**HAKAN YILDIZ**

Assistant Professor

Department of Supply Chain Management

Eli Broad College of Business

Michigan State University

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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, logistics optimization, supply chain analytics, talent supply chain management

# Peer-Reviewed Publications

## **H. Yildiz**, J. Yoon, S. Talluri, and W. Ho. Reliable Supply Chain Network Design. Decision Sciences Journal, 47(4), pp. 661-698, 2016.

## **H. Yildiz**, S. Duhadway, R. Narasimhan, and S. Narayanan. Production Planning Using Evolving Demand Forecasts in the Automotive Industry. IEEE Transactions on Engineering Management, 63 (3), pp. 296 – 304, 2016.

## F. Mutlu, M.K. Msakni, **H. Yildiz**, E. Sonmez, and S. Pokharel. A Comprehensive Annual Delivery Program for Upstream Liquefied Natural Gas Supply Chain. European Journal of Operational Research, 250(1), pp.120-130, 2016.

* J. Yoon, **H. Yildiz,** and S. Talluri. Risk Management Strategies in Transportation Capacity Decisions: An Analytical Approach. *Journal of Business Logistics,* forthcoming, 2015.

## W. Ho, T. Zheng, **H. Yildiz,** and S. Talluri. Supply Chain Risk Management: A Literature Review. International Journal of Production Research, vol. 53, no. 16, 2015.

## S. Talluri, T. Kull, **H. Yildiz**, and J. Yoon. Assessing the Efficiency of Risk Mitigation Strategies in Supply Chains. Journal of Business Logistics, vol.34, no. 4, pp. 253-269, 2013.

## **H. Yildiz**, M.P. Johnson, and S. Roehrig. Planning for Meals-on-Wheels: Algorithms and Application. Journal of the Operational Research Society, vol. 64, no. 10, pp. 1540–1550, October 2013.

* M. A. Trick, **H. Yildiz**, and T. Yunes. Scheduling Major League Baseball Umpires and the Traveling Umpire Problem. *Interfaces*, vol. 42, pp. 232–244, May/June 2012. (*author names in alphabetical order; corresponding author: T. Yunes*)
* M.A. Trick and **H. Yildiz**. 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: H. Yildiz*)
* M.A. Trick and **H. Yildiz**. 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: H. Yildiz H. Yildi*)
* **H. Yildiz**, R. Ravi, and W. Fairey. 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**

## F. Mutlu, **H. Yildiz**, E. Sonmez, and S. Pokharel. Journal: Annals of Operations Research. Topic: LNG Shipment Planning (Invited for revision)

## J. Yoon, S. Talluri, and **H. Yildiz**. Target Journal: IEEE Transactions on Engineering Management. Topic: Supply risk management (Under 1st Round Review).

## **Research in Progress**

## S. Narayanan, and **H. Yildiz**. Journal: Journal of Business Logistics. Topic: Talent supply chain management (Manuscript is about to be submitted).

## S. Talluri, **H. Yildiz**, J. Yoon, and J. Wassick. Journal: Production and Operations Management. Topic: Supply chain analytics (Manuscript is about to be submitted).

## F. Mutlu, **H. Yildiz**, E. Sonmez, and S. Pokharel. Journal: International Journal of Production Research. Topic: Robust Plans for LNG Shipments (Manuscript is about to be submitted.)

## **H. Yildiz** and R. Wiedmer. Target Journal: Transportation Journal. Topic: Risk management in vehicle routing (Analysis completed, manuscript is in preparation).

## **H. Yildiz**, J. Acimovic, and S. Griffis. Target Journal: Production and Operations Management. Topic: Logistics optimization in services (Analysis is in progress).

## A. Bhattacharjee, S. Chakraborty, T. Maiti, S. Talluri, and **H. Yildiz**. Target Journal: Decision Sciences Journal. Topic: Supply chain networks and risk management (Analysis is in progress).

## **H. Yildiz** and S. Griffis. Topic: Transportation risk management (In development phase)

## **Peer-Reviewed Conference Proceedings**

## S. Talluri, **H. Yildiz**, J. Yoon, and J. Wassick. Models for Monitoring Supply Chain Network Design Efficiency. In Proceedings of CSCMP Educators’ Conference, 2015, San Diego, CA.

## J. Yoon, **H. Yildiz**,and S. Talluri. Risk Management Strategies in Transportation Capacity Decisions: An Analytical Approach. In Proceedings of the CSCMP Educators’ Conference, 2014, San Antonio, TX.

* **H. Yildiz**, R. Ravi, and W. Fairey. Optimization of Customer & Supplier Logistics at Robert Bosch LLC. In *Proceedings of the CSCMP Educators’ Conference*, 2009, Chicago, IL.
* M.A. Trick and **H. Yildiz**. 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.
* M.A. Trick and **H. Yildiz**. 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.
* **H. Yildiz**, M.P. Johnson, and S. Roehrig. Policy Implications of a Planning Model for Home-Delivered Meals. In *Proceedings of the MSOM Conference*, 2006, Atlanta, GA.

# Research Grants

*Under Review*

* U.S Department of Energy, *Smart Materials Exchange (SME),* (with James F. Klausner, Andre Benard, Sri Talluri and Sriram Narayanan), **Funding requested: $140 Million**
* Ford-MSU Innovation Alliance, *Impact of Connected and Automated vehicles to Automotive Supply Chains* (with Mehrnaz Ghamami, and Ali Zockaie) (Pre-proposal)

*Funded*

* 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 D. Closs and S. Narayanan), 2012-2013, **Amount funded: $33,765**
* Qatar Foundation, *A Framework for Upstream Natural Gas Supply Chain Design: LNG Distribution Network* (with F. Mutlu, S. Pokharel, and R. Ravi), 2012-2015, **Amount funded: $629,737.44**
* Kelly OCG Inc., *Cycle Time Analysis for Talent Supply Chain Management* (with D. Closs and S. Narayanan), 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:

* *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 Corp., Dow Chemical, SGA Production Services

# 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

*Upcoming*

* F. Mutlu, **H. Yildiz**, E. Sonmez, and S. Pokharel. “[Robust Plans for the Delivery of Liquefied Natural Gas](https://cscmp.org/sites/default/files/user_uploads/educational/2016_educators_conference_8.30.16.pdf)”, *CSCMP Educators’ Conference*, September, 2016, Orlando, FL.
* S. Narayanan, and **H. Yildiz**. “[3PLs of the Talent Supply Chains: Identification of Key Capabilities through Extensive Field Study](https://cscmp.org/sites/default/files/user_uploads/educational/2016_educators_conference_8.30.16.pdf)”, *CSCMP Educators’ Conference*, September, 2016, Orlando, FL.
* S. Talluri, **H. Yildiz**, J. Yoon, and J. Wassick. “[Models for Monitoring Supply Chain Network Design Efficiency](http://www.abstractsonline.com/pp8/#!/4182/presentation/21355)”, *INFORMS Annual Conference*, November, 2016, Nashville, TN.

**H. Yildiz**, F. Mutlu, E. Sonmez, and S. Pokharel. “A Simulation Model for Comparing the Robustness of Alternative Liquefied Natural Gas (LNG) Annual Delivery Programs (ADPs)”, *DSI Annual Conference,* November, 2016, Austin, TX.

* S. Talluri, **H. Yildiz**, J. Yoon, and J. Wassick. “Models for Monitoring Supply Chain Network Design Efficiency”, *DSI Annual Conference*, November, 2016, Austin, TX.
* **H. Yildiz**, S. Duhadway, R. Narasimhan, and S. Narayanan. “Production Planning Using Evolving Demand Forecasts in the Automotive Industry”, *DSI Annual Conference*, November, 2016, Austin, TX.

*Previous*

* **H. Yildiz**, F. Mutlu, M.K. Msakni, E. Sonmez, and S. Pokharel. “Optimizing Delivery Plans for LNG Supply Chains”, *INFORMS Southeast Michigan Symposium*, May 2016, Rochester, MI.
* S. Talluri, **H. Yildiz**, J. Yoon, and J. Wassick. “Models for Monitoring Supply Chain Network Design Efficiency”, CSCMP Educators’ Conference, September, 2015, San Diego, CA.
* **H. Yildiz**,S. Talluri, T. Kull, and J. Yoon. “Assessing the Efficiency of Risk Mitigation Strategies in Supply Chains”, *INFORMS Annual Conference*, November 2014, San Francisco, CA.
* **H. Yildiz**, J. Yoon, and S. Talluri. “Reliable Supply Chain Network Design”, *INFORMS Southeast Michigan Symposium*, November 2013, Detroit, MI.
* **H. Yildiz**.“Planning for Equipment Rentals and the Traveling Equipment Problem”, *INFORMS Annual Conference*, October 2013, Minneapolis, MN.
* **H. Yildiz**,M. Trick, and T. Yunes. “Traveling Umpire Problem: A New Challenging Test-Bed for Optimization”, *Turkish Operations Research and Industrial Engineering Conference*, June 2012, Istanbul, Turkey.
* **H. Yildiz**,S. Talluri, and D. Closs. “Reliable and Robust Supply Chain Network Design”, *European DSI Conference*, June 2012, Istanbul, Turkey.
* **H. Yildiz**,S. Talluri, and D. Closs. “Reliable Supply Chain Network Design”, *POMS Annual Conference*, April 2012, Chicago, IL.
* **H. Yildiz**,S. Talluri, and T. Kull. “Efficacies of Risk Mitigation Strategies in Supply Chains”, *POMS Annual Conference*, April 2012, Chicago, IL.
* **H. Yildiz,** S. Talluri, and D. Closs “Reliable Supply Chain Network Design”, *INFORMS Annual Conference*, November 2011, Charlotte, NC.
* **H. Yildiz**, R. Ravi, and W. Fairey. “Optimization of Customer and Supplier Logistics at Bosch”, *CSCMP Educators’ Conference*, September 2009, Chicago, IL.
* **H. Yildiz**, M. Trick, and T. Yunes. “Scheduling Major League Baseball Umpires and the Traveling Umpire Problem”, *DSI Annual Conference*, November 2008, Baltimore, MD.
* **H**. **Yildiz** and R. Ravi. “Optimization of Customer and Supplier Logistics at a Large Automotive Parts Manufacturer”, *INFORMS Annual Conference*, October 2008, Washington, DC.
* **H**. **Yildiz** and M. Trick. “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.
* **H. Yildiz** and M. Trick. “Bender’s Cuts Guided Large Neighborhood Search for The Traveling Umpire Problem,” *CP-AI-OR*, May 2007, Brussels, Belgium.
* **H. Yildiz** and M. Trick. “A Large Neighborhood Search Heuristic for Graph Coloring,” *CP-AI-OR*, May 2007, Brussels, Belgium.
* **H. Yildiz** and M. Trick. “The Traveling Umpire Problem,” Invited Talk, *INFORMS Annual Conference*, November 2006, Pittsburgh, PA.
* **H. Yildiz**, M.P. Johnson, and S. Roehrig. “Policy Implications of a Planning Model for Home-Delivered Meals,” *MSOM Conference*, June 2006, Atlanta, GA.
* **H. Yildiz**, M.P. Johnson, and S. Roehrig. “A Genetic Algorithm for the Home-Delivered Meals Location Routing Problem,” Invited Talk, *IFORS Triennial 2005 Conference****,*** Honolulu, HI.
* **H. Yildiz** and M.P. Johnson. “Policy Implications of a Planning Model for Home-Delivered Meals,” Invited Talk, *INFORMS Annual Conference*, November 2005, San Francisco, CA.
* **H. Yildiz** and M. Trick. “A Large Neighborhood Search Heuristic for Graph Coloring,” Invited Talk, *INFORMS Annual Conference*, October 2004, Denver, CO.

# Non-refereed Reports

* D. Closs, S. Narayanan, and **H.** **Yildiz**.“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](http://finance.yahoo.com/news/michigan-state-university-selects-kewill-130000416.html) on *Reuters and Yahoo Finance* on July 24, 2015.
* [Appearance](http://wkar.org/term/supply-chain-management) on WKAR Radio’s *Current State* on July 10, 2014.
* [Quoted](http://bit.ly/1gE34cO) in *MHI Solutions Magazine*, Vol. 2, No. 1, 2014.
* Paper on MLB umpire scheduling covered in various news outlets in 2011, including: [*Scientific American*](http://www.scientificamerican.com/podcast/episode/researchers-tell-umpires-where-to-g-11-08-18/)*, United Press International,* *Business Miami Magazine,* [*WAMC Northeast Public Radio Academic Minute*](http://wamc.org/post/dr-tallys-yunes-university-miami-umpire-scheduling)*, Miami New Times, phys.org,* [*HPCwire.com*](http://moya.bus.miami.edu/~tallys/docs/umpires-hpcwire.pdf)*,* [*thepostgame.com*](http://www.thepostgame.com/blog/dish/201107/turkish-soccer-fan-helps-major-league-baseball-umps)*, sciencedaily.com, futurity.org, esciencenews.com*.

# Graduate Student Activity

* PhD Committee Co-Chair: Hadis Nouri (Civil Engineering)
* 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

Logistics; Transportation; Supply Chain 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:*
* Journal of Business Logistics
* Decision Sciences Journal
* European Journal of Operational Research
* International Journal on Production Research
* International Journal on Production Economics
* Journal of Operational Research Society
* Computers and Operations Research
* Optimization. A Journal of Mathematical Programming and Operations Research
* International Transactions in Operational 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)
* Judge, MSU SCM Internal Case Competition (2016)

# Professional Affiliations

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

# Honors

* 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