

CURRICULUM VITAE: OVERVIEW

Lisa M. Maillart

Professor
Co-Director, Stochastic Modeling, Analysis and Control (SMAC) Laboratory
Department of Industrial Engineering
University of Pittsburgh
maillart@pitt.edu

EDUCATION

Ph.D., University of Michigan, Ann Arbor, MI, 2001
Industrial and Operations Engineering
Advisor: Stephen M. Pollock, Herrick Professor Emeritus, University of Michigan; member NAE

M.S., Virginia Tech, Blacksburg, VA, 1997
Industrial and Systems Engineering, Operations Research Option
Advisor: Joel A. Nachlas, Associate Professor Emeritus, Virginia Tech

B.S., Virginia Tech, Blacksburg, VA, 1995
Industrial and Systems Engineering, Minor in Statistics

ACADEMIC EXPERIENCE

Professor of Industrial Engineering, University of Pittsburgh, Pittsburgh, PA
September 2017 – present

Visiting Faculty, U.S. Fulbright Scholar, Eindhoven University of Technology, Eindhoven, Netherlands
May 2017 – December 2017

Associate Professor of Industrial Engineering, University of Pittsburgh, Pittsburgh, PA
September 2010 – August 2017

Assistant Professor of Industrial Engineering, University of Pittsburgh, Pittsburgh, PA
August 2006 – August 2010

**Assistant Professor of Operations, Weatherhead School of Management,
Senior Scholar, Case MetroHealth System Center for Health Care Research & Policy,
Case Western Reserve University**, Cleveland, OH
July 2001 – June 2006

Research Assistant, University of Michigan, Ann Arbor, MI
May – August 1998, 1999, 2000

Research Assistant I, Mississippi State University, Starkville, MS
May – August 1997

Graduate Student Instructor, University of Michigan, Ann Arbor, MI
Spring 1999, Fall 2000

Graduate Teaching Assistant, Virginia Tech, Blacksburg, VA
August 1995 – May 1997

INDUSTRIAL EXPERIENCE

Research Assistant, General Motors, Warren, MI
May 1998 – May 1999

Consultant, ReliaSoft Corporation, Tucson, AZ
August 1998 – May 1999

Operations Research Intern, Institute for Defense Analyses, Alexandria, VA
May – August 1996

Operations Research Intern, USAir, Crystal City, VA
June – August 1995

Industrial Engineering Intern, United Parcel Service, Dallas, TX
May – August 1994

HONORS

Core Fulbright U.S. Scholar, Netherlands, 2017
Best Applications Paper, *IIE Transactions* Focus Issue on Operations Engineering & Analytics, 2017
Co-Advised Anahita Khojandi, INFORMS George B. Dantzig Dissertation Award runner-up, 2014
Alan O. Plait Tutorial Excellence Award, Reliability & Maintainability Symposium, 2009
Best Quality & Reliability Engineering Paper of the Year, *IIE Transactions*, 2006
ORAU Junior Faculty Enhancement Award, University of Pittsburgh finalist, 2007
Graduate Faculty Status Group II-T, University of Arkansas, 2006-present
CASE Mather Spotlight Series Prize for Women's Scholarship, WSOM winner, 2005
Most Outstanding Weatherhead School of Management Junior Faculty Paper, winner, 2005
Co-Advised Oguzhan Alagoz, INFORMS George B. Dantzig Dissertation Award Finalist, 2005
Invited Panelist, NSF, 2005, 2006, 2008, 2009, 2012, 2015
Faculty Fellow Nominee, Sigma Phi Epsilon Fraternity, 2004
Recognized Faculty Member, Case Undergraduate Exit Survey, 2003
Intel Foundation Graduate Fellowship, 1999–2000
INFORMS Doctoral Colloquium Attendee, 2000
Rackham Graduate Fellowship, 1997-2001
Outstanding Graduate Teaching Assistant Award, 1996, 1997
President, INFORMS Virginia Tech Student Section, 1995–1997
Omega Rho, Operations Research International Honor Society, Faculty Member
Alpha Pi Mu, Industrial Engineering Honor Society, Member

PROFESSIONAL SOCIETY MEMBERSHIPS

INFORMS (Institute for Operations Research and the Management Sciences)
WORMS (Women in OR/MS) Forum
Health Applications Society
Quality, Statistics and Reliability Section
Manufacturing & Service Operations Management Society
Service Science Section
Society of Medical Decision Making
Institute of Industrial & Systems Engineers

CURRICULUM VITAE: DETAILS

RESEARCH

INTERESTS

- decision making under uncertainty
- main areas of application
 - medical decision making
 - healthcare applications
 - maintenance optimization
- methodologies
 - Markov decision processes (MDPs)
 - partially observed MDPs
 - applied probability

REFEREED JOURNAL PUBLICATIONS

He, K., **L.M. Maillart** and O.A. Prokopyev, "Optimal Sequencing of Heterogeneous, Non-Instantaneous Interventions," *Annals of Operations Research*, to appear.

Mofrad, M., **L.M. Maillart**, B.A. Norman and J. Rajgopal, "Multi-Dose Vaccine Administration with Non-Stationary Demand and Delayed Service," *Operations Research for Health Care*, to appear.

Khojandi, A., **L.M. Maillart**, O.A. Prokopyev, M.S. Roberts, and S. Saba (2018). "Dynamic Abandon/Extract Decisions for Failed Cardiac Leads," *Management Science*, Vol. 64, No. 2, pp. 633-651.

van Oosterom, C., **L.M. Maillart** and J.P. Kharoufeh (2017). "Optimal Maintenance Policies for a Safety-Critical System and its Deteriorating Sensor," *Naval Research Logistics*, Vol. 64, No. 5, pp. 399-417.

He, K., **L.M. Maillart** and O.A. Prokopyev (2016). "Optimization of Imperfectly Timed Maintenance Actions," *IIE Transactions*, Vol. 49, No. 2, pp. 127-143.

D.J. Eckman, **L.M. Maillart** and A.J. Schaefer (2016). "Optimal Pinging Frequencies in the Search for an Immobile Beacon," *IIE Transactions*, Vol. 48, No. 6, pp. 489-500.

**Best Applications Paper of the Year*

Mofrad, M., G. Garcia, **L.M. Maillart**, B.A. Norman and J. Rajgopal (2016). "Customizing Immunization Clinic Operations to Minimize Open Vial Waste," *Socio-Economic Planning Sciences*, Vol. 54, pp. 1-17.

He, K., **L.M. Maillart** and O.A. Prokopyev (2015). "Scheduling Preventive Maintenance as a Function of an Imperfect Inspection Interval," *IEEE Transactions on Reliability*, Vol. 64, No. 3, pp. 983-997.

Khojandi, A., **L.M. Maillart**, O.A. Prokopyev, M.S. Roberts, T. Brown and W.W. Barrington (2014). "Optimal Implantable Cardioverter Defibrillator (ICD) Generator Replacement," *INFORMS Journal on Computing*, Vol. 26, No. 3, pp. 599-615.

Mofrad, M., **L.M. Maillart**, B.A. Norman, J. Rajgopal (2014). "Dynamically Optimizing the Administration of Vaccines from Multi-Dose Vials," *IIE Transactions*, Vol. 46, No. 7, pp. 623-635.

Khojandi, A., **L.M. Maillart** and O.A. Prokopyev (2014). "Optimal Planning of Life-Depleting Maintenance Activities," *IIE Transactions*, Vol. 46, No. 7, pp. 636-652.

Sandikci, B., **L.M. Maillart**, A.J. Schaefer, and M. Roberts (2013). "Alleviating the Patient's Price of Privacy Through a Partially Observable Waiting List," *Management Science*, Vol. 59, No. 8, pp. 1836-1854.

Icten, Z.G., S. Shechter, **L.M. Maillart** and M. Nagarajan (2013). "Optimal Management of a Limited Number of Replacements under Markovian Deterioration," *IIE Transactions*, Vol. 45, No. 2, pp. 206-214.

Ulukus, Y., J.P. Kharoufeh and **L.M. Maillart** (2012). "Optimal Replacement Policies Under Environment-Driven Degradation," *Probability in the Engineering and Informational Sciences*, Vol. 26, No. 3, pp. 405-424.

Batun, S. and **L.M. Maillart** (2012). "Reassessing Tradeoffs Inherent to Simultaneous Maintenance and Production Planning," *Production and Operations Management*, Vol. 21, No. 2, pp. 396-403.

Maillart, L.M., T.G. Yeung and Z.G. Icten (2011). "Selecting Test Sensitivity and Specificity Parameters to Optimally Maintain a Degrading System," *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk & Reliability*, Vol. 225, pp. 131-139.

Elwany, A., Gebraeel, N. and **L.M. Maillart** (2011). "Structured Replacement Policies for Components with Complex Degradation Processes and Dedicated Sensors," *Operations Research*, Vol. 59, No. 3, pp. 684-695.

Erkin, Z., M.D. Bailey, **L.M. Maillart**, A.J. Schaefer and M. Roberts (2010). "Eliciting Patient Preferences: An Inverse Markov Decision Process Approach," *Decision Analysis*, Vol. 7, No. 4, pp. 358-365.

Maillart, L.M., Kamrani, A., B. Norman, J. Rajgopal and P. Hawrylak (2010). "Optimizing RFID Tag-Inventorying Algorithms," *IIE Transactions*, Vol. 42, No. 9, pp. 690-702.

Maillart, L.M., C.R. Cassady, and C. Rainwater and K. Schneider (2009). "Selective Maintenance Decision Making over Extended Planning Horizons," *IEEE Transactions on Reliability*, Vol. 58, No. 3, pp. 462-469.

Kurt, M. and **L.M. Maillart** (2009). "Structured Replacement Policies for a Markov-Modulated Shock Model," *Operations Research Letters*, Vol. 37, No. 4, pp. 280-284.

Maillart, L.M., J.S. Ivy, S. Ransom and K. Diehl (2008). "Assessing Dynamic Breast Cancer Screening Policies," *Operations Research*, Vol. 56, No. 5, pp. 1411-1427.

Sandikci, B., **L.M. Maillart**, A.J. Schaefer, O. Alagoz and M.S. Roberts (2008). "Estimating the Patient's Price of Privacy in Liver Transplantation," *Operations Research*, Vol. 56, No. 5, pp. 1393-1410.

Levesque, M. and **L.M. Maillart** (2008). "Business Opportunity Assessment: A POMDP Approach," *IEEE Transactions on Engineering Management*, Vol. 55, No. 2, pp. 279-291.

Maillart, L.M., C.R. Cassady and J. Honeycutt (2008). "A Binomial Approximation of Lot Yield under Markov Modulated Bernoulli Item Yield," *IIE Transactions*, Vol. 40, No. 4, pp. 459-467.

Alagoz, O., **L.M. Maillart**, A.J. Schaefer and M.S. Roberts (2007). "Choosing Among Living-Donor and Cadaveric Livers," *Management Science*, Vol. 53, No. 11, pp. 1702-1715.

Maillart, L.M. and L. Zheltova (2007). "Structured Maintenance Policies on Interior Sample Paths," *Naval Research Logistics*, Vol. 54, No. 6, pp. 645-655.

Alagoz, O., **L.M. Maillart**, A.J. Schaefer and M.S. Roberts (2007). "Determining the Acceptance of Cadaveric Livers Using an Implicit Model of the Waiting List," *Operations Research*, Vol. 55, No. 1, pp. 24-36.

Maillart, L.M. and X. Fang (2006). "Optimal Maintenance Policies for Serial, Multi-machine Systems with Non-instantaneous Repairs," *Naval Research Logistics*, Vol. 53, No. 8, pp. 804-813.

Maillart, L.M. (2006). "Maintenance Policies for Systems with Condition-Monitoring and Obvious Failures," *IIE Transactions*, Vol. 38, No. 6, pp. 463-475.
**Best Quality & Reliability Engineering Paper of the Year*

Cassady, C.R., **L.M. Maillart** and S. Salman (2005). "Ranking Sports Teams: A Customizable Quadratic Assignment Approach," *Interfaces*, Vol. 35, No. 6, pp. 497-510.

Alagoz, O., **L.M. Maillart**, A.J. Schaefer and M.S. Roberts (2004). "Optimal Timing of Living-Donor Liver Transplantation," *Management Science*, Vol. 50, No. 10, pp. 1420-1430.

Maillart, L.M. and S.M. Pollock (2002). "Cost-Optimal Condition Monitoring for Predictive Maintenance of 2-Phase Systems," *IEEE Transactions on Reliability*, Vol. 51, No. 3, pp. 322-330.

Cassady, C.R., **L.M. Maillart**, I.J. Rehmert and J.A. Nachlas (2000). "Demonstrating Deming's kp Rule using an Economic Model of the CSP-1," *Quality Engineering*, Vol. 12, No. 3, pp. 327-334.

REFEREED CONFERENCE PROCEEDINGS & ABSTRACTS

Khojandi, A., **L.M. Maillart**, O.A. Prokopyev, M.S. Roberts and S. Saba (2014), "Medical Decision Making Problems with Large Policy Spaces: Why Markov Decision Processes Trump Simulation," *Proceedings of the 2014 Society for Medical Decision Making Conference*.

Khojandi, A., **L.M. Maillart**, O.A. Prokopyev, M.S. Roberts and S. Saba (2013), "Dynamic Abandon/Extract Decisions for Failed Cardiac leads," *Proceedings of the 2013 Society for Medical Decision Making Conference*. (*Lee Lusted Award Finalist)

Maillart L.M., Mofrad, M.H., B.A. Norman and J. Rajgopal (2012). "Dynamically Optimizing the Administration of Vaccines from Multi-Dose Vials," *Proceedings of the 2012 Society for Medical Decision Making Conference*.

Bountourelis, T., L. Luangkesorn, A. Schaefer, **L.M. Maillart**, W. Yang, S.G. Nabors and G. Clermont (2011). "Development and Validation of a Large Scale ICU Simulation Model with Blocking," *Proceedings of the 2011 Winter Simulation Conference*, S. Jain, R. Creasey, J. Himmelspach, K.P. White and M. Fu, eds., Piscataway, New Jersey: Institute of Electrical and Electronics Engineers, Inc.

Z. Erkin, M.D. Bailey, **L.M. Maillart**, A.J. Schaefer and M.S. Roberts (2010). "Eliciting Patients' Revealed Preferences: An Inverse Markov Decision Process Approach," *Proceedings of the 2010 Society for Medical Decision Making Conference*.

Ulukus, Y., J.P. Kharoufeh and **L.M. Maillart** (2010). "Optimal Replacement of a System with Markov-Modulated Degradation," *Proceedings of the 2010 Industrial Engineering Research Conference*.

Flory, J., J.P. Kharoufeh and **L.M. Maillart** (2010). "Optimal Deployment of Irreparable, Multi-component Systems," *Proceedings of the 2010 Industrial Engineering Research Conference*.

Maillart, L.M., T. Yeung and G.Z. Icten (2009). "Integrating Dynamic Control Charts and Maintenance Policies," *13th IFAC Symposium on Information Control Problems in Manufacturing*.

Xiang, Y., C.R. Cassady, and **L.M. Maillart** (2008). "A Production System with Random Yield and Equipment Deterioration: Single Period", *Proceedings of the 2008 Industrial Engineering Research Conference*.

Sandikci, B., **L.M. Maillart**, A.J. Schaefer, O. Alagoz and M.S. Roberts (2007). "Estimating the Patient's Price of Privacy in Liver Transplantation," *Proceedings of the 2007 Society for Medical Decision Making Conference*.

Schneider, K., **L.M. Maillart** and C.R. Cassady (2007). "The Re-Use of Single-Use Medical Devices," *Proceedings of the 2007 Industrial Engineering Research Conference*.

Maillart, L.M., J.S. Ivy, S. Ransom and K. Diehl (2006). "Assessing Dynamic Mammography Schedules: A Mathematical Modeling Based Approach," *Proceedings of the 2006 Society for Medical Decision Making Conference*.

Sandikci, B., O. Alagoz, **L.M. Maillart**, A.J. Schaefer and M.S. Roberts (2006). "Using the Waiting List Information to Optimize the Timing of Liver Transplantation," *Proceedings of the 2006 Society for Medical Decision Making Conference*.

Alagoz, O., **L.M. Maillart**, A.J. Schaefer, and M.S. Roberts (2005). "Choosing between Cadaveric and Living-Donor Livers: A Markov Decision Process (MDP) Model Approach," *Proceedings of the 2005 Society for Medical Decision Making Conference*.

Alagoz, O., **L.M. Maillart**, A. J. Schaefer, and M. S. Roberts (2004). "When to Accept a Cadaveric Liver Offer for Transplantation? A Markov Decision Process (MDP) Approach," *Proceedings of the Society for Medical Decision Making Conference*.

Maillart, L.M., I.M. Iyob and C.R. Cassady (2003). "Simulating System Availability under an Opportunistic Age Replacement Policy," *17th International Conference on Production Research*.

Alagoz, O., A.J. Schaefer, M.S. Roberts, **L.M. Maillart** (2002). "Determining the Optimal Timing of Living Donor Liver Transplantation using a Markov Decision Process (MDP) Model," *Proceedings of the Society for Medical Decision Making Conference*, also in *Medical Decision Making* Vol. 22, No. 6, page 558.

Maillart, L.M. and S.M. Pollock (1999). "The Effect of Failure Distribution Specification Errors on Maintenance Costs," *1999 Proceedings of the Annual Reliability & Maintainability Symposium*, pp. 69-77.

Cassady, C.R., R.O. Bowden, **L.M. Maillart**, and B.K. Smith (1998). "Characterization of Optimal Age Replacement Policies," *1998 Proceedings of the Annual Reliability & Maintainability Symposium*, pp. 170-175.

Cassady, C.R., **L.M. Maillart** and J.A. Nachlas (1997). "A Central Limit Theorem Based Approach to Single Sampling Plan Parameter Selection," *Proceedings of the Sixth Industrial Engineering Research Conference*, pp. 124-128.

COMPLETED WORKING PAPERS

Sun, R., **L.M. Maillart** and A.J. Schaefer, "Optimal Pooling, Batching and Pasteurizing of Donor Human Milk."

Sanoubar, S., L.M. Maillart and O.A. Prokopyev, "Optimal Anticipatory Age-Replacement Policies: Mitigating Non-Stationary Unpunctual Implementation."

John, A., R. Sun, **L.M. Maillart**, A.J. Schaefer, E.H. Spence, M.T. Perrin, "Macronutrient Variability in Human Milk: Implications for Feeding the Preterm Infant."

Proon, S., **L.M. Maillart**, A.J. Schaefer, Z.G. Icten, "Mitigating Inequities in Organ Allocation via Revised Health Reporting Frequencies," under second revision.

Khojandi, A., **L.M. Maillart**, O.A. Prokopyev and M.S. Roberts, "Medical Decision Making Problems with Large Policy Spaces: Markov Decision Processes vs. Simulation."

Madadi, M., **L.M. Maillart**, C.R. Cassady and S. Zhang, "Erlang Loss Systems with Most Recently Busy Service Discipline: Transient Analysis and Maintenance Considerations."

CHAPTERS IN BOOKS OR EDITED BOOKS

Icten, Z.G., Karademir, S. and **L.M. Maillart**, "Total Expected Discounted Reward MDPs: Policy Iteration Algorithm," *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran, L.A. Cox, P. Keskinocak, J.P. Kharoufeh, J.C. Smith (Eds.), 2010, New York, NY.

SELECTED INVITED PRESENTATIONS PERSONALLY DELIVERED

"Optimal Pooling, Batching and Pasteurizing of Donor Human Milk"
CHOIR Symposium, University of Twente, December 2017
Karlsruhe Institute of Technology, November 2017
KU Leuven, Belgium, November 2017
Plenary Talk, First New Beta Conference, Utrecht, Netherlands, November 2017
Erasmus Research Institute of Management, Rotterdam, Netherlands, November 2017

"Improving Milk Processing in North American: A Mathematical Approach"
Fourth International Congress of the European Milk Bank Association, Glasgow, Scotland, October 2017

"Optimal Processing of Human Donor Milk"
INFORMS Healthcare Conference, Rotterdam, Netherlands, July 2017

"OR Applications in Maintenance Optimization, Healthcare, and the Interface Thereof: Recent Work and Future Directions"
Department of Operations, Planning, Accounting & Control; School of Industrial Engineering; Technical University of Eindhoven, May 2017

"Optimizing Donor Milk Bank Operations"
Mechanical and Industrial Engineering Department, University of Toronto, October 2016
IMT Atlantique, Département Automatique, Productique et Informatique, Nantes, France, June 2017

"Markov Decision Process Applications in Healthcare Analytics"
Carl H. Lindner College of Business, University of Cincinnati, April 2016

"Dynamic Abandon/Extract Decisions for Failed Cardiac Leads"
Fourth Rutgers Applied Probability Conference: Analytic Methods in Health Care and in Clinical Trials
Rutgers Business School & Rutgers Robert Wood Johnson Medical School, October 2015

"High Maintenance' Decision Processes: Imperfectly Timed Equipment Repairs, Vaccine Administration, and Implanted Cardiac Device Care"
Department of Industrial Engineering, University of Arkansas, February 2015
Department of Systems and Industrial Engineering, University of Arizona, March 2015

"Dynamic Abandon/Extract Decisions for Failed Cardiac Device Leads"
Penn State, Department of Industrial and Manufacturing Engineering, October 2013

"Optimal Cardiac Lead Maintenance"
ISERC, San Juan, Puerto Rico, May 2013

"Dynamically Optimizing the Administration of Vaccines from Multi-Dose Vials"
Texas A&M, Department of Industrial and Systems Engineering, November 2012
SMDM Poster Session, October 2012
ISERC, Orlando, May 2012

"Simultaneous Optimization of Maintenance and Production Planning Decisions"
Ecole des Mines de Nantes, Department Automatique & Productique, March 2011

"Optimal Decision Making in Liver Transplantation"
George Mason University, Department of Systems Engineering and Operations Research, November 2010
University of Florida, Department of Industrial and Systems Engineering, March 2010

"MDP Applications in Maintenance Optimization and Medical Decision Making"
University of Washington, Department of Industrial and Systems Engineering, January 2010
Rutgers, Department of Industrial and Systems Engineering, January 2010

"Eliciting Patient Preferences: An Inverse MDP Approach"
CORS Meeting, Toronto, Canada, June 2009

"Optimal Policies in Sequential Medical Decision Making"
Georgia Tech, School of Industrial and Systems Engineering, May 2009

"Optimal Multiple Listing Strategies for Liver Transplant Patients"
Northwestern University, Industrial Engineering and Management Sciences, February 2009
University of Michigan, Department of Industrial and Operations Engineering, December 2008

"Structured Maintenance Policies on Interior Sample Paths"
INFORMS Conference, Washington, D.C., October 2008

"Operations Research Models for Optimal Timing of Liver Transplants"
Ecole des Mines de Nantes, Department Automatique & Productique, June 2008

"Optimizing RFID Tag-Inventorizing Algorithms"
University of Texas, Operations Research and Industrial Engineering Seminar Series, March 2008
University of Waterloo, Department of Management Sciences, April 2008
Penn State University, Department of Industrial and Manufacturing Engineering, April 2008
Industrial Engineering Research Conference, Vancouver, Canada, May 2008
University of Pittsburgh, Department of Industrial Engineering, September 2008

"Medical Applications of Operations Research"
IIE Region 1 Student Conference, Pittsburgh, PA, April 2008

"The Effects of Waiting List Privacy on Liver Accept/Decline Decision Making"
Operating on Health Care Symposium, Vancouver, British Columbia, August 2007

"Optimal Condition-Monitoring Schedules for Multi-State Deterioration Systems with Obvious Failures"
Industrial Engineering Research Conference, Nashville, TN, May 2007

"New Product Launch Date Decisions: Promotion and Production"
Chicago Graduate School of Business, November 2006

"The Organ-Acceptance Prerogative in Liver Transplantation"
University of Michigan, Ross School of Business, OMS Departmental Seminar, October 2005
University of Cincinnati, Department of Quantitative Analysis and Operations Management, March 2006
University of Iowa, Department of Mechanical and Industrial Engineering, December 2006

"Adaptive Preventive Maintenance Policies based on Residual Life Distribution Updates"
INFORMS Conference, Pittsburgh, PA, November 2006

"Assessing Dynamic Mammography Policies"
Decision Sciences and Clinical Systems Monthly Modeling Meeting, UPMC, December 2006
Society of Medical Decision Making Annual Meeting, Boston, MA, October 2006 (poster)
Society of Women Engineers, University of Arkansas, September 2006
Health Services Research Seminar Series, Cleveland, OH, March 2005

"A Binomial Approximation of Non-Stationary Bernoulli Yields"
University of Arkansas, Department of Industrial Engineering, Departmental Seminar, October 2005

"Business Opportunity Assessment: A POMDP Approach"
Decision Sciences Institute International Meeting, Barcelona, Spain, July 2005

“Scheduling Maintenance Activities for Markovian Deterioration Systems with Imperfect Observation-Information and Obvious Failures”
University of Pittsburgh, Department of Industrial Engineering, Departmental Seminar, November 2001

“Implications of Obvious vs. Silent Failures on Multistate Markovian Deterioration Systems”
INFORMS Conference, Miami, FL, November 2001

“Scheduling Maintenance Activities for Deteriorating Systems with Imperfect Observations”
International INFORMS Conference, Maui, HI, June 2001 (session chair)

“Scheduling Maintenance Activities for Systems with Uncertain State Information”
INFORMS Conference, San Antonio, TX, November 2000

“Cost-Optimal Condition Monitoring for Predictive Maintenance of 2-Phase Systems”
INFORMS Conference, Philadelphia, PA, November 1999

“A Practical Model for Predictive Maintenance”
INFORMS Conference, Cincinnati, OH, May 1999

“The Effect of Failure Distribution Specification Errors on Maintenance Costs”
Annual Reliability & Maintainability Symposium, Washington DC, January 1999

NSF FUNDED RESEARCH

Lisa M. Maillart (PI), A. Schaefer (co-PI), D. Bogen (co-PI)
National Science Foundation Grant CMMI-1537992 and REU
“Optimal Management of Donor Milk Banks”
September 2015–September 2018

Lisa M. Maillart (PI), B. Norman (co-PI), J. Rajgopal (co-PI), B. Lee (co-PI)
National Science Foundation Grant CMMI-1131172 and REU
“Markov Decision Process Models for Optimizing Vaccine Administration”
September 2011–September 2015

Lisa M. Maillart (PI), O. Prokopyev (co-PI), M. Roberts (co-PI), W. Barrington (co-PI)
National Science Foundation Grant CMMI-1100421
“Optimizing Implanted Cardiac Device Follow-Up Care”
September 2011–September 2015

Jeff Kharoufeh (PI, University of Pittsburgh) and **Lisa M. Maillart** (co-PI, University of Pittsburgh)
National Science Foundation Grants CMMI-0856702 and CMMI-0856192
“Collaborative Research: Adaptive Maintenance Planning Based on Evolving Residual Life Distributions”
September 2009–August 2012
Georgia Tech collaborator: N. Gebraeel, Ph.D.

Lisa M. Maillart (PI)
National Science Foundation Grant CMMI-0726955 and REU
“Optimal Management of Expedited Placement Livers”
September 2007–September 2011

Lisa M. Maillart (PI, Case Western Reserve University)
National Science Foundation Grants DMI-0423410 and DMI-0423090
“Collaborative Research: Mathematical Modeling of Dynamic Breast Cancer Screening”
September 2004–September 2005
University of Michigan collaborators: Julie Ivy, Ph.D., Scott Ransom, M.D., Kathleen Diehl, M.D.

Lisa M. Maillart (PI, Case Western Reserve University)
National Science Foundation Grants DMI-0222661 and DMI-0223084
“Collaborative Research: Modeling the Patient’s Perspective on Organ Acceptance”
September 2002–March 2005
University of Pittsburgh collaborators: Andrew Schaefer, Ph.D. and Mark Roberts, M.D.

OTHER FUNDED RESEARCH

Lisa M. Maillart (PI), S. Kumar (co-PI)
Center for Industry Studies
“On the Allocation and Use of Paid Sick Days in Today’s Workplace: A Multidisciplinary Approach”
September 2016–September 2017

Lisa M. Maillart (PI), O. Prokopyev (co-PI)
U.S. Department of Veterans Affairs
Veterans Engineering Resource Center
T21: Optimizing the Use of Remote Monitoring Technologies
October 2011–October 2012

Lisa M. Maillart (co-PI), W. Barrington, M.D. (co-PI)
University of Pittsburgh, Clinical and Translational Science Institute
Engineering to Clinical Collaborative Research Pilot Program (EnCCoR)
“Antithrombotic Therapy and Atrial Fibrillation: An Industrial Engineering Approach”
July 2011–June 2012

Lisa M. Maillart
U.S. Nuclear Regulatory Commission
Intergovernmental Personnel Act Appointment
“Gamma Knife Job-Aid”
June 2010–June 2011

Lisa M. Maillart (PI)
University of Pittsburgh, Central Research Development Fund Small Grant
“Optimal Management of Remotely Monitored Cardiac Devices”
August 2010–July 2012

A. Schaefer (PI), J. Rajgopal (co-PI)
co-Investigators: J.P. Kharoufeh, **Lisa M. Maillart**, O. Prokopyev
U.S. Department of Veterans Affairs
Veterans Engineering Resource Center
July 2009–September 2011

Lisa M. Maillart (PI)
University of Pittsburgh, Central Research Development Fund Small Grant
“Optimal Management of Reprocessed Single-Use Medical Devices”
August 2007–July 2009

C. Richard Cassady (PI, University of Arkansas)
co-Investigators: **Lisa M. Maillart** and Heather Nachtmann, Ph.D., University of Arkansas
The Logistics Institute, Air Force Research Laboratory Funded Research
“Multi-Mission Selective Maintenance Decisions”
July 2003–June 2004

NSF ACES ADVANCE Opportunity grant recipient, 2005

WSOM Summer Research Grant recipient, 2002, 2004, 2005

STUDENT RESEARCH ADVISING AND COMMITTEE MEMBERSHIP

Doctoral Committee Membership

- University of Pittsburgh
 - Department of Industrial Engineering
 - Shadi Sanoubar, **co-chair** (expected 2020)
 - Ruichen Sun, **co-chair** (expected 2018)
 - Yasin Ulukus **chair (de jure)** (expected 2018)
 - David Abdul-Malak (expected 2018)
 - Kai He, **co-chair**
“Optimal Maintenance Planning in Novel Settings”
 - Maryam Mofrad, **chair**
“Optimizing Vaccine Clinic Operations in Low and Middle Income Countries”
 - Anahita Khojandi, **co-chair**
“Optimizing Implanted Cardiac Device Follow-Up Care”
**INFORMS George B. Dantzig Award Runner-Up*
**Lee Lusted Award Finalist*
 - Sepehr Nemati Proon

- “Improving Healthcare Delivery: Liver Health Updating and Surgical Patient Routing”
Amin Khademi
 - “Epidemic Control under Resource Constraints: HIV in Sub-Saharan Africa”
John Flory
 - “Optimal Replacement Strategies for Wind Energy Systems”
Murat Kurt
 - “Incorporating Patient Autonomy into the Timing of Prearranged Paired Kidney Exchanges”
Pinar Yildirim
 - “Understanding the Modeling Skill Shift in Engineering: The Impact of Self-Efficacy, Epistemology, and Metacognition”
Robert Koppenhaver (ABD)
 - Gozde Icten, **chair**
“Markov Decision Process Models for Improving Equity in Liver Allocation”
 - Zeynep Erkin, **chair**
“Eliciting Patient Preferences and Placing Expedited Organs”
 - Gorkem Saka, **co-chair**
“Increasing and Assessing the Impact of Patient Choice in Liver Transplantation”
 - Guiping Hu
“Quantitative Models for Sustainable Product Decision Support Systems”
 - Burhan Sandikci, **co-chair**
“Estimating the Price of Privacy in Liver Transplantation”
 - Oguzhan Alagoz, **co-chair (de facto)**
“Optimal Policies for the Acceptance of Living- and Cadaveric-Donor Livers”
**INFORMS George B. Dantzig Award Finalist*
 - Department of Civil Engineering
 - Bhavna Sharma
“Performance Based Design of Bamboo Structures”
 - Katz Graduate School of Business
 - Zlatana Nenova
“Essays on the Management of Appointments for Chronic Conditions”
- Technical University of Eindhoven
 - Erwin van Wingerden (expected 2018)
- Georgia Tech
 - Alaa Elwany
“Sensor-Based Prognostics and Structured Maintenance Policies for Components with Complex Degradation”
- University of Arkansas
 - Mahboubeh Madadi
“Preventive Maintenance Decision Modeling in Health and Service Systems”
 - Yisha Xiang
“Lot Sizing and Maintenance Planning for a Deteriorating Machine with Random Yield”
- Case Western Reserve University
 - Ludmila Zheltova, **co-chair**
“Structured Maintenance Policies on Interior Sample Paths”
 - John Angelis
“Decision Models for Growing New Firms: Obstacles and Opportunities”
 - Xiang Fang
“Decision Models for Managing Decentralized Assembly Supply Chains with Uncertain Demand”
 - Yuanjie He
“Tradeoffs and Random Yield in Supply Chain Management”
 - Jiang Zhang
“Essays on Inventory Management”

- Huichen Chiang
"On the Matching Book Problem: A Generalization in Banking and Corporate Finance"

Masters Committee Membership

- Jason Honeycutt (University of Arkansas), **co-chair**
"A Binomial Approximation to Bernoulli Yields under Item-by-Item Markovian Deterioration"

Undergraduate Research Advising

- Nick Roth; REU participant
- Ashley John; REU participant
- David Eckman; REU participant (peer reviewed journal publication)
- Gian Garcia; REU participant (peer reviewed journal publication)
- Samantha Renfrow;
Engineering Research Living Learning Community experience; REU participant
- Yi Zhuang

Other

- Ilkay Gultas, visiting Ph.D. student summer 2008, host
- Chiel van Oosterom, visiting Ph.D. student spring 2013, co-host
- Bram de Jonge, visiting Ph.D. student spring 2015, co-host

TEACHING

UNIVERSITY OF PITTSBURGH

PhD Level

IE 2072: Probability
Fall 2006

IE 3080: Advanced Topics in Operations Research: Readings on Maintenance Optimization
Spring 2018

IE 3089: Repairable Systems Modeling and Analysis
Spring 2008, Spring 2014

IE 3094: Markov Decision Processes
Fall 2008, Spring 2011, Spring 2012, Spring 2013, Spring 2015, Spring 2017

IE 3187: Concepts in Mathematical Modeling
Fall 2009

Independent Study, Advanced Topics in MDPs
Spring 2010

MS Level

IE 2005: Probability and Statistics for Engineers 1
Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2012

Undergraduate Level

IE 1070: Probability, Distributions and Random Variables
Fall 2014

IE 1072: Design of Experiments and Quality Assurance
Fall 2015

IE 1082: Probabilistic Methods in Operations Research
Spring 2008, Spring 2009, Spring 2011, Spring 2013, Spring 2014, Spring 2015,
Summer 2015, Summer 2016, Spring 2017, Spring 2018

CASE WESTERN RESERVE UNIVERSITY

Undergraduate Level

OPRE 301: The Science of Business Decision Making
Fall 2005; Spring 2006

OPRE 201: Introduction to Operations Research
Fall 2001, 2002, 2004; Spring 2002, 2003, 2004, 2005 (two sections)

MBA Level

OPMT 405: Operations Management
Fall 2003 (two sections); Spring 2003

MS Level

OPRE 402: Stochastic Models
Spring 2002, 2003, 2004

PhD Level

OPRE 513: Dynamic Programming
Spring 2005

OPRE 429: Stochastic Processes and Optimization
Spring 2002, 2003, 2004

Independent Study in Stochastic Optimization
Spring 2006

UNIVERSITY OF MICHIGAN

IOE 316: Introduction to Markov Processes
Fall 2000 – Full Course Responsibility
Spring 1999 – Graduate Teaching Assistant

VIRGINIA TECH

ISE 4404: Statistical Quality Control
Fall 1995, 1996 – Graduate Teaching Assistant

ISE 3424: Discrete-Event Simulation Modeling
Spring 1996, 1997 – Graduate Teaching Assistant

OTHER

Markov Decision Processes: Theory and Applications
Research School Beta
Eindhoven University of Technology
Fall 2017

Introduction to Repairable Systems Modeling
Tutorial: Reliability and Maintainability Symposium
January 2008 (Las Vegas, NV)

Introduction to Markov Chain Modeling and Analysis
Tutorial: Reliability and Maintainability Symposium
January 2005 (Washington, D.C.)
January 2006 (Newport Beach)
January 2009 (Fort Worth); winner of the Alan O. Plait Tutorial Excellence Award
January 2010 (San Jose)

Introduction to Markov Decision Processes
Shortcourse: Symposium on Medical Decision Making
Fall 2003 (Chicago)
Fall 2004 (Atlanta)
Fall 2006 (Boston)
Fall 2007 (Pittsburgh)
Fall 2010 (Toronto)
Fall 2014 (Miami)

Harvard Business School Workshop, Attendee
Teaching the Case Method
Spring 2003 (Boston)

PROFESSIONAL SERVICE

UNIVERSITY OF PITTSBURGH

Swanson School of Engineering

- IP Metrics Committee, 2016
- Budget & Planning Committee, 2010-2014

Department of Industrial Engineering

- Operations Research Search Committee and Chair, 2007-2009, 2013-2017
- Post-Renovation Floor Committee, 2016
- Graduate Program Committee, 2007–present
- Curriculum Committee on Probability and Statistics, 2007
- Seminar speaker host

Advisor Roles

- Faculty Advisor, Alpha Pi Mu, 2010-present
- Faculty Advisor, Phi Beta Chapter, Chi Omega National Fraternity 2014-present

Other

- Judge, EGSO Research Poster Fair, 2007
- Presenter, Ph.D. Training Luncheon on Academic Careers in Engineering, 2008, 2010, 2011

CASE WESTERN RESERVE UNIVERSITY

Committee Appointments

- WSOM Undergraduate and Integrated Study Programs Committee, 2001–2006
- Department of Operations Seminar Committee, 2001–2004
- Department of Operations Search Committee, 2001–2002
- Department of Operations Curriculum Review Committee, 2003–2004

Advisor Roles

- Special Studies Sequence Advisor, undergraduate operations concentration, 2001–2006
- Faculty Advisor, Case INFORMS Student Chapter, 2002–2006

Other

- Panelist, Case Graduate Student Senate “Preparing Future Faculty,” 2004

INFORMS LEADERSHIP

- President-Elect/President, Health Applications Society, 2016-2018
- HAS Cluster Chair, 2017
- New Faculty Colloquium panelist, 2015
- *TutORials in Operations Research* Review Committee Member, 2014
- Doing Good With Good OR Committee Member and Co-Chair, 2014-2016
- Organizing Committee Contributed Papers Co-Chair, INFORMS Conference, November 2006
- Invited Health-Applications Co-Cluster Chair, INFORMS Conference, October 2005
- Doctoral Colloquium panelist, 2005, 2014
- Vice President, Junior Faculty INFORMS Forum (JFIG), 2003–2005
- Vice President of Meetings, Women in OR/MS (WORMS) Forum, 2006–2008
- Faculty Advisor, Case Student INFORMS Chapter 2002–2006
- JFIG Senior Faculty Interview Project Volunteer, 2002

- Session Chair
 - numerous official and unofficial co-chairs with my doctoral students
 - INFORMS Computing Society Conference, 2017
 - INFORMS Conference, November 2010
 - INFORMS Conference, November 2007
 - INFORMS Conference, October 2004
 - International INFORMS Conference, June 2001

OTHER LEADERSHIP

- Annual Reliability & Maintainability Symposium Session Moderator, 2015
- Student Paper Competition Judge, Annual Reliability & Maintainability Symposium, 2009
- Best Paper Review Committee, *IIE Transactions* Quality, Statistics & Reliability Section, 2008
- Presenter, IIE Region 1 Student Conference, Pittsburgh, PA, April 2008

EDITORIAL APPOINTMENTS

- Area Editor, Healthcare Applications, *Service Science*, 2016-present
Special Issue co-editor, 2016
- Editorial Board Member, *Operations Research for Health Care*, 2018-present
- Ad-hoc Associate Editor, *Management Science*, 2016
- Department Editor, Healthcare and Public Policy,
IIE Transactions, Focused Issue on Operations Engineering and Analysis, 2011-2013
- Associate Editor, Stochastic Models,
IIE Transactions, Focused Issue on Operations Engineering and Analysis, 2009-2011
- Associate Editor, *IIE Transactions on Healthcare Systems Engineering*, 2010-present
- Topical Editor, Wiley Encyclopedia of Operations Research and Management Science, 2008-2012

BOOK REVIEWS

Review of: Stochastic Processes with Applications to Reliability Theory by T. Nakagawa, Springer, New York (2011). *Interfaces*, Vol. 42, No. 2, pp. 220-221, 2012.

AD-HOC REFEREE

- *Annals of Operations Research*
- *Computers & Operations Research*
- *European Journal of Operational Research*
- *IEEE Transactions on Engineering Management*
- *IEEE Transactions on Industrial Informatics*
- *IEEE Transactions on Man, Systems and Cybernetics*
- *IEEE Transactions on Reliability*
- *IIE Transactions*
- *INFORMS Journal on Computing*
- *International Journal of Quality and Reliability Management*
- *Journal of Process Control*
- *Journal of Risk and Reliability*
- *Management Science*
- *Mathematics of Operations Research*
- McGraw Hill
- *Medical Decision Making*
- *M&SOM*

- *Naval Research Logistics*
- *Operations Research*
- *Production and Operations Management*
- *Reliability Engineering and System Safety*
- Taylor & Francis
- *Technometrics*