

HAKAN YILDIZ
Assistant Professor
Department of Supply Chain Management
Eli Broad College of Business
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Academic Work Experience

- 2009 - Present Assistant Professor, Department of Supply Chain Management, Eli Broad College of Business, Michigan State University
- 2008 – 2009 Visiting Assistant Professor, Department of Supply Chain Management, Eli Broad College of Business, Michigan State University

Education

- PhD, Industrial Administration (Operations Research), Tepper School of Business, Carnegie Mellon University, 2008.
Dissertation: Methodologies and Applications for Scheduling, Routing and Related Problems. (Advisor: Michael Trick)
- MS, Industrial Administration (Operations Research), Tepper School of Business, Carnegie Mellon University, 2004.
- BS, Industrial Engineering, Bilkent University, 2000.

Research Interests

Supply chain risk management, resource management in services, logistics optimization, supply chain analytics, talent supply chain management

Peer-Reviewed Publications

- Yoon, J., Talluri, S., **Yildiz, H.** and Ho, W. Models for Supplier Selection and Risk Mitigation: A Holistic Approach. *International Journal of Production Research*, forthcoming.
- **Yildiz, H.**, Yoon, J., Talluri, S., and Ho, W. Reliable Supply Chain Network Design. *Decision Sciences Journal*, 47(4), pp. 661-698, 2016.
- **Yildiz, H.**, Duhadway, S., Narasimhan, R., and Narayanan, S. Production Planning Using Evolving Demand Forecasts in the Automotive Industry. *IEEE Transactions on Engineering Management*, 63 (3), pp. 296 – 304, 2016.
- Yoon, J., **Yildiz, H.**, and Talluri, S. Risk Management Strategies in Transportation Capacity Decisions: An Analytical Approach. *Journal of Business Logistics*, 37: 364–381, 2016.
- Mutlu, F., Msakni, M.K., **Yildiz, H.**, Sonmez, E., and Pokharel, S. A Comprehensive Annual Delivery Program for Upstream Liquefied Natural Gas Supply Chain. *European Journal of Operational Research*, 250(1), pp.120-130, 2016.
- Ho, W., T. Zheng, **Yildiz, H.**, and Talluri, S. Supply Chain Risk Management: A Literature Review. *International Journal of Production Research*, vol. 53, no. 16, 2015.

- Talluri, S., Kull, T., **Yildiz, H.**, and Yoon, J. Assessing the Efficiency of Risk Mitigation Strategies in Supply Chains. *Journal of Business Logistics*, vol.34, no. 4, pp. 253-269, 2013.
- **Yildiz, H.**, Johnson, M.P., and Roehrig, S. Planning for Meals-on-Wheels: Algorithms and Application. *Journal of the Operational Research Society*, vol. 64, no. 10, pp. 1540–1550, October 2013.
- Trick, M.A., **Yildiz, H.**, and Yunes, T. Scheduling Major League Baseball Umpires and the Traveling Umpire Problem. *Interfaces*, vol. 42, pp. 232–244, May/June 2012. (*author names in alphabetical order*)
- Trick, M.A. and **Yildiz, H.** Locally Optimized Crossover for the Traveling Umpire Problem. *European Journal of Operational Research*, vol. 216, no. 2, pp. 286-292, January 2012. (*author names in alphabetical order; corresponding author: Yildiz, H.*)
- Trick, M.A. and **Yildiz, H.** Benders' Cuts Guided Large Neighborhood Search for the Traveling Umpire Problem. *Naval Research Logistics*, vol. 58, no. 8, pp. 771-781, December 2011. (*author names in alphabetical order; corresponding author: Yildiz, H.*)
- **Yildiz, H.**, Ravi, R., and Fairey, W. Integrated Optimization of Customer and Supplier Logistics at Robert Bosch LLC. *European Journal of Operational Research*, vol. 207, no. 1, pp. 456-464, 2010.

Under Review

- Mutlu, F., **Yildiz, H.**, Sonmez, E., and Pokharel, S. Journal: *Annals of Operations Research*. Topic: LNG Shipment Planning (Revised for 3rd Round Review.)
- Talluri, S., **Yildiz, H.**, Yoon, J., and Wassick, J. Target Journal: *Decision Sciences Journal*. Topic: Supply chain analytics (Submitted.)

Research in Progress

- **Yildiz, H.** and Wiedmer, R. Target Journal: *Manufacturing & Service Operations Management*. Topic: Logistics and Operations Planning in Recycling Industry (Analysis is in progress).
- **Yildiz, H.**, and Acimovic, J. Target Journal: *Production and Operations Management*. Topic: Logistics optimization in services (Analysis is in progress).
- Narayanan, S., **Yildiz, H.** and Pentland, B. Target Journal: *Production and Operations Management*. Topic: Talent supply chain management (Manuscript is in preparation for submission.)
- Mutlu, F., **Yildiz, H.**, Sonmez, E., and Pokharel, S. Target Journal: *International Journal of Production Research*. Topic: Robust Plans for LNG Shipments (Manuscript is in preparation for submission.)
- Bhattacharjee, A., Chakraborty, S., Maiti, T., Talluri, S., and **Yildiz, H.** Target Journal: *Decision Sciences Journal*. Topic: Supply chain networks and risk management (Analysis is in progress).
- Suzuki, Y. and **Yildiz, H.** Target Journal: *Transportation Science* Topic: Transportation procurement monitoring (In development phase)

Peer-Reviewed Conference Proceedings

- Mutlu, F., **Yildiz, H.**, Sonmez, E., and Pokharel, S. A Simulation Model for Comparing the Robustness of Alternative Liquefied Natural Gas (LNG) Annual Delivery Programs (ADPs) In *Proceedings of Decision Sciences Institute Conference*, 2016, Austin, TX.
- Talluri, S., **Yildiz, H.**, Yoon, J., and Wassick, J. Models for Monitoring Supply Chain Network Design Efficiency. In *Proceedings of CSCMP Educators' Conference*, 2015, San Diego, CA.
- Yoon, J., **Yildiz, H.**, and Talluri, S. Risk Management Strategies in Transportation Capacity Decisions: An Analytical Approach. In *Proceedings of the CSCMP Educators' Conference*, 2014, San Antonio, TX.
- **Yildiz, H.**, Ravi, R., and Fahey, W. Optimization of Customer & Supplier Logistics at Robert Bosch LLC. In *Proceedings of the CSCMP Educators' Conference*, 2009, Chicago, IL.
- Trick, M.A. and **Yildiz, H.** Bender's Cuts Guided Large Neighborhood Search for the Traveling Umpire Problem. In CP-AI-OR 2007, P. Van Hentenryck and L. Wolsey (Eds.), Lecture Notes in Computer Science, No. 4510, pp. 332-345, Springer, 2007.
- Trick, M.A. and **Yildiz, H.** A Large Neighborhood Search Heuristic for Graph Coloring. In CP-AI-OR 2007, P. Van Hentenryck and L. Wolsey (Eds.), Lecture Notes in Computer Science, No. 4510, pp. 346-360, Springer, 2007.
- **Yildiz, H.**, Johnson, M.P., and Roehrig, S. Policy Implications of a Planning Model for Home-Delivered Meals. In *Proceedings of the MSOM Conference*, 2006, Atlanta, GA.

Research Grants

- Midland Research Institute for Value Creation, *A Methodology for Monitoring Efficiency of Supply Chain Network Design* (with Srinivas Talluri), 2015-2016, **Amount funded: \$58,360**
- Midland Research Institute for Value Creation, *A Methodology for Monitoring Efficiency of Supply Chain Network Design* (with Srinivas Talluri), 2014-2015, **Amount funded: \$69,360**
- Kelly OCG Inc., *Value Drivers and Productivity in Talent Supply Chain Management*, (with Closs, D. and Narayanan, S.), 2012-2013, **Amount funded: \$33,765**
- Qatar Foundation, *A Framework for Upstream Natural Gas Supply Chain Design: LNG Distribution Network* (with Mutlu, F., Pokharel, S., and Ravi, R.), 2012-2015, **Amount funded: \$629,737.44**
- Kelly OCG Inc., *Cycle Time Analysis for Talent Supply Chain Management* (with Closs, D. and Narayanan, S.), 2011, **Amount funded: \$11,500.**
- Center for Packaging Innovation and Sustainability, Michigan State University, *Economic Viability and Sustainability of Returnable versus Single-Use Packaging Systems* (with R. Clarke and J. Macdonald), 2011-2012, **Amount funded: \$57,656**

Eli Broad College of Business Summer Research Grants:

- *Transportation and Process Planning for Beverage Container Recycling*, 2017, **Amount funded: \$15,000**

- *Data Analytics for Logistics Risk Monitoring*, 2016, **Amount funded: \$13,000**
- *A Network Analysis of US Auto Industry Supply Chains*, 2015, **Amount funded: \$15,000**
- *Resource Routing and Scheduling in the Services Industry*, 2014, **Amount funded: \$10,000**
- *Planning for Equipment Rentals in the Entertainment Industry*, 2013, **Amount funded: \$8,000**
- *Reliable and Robust Supply Chain Network Design*, 2012, **Amount funded: \$7,000**

Research Projects with Firms

Bosch, Major League Baseball, Kelly OCG, Lear Corporation, Dow Chemical, SGA Production Services, Schupan Recycling, UBCR

Invited Seminars

- University of Rhode Island, “Reliable Supply Chain Network Design”, 10/2014
- Albion College, “Decision Models for Logistics Management”, 03/2015
- University of Michigan-Dearborn, “Decision Models for Logistics Management”, 04/2015

Conference Presentations

- **Yildiz, H.**, Talluri, S., Yoon, J., and Wassick, J. “Models for Monitoring Supply Chain Network Design Efficiency”, *DSI Annual Conference*, November, 2016, Austin, TX.
- **Yildiz, H.**, Duhadway, S., Narasimhan, R., and Narayanan, S. “Production Planning Using Evolving Demand Forecasts in the Automotive Industry”, *DSI Annual Conference*, November, 2016, Austin, TX.
- **Yildiz, H.**, Talluri, S., Yoon, J., and Wassick, J. “Models for Monitoring Supply Chain Network Design Efficiency”, *INFORMS Annual Conference*, November, 2016, Nashville, TN.
- **Yildiz, H.**, Mutlu, F., Sonmez, E., and Pokharel, S. “Robust Plans for the Delivery of Liquefied Natural Gas”, *CSCMP Educators’ Conference*, September, 2016, Orlando, FL.
- **Yildiz, H.**, and Narayanan, S. “3PLs of the Talent Supply Chains: Identification of Key Capabilities through Extensive Field Study”, *CSCMP Educators’ Conference*, September, 2016, Orlando, FL.
- **Yildiz, H.**, Mutlu, F., Msakni, M.K., Sonmez, E., and Pokharel, S. “Optimizing Delivery Plans for LNG Supply Chains”, *INFORMS Southeast Michigan Symposium*, May 2016, Rochester, MI.
- **Yildiz, H.**, Talluri, S., Yoon, J., and Wassick, J. “Models for Monitoring Supply Chain Network Design Efficiency”, *CSCMP Educators’ Conference*, September, 2015, San Diego, CA.
- **Yildiz, H.**, Talluri, S., Kull, T., and Yoon, J. “Assessing the Efficiency of Risk Mitigation Strategies in Supply Chains”, *INFORMS Annual Conference*, November 2014, San Francisco, CA.
- **Yildiz, H.**, Yoon, J., and Talluri, S. “Reliable Supply Chain Network Design”, *INFORMS Southeast Michigan Symposium*, November 2013, Detroit, MI.

- **Yildiz, H.** "Planning for Equipment Rentals and the Traveling Equipment Problem", *INFORMS Annual Conference*, October 2013, Minneapolis, MN.
- **Yildiz, H.**, Trick, M.A., and Yunes, T. "Traveling Umpire Problem: A New Challenging Test-Bed for Optimization", *Turkish Operations Research and Industrial Engineering Conference*, June 2012, Istanbul, Turkey.
- **Yildiz, H.**, Talluri, S., and Closs, D. "Reliable and Robust Supply Chain Network Design", *European DSI Conference*, June 2012, Istanbul, Turkey.
- **Yildiz, H.**, Talluri, S., and Closs, D. "Reliable Supply Chain Network Design", *POMS Annual Conference*, April 2012, Chicago, IL.
- **Yildiz, H.**, Talluri, S., and Kull, T. "Efficacies of Risk Mitigation Strategies in Supply Chains", *POMS Annual Conference*, April 2012, Chicago, IL.
- **Yildiz, H.**, Talluri, S., and Closs, D. "Reliable Supply Chain Network Design", *INFORMS Annual Conference*, November 2011, Charlotte, NC.
- **Yildiz, H.**, Ravi, R., and Faurey, W. "Optimization of Customer and Supplier Logistics at Bosch", *CSCMP Educators' Conference*, September 2009, Chicago, IL.
- **Yildiz, H.**, Trick, M.A., and Yunes, T. "Scheduling Major League Baseball Umpires and the Traveling Umpire Problem", *DSI Annual Conference*, November 2008, Baltimore, MD.
- **Yildiz, H.** and Ravi, R. "Optimization of Customer and Supplier Logistics at a Large Automotive Parts Manufacturer", *INFORMS Annual Conference*, October 2008, Washington, DC.
- **Yildiz, H.** and Trick, M.A. "Logical Bender's Cuts Guided Local Search and a Greedy Heuristic for the Traveling Umpire Problem", Invited Talk, *INFORMS Annual Conference*, November 2007, Seattle, WA.
- **Yildiz, H.** and Trick, M.A. "Bender's Cuts Guided Large Neighborhood Search for The Traveling Umpire Problem," *CP-AI-OR*, May 2007, Brussels, Belgium.
- **Yildiz, H.** and Trick, M.A. "A Large Neighborhood Search Heuristic for Graph Coloring," *CP-AI-OR*, May 2007, Brussels, Belgium.
- **Yildiz, H.** and Trick, M.A. "The Traveling Umpire Problem," Invited Talk, *INFORMS Annual Conference*, November 2006, Pittsburgh, PA.
- **Yildiz, H.**, Johnson, M.P., and Roehrig, S. "Policy Implications of a Planning Model for Home-Delivered Meals," *MSOM Conference*, June 2006, Atlanta, GA.
- **Yildiz, H.**, Johnson, M.P., and Roehrig, S. "A Genetic Algorithm for the Home-Delivered Meals Location Routing Problem," Invited Talk, *IFORS Triennial 2005 Conference*, Honolulu, HI.
- **Yildiz, H.** and Johnson, M.P. "Policy Implications of a Planning Model for Home-Delivered Meals," Invited Talk, *INFORMS Annual Conference*, November 2005, San Francisco, CA.
- **Yildiz, H.** and Trick, M.A. "A Large Neighborhood Search Heuristic for Graph Coloring," Invited Talk, *INFORMS Annual Conference*, October 2004, Denver, CO.

Non-refereed Reports

- Closs, D., Narayanan, S., and **Yildiz, H.** “Fundamentally Different: Competencies for Managing Contingent Talent,” white paper published by Kelly OCG, 2014.

In Popular Press

- Incorporation of Kewill Transport TMS into the Transportation Management course announced in a [press release](#) on *Reuters and Yahoo Finance* on July 24, 2015.
- [Appearance](#) on WKAR Radio’s *Current State* on July 10, 2014.
- [Quoted](#) in *MHI Solutions Magazine*, Vol. 2, No. 1, 2014.
- Paper on MLB umpire scheduling covered in various news outlets in 2011, including: [Scientific American](#), *United Press International*, *Business Miami Magazine*, [WAMC Northeast Public Radio Academic Minute](#), *Miami New Times*, [phys.org](#), [HPCwire.com](#), [thepostgame.com](#), [sciencedaily.com](#), [futurity.org](#), [esciencenews.com](#).

Graduate Student Activity

- PhD Committee Member: Christopher L. Fleming (Logistics), Jiho Yoon (Operations Management).
- MS in Supply Chain Management, Thesis Advisors: Ben Binate and Mark Ford

Teaching Experience

Instructor

@ Eli Broad College of Business, Michigan State University

- » Logistics and Transportation Management, BA Core, each year since Spring 2013
- » Transportation Management, BA Elective, each year since Fall 2008.

@ Tepper School of Business, Carnegie Mellon University

- » Optimization Models for Logistics, MBA elective, Spring 2007.
- » Logistics and Supply Chain Management, BA elective, Spring 2007.
- » OR Models for Routing and Distribution, MBA elective, Spring 2006.

Executive Education

@ School of Packaging, Michigan State University, “Supply Chain Technologies: New Trends”, May 12, 2016, East Lansing, MI

@ Kelly OCG, “Talent Supply Chain Management”, 2013, Troy, MI

@ 6th International Procurement, Logistics and Supply Chain Management Summit, October 2010, Istanbul, Turkey

- » A talk on “Supply Chain Network Strategy”
- » A workshop on “Analytical Methods for Supply Chain Management”

Guest Lecturer

@ Eli Broad College of Business, Michigan State University

- » “Network Design Optimization” in Supply Chain Decision Modeling, BA elective (Srinivas Talluri, Instructor), April 10, 2014.

- » “Network Models and Optimization,” in Logistics and Public Policy, PhD core (Patricia Daugherty, Instructor), September 24, 2013.
- » “Metaheuristics,” in SCM Applied Decision Models, PhD (Srinivas Talluri, Instructor), March 28, 2013.
- » “Vehicle Routing,” in Logistics and Transportation Management, BA core (Yemisi Bolumole, Instructor), Spring 2013 and Spring 2014.
- » “Network Analysis Research,” in Logistics and Public Policy, PhD core (David Closs, Instructor), November 28, 2011.
- » “Optimization Methods for Logistics,” in Logistics and Public Policy, PhD core (Ed Morash, Instructor), November 7, 2008.

@ H. John Heinz III School of Public Policy and Management, Carnegie Mellon University

- » “Local Search and Genetic Algorithms,” in Operations Research for the Public Sector, MS Elective, (Michael P. Johnson, Instructor), November 15, 2006.

Teaching Interests

Operations Management; Logistics; Supply Chain Management; Transportation Management; Business Analytics; Decision Making Models; Optimization; Metaheuristics

Service to Academic Profession

- *Officer:* INFORMS Southeast Michigan Chapter, Jan. 2014-Dec. 2015
- *Symposium Co-Organizer:*
 - » INFORMS Southeast Michigan Research Symposium, East Lansing, MI, 2014
 - » “Data in the D” Big Data Analytics Conference, Detroit, MI, 2015
- *Track Chair:*
 - » DSI Annual Meeting, Seattle, WA, 2015
 - » CSCMP Educators’ Conference, Chicago, IL, 2009
- *Panel Organizer :*
 - » “Practicality vs tractability in using decision models for logistics problems”, DSI Annual Meeting, Seattle, WA, 2015
 - » “External letters of recommendation for tenure: Hear from those who write and read them”, INFORMS Annual Meeting, San Francisco, CA, 2014
- *Panel Participant:*
 - » Logistics/Supply Chain Doctoral Symposium, East Lansing, MI, 2009
 - » INFORMS Future Academician Colloquium, Minneapolis, MN, 2013
- *Session Chair:*
 - » INFORMS Annual Conference (2008, 2014)
 - » DSI Annual Conference (2011, 2015, 2016)
 - » POMS Conference, Chicago, IL, 2012
 - » Turkish Operations Research and Industrial Engineering Conference, Istanbul, Turkey, 2012
- *Scientific Committee Member:* 9th International Logistics & Supply Chain Congress, Izmir, Turkey, 2011
- *Judge:* Society of Logistics Engineers, Doctoral Dissertation Proposal Award, 2009-2011

- *Editorial Review Board Member:*
 - » IEEE Transactions on Engineering Management, 2014-present
- *Ad-Hoc Reviewer:*
 - » Computers and Operations Research
 - » Decision Sciences Journal
 - » EURO Journal on Transportation and Logistics
 - » European Journal of Operational Research
 - » International Journal on Production Research
 - » International Journal on Production Economics
 - » International Transactions in Operational Research
 - » Journal of Business Logistics
 - » Journal of Operational Research Society
 - » Optimization. A Journal of Mathematical Programming and Operations Research
 - » Transportation Research Part B

Service to Michigan State University

- Faculty Grievance Hearing Panel (2010)
- Undergraduate Interest Group (2010)
- Ad-hoc departmental committee for department strategy (2012-2014)
- Ad-hoc departmental committee for doctoral program (2016)
- Faculty Advisor, GM-Wayne State University Supply Chain Case Competition (2016, 2017)
- Judge, MSU SCM Internal Case Competition (2016, 2017)

Professional Affiliations

- Institute for Operations Research and the Management Sciences (INFORMS)
- Council of Supply Chain Management Professionals (CSCMP)
- Decision Sciences Institute (DSI)

Honors

- Broad Integrative Fellow, Eli Broad College of Business (2017)
- William Larimer Mellon Fellowship for doctoral studies at Carnegie Mellon University, 2002– 2005
- Full academic scholarship for graduate studies, Bilkent University, 2000–2001
- Full academic scholarship for undergraduate studies, Bilkent University, 1996–2000
- Ranked 10th out of 41,000 in the Graduate School Admission Examination in Mathematical Sciences in Turkey, 1999
- Ranked 4th in the first stage and 9th in the second stage of the University Admission Examination in Turkey among more than one million examinees, 1996