

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

- Jan. 2009 - Present Assistant Professor, Dept. of Supply Chain Management, Eli Broad College of Business, Michigan State University
- Aug. 2008 - Dec. 2008 Visiting Assistant Professor, Dept. of Supply Chain Management, Eli Broad College of Business, Michigan State University
- Aug. 2002 - Aug. 2008 Graduate Assistant, Tepper School of Business, Carnegie Mellon University
- Aug. 2001 - May 2002 Teaching Assistant, Dept. of Industrial Engineering, Univ. of Pittsburgh
- Sep. 2000 - May 2001 Teaching Assistant, Dept. of Industrial Engineering, Bilkent University

Education

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

Research Interests

Logistics and supply chain optimization, resource (personnel, vehicle) scheduling & routing, transportation management, risk management and network design.

Peer-Reviewed Publications

- **H. Yildiz**, M.P. Johnson and S. Roehrig, Planning for Meals-on-Wheels: Algorithms and Application. *forthcoming in Journal of Operational Research Society*
- M. A. Trick, **H. Yildiz** and T. Yunes, Scheduling Major League Baseball Umpires and the Traveling Umpire Problem. *Interfaces*, 42, 232–244, May/June 2012. (*author names in alphabetical order*)
- M.A. Trick and **H. Yildiz**, Locally Optimized Crossover for the Traveling Umpire Problem. *European Journal of Operational Research*, 216(2), 286-292, January 2012. (*author names in alphabetical order*)

- M.A. Trick and **H. Yildiz**, Benders' Cuts Guided Large Neighborhood Search for the Traveling Umpire Problem. *Naval Research Logistics*, 58(8), 771-781, December 2011. (author names in alphabetical order)
- **H. Yildiz**, R. Ravi and W. Fairey, Integrated Optimization of Customer and Supplier Logistics at Robert Bosch LLC. *European Journal of Operational Research*, 207(1), 456-464, 2010

Peer-Reviewed Conference Proceedings

- H. Yildiz, R. Ravi and W. Fairey, Optimization of Customer and 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. *Acceptance rate for CPAIOR: ~1/3*
- 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. *Acceptance rate for CPAIOR: ~1/3*.
- 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, Georgia*.

Research Grants

- Kelly Services Inc., *Value Drivers and Productivity in Talent Supply Chain Management*, (with D. Closs and S. Narayanan), 2012-2013, **Amount funded: \$33,765** (Yildiz portion: \$10,129.5).
- Eli Broad College of Business Summer Research Grant, Michigan State University, *Reliable and Robust Supply Chain Network Design*, 2012, **Amount funded: \$7000**
- Kelly Services Inc., *Cycle Time Analysis for Talent Supply Chain Management*, (with D. Closs and S. Narayanan), 2011, **Amount funded: \$11,500**. (Yildiz portion: \$3,450)
- 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** (Yildiz portion: \$3,738)

Presentations (Bold indicates presenter)

- **Yildiz, H.**, Trick, M., 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.*
- **Kull, T.**, Talluri, S. and Yildiz, H., “Efficiencies of Risk Mitigation Strategies Across Various Supply Chain Disruptions”, *DSI Annual Conference, November 2011, Boston, MA.*
- **Yildiz, H.**, Talluri, S., and Closs, D., “Reliable Supply Chain Network Design”, *INFORMS Annual Conference, November 2011, Charlotte, NC.*
- **Mutlu, F.**, and Yildiz, H., “A Framework for Upstream Natural Gas Supply Chain Design: LNG Distribution Network”, *INFORMS Annual Conference, November 2011, Charlotte, NC.*
- **Yildiz, H.**, Talluri, S., and Closs, D., “Reliable Supply Chain Network Design”, *INFORMS Annual Conference, November 2011, Charlotte, NC.*
- **Yildiz, H.**, “Supply Chain Network Strategy”, *Invited Talk, 6th International Procurement, Logistics and Supply Chain Management Summit, October 2010, Istanbul, Turkey*
- **Yildiz, H.**, “Analytical Methods for Supply Chain Management”, *Workshop, 6th International Procurement, Logistics and Supply Chain Management Summit, October 2010, Istanbul, Turkey*
- **Yildiz, H.**, “Designing the Supply Chain Network”, *Invited Talk, 5th International Procurement, Logistics and Supply Chain Management Summit, October 2009, Istanbul, Turkey*
- **Yildiz, H.**, “Decision Making Models for Supply Chain Management”, *Workshop, 5th International Procurement, Logistics and Supply Chain Management Summit, October 2009, Istanbul, Turkey*
- **Trick, M.**, and Yildiz, H., “Locally Optimized Crossover for the Traveling Umpire Problem”, *Invited Talk, Inform's Annual Conference, October 2009, San Diego, CA.*
- **Yildiz, H.**, Ravi, R. and Fairey, W., “Optimization of Customer and Supplier Logistics at Bosch”, *CSCMP Educators' Conference, September 2009, Chicago, IL.*
- **Yildiz, H.**, Trick, M., 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”, *Inform's Annual Conference, October 2008, Washington, DC.*
- **Yildiz, H.** and Trick, M., “Logical Bender's Cuts Guided Local Search and a Greedy Heuristic for the Traveling Umpire Problem”, *Invited Talk, Inform's Annual Conference, November 2007, Seattle, WA.*
- **Trick, M.**, Yildiz, H., and Yunes, T., “Scheduling Umpires,” *Invited Talk, EURO XXII, July 2007, Prague, Czech Republic.*

- **Yildiz, H.** and Trick, M., “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 Large Neighborhood Search Heuristic for Graph Coloring,” *CP-AI-OR, May 2007, Brussels, Belgium*.
- **Yildiz, H.** and Trick, M., “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.** 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.**, 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 Trick, M., “A Large Neighborhood Search Heuristic for Graph Coloring,” *Invited Talk, Informs Annual Conference, October 2004, Denver, CO*.

Unpublished Reports

- Mutlu, F. and Guner, A.R. and **Yildiz, H.** and Ravi, R. and Pokharel, S., “A framework for upstream natural gas supply chain design: LNG distribution network,” Qatar Foundation Annual Research Forum, 2012.
- Closs, D., Narayanan, S., and **Yildiz, H.**, “Cycle Time Analysis for Talent Supply Chain Management,” report prepared based on the data provided by Kelly Services, 2012.

In the Popular Press

Paper on MLB umpire scheduling covered in 2011 in various news outlets:

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

- Ph.D. Committee Member: Christopher L. Fleming (Logistics), Jiho Yoon (Operations Management),
- M.S. in Supply Chain Management Thesis Advisor: Ben Binatebe

Teaching Interests

Logistics; Transportation; Decision Making Models; Optimization; Metaheuristics

Teaching Experience

Instructor

@ Eli Broad College of Business, Michigan State University

- » Logistics and Transportation Management, BA Core, Spring 2013
- » Transportation Management, BA Elective, Every semester 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.

Guest Lecturer

@ Eli Broad College of Business, Michigan State University

- » "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), April 11, 2013.
- » "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 Assistant

- » Many MBA and Undergraduate level Operations Research and Management classes.

Service to Academic Profession

- *Track Co-Chair:* CSCMP Educators' Conference, Chicago, IL, 2009
- *Panel Participant:* Logistics/Supply Chain Doctoral Symposium (2009)
- *Scientific Committee Member:* 9th International Logistics & Supply Chain Congress, Izmir, Turkey, 2011
- *Session Chair:*
 - INFORMS Annual Conference, Washington, DC, 2008
 - DSI Annual Conference, Boston, MA, 2011
 - POMS Conference, Chicago, IL, 2012
 - Turkish Operations Research and Industrial Engineering Conference, Istanbul, Turkey, 2012

- *Judge:* Society of Logistics Engineers, Doctoral Dissertation Proposal Award, 2009-2011
- *Reviewer:*
 - Decision Sciences Journal
 - European Journal of Operational Research
 - IEEE Transactions on Engineering Management
 - 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
 - DSI Annual Meeting, 2009

Service to Michigan State University

- Faculty Grievance Hearing Panel (2010)
- Undergraduate Interest Group (2010)
- Ad-hoc departmental committee for department strategy. (2012)

Professional Affiliations

- Institute for Operations Research and the Management Sciences (INFORMS)
- Decision Sciences Institute (DSI)
- Production and Operations Management Society (POMS)

Awards and Honors

- DSI Doctoral Consortium participant, 2007.
- INFORMS Doctoral Colloquium participant, 2007.
- 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 ranked 9th in the second stage of the University Admission Examination in Turkey among more than one million examinees, 1996.