

# *Curriculum Vitae*

**Sıla Çetinkaya**

Industrial and Systems Engineering

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## 1 Education

**Ph.D. in Management Science**, 1996, McMaster University, Hamilton, Ontario, Canada

Dissertation Title: *Myopic Policies for Inventory Control*, Advisor: M. Parlar

**M.Sc. in Industrial Engineering**, 1991, Bilkent University, Ankara, Turkey

Thesis Title: *Manufacturing Flexibility in the Justification of Advanced Automation Investments*, Advisor: C. H. Falkner

**B.Sc. in Industrial Engineering**, 1989, İstanbul Technical University, İstanbul, Turkey

## 2 Research and Teaching Interests

- Supply Chain Management: Inventory Theory, Coordination, Pricing, Closed-Loop Supply Chains, Vendor-Managed Inventory, Third Party Logistics, Distribution Logistics.
- Stochastic Optimal Control and Dynamic Programming.
- Applied Probability.

## 3 Professional Appointments

<b>Present–Sep’09</b>	Professor Industrial and Systems Engineering, Texas A&M University
<b>Aug’09–Sep’03</b>	Associate Professor Industrial and Systems Engineering, Texas A&M University
<b>April’06</b>	Visiting Professor Industrial and Systems Engineering, University of Florida
<b>May’02</b>	Visiting Scholar Industrial Engineering and Engineering Management Hong Kong University of Science and Technology
<b>Aug’03–Sep’97</b>	Assistant Professor Industrial Engineering, Texas A&M University
<b>Aug’97–Sep’96</b>	Research Associate Management Sciences, University of Waterloo.
<b>Aug’96–Sep’92</b>	Research and Teaching Assistant DeGroote School of Business, McMaster University
<b>Dec’95–Sep’95</b>	Instructor DeGroote School of Business, McMaster University
<b>Aug’92–Feb’90</b>	Research and Teaching Assistant Industrial Engineering, Bilkent University

## 4 Current Editorial Appointments

- Department Editor, Supply Chains, *IIE Transactions*.
- Associate Editor, *Naval Research Logistics*.
- Editorial Board Member, *International Journal of Inventory Research*.

## 5 Selected Industry Sponsored Research Activities

- Nokia, Alliance, TX, 2006–2007.
- Frito Lay, Plano, TX, 2005–2007.
- Dee Howard Aircraft Maintenance, L. P., San Antonio, TX, 2000–2001.
- Exel Logistics/Compaq, Houston, TX, 1998–2001.
- Petkim Petrochemical Holding, Turkey, 1990–1992.

## 6 Selected Awards and Distinctions

### National Awards and Distinctions

- Finalist, in collaboration with H. Üster, G. Easwaran, and B. B. Keskin, Daniel Wagner Prize in Operations Research Practice, *INFORMS*, 2008.
- Selected for Frontiers of Engineering, *National Academy of Engineering*, 2005.
- Outstanding Young Industrial Engineer Award, *Institute of Industrial Engineers*, 2003.
- Meritorious Service Award, *Operations Research, INFORMS*, 2002.
- Manufacturing 2020 Gift, *The University of Texas at Austin*, 2002.
- CAREER Award, *National Science Foundation*, 2001–2006.
- Silver Award, Faculty Advisor, *IIE Chapter Recognition Program*, 2001 and 2002.

### Texas A&M Awards

- Alpha Pi Mu Outstanding Professor Award, *Texas A&M University*, 2009.
- Registered Student Organization New Advisor of the Year for 2008-2009, Department of Student Activities, *Texas A&M University*.
- E.D. Brockett Professorship Award, *Texas A&M University*, 2006.
- TEES Fellow, *Texas Engineering Experiment Station*, 2006.
- Dwight Look College of Engineering Fellow Award, *Texas A&M University*, 2006.
- INFORMS Student Chapter Faculty Appreciation Award, *Texas A&M University*, 2006.

- BP Faculty Award for Teaching Excellence, *Texas A&M University*, 2004.
- Dwight Look College of Engineering Fellow Award, *Texas A&M University*, 2003.
- Special Research Fellow, *Texas Engineering Experiment Station*, 2001.

## 7 Funding

- “Supply Chain Revenue Management: Mitigating Profit-at-Risk in Manufacturing and Distribution Networks,” in collaboration with E. Tekin, funded by *National Science Foundation*, 2006–2009, \$250K.
- “Collaborative Research: Analytical Approaches for the Design and Operation of Closed-Loop Supply Chains,” in collaboration with H. Üster and E. Akçalı (University of Florida), funded by *National Science Foundation*, 2005–2008, Texas A&M budget: \$182K, Total Budget: \$303K.
- “Graduate Assistance in Areas of National Need: Fellowships for Research in Industrial and Systems Engineering,” in collaboration with G.-A. Klutke and I. V. Hicks, funded by *U.S. Department of Education*, 2006–2009, \$380K plus \$111K in cost sharing.
- “Effective Inventory Management and Capacity Utilization Under Demand Uncertainty for Technology Products with Short Life-Cycles,” in collaboration with E. Tekin, funded by *Nokia*, September 2006–January 2007, \$50K.
- “An Integrated Outbound Logistics Model for Frito-Lay: Operational Level Distribution Optimization,” in collaboration with H. Üster, funded by *Frito-Lay* and *Pepsi-Co*, May 2006–January 2007, \$212K.
- “An Integrated Outbound Logistics Model for Frito-Lay: Coordinating Production Output & Distribution Decisions,” in collaboration with H. Üster, funded by *Frito-Lay*, August 2005–February 2006, \$158K.
- “CAREER: Coordination of Transportation and Inventory Decision - Premises, Models, and Justification,” funded by *National Science Foundation*, 2001-2006, \$371K.
- “Small Business Innovation Research: Streamlining the Supply Chain Using Factory Physics,” in collaboration with Factory Physics, Inc., funded by *National Science Foundation*, 2004–2005, Texas A&M budget: \$38K. *Collaboration with Factory Physics, Inc. was not pursued after funding decision due to conflict of interest.*
- “Third Party Warehousing: Making Logistics Management Effective,” in collaboration with C.-Y. Lee, funded by *National Science Foundation*, 1999–2002, \$271K.
- “Third Party Warehousing in Manufacturing Logistics,” in collaboration with C.-Y. Lee, funded by *Texas Higher Education Coordinating Board Advanced Technology Program*, 2000–2002, \$100K.
- Special Research Grant, awarded by *Texas Engineering Experiment Station*, October 2001, \$5K.
- “Warehouse Consolidation,” in collaboration with H. Üster and G.-A. Klutke, funded by *Dee Howard Aircraft Maintenance, L. P., San Antonio, TX*, October 2000-January 2001, \$7K.

## 8 Selected Peer-Reviewed Publications (Graduate student co-authors underlined)

1. Mutlu, F., S. Çetinkaya, and J. H. Bookbinder, “An Analytical Model for Computing the Optimal Time-and-Quantity Policy for Consolidated Shipments,” forthcoming in *IIE Transactions*.
2. Akçalı, E. and S. Çetinkaya, “Quantitative Models for Inventory and Production Planning in Closed-Loop Supply Chains,” forthcoming in *International Journal of Production Research*.
3. Çetinkaya, S. and M. Parlar, “A One-Time Excess Inventory Disposal Decision Under a Stationary Base-Stock Policy,” forthcoming in *Stochastic Analysis and Applications*.
4. Çetinkaya, S., H. Üster, G. Easwaran, and B. B. Keskin, “An Integrated Outbound Logistics Model for Frito-Lay: Coordinating Aggregate Level Production and Distribution Decisions<sup>1</sup>,” *Interfaces*, Vol. 39, No. 5, pp. 460–475, 2009.
5. Liu, X. and S. Çetinkaya, “Designing Supply Contracts in Supplier- versus Buyer-Driven Channels,” *IIE Transactions*, Vol. 41, No. 8, pp. 687-701, 2009.
6. Akçalı, E., S. Çetinkaya, H. Üster, “Network Design for Reverse and Closed-Loop Supply Chains: An Annotated Bibliography of Models and Solution Approaches,” *Networks*, Vol. 53, No. 3, pp. 231–248, 2009.
7. Üster, H., B. B. Keskin, and S. Çetinkaya, “Integrated Warehouse Location and Inventory Decisions in a Three-Tier Distribution System<sup>2</sup>,” *IIE Transactions*, Vol. 40, No. 8, pp. 718–732, 2008.
8. Toptal, A. and S. Çetinkaya, “Quantifying the Value of Channel Coordination: Analytical and Numerical Results,” *European Journal of Operational Research*, Vol. 187, No. 3, pp. 785–805, 2008.
9. Çetinkaya, S., E. Tekin, and C.-Y. Lee, “A Stochastic Model for Joint Inventory and Outbound Shipment Decisions,” *IIE Transactions*, Vol. 40, No. 3, pp. 324–340, 2008.
10. Üster, H., G. Easwaran, E. Akçalı, and S. Çetinkaya, “Benders Decomposition with Alternative Multiple Cuts for a Multi-Product Closed-Loop Supply Chain Network Design Model,” *Naval Research Logistics*, Vol. 54, No. 8, pp. 890–907, 2007.
11. Jaruphongsa, W., S. Çetinkaya, and C.-Y. Lee, “Outbound Shipment Mode Considerations for Integrated Inventory and Delivery Lot-Sizing Decisions,” *Operations Research Letters*, Vol. 35, No. 6, pp. 813–822, 2007.
12. Liu, X., and S. Çetinkaya, “A Note on Quality Improvement and Setup Reduction in the Joint Economic Lot-Size Model,” *European Journal of Operational Research*, Vol. 182, No. 1, pp. 194–204, 2007.
13. Atasu, A. and S. Çetinkaya, “Lot Sizing for Optimal Collection and Use of Remanufacturable Returns over a Finite Life-Cycle,” *Production and Operations Management*, Vol. 15, No. 4, pp. 473–487, 2006.

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<sup>1</sup>2008 INFORMS Wagner Prize Finalist.

<sup>2</sup>Feature article in IE Magazine, August 2008.

14. Toptal, A. and S. Çetinkaya, “Contractual Agreements and Vendor Managed Delivery Under Explicit Transportation Considerations,” *Naval Research Logistics*, Vol. 53, No. 5, pp. 397–417, 2006.
15. Çetinkaya, S., F. Mutlu, and C.-Y. Lee, “A Comparison of Outbound Dispatch Policies for Integrated Inventory and Transportation Decisions,” *European Journal of Operational Research*, Vol. 171, No. 3, pp. 1094–1112, 2006.
16. Jaruphongsa, W., S. Çetinkaya, and C.-Y. Lee, “A Dynamic Lot-Sizing Model with Multi-Mode Replenishments: Polynomial Algorithms for Special Cases with Dual and Multiple Modes,” *IIE Transactions*, Vol. 37, No. 5, pp. 453–467, 2005.
17. Çetinkaya, S., “Coordination of Inventory and Shipment Consolidation Decisions: A Review of Premises, Models, and Justification,” in *Applications of Supply Chain Management and E-Commerce Research in Industry*, edited by J. Geunes et al., Springer Series: Applied Optimization, Vol. 92, Kluwer, New York, NY, 2004.
18. Jaruphongsa, W., S. Çetinkaya, and C.-Y. Lee, “A Two-Echelon Inventory Optimization Model with Demand Time Window Considerations,” *Journal of Global Optimization*, Vol. 30, No. 5, pp. 357–366, 2004.
19. Jaruphongsa, W., S. Çetinkaya, and C.-Y. Lee, “Warehouse Space Capacity and Demand Time Window Considerations in Dynamic Lot-Sizing for a Simple Supply Chain,” *International Journal of Production Economics*, Vol. 92, No. 2, pp. 169–180, 2004.
20. Çetinkaya, S. and M. Parlar, “Computing a Stationary Base-Stock Policy for a Finite Horizon Problem with Non-linear Stockout Costs,” *Stochastic Analysis and Applications*, Vol. 22, No. 3, pp. 589–625, 2004.
21. Lee, C.-Y., S. Çetinkaya, and W. Jaruphongsa, “A Dynamic Model for Inventory Lot-Sizing and Outbound Shipment Scheduling at a Third Party Warehouse,” *Operations Research*, Vol. 35, No. 5, pp. 735–747, 2003.
22. Toptal, A., S. Çetinkaya, and C.-Y. Lee, “The Buyer-Vendor Coordination Problem: Modeling Inbound and Outbound Cargo Capacity and Costs<sup>3</sup>,” *IIE Transactions*, Vol. 35, No. 11, pp. 987–1002, 2003.
23. Çetinkaya, S. and J. H. Bookbinder, “Stochastic Models for the Dispatch of Consolidated Shipments,” *Transportation Research B*, Vol. 37, No. 8, pp. 747–768, 2003.
24. Çetinkaya, S. and M. Parlar, “Optimality Conditions for an  $(s, S)$  Policy with Proportional and Lump-Sum Penalty Costs,” *Management Science*, Vol. 48, No. 12, pp. 1635–1639, 2002.
25. Çetinkaya, S. and C.-Y. Lee, “Optimal Outbound Dispatch Policies: Modeling Inventory and Cargo Capacity,” *Naval Research Logistics*, Vol. 49, No. 6, pp. 531–556, 2002.
26. Lee, C.-Y., S. Çetinkaya, and A. P. M. Wagelmans, “Dynamic Lot-Sizing Model with Demand Time Windows,” *Management Science*, Vol. 47, No. 10, pp. 1384–1395, 2001.
27. Çetinkaya, S. and C.-Y. Lee, “Stock Replenishment and Shipment Scheduling for Vendor Managed Inventory Systems,” *Management Science*, Vol. 46, No. 2, pp. 217–232, 2000.

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<sup>3</sup>Feature article in IE Magazine, November 2003.

28. Çetinkaya, S. and M. Parlar, “Nonlinear Programming Analysis to Estimate Implicit Inventory Backorder Costs,” *Journal of Optimization Theory and Applications*, Vol. 96-1, pp. 71–92, 1998.
29. Çetinkaya, S. and M. Parlar, “Optimal Myopic Policy for a Stochastic Inventory Problem with Fixed and Proportional Backorder Costs,” *European Journal of Operational Research*, Vol. 110, pp. 20–41, 1998.
30. Çetinkaya, S. and M. Parlar, “Optimal Non-Myopic Gambling Strategy for the Generalized Kelly Criterion,” *Naval Research Logistics*, Vol. 44, pp. 639–654, 1997.
31. Çetinkaya, S. and C. H. Falkner, “Manufacturing Flexibility in the Context of Multi-Machine Replacement Decisions,” *International Journal of Manufacturing System Design*, Vol. 2, No. 4, pp. 277–296, 1995.

## 9 Invited Research Seminars

- The George Washington University, Institute for Reliability and Risk Analysis, April 2009.
- North Carolina A&T State University, Bridges to Engineering Research 2020, Foundation for National Partnerships, Greensboro, North Carolina, March 2008.
- Cornell University, Johnson School of Management, Operations Management Seminar, April 2007.
- Penn State University, Smeal College of Business, Supply Chain and Information Systems Seminar, October 2005.
- The University of Texas at Dallas, School of Management, Operations Management and Information System Seminar, October 2004.
- Case Western Reserve University, Weatherhead School of Management, Department of Operations Seminar, February 2004.
- Texas A&M University, Mathematics Department, Algebra and Combinatorics Seminar, November 2002.
- Applied Materials, Austin, TX, October 2002.
- The Hong Kong Polytechnic University, Department of Management Seminar, May 2002.
- University of Texas at Austin, Manufacturing 2020 Lecture Series, March 2002.
- Northwestern University, Industrial Engineering and Management Sciences Seminar, December 2001.
- Purdue University, Industrial Engineering Seminar, October 2001.
- University of North Carolina Chapel Hill, Kenan Flagler Operations, Technology and Innovation Seminar, September 2001.
- University of Michigan, Industrial and Operations Engineering Seminar, September 2001.
- University Illinois at Chicago, Mechanical/Industrial Engineering Seminar, March 2000.
- York University, Schulich School Operations Management Seminar, February 2000.
- University of Toronto, Mechanical/Industrial Engineering Seminar, January 2000.

## 10 Ph.D. Students

**Graduated-** Name [Graduation Date], “Dissertation Title,” Employment upon Graduation

- Wikrom Jaruphongsa [2001], (co-chaired w/ Chung-Yee Lee,) “A General Class of Dynamic Lot-Sizing Models for Effective Logistics Management,” Assistant Professor, Department of Industrial and Systems Engineering, National University of Singapore, Singapore.
- Ayşegül Toptal [2003], “Generalized Models and Benchmarks for Channel Coordination,” Assistant Professor, Department of Industrial Engineering, Bilkent University, Ankara, Turkey.
- Xingchu Liu [2005], “Supply Chain Contract Design in Supplier- Versus Buyer-Driven Channels,” Pricing Scientist, Zilliant, Austin, TX. Xingchu won second place in the 2004 Doctoral Dissertation Proposal Award Competition in Supply Chain Optimization, sponsored by NSF and the University of Florida SCALE Center.
- Fatih Mutlu [2006], “The Transporter’s Impact on Channel Coordination and Contractual Agreements,” Visiting Assistant Professor, Mays Business School, Texas A&M University, 2006–2007; Assistant Professor, Industrial Engineering Department, TOBB University of Economics and Technology, Ankara, Turkey. Fatih was a finalist in the 2005 Doctoral Dissertation Proposal Award Competition in Supply Chain Optimization, sponsored by NSF and the University of Florida SCALE Center.
- Burcu B. Keskin [2007], (co-chaired w/ Halit Üster,) “Joint Optimization of Location and Inventory Decisions for Improving Supply Chain Cost Performance,” Assistant Professor, Operations Management, Culverhouse College of Commerce and Business Administration, University of Alabama, Tuscaloosa, Alabama. Burcu received the 2007 International Transportation Management Association James Costello Memorial Award and the 2007 Transportation Clubs Award, both recognizing her scholarly activities in supply chain design and transportation. Burcu also received the 2008 TAMU Association of Former Students Distinguished Graduate Student Award for Excellence in Doctoral Research.
- Gopalakrishnan Easwaran [2008], (co-chaired w/ Halit Üster,) “Decomposition-Based Approaches for Closed-Loop Supply Chain Network Design Models.” Assistant Professor, Industrial Engineering Program, School of Science, Engineering and Technology, St. Mary’s University, San Antonio, Texas.

**In-Progress** - Name [Period], “Dissertation Topic.”

- Liqing Zhang [degree plan filed in Spring’07], “Stochastic Dynamic Demand Inventory Models with Explicit Transportation Costs and Decisions.”
- Su Zhao [degree plan filed in Spring’09], (co-chaired w/ Eylem Tekin,) “Contractual Dynamic Pricing for Inventory Planning and Control.”
- Abhilasha Prakash Katariya [degree plan filed in Spring’09], (co-chaired w/ Eylem Tekin,) “Supply Chain Revenue Management for Distribution and Manufacturing.”

## 11 Selected External Service Activities

- **Department Editor** - *IIE Transactions on Scheduling and Logistics*, since January 2006.
- **Division Editor** - Operations/Decision Sciences, *Canadian Journal of Administrative Sciences*, 2006–2008.
- **Associate Editor** - *Naval Research Logistics*, since June 2006.
- **Editorial Board Member**
  - *International Journal of Inventory Research*, since June 2005.
  - *IIE Transactions on Scheduling and Logistics*, 2001–2006.
  - *Manufacturing and Service Operations Management*, 2002.
- **Referee** - *Automatica*, *Computers and Operations Research*, *European Journal of Operational Research*, *IEEE Transactions on Engineering Management*, *IIE Transactions*, *International Journal of Production Economics*, *Management Science*, *Manufacturing and Service Operations Management*, *Naval Research Logistics*, *Omega*, *Operations Research*, *Production and Operations Management*, *Production Planning and Control*, *Statistica Neerlandica*, *Transportation Research E*, and *Transportation Science*.
- **Review Committee Member**
  - Manufacturing and Service Operations Management Conference, 2006, 2008, 2009.
- **Awards Committee Member**
  - IIE/Joint Publishers Book-of-the-Year Award, 2001.
  - Paper Competition, Junior Faculty Interest Group, INFORMS, 2008.
  - Student Paper Competition, POMS College of Supply Chain Management, 2009.
  - Best Paper Award, Closed-Loop Supply Chain Management Track, POMS, 2007.
- **Panelist/Research Proposal Reviewer**
  - National Science Foundation.
  - Dutch Research Council.
  - Israel Research Foundation.
  - Erasmus Research Institute of Management, Erasmus University.
- **Member**
  - Organization Committee, INFORMS, Austin, Texas, 2010.
  - Organization Committee, INFORMS, San Francisco, California, 2005.
  - Local Organization Committee, INFORMS, San Antonio, Texas, November 2000.
- **VP/President** - Women in OR/MS, INFORMS, 2005–2007.
- **Chair**
  - Paper Competition, Junior Faculty Interest Group, INFORMS, 2004.
  - 2000 INFORMS Doctoral Colloquium, San Antonio, Texas, November 2000.
- **Faculty Advisor**
  - INFORMS Student Chapter, Texas A&M University, since September 2008.
  - IIE Student Chapter, Texas A&M University, 1998–2001.

## 12 Professional Affiliations

**Member** - INFORMS: Institute for Operations Research and the Management Sciences  
IIE: Institute of Industrial Engineers  
ISA: Industry Studies Association