. *INFORMS Annual Meeting*, Phoenix, AZ, 2018.

[11] The role of learning on industrial simulation design and analysis. *2017 Winter Simulation Conference*, Las Vegas, NV, 2017.

[12] Simulation of inventory systems with unknown input models. *INFORMS Annual Meeting*, Houston, TX, 2017.

[13] Demand fulfillment probability under parameter uncertainty. *Winter Simulation Conference*, Washington, DC, 2016 (talk given by B. Biller).

[14] Subset selection for simulations accounting for input uncertainty. *Winter Simulation Conference*, Huntington Beach, CA, 2015.

[15] Demand fulfillment probability under parameter uncertainty. *INFORMS Annual Meeting*, San Francisco, CA, 2014.

[16] Food Banks can improve their operations with OR tools. *INFORMS Annual Meeting*, Phoenix, AZ, 2012.

[17] Food banks can improve their operations with OR tools: A pilot study on Pittsburgh Food bank. *INFORMS Annual Meeting*, San Diego, CA, 2009.

[18] Accounting for multivariate parameter uncertainty in multi-product inventory simulations. *INFORMS Annual Meeting*, San Diego, CA, 2009.

[19] A Bayesian model for sampling NORTA-J parameters. *CORS/INFORMS Conference*, Toronto, Canada, 2009.

[20] Accounting for multivariate parameter uncertainty in large-scale simulations. *INFORMS Annual Meeting*, Washington, DC, 2008.

Contributed Presentations

[1] Managing inventory under disruption risk. *INFORMS Annual Meeting*, virtual, 2021.

[2] Solving an urban ridesharing problem with stochastic traveling times: A simheuristic approach. *2021 Winter Simulation Conference*, virtual, 2021.

[3] Knee optimization for queuing systems: A customized approach. *2021 Decision Sciences Institute Annual Meeting*, virtual, 2021.

[4] Decision support system with simulation-based optimization for healthcare capacity planning. *10th Simulation Workshop of the Operational Research Society*, virtual, 2021.

[5] Comparison of visual and mathematical approaches for capacity planning: Evidence from surveys. *POMS Annual Meeting*, virtual, 2021.

[6] Inventory management under catastrophic risk. *POMS Annual Meeting*, virtual, 2021.

[7] The impact of COVID-19 on the working environment of professional employees: Implications for educators. *NEDSI Annual Meeting*, virtual, 2021 (talk given by Yuanfei Zhang).

[8] Simulation metamodeling to support hospital capacity planning. *Winter Simulation Conference*, virtual, 2020 (Poster Presentation).

[9] Using lean to improve the customer experience in call centers: A meta-analysis approach. *51st Annual Conference of the Decision Sciences Institute*, virtual, 2020 (talk given by D. Lu).

[10] On the scarcity of observations when modeling random inputs and the quality of solutions to stochastic optimization problems. *Winter Simulation Conference*, virtual, 2020 (talk given by S. Onggo).

[11] Real-time nurse dispatching using dynamic priority decision framework. *Winter Simulation Conference*, virtual, 2020 (talk given by Kaming Yip).

[12] Selective pick-up and delivery traveling salesman problem: A simheuristics approach. Winter Simulation Conference, virtual, 2020 (talk given by T. Ghorpade).

[13] Teaching risk analytics using R. *Winter Simulation Conference*, virtual, 2020.

[14] Monte Carlo simulations to teach the effect of lean methods to improve business processes. *Winter Simulation Conference*, National Harbor, MD, 2019.

[15] A simulation-based decision framework for stable, flexible, and efficient biomanufacturing development. *INFORMS Annual Meeting*, Seattle, WA, 2019 (talk given by W. Xie).

[16] Using simulation-based education in different European universities. e-Math Workshop, Madrid, Spain, 2019 (talk given by A. Juan).

[17] Analytics for service-estimation in inventory systems with unknown input models. *the International Society for Business and Industrial Statistics (ISBIS) Conference*, IBM T.J. Watson Research Center, Yorktown Heights, NY, 2017 (poster presentation).

[18] Comparing simulated system designs under input parameter uncertainty. *INFORMS Annual Meeting*, San Francisco, CA, 2014.

[19] On the price of correlation parameter uncertainty in simulation optimization. *INFORMS Annual Meeting*, San Francisco, CA, 2014.

[20] A simulation-based support tool for data-driven decision making: Operational testing for dependence modeling. *Winter Simulation Conference*, Savannah, GA, 2014.

[21] A new decision support tool for data driven inventory control: Operational testing in uncertainty modeling. *MSOM Conference*, Seattle, WA, 2014.

[22] Accounting for parameter uncertainty in subset selection for simulation. *INFORMS Annual Meeting*, Minneapolis, MN, 2013.

[23] A subset selection procedure under input parameter uncertainty. *Winter Simulation Conference*, Washington, DC, 2013.

[24] Comparison of fitting methods for the generalized lambda distribution. *EURO-INFORMS Conference*, Rome, Italy, 2013 (talk given by M. Meterelliyoz).

[25] Managing multi-item inventory under demand parameter uncertainty. *MSOM Conference*, Fontainebleau, France, 2013 (talk given by B. Biller).

[26] Comparison of fitting methods for the generalized lambda distribution. *International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey, 2012 (talk given by M. Meterelliyoz).

[27] Representing demand parameter uncertainty in inventory simulations. *INFORMS Annual Meeting*, Chapel Hill, NC, 2011.

[28] Capturing multivariate parameter uncertainty in stochastic simulations. *Winter Simulation Conference*, Baltimore, MD, 2010.

[29] Tutorial: Introduction to simulation input modeling. *Winter Simulation Conference*, Baltimore, MD, 2010 (talk given by B. Biller).

[30] A Bayesian model for the accurate simulation of multi-product inventory systems. *YAEM Conference*, Istanbul, Turkey, 2010.

[31] Improving the design and analysis of multi-product inventory systems. *POMS Annual Meeting*, Vancouver, Canada, 2010.

[32] Vehicle routing for food rescue programs. *Humanitarian Logistics Conference*, Atlanta, GA, 2010 (poster presentation).

[33] A Bayesian model for sampling correlated inputs. *INFORMS Annual Meeting*, San Diego, CA, 2009.

[34] Accounting for multivariate parameter uncertainty in large-scale stochastic simulations. *Winter Simulation Conference*, Austin, TX, 2009 (poster presentation)

[35] A Bayesian model for representing parameter uncertainty in simulations with correlated inputs. *Winter Simulation Conference*, Austin, TX, 2009 (poster presentation)

[36] An analysis of Greater Pittsburgh Community Food Bank. *Humanitarian Logistics Conference*, Atlanta, GA, 2009 (poster presentation)

[37] Representing multivariate demand uncertainty in multi-product inventory simulations. *MSOM Conference*, Boston, MA, 2009.

[38] A Bayesian model for simulations with correlated inputs. *INFORMS Applied Probability Society Conference*, Ithaca, NY, 2009.

Teaching Experience

Courses Taught at Boston University (instructor ratings out of 5.00)

AD 804 Capstone Course for Supply Chain Management (Graduate), Spring 2020

AD605 Operations Management: Business Process Fundamentals (Graduate – designed, developed, and taught), Summer 2021 (online), Spring 2021 (online, 4.66), Summer 2020 (online, 4.70), Spring 2020 (online, 4.32), Fall 2019 (online, 4.37), Spring 2019 (online, 4.87), Fall 2016 (4.92)

AD616 Enterprise Risk Analytics (Graduate – designed, developed, and taught), Summer 2019 (online, 4.43), Fall 2016 (online, 4.33), Summer 2016 (5.00), Spring 2016 (online, 4.60)

AD680 Global Supply Chains (Graduate), Spring 2021 (4.47), Fall 2020, Fall 2019 (4.40), Spring 2019 (4.53), Fall 2018 (4.71), Fall 2018 (online, 3.87), Summer 2018 (4.66), Spring 2018 (4.82), Fall 2017 (4.62), Spring 2016 (redesigned, 4.80), Fall 2014 (4.31), Spring 2013 (4.42), Fall 2012 (co-taught with R. Warburton, 4.36)

AD667 Innovation and National Economic Development (Graduate), Fall 2013 (4.24)

MG541 The Innovation Process: Developing New Products and Services (Undergraduate), Spring 2015 (section B1: 4.43, section B2: 3.71), Fall 2014 (3.85), Fall 2013 (4.65), Spring 2013 (section C1: 4.55, section C2: 4.00), Fall 2012 (4.43)

Courses Taught at Bilkent University (instructor ratings out of 5.00)

IE 324 Simulation (Undergraduate core class), Spring 2012 (4.89), Summer 2011 (4.73), Spring 2011 (4.69)

IE 380 Quality Assurance and Reliability (Undergraduate core class), Spring 2012 (section O1: 4.61, section O3: 4.93)

IE 455 Service Systems (Undergraduate elective – designed, developed, and taught), Fall 2011 (4.87)

IE 490 Introduction to Research in IE and OR (Undergraduate elective – supervised five senior students in the context of this course), Summer 2011, Fall 2012, Spring 2012

Courses Taught at Carnegie Mellon University (instructor ratings out of 5.00)

70-371 Production-Operations Management (Undergraduate), Summer 2009 (4.92)

Teaching assistant - Tepper School of Business, Carnegie Mellon University *Production-Operations Management* (MBA/Undergraduate), Spring 2008, Spring 2009.

New Course Development

Boston University

AD 616 Enterprise Risk Analytics (designed and developed both *online* and face-to-face version).

AD 605 Operations Management: Business Process Fundamentals (designed and developed the face-to-face version).

AD 680 Global Supply Chains (designed and developed the face-to-face version).

AD 510 Mathematics & Statistics for Management (designed, co-developed, and supervised the

development process for the *online* version).

AD 100 Pre-Analytics Laboratory (developed a quarter of the laboratory).

Laboratory: Mathematics with Applications in Management (co-designed and supervised the development).

Laboratory: Statistics with Applications in Management (co-designed and supervised the development).

Bilkent University

IE 455 Service Systems (designed, developed, and taught).

Student Supervision

M.S. Student Supervision at Boston University: Yifan Zhao (Fall 2014), Ran Yi (Spring 2015), Liya Zhu (Summer 2015), Yuqian Sun (Summer 2015), Siyuan Liu (Fall 2016), Yiming Zhang (Fall 2017), Yue Wang (Fall 2018), Xi Chen (Spring 2019), Jiaxin Lu (Spring 2019), Chenshu Yang (Summer 2019), Tianhuai Ma (Summer 2019), Yanting Shen (Summer 2019), Farah Eid (Summer 2019), Yuanyuan Zhu (Fall 2019), Joost van Thiel (Fall 2019), Xinzhuo Wang (Spring 2020), Kaming Yip (Spring 2020, Summer 2020), Jaixun Wang (Spring 2020, Summer 2020), Danqi Lu (Summer 2020, Fall 2020), Yaunfei Zang (Summer 2020, Fall 2020), Salwa Benmansour (Fall 2020).

Undergraduate Student Supervision at Boston University (UROP): Emily Hou (Summer 2015), Guanying Qu (Spring 2016), Kaixi Song (Spring 2016), Dai Shi (Spring 2016), Jacquelyn Andrade (Spring 2016).

Undergraduate Student Supervision at Bilkent University: Burcu Tekin (Fall 2011), Galip Oral Okan (Fall 2011), Onur Tosyali (Summer 2011), Cansu Kapansahin (Spring 2012), Murat Tinic (Spring 2012).

Service

Elected Positions

Treasurer, INFORMS Simulation Society (2020 – Present)

Communications Editor, INFORMS Simulation Society (2018 – 2020)

Treasurer, INFORMS Junior Faculty Interest Group (2016 – 2020)

Editorial Service

Proceedings Editor, INFORMS 2022 Winter Simulation Conference

Topic Editor, Sustainability (2020 - Present)

Associate Editor, Journal of Simulation (2020 - Present)

Editorial Board Member, Journal of Business Analytics (2018 – Present)

Conference and Session Organizer

INFORMS Winter Simulation Conference Track Coordinator, Robust Simulation Track, (2020, 2021)

Winter Simulation Conference Program Committee Member

– Logistics, SCM and Transportation Track Program Committee (2016 – 2021)

- Analysis and Methodology Track Program Committee (2014, 2016, 2018– 2021)
- Uncertainty Quantification and Robust Simulation Track Program Committee (2019)

Winter Simulation Conference Session Organizer/Co-organizer
- 2019 – Session "Uncertainty Modeling in Operations Planning"
- 2018 – Session "Operations Planning under Input Model Uncertainty"
- 2017 – Session "Uncertainty Modeling in Operations Planning"
- 2016 – Session "Uncertainty Modeling in Operations Planning"
- 2015 – Session "Accounting for Input Uncertainty in Stochastic Simulations"
- 2010 – Session "Accounting for Parameter Uncertainty in Stochastic Simulation"

INFORMS Annual Meeting Session Organizer/Co-organizer
- 2021 Sessions
  - Session "Simulation Optimization Applications"
  - Session "Decision Analysis in Practice"
- 2019 Sessions
  - JFIG Panel Discussion: Best Practices in Teaching OR/MS
  - JFIG Panel Discussion: Survival Guide for Junior Faculty
- 2018 Sessions
  - JFIG Panel Discussion: Best Practices in Reviewing Papers
  - JFIG Panel Discussion: Work-Life Balance
  - JFIG Panel Discussion: Advancing Your Research in Non-Doctorate Granting Institutions
  - JFIG Panel Discussion: A Survival Guide for Junior Faculty
  - JFIG Panel Discussion: How to Build Your Network
- 2017 – JFIG Panel Discussion: Best Practices in Reviewing Papers
- 2015 – Session "Accounting for Input Uncertainty in Stochastic Simulations"
- 2014 – Session "Data Analytics in Simulation"
- 2013 – Session "Accounting for Input Parameter and Model Uncertainties in Stochastic Simulations"

Conference Session Chair

INFORMS Annual Meeting (2011, 2013, 2014, 2015, 2017, 2018, 2021)

INFORMS Winter Simulation Conference (2013 - 2021)

Scientific Journal Reviewer

Ad hoc referee for journals: *Management Science*, *Operations Research*, *Informs Journal on Computing*, *Naval Research Logistics*, *TOMACS*, *Annals of Operations Research*, *Mathematics of Operations Research*, *IISE Transactions*, *European Journal of Operational Research*, *Journal of Simulation*, *Algorithmic Finance*, *International Journal of Global Warming*, *AsTA Advances in Statistical Analysis*, *European Journal of Industrial Engineering*, *Financial Markets and Portfolio Management*, and *Journal of Business Analytics*.

Ad hoc referee for conference proceedings: Winter Simulation Conference Proceedings Analysis and Methodology Track (2014, 2016, 2018, 2019, 2020), Winter Simulation Conference Proceedings Logistics, SCM and Transportation Track (2016 – 2019), Winter Simulation Conference Proceedings Uncertainty Quantification and Robust Simulation Track (2019), Northeast Decision Sciences Institute (2018), 51st Hawaii International Conference on System Sciences (2017).

Other Professional Service

Mentor, INFORMS WORMS Mentorship program (2015, 2021)

Judge, INFORMS MIF Poster Competition (2021)

PhD Thesis Reader, Invited referee for the PhD thesis "Simheuristics to support efficient and sustainable freight transportation in smart city logistics", Escola de Doctorat, Barcelona, Spain (2018).

Department Service

Faculty Coordinator for the Supply Chain Management Programs (Spring 2017 – Present)
Faculty Coordinator for the Applied Business Analytics Programs (Fall 2015 – Fall 2016)

- Ensuring the excellence and relevance of the curriculum
- Reviewing program learning outcomes and being responsible for their assessment
- Reviewing curriculum and course sequence in the program, including prerequisites
- Participating in instructor recruiting and selection process, and providing input on their evaluation
- Participating in course scheduling and staffing
- Proposing new courses in the program and supervising their development
- Advising students on various program pathways
- Preparing documents for the college and university process for program approvals and updates
- Dealing with program industry accreditations requirements and maintenance
- Providing input for program promotion material, including content for the program website and department newsletter and coordinating with other college units in promotion of the program (serving in webinars, attending key SCM conferences in person to promote the program)
- Putting together an industry advisory board to discuss program curriculum and meeting with the advisory board once a semester to seek feedback on the latest industry trends to be incorporated into the curriculum
- Organizing networking and information sessions for current students

Course Coordinator for the courses AD 510, AD 680, and AD804

- Approving course learning outcomes in coordination with program coordinators
- Reviewing course prerequisites and the required student background
- Approving course syllabi for all delivery modes
- Overseeing and approving development of course content and updates
- Participating in instructor and facilitators selection process
- Communicating with course instructors before the running of the course and discussing teaching expectations
- Reviewing course assignments and assessments
- Enrolling in the online course and receiving weekly course health checks

– After each running of the course following up with instructor about issues that need to be updated
– Reviewing course evaluations and providing input to chairs and program directors
– Coordinating course updates before the next running of the course

Chair, Administrative Sciences Faculty Search Committee, 2019 – Present

Member, Administrative Sciences Faculty Search Committee, 2015 – 2016

Member, Administrative Sciences Admissions Committee, 2019 – Present

Coordinator, Administrative Sciences Supply Chain Management Programs Website Development, 2020–Present

College Service

Member, Learn from Anywhere (LfA) Working Group (2021)

Coach, Learn from Anywhere (LfA) (2020 – 2021)

Chair, Nominations Committee (2021)

Member, Nominations Committee (2019 - 2020)

Member, Academic Policy Committee (2018 – 2019)

Member, Chadwick Fellowship Committee (2018 – 2020)

Member, Faculty Merit Review Committee (2016 – 2018)

Faculty Council representative (2014 – 2016)

Professional Societies

Member, Institute of Operations Research and Management Sciences (INFORMS) (since 2012)

Member, INFORMS Simulation Society (since 2013)

Member, INFORMS Forum on Women in OR/MS (since 2013)

Member, INFORMS Analytics Section (since 2015)

Member, INFORMS Junior Faculty Interest Group Forum (since 2014)

Member, INFORMS Minority Issues Forum (since 2017)

Member, INFORMS Production and Operations Management Society (since 2019)

Member, APICS (since 2018)

Development Programs

Participant, INFORMS 2018 Junior Faculty Interest Group Next Step Career Panel Sessions, 2018

Participant, POMS Doctoral Student Consortium, 2010.

Participant, Managing performance in humanitarian logistics workshop, Health and Humanitarian

Logistics Conference, 2009.

Participant, Winter Simulation Conference PhD Colloquium, 2009.