Amy Ellen Mainville Cohn

Thurnau Professor, University of Michigan

Associate Director, Center for Healthcare Engineering and Patient Safety

Associate Professor, Industrial and Operations Engineering, College of Engineering

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(Last updated April 5, 2012)

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA

Ph.D. in Operations Research, June 2002

Research Advisor: Professor Cynthia Barnhart

Dissertation Title: *Composite Variable Modeling for Large-Scale Problems in Transportation and Logistics*

Harvard University, Cambridge, MA

A.B. in Applied Mathematics, June 1991, magna cum laude

Research Advisor: Professor Myron Fiering

Thesis Title: *Multiple Organ Failure: A Model for Treatment Optimization*

EMPLOYMENT AND EXPERIENCE

2011 - Present University of Michigan

Arthur F. Thurnau Professor
Associate Professor, Department of Industrial and Operations Engineering
Associate Director, Center for Healthcare Engineering and Patient Safety

2009 - 2011 University of Michigan

Associate Professor, Department of Industrial and Operations Engineering
Director, Engineering Global Leadership program

2002 - 2009 University of Michigan

Assistant Professor, Department of Industrial and Operations Engineering

1991 - 1996 Princeton Transportation Consulting Group

(Software company providing decision support software to the freight transportation industry)

PUBLICATIONS

(A single underline indicates a graduate student advisee; an asterisk indicates an undergraduate advisee.)

Full Articles in Refereed Publications

A18) V. Chase, A. Cohn, M. Lavieri, and T. Peterson. "Predicting Emergency Department Volume Using Forecasting Methods to Create a 'Surge Response' for Non-Crisis Events," *Academic Emergency Medicine*, to appear.

A17) A. Barlett, A. Cohn, O. Gusikhin, Y. Fradkin, R. Davidson, and J. Batey. "Ford Motor Company Implements Integrated Planning and Scheduling in a Complex Automotive Stamping Environment," Finalist for the *2011 Daniel H. Wagner Prize for Excellence in Operations Research Practice*. To appear in *Interfaces*.

A16) M. Lapp and A. Cohn. "Modifying Lines-of-Flight in the Planning Process for Improved Maintenance Robustness," *Computers and Operations Research* 39 (9): pp.2051 – 2062, September 2012.

A15) S. Kurnaz, A. Cohn, Y. Guan*, and Y. Jiang*. "Trading Off Between Makespan and Customer Responsiveness in Flow Shop Sequencing," *International Journal of Production Research* 48 (22): pp. 6777 – 6797, November 2010.

A14) S. AhmadBeygi, A. Cohn, and M. Lapp. "Decreasing Airline Delay Propagation by Re-Allocating Scheduled Slack," *IIE Transactions* 42 (7): pp. 478 – 489, July 2010. Highlighted in *Industrial Engineer Magazine*.

A13) A. Barlatt, A. Cohn, and O. Gusikhin. "A Hybridization of Mathematical Programming and Dominance-Driven Enumeration for Solving Shift-Selection and Task-Sequencing Problems" *Computers and Operations Research* 37 (7): pp. 1298 – 1307, July 2010.

A12) R. Chen, S. AhmadBeygi, D. Beil, A. Cohn, and A. Sinha. "Solving Truckload Procurement Auctions over an Exponential Number of Bundles," *Transportation Science* 43 (4): pp. 493 – 510, November 2009. Honorable Mention in Katta Murty Prize for Best Research Paper on Optimization by an IOE Student.

A11) A. Cohn, M. Magazine, and G. Polak. "Rank-Cluster-and-Prune: An Algorithm for Generating Clusters in Complex Set Partitioning Problems," *Naval Research Logistics* 56 (3): pp. 215–225, April 2009.

A10) A. Barlatt, A. Cohn, Y.Fradkin, O. Gusikhin, and C. Morford. "Using Composite Variable Modeling to Achieve Realism and Tractability in Production Planning: An Example from Automotive Stamping," *IIE Transactions* 41 (5): pp. 421–436, May 2009.

Winner of Best Applied Paper Prize in Scheduling and Logistics. Highlighted in *Industrial Engineer Magazine*.

A9) S. Root and A. Cohn. "A Novel Modeling Approach for Express Package Carrier Planning," *Naval Research Logistics* 55 (7): pp. 670–683, October 2008.

A8) S. AhmadBeygi, A. Cohn, Y. Guan*, and P. Belobaba. "Analysis of the Potential for Delay Propagation in Passenger Airline Networks," *Journal of Air Transport Management* 14 (5): pp. 221 - 236, September 2008.

A7) S. AhmadBeygi, A. Cohn, and M. Weir*. "An Integer Programming Approach to Generating Airline Crew Pairings," *Computers and Operations Research* 36 (4): pp. 1284–1298, April 2009.

A6) A. Cohn, S. Root, C. Kymissis, J. Esses, and N. Westmoreland. "Scheduling Medical Residents at Boston University School of Medicine," *Interfaces* 39 (3): pp. 186 - 195, May-June 2009.

A5) A. Cohn, M. Davey, L. Schkade, A. Siegel*, and C. Wong*. "Network Design and Flow Problems with Cross-Arc Costs," *European Journal of Operational Research* 189 (3): pp. 890 – 901, September 2008.

A4) S. Root, A. Cohn, A. Wang*, and D. Mohr. "Integration of the Load Matching and Routing Problem with Equipment Balancing for Small Package Carriers," *Transportation Science* 41 (2): pp. 238 – 252, May 2007.

A3) A. Cohn and C. Barnhart. "Composite-Variable Modeling for Service Parts Logistics," *Annals of Operations Research* 144 (1): pp. 17 – 32, April 2006.

A2) C. Barnhart and A. Cohn. "Airline Schedule Planning: Accomplishments and Opportunities," *Manufacturing and Service Operations Management* 6 (1): pp. 3 – 22, Winter 2004.

A1) A. Cohn and C. Barnhart. "Improving Crew Scheduling By Incorporating Key Maintenance Routing Decisions," *Operations Research* 51 (3): pp. 387 – 396, May – June 2003.

Refereed Conference or Symposium Proceedings

B11) R. L. Chen, A. Cohn, N, Fan, and A. Pinar. "N-k-epsilon Survivable Power System Design." Proceedings of the 12th International Conference on Probabilistic Methods Applied to Power Systems (to appear).

B10) V. Chase*, A. Cohn, T. Peterson, and M. Lavieri. "Modeling Care Utilization Ratios to Guide Surge Responses for Non-Crisis Events." *Society of Medical Decision Making Annual Meeting*, Chicago, IL, October 2011. Finalist, Lee Lusted Award.

B9) R. Chen, A. Cohn, and A. Pinar. "An Implicit Optimization Approach for Survivable Network Design," Proceedings of the IEEE Network Science Workshop, West Point, NY, June 2011 (to appear).

B8) O. Gusikhin, P. MacNeille, and A. Cohn. "Vehicle Routing to Minimize Mixed-Fleet Fuel Consumption and Environmental Impact," Proceedings of 7th International

Conference on Informatics in Control, Automation and Robotics, Funchal, Madeira - Portugal, 15 - 18 June, 2010, Volume 1, pp. 285 - 291.

B7) K. Kontoyiannakis, E. Serrano, K. Tse, M. Lapp, and A. Cohn. "A Simulation Framework to Evaluate Airport Gate Allocation Policies Under Extreme Delay Conditions," *Winter Simulation Conference 2009*, December 2009, Austin, TX.

B6) M. Lapp, S. AhmadBeygi, A. Cohn, and O. Tsimhoni. "A Recursion-Based Approach to Simulating Airline Schedule Robustness," *Winter Simulation Conference 2008*, December 2008, Miami, FL.

B5) A. Cohn. "Constructing Pareto-Optimal Residency Call Schedules," *2nd International Symposium on Bio- and Medical Informatics and Cybernetics: BMIC 2008*, pp. 156 – 161, June 2008, Orlando, FL.

B4) A. Barlatt, A. Cohn, and O. Gusikhin. "A Hybrid Approach for Solving Shift-Selection and Task-Sequencing Problems," Lecture Notes in Computer Science: AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems, pp. 288 – 292, Springer Berlin/Heidelberg 2008.

B3) A. Barlatt, A. Cohn, Y. Fradkin, O. Gusikhin, and C. Morford. "A Hybridization of Mathematical Programming and Search Techniques for Integrated Operation and Workforce Planning," *Proceedings from the IEEE International Conference on Systems, Man, and Cybernetics*, pp. 632 – 637, 2007.

B2) S. Kurnaz, A. Cohn, and Y. Koran. "A Framework for Evaluating Production Policies to Improve Customer Responsiveness," *CIRP Annals – Manufacturing Technology* 54 (1): pp. 401 – 406, 2005.

B1) A. Cohn and C. Barnhart. "The Stochastic Knapsack Problem with Random Weights: A Heuristic Approach to Robust Transportation Planning," *TRISTAN III*, June 1998, San Juan, Puerto Rico.

Publications Under Review

C4) A. Obi, J. Chung, M. Daskin, A. Cohn, and R. Reddy. "Achieving ACGME Compliance in Training Qualified CT Transplant Surgeons: A Simulation-based Feasibility Assessment." Under review with American College of Surgeons' 98th Clinical Congress.

C3) K. Schumacher, A. Cohn, and R.L. Chen. "Determining Network Arc Capacities when Node Supplies and Demands Are Uncertain," under review with *INFORMS Journal on Computing*.

C2) F. Peng, A. Cohn, and O. Gusikhin. "Incorporating Heterogeneous Fleets in the Vehicle Routing Problem: Algorithms and Implications," under review with *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Applications and Reviews*.

C1) S. Kurnaz, A. Cohn, and Y. Koren. "A Framework for Incorporating Customer Responsiveness in Production Sequencing," revising for *Production Planning and Control*.

Chapters in Books

D2) A. Cohn and M. Lapp. "Airline Resource Scheduling," in Encyclopedia of Operations Research and Management Science, John Wiley & Sons, Ltd., James Cochran, editor, 2011.

D1) C. Barnhart, A. Cohn, E. Johnson, D. Klabjan, G. Nemhauser, and P. Vance. "Airline Crew Scheduling," in Handbook of Transportation Science, second edition, Kluwer's International Series, Randolph Hall, editor, 2003.

Government, University, or Industrial Reports (Non-Refereed)

E8) A. Cohn, N. Yampikulsakul, G. Belcher, L. Chen, R. Chen, Z. Chen, M. Friedman, B. Harris, C. Lu, K. Lu, A. Schlesinger, and D. Weinblatt. "Final Report to Southwest Airlines on Block Time and Robustness Analysis." March, 2011.

E7) A. Cohn, L. Lahbabi, C. Leocha, B. Maloney, S. Podberesky, and B. Synyder. "The New Rules for Consumer Affairs: Have Things Improved?" Proceedings of the American Bar Association Forum on Air and Space Law Update Conference, February 2011.

E6) A. Schlesinger*, B. Harris*, K. Gilson*, S. Tan*, M. Lapp, and A. Cohn. "Analysis of Tarmac Delays under Decreased Airport Capacity," FAA Student Competition, April 2010.

E5) A. Cohn. "Tarmac Delay Rule May Punish Passengers as Well as Airlines," MIT Global Airline Industry Program White Paper, April 2010.

E4) K. Kontoyiannakis*, E. Serrano*, K. Tse*, M. Lapp, and A. Cohn. "A Simulation Framework to Evaluate Airport Gate Allocation Policies Under Extreme Delay Conditions," FAA Student Competition, April 2009.

E3) D. Beil, A. Cohn, A. Sinha, S. AhmadBeygi, and R. Chen. "Using Implicit Bidding to Solve Truckload Procurement Auctions," NSF CMMI Grantees Conference January 2008, Knoxville TN.

E2) S. AhmadBeygi, A. Cohn, and M. Lapp. "Decreasing Airline Delay Propagation by Re-Allocating Scheduled Slack," Sloan Industry Studies Working Paper Series, April 2008.

E1) S. AhmadBeygi, A. Cohn, Y. Guan*, and P. Belobaba. "Analysis of the Potential for Delay Propagation in Passenger Airline Networks," Sloan Industry Studies Working Paper Series, May 2007.

General (Lay) Press

F4) A. Cohn. "A Year Later, Tarmac-Delay Rule Needs Some Maintenance," *Business Travel News* August 22, 2011.

F3) A. Cohn. "Passenger Rights and Cancelled Flights," *The New York Times* December 29, 2010: http://www.nytimes.com/roomfordebate/2010/12/29/can-air-travel-be-easier-in-bad-weather.

F2) A. Cohn. "Fines for Delays are Not Fixes," *Aviation Week & Space Technology*, 172 (20): p. 66, May 24, 2010.

F1) A.Cohn and P. Belobaba. "Still Stuck on the Tarmac: Why the 'Passenger Bill of Rights' is Wrong," Forbes.com: http://www.forbes.com/2009/08/12/passenger-bill-of-rights-congress-travel-delay-opinions-contributors-aviation.html, posted August 13, 2009.

Dissertation

G1) A.Cohn. "Composite Variable Modeling for Large-Scale Problems in Transportation and Logistics," doctoral dissertation in Operations Research, Massachusetts Institute of Technology, advised by Dr. Cynthia Barnhart, April 2002.

PRESENTATIONS

Invited Presentations

H46) "SSP OR 101" Pre-Conference Workshop at the Schedule and Strategic Planning Meeting, AGIFORS, Barcelona Spain, May 2012.

H45) "Scheduling Problems in Medical Residency." IOE691 Providing Better Healthcare Through Systems Engineering: Seminars and Discussions, December 2011, with Brian Jordan.

H44) "Scheduling Problems in Medical Residency." University of Michigan Child Health Evaluation and Research (CHEAR) Seminar Series, December 2011.

H43) Tauber Global Operations Conference Healthcare Panel: Moderator. Ross School of Business, University of Michigan, November 2011.

H42) "Applied Research in Industrial and Operations Engineering: Wind Farms, Healthcare, Aviation, and More." SJTU, Shanghai China, June 2011.

H41) "OR As a Strategic Capability: Lessons from the Classroom to the Conference Room to Capitol Hill." Keynote address at Jeppesen Operations Research Symposium, Denver CO, April 2011.

H40) "Final Report to Southwest Airlines on Block Time and Robustness Analysis." With Nattavut Yampikulsakul, Ryan Chen, Matthew Friedman, and Luyao Chen. Final project presentation at Southwest Airlines, Dallas TX, March 2011.

H39) "The New Rules for Consumer Affairs: Have Things Improved?" Moderator for panel at American Bar Association Forum on Air and Space conference, February 2011.

H38) "Determining Network Arc Capacities when Node Supplies and Demands Are Uncertain" at Sandia National Labs, February 2011.

H37) "Operations Research in the Airline Industry: Two Different Paths" at Wayne State University, November 2010.

H36) "Measuring Impacts of 3-Hour Tarmac Delay Rule" at Global Airline Industry Program Industry Advisory Board Meeting, MIT, November 2010.

H35) "Planes, Politics, and Polyhedra" at MIT Department of Mathematics, November 2010.

H34) "Operations Research in the Airline Industry: Two Different Paths" at Rutgers University, October 2010.

H33) "4 Myths about the Airline Industry (And what this has to do with IOE)" at Alpha Pi Mu General Board Meeting, October 2010.

H32) "Robust Maintenance Planning and Other Aviation OR Research at the University of Michigan" at Metron Aviation, September 2010.

H31) "Learning About IOE: Energy Applications" ENG110 Lecture, University of Michigan, September 2010.

H30) "Government Regulations for Airline Delays: Unintended Consequences" at MIT Global Airline Industry Program Executive Education Program, June 2010.

H29) "Robust Planning and Recovery in Passenger Aviation" at University of Newcastle, May 2010.

H28) "Including Wind in Power-System Siting and Capacity Expansion Models" at University of Newcastle, May 2010.

H27) "Trends and Advances in Airline Scheduling: Operations Research and the Passenger Bill of Rights" at ATL Research Symposium, Georgia Tech, December 2009.

H26) "Airline Tarmac Delays: Implications of Government Regulation" at Global Airline Industry Program Industry Advisory Board Meeting, MIT, October 2009.

H25) "Including Wind in Power-System Siting and Capacity Expansion Models" at Tulane University, September 2009.

H24) Statement at Passenger Rights Stakeholder Hearing on Capitol Hill, Washington D.C., September 2009.

H23) "Robust Scheduling Planning and Recovery" at MIT Global Airline Industry Program Executive Education Program, June 2009.

H22) "*Test-and-Prune*: A New Algorithm for Combinatorial Optimization Problems" at North Carolina State University, January 2009.

H21a) "*Test-and-Prune*: A New Algorithm for Combinatorial Optimization Problems in Network Design and System Planning" at Design Science Colloquium and Decision Consortium Speaker Series, November 2008.

H21b) "Update: Robust Scheduling and Modeling of Airline Capacity Reductions" at MIT Industry Advisory Board Meeting, Cambridge MA, November 2008.

H20) "*Test-and-Prune*: A New Algorithm for Combinatorial Optimization Problems" Dallas INFORMS Chapter, Dallas TX, October 2008.

H19) "'Optimized' Airline Plans and Operational Realities: Key Challenges in Airline Planning" at the 2008 Navitaire Annual Users Conference, October 2008.

H18) "Schedule Optimization and Operational Realities" at Jeppesen Lunch-and-Learn Program, Montreal CA, September 2008.

H17) "*Test-and-Prune*: A New Algorithm for Combinatorial Optimization Problems" at the GERAD Research Center, Montreal CA, September 2008.

H16) "Schedule Optimization and Operational Realities" at MIT Executive Education Program, Cambridge MA, June 2008.

H15) "'Optimized' Airline Plans and Operational Realities" Fields Lecture at the University of Toronto, June 2008.

H14) "Planning, Operations, and Robustness" panel at AGIFORS Operations meeting, Amsterdam, May 2008.

H13) "Wheels, Windmills, and Weekends: A New Algorithm for Discrete Optimization Problems" at the University of Pittsburgh, April 2008.

H12) "Delay Propagation and Airline Planning: Research Overview," at Lufthansa Airlines, Frankfurt Germany, December 2007.

H11) "Truckload Procurement Auctions: Demonstrating an Implicit Bidding Mechanism," at STIET Seminar Series, Ann Arbor MI, November 2007.

H10) "Assessing Delay Propagation in Airline Plans: An Update," at 2007 Industry Advisory Board Meeting of the MIT Global Airline Industry Program, Cambridge MA, October 2007.

H9) "Robust Schedule Planning and Recovery: The Role of Operations Research" at MIT Executive Education Program, Cambridge MA, June 2007.

H8) "Resident Scheduling and Medical Decision Making," with Dr. Joseph Norman, at University of Michigan Medical School Residency Seminar Series, June 2007.

H7) "Using Mathematical Programming to Make VCG Auctions Tractable: Truckload Procurement," at the University of Illinois Urbana-Champaign, March 2007.

H6) "Assessing Delay Propagation in Airline Plans" at 2006 Industry Advisory Board Meeting of the MIT Global Airline Industry Program, Cambridge MA, October 2006.

H5) "Using Mathematical Programming to Make VCG Auctions Tractable" at the University of Michigan Toyota AI Seminar Series, October 2006.

H4) "Incorporating Reliability, Responsiveness, and Realism in Production Planning and Sequencing" at Intelligent Maintenance Decision-Making Workshop: Needs, Practices and Solutions, Dearborn MI, May 2006.

H3) "Modeling Complex Systems to Ensure Implementable Solutions: Imbedding Complexity in the Variable Definition" at the University of Colorado, December 2005.

H2) "Modeling Complex Systems to Ensure Implementable Solutions: Imbedding Complexity in the Variable Definition" at Northwestern University, Evanston IL, November 2005.

H1) "Composite Variable Models for Large Transportation and Logistics Problems" at the University of Michigan, the University of Chicago, Princeton University, Cornell University, the University of Maryland, and the University of Cincinnati, 2002.

Non-Refereed Conference Presentations

I35d) M. Lapp, A. Cohn, and S. Shebalov. "Short-Term Airline Maintenance Planning and Recovery," INFORMS November 2011, Charlotte NC.

I35c) A. Barlatt, J. Batey, A. Cohn, R. Davidson, Y. Fradkin, and O. Gusikhin. "Integrated Planning and Scheduling in a Complex Automotive Manufacturing Environment," INFORMS November 2011, Charlotte NC. [Finalist for the Wagner Prize.]

I35b) K. Schumacher, R.L. Chen, and A. Cohn. "Determining Network Arc Capacities when Node Supplies and Demands are Uncertain," INFORMS November 2011, Charlotte NC.

I351) R.L. Chen, A. Cohn, and A. Pinar. "An Implicit Optimization Approach for Survivable Network Design," INFORMS November 2011, Charlotte NC.

I34) A. Cohn and R. Chen*. "The Passenger Bill of Rights: How New Regulatory Policy Has Impacted Delay," ISA May 2011, Pittsburgh PA.

I33a) A. Cohn, P. Belobaba, and G. Skaltsas. "Planned and Actual Performance of an Airline Schedule," INFORMS November 2010, Austin TX.

I33b) L. McCarty, A. Cohn, and D. Viswanath. "Pre-emptive Re-Routing of Airline Passengers Under Uncertain Delays," INFORMS November 2010, Austin TX.

I33c) R.L. Chen, D. Callaway, and A. Cohn. "Wind Farm Network Design," INFORMS November 2010, Austin TX.

I32) O. Gusikhin, P. MacNeille, and A. Cohn. "Vehicle Routing to Minimize Mixed Fleet Fuel Consumption and Environmental Impact," ICINCO June 2010, Madera Portugal.

I31) A. Cohn and M. Lapp. "Robust Planning and Recovery in Passenger Aviation," AGIFORS May 2010, Brisbane Australia.

I30) K. Kontoyiannakis*, E. Serrano*, K. Tse*, M. Lapp, and A. Cohn. "A Simulation Framework to Evaluate Airport Gate Allocation Policies Under Extreme Delay Conditions," Winter Simulation Conference December 2009, Austin TX.

I29a) A. Cohn, L. McCarty, and D. Viswanath. "Re-Booking Disrupted Airline Passengers While Uncertainty Still Remains," INFORMS October 2009, San Diego CA.

I29b) D. Callaway, R. Chen, and A. Cohn. "Including Wind in Power System Siting and Capacity Expansion Models," INFORMS October 2009, San Diego CA.

I29c) D. Callaway, R. Chen, and A. Cohn. "Test-and-Prune: Designing Wind Farms with Probabilistic Constraints," INFORMS October 2009, San Diego CA.

I28a) A. Cohn, M. Lapp, J. Ibarra, and A. Heinold. "Building Lines of Flight for Improved Maintenance Robustness," CORS June 2009, Toronto Canada.

I28b) K. Kontoyiannakis*, E. Serrano*, K. Tse*, M. Lapp, and A. Cohn. "Novel Methods for Reducing Passenger On-Aircraft Ground Delays," CORS June 2009, Toronto Canada.

I27) M. Lapp, S. AhmadBeygi, A. Cohn, and O. Tsimhoni. "A Recursion-Based Approach to Simulating Airline Schedule Robustness," Winter Simulation December 2008, Miami, FL.

I26a) R. Chen, D. Callway, and A. Cohn. "A Power System Planning Model with Intermittent Wind Resources," INFORMS 2008, Washington DC.

I26b) A. Barlatt, A. Cohn, C. Morford, Y. Fradkin, and O. Gusikhin. "Algorithms for Leveraging a Flexible Workforce in Automotive Planning," INFORMS October 2008, Washington DC.

I26c) R. Chen, S. AhmadBeygi, D. Beil, A. Cohn, and A. Sinha. "An Implicit Bidding Mechanism for Combinatorial Auctions – A Truckload Procurement Example," INFORMS October 2008, Washington DC.

I26d) A. Cohn. "Industry Studies and Healthcare Scheduling," INFORMS October 2008, Washington DC.

I26e) A. Cohn and P. Belobaba. "Industry Studies and Robustness in Airline Planning," INFORMS October 2008, Washington DC.

I26f) S. AhmadBeygi, D. Beil, R. Chen, A. Cohn, and A. Sinha. "Solving Stochastic Combinatorial Truckload Procurement Auctions Under Uncertainty," INFORMS October 2008, Washington DC.

I26g) A. Cohn, A. Barlatt, D. Callaway, R. Chen, and O. Gusikhin. "*Test-and-Prune*: A Parallelized Algorithm for Solving Bi-Level Optimization Problems," INFORMS October 2008, Washington DC.

I26h) S. AhmadBeygi, A. Cohn, and M.Lapp. "An Empirical Analysis of Delay Propagation in the Airline Plans," INFORMS October 2008, Washington DC.

I25a) A. Cohn. "Modeling the Impact of Eliminating Service to Regional Airports," AGIFORS Annual Symposium September 2008, Montreal Canada.

I25b) S. AhmadBeygi, A. Cohn, and M. Lapp. "Decreasing Airline Delay Propagation By Re-Allocating Scheduled Slack," AGIFORS Annual Symposium September 2008, Montreal Canada. This was a presentation of Dr. AhmadBeygi's dissertation, which was awarded second place in the Anna Valicek competition.

I24) S. AhmadBeygi, P. Belobaba, A. Cohn, and M. Lapp. "Achieving Robustness Without Increasing Cost: A New Planning Tool for Passenger Aviation," Sloan Industry Studies Program Annual Meeting June 2008, Boston MA.

I23) A. Cohn. "Constructing Pareto-Optimal Residency Call Schedules," BMIC June 2008, Orlando FL.

I22) A. Cohn, A. Barlatt, and O. Gusikhin. "A Hybrid Approach for Solving Shift-Selection and Task-Sequencing Problems," CP-AI-OR May 2008, Paris, France.

I21a) A. Barlatt and A. Cohn. "A 'Divide-and-Conquer' Approach to High- and Low- Level Resource Planning," INFORMS November 2007, Seattle WA.

I21b) A. Cohn and J. Norman. "Constructing On-Call Schedules for Medical Residents," INFORMS November 2007, Seattle WA.

I21c) S. AhmadBeygi, P. Belobaba, and A. Cohn. "Metrics and Measures of Robustness in Airlines Schedules," INFORMS November 2007, Seattle WA.

I21d) S. AhmadBeygi, D, Beil, R. Chen, A. Cohn, and A. Sinha. "Solving Single-Round, Fully-Enumerated Combinatorial Truckload Procurement Auctions to Optimality," INFORMS November 2007, Seattle WA.

I21e) S. AhmadBeygi, D. Beil, R. Chen, A. Cohn, and A. Sinha. "Stochastic Combinatorial Truckload Procurement Auctions," INFORMS November 2007, Seattle WA.

I21f) A. Barlatt and A. Cohn. "Labor Allocation in Automotive Planning: Leveraging a Flexible Workforce," INFORMS November 2007, Seattle WA.

I21g) A. Cohn (panelist). "Robust Schedule Planning and Recovery: Current Research and Future Challenges," INFORMS November 2007, Seattle WA.

I20) A. Cohn, Shervin AhmadBeygi, and M. Weir*. "Using Integer Programming and Dual-Based Potentials to Generate Crew Pairings," AGIFORS August 2007, Seattle WA.

I19a) S. AhmadBeygi, D. Beil, R. Chen, A. Cohn, and A. Sinha. "An Implicit Bidding Mechanism for Combinatorial Auctions," INFORMS Mid-Western Conference August 2007, Evanston IL.

I19b) A. Barlatt, A. Cohn, M. Luppino*, and T. Zhou*. "A Parallel Algorithm for Solving Resource Allocation and Scheduling Problems," INFORMS Mid-Western Conference August 2007, Evanston IL.

I19c) S. AhmadBeygi, P. Belobaba, and A. Cohn. "Measuring and Minimizing Delay Propagation in Passenger Airline Plans," INFORMS Mid-Western Conference August 2007, Evanston IL.

I18) S. AhmadBeygi, P. Belobaba, A. Cohn, and Y. Guan*. "Measuring and Minimizing Delay Propagation in Airline Plans," AGIFORS June 2007, Denver CO.

I17) S. AhmadBeygi, P. Belobaba, A. Cohn, and Y. Guan*. "Airline Planning to Minimize Delay Propagation," IIE May 2007, Nashville TN.

I16) A. Barlatt, A. Cohn, Y. Fradkin, and O. Gusikhin. "Using Composite Variable Modeling to Achieve Realism and Tractability in Production Planning," INFORMS May 2007, San Juan PR.

I15) S. AhmadBeygi, A. Cohn, and M. Lapp."Incorporating Robustness in Passenger Aviation Planning Models," at Sloan Industry Studies Program Annual Meeting April 2007, Cambridge MA.

I14a) A. Barlatt, A. Cohn, Y. Fradkin, and O. Gusikhin. "A New Modeling Approach for Scheduling Stamping Operations," INFORMS November 2006, Pittsburgh PA.

I14b) S. AhmadBeygi, P. Belobaba, A. Cohn, and Y. Guan*. "Assessing Delay Propagation in Airline Plans." INFORMS November 2006, Pittsburgh PA.

I14c) A. Cohn and S. Root. "Developing Fair and Feasible Schedules for Residents On-Call," INFORMS November 2006, Pittsburgh PA.

I14d) D. Beil, A. Cohn, and A. Sinha. "Simplified Bidding and Solution Mechanisms for VCG Combinatorial Auctions," INFORMS November 2006, Pittsburgh PA.

I14e) A. Cohn and S. Root. "Using Composite Variable Modeling to Solve Integrated Freight Transportation Planning Problems," INFORMS November 2006, Pittsburgh PA.

I13a) A. Cohn and S. Kurnaz. "Incorporating Customer Responsiveness when Solving Blocking Flowshop Scheduling Problems," POMS 2006, Boston MA.

I13b) A. Barlatt and A. Cohn. "Models and Algorithms for Scheduling in Automotive Stamping Plants," POMS May 2006, Boston MA.

I12) A. Cohn and S. Root. "Integration of the Load Matching and Routing Problem with Equipment Balancing for Small Package Carrier," Sloan Industry Studies Program Annual Meeting December 2005, Cambridge MA.

I11a) S. AhmadBeygi and A. Cohn. "Solving Large Crew Pairing Problems for Integrated and Robust Planning," INFORMS November 2005, San Francisco CA.

I11b) A. Barlatt, A. Cohn, Y. Fradkin, C. Griffen*, O. Gusikhin, and G. Rossi. "Models and Algorithms for Scheduling in Automotive Stamping Plants." INFORMS November 2005, San Francisco CA.

I11c) A. Cohn, S. Root, and A. Wang*. "Integrated Planning for Small Package Carriers," INFORMS November 2005, San Francisco CA.

I11d) A. Cohn. "Hands-On Teaching of the Optimization Process," INFORMS November 2005, San Francisco CA.

I10a) A. Cohn and S. Root. "Integrated Load Matching and Equipment Balancing for Express Package Network," IIE May 2005, Atlanta GA.

I10b) A. Cohn, Y. Koren, and S. Kurnaz. "A Framework for Evaluating Production Policies to Improve Customer Responsiveness," IIE May 2005, Atlanta GA.

I10c) S. AhmadBeygi and A. Cohn. "An Optimization Approach to Solving the Airline Crew Pairing Problem," IIE May 2005, Atlanta GA.

I9a) S. AhmadBeygi and A. Cohn. "An Optimization Approach to Solving the Airline Crew Pairing Problem," INFORMS October 2004, Denver CO.

I9b) A. Cohn, S. Root, and H. Shoals*. "Equipment Matching and Balancing for an Express Package Network," INFORMS October 2004, Denver CO.

I8a) S. AhmadBeygi, A. Cohn, and K. Liu. "Dominance and Indifference in Airline Crew Scheduling," INFORMS 2003, October Atlanta GA.

I8b) A. Cohn, M. Davey, L. Schkade, A. Siegel*, and C. Wong*. "A Network Design Problem in Freight Transportation with Non-Linear, Cross-Arc Costs," INFORMS October 2003, Atlanta GA.

I7) A. Cohn, Shervin AhmadBeygi, and KoMing Liu. "Dominance and Indifference in Airline Planning Decisions," NEXTOR June 2003, Washington DC.

I6) A. Cohn, M. Magazine, G. Polak, S. Root, D. Stajninger*, and R. Tatoris*. "Printed Circuit Board Manufacturing and Large-Scale Optimization Techniques," M&SOM June 2003, Los Angeles CA.

I5) C. Barnhart, J. Bong, A. Cohn, K. Howells, and W. Tandiono. "Network Design for Service Parts Logistics." INFORMS November 2001, Miami FL.

I4) C. Barnhart and A. Cohn. "Improving Crew Scheduling by Incorporating Key Maintenance Routing Decisions," INFORMS November 2000, San Antonio TX.

I3) C. Barnhart and A. Cohn. "Improving Airline Crew Schedules by Expanding the Solution Space," ISMP August 2000, Atlanta GA.

I2) A. Cohn, M. Magazine, and G. Polak. "A Column Generation Approach to Product Clustering and Machine Setup in Printed Circuit Board Assembly," INFORMS May 2000, Salt Lake City UT.

I1) C. Barnhart and A. Cohn. "Improving Crew Scheduling by Incorporating Key Maintenance Routing Decisions," TRISTAN IV June 2001, Azores Portugal.

Other Presentations

J#) "The Call to Academia" University of Michigan Future Faculty Workshop panelist, September 2012.

J19) SWE End-of-Year Banquet Speaker, April 2012.

J18) Alpha Pi Mu General Assembly Speaker, March 2012.

J17) Women of Distinction Breakfast, Keynote Speaker, University of Michigan, February 2012.

J16) International Career Month lecture on healthcare, February 2012, with Jonathan Cohn.

J15) "An Introduction to CHEPS," UM INFORMS Student Chapter, Ann Arbor MI, September 2011.

J14) "Finding Happiness & Career Success: Advice for Crafting a Fulfilling Academic Path," Panel at Industry Studies Association Professional Development Workshop, Pittsburgh PA, May 2011.

J13) "Tales from the Tarmac," Back to the Future, University of Michigan College of Engineering Alumnae event, Ann Arbor MI, May 2011.

J12) Presentation to WISE Residential Program University of Michigan, Ann Arbor MI, March 2011.

J11a) "Service and Work Family Balance," at INFORMS Doctoral Colloquium, Washington DC, October 2008.

J11b) "What Kind of Department Do I Want?" at INFORMS Doctoral Colloquium, Washington DC, October 2008.

J10) "Faculty Talk About Effective Teaching" College of Engineering Panel on Teaching Effectiveness, Ann Arbor MI, March 2008.

J9) "Service: The Good, the Bad, and the Ugly," at INFORMS Doctoral Colloquium, Seattle WA, November 2007.

J8) Panelist for Rackham Seminar on Finding an Advisor, Ann Arbor MI, January 2007.

J7) Panelist for Women in Science and Engineering luncheon, Ann Arbor MI, November 2006.

J6) Panel on Work/Family Balance at INFORMS Doctoral Colloquium, San Francisco CA, November 2005.

J5) Panelist for Rackham-CRLT Seminar on College Teaching, Ann Arbor MI, May 2004.

J4) College of Engineering Panel on Mentoring, Ann Arbor MI, November 2003.

J3) Introductory remarks for Tech Day, Ann Arbor MI, November 2003.

J2a) "Developing Successful Research Skills by Studying Research Failures: An Alternative Approach to Teaching Optimization Techniques," at INFORMS Teaching Colloquium, Atlanta GA, October 2003.

J2b) "The Academic Job Search," at INFORMS Doctoral Colloquium, Atlanta GA, October 2003.

J1a) "Grad School Preparation for a Research Position," ASEE Future Faculty Series, Ann Arbor MI, October 2003.

J1b) "Teaching at the University of Michigan," ASEE Future Faculty Series, Ann Arbor MI, October 2003.

Poster Sessions

K7) "Algorithm for Scheduling Power Generators to Meet N-k Security Requirements when Transmission Switching is Employed" with Kathryn Schumacher (presenter) and Richard Chen, 2012 Graduate Academic Conference, Lansing, MI, April 2012. Recipient of Poster Presentation Award.

K6) "Evaluating and Analyzing Conflicts between ACGME Restrictions and Adequate Training Opportunities for Transplant Surgery"with Andrea Obi (presenter), Jennifer Chung, Siyuan Sun*, Wandi Lin, Mark Dasking, and Rishindra Reddy, at the HFES 2012 Symposium on Human Factors and Ergonomics in Health Care, Baltimore, MD, March 2012.

K5c) "Incorporating Heterogeneous Fleets in the Vehicle Routing Problem: Algorithms and Implications," with F. Peng and O. Gusikhin, at INFORMS Annual Meeting, Charlotte NC, November 2011.

K5b) "Predicting Emergency Department Volume Using Forecasting Methods to Create a "Surge Response" for Non-Crisis Events," with V. Chase, M. Lavieri, and T. Peterson, at INFORMS Annual Meeting, Charlotte NC, November 2011.

K5a) "Medical Resident Scheduling using Multi-Criteria Optimization Models," with M. Lapp, Y. Jiang*, S. Sun*, J. Guo*, B. Jordan, K. Lu*, D. O'Connell, and X. Xu*, at INFORMS Annual Meeting, Charlotte NC, November 2011.

K4) "Teaching Mathematical Modeling Using Innovative Technology Applications," with M. Lapp, at Research and Scholarship in Engineering Education Poster Session, Ann Arbor MI, October 2009.

K3) Summary of wind research for NSF WIRES, Barcelona Spain, June 2009.

K2) Summary of aviation research for Sloan ISA Conference, Chicago IL, May 2009.

K1) "Simplified Bidding and Solution Structures for Combinatorial Procurement Auctions," with D. Beil, A. Sinha, S. AhmadBeygi, and R. Chen, at NSF Grantees Conference, Knoxville TN, November 2008.

FUNDING

L26) Co-PI: Transformative Advances in DDDAS with Application to Space Weather Monitoring" AFOSR (awarded March 2012, contingent on fund availability).

L25) PI: "Cross-Disciplinary Experiential Learning in Healthcare Engineering and Patient Safety" The Doctors Company Foundation ($172,500 awarded March 2012).

L24) PI: "Advanced Decision-Making for a Sustainable Healthcare System" Center Proposal Enhancement Program ($55,000 awarded March 2012).

L23) Funding from UMHS to support research on cardio-thoracic transplant residency program scheduling ($5,000 awarded January 2012).

L22) PI: "Developing a Framework for Hands-On Collaborations between "Engineering and Medical Students on Open-Ended Projects" CRLT Whitaker Stage I ($9,700 awarded January 2012), with Michelle Macy.

L21) Sabre Industry Gift ($5,000 awarded December 2011).

L20) PI: "Assessment of Applicability of Altair Database Management and Optimization Tools for Logistics and Scheduling Problems" Altair Industry Support ($4,820 awarded February 2011).

L19) PI: "Network Design and Robustness in Scheduling" Southwest Airlines 2011 ($5,161 awarded January 2011).

L18) Co-PI: "Robust Capacity-Constrained Scheduling and Data-Based Model Refinement for Enhanced Collision Avoidance in Low-Earth Orbit" NSF ($800,000 awarded September 2010), with Dennis Bernstein, Aaron Ridley, and James Cutler.

L17) Co-PI: "Green Fleet Management" NSF SBIR ($150,000 awarded June 2010), with WayLogics and Ilya Kolmanovsky.

L16) PI: "*Optimization Processes for Power Systems:* A New Inter-Disciplinary Course Focusing on Renewable Energy" CRLT Fund ($6,000 awarded April 2010).

L15) PI: "Self-Teaching Materials for Large Lecture Courses" CRLT ISL ($8,000 awarded March 2009).

L14) PI: "CIEG: Simplified Bidding and Solution Structures for Combinatorial Procurement Auctions" NSF SEE ($13,000 awarded June 2008).

L13) PI: "Decreasing Airline Delay Propagation: Aligning Planning Processes in the Scheduling Phase with Operational Decision Making in the Recovery Phase" Sloan Industry Studies Program Site Visit Grant ($5,000 awarded May 2008).

L12) PI: "REU: Simplified Bidding and Solution Structures for Combinatorial Procurement Auctions" NSF SEE ($6,000 awarded January 2008).

L11) PI: "Parallel Computing Platforms for Automotive Decision-Support Tools" Ford Motor Company Alliance Program ($7,500 awarded June 2007).

L10) PI: "REU: Simplified Bidding and Solution Structures for Combinatorial Procurement Auctions" NSF SEE ($12,000 awarded June 2007).

L9) PI: "Decision-Support Tools for Developing Cost-Effective Stamping Plans" Ford Motor Company Alliance Program ($20,000 awarded June 2007).

L8) PI: "Robustness in Airline Planning" Networking Event Grant from the Sloan Industry Studies Program ($6,600 awarded May 2007).

L7) PI: "Robustness in Passenger Airlines" Seminar Grant from the Sloan Industry Studies Program ($3,850 awarded February 2007).

L6) PI: "Simplified Bidding and Solution Structures for Combinatorial Procurement Auctions" NSF SEE ($149,114 awarded September 2006),with Amitabh Sinha and Damian Beil.

L5) PI: "Identifying New Research Opportunities to Address Significant Changes Impacting the Passenger Airline Industry" 2005 Sloan Industry Studies Fellowship ($40,000 awarded December 2004).

L4) PI: "Optimization in Real-Life: Tools for Extending the Classroom Experience to the Real World" CRLT Faculty Development Fund ($4,495 awarded December 2004).

L3) PI: "Composite Variable Models for Complex Problems in Transportation and Logistics" Rackham Faculty Development Grant ($4,000 awarded April 2003).

L2) PI: "Large-Scale Optimization Techniques for Network Design Problems with Non-Linear Cost Functions" Elizabeth Caroline Crosby Research Fund ($9,700 awarded April 2003).

L1) PI: "Developing Successful Research Skills by Studying Research Failures: An Alternative Approach to Teaching Optimization Techniques" CRLT Faculty Development Fund ($4,320 awarded December 2002).

AWARDS

Alpha Pi Mu *Professor of the Year* award, 2003, 2004, 2006, 2010, 2012 voted for by students.

IOE Award for Outstanding Accomplishment 2012.

University of Michigan nominee for Michigan Distinguished Professor of the Year Award 2012.

Finalist, INFORMS 2011 Daniel H. Wagner Prize for Excellence in Operations Research Practice, with Ada Barlatt, Oleg Gusikhin, and Yakov Fradkin.

IIE Operations Research 2010 Teaching Award.

Honorary Member, IOE Chapter of Alpha Pi Mu, initiated April 2010.

Jon R. and Beverly Holt Award for Excellence in Teaching, 2005, 2007, 2010 awarded by the College of Engineering.

Finalist, "Innovations in Student Learning", University-wide competition, 2009, 2010.

Best Technical Presentation, "Using Integer Programming and Dual-Based Potentials to Generate Crew Pairings," AGIFORS Crew Scheduling Meeting, 2007, voted for by meeting attendees.

Phi Sigma Rho *Outstanding Student Group Advisor* award, 2004, awarded by students.

INFORMS Aviation Application Dissertation Prize competition 2003, Honorable Mention, for *Composite Variable Modeling for Large-Scale Problems in Transportation and Logistics.*

STUDENTS

Dissertation Committees (Chair)

Young-Chae Hong, expected Winter 2016.

Kathryn Schumacher, expected Winter 2013.
Recipient of National Science Foundation Graduate Fellowship.
Poster Presentation Award at the 2012 Graduate Academic Conference, Lansing MI.

Lindsey Selegue (with Divakar Diswanath, Math department), Winter 2012.
Dissertation title: *Preemptive Rerouting of Airline Passengers under Uncertain Delay.*
Current position: Director of Institutional Research, Cedarville University.

Marcial Lapp, Winter 2012.
Dissertation title: *Methods for Improving Robustness and Recovery in Aviation Planning.*
Current position: US Airways, Phoenix AZ.
2010 Summer intern, USAirways.
2008 Summer intern, Lufthansa Airlines, Frankfurt Germany.
Recipient of Bonder Fellowship; Winner of 2011 John A. Curtis Lecture Award, given by ASEE; 2012 Rackham Outstanding GSI Award; 2012 Towner Prize for Outstanding GSIs.

Richard Chen, Winter 2010.
Dissertation title: *Models and Algorithms for Stochastic Network Design and Flows: Applications to Combinatorial Auctions and Wind Farm Network Design.*
Current position: Senior Member of Technical Staff, Sandia National Laboratory, Livermore CA.
Recipient of STIET Fellowship, Bonder Fellowship, and MMPEI-Rackham Energy Fellowship; 2008 NSF CIEG Summer Fellow; Honorable Mention in Murty Optimization Paper Prize.

Ada Barlatt, Winter 2009.
Dissertation title: *Models and Algorithms for Workforce Allocation and Utilization.*
Current position: Assistant Professor, University of Waterloo.

Recipient of NSF Graduate Fellowship, Richard Tapia Scholarship, Alfred P. Sloan Minority Ph.D. Scholarship. 2006 College of Engineering Distinguished Leadership Award Recipient. Best Applied Paper Prize in Scheduling and Logistics from *IIE Transactions* for "Using Composite Variable Modeling to Achieve Realism and Tractability in Production Planning: An Example from Automotive Stamping."

Shervin AhmadBeygi, Winter 2008.
Dissertation title: *Airline Planning Under Uncertainty.*
Current position: Post-Doctoral Fellow, University of Michigan.
Winner of 2007-2008 IOE Graduate Distinguished Achievement Award, 2007 Alpha Pi Mu Outstanding GSI of the Year Award, 2006 College of Engineering Research Mentor Award. Finalist for the 2007 Anna Valicek Medal.

Sarah Root, May 2007.
Dissertation title: *Models and Algorithms for Addressing Complex Constraints and Objective Functions: Applications from Freight Transportation and Medical Resident Scheduling.*
Current position: Assistant Professor, University of Arkansas.
Recipient of UPS Foundation Fellowship.

Selin Kurnaz (Mechanical Engineering, co-chair with Yoram Koren), January 2006.
Dissertation title: *Using Operational Flexibility (Lot Sizing, Scheduling and Sequencing) to Improve Customer Responsiveness in a Manufacturing System.*
Current position: Associate, PRTM.

Dissertation Committees (Non-Chair)

Mads Almassalkhi, Electrical Engineering and Computer Science (Ian Hiskens, chair), completion date pending.

Fei Peng, Industrial and Operations Engineering (Marina Epelman and Edwin Romeijn, co-chairs), completion date pending.

Sara Spangelo, Aerospace Engineering (Jamie Cutler, chair), completion date pending.

Xiaoning Jin, Mechanical Engineering (Jack Hu and Jun Ni, chair), completion date pending.

James Boerkoel, Electrical Engineering and Computer Science (Edmund Durfee, chair), completion date pending.

Hoda Parvin, Industrial and Operations Engineering (Mark Van Oyen, chair), Winter 2012: *Dynamic Flexible Queueing Network Models for the Design and Control of High Performance Operational Systems.*

Bassy Tam, University of Auckland (External Examiner; Matthias Ehrgott, chair), Winter 2012: *Optimisation Approaches for Robust Airline Crew Scheduling.*

Saumil Ambani, Mechanical Engineering (Jun Ni, chair), Winter 2011: *Analytical Estimation of Throughput Distribution for Serial Manufacturing Systems with Multi-State Machines and Its Application.*

Stefan Witwicki, Electrical Engineering and Computer Science (Edmund Durfee, chair), Winter 2011: *Abstracting Influences for Efficient Multiagent Coordination Under Uncertainty.*

Cheng Zhou, Electrical Engineering and Computer Science (David Blaauw, chair), Fall 2010: *Yield enhancement through Pre- and Post- Silicon Adaptation.*

Minsuk Suh, Industrial and Operations Engineering (Mark Van Oyen, chair), Spring 2010: *Retail Pricing of Substitutable Products Under Logit Demand.*

Betzabe Rodriquez, Industrial and Operations Engineering (Goker Ayden, Chair), Fall 2009: *Pricing and Assortment Selection with Demand Uncertainty.*

Damon Williams, Industrial and Operations Engineering (Mark Van Oyen, Chair), Summer 2009: *Investigations into Flexible Operational Paradigms to Mitigate Variability.*

Ravikishore Gandikota, Electrical Engineering and Computer Science (David Blaauw, chair), Summer 2009: *Cross-Talk Noise Analysis for Nano-Meter VLSI Circuits.*

Mark Liffiton, Electrical Engineering and Computer Science (Karem Sakallah, chair), Winter 2009: *Analyzing Infeasible Constraint Systems.*

Xiaowei (William) Zhu, Mechanical Engineering (Jun Ni, Chair), Winter 2008: *Modeling Product Variety Induced Manufacturing Complexity for Assembly System Design.*

Yang Liu, Mechanical Engineering (Jun Ni, Chair), Winter 2008: *Data Fusion and Predictive Modeling for Intelligent Maintenance in Complex Semiconductor Manufacturing Processes.*

Peter Schwartz, Electrical Engineering and Computer Science (Martha Pollack, Chair), Summer 2007: *Managing Complex Scheduling Problems with Dynamic and Hybrid Constraints.*

Shankara Kuppa, Industrial and Operations Engineering (Dushyant Sharma, Chair), Spring 2007: *Load Planning Problem: Introduction, Applications and Results.*

Michael Moffitt, Electrical Engineering and Computer Science (Martha Pollack, Chair), Winter 2007: *Efficient and Expressive Extensions of Constraint-Based Temporal Reasoning.*

Hector Carlo, Industrial and Operations Engineering (Yavuz Bozer, Chair), Fall 2006: *Door Assignment and Sequencing Problems in Crossdocks and Container Terminals.*

Justin Kile, Industrial and Operations Engineering (Yavuz Bozer, Chair), Summer 2006: *Design of Walk-and-Pick Order Fulfillment Systems.*

Archis Ghate, Industrial and Operations Engineering (Robert Smith, Chair), Summer 2006: *Markov Chains, Game Theory, and Infinite Programming: Three Paradigms for Optimization of Complex Systems.*

Bart Peintner, Electrical Engineering and Computer Science (Martha Pollack, Chair), Summer 2005: *Algorithms for Constraint-Based Temporal Reasoning with Preferences.*

Supervised Research -- Masters Students

Wandi Lin

Kyle Gilson	Valerie Chase	Young-Chae Hong
Mary Jo Luppino	Yiwen Jiang	Hao Zhou
Lisa Schkade	Melinda Davey	KoMing Liu

Supervised Research -- Undergraduate Students

(All students are from IOE except where noted)

Zongchang Liu (ME)

Ishan Mukherjee	Raphael Lam	Zach Hawkins
Sajan Shah	Zach Rollin	Xinxin Zhu
Jinshuai Guo	Siyuan Sun	Nan Zhong
Matthew Friedman	Daniel Weinblatt	Xun Xu
Zhuoxin Chen	Luyao Chen	Ryan Chen
Selenny Vazquez (SROP)	Kathy Lu (BME)	Chenchen Lu
Veronica Hicks	Gordon Belcher	Kent Utama
Andrew Schlesinger	Sheng Tan	Stephanie Kuo
Brian Harris	Kyle Gilson	Zhou (Vince) Lu
Nick Tempels	Dana Kravitz	Jillian Oran
Christopher Devins	Valerie Chase	Ryan Minnema
Eduardo Serrano	Kosta Kontoyiannakis	Maria Morales
Joseph Bryant	Kevin Tse	Jillian VandePutte
Marshall Weir	Yiwen Jiang (ME)	Tong Wu
Jennifer Hand	Stephanie Clarke	Adam Steenwyk (LSA)
Sien Jin Leow	Danielle Scapa	Siti Daud
Tian Zia Zhou	Mary Jo Luppino	Sean Little
Jared Davis	Yihan Guan	Christy Griffen
Baback Vaziri	Alex Wang	Akshay Srimal

Elsa Mersereau	Kristen Neubauer	Holly Shoal
Mark Sytsma	Amanda Siegel	Caris Wong
Reid Tatoris	David Stajninger	Buan Pong Chua

Supervised Research – Non-Engineering Students

Leslie Korson (Wayne State University, School of Medicine)

COURSES TAUGHT

Course	Semester	Enrollment	Q1	Q2
IOE310: Intro to Optimization	F2002	111	4.33	4.81
IOE310: Intro to Optimization	F2003	110	4.47	4.88
IOE310: Intro to Optimization	F2004	112	4.64	4.80
IOE310: Intro to Optimization	F2006	119	4.22	4.83
IOE310: Intro to Optimization	F2008	80	4.25	4.77
IOE310: Intro to Optimization	F2009	115	4.66	4.93
IOE310: Intro to Optimization	F2011	120	4.65	4.9
IOE510: Linear Programming I	W2003	33	4.25	4.83
IOE510: Linear Programming I	W2005	37	4.5	4.82
IOE510: Linear Programming I	F2005	29	3.89	4.15
IOE510: Linear Programming I	W2007	39	4.25	4.63
IOE510: Linear Programming I	W2008	44	4.31	4.67
IOE510: Linear Programming I	W2010	39	3.93	4.44
IOE591*: Models and Algorithms for Large-Scale Optimization Problems	W2005	6	4.9	5.00
IOE591*: Models and Algorithms for Large-Scale Optimization Problems	W2006	3	5.00	5.00
IOE591*: Models and Algorithms for Large-Scale Optimization Problems	W2007	5	4.00	4.67
IOE591*: Airline Operations Research	W009	15	4.93	5.00
IOE640: Mathematical Modeling of Operational Systems	W2006	6	4.50	4.50
IOE640: Mathematical Modeling of Operational Systems	W2008	12	4.40	4.71
IOE640: Mathematical Modeling of Operational Systems	W2010	9	4.80	4.75
IOE691: Providing Better	F2011	21	4.25	4.25

Healthcare through Systems Engineering				

*** Newly developed course**

Q1: "Overall, this was an excellent course," scored on a five-point scale.

Q2: "Overall, the instructor was an excellent teacher," scored on a five-point scale.

Other

Developed and administering new concentration in "Healthcare Engineering and Patient Safety" for IOE Masters program, launched 2012.

Technical mentor, multi-disciplinary design team, 2012.

Supervisor, student summer teams for the Tauber Institute for Global Operations, 2003, 2005, 2006, 2007, 2008, 2009, 2010 (two teams), 2011, 2012.

"Teaching Mathematical Modeling Using Innovative Technology Applications," with M. Lapp, at Research and Scholarship in Engineering Education Poster Session, Ann Arbor MI, October 2009.

Lecturer, MIT Global Airline Industry Program Executive Education, 2007 and 2008 (participant evaluations 4.61/5 and 4.55/5).

Provosts' Seminar on Teaching 2003, 2011.

SERVICE

Membership and Affiliation

University of Michigan Center for Healthcare Engineering and Patient Safety (Associate Director)

University of Michigan Institute for Healthcare Policy and Innovation

University of Michigan Health Services Institute, College of Engineering Liaison

INFORMS

Chair, Aviation Applications Section, 2009 and 2010

Vice-Chair, Aviation Applications Section, 2007 and 2008

Secretary/Treasurer, Aviation Applications Section, 2005 and 2006

AGIFORS

Scheduling and Strategic Planning Council Member, 2012 to present

Sloan Industry Studies Program

Chair, Early Career Development Committee, 2006 - 2008

Inaugural member, 2004 - 2006

MIT Global Airline Industry Program

ASEE

Review Panel Member

Government of Qatar, 2007, 2011

NSF SEE proposals, Washington D.C., December 2007

NSF, CCLI EMD and ND proposals, Washington D.C., July 2003, 2004, 2005, 2006

NSF OR proposals, Washington D.C., December 2003

Organizer/Coordinator

Seven joint Sloan/INFORMS sessions, D.C. October 2008

Alfred P. Sloan Foundation Industry Studies Program Networking Event on Robust Airline Planning, May 2007

Masters Colloquium, INFORMS Practitioners Conference, April 2005

INFORMS session on Aviation Applications, Atlanta, October 2003

NEXTOR-FAA-INFORMS Conference, Washington D.C., June 2003

IOE departmental seminar series, Fall 2003

Perspectives From Industry seminar series, Winter 2003

Judge

University Undergraduate Teaching Award, 2012

Murty Prize (Chair), 2012

INFORMS AAS Dissertation Prize (Chair), 2011

AGIFORS Anna Valicek Award 2010, 2011

INFORMS Undergraduate OR Prize 2010

Murty Prize, IOE Department, 2006, 2008

Honors Committee, College of Engineering, 2006

Sloan Industry Studies Dissertation Prize, 2005, 2006, 2007
INFORMS Aviation Applications Dissertation Prize, 2005, 2007, 2011 (Chair)
University of Michigan Society of Women Engineers Scholarship, 2004, 2005
INFORMS Transportation Dissertation Competition, 2004

Referee

Transportation Research Part E (2011)
Socio-Economic Planning Sciences (2011)
IIE Transactions (Associate Editor)
OMEGA (former Associate Editor)
Transportation Science
Annals of Operations Research
Naval Research Logistics
Operations Research
Computers and Operations Research
Health Care Management Science
European Journal of Operational Research
Interfaces
Management Science
Journal of the Operational Research Society
Manufacturing and Service Operations Management

Outreach

Ann Arbor Public School System, Tutor, 2007, 2008
Washtenaw Elementary Science Olympiad Judge, Coach 2007, 2009, 2010, 2011, 2012

Internal Committees

University of Michigan '31E Scholarship Committee, 2012
University of Michigan Selection Advisory Committee, 2012 Thurnau Professorships
University of Michigan Faculty Diversity Ally, 2010 - 2011
IOE Internal Review Committee, 2009 - present
College of Engineering Commission on Undergraduate Education, 2008 - 2009
IOE Department Chair Search Committee, 2008-2009

University of Michigan Presidential Initiative for a Healthy Community, 2004 - 2006

IOE Undergraduate Curriculum Committee. 2004 – 2011

IOE Computing Committee, 2006 - present

IOE Department Committee, 2003 - 2004, 2005 – 2006, 2009 – 2010, 2011 - 2012

College of Engineering Strategic Planning Advisory Committee, 2002 – 2003

University of Michigan Health Services Research Institute, CoE Liaison, 2011 - present

Faculty Advisor to Student Groups

Director, Engineering for Global Leadership, 2009 - 2011

Society of Women Engineers, University of Michigan student chapter, 2004 - 2011

Phi Sigma Rho (undergraduate engineering sorority) 2003 - 2009

IIE University of Michigan student chapter 2002 - 2004

Michigan Engineering Consulting Club, 2007 - 2009