

Curriculum Vitae  
**ELİF AKÇALI**

Department of Industrial and Systems Engineering  
University of Florida  
303 Weil Hall  
Gainesville, FL 32611-6595

Tel: (352) 392-1464 ext 2005  
Fax: (352) 392-3537  
Email: akcali@ise.ufl.edu  
URL: <http://www.ise.ufl.edu/akcali>

**Education**

2001	PhD	School of Industrial Engineering Purdue University, West Lafayette, Indiana, 47907
1996	MS	School of Industrial Engineering Purdue University, West Lafayette, Indiana, 47907
1994	BS	Department of Industrial Engineering Middle East Technical University, Ankara, Turkey

**Academic Experience**

8/08-	Associate Professor	Department of Industrial and Systems Engineering University of Florida, Gainesville, Florida, 32611
8/01-8/08	Assistant Professor	Department of Industrial and Systems Engineering University of Florida, Gainesville, Florida, 32611
6/06-7/06	Visiting Research Scholar	Faculty of Management Bilkent University, Ankara, Turkey

**Industrial Experience**

7/02-8/02	Visiting Research Scientist	General Motors Corporation Warren, Michigan, 48090
5/96-12/99	Part-time Consultant	Intersil Corporation (Harris Semiconductor) Findlay, Ohio, 45840

**Research Interests**

Manufacturing and service operations management; Combinatorial and heuristic optimization; Simulation modeling and analysis; Reverse logistics system design and operation; Semiconductor and automotive manufacturing; Health care services.

**Research and Education Grants**

1. Analytical approaches for assessing the revenue aspects and environmental impacts of demanufacturing (PI), *National Science Foundation*, \$325K, 2008-11.
2. Collaborative Research: Analytical models for the design and operation of closed-loop supply chains (PI from University of Florida (UF) with PI H. Uster and co-PI S. Cetinkaya from Texas A&M University (TAMU)), *National Science Foundation*, \$300K (\$120K UF and \$180 TAMU), 2005-08.
3. Developing case studies in collaboration with industry to teach lean thinking and the lean manufacturing paradigm (PI with co-PI S. Tüfekçi), *National Science Foundation*, \$130K, 2005-08.
4. Center for Engineering Logistics and Distribution (CELDi): A multi-campus I/UCRC for supply chain research (co-PI with PI J. Geunes) *National Science Foundation*, \$97K, 2004-05.
5. Innovative capacity planning models for health care services (co-PI with PI M.J. Côté), *National Science Foundation*, \$250K, 2003-05.

6. Core acquisition and production planning for manufacturing systems with remanufacturing capability (PI), *Society of Manufacturing Engineers Education Foundation*, Research Initiation Grant, \$15K, 2003-04.
7. Recycling and remanufacturing problems in the automotive industry (PI), *General Motors R&D*, \$110K, 2003-04.
8. Remanufactured repair parts programs for the automotive industry (PI), *General Motors R&D*, \$8K, 2003.
9. Motorola Global Telecommunications Solutions Sector inventory optimization (co-PI with PI J. Geunes and co-PI E. Romeijn), *Motorola*, \$35K, 2002-03.

## Publications<sup>1</sup>

### *Edited Books*

1. J. Geunes, E. Akçalı, P.M. Pardalos, H.E. Romeijn, and Z.J. Shen, eds. *Applications of Supply Chain Management and E-commerce Research in Industry*, Springer, 2005.

### *Refereed Journals*

1. Network design for reverse and closed-loop supply chains: an annotated bibliography of models and solution approaches (with S. Çetinkaya and H. Üster), published on-line, *Networks*, October 2008.
2. E. Akçalı and Z.P. Bayındır. Analyzing the effects inventory cost allocation policies in a disassembly and recovery environment, *International Journal of Production Research*, 2008, v 46, n 10, p 267–288.
3. H. Üster, 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*, 2007, v 54, n 8, p 890–907.
4. M. Yavuz and E. Akçalı. Production smoothing in just-in-time manufacturing systems: a review of models and solution approaches, *International Journal of Production Research*, 2007, v 45, n 16, p 3579–3597.
5. I. Karakayalı, H.E. Farinas, and E. Akçalı. An analysis of decentralized collection and processing operations for end-of-life products, *Journal of Operations Management*, 2006, v 25, n 6, p 1161–1183.
6. I.S. Bakal and E. Akçalı. Effects of random yield in reverse supply chains with price-sensitive supply and demand, *Production & Operations Management*, 2006, v 15, n 3, p 407–420.
7. E. Akçalı, M.J. Côté, and C.-I. Lin. A network flow approach to optimizing hospital bed capacity decisions, *Health Care Management Science*, 2006, v 9, n 3, p 391–404.
8. M. Yavuz, E. Akçalı, and S. Tüfekçi. A hybrid meta-heuristic for the batching problem in just-in-time flow shops, *Journal of Mathematical Modelling and Analysis*, 2006, v 5, n 3, p 371–393.
9. M. Yavuz, E. Akçalı, and S. Tüfekçi. Optimizing production smoothing decisions via batch selection for mixed-model just-in-time manufacturing systems with arbitrary setup and processing times, *International Journal of Production Research*, 2006, v 44, n 15, p 3061–3082.
10. S. Sindhuchao, H.E. Romeijn, E. Akçalı, and R. Boondiskulchok. An integrated inventory-routing system for multi-item joint replenishment with limited vehicle capacity, *Journal of Global Optimization*, 2005, v 32, n 1 p 93–118.
11. E. Akçalı, A. Üngör, and R. Uzsoy. Short-term capacity allocation problem with tool and setup constraints, *Naval Research Logistics*, 2005, v 52, n 8, p 754–764.

---

<sup>1</sup>Underlined names indicate current/past graduate/undergraduate students

12. E. Akçalı, K. Nemoto, and R. Uzsoy. Cycle time reduction for photolithography process in semiconductor manufacturing, *IEEE Transactions on Semiconductor Manufacturing*, 2001, v 14, n 1, p 48–56.
13. E. Akçalı, R. Hamlin, T. McCullough, M. Davis, T. Teyner, and R. Uzsoy. A decision support system for spare parts management in a wafer fabrication facility, *IEEE Transactions on Semiconductor Manufacturing*, 2001, v 14, n 1, p 76–78.
14. K. Nemoto, E. Akçalı, and R. Uzsoy. Quantifying the benefits of cycle time reduction in semiconductor wafer fabrication, *IEEE Transactions on Components Packaging Manufacturing*, 2000, v 23, n 1, p 39–47.

#### *Refereed Conference Proceedings*

1. A. Soyulu and E. Akçalı. Optimizing capacity ramp-up decisions in the semiconductor industry, *Proceedings of the IIE Research Conference*, 2006.
2. I. Karakayalı and E. Akçalı. Decentralized collection and recovery operations for durable end-of-life products with multiple remanufacturable parts, *Proceedings of the IIE Research Conference*, 2006.
3. E. Akçalı and M.A. Morse. Seeding strategies in remanufacturing, *Proceedings of the IIE Research Conference*, 2004.
4. E. Akçalı and A. Üngör. Approximation algorithms for degree-constrained bipartite network flow, *Lecture Notes in Computer Science: Computer and Information Sciences - ISCIS 2003*, A. Yazıcı and C. Şener (Eds.), 2003, v 2869, p 162–169. Received *ISCIS 2003 Best Paper Award*.
5. E. Akçalı, R. Uzsoy, D. Hiscock, A. Moser, and T. Teyner. Alternative loading and dispatching policies for furnace operations in semiconductor manufacturing: A comparison by simulation, *Proceedings of the 2000 Winter Simulation Conference*, 2000, p 1428–1435.

#### *Non-refereed Conference Proceedings*

1. E. Akçalı and R. Uzsoy. A sequential solution methodology for capacity allocation and lot scheduling problems for photolithography, *Proceedings of the IEEE/CPMT International Electronics Manufacturing Technology (IEMT) Symposium 2000*, p 374–381, 2000.
2. E. Akçalı, R. Hamlin, T. Teyner, R. Uzsoy, and G. Venkatachalam. Spare parts inventory management for semiconductor wafer fabrication facilities, *IEEE International Symposium on Semiconductor Manufacturing Conference, Proceedings 1997*, p A17–A20, 1997.
3. K. Nemoto, E. Akçalı, and R. Uzsoy. Quantifying the benefits of cycle time reduction in semiconductor wafer fabrication, *Proceedings of the IEEE/CPMT International Electronic Manufacturing Technology (IEMT) Symposium 1996*, p 130–136, 1996.

#### *Technical Reports*

1. E. Akçalı, E. Eskigün, D.M. Kulkarni, and J.D. Tew. Issues in remanufacturing and implications for the automotive industry, Technical Report MSR-096, General Motors R&D, Warren, Michigan, 2003.
2. E. Akçalı, S. Yörük, E. Foster, D.M. Kulkarni, J.D. Tew, M.W. Carman, J. Gugel, M. Harper, and C.J. Thomas. Use of the integrated core charge and inventory management (ICCIM) model for decision support at GMSPO: An application to GEN III engines, Technical Report CL-2004-24-/MSR, General Motors R&D, Warren, Michigan, 2004.
3. E. Akçalı, S. Yörük, E. Foster, D.M. Kulkarni, J.D. Tew, M.W. Carman, J. Gugel, M. Harper, and C.J. Thomas. User Manual for the Integrated Core Charge and Inventory Management (ICCIM) model, Technical Report CL-2004-25-/MSR, General Motors R&D, Warren, Michigan, 2004.

4. E. Akçalı, S. Yörüük, E. Eskigun, E. Foster, D.M. Kulkarni, J.D. Tew, M.W. Carman, J. Gugel, M. Harper, and C.J. Thomas. Integrated core charge and inventory management (ICCIM) problem for remanufacturable automotive parts, Technical Report CL-2004-26-/MSR, General Motors R&D, Warren, Michigan, 2004.
5. E. Akçalı, E. Foster, D.M. Kulkarni, and J.D. Tew. A review of the issues in the design of end-of-life vehicle collection and processing networks and a mathematical programming approach, Technical Report CL-2005-05-/MSR, General Motors R&D, Warren, Michigan, 2005.

### Work in Progress

1. Determining optimal used product acquisition and reusable component selling prices for aligning supply with demand in demanufacturing (with I. Karakayalı and H. Emir-Farinas) submitted for publication, December 2008.
2. Is assortment selection a popularity contest? A study of assortment, return policy, and pricing decisions of a retailer (with A. Grasas and A. Alptekinoglu), submitted for publication, November 2008.
3. Replenishment and disposal planning for multiple products with resalable returns (with I. Karakayalı, S. Çetinkaya, and H. Üster), submitted for publication, September 2008.
4. When to carry eccentric products? Optimal assortment under product returns (with A. Grasas and A. Alptekinoglu), in revision, September 2008.
5. Health care team service capacity planning (with C.-I Lin and M.J. Côté), in revision, December 2008.
6. Linear programming based solution methods for the weighted tool- and setup-constrained short-term capacity allocation problem, in preparation, 2006.

### Invited Talks and Conference Presentations (in the last three years)

1. Hospital bed capacity planning problem (with C.-I Lin), INFORMS Annual Meeting 2007, November 2007, Seattle Washington.
2. Optimal assortment under product returns (with A. Alptekinoglu, A. Grasas) INFORMS Annual Meeting, November 2007, Seattle, Washington.
3. Multi-product closed loop supply chain network design: models and solution approaches (with G. Easwaran, H. Üster, S. Çetinkaya), INFORMS Annual Meeting, November 2007, Seattle, Washington.
4. Single-item lot sizing problem with remanufacturing (with I. Karakayalı, H. Üster, S. Çetinkaya), INFORMS Annual Meeting, November 2007, Seattle, Washington.
5. Forecasting the demand for emergency department services (with M.J. Côté, D. Eitel), INFORMS Annual Meeting, November 2007, Seattle, Washington.
6. Product variety choice and return policy of a make-to-order firm (with A. Grasas, A. Alptekinoglu), POMS Annual Meeting, May 2007, Dallas, Texas.
7. Optimizing emergency room personnel resources (with C.-I Lin, M.J. Côté), INFORMS Annual Meeting, November 2006, Pittsburgh, Pennsylvania.
8. Closed-loop supply chain network design with multi-product remanufacturing (with G. Easwaran, H. Üster, S. Çetinkaya), INFORMS Annual Meeting, November 2006, Pittsburgh, Pennsylvania.
9. Collection and recovery planning for used durable products with remanufacturable parts (with I. Karakayalı), INFORMS 2006 International, Hong Kong, China.
10. Optimizing capacity ramp-up decisions in the semiconductor industry (with A. Soylu), IIE Research Conference, May 2006, Orlando, Florida.

11. Optimizing emergency room personnel resources (with C.-I Lin, M.J. Côté), IIE Research Conference May 2006, Orlando, Florida.
12. A multi-product remanufacturing network design problem (with H. Üster, G. Easwaran, S. Çetinkaya), IIE Research Conference, May 2006, Orlando, Florida.
13. A network flow model for health care resource planning, INFORMS Optimization Society Conference on Health Care, Medicine and Biology, February 2006, San Antonio, Texas.
14. A network-based optimization model for hospital bed planning (with M.J. Côté, C.-I Lin) INFORMS 2005, November 2005, San Francisco, California.
15. Performance analysis of emergency departments with patient class-dependent service times (with M.J. Côté, C.-I Lin) INFORMS 2005, November 2005, San Francisco, California.
16. Analyzing the effects of inventory cost setting rules in a disassembly recovery environment (with Z.P. Bayındır), INFORMS 2005, November 2005, San Francisco, California.
17. An analysis of decentralized collection and processing operations for end-of-life products (with I. Karakayalı and H. Emir-Farinas), INFORMS 2005, November 2005, San Francisco, California.

### Awards and Honors

Department of ISE, University of Florida, <i>Best Teacher Award</i>	2006
Department of ISE, University of Florida, <i>Best Teacher Award</i>	2005
SME, <i>Outstanding Young Manufacturing Engineer Award</i>	2004
ISCIS 2003, <i>Best Paper Award</i>	2003
Sigma Xi, The Scientific Research Honor Society	2003
INFORMS, <i>Young Researcher Roundtable participant</i>	2003
Phi Kappa Phi, The Honor Society	2001
Tau Beta Pi, The Engineering Honor Society	2001
INFORMS, <i>Doctoral Colloquium participant</i>	2000
Alpha Pi Mu, The Industrial Engineering Honor Society	2000
IIE, <i>Gilbreth Memorial Fellowship recipient</i>	1999
Phi Beta Delta International Scholars Honor Society	1997

### Professional Society Memberships

American Society of Engineering Education (ASEE)  
 Institute for Operations Research and Management Sciences (INFORMS)  
 Institute of Industrial Engineers (IIE)  
 Production and Operations Management Society (POMS)  
 Society of Manufacturing Engineers (SME)

### Professional Service

Associate editor	<i>Canadian Journal of Administrative Sciences</i> <i>IIE Transactions</i> <i>IEEE Transactions on Automation Science and Engineering</i>
Cluster chair	Manufacturing and Service Operations Management Society Cluster EURO/INFORMS International Conference, Istanbul, Turkey, 2003
Colloquium chair	Future Practitioner Colloquium INFORMS Conference, Washington, DC, 2008
Co-cluster chair	Reverse Supply Chains INFORMS Conference, San Francisco, California, 2005
Co-organizer	NSF Workshop on Collaboration and Negotiation in Supply Chain Management and e-Commerce, Gainesville, Florida, 2002

Faculty advisor	Alpha Pi Mu, Florida Alpha, University of Florida, 2004-present Tau Beta Pi, Florida Alpha, University of Florida, 2004-present
Guest editor	Special Issue on EURO/INFORMS Conference, Istanbul 2003 <i>European Journal of Operational Research</i>
Member	Department Chair Search Committee, Department of ISE, 2006–2007 Faculty Search Committee, Department of ISE, 2004–2005; 2008–2009 Undergraduate Committee, Department of ISE, 2003–2004 Graduate Committee, Department of ISE, 2001–2003; 2004–present Faculty Council, College of Engineering, 2007–present
Reviewer	National Science Foundation (2002, 2003, 2004, 2005, 2006, 2007, 2008) Social Sciences and Humanities Research Council of Canada (2007)
Review committee	IIE Research Conference, 2004, 2006 ISCIS, 2003, 2004 MSOM Conference, 2006, 2008
Scientific committee	14 <sup>th</sup> International Annual EurOMA Conference, 2007
Secretary	Junior Faculty Interest Group, INFORMS, 2004–2005
Session chair	INFORMS Annual Meeting, Seattle, Washington, 2007 INFORMS Annual Meeting, Pittsburgh, Pennsylvania, 2006 IIE Research Conference, Orlando, Florida, 2006 INFORMS Annual Meeting, Denver, Colorado, 2004 IIE Research Conference, Houston, Texas, 2004 INFORMS Annual Meeting, San Jose, California, 2002 IEEE/CPMT IEMT Symposium, Santa Clara, California, 2000
Referee	<i>Annals of Emergency Medicine, Annals of Operations Research, Computers and Operations Research, Decision Sciences, European Journal of Operational Research, IEEE Transactions on Semiconductor Manufacturing, IEEE Transactions on Components Packaging Manufacturing, IIE Transactions, International Journal of Production Economics, International Journal of Production Research, Journal of Industrial Ecology, Journal of Manufacturing Systems, Journal of Operations Management, Mathematical Problems in Engineering, Manufacturing &amp; Service Operations Management, Naval Research Logistics, Operations Research, Optimization Letters Socioeconomic Planning Sciences, Solid State Electronics.</i>
Vice president	Communications Forum on Women in OR/MS, INFORMS 2005–2007

## Teaching

### *Courses*

EIN4333	Production & Distribution Systems
EIN4343	Inventory and Supply Chain Systems
EIN4401	Lean Production Systems
EIN4905	Production Systems
EIN6336	Advanced Production and Inventory Control
ESI6912	Meta-heuristics: Theory & Applications
ESI6912	Closed-loop Supply Chains

*Course Evaluations*

Course	Semester	Response (Enrollment)	Dr. Akçalı Mean <sup>2</sup>	Department Mean <sup>2</sup>	College Mean <sup>2</sup>
ESI4343	Spring '08	36 (58)	4.16	4.14	4.07
ESI4401	Spring '08	40 (61)	4.36	4.14	4.07
ESI6912	Fall '07	13 (19)	4.38	3.86	4.02
ESI6336	Spring '07	11 (15)	4.27	4.24	4.42
ESI4343	Spring '06	56 (62)	4.14	3.99	4.04
EIN4905	Spring '06	45 (51)	3.93	3.96	4.10
ESI6912	Spring '06	5 (5)	5.00	3.96	4.10
EIN4343	Fall '05	36 (54)	4.58	3.99	4.07
EIN4905	Fall '05	18 (49)	4.50	3.99	4.12
EIN4905	Spring '05	7 (7)	4.86	4.03	4.12
EIN4333	Fall '04	24 (48)	4.91	4.10	4.06
EIN4905	Fall '04	4 (4)	5.00	4.10	4.06
EIN4333	Spring '04	34 (50)	4.53	4.08	4.12
ESI6912	Spring '04	9 (11)	4.56	4.08	4.12
EIN4333	Fall '03	28 (47)	4.41	4.14	4.01
EIN4333	Spring '03	24 (35)	4.63	3.99	4.01
EIN4333	Fall '02	27 (30)	4.11	4.08	4.03
EIN4333	Spring '02	32 (41)	4.13	3.92	4.03
ESI6912	Spring '02	11 (12)	3.90	3.92	4.03

**Student Advising**

- Gonca Yıldırım, Ph.D., Dissertation Title: To be determined, August 2009 (expected).
- Ibrahim Karakayalı, Ph.D., Dissertation Title: Models and algorithms for operations planning in closed-loop supply chains, May 2009 (expected).
- Alexandre Grasas, Ph.D., Dissertation Title: Models FOR Assortment Planning under Product Returns, May 2009 (cleared prior).
- Chin-I Lin, Ph.D., Dissertation Title: Optimization models for capacity planning in health care delivery, May 2008.
- Andrew Singley, M.S., Thesis Title: Heuristics for solving the MASTERMIND© problem, May 2005.
- Seviye Yörük, Doctorate, Dissertation Title: Some strategic problems in remanufacturing and refurbishing, August 2004.
- Olga Perdikaki, M.S., Thesis Title: Modeling the work center design problems for thermal processes in semiconductor manufacturing, December 2003.
- 20 M.S. Non-thesis students and 9 M.E. Non-thesis students.