Ann Melissa Campbell

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ACADEMIC HISTORY

ASSOCIATE PROFESSOR OF MANAGEMENT SCIENCES   Appointment Fall 2006
Henry B. Tippie College of Business
University of Iowa

ASSISTANT PROFESSOR OF MANAGEMENT SCIENCES   Fall 2000 - Summer 2006
Henry B. Tippie College of Business
University of Iowa

MARTHA AND DENNIS HESSE RESEARCH FELLOW   Appointment Fall 2004
Henry B. Tippie College of Business
University of Iowa

JOINT APPOINTMENT   Appointment Spring 2004
Program in Applied Mathematical and Computational Sciences
University of Iowa

PHD IN OPERATIONS RESEARCH (OPTIMIZATION)   Received Summer 2000
Minor Field of Study: Computer Science
School of Industrial and Systems Engineering
Georgia Institute of Technology

BA IN COMPUTATIONAL AND APPLIED MATHEMATICS   Received Spring 1993
Department of Computational and Applied Mathematics
BA IN ECONOMICS   Received Spring 1993
Department of Economics
Rice University

RESEARCH INTERESTS

- Probabilistic routing problems.
- Dynamic routing and pricing for B2C e-commerce.
- Logistics problems inspired by disaster relief.
- Transportation network design.
- Inventory routing.

GRANTS

CAREER Award, National Science Foundation   2003–2009
"Improved Service Through Improved Logistics" (DMI 02-37726). $400,000
Research plan includes the study of inventory routing, home delivery, and transportation network
design problems.

Tippie College of Business Internal Grant, University of Iowa   2002–2009
Awarded to establish speaker series at Iowa focused on transportation. Recently renewed for three
years.

nTITLE Grant, University of Iowa   2003–2004
Awarded to introduce new instructional technology into the classroom.

Old Gold Fellowship, University of Iowa   Summer 2001, Summer 2002

JOURNAL ARTICLES

In Preparation:

- Campbell, A., M. Gendreau, and B. Thomas 2008. "Stochastic Orienteering Problem."

- Campbell, A. and P. Jones 2008. "Inventory Decisions in Prepositioning Supplies for Disasters."

- Campbell, A., J.-F. Cordeau, and B. Thomas 2008. "Probabilistic Pickup and Delivery Problem
  with Time Constraints."

Under Review:

- Agatz, N., A. Campbell, M. Fleischmann, and M. Savelsbergh 2008. "Time Slot Management"
  submitted to *Transportation Science.*

Published or Accepted:

- Agatz, N., A. Campbell, M. Fleischmann, J. van Nunen, and M. Savelsbergh 2008. "Demand
  Management Opportunities in E-fulfillment", publication forthcoming in *MIT Sloan Management Review.*

- Agatz, N., A. Campbell, M. Fleischmann, J. Van Nunen, and M. Savelsbergh 2008. "What
  E-Tailers Can Learn From Airline Pricing", *Wall Street Journal*, July 7, 2008, Page R6.

- Campbell, A. and B. Thomas 2008. "Probabilistic Traveling Salesman Problem with Deadlines",
  Transportation Science, Volume 42, Number 1, Pages 1-21.

- Campbell, A. and B. Thomas 2008. "Runtime Reduction Techniques for the Probabilistic Traveling Salesman Problem with Deadlines" *Computers and Operations Research*, available online
  February 6, 2008.

- Campbell, A., D. Vandenbussche, and W. Hermann 2008. "Routing for Relief Efforts" , *Transportation Science*, Volume 42, Number 2, Pages 127-145.

- Chen, H., A. Campbell, and B. Thomas 2008. "Minimax Flow Tree Problems" publication
  forthcoming in *Networks.*

- Chen, H., A. Campbell, and B. Thomas 2008. "Network Design for Time-Constrained Delivery",
  Naval Research Logistics, Volume 55, Number 6, Pages 493-515.

- Bianchi, L. and A. Campbell 2007. "Extension of the 2-p-opt and 1-shift algorithms to the Heterogeneous Probabilistic Traveling Salesman Problem", *European Journal of Operational Research*, Volume 176, Number 1, Pages 131-144.

- Campbell, A., T. Lowe, and L. Zhang 2007. "The p-Hub Center Allocation Problem", *European Journal of Operational Research*, Volume 176, Number 2, Pages 819-835.

- Campbell, A. 2006. "Aggregation for the Probabilistic Traveling Salesman Problem", *Computers and Operations Research*, Volume 33, Number 9, Pages 2703-2724.

- Campbell, A. 2006. "The Vehicle Routing Problem with Demand Range", *Annals of Operations Research*, Volume 144, Number 1, Pages 99-110.

- Campbell, A., T. Lowe, and L. Zhang 2006. "Upgrading Arcs to Minimize the Maximum Travel Time in a Network", *Networks*, Volume 47, Number 2, Pages 72-80.

- Campbell, A. and M. Savelsbergh 2006. "Incentive Schemes for Attended Home Delivery Services", *Transportation Science*, Volume 40, Number 3, Pages 327-341.

- Campbell, A. and J. Hardin 2005. "Vehicle Minimization for Periodic Deliveries", *European Journal of Operational Research*, Volume 165, Number 3, Pages 668-684.

- Campbell, A. and M. Savelsbergh 2005. "Decision Support for Consumer Direct Grocery Initiatives", *Transportation Science*, Volume 39, Number 3, Pages 313-327.

- Campbell, A. and M. Savelsbergh 2004. "A Decomposition Approach for the Inventory Routing Problem", *Transportation Science*, Volume 38, Number 4, Pages 488-502.

- Campbell, A. and M. Savelsbergh 2004. "Delivery Volume Optimization", *Transportation Science*, Volume 38, Number 2, Pages 210-223.

- Campbell, A. and M. Savelsbergh 2004. "Efficient Insertion Heuristics for Vehicle Routing and Scheduling Problems", *Transportation Science*, Volume 38, Number 3, Pages 369-378.

- Lee, E., R. Gallagher, A. Campbell, and M. Prausnitz 2004. "Prediction of ultrasound mediated disruption of cell membranes using machine learning techniques and statistical analysis applied to acoustic spectra", *IEEE Transactions in Biomedical Engineering*, Volume 51, Issue 1, Pages 82-89.

- Campbell, A., J. Goentzel, and M. Savelsbergh 2000. "Experiences with the Use of Supply Chain Management Software in Education", *Production and Operations Management*, Volume 9, Number 1, Pages 66-80.

PEER-REVIEWED BOOK CHAPTERS

- Agatz, N., A. Campbell, M. Fleischmann, and M. Savelsbergh 2008. "Challenges and Opportunities in Attended Home Delivery", to appear in *The Vehicle Routing Problem: Latest Advances and New Challenges*, edited by B. Golden, R. Raghavan, and E. Wasil, Springer.

- Campbell, A. and B. Thomas 2008. "Challenges and Advances in A Priori Routing", to appear in *The Vehicle Routing Problem: Latest Advances and New Challenges*, edited by B. Golden, R. Raghavan, and E. Wasil, Springer.

- Campbell, A. and M. Savelsbergh 2002. "Inventory Routing in Practice" in *The Vehicle Routing Problem*, edited by P. Toth and D. Vigo, SIAM Monographs on Discrete Mathematics and Applications.

- Campbell, A., L. Clarke, A. Kleywegt, and M. Savelsbergh 1998. "The Inventory Routing Problem" in *Fleet Management and Logistics*, edited by T. G. Crainic and G. Laporte, Kluwer Academic Publishers.

PROCEEDINGS

- Campbell, A., D. Vandenbussche, and W. Hermann 2008. "Routing for Relief Efforts", *Proceedings of the MSOM Supply Chain Management SIG Conference*.

- Chen, H., A. Campbell, and B. Thomas 2007. "Minimax Flow Tree Problems", *Proceedings of the NSF Civil, Mechanical and Manufacturing Innovation (CMMI) Engineering Research and Innovation Conference*.

- Campbell, A., D. Vandenbussche, and W. Hermann 2006. "Routing for Relief Efforts", *Proceedings of ODYSSEUS International Workshop on Freight Distribution and Logistics*.

- Campbell, A., D. Vandenbussche, and W. Hermann 2006. "Routing for Relief Efforts", *Proceedings of the NSF Design, Service, and Manufacturing Grantees Conference*.

- Campbell, A., T. Lowe, and L. Zhang 2005. "The q-Arc Discount Problem", *Abstracts of ISOLDE X, Tenth International Symposium on Location Decisions*.

- Campbell, A., T. Lowe, and L. Zhang 2005. "The q-Arc Discount Problem", *Proceedings of the NSF Design, Service, and Manufacturing Grantees Conference*.

- Campbell, A. and M. Savelsbergh 2003. "Decision Support for Home Delivery", *Proceedings of ODYSSEUS International Workshop on Freight Distribution and Logistics*.

- Campbell, A. and M. Savelsbergh 2002. "Accept or Reject Decisions for Consumer Direct", *Proceedings of the ICECR-5 Fifth Annual Conference on Electronic Commerce Research*.

- Campbell, A. 2001. "Vehicle Routing Problem with Flexible Delivery Quantities", *Proceedings of the TRISTAN Triennial Symposium on Transportation Analysis*.

- Campbell, A. and M. Savelsbergh 2000. "Delivery Volume Optimization", *Proceedings of the ODYSSEUS International Workshop on Freight Distribution and Logistics*.

SELECTED PRESENTATIONS

- "Routing for Relief Efforts", MSOM 2008 Supply Chain Management SIG Conference, University of Maryland, June 2008.
- "Challenges and Opportunities in Attended Home Delivery", Department of Decision and Information Technologies, University of Maryland, October 2007.
- "Challenges and Opportunities in Attended Home Delivery", INFORMS International Conference, Rio Grande, Puerto Rico, July 2007.
- "Time Slot Management for Home Delivery", ROUTE 2007 International Workshop on Vehicle Routing and Transportation, Jekyll Island, Georgia, May 2007.
- "Challenges and Opportunities in Home Delivery", Department of Mechanical and Industrial Engineering Seminar Series, University of Iowa, April 2007.
- "Routing for Relief Efforts", INFORMS Conference, Pittsburgh, November 2006.
- "Routing for Relief Efforts", ODYSSEUS Workshop on Freight Distribution, Altea, Spain, May 2006.

- "Routing for Relief Efforts", Department of Statistical Sciences and Operations Research, Virginia Commonwealth University, April 2006.

- "Upgrading Arcs to Minimize Maximum Travel Time", INFORMS Conference, San Francisco, November 2005.

- "Minimax Hub Allocation and Arc Upgrading Problems", Department of Industrial and Systems Engineering, Lehigh University, October 2005.

- "Upgrading Arcs to Minimize the Maximum Travel Time", ISOLDE X, Tenth International Symposium on Location Decisions, Seville, Spain, June 2005.

- "Probabilistic Traveling Salesman Problem with Deadlines", Optimization Days, University of Montreal, May 2005.

- "Issues in Research", Doctoral Consortium, POMS Conference, Chicago, April 2005.

- "Modeling the Probabilistic Traveling Salesman Problem with Deadlines", Department of Mechanical and Industrial Engineering Seminar Series, University of Minnesota, March 2005.

- "Probabilistic Traveling Salesman Problem with Deadlines", Krannert School of Management, Purdue University, December 2004.

- "Probabilistic Traveling Salesman Problem with Deadlines", INFORMS Conference, Denver, October 2004.

- "Aggregation for the Probabilistic Traveling Salesman Problem", INFORMS/CORS Conference, Banff, Canada, May 2004.

- "Consumer Direct Delivery and Probabilistic Routing", Department of Industrial Engineering and Management Science, Northwestern University, Women in OR Seminar Series, February 2004.

- "New Directions in Routing and Location Problems", Department of Industrial Engineering, University of Florida, February 2004.

- "Vehicle Routing and Home Delivery Problems", Department of Applied Mathematics and Computer Science, University of Iowa, November 2003.

- "Incentives for Home Delivery", INFORMS Conference, Atlanta, October 2003.

- "Decision Support for Home Delivery", ODYSSEUS Workshop on Freight Distribution, Palermo, Italy, May 2003.

- "Accept/Reject Decision Models for Consumer Direct", INFORMS Conference, San Jose, California, November 2002.

- "Accept/Reject Decisions for Home Delivery", ICECR-5 Conference on Electronic Commerce Research, Montreal, Canada, October 2002.

- "Revenue Management for Home Delivery Services", Optimization Days Conference, Montreal, Canada, May 2002.

- "Accept/Reject Decisions for Home Delivery", Conference on Optimization in Supply Chain Management and eCommerce, Gainesville, Florida, March 2002.

- "Vehicle Routing Problem with Flexible Delivery Quantities", TRISTAN IV Triennial Symposium on Transportation Analysis, Sao Miguel, Azores Islands, Portugal, June 2001.

- "Delivery Volume Optimization", Management Sciences Seminar Series, University of Iowa, April 2001.

- "Delivery Volume Optimization", ODYSSEUS Workshop on Freight Distribution, Chania, Crete, Greece, May 2000.

PhD STUDENTS

Li Zhang   Graduated Summer 2004

"The p-Hub Center Allocation Problem and the q-Upgrading Arc Problem"
Her thesis focused on how to allocate customers to hubs so that the maximum transportation time through the network is minimized. The thesis includes complexity results and exact algorithms for special graphs. It also introduces a new network design problem that identifies critical links in a network. Li accepted a position in the Department of Mathematics and Computer Science at The Citadel in Charleston, South Carolina.

Hui Chen   Graduated Summer 2008

"Network Design for Time-Constrained Delivery"
His thesis focuses on how to design a delivery network to incorporate constraints related to delivery time commitments between cities. Hui's thesis examines different objective functions and different types of time constraints. He examines the complexity of each variant, developing heuristics for those that are NP-complete and developing efficient polynomial algorithms for the rest. Hui has accepted a position at Northwest Airlines in Minneapolis, Minnesota which he began upon completion of his dissertation.

PhD COMMITTEES

Lifang Wu   Graduated Summer 2004

Changhui Choi   Graduated Summer 2007

UNDERGRADUATE STUDENTS

Fil Heinz   Fall 2007

"International Automobile Shipping"
As part of his major in International Studies at the University of Iowa, Fil was required to complete a senior project. I advised him on a research paper where he investigated the challenges associated with shipping a privately owned car from the U.S. to international destinations. Specifically, he compared the similarities and differences between shipping a car to a European destination (Germany) and a South American destination (Brazil).

TEACHING

Graduate Courses

Operations Management (MBA)

Rapid Continuous Improvement (MBA)

Discrete Optimization - Integer Programming and Network Flows (PhD)

Seminar in Operations Management (PhD)

Undergraduate Courses

Operations Management

Deterministic Operations Research

TEACHING TOOLS

LOGISTICS GAMES WEBSITE
Developed a website that lists and categorizes existing logistics games that are available online. Such games can be used in the classroom as excellent teaching tools. Links are provided along with information such as the lesson of the game and previous knowledge required. Development supported by NSF Grant. Available at *www.biz.uiowa.edu/bizgames*.

SERVICE

MEMBERSHIPS

INFORMS, Transportation Science and Logistics Society(TSL)

Women in Operations Research/Management Science (WORMS)

EXTERNAL LEADERSHIP POSITIONS

INFORMS Future Academician Colloquium Chair for 2008

INFORMS Committee on Diversity (2006, 2007)

Chair, Freight Transportation and Logistics Special Interest Group (TSL) (2006-2007)

Dissertation Prize Committee (TSL) (2006)

Chair, Vehicle Routing Special Interest Group (TSL) (2003-2005)

Vice President of Communications for WORMS (2003-2005)

Cluster Chair for TSL, 2004 INFORMS National Meeting

EDITORSHIPS

Associate Editor, *Transportation Science*, *INFOR*

Editorial Board, *Transportation Research - Part C*

JOURNAL REFEREE

Computers and Operations Research

European Journal of Operational Research

IIE Transactions

Information Sciences

INFORMS Journal on Computing

Journal of Heuristics

Manufacturing and Service Operations Management

Naval Research Logistics

Networks

Operations Research

Operations Research Letters

Production and Operations Management

Transportation Research C

Transportation Research E

GRANT PANELS	NSF, Infrastructure Systems Management and Hazard Responses (2007)
	NSF, Service Enterprise Engineering (2003)

OTHER PANELS	NSF, Panel on the Future of Humanitarian Action Systems Research (2007)

COLLEGE COMMITTEES	Faculty Senator representing the College of Business (2008-2011)
	Elected Faculty Council (2006-2008), Chair 2007-2008
	Dept. Recruitment Committee, Chair (2001-2002), Member (2000-2004, 2005-2006, 2007-2008)
	MBA Committee, Member (2005-2006, 2008-2009)
	Core MBA Committee, Member (2001-2003, 2004-2005, 2006-2009)

HONORS

SSRN's TOP TEN DOWNLOAD LIST FOR LOGISTICS AND SCHEDULING   July, 2008

CAREER AWARD, NATIONAL SCIENCE FOUNDATION   2003–2009

RECOGNITION FOR TEACHING EXCELLENCE, DEPARTMENT OF MANAGEMENT SCIENCES
    2001–2002, 2002–2003, 2003–2004, 2004–2005, 2005–2006, 2006–2007, 2007–2008

PRESIDENTIAL FELLOW, GEORGIA INSTITUTE OF TECHNOLOGY   1995–1999

INFORMS DOCTORAL SYMPOSIUM   Fall 1998

ENGINEERING EDUCATION SCHOLARS PROGRAM, UNIVERSITY OF WISCONSIN   Summer 1998
Competitively-selected NSF sponsored program for enhancing faculty teaching.

PROFESSIONAL EXPERIENCE

PRAXAIR SCHOLAR, GEORGIA INSTITUTE OF TECHNOLOGY   1996–2000
Participated in design, implementation and testing of a system for executing a vendor managed inventory policy for a large industrial gases producer.

GEOPHYSICIST, GOLDEN GEOPHYSICAL, HOUSTON, TEXAS   1993–1995
Participated in design and application of procedures for filtering and processing seismic data from land surveys to yield clear images of layers and faults.