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

2885 IOE Building Ann Arbor, MI 48109-2117

Email: amycohn@umich.edu

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

2012 – Present University of Michigan

Arthur F. Thurnau Professor
Associate Director (50%), Center for Healthcare Engineering and Patient Safety
Associate Professor (50%), Industrial and Operations Engineering, College of Engineering
Associate Professor (Dry), Health Management and Policy, School of Public Health

2011 - 2012   University of Michigan

Arthur F. Thurnau Professor
Associate Director (50%), Center for Healthcare Engineering and Patient Safety
Associate Professor (50%), Department of Industrial and Operations Engineering

2009 - 2011   University of Michigan

Associate Professor (90%), Department of Industrial and Operations Engineering
Director (10%), 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

A34)   Schumacher, K., R. L. Chen, and A. Cohn. "Transmission Expansion with Smart Switching under Demand Uncertainty and Line Failures." To appear in *Energy Systems*.

A33)   Reich, D., Y. Shi, E. Klampf, M. Epelman, and A. Cohn. "An Analytical Approach to Prototype Vehicle Testing." To appear in *Omega*.

A32)   Grenda, T., T. Ballard, A. Obi, W. Pozehl, F. Seagull, R. Chen, A. Cohn, M. Daskin, and R. Reddy. "Computer Modeling to Evaluate the Impact of Technology Changes on Resident Procedural Volume." To appear in *Journal of Graduate Medical Education*.

A31)   Castaing, J., A. Cohn, and B. Denton. "A Stochastic Programming Approach to Reduce Patient Wait Times and Overtime in an Outpatient Infusion Center." To appear in *IIE Transactions on Healthcare*.

A30)   Reich, D., Y. Shi, M. Epelman, A.Cohn, E. Barnes, K. Arthurs, and E. Klampfl. "Scheduling Crash Tests at Ford Motor Company." To appear in *Interfaces*.

A29)   Schumacher, K., R. L. Chen, A. Cohn, and J. Castaing. "Algorithm to Solve a Chance-Constrained Network Capacity Design Problem with Stochastic Demands with Finite Support." To appear in *Naval Research Logistics*.

A28)   J. Castaing, I. Mukherjee*, A. Cohn, L. Hurwitz, A. Nguyen, and J. Muller. "Reducing Airport Gate Blockage in Passenger Aviation: Models and Analysis." *Computers and Operations Research* 65: pp. 189 – 199, 2016.

A27)   Obi, A., J. Chung, R. Chen*, W. Lin, S. Sun, W. Pozehl*, A. Cohn, M. Daskin, F. Seagull, and R. Reddy. "Achieving Accreditation Council for Graduate Medical Education duty hours compliance within advanced surgical training: a simulation-based feasibility assessment." *The American Journal of Surgery* 210 (5): 947 – 950 2015.

A26)   Thomas, T., R. Reddy, T. Ballard, W. Pozehl, A. Cohn, and P. Ehrlich. "ACGME Case Requirements for General Surgeons in Pediatric Surgery: Evaluation of Current Operative Volume on Resident Completion of Index Cases." *Journal of the American College of Surgeons* 221 (4): S48, 2015.

A25) S. Spangelo, J. Cutler, K. Gilson, and A. Cohn. "Optimization-Based Scheduling for the Single-Satellite, Multi-Ground Station Communication Problem." *Computers and Operations Research* 57 (5): pp. 1 – 16, 2015.

A24) Ballard, T., T. Grenda, A. Cohn, M. Daskin, F. Seagull, and R. Reddy. "Innovative Scheduling Solutions for Graduate Medical Education." *Journal of Graduate Medical Education* 7 (2): pp. 169 – 170, 2015.

A23) Perelstein, E., A. Rose*, Y. Hong, A. Cohn, and M. Long. "Automation Improves Schedule and Increases Scheduling Efficiency for Residents." *Journal of Graduate Medical Education* 8 (1): 45 – 49, 2015.

A22) J. Chung, A. Obi, R. Chen*, W. Lin, S. Sun*, Z. Chen*, Z. Chen*, A. Gulati, X. Xu*, W. Pozehl, F. Seagull, A. Cohn, M. Daskin, and R. Reddy. "Estimating Minimum Program Volume Needed to Train Surgeons: When 4x15 Really Equals 90." *Journal of Surgical Education* 72 (1): pp. 61 – 67, 2015.

A21) R. Chen, A. Cohn, F. Nan, and A. Pinar. "Contingency-Risk Informed Power System Design." *IEEE Transactions on Power Systems* 29 (5): pp. 2087 – 2096, 2014.

A20) A. Heiney, S. Potiris, B. Denton, A. Cohn, and C. Friese. "Computer simulation and stochastic programming to reduce patient wait times in an outpatient infusion center." *Journal of Clinical Oncology* 31: PP 181, 2013.

A19) J. East, A. Cator, E. Burns*, T. O'Gara*, J. Card*, A. Cohn, and M. Macy. "Rounding Frequency and Hospital Length of Stay for Children with Respiratory Illnesses: A Simulation Study." *Journal of Hospital Medicine* 8 (12): pp. 678-683, 2013.

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* 19 (5): pp. 569 – 576, May 2012.

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," *Interfaces* 42 (5): 478 – 491, September/October 2012. Finalist for the *2011 Daniel H. Wagner Prize for Excellence in Operations Research Practice*.

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*

3

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

B16) T. Thomas, R. Reddy, T. Ballard, A. Cohn, W. Pozehl, K. Gow, and P. Ehrlich. "Accreditation Council for Graduate Medical Education (ACGME) Pediatric Surgery Requirements for the General Surgery Resident in the Era of Technological

Advancement and Fellowship Programs." American Academy of Pediatrics National Conference and Exhibition, Washington DC 2015.

B15) T. Thomas, R. Reddy, T. Ballard, A. Cohn, W. Pozehl, and P. Ehrlich. "Accreditation Council for Graduate Medical Education (ACGME) Case Requirements for General Surgeons in Pediatric Surgery: Evaluation of Current Operative Volume on Resident Completion of Index Cases." American College of Surgeons 2015 Clinical Congress, Chicago IL 2015.

B14) O. Gusikhin (presenter), F. Peng, and A. Cohn. "Incorporating Heterogeneous Fleets in the Vehicle Routing Problem: Algorithms and Implications." VEHITS (International Conference on Vehicle Technology and Intelligent Transport Systems), Lisbon Portugal 2015.

B13) T. Grenda (presenter), T. Ballard, A. Obi, W. Pozehl, R. Chen*, M. Daskin, F. Seagull, A. Cohn, R. and Reddy. "A Novel Case Simulator to Help Evaluate Residency Program Volume in an Era of Changing Technology." Society of Thoracic Surgeons Annual Meeting, San Diego CA 2015.

B12) J. Castaing, A. Cohn, and J. Cutler. "Scheduling Downloads for Multi-Satellite, Multi-Ground Station Missions." 28th Annual AIAA/USA Conference on Small Satellites, 2014. Honorable mention in student competition.

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 2012.

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 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 2011 pp. 180 - 187.

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 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 Austin, TX December 2009.

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

B5) A. Cohn. "Constructing Pareto-Optimal Residency Call Schedules," 2nd International Symposium on Bio- and Medical Informatics and Cybernetics: BMIC 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

C7) East, J., L. An, A. Cohn, M. Daskin, and T. Shanley. "Using Integer Programming and Simulation to Assess the Impact of Coordination Across Clinical Trials when Recruiting Volunteers from a Clinical Registry." Under revision for *IIE Transactions on Healthcare Systems Engineering*.

C5) Schumacher, K., R. L. Chen, and A. Cohn. "Algorithm to Solve the N-k Secure Unit Commitment Problem with Transmission Switching." Under second revision for *INFORMS Journal on Computing*.

C4) McCarty, L. and A. Cohn. "Preemptive Rerouting of Airline Passenger under Uncertain Delays." Under revision for *Computers and OR*.

C3) Lemay, B., J. Castaing, R. Zidek, A. Cohn, and J. Cutler. "An Optimization-Based Approach for Small Satellite Download Scheduling, with Real-World Applications." To be submitted.

C2) Lapp, M., A. Cohn, and S. Shebalov. "Methods for Improving Aircraft Maintenance Recovery." Under review with *Computers and OR*.

C1) Hong, Y. and A. Cohn. "A Time-Constrained Vehicle Routing Problem with a Heterogeneous Fleet: Algorithms and Analysis." Under 2nd review with *Transportation Research Part B*.

Chapters in Books

  Fleet Fuel Consumption," in SMARTGREENS/VEHITS 2015 – Selected and Revised Papers, Springer International Publishing, Communications in Computer and Information Science, Volume 579, 2015.

D2) A. Cohn and M. Lapp. "Airline Resource Scheduling," in Encyclopedia of Operations Research and Management Science, John Wiley & Sons, Ltd., James Cochran, editor, 2010.

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

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

E9)   <u>S. Sun</u>*, <u>W. Lin</u>, A. Cohn, M. Daskin, A. Obi, J.Chung, and R. Reddy. "Analyzing Conflicts between Random Arrivals and Fixed-Pattern Call Schedules for Training Heart and Lung Transplant Surgeons." INFORMS Undergraduate Operations Research Prize Competition submission, 2012.

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)   <u>A. Schlesinger</u>*, <u>B. Harris</u>*, <u>K. Gilson</u>*, <u>S. Tan</u>*, <u>M. Lapp</u>, 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)   <u>K. Kontoyiannakis</u>*, <u>E. Serrano</u>*, <u>K. Tse</u>*, <u>M. Lapp</u>, 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, <u>S. AhmadBeygi</u>, and <u>R. Chen</u>. "Using Implicit Bidding to Solve Truckload Procurement Auctions," NSF CMMI Grantees Conference January 2008, Knoxville TN.

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

E1)   <u>S. AhmadBeygi</u>, A. Cohn, <u>Y. Guan</u>*, 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

F6)   A. Cohn. "You Paid $400 for Your Flight. The Person Next to You Paid $250. Here's Why That Makes Sense – and Benefits Everybody," *The New Republic* November 2014.

F5)   A. Cohn. "Why Did Your Airline Cancel Your Flight Today? They Had a Very Good Reason," *The New Republic* August 2014.

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

HTK)   Clemson, September 2016.

HTK)   MIT Global Airline Industry Program Executive Education Program, Cambridge MA, June 2016.

HTK)   Mayo September 2015.

H69)   "Airline Scheduling and Operational Issues." MIT Global Airline Industry Program Executive Education Program, Cambridge MA, June 2015.

H68)   "Challenges and Opportunities in Scheduling Healthcare Providers." Dartmouth College, May 2015.

H67)   "Challenges and Opportunities in Scheduling Healthcare Providers." University of Cincinnati, March 2015.

H66)   "Challenges and Opportunities in Scheduling Healthcare Providers." University of Toronto, January 2015.

H65)   "Shift Scheduling in a Pediatric Emergency Department and Implications for Beyond." Presentation at the Mayo Clinic, October 2014.

H64a) "Weather and Delay Analysis." Presented by students at Southwest Airlines, June 2014.

H64b) "Reducing Airport Gate Blockage in Aviation: Models and Analysis." Presented by students at Southwest Airlines, June 2014.

H63)   "Using Industrial Engineering and Other Tools to Improve Healthcare Delivery: Case Studies." DTU (Technical University of Denmark), Lyngby Denmark, April 2014.

H62)   "Using Industrial Engineering and Other Tools to Improve Healthcare Delivery: Case Studies." Northeastern University, Boston MA, April 2014.

H60a) "Technical Tools for Improving Health Care Delivery: Case Studies and Practical Issues." Worcester Polytechnic Institute, Worcester MA, March 2014.

H60b) "From Surgery to Satellites: How Randomness Impacts Us in All Aspects of Life, and How Industrial Engineering Tools Can Help Us Cope." IIE Northeast Regional Conference, Worcester MA, March 2014.

H59) "Opportunities to Improve Emergency Care for Children through Collaboration with Industrial Engineering." Working Group on Modeling Health and Economic Outcomes (MHEO), University of Michigan, March 2014.

H58) "Using OR to Improve Healthcare: Challenges and Opportunities." Medical Innovation Group, University of Michigan Medical School, November 2013.

H57a) "Optimization-Based Scheduling of Single Satellite, Multiple Ground Station Communications." NC State University, October 2013

H57b) "Using Industrial Engineering and Other Tools to Improve Healthcare Delivery: Two Case Studies." NC State University, October 2013.

H56) "Topics in Delay Propagation and Disruption Management." MIT Global Airline Industry Program Executive Education Lecture, Cambridge MA, June 2013.

H55) "Integrated Decision Making." AGIFORS, Miami FL, May 2013.

H54a) "Reducing Airport Gate Blockage in Aviation: Models and Analysis." Southwest Airlines (with Jeremy Castaing, presenter, and Ishan Mukherjee), Dallas TX, May 2013.

H54b) "WN Weather Index Project." Southwest Airlines (with George Tam, Sanjeev Muralidharan, and Vera Lo, presenters, and Mark Grum), Dallas TX, May 2013.

H53) "Using OR to Improve Healthcare -- Challenges and Opportunities." Analytics Annual Retreat, Newport RI, May 2013.

H52) "Applications of Operations Research in Healthcare at the University of Michigan Health System." USC, Los Angeles CA, March 2013.

H51) "Topics in Delay Propagation and Disruption Management." DTU, Lingby Denmark, February 2013.

H50) "Topics in Delay Propagation and Disruption Management." Amadeus OR Program, Nice France, January 2013.

H49) "Challenges and Opportunities in Applying OR/MS Tools to Improve Healthcare Delivery." INFORMS Round Table, Phoenix AZ, October 2012.

H48) "Airline Scheduling and Operational Issues." MIT Global Airline Industry Program Executive Education Program, Cambridge MA, June 2012. (Teaching evaluations 4.43/5)

H47) "Using Optimization Techniques to Improve Residency Scheduling in Pediatric Emergency Medicine." Mayo Clinic Systems Engineering / Operations Research Seminar Series, Rochester MN, June 2012.

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

(Not up to date)

ITK) SHS Orlando, ISERC Nashville, INFORMS Nashville

I52a)   J. Castaing (presenter), A. Cohn, "Patient Scheduling under Uncertainty and Resource Constraints." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52b)   P. Mayoros* (presenter), A. Cohn, "Block Scheduling for a Pediatric Residency Program." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52c)   W. Pozehl (presenter), A. Cohn, "Block Scheduling for a Surgical Residency Program." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52d)   Y. Hong (presenter), A. Cohn, "Shift Scheduling in Pediatric Emergency Medicine." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52e)   B. Lemay (presenter), A. Cohn, "Coordination of Surgical Blocks and Ambulatory Clinics at a Large Teaching Hospital." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52f)   S. Bach (presenter), A. Cohn, "Reducing Patient Delays in Outpatient Infusion Centers." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52g)   J. Fleming (presenter), A. Cohn, "Improving Patient Access for an Outpatient Endocrinology Clinic." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52h)   D. Hazlett (presenter), A. Cohn, "Using Optimization-Based Techniques to Reduce the Supply of Surgical Instruments." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52i) Y. Shi (presenter), A. Cohn, "Crash Test Scheduling for Vehicle Safety Assessment." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52j) Y. Hong (presenter), A. Cohn, "A Time-Constrained Vehicle Routing Problem with a Heterogeneous Fleet: Algorithms and Analysis." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52k) B. Lemay (presenter), A. Cohn, "Optimal Download Scheduling for Multi-Satellite, Multi-Ground Station Missions." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52l) J. Castaing (presenter), A. Cohn, "Optimally Scheduling Satellite Communications under Uncertainty." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52m) V. Morales and E. Olin* (presenters), A. Cohn, "Predicting Disposition for Pediatric Asthma Patients." INFORMS Annual Meeting, November 2014, San Francisco CA.

I52n) B. Lemay (presenter), A. Cohn, "Design and Analysis of a Large-Scale Database for Assessing Weather Impact on Passenger Aviation." INFORMS Annual Meeting, November 2014, San Francisco CA.

I51a) P. Mayoros* (presenter), A. Cohn, Z. VerSchure*, Y. Hong, J. Wang*, W. Pozehl, E. O'Brien, and J. Shin, "Block Scheduling for a Pediatric Residency Program." INFORMS Regional Conference, October 2014, Lansing MI.

I51b) W. Pozehl (presenter), A. Cohn, N. Janes*, Y. Zhang*, R. Reddy, and J. Davis, "Block Scheduling for a Surgical Residency Program." INFORMS Regional Conference, October 2014, Lansing MI.

I51c) Y. Hong (presenter), A. Cohn, TK, "TK." INFORMS Regional Conference, October 2014, Lansing MI.

I50) J.Castaing, A. Cohn, and W. Cutler. "Optimal Download Scheduling for Satellite Missions." 28th Annual AIAA/USA Conference on Small Satellites, August 2014, Utah.

I49) A. Cohn, "Implementing a Residency Scheduling Program at the University of Michigan Pediatric Emergency Department," IFORS July 2014, Barcelona.

148g) Y.C. Hong, E. Perelstein, A. Cohn, I. Mukherjee*, and J. Zank. "Using Integer Programming to Improve the Scheduling of Medical Residents," ISERC June 2014, Montreal Canada.

148f) J. East, L. An, A. Cohn, M. Daskin, J. Kellenberg, and A. Rochford. "Using IE/OR Techniques to Improve the Enrolling of Volunteers in Clinical Trials," ISERC June 2014, Montreal Canada.

148e) R. Chen*, A. Cohn, M. Daskin, A. Obi, A. Perlmutter*, W. Pozehl, R. and Reddy, F. Seagull. "Using Computerized Simulation to Improve the Assigning of Surgical Residents to Training Opportunities," ISERC June 2014, Montreal Canada.

148d) S. Bach, J. Castaing, A. Cohn, B. Denton, C. Friese, A. Heiney, S. Potiris, and L. Salamin. "Scheduling and Patient Flow in an Outpatient Chemotherapy Infusion Center," ISERC June 2014, Montreal Canada.

148c) V. Morales, J. Card, A. Cator, A. Cohn, J. East, and M. Macy. "Reducing Length of Stay for Pediatric Asthma Patients Visiting the Emergency Department," ISERC June 2014, Montreal Canada.

148b) B. Lemay, J. Castaing, A. Cohn, and J. Cutler. "Optimal Download Scheduling for Satellite Missions," ISERC June 2014, Montreal Canada.

148a) A. Cohn, S. Levin, M. Mayorga, M. Carter, and M. Daskin. "Emerging Research Trends in Healthcare – A Panel Discussion," ISERC June 2014, Montreal Canada.

147) *TK ISA Panel discussion*

146a) Y.C. Hong, A. Cohn, M. Long, E. Perelstein, and A. Rose*."Effective Ways to Generate Multiple Solutions for Medical Resident Scheduling," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146b) J. Card, E. Burns*, A. Cator, A. Cohn, J. East, N. Eisert, and M. Macy. "Mathematical Modeling of Pediatric Patients," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146c) J. Castaing, A. Cohn, and J. Cutler. "Optimally Scheduling Satellite Communications with Energy and Data Dynamics Under Uncertainty," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146d) J. Castaing, A. Cohn, and I. Mukherjee*. "Reducing Airport Gate Blockage in Passenger Aviation: Models and Analysis," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146e) Y. Shi, A. Cohn, M. Epelman, E. Klampfl, and D. Reich. "Scheduling More Crash Tests on Fewer Vehicles," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146f) W. Pozehl*, R. Chen*, J. Chung, A. Cohn, M. Daskin, A. Obi, R. Reddy, and J. Seagull. "Scheduling Residents to Achieve Adequate Training on Procedures with Random Occurences," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146g) K. Schumacher, R. Chen, and A. Cohn. "Transmission Expansion with Demand and Contingency Uncertainty and Transmission Switching," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146h) S. Potiris, J. Castaing, A. Cohn, B. Denton, C. Friese, and A. Heiney. "Stochastic Programming to Improve Service Quality in an Outpatient Infusion Center," INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

146i) G. Tam* and A. Cohn. "Weather and Operational Performance." INFORMS Annual Meeting October 2013, Minneapolis Minnesota.

I45a) A. Cohn, R. Chen*, R. Reddy, M. Daskin, and A. Obi. "Training Residents: Reconciling Scheduled Work Hours with Random Opportunities to Perform Rare Procedures," EURO INFORMS July 2013, Rome, Italy.

I45b) O. Gusikhin, F. Peng, D. Perner, and A. Cohn. "Heuristics to Minimize Fuel Consumption in Heterogeneous Fleet Vehicle Routing," EURO INFORMS July 2013, Rome, Italy.

I44d) J. Card, E. Burns*, A. Cator, A. Cohn, J. East, M. Macy, and T. O'Gara. "Analysis of Treatment Location for Pediatric Asthma Patients," INFORMS Conference on Healthcare June 2013, Chicago, IL.

I44c) R. Chen*, J. Chung, A. Cohn, M. Daskin, A. Obi, R. Reddy, and J. Seagull. "Scheduling Residents to Achieve Adequate Training on Procedures with Random Occurrences," INFORMS Conference on Healthcare June 2013, Chicago, IL.

I44b) S. Potiris, A. Cohn, B. Denton, C. Friese, and A. Heiney. "Using Discrete Event Simulation to Improve Service Quality in an Ambulatory Oncology Infusion Center," INFORMS Conference on Healthcare June 2013, Chicago, IL.

I44a) Y-C Hong,A. Cohn, M. Long, E. Perelstein, and A. Rose*. "Using Mathematical Programming to Improve Scheduling for Medical Residents," INFORMS Conference on Healthcare June 2013, Chicago, IL.

I43) A. Cohn. "Shadowing: The Importance of Observation when Applying Systems Engineering to Improve Healthcare Delivery," ISA May 2013, Kansas City, MO.

I42d) I. Mukherjee*, A. Cohn, L. Hurwitz, J. Muller, A. Nguyen, and J. Castaing. "Reducing Airport Gate Blockage in Aviation: Models and Analyis," ISERC May 2013, San Juan PR.

I42b) E. Burns*, A. Cohn, M. Macy, A. Cator, J. East, and T. O'Gara*. "Analysis of Pediatric Asthma Patient Flows through the Emergency Department," ISERC May 2013, San Juan PR.

I42a) J. Castaing, A. Cohn, J. Cutler, S. Spangelo, and K. Gilson. "Optimally Scheduling Satellite Communications with Energy and Data Dynamics," ISERC May 2013, San Juan PR.

I41) A. Cohn. "Panel: Teaching Healthcare Operations Management," POMS May 2013, Denver CO.

I40) *PHOENIX INFORMS TK*

139) *PHOENIX AGIFORS TK*

138) **Obi AT, Chung J, Sun S, Chen Z, Gulati A, Xu X, Lin W, Daskin MS, Cohn AEM, Reddy RM. Achieving ACGME Compliance in Training Qualified Cardiothoracic Transplant Surgeons: A Simulation-based Feasibility Assessment. Presented at the 2013 Clinical Congress, Chicago, IL, October 2, 2012.**

137) **Obi AT, Chung J, Sun S, Chen Z, Gulati A, Xu X, Lin W, Daskin MS, Cohn AEM, Reddy RM. Training UNOS Certified Cardiothoracic Transplant Surgeons within the ACGME Work Hour Regulations. Presented at The Michigan Chapter of the American College of Surgeons 59th Annual Meeting; May 16-18, 2012; Traverse City, MI (Education Award Winner)**

136) J. Chung, A. T. Obi, S. Sun*, Z. Chen*, A. Gulati, X. Xu*, M.S. Daskin, A. Cohn, and R. Reddy. "Feasibility of Training UNOS-Certified Cardiothoracic Transplant Surgeons within ACGME Work Hour Regulations," 24th Annual Moses Gunn Research Conference April 2012, Ann Arbor MI.

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.

I35a) 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

J25) Guest speaker, School of Public Health IHI Chapter meeting, October 2015.

J24) Keynote Speaker, University of Michigan College of Engineering NextProf Workshop, September 2015.

J23) "Pains and Planes: Using IOE Techniques to Make Healthcare and Aviation Systems Run Better," Amaizin' Blue Preview, University of Michigan, April 2013.

J22) Plenary speaker, International Finance Women's History Lunch, Detroit MI, March 2013.

J21) Alpha Pi Mu General Assembly Speaker, University of Michigan, February 2013.

J20) "The Call to Academia" University of Michigan Future Faculty Workshop panelist, University of Michigan, September 2012.

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

J18) Alpha Pi Mu General Assembly Speaker, University of Michigan, 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

(Not up to date)

K18) "Block Scheduling for Surgical Residency Programs Using Combinatorial Optimization" with W. Pozehl, R. Reddy, F. Seagull, J. Davis, N. Janes*, and Y. Zhang*, MCubed Symposium 2014, Ann Arbor MI, September 2014.

K17a) "Operating Room and Ambulatory Clinic Scheduling Optimization" with Brian Lemay, Jose Melendez, Elizabeth Olin*, Billy Pozehl, Suzanne Sullivan, and Yicong Zhang*, Taubman Institute Annual Symposium, Ann Arbor MI, October 2014.

K17b) "Improving Patient Flow at the University of Michigan Infusion Center" with Sarah Bach, Jeremy Castaing, Brian Denton, Alon Weizer, and Louise Salamin. Taubman Institute Annual Symposium, Ann Arbor MI, October 2014.

K17c) "Using IE/OR Techniques to Improve the Enrolling of Volunteers in Clinical Trials" with Joseph East, Mark Daskin, Larry An, and Joan Kellenberg. Taubman Institute Annual Symposium, Ann Arbor MI, October 2014.

K16a) "Improving UMHS Surgical Instrument Reprocessing and Delivery" with Daniel Hazlett, Nina Scheinberg*, Jared Kott*, James Bagian, and Joe Derosier, CHEPS Annual Symposium, Ann Arbor MI, September 2014.

K15a) "Scheduling Residents in the University of Michigan Pediatric Emergency Department" with Zak VerSchure*, Ed O'Brien, Young-Chae Hong, Peter Mayoros*, and Ji Wang*, University of Michigan Annual Pediatric Research Symposium, Ann Arbor MI, October 2014.

K15b) "Predictive Modeling and Patient Flow at C.S. Mott Children's Hospital" with Vanessa Morales, Michelle Macy, And Allison Cator, University of Michigan Annual Pediatric Research Symposium, Ann Arbor MI, October 2014.

K14) "Improving Patient Flow in an Outpatient Infusion Center" with Sarah Bach, Brian Denton, Alon Weizer, and Louise Salamin. Northwestern Health Systems Conference, Chicago IL, September 2014.

K13a) "Automated Shift Scheduling Improves Schedule Quality for Residents in a Pediatric Emergency Department" with Jennifer Zank, <u>Young-Chae Hong</u>, <u>Elizabeth Perelstein</u>, <u>Ishan Mukherjee*</u>, and <u>Zachary VerSchure*</u>, SHS Healthcare Systems Process Improvement Conference, Orlando FL, February 2014.

K13b) "Improving Patient Flow in an Outpatient Infusion Center" with <u>Jeremy Castaing</u>, Brian Denton, Louise Salamin, <u>Sarah Bach</u>, and <u>Christine Gonzalez*</u>, SHS Healthcare Systems Process Improvement Conference, Orlando FL, February 2014.

K13a) "A Simulation-Based Tool to Improve Matching of Fellows to Surgical Training Opportunities" with Rishindra Reddy, Jacob Seagull, Mark Daskin, Andrea Obi, <u>William Pogehl</u>, <u>Ryan Chen*</u>, and <u>Asher Perlmutter*</u>, SHS Healthcare Systems Process Improvement Conference, Orlando FL, February 2014.

K12) "Computer Simulation and Stochastic Programming to Reduce Patient Wait Times in an Outpatient Infusion Center" with <u>Autumn Heiney</u>, <u>Spyros Potiris</u>, Brian Denton, and Christopher Friese, ASCO's Quality Care Symposium, San Diego CA, November 2013.

K11a) "Optimization-Based Shift Scheduling Improves Schedule Quality for Residents in a Pediatric Emergency Department" with <u>Y. Hong</u>, <u>E. Perelstein</u>, <u>A. Rose*</u>, and M. Long, Med Ed Day at UMHS, Ann Arbor MI, June 2013.

K11b) "Feasibility of Training UNOS-Certified Cardiothoracic Transplant Surgeons within ACGME Work Hour Regulations" with <u>J. Chung</u>, A. Obi, <u>S. Sun*</u>, <u>Z. Chen*</u>, <u>A. Gulati</u>, <u>X. Xu*</u>, M. Daskin, and R. Reddy, Med Ed Day at UMHS, Ann Arbor MI, June 2013.

K11c) "Evaluating the Impact of Scheduling Paradigms on Resident Training for Procedures with Random Occurrences" with <u>R. Chen*</u>, <u>J. Chung</u>, M. Daskin, <u>H. Fardous</u>, A. Obi, <u>W. Pozehl*</u>, F. Seagull, and R. Reddy, Med Ed Day at UMHS, Ann Arbor MI, June 2013.

K10) "Location Matters: Discharge Patterns and Lengths of Stay in the Pediatric Emergency Department and Inpatient Unit" with <u>J. East</u>, A. Cator, <u>J. Card</u>, <u>T. O'Gara*</u>, <u>E. Burns*</u>, and M. Macy, Pediatric Academic Societies Annual Meeting, Washington DC, May 2013.

K9) "Maximizing Rehits for Crash Test Vehicles" with Daniel Reich, Erica Klampf, Ellen Barnes, Yuhui Shi, and Marina Epelman, INFORMS Conference on Business Analytics and Operations Research, San Antonio, TX, April 2013.

K8) "The Impact of ACGME Work Hours Regulations on Training the Next Generation of Cardiothoracic Transplant Surgeons" with Andrea Obi, Jennifer Chung, Paul Gauger, Mark Daskin, Ryan Chen, and Rishindra Reddy, ACGME Annual Education Conference, Orlando, FL, February 2013.

K7) "Algorithm for Scheduling Power Generators to Meet N-k Security Requirements when Transmission Switching is Employed" with <u>Kathryn Schumacher</u> (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), <u>Jennifer Chung</u>, <u>Siyuan Sun*</u>, <u>Wandi Lin</u>, Mark Dasking, Zixiao Chen, Anurag Gulati, Xun Xu, 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

L42) Co-PI: "Beauty and organization: Insights from integrative design and operations engineering to improve a tool that supports glaucoma patient self-management with individually tailored counseling," led by Paula Anne Newman-Casey, M-Cubed Program, awarded May 2016, $60,000.

L41) Co-PI: "MIDAS Transportation Challenge," led by Pascal Van Hentenryck, awarded May, 2016.

L40) Co-PI: "Test Planning Scheduler Support System" with Marina Epelman, Ford Alliance Program, awarded January 2016, $93,669.

L39) Funding for small projects and student support at CHEPS from the Institute for Health Policy and Innovation, Department of Surgery (with James Bagian and Joseph Derosier), Comprehensive Cancer Center, Department of Medical Education, and Department of Endocrinology, University of Michigan, awarded throughout 2015, $48,470.

L38) Co-Director: "Enhancing Patient Safety through Cognition & Communication: The "M-Safety Lab"" with Sanjay Saint, AHRQ, awarded September 2015, $3,953,156.

L37) Funding from The Seth Bonder Foundation to support fellowships in the IOE Masters Concentration in Healthcare Engineering and Patient Safety, awarded August 2015, $185,000.

L36) PI: "Optimal Allocation and Scheduling of Surgical Clinic Rooms and Operating Rooms for the University of Colorado Health System" University of Colorado Health System, awarded March 2015, $50,000.

L35) Co-PI: "*Washington DC Health Policy Residential Course*" with Thomas Buchmueller, Transforming Learning for Third Century Quick Wins/Discovery Grant, awarded in January 2015, $25,660.

L34) Funding for small projects and student support from Department of Endocrinology, Department of Surgery (with James Bagian and Joseph Derosier), MICHR (with Mark Daskin and Lawrence An), Comprehensive Cancer Center, and Department of Pediatrics, University of Michigan, awarded throughout 2014, $51, 725.

L33) PI: "Passenger Aviation Flight Disruption Analysis" Jeppesen awarded November 2014, $30,000.

L32) Funding from The Seth Bonder Foundation to support fellowships in the IOE Masters Concentration in Healthcare Engineering and Patient Safety, awarded in September 2014, $185,000.

L31) Co-PI: "*Assessing the Impact of Cross-Disciplinary, Project-Focused, Action-Based Immersive Learning Experiences in Healthcare and Engineering*" with Michelle Macy, Center for Research on Learning and Teaching Investigative Student Learning Grant, awarded March 2014, $8,000.

L30) PI: "Optimal Allocation and Scheduling of Surgical Clinic Rooms and Operating Rooms for the University of Colorado Health System" University of Colorado Health System, awarded January 2014, $49,999.

L29) Funding for small projects and student support at CHEPS from MICHR (with Mark Daskin and Lawrence An), Department of Psychiatry, and Department of Pediatrics, University of Michigan, awarded throughout 2013, $60,588.

L28) Funding from The Seth Bonder Foundation to support fellowships in the IOE Masters Concentration in Healthcare Engineering and Patient Safety, awarded in October 2013, $125,000.

L27) Co-PI: "Optimized Scheduling for Prototype Test Vehicles" with Marina Epelman, Ford Alliance Program, awarded January 2013, $198,131.

L26) Funding from The Seth Bonder Foundation to support fellowships in the IOE Masters Concentration in Healthcare Engineering and Patient Safety, awarded in October 2012, $100,000.

L25) Co-PI: "Automated Scheduling for Prototype Test Vehicles" with Marina Epelman , Ford Alliance Program, awarded May 2012, $39,980.

L24) Co-PI: "Transformative Advances in DDDAS with Application to Space Weather Monitoring" with Dennis Bernstein, Aaron Ridley, and James Cutler, AFOSR, awarded March 2012, $316,414.

L23) PI: "*Cross-Disciplinary Experiential Learning in Healthcare Engineering and Patient Safety*" The Doctors Company Foundation, awarded in March 2012, $172,500.

L22) PI: "*Advanced Decision-Making for a Sustainable Healthcare System*" Center Proposal Enhancement Program, awarded March 2012, $55,000.

L21) Co-PI: "*Developing a Framework for Hands-On Collaborations between Engineering and Medical Students on Open-Ended Projects*" with Michelle Macy, CRLT Whitaker Stage I, awarded January 2012, $9,700.

L20) Sabre Industry Gift, awarded December 2011, $5,000.

L19) PI: "Assessment of Applicability of Altair Database Management and Optimization Tools for Logistics and Scheduling Problems" Altair Industry Support, awarded February 2011, $4,820.

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

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

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

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

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

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, awarded May 2008, $5,000.

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

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

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

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

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

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

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

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

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

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

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

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

AWARDS

Finalist, INFORMS 2015 Daniel H. Wagner Prize for Excellence in Operations Research Practice, with Marina Epelman, Erica Klampfl, Daniel Reich, and Yuhui Shi.

College of Engineering Service Excellence Award, 2015

Alpha Pi Mu *Professor of the Year* award, 2003, 2004, 2006, 2010, 2012, 2013, 2015, 2016 voted for by students.

MICHR Distinguished Clinical and Translational Research Mentor Award, 2014

University of Michigan Nominee, National CASE Professor of the Year Award, 2014

Jon R. and Beverly Holt Award for Excellence in Teaching, 2005, 2007, 2010, 2012, 2013 awarded by the College of Engineering.

Honorary Member, UM Chapter of Tau Beta Pi, initiated December 2012.

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.

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)

Karmel Shehadeh, expected Winter 2019.

Donald Richardson, expected Winter 2019.

Brian Lemay, expected Winter 2017.

Young-Chae Hong, expected Winter 2017.

Yuhui Shi, expected Fall 2016.

Jeremy Castaing, expected Fall 2016.
Recipient of Bonder Fellowship.

Kathryn Schumacher, Winter 2014.
Dissertation title: *Optimization Algorithms for Power Grid Planning and Operational Problems.*
Current position: Research and Development Operations Research Group at General Motors.
Recipient of National Science Foundation Graduate Fellowship.
Poster Presentation Award at the 2012 Graduate Academic Conference, Lansing MI.
Finalist, 2013 ENRE Student Paper Award.
Honorable Mention, Katta Murty Prize, 2015.

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, Dallas TX.
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.
Dissert   ation 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)

Dae Young Lee, Aerospace Engineering (James Cutler, chair), TK.

Mahsa Shateri, University of Toronto (External jury; Michael Carter, chair), Summer 2015: *Resource Allocation and Risk Analysis of Dialysis Centres*.

Kevin McDonough, Aerospace Engineering (Ilya Kolmanovsky, chair), Winter 2015: *Developments in Stochastic Fuel Efficient Cruise Control and Constrained Control with Aircraft Applications*.

Gregg Schell, Industrial and Operations Engineering (Mariel Lavieri, chair), Winter 2015: *Personalized Medicine in Chronic Disease Management*.

Jason Sleight, Computer Science Engineering (Edmund Durfee, chair), completion date pending.

Tor Justesen, Technical University of Denmark (External jury; Jesper Larsen, chair), Winter 2014: *Allocation of Ground Handling Resources at Copenhagen Airport*.

Sophie Dickson, University of Auckland (External Examiner; Natashia Borland, chair), Fall 2013: *Robust Airline Scheduling and Disruption Management*.

Sebastian Ruther, University of Newcastle (External Examiner; Natashia Boland, chair), Summer 2013: *Integrated Aircraft Routing, Crew Pairing, and Tail Assignment*.

Greg King, Industrial and Operations Engineering (Xiuli Chao and Izak Duenyas, co-chairs), Spring 2013: *Essays on Service and Health Care Operations*.

Fei Peng, Industrial and Operations Engineering (Marina Epelman and Edwin Romeijn, co-chairs), Spring 2013: *Optimization Methods for Volumetric Modulated Arc Therapy and Radiation Treatment Under Uncertainty*.

Mads Almassalkhi, Electrical Engineering and Computer Science (Ian Hiskens, chair), Spring 2013: *Optimization and Model-predictive Control for Overload Mitigation in Resilient Power Systems*.

Bo Vaaben, Technical University if Denmark (External jury; Jesper Larsen, chair), Winter 2013: *Sustainable Disruption Management*.

Christophe-Marie Duquesne, University of Grenoble (External jury; Denis Naddef and Olivier Briant, chairs), Winter 2013: *Integration of the Fleet Deployment and of the Passenger Service in the Airline Schedule Management*.

Sara Spangelo, Aerospace Engineering (Jamie Cutler, chair), Fall 2012: *Modeling and Optimization of Space Networks to Improve Communication Capacity*.

James Boerkoel, Electrical Engineering and Computer Science (Edmund Durfee, chair), Summer 2012: *Distributed Approaches for Solving Constraint-based Multiagent Scheduling Problems*.

Xiaoning Jin, Mechanical Engineering (Jack Hu and Jun Ni, chair), Spring 2012: *Modeling and Analysis of Remanufacturing Systems with Stochastic Return and Quality Variation*.

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

Not up to date

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

Not up to date

(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
	F2003	110	4.47	4.88
	F2004	112	4.64	4.80
	F2006	119	4.22	4.83
	F2008	80	4.25	4.77
	F2009	115	4.66	4.93
	F2011	120	4.65	4.9
	F2012	133	4.53	4.81
	F2013	126	4.73	4.88
	F2014	134	4.69	4.81
	F2015	114	4.73	4.88
IOE510: Linear Programming I	W2003	33	4.25	4.83
	W2005	37	4.5	4.82
	F2005	29	3.89	4.15
	W2007	39	4.25	4.63
	W2008	44	4.31	4.67
	W2010	39	3.93	4.44
IOE591*: Models and Algorithms for Large-Scale Optimization Problems	W2005	6	4.9	5.00
	W2006	3	5.00	5.00
	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
	W2008	12	4.40	4.71
	W2010	9	4.80	4.75
IOE691/813*: Providing Better Healthcare through Systems Engineering	F2011	21	4.25	4.25

	F2012	16	4	4.1
	F2013	18		
	F2014	20	4.38	4.86
	F2015	12		

* 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

INFORMS

  Committee Member, INFORMS Review of Academic Programs, 2014 - present

  Chair, Aviation Applications Section, 2009 and 2010

  Vice-Chair, Aviation Applications Section, 2007 and 2008

  Secretary/Treasurer, Aviation Applications Section, 2005 and 2006

  Committee Member, Society for Transportation Science and Logistics Fellows Award, 2013

Sloan Industry Studies Program

>Chair, Early Career Development Committee, 2006 - 2008

>Inaugural member, 2004 - 2006

MIT Global Airline Industry Program, 2002 -

ASEE, 2004 -

HSEA (Health Systems Engineering Alliance)

>Inaugural Board Member, 2012 - 2014

Review Panel Member

NSF panels 2003, 2004, 2005, 2006, 2007, 2012

Government of Qatar, 2007, 2011, 2013, 2014, 2015

Organizer/Coordinator

Center for Healthcare Engineering and Patient Safety Annual Symposium, 2013, 2014.

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

ISERC Healthcare Modeling Best Paper Competition, 2015

Towner Prize, College of Engineering, 2014

Murty Prize (Chair), 2012, 2013

University Undergraduate Teaching Award, 2012

INFORMS Aviation Applications Dissertation Prize, 2005, 2007, 2011 (Chair)

INFORMS AAS Dissertation Prize (Chair), 2011

AGIFORS Anna Valicek Award 2010, 2011

INFORMS Undergraduate OR Prize 2010

Murty Prize, IOE Department, 2006, 2008

Sloan Industry Studies Dissertation Prize, 2005, 2006, 2007

Honors Committee, College of Engineering, 2006

University of Michigan Society of Women Engineers Scholarship, 2004, 2005

INFORMS Transportation Dissertation Competition, 2004

Referee

Annals of Surgery

Transportation Research Part C

Transportation Research Part E

Socio-Economic Planning Sciences

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

Production and Operations Management (Senior Editor)

EURO Journal of Transportation and Logistics

Transactions on Intelligent Transportation Systems

Outreach

WISE Summer Camp Activity for High School Girls, June 2012

FEMMES Activity for Elementary School Girls, March 2012

Ann Arbor Public School System, Tutor, 2007, 2008

Washtenaw Elementary Science Olympiad Judge, Coach 2007, 2009, 2010, 2011, 2012, 2013

Internal Committees

Hillman Scholars Program, School of Nursing, Interdisciplinary External Advisor, 2015 -

CoE Research Advisory Committee 2015 -

CoE Dean Search Committee 2015-2016

IOE Department Committee, 2003 - 2004, 2005 – 2006, 2009 – 2010, 2011 – 2012, 2014 – 2015

Planning Committee, 2015 College of Engineering Female Faculty Leadership Workshop

CoE Information Technology Faculty Council 2015 - 2015

ADVANCE planning committee, 2015 leadership workshop

University of Michigan Senate Assembly 2014 -

IOE Committee on Research, 2013 –

IOE Steffy Lecture Committee 2013 - 2014

University of Michigan Institute for Computational Discovery and Engineering – IOE representative 2013 -

University of Michigan Center for Research on Learning and Teaching – Engineering Advisory Board 2013 - 2015

University of Michigan Health Services Institute, College of Engineering Liaison 2012 -

University of Michigan Institute for Healthcare Policy and Innovation Member of Institute Leadership Team, 2013 - present

University of Michigan ADVANCE Advisory Board for the College of Engineering, 2013 - present

University of Michigan '31E Scholarship Committee, 2012

University of Michigan Selection Advisory Committee, 2012 Thurnau Professorships

University of Michigan Faculty Diversity Ally, 2010 - 2011

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

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

Michigan Engineering Consulting Club, 2007 - 2009

IIE University of Michigan student chapter 2002 - 2004