BRIAN T. DENTON

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I. INTRODUCTION

1. Education

Ph.D., 2001 Department of Management Science/Systems, McMaster University, Hamilton, ON, Canada

M.Sc., 1996 Department of Physics and Astronomy, York University, Toronto, ON, Canada

B.Sc., 1994 Joint Physics and Chemistry Honors, Department of Physics, McMaster University, Hamilton, ON, Canada (Summa Cum Laude)

2. Professional Experience

Academic Appointments

9/2016 – Present Professor, Department of Industrial and Operations Engineering, University of Michigan, Ann Arbor, MI.

6/2016 – Present Professor, Department of Urology, University of Michigan, Ann Arbor, MI.

10/2016 – Present Member, Cancer Center, University of Michigan, Ann Arbor, MI.

12/2012 – Present Member, Institute for Healthcare Policy and Innovation, University of Michigan, Ann Arbor, MI.

8/2012 – 8/2016 Associate Professor, Department of Industrial and Operations Engineering, University of Michigan, Ann Arbor, MI.

6/2014 – 8/2016 Associate Professor, Department of Urology, University of Michigan, Ann Arbor, MI.

7/2010 – 2/2012 Associate Professor and Edward P. Fitts Faculty Fellow, Edward P. Fitts Department of Industrial and Systems Engineering, North Carolina State University, Raleigh, NC.

8/2007 – 6/2010 Assistant Professor and Edward P. Fitts Faculty Fellow, Edward P. Fitts Department of Industrial and Systems Engineering, North Carolina State University, Raleigh, NC.

9/2007 – Present Fellow, Cecil C. Sheps Research Center, University of North Carolina, Chapel Hill, NC

8/2007 – 8/2010 Visiting Research Appointment, Department of Health Science Research, Mayo Clinic, Rochester, MN

8/2007 – 2012 Affiliate Faculty Member, Operations Research Program, North Carolina State University, Raleigh, NC

7/2005 – 8/2007 Assistant Professor, Mayo College of Medicine, Rochester, MN

4/2006 – 4/2007 Affiliate Faculty Member, Department of Industrial & Systems Engineering, University of Minnesota, Minneapolis, MN

Industrial Positions

7/2005 – 8/2007 Senior Associate Consultant, Mayo Clinic, Rochester, MN

5/2003 – 6/2005 Senior Engineer, IBM, Burlington, VT

2/2001 – 5/2003 Advisory Engineer, IBM, Burlington, VT

Scholarly and Professional Honors

2017 INFORMS Public Sector Operations Research Section Best Paper Prize, Second Place

2017 Industrial Engineering and Operations Management Society Distinguished Educator Award

2016 University of Michigan College of Engineering Distinguished Professor Award

2016 University of Michigan Industrial and Operations Engineering Department Award

2015 Jon R. and Beverly S. Holt Award for Teaching Excellence, University of Michigan

2015 INFORMS Student Chapter Graduate Course Teacher of the Year, Runner Up

2014 INFORMS Public Sector Operations Research Section Best Paper Prize, Honorable Mention

2012 INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice, Finalist

2010 INFORMS Service Section Best Paper Award, First Prize

2010 Top 10 most-downloaded papers in IIE Transactions from 2005 - 2010

2010 Alpha Pi Mu Honor Society Induction

2009 National Science Foundation CAREER Award

2007 IBM Systems and Technology Group "Top 10% Patent Award," U.S. Patent 7,103,436 (awarded for IBM patents deemed to be among the 10% most valuable for the year)

2005 INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice, First Prize

2005 Institute for Industrial Engineers Outstanding Publication Award, 2005 and IIE Transactions on Scheduling and Logistics Best Paper Award for 2003-2004

2004 IBM Systems and Technology Group "Top 10% Patent Award," U.S. Patent 6,584,370

2000 Departmental Nominee, McMaster University, INFORMS Doctoral Colloquium, San Antonio, TX

2000 First Prize, Canadian Operational Research Society Doctoral Student Paper Competition

1999 Province of Ontario Graduate Scholarship (1999-2000)

3. **Professional Societies**

Memberships

- Institute for Operations Research and Management Science (INFORMS) (Subdivision Memberships: Computing Society, Health Applications Society, Minority Issues Forum, Optimization Society, Women in OR/MS)
- Institute of Industrial Engineers (IIE)
- Society for Medical Decision Making (SMDM)
- Omega Rho International Honor Society

Elected Offices Held in Professional Societies

2016 President-Elect (2016), President (2017) and Past-President (2018), INFORMS

2012 Secretary and Executive Board Member, INFORMS (2012-2015)

2010 Member, INFORMS Subdivisions Council (2010-2011)

2009 Chair, INFORMS Health Applications Section

2008 Vice Chair, INFORMS Health Applications Section

2006 Secretary and Newsletter Editor, INFORMS Health Applications Section

2005 Council Member, INFORMS Chapter for the Practice of Management Science (2005–2009)

4. **Industrial Consulting Activities**

2010 University of North Carolina Hospital, Chapel Hill, NC (2010-2011)

2009 Duke University Medical Center, Durham, NC (2009-2010)

2004 Fletcher Allen Health Care , Burlington, VT (2004–2005)

2004 Analog Devices, Inc., Boston, MA (with IBM) (2004–2005)

2003 Hitachi Inc., San Jose, CA (with IBM) (2003–2005)

1998 Dofasco Inc., Hamilton, ON, Canada (1998–2000)

1997 City of Hamilton, Municipal Government, Hamilton, ON, Canada

II. TEACHING AND MENTORING OF UNDERGRADUATE AND GRADUATE STUDENTS

A. Teaching Effectiveness

Undergraduate Courses Taught
Deterministic Models in Industrial Engineering (ISE361, NC State University)

Graduate Courses Taught:
Dynamic Programming (IOE512, University of Michigan)
Scheduling (IOE543, University of Michigan)
Dynamic Programming (OR709, NC State University)
Introduction to Operations Research (OR501, NC State University)
Stochastic Programming (ISE789B, NC State University)
Optimization in Medicine (ISE789, NC State University)
Introduction to Health Systems Engineering (HSR5150, Mayo Clinic)

Course	Semester	Individual Rating	College Avg.
IOE512 (31)	Fall 2016	4.70	4.45
IOE543 (41)	Spring 2016	4.69	4.47
IOE512 (31)	Fall 2015	4.70	4.45
IOE543 (28)	Spring 2015	4.50	4.42
IOE512 (32)	Fall 2014	4.45	4.41
IOE543 (23)	Spring 2014	4.81	4.41
IOE512 (28)	Fall 2013	4.82	4.39
IOE543 (28)	Spring 2012	4.53	4.40
ISE709 (13)	Spring 2012	4.77	4.53
ISE789 (10)	Spring 2011	4.62	4.50
ISE361 (22)	Fall 2011	4.38	4.23
ISE361 (33)	Fall 2010	4.55	3.99
ISE789B (13)	Spring 2010	4.36	4.51
ISE789 (12)	Spring 2010	4.55	4.45
ISE361 (32)	Spring 2010	4.23	4.08
ISE361 (33)	Fall 2009	4.38	4.05
ISE789B (8)	Spring 2009	4.39	4.27
Mayo Clinic CTSC5150 (5)	Spring 2009	NA	NA
OR501 (16)	Fall 2008	4.57	4.43
OR501-DL (7)	Fall 2008	4.54	4.43
Mayo Sys. Eng. Workshop (CME Credit) (52)	Summer 2008	4.67	4.26
Mayo Clinic HSR5150 (3)	Spring 2008	NA	NA
OR501 (5)	Spring 2008	NA	NA
OR810 (4)	Spring 2008	NA	NA

Note: All evaluations are based on a 5-point scale; ‘NA” indicates no formal evaluation completed; Numbers in brackets are the number of enrolled students. Ratings are averages across all questions on the evaluation.

B. External Mentoring Activities

2004 INFORMS Doctoral Colloquium Invited Speaker (2004, 2005, 2006, 2008, 2010, 2011, 2012)

2003 IBM Mentoring Program (2003, 2004, 2005)

C. Advisory Activities

1. Undergraduate Research Supervision

2016 Undergraduate Research Experience (Sponsor: National Science Foundation): Marcus Segedin, "Simulation of Multi-Biomaker Protocols for Early Detection of Prostate Cancer," (Fall 2016, Winter 2017, Fall 2017)

2016 Undergraduate Research Experience (Sponsor: Department of Urology): Zian Chen, Fan Yang, Jiachen Wang, "Hidden Markov Models for Estimation of Prostate Cancer Progression in Men Receiving Active Surveillance," (Summer 2016, Fall 2016, Winter 2017), Presentation at Society of Urologic Oncology, Austin TX, November 2016.

2015 Undergraduate Research Experience (Sponsor: VA): Jiachen Wang "Statistical Modeling of Longitudinal Data to Simulate Cardiovascular Risk Progression in Patients Over Time," (Fall 2015, Spring 2016)

2014 Undergraduate Research Experience (Sponsor: Department of Urology): Maria Correa, "Validation of Clinical Models for Prediction of Bone Metastases and Positive Lymph Nodes," (Summer 2014, Oral Presentation at INFORMS Annual Meeting, San Francisco, 2014)

2014 Undergraduate Research Experience (Sponsor: NSF): Jianyu Liu, "Predictive Models for Active Surveillance of Men with Low Risk Prostate Cancer (Spring 2014 - Spring 2015, Journal Publication in *Urology*)

2013 Undergraduate Research Experience: Rachel Risko (Sponsor: Department of Urology), "Optimal Design of CT Scan Guidelines for Prostate Cancer Stating" (Fall 2013, Spring 2014, Journal Publication in *Urology*)

2011 Undergraduate Research Experience (Sponsor: NSF): Dean Pixton, "Planning and Scheduling of Chemotherapy Infusion Centers" (Fall 2011, Spring 2012)

2011 Undergraduate Research Experience (Sponsor: NSF): Jessica Woo, "Simulation Modeling of Cholesterol and Blood Pressure Control Policies for Patients with Type 2 Diabetes" (Spring 2011)

2011 Undergraduate Research Experience (Sponsor: NSF): Michael Murr, "Estimating the Cost of No-shows in an Outpatient Procedure Center" (Spring 2011, Journal Publication in *Medical Decision Making*)

2010 Undergraduate Research Experience: (Sponsor: NSF): David Chermak, "Performance Improvement of Outpatient Endoscopy Suites" (Summer 2010)

2010 Senior Design Project – ISE498 (Sponsor: Mayo Clinic): Celia Chang, Erika Weikert, "Staffing of In Room Providers for Surgery" (Spring 2010)

2009 Senior Design Project – ISE498 (Sponsor: UNC Hospital): Jillian Johnson, Jonathan Woodall, "Analysis of Endoscopy Suites at University of North Carolina Hospitals" (Fall 2009)

2009 Undergraduate Research Experience: Mathew (Seth) Placke, Freshman Park Scholar, "Optimal Location of Nerve Agent Chem-Packs in North Carolina" (Fall 2008 – Spring 2009, Poster Presentation at North Carolina Public Health Association Conference, Asheville, NC, September 2009)

2008 Senior Design Project – ISE498 (Sponsor: Massachusetts General Hospital): Alex Carter, Rob Squires, "A Simulation Model to Evaluate the Effect of New System Interventions for an Urgent Care Clinic," (Poster Presentation at Society for General Internal Medicine Annual Meeting, May 2009)

2008 Senior Design Project – ISE498 (Sponsor: UNC Family Medicine Clinic): Matthew Diering, Kylie Goodell, Drew Johnson, "A Simulation Model for Analysis of Patient Flow Through UNC Family Medicine Clinic," (Spring 2008)

2008 Senior Design Project – ISE498 (Sponsor: Mayo Clinic, Rochester, MN): Zack Adams, Kristin Moore, Ashley Wampler, "Surgery Scheduling Decision Support System," (1st Place, IIE Society for Health Systems Student Paper Award, Chicago, IL, 2009) (Spring 2008)

2008 Undergraduate Research Experience: Zack Wilson, Research Project: "Optimization of Patient Access to Health Services," (Spring 2008)

2007 Senior Design Project – ISE498 (Sponsor: UNC Hospital): Bruce Dunn and Luke Wilson, "NCSU Robotic Surgery Evaluation Project," (Fall 2007)

2. Doctoral Student Summer Industrial Internship Supervision

2007 Summer Internship – Serhat Gul, PhD Candidate, Arizona State University, Department of Industrial & Systems Engineering

2007 Summer Internship – Sakine Batun, PhD Candidate, University of Pittsburgh, Department of Industrial Engineering

2006 Summer Internship – Murat Kurt, PhD Candidate, University of Pittsburgh, Department of Industrial Engineering (2006, 2007)

2004 Summer Internship – Samik Raychaudhuri, PhD Candidate, University of Wisconsin, Department of Industrial & Systems Engineering

3. Graduate Student Committees

Committees

Name of Student	Degree	Chair	Member	Date Graduated
Lauren Steimle	Ph.D (IOE, Michigan)	X		2019 (Anticipated)
Selin Merdan	Ph.D (IOE, Michigan)	X		2018 (Anticipated)
Zheng Zhang	Ph.D. (Jiao Tong University, China)	X (Co-Advisor)		2016
Maya Bam	Ph.D (IOE, Michigan)	X (Co-Chair)		2017
Christine Barnett	Ph.D (IOE, Michigan)	X		2017
Daniel Underwood	Ph. D. (ISE, NCSU)	X (Co-Chair)		2015
Yuanhui Zhang	Ph.D (OR, NCSU)	X		2014
Alex Gose	Ph.D (OR, NCSU)	X		2013
Bjorn Berg	Ph.D (ISE, NCSU)	X		2012
Jennifer Mason	Ph.D (ISE, NCSU)	X		2012
Yuan Zhang	Ph.D. (OR, NCSU)	X		2011
Ayca Erdogan	Ph.D. (OR, NCSU)	X		2011
Jingyu Zhang	Ph.D. (OR, NCSU)	X		2010
Serhat Gul	Ph.D. (ISE, ASU)	X (Co-chair)		2010
Mary Minor	M.Sc. (ISE, NCSU)	X		2012
Jonathan Woodall	M.Sc. (ISE, NCSU)	X		2011
Daniel Underwood	M.Sc. (OR, NCSU)	X		2010
Lindsay Moomaw	M.Sc. (ISE, NCSU)	X		2010
Jennifer Mason	M.Sc. (OR, NCSU)	X		2009
Yan Deng	Ph.D. (IOE, Michigan)		X	2016
Boxiao Chen	Ph.D. (IOE, Michigan)		X	2016
Aleida Braaksma	Ph.D. (University of Twente, Netherlands)		X	2015
Mike Harvey	Ph.D. (Public Health, Michigan)		X	2015
Pooyan Kazemian	Ph.D. (IOE, Michigan)		X	2013
Elliot Lee	Ph.D. (IOE, Michigan)		X	2013
Hamed Yarmand	Ph.D. (ISE, NCSU)		X	2012
Emine Yaylali	Ph.D. (ISE, NCSU)		X	2012
Sakine Batun	Ph.D. (ISE, Pittsburgh)		X	2011
Camillo Mancia	Ph.D. (ISE, Lehigh)		X	2011
Qingwei Jin	Ph.D. (OR, NCSU)		X	2011
Zhe Lui	Ph.D. (OR, NCSU)		X	2009
Krishna Jarugumilli	M.Sc. (ISE, NCSU)		X	2011
Kinley Taylor	M.Sc. (ISE, NCSU)		X	2011
Sharolyn Winter	M.Sc. (OR, NCSU)		X	2009
Fati Irdem	M.Sc. (ISE, NCSU)		X	2009
Baris Kacar	M.Sc. (ISE, NCSU)		X	2009

Graduate Theses Completed (11 PhDs, 5 Masters)

1. **Christine Barnett**, Ph.D, September 2012 - May 2017
   Dissertation Title: "Optimization of Screening and Surveillance Decisions in Prostate Cancer Care"

Current Position: Research Triangle Institute
National Science Foundation Graduate Research Fellowship (2013)
INFORMS Doing Good with Good OR Prize (2016)
Best Oral Presentation of the Michigan Student Symposium for Interdisciplinary Statistical Sciences (2017)
Best Poster Prize of the American Urology Association (2017)

2. **Maya Bam**, Ph.D, September 2012 - May 2017
   Dissertation Title: "Optimizing Resource Allocation in Surgery Delivery Systems"
   Current Position: General Motors Research
   INFORMS Analytics Section Student Analytical Scholar, 2016
   INFORMS Interactive Poster Competition, First Place, Philadelphia, PA Nov. 2015
   INFORMS Minority Issues Forum Poster Competition, First Place, Philadelphia, PA Nov. 2015

3. **Daniel Underwood**, Ph.D, September 2011 - August 2015
   Dissertation Title: "Simulation Optimization of PSA-Based Prostate Cancer Screening"
   Current Position: SAS Inc
   INFORMS Best Poster Prize (2013)

4. **Yuanhui Zhang**, Ph.D, September 2010 - July 2014
   Dissertation Title: "Robust Optimal Control of Medical Treatment Decisions"
   Current Position: Postdoctoral Fellow, Centers for Disease Control and Prevention
   Minority Issues Forum Poster Prize (2013)
   INFORMS Best Poster Prize (2014)
   IIE Alan Pritsker Doctoral Dissertation Award, Third Place (2014)
   Finalist, INFORMS "Doing Good with Good OR" Prize (2014)

5. **Alex H. Gose**, Ph.D, January 2009 - August 2013
   Dissertation Title: "Sequential Bounding Methods for Stochastic Programming Models of Production Planning"
   Current Position: Consultant

6. **Jennifer Mason**, Ph.D, August 2009 - June 2012
   Dissertation Title: "Markov Decision Processes and Approximate Dynamic Programming Methods for Optimal Treatment Design"
   Current Position: Assistant Professor, Department of Public Health Sciences University of Virginia
   Agency for Healthcare Research and Quality (AHRQ) Dissertation Grant (2011)
   IIE Alan Pritsker Doctoral Dissertation Award, Third Place (2013)

7. **Bjorn Berg**, Ph.D, August 2008 - June 2012
   Dissertation Title: "Optimal Planning and Scheduling in Outpatient Procedure Centers"
   Current Position: Assistant Professor, University of Minnesota

8. **Yuan Zhang**, Ph.D, August 2008 - December 2011
   Dissertation Title: "A Partially Observable Markov Decision Process for Optimal Design of Surveillance Policies for Bladder Cancer"
   Current Position: Bank of America

9. **Ayca Erdogan**, Ph.D, August 2007 - December 2010
   Dissertation Title: "Optimization of Appointment Based Scheduling Systems"
   Current Position: Assistant Professor, San Jose State University

10. **Jingyu Zhang**, Ph.D, August 2007 - May 2011
    Dissertation Title: "Partially Observable Markov Decision Processes for Prostate Cancer Screening"
    Current Position: Staff Member, Phillips Research North America
    INFORMS "Doing Good with Good OR" Competition, Finalist (2011)

11. **Serhat Gul**, Ph.D., August 2007 - December 2011
    Dissertation Title: "Optimization of Surgery Delivery Systems"
    Current Position: Assistant Professor, Ozyegin University, Turkey

12. **Mary (Christy) Minor**, M.Sc., August 2011 - June 2012
    Thesis Title: "Stochastic Programming Models for Appointment Scheduling that Compensate for Variation in Server Behavior"
    Current Position: Software Analyst, Cognizant Technology Solutions

13. **Jonathan Woodall**, M.Sc., August 2009 - June 2011
    Thesis Title: "Models for Optimizing Resource Allocation in a Cancer Center"
    Current Position: Analyst, Duke University Medical Center
    INFORMS Daniel H. Wagner Prize, Finalist (2012)

14. **Daniel Underwood**, M.Sc., August 2008 - June 2010
    Thesis Title: "Simulation Optimization of Prostate Cancer Screening Using a Parallel Genetic Algorithm"
    Current Position: PhD Student, NC State University INFORMS Poster Prize, Second Place (2012)

15. **Lindsay Moomaw**, M.Sc., August 2008 - May 2010
    Thesis Title: "Stochastic Modeling for Optimal Batch Scheduling of Prophylactic Dispensing Centers"
    Current Position: Analyst, Progressive Insurance

16. **Jennifer Mason**, M.Sc., August 2007 - June 2009
    Thesis Title: "Optimal Timing of Statin Initiation for Patients with Type 2 Diabetes"
    Current Position: Assistant Professor, University of Virginia

D. Cross-Disciplinary Activities

2016 Member, Cancer Center, University of Michigan (2016–Present)

2014 Faculty Member, Department of Urology, University of Michigan (2014–Present)

2012 Member, Institute for Healthcare Policy and Innovation, University of Michigan (2012–Present)

2007 Associate Faculty Member, Integrated Manufacturing Systems Engineering Institute (IMSEI), North Carolina State University (2007–2012)

2007 Associate Faculty Member, North Carolina State University, Graduate Program in Operations Research (2007–Present)

2007 Visiting Research Appointment, Mayo Clinic, Department of Health Science Research (2007 – 2010)

2007 Fellow, Cecil C. Sheps Research Center, University of North Carolina (2007–Present)

III. ACADEMIC SCHOLARSHIP

A. Scholarly Achievements (Note: Advised Graduate Students and Post-Docs in Bold)

Refereed Journal Articles Published and In-Press

1. **Zhang, Y., Mason, J.E., Wu, H.**, Wilson, J., Denton, B.T., "Conducting Probabilistic Sensitivity Analysis for Markov Decision Processes," *Healthcare Management Science* (in press), 2017.
2. Basu, S., Sussman,J.B., Rigdon, J., **Steimle L.**, Denton, B.T., Hayward, R.A., " Improved Targeting of Intensive Blood Pressure Treatment: Derivation and Validation of Risk Scores for Benefit and Harm," *PLOS Medicine* (in press), 2017
3. **Mason, J.**, Denton, B.T., Smith, S. Shah, N., "Using Electronic Health Records to Monitor and Improve Adherence to Medication," *IISE Transactions* (in press), 2017.
4. **Bam, M.**, Denton, B.T., Van Oyen, M., Owen, M.E., "Surgery Scheduling with Recovery Resources," *IISE Transactions* (in press), 2017
5. **Barnett, C.L.**, Tomlins, S.A., **Underwood, D.J.**, Morgan, T.M., Montie, J.E., Wei, J.T., Denton, B.T., "Two-Stage Biomarker Protocols for Improving the Precision of Early Detection of Prostate Cancer," *Medical Decision Making* (in press), 2017.
6. Capan, M, Khojandi, A., Denton, B.T., Williams, K., Ayer, T., Chhatwal, J., Kurt, M., Lobo, J., Roberts, M., Zaric, G., Zhang, S., Schwartz, S.J., "From Data to Improved Decisions: Operations Research in Healthcare Delivery," *Medical Decision Making* (in press), 2017.
7. **Berg, B.**, Denton, B.T., "Fast Online Approximations for Scheduling of Outpatient Procedure Centers," *INFORMS Journal on Computing* (in press), 2017.
8. Gopalakrishna, A., Fantony, J.J., Owusu, R., Foo, W., Dash, R., Denton, B.T., Inman, B., "Anticipatory Positive Urine Tests for Bladder Cancer," *Annals of Surgical Oncology*, (in press) 2017 (doi:10.1245/s10434-016-5763-5).
9. Auffenberg, G., **Merdan, S.**, Miller, D.C., Karandeep, S., Stockton, B.R., Ghani, K.R., Denton, B.T., "Evaluation of Prostate Cancer Risk Calculators for Shared-Decision Making Across Diverse Urology Practices in Michigan," *Urology* (in press), 2017.
10. **Gose, A.**, Denton, B.T., "Sequential Bounding Methods for Two Stage Stochastic Programs," *INFORMS Journal on Computing* 28(2), 351-369, 2016.
11. Hurley, P., Dhir, A., Gao, Y., Drabik, B., Lim, K., Curry, J., Womble, P.R., Linsell, S.M., Brachulis, A., Sexton, D.W., Ghani, K.R., Denton, B.T., Miller, D.c., Montie, J.E. "A State-wide Intervention Improves Appropriate Imaging in Localized Prostate," *Urology*, (in press), 2016
12. Castaing, J., Cohn, A., Denton, B.T., "A Stochastic Programming Approach to Reduce Patient Wait Times and Overtime in an Outpatient Infusion Center," *IIE Transactions on Healthcare Systems Engineering* (in press), 2016
13. Price, S., Golden, B., Wasil, E., Denton, B.T., "Operations Research Models and Methods in the Screening, Detection, and Treatment of Prostate Cancer: A Categorized, Annotated Bibliography," *Operations Research for Health Care*, 8, 9-21, 2016

14. **Liu, J.**, Womble, P.R., **Merdan, S.**, Miller, D.C., Montie, J.E., Denton, B.T., "Factors Influencing Selection of Active Surveillance for Localized Prostate Cancer," *Urology* (in press), 2015.

15. **Gul, S.**, Denton, B.T., Fowler, J., "A Multi-Stage Stochastic Integer Programming Model for Surgery Planning,", *INFORMS Journal on Computing*, 27(4), 755-772, 2015.

16. **Erdogan, A**, Denton, B.T., Gose, "On-line Appointment Sequencing and Scheduling," *IIE Transactions*, 47, 1267-1286, 2015.

17. **Merdan, S.**, Tomlins, S.A., **, Barnett, C.L.**, **Underwood, D.J.**, Morgan, T.M., Montie, J.E., Wei, J.T., Denton, B.T., "Assessment of Long Term Outcomes Associated with Urinary Prostate Cancer Antigen 3 and TMPRSS2:ERG Gene Fusion at Repeat Biopsy," *Cancer*. 122(22), 4071-4079, 2015.

18. McCoy, R.G., **Zhang, Y.**, Denton, B.T., Mason, J., Montori, V.M., Smith, S.A., Shah, N., "Trends in Treatment Intensification of Type 2 Diabetes," *Journal of Managed Care*, 21(5), e288-e296, 2015.

19. Wang, C.T., Milne, R.J., Fordyce, K., Denton, B.T., "Incorporating Contractual Arrangements in Production Planning," *Computers & Operations Research*, 53, 353-363, 2015

20. **Risko, R.**, **Merdan, S.**, Womble, P.R., Montie, J., **Barnett, C.**, Ye, Z., Linsell, S., Miller, D., Denton, B.T., "Clinical Predictors and Recommendations for Staging CT Scan Among Men with Prostate Cancer," *Urology*, 84, 1329-1334 ,2014.

21. **Merdan, S.**, Womble, P.R., Miller, D., **Barnett**, C., Ye, Z., Linsell, S., Montie, J., Denton, B.T., "Toward Better Use of Bone Scans Among Men with Early-Stage Prostate Cancer," *Urology*, 84: 793-798, 2014.

22. Milne, R.J., White, T., Denton, B.T., "Patents-a Growing Source of Analytics Methods," *Interfaces*, 45(3), 271-277, 2014

23. **Bjorn Berg**, Denton, B.T., **Ayca Erdogan**, Todd Huschka, Thomas Rohleder, "Optimal Overbooking Strategies for Outpatient Procedure Centers," *Computers & Operations Research*, 50, 24-37, 2014.

24. **Zhang, Y.**, McCoy, R.G., Mason, J., Smith, S.A., Shah, N., Denton, B.T., "Second-line agents for glycemic control for type 2 diabetes: are newer agents better?," *Diabetes Care*, 37:5 1338-1345, 2014.

25. **Yarmand, H.**, Ivy, J., Denton, B.T., Loyd, A., "Optimal Two-Phase Vaccine Allocation to Geographically Different Regions under Uncertainty," *European Journal of Operational Research* 233(1), 208-219, 2014.

26. **Mason, J.**, Denton, B.T., Shah, N., Smith, S., "Optimizing the Simultaneous Management of Cholesterol and Blood Pressure Treatment Guidelines for Patients with Type 2 Diabetes," *European Journal of Operational Research*, 233, 727-738, 2013.

27. **Erdogan, S.A.**, Denton, B.T., "Dynamic Appointment Scheduling with Uncertain Demand," *INFORMS Journal on Computing* 25(1), 116-132, 2013.

28. **Woodall, J.**, Gosselin, T., Boswell, A., **Murr, M.**, Denton, B.T., "Improving Patient Access to Chemotherapy Treatment at Duke Cancer Institute," *Interfaces* 43(5), 449-461, 2013. (Finalist for 2012 INFORMS Daniel H. Wagner Prize).

29. **Zhang, Y.**, Denton, B.T., Nielson, M., "Comparison of Screening Strategies for Low Risk Bladder Cancer Patients," *Medical Decision Making*, 33, 198-214, 2013.

30. **Berg, B.**, **Murr, M.**, **Chermak, D.**, **Woodall, J.**, Pignone, M., Sandler, R., Denton, B.T. "Estimating the Cost of No-shows and Evaluation the Effects of Mitigation Strategies," *Medical Decision Making*, 33, 976-985, 2013.

31. **Zhang, J.**, Denton, B.T., Balasubramanian, H., Inman, B., Shah, N., "Optimization of Prostate Biopsy Decisions," , *Manufacturing and Service Operations Management*, 14(4), 529-547, 2012.(Finalist INFORMS 2010 "Doing Good with Good OR - Student Paper Competition")

32. **Underwood, D., Zhang, J.**, Denton, B.T., Shah, N., Inman, B., "Simulation Optimization of PSA-Threshold Based Prostate Cancer Screening Policies," *Health Care Management Science*, 15(4), 293-309, 2012.

33. Degbotse, A., Denton, B., Fordyce, K., Milne, R.J., Orzell, R., and Wang, C., "IBM Blends Heuristics and Optimization to Plan its Semiconductor Supply Chain," *Interfaces* 43(2), 130-141, 2013.

34. **Mason, J.**, Denton, B.T.,"Decision Maker Perspectives on the the Optimal Time to Initiate Treatment," *IBM Journal on Research and Development*, 56(5), 1-12, 2012.

35. **Zhang, J.**, Denton, B.T., Balasubramanian, H., Inman, B., Shah, N., "Estimating the True Value of PSA Tests for Prostate Cancer Detection," *Medical Decision Making*, 32(2), 337-349, 2012.

36. Inman, B., **Zhang, J.**, Shah, N., Denton, B.T., An Evaluation of the Dynamic Changes in PSA Occurring in a Population-Based Cohort of Men Over Time," *British Journal of Urology International*, 110(3), 375-381, 2012.

37. **Mason, J.**, England, D., Denton, B.T., Smith, S. Kurt, M, Shah, N., "Optimizing Statin Treatment Decisions in the Presence of Uncertain Future Adherence," *Medical Decision Making*, 32(1), 154-166, 2012 (NC State Press Release posted on Science Daily and other news services).

38. **Batun, S.**, Denton, B.T., Huschka, T.R., Schaefer, A.J., "The Benefit of Pooling Operating Rooms Under Uncertainty,"*INFORMS Journal on Computing*, 23(2), 220-237, 2011.

39. Denton. B.T., Oguzhan, A., Holder, A., Lee, E., "Open Challenges in Medical Decision Making," *IIE Transactions on Healthcare Engineering*, 1(3), 161-167, 2011.

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45. **Mason, J.**, Denton, B.T., Shah, N., Smith, S. "Evaluating the Impact of Optimal Management for Patients with Type 2 Diabetes," *Society for Medical Decision Making Annual Meeting*, Toronto, Canada, 2010.

46. Denton, B.T., "Intensification at a Cost - Where is the Biggest Bang for the Buck?," American Diabetes Association's 70th Scientific Sessions, Orlando, FL, June, 2010.

47. **Batun, S.**, Denton, B.T., Huschka, T., Schaefer, A., "The Benefit of Pooling ORs and Parallelizing Surgeries Under Uncertainty," IERC, Cancun, Mexico, June 2010.

48. Denton, B.T., "Improving Operational Performance of Endoscopy Suites," Ambulatory Endoscopy Day, Toronto, Canada, May, 2010.

49. **Erdogan, A.**, Denton, B.T., "A Multi-Stage Stochastic Programming Model for Appointment Scheduling Under Uncertainty," INFORMS Annual Meeting, San Diego, October, 2009.

50. **Zhang, J.**, Denton, B.T., Balasubramanian, H., Shah, N., Inman, B.,"A Partially Observable Markov Decision Process Model for Prostate Cancer Screening," INFORMS Annual Meeting, San Diego, October, 2009.

51. **Moomaw, L.**, Denton, B.T., "A Stochastic Programming Model for Optimal Scheduling of Prophylactic Dispensing Centers," INFORMS Annual Meeting, San Diego, October, 2009.

52. **Kurt, M**, Denton, B.T., Schaefer, A., Shah, N, Smith, S., "At What Lipid Ratios Should a Patient with Type 2 Diabetes Initiate Statins?", INFORMS Annual Meeting, San Diego, October, 2009.

53. **Berg, B.**, Denton, B.T., "Colonoscopy Scheduling with Limited Resources," INFORMS Annual Meeting, San Diego, October, 2009.

54. Balasubramanian, H., Denton, B.T., Stahl, J., "Designing Primary Care Physician Panels,", INFORMS Annual Meeting, San Diego, October, 2009.

55. **Gul, S.**, Denton, B.T., Fowler, J., "Optimal Daily Assignment of Surgeries to Operations Rooms," INFORMS Annual Meeting, San Diego, October, 2009.

56. **Mason, J.**, Denton, B.T., England, D., Shah, N., Smith, S., "Optimizing the Timing of Statins for Patients with Uncertain Adherence," INFORMS Annual Meeting, San Diego, October, 2009.

57. **Batun, S.**, Denton, B.T., Huschka, T., Schaefer, A., "The Benefit of Pooling Operating Rooms Under Uncertainty," INFORMS Annual Meeting, San Diego, October, 2009.

58. **Kurt, M**, Denton, B.T., Schaefer, A., Shah, N, Smith, S.,"At What Lipid Ratios Should a Patient with Type 2 Diabetes Initiate Statins?", IERC, Miami, FL, June, 2009.

59. Stahl, J., Balasubramanian, H., Denton, B.T., "Improving Clinical Access and Continuity Through Physician Panel Re-design," Society of General Internal Medicine, Miami, FL, May, 2009.

60. Stahl, J., **Squires, J.R., Carter, A.**, Denton, B.T.,"Video-translation or Fast-Tracking for Limited English Patients in an Urgent Care Setting: A Simulation Analysis," Society of General Internal Medicine, Miami, FL, May, 2009.

61. Shah, N., Denton, B.T., **Kurt, M.**, Montori, V., Schaefer, A., Smith, S.,"Efficiency of Guidelines for Hyperlipidemia and Hypertension for Type 2 Diabetes Patients," American Diabetes Association's 69th Scientific Sessions, New Orleans, LA, June, 2009.

62. Inman, B., **Zhang, J.**, Denton, B.T., Balasubramanian, H., Shah, N., "Optimization of Prostate Cancer Screening Policies Using Partially Observable Markov Decision Processes," 2009 Genitourinary Cancers Symposium, ASCO, Orlando, FL, February, 2009.

63. **Erdogan, S.A**, Denton, B.T., "Scheduling Customers to a Stochastic Server with Uncertain Demand," INFORMS Computing Society Conference, Charleston, SC, January 2009.

64. **Zhang, J.**, Balasubramanian, B., Denton, B.T., Inman, B., "A Partially Observable Markov Decision Process to Determine Optimal PSA Based Biopsy Thresholds for Prostate Cancer," INFORMS Computing Society Conference, Charleston, SC, January 2009.

65. **Batun, S.**, Denton, B.T., Huschka, T.R., Schaefer, A.J., "Scheduling Multiple Operating Rooms Under Uncertainty," INFORMS Annual Meeting, Washington, DC, October 2008.

66. **Erdogan, S.A**, Denton, B.T., "Scheduling Customer to a Stochastic Server with Uncertain Demand," INFORMS Annual Meeting, Washington, DC, October 2008.

67. **Zhang, J.**, Balasubramanian, B., Denton, B.T., Inman, B., "A Partially Observable Markov Decision Process to Determine Optimal PSA Based Biopsy Thresholds for Prostate Cancer," INFORMS Annual Meeting, Washington, DC, October 2008.

68. **Mason, J.**, Denton, B.T., Shah, N., Smith, S., "An MDP Model to Compare Decision Maker Perspectives on Optimal Statin Treatment Policies," INFORMS Annual Meeting, Washington, D.C., October 2008.

69. **Batun, S.**, Denton, B.T., Schaefer, A., Huschka, T., "The Multi-OR Scheduling Problem with Surgeon Constraints," INFORMS Annual Meeting, Washington, D.C., October 2008.

70. **Gul, S.**, Denton, B.T., Fowler, J., "Optimal Allocation of Surgeries to Days and ORs," INFORMS Annual Meeting, Washington, D.C., October 2008.

71. **Erdogan, S. A.**, Denton, B.T., "Optimization of Outpatient Appointment Scheduling Systems Under Uncertainty in Patient Demand," INFORMS Annual Meeting, Washington, D.C., October 2008.

72. **Zhang, J., Balasubramanian, H.**, Denton, B.T., Inman, B., Shah, N.,"Optimization of Prostate Cancer Screening Decisions," INFORMS Annual Meeting, Washington, D.C., October 2008.

73. **Erdogan, S.A.**, Denton, B.T., "Stochastic Optimization of Scheduling Systems with Uncertainty in Patient Demand," Mayo Clinic Systems Engineering & Operations Research Conference on Health Care, Rochester, MN, September, 2008.

74. **Mason, J.E.**, Shah, N.D., Denton, B.T., Kurt, M., Egginton, J., Smith, S., "Evaluating the Impact of Adherence to Determine the Optimal Start Time for Statins for Diabetes Patients," Society for Medical Decision Making Annual Meeting, Philadelphia, PA, October 2008.

75. **Zhang, J.**, Shah, N.D., Inman, B., Denton, B.T., "A Partially Observable Markov Decision Process to Determine Optimal PSA Based Biopsy Thresholds for Prostate Cancer," Society for Medical Decision Making Annual Meeting, Philadelphia, PA, October 2008.

76. **Kurt, M.**, Denton, B.T., Schaefer, A., Shah, N., Smith, S., "Development of anOptimal Policy for Statin Initiation Among Type 2 Diabetes Patients," Society for Medical Decision Making Annual Meeting, Philadelphia, PA, October 2008.

77. **Erdogan, S.A.**, Denton, B.T., "Stochastic Optimization of Scheduling Systems with Uncertainty in Patient Demand," Mayo Clinic Systems Engineering & Operations Research Conference on Health Care, Rochester, MN, September, 2008.

78. Denton, B.T., "Optimization of the Design and Operation of Surgery Delivery Systems: Open Problems," Healthcare Engineering Symposium, North Carolina State University, April 2008.

79. Denton, B.T., Fowler, J., Schaefer, A., "Optimization of the Design and Operations of Surgery Delivery Systems," NSF Grantees Conference (Poster Presentation), Knoxville, TN, January 2008.

80. Denton, B.T., **Balasubramanian, H.**, Huschka, T., Miller, A., "Stochastic and Robust Optimization of Multi-OR Surgical Schedules," INFORMS Annual Meeting, Seattle, November 2007.

81. **Gul, S.**, Fowler, J., Denton, B.T., Huschka, T., "Bi-Criteria Scheduling of Surgery Delivery Systems," INFORMS Annual Meeting, Seattle, November 2007.

82. Osborn, J., Banerjee, R., Gregg, M., Destro-Borger, M., Denton, B.T., "Applications of Outpatient Visit and Referral Forecasting," INFORMS Annual Meeting, Seattle, November 2007.

83. **Batun, S.**, Schaefer, A., Denton, B.T, "A Stochastic Programming Approach to Multi-OR Surgery Allocation Problem," INFORMS Annual Meeting, Seattle, November 2007.

84. **Batun, S.**, Schaefer, A., Denton, B.T, "A Stochastic Programming Approach to Multi-OR Surgery Allocation Problem," INFORMS Annual Meeting, Seattle, November 2007.

85. Denton, B.T., Nelson, H., **Berg, B.**, **Balasubramanian, H.**, Rahman, A., Bailey, A., Lindor, K., "A Simulation Model to Predict the Performance of an Endoscopy Suite," University of Cincinnati Conference: Innovations in Health Care Delivery, Cincinnati, OH, October 2007.

86. **Kurt, M.**, Denton, B.T., Schaefer, A. J., Shah, N.D., Smith, S.A., "Robust Treatment Decisions for Managing Cardiovascular Risk for Patients with Type 2 Diabetes," Society for Medical Decision Making, Pittsburgh, PA, October 2007.

87. **Kurt, M.**, Denton, B.T., Shah, N.D., Huschka, T.R., Smith, S.A., "A Natural History Model for Type 2 Diabetes to Evaluate Treatment Guidelines for Cardiovascular Risk Management," Society for Medical Decision Making, Pittsburgh, PA, October 2007 (Poster Presentation).

88. Shah, N.D., Denton, B.T., Wagie, A.E., Egginton, J., **Kurt, M.**, Smith, S.A., "Performance of Risk Prediction Models for Type 2 Diabetes," Society for Medical Decision Making, Pittsburgh, PA, October 2007 (Poster Presentation).

89. Fowler, J., Denton, B.T., Schaefer, A., "Optimization of the Design and Operation of Surgery Delivery Systems," IIE Annual Conference, Nashville, TN, April 2007.

90. **Balasubramanian, H.**, Banerjee, R., Denton, B.T., "A Simulation Optimization Approach to Improving Primary Care Access," Operational Research Applied to Health Services Research Conference, Saint Etienne, France, July 2007.

91. Denton, B.T., Miller, A., **Balasubramanian, H.** "Stochastic Optimization of a Multi-OR Surgical Suite," Canadian Operational Research Society Annual Meeting, London, Ontario, Canada, May 2007.

92. Denton, B.T., Rahman, A., **Balasubramanian, H.**, "Optimization of Outpatient Scheduling Decisions Under Uncertainty," INFORMS Annual Meeting, Pittsburgh, November 2006.

93. Denton, B.T., Miller, A., Huschka, T., "Optimizing the Allocation of Surgeries to ORs in an Open-Booking Scheduling System," INFORMS Annual Meeting, Pittsburgh, November 2006.

94. **Kurt, M.**, Denton, B.T, Shah, N., Bryant, S., Smith, S., "A Markov Decision Process for Optimizing Statin Start Times for Diabetes Patients," INFORMS Annual Meeting, Pittsburgh, November 2006.

95. Denton, B.T., Kurt, M., Shah, N., Bryant, S., Smith, S., Society for Medical Decision Making (Oral Presentation), "The Risk of Risk Models: To Evaluate the Comparability of Three Risk Models To Predict Diabetes-Related Complications and Treatment Decisions," Boston, October, 2006.

96. Denton, B.T., "Advance Planning and Scheduling of Outpatient Clinics," Canadian Operations Research Society, Montreal, Canada, May 2006.

97. Denton, B.T., "Optimization of Surgery Sequencing and Scheduling Decisions," INFORMS Optimization Society Conference, San Antonio, February 2006.

98. Denton, B.T., Milne, R.J., Orzell, R, Lyon, P., "Continuous Improvement in Semiconductor Supply Chain Optimization at IBM Systems and Technology Group," INFORMS Annual Meeting, Denver, October 2004.

99. Denton, B.T., “Scheduling Start Times for Surgeries with Uncertain Durations,” INFORMS Annual Meeting, Denver, October 2004.

100. Denton, B.T., Milne, R.J., “Semiconductor Supply Chain Optimization at IBM’s Systems and Technology Group”, INFORMS Practice Conference, Cambridge, May 2004.

101. Denton, B.T., Milne, R.J., “Optimization of Production Planning in IBMs Microelectronics Supply Chain,” University of Florida Supply Chain Optimization Conference, Gainesville, February 2003.

102. Denton, B.T., Milne, R.J., “Optimization of Production Planning and Scheduling for Semiconductor Manufacturing,” INFORMS Annual Meeting, San Jose, November 2002.

103. Gupta, D, Denton, B.T., “Strategic Use of Inventory in Integrated Steel Mills,” IFORS Annual Meeting, Edinburgh, July 2002.

104. Gupta, D., Denton, B.T., “Strategic Use of Inventory in Integrated Steel Mills,” MEIS, University of California, Berkeley, June 2001.

105. Gupta, D, Denton, B.T., “Strategic Inventory Deployment in the Steel Industry,” NSF Design, Service, and Manufacturing Grantees Conference, January 2002.

106. Gupta, D, Denton, B.T., “Managing Increasing Product Variety at Integrated Steel Mills,” Proceedings of the 2001 NSF Design, Service & Manufacturing Grantees Conference, January 2001.

107. Denton, B.T., Gupta, D., “Intermediate Product Design and Replenishment Policies for Managing Product Variety in the Steel Industry,” INFORMS Annual Meeting, San Antonio, November 2000.

108. Denton, B.T., Gupta, D., “Intermediate Product Design and Replenishment Policies for Managing Product Variety in the Steel Industry,” INFORMS Annual Meeting, San Antonio, November 2000.

109. Gupta, D., Denton, B.T., “Slab Design and Inventory Deployment to Improve Delivery Performance of Integrated Steel Manufacturers,” MEIS, Anne Arbor, June 2000.

110. Denton, B.T., Gupta, D., Jawahir, K., “Inventory Placement in the Steel Industry,” Canadian Mathematical Society, Hamilton, June 2000.

111. Denton, B.T., Gupta, D., “Scheduling Start Times for Jobs with Uncertain Durations,” Canadian Operational Research Society, Edmonton, May 2000.

112. Denton, B.T., Gupta, D., “Optimal Appointment Times for Jobs with Uncertain Durations,” Canadian Operational Research Society, Windsor, June 1999.

113. Denton, B.T., Gupta, D., “Optimal Appointment Times for Jobs with Uncertain Durations,” Optimization Days, Montreal, May 1999.

114. Denton, B.T., Gupta, D., “Scheduling Elective Surgeries at Hospitals,” INFORMS Spring Meeting, Cincinnati, May 1999.

115. Denton, B.T., “Multi-Period Capacity Planning,” INFORMS Spring Meeting, Montreal, May 1998.

116. Denton, B.T., Horbatsch, M., “Above Threshold Ionization in Intense Laser Fields,” Annual Meeting of Division of Atomic, Molecular and Optical Physics, Ann Arbor, May 1997 (Poster Presentation).

Invited Seminars

1. “Optimization in Medicine: Past, Present and Future,” Plenary, INFORMS Healthcare Conference, Rotterdam, Netherlands, 2017

2. "Sequential Decision Making in Medicine: MDPs, POMDPs, and Beyond," Tutorial, Healthcare Operations Research Summer School, University of Twente, Enschede, Netherlands, 2017
3. "Using Longitudinal Data to Build Natural History Models," INFORMS Healthcare Conference, Rotterdam, Netherlands, 2017
4. "Optimization in Medicine," Symposium on Big Data, Health and Statistics, Plenary, University of Michigan, Ann Arbor, 2017
5. "Stochastic Optimization for Scheduling in Healthcare Delivery Systems," Plenary, Optimization Days, Plenary, 2017
6. "Robust Optimal Control for Medical Treatment DecisionsAn Application to Type 2 Diabetes," Georgia Tech, 2016 Markov Decision Processes for Chronic Diseases, Modeling Health and Economic Outcomes Research, University of Michigan, 2016
7. "Using Markov Models to Estimate the Impact of New Prostate Cancer Biomarkers," Cancer Surveillance and Outcomes Research Seminar, University of Michigan, 2016
8. Industrial Engineering and Operations Management Society, Rabat, Morocco, "Optimization of Healthcare Delivery," Plenary Speaker, 2017
9. Jiao Tong University, Shanghai, China, International Workshop on Healthcare Services and Hospitality Operations Management, Plenary Speaker, "Optimal Planning and Scheduling in Healthcare Delivery Systems," 2015
10. Purdue University, "Optimal Design of Biomarker-Based Screening Strategies for Early Detection of Prostate Cancer," October, 2015
11. University of Twente, Netherlands, "Online Scheduling for Outpatient Procedure Centers," 2015
12. University of Michigan, Hematology and Oncology Seminar, "Using Markov Models to Evaluate the Impact of Genetic Biomarkers on Prostate Cancer Screening," May 14, 2015
13. University of Texas, Austin, "Optimal Design of Biomarker-Based Screening Strategies for Early Detection of Prostate Cancer," February 2015
14. University of California, Berkeley, "Optimal Design of Biomarker-Based Screening Strategies for Early Detection of Prostate Cancer," September 2014
15. University of Michigan, U-M Center for Healthcare Engineering and Patient Safety (CHEPS), "Operations Research in Medicine: Past, Present, and Future," September 2014
16. University of Buffalo, "Online Scheduling of Outpatient Procedure Centers", April 2014
17. INFORMS Michigan Chapter Meeting, "Operations Research in Medicine: Past, Present, and Future," Keynote, March 2014
18. Wayne State University, "Online Scheduling of Outpatient Procedure Centers", November 2013
19. University of Maryland, "Online Scheduling of Outpatient Procedure Centers", November 2013
20. McGill University, "Online Scheduling of Outpatient Procedure Centers", September 2013
21. Conference on Modeling and Optimization: Theory and Applications (MOPTA), Plenary Speaker, "Optimization of Planning and Scheduling of Health Care Delivery Systems," August 2013
22. Tsukuba University, Japan, "Stochastic Optimization Models and Methods for Optimization of Surgery Delivery Systems," June 2013

23. University of Sourthern California, Department of Industrial Engineering, ”Optimization of On-line Appointment Scheduling,” May 2013
24. Tsinghua University, Department of Industrial Engineering, “Stochastic Optimization of Surgery Delivery Systems,” May 2012
25. University of Michigan, Department of Urology Health Services Research Seminar, “Optimal Design of Prostate Cancer Screening Policies,” November 2012
26. University of Michigan, U-M Center for Healthcare Engineering and Patient Safety (CHEPS), “Optimal Design of Prostate Cancer Screening Policies,” November 2012
27. Mayo Clinic, Division of Healthcare Policy and Research, “Optimal Design of Prostate Cancer Screening Policies,” October 2012
28. Texas A&M University, “Optimization of Online Appointment Scheduling,” March 2012.
29. University of Michigan, “Optimization of Online Appointment Scheduling,” March 2012.
30. Duke University, “Optimization of Online Appointment Scheduling,” March 2012.
31. Georgia Institute of Technology, “Partially Observable Markov Decision Processes for Prostate Cancer Screening,” February 2012.
32. University of Ottawa, Ottawa, ON, “Optimization of Scheduling for Appointment Based Healthcare Delivery Systems,” December 2011.
33. North Carolina State Emerging Issues Forum, Raleigh, NC, Panel Member:“What’s Good for Healthcare is Good for the Economy”, February 2011.
34. University of Ottawa, Ottawa, ON, “Optimal Timing of Medical Treatment Decisions for Type 2 Diabetes,” November 2009.
35. University of Waterloo, Waterloo, ON, “Optimal Timing of Medical Treatment Decisions for Type 2 Diabetes,” June 2009.
36. University of Toronto, Toronto, ON, “Optimal Timing of Medical Treatment Decisions for Type 2 Diabetes,” June 2009.
37. Fields Institute, Toronto, ON, “Design and Operation of Surgery Delivery Systems,” June 2009.
38. University of Michigan, Ann Arbor, MI, “Design and Operation of Surgery Delivery Systems,” April 2009.
39. University of British Columbia, Vancouver, BC, “Design and Operation of Surgery Delivery Systems,” March 2009.
40. IBM, Thomas J. Watson Research Center, Yorktown Heights, NY, “Design and Operation of Surgery Delivery Systems,” June 2008.
41. University of North Carolina, Chapel Hill, NC, Cecil C. Sheps Center for Health Services Research, “Simulation and Optimization Models for Staffing and Scheduling a Colonoscopy Practice,” June 2008.
42. Mayo Clinic, Rochester, MN, Department of Health Science Research, “Systems Engineering Methods for Improving Patient Access to Health Care,” June 2008.
43. SAS, Cary NC, “Optimization of Health Care Delivery Systems,” May 2008.
44. Northeastern University, Boston, MA, Department of Industrial Engineering, “Optimization of the Design and Operation of Surgery Delivery Systems,” March 2008.

45. Lehigh University, Allentown, PA, Department of Industrial Engineering, "Optimization of the Design and Operation of Surgery Delivery Systems," February 2008.
46. University of North Carolina, Chapel Hill, NC, Cecil C. Sheps Center for Health Services Research, "A Markov Decision Process Approach to Optimize Statin Start Time for Patients with Type 2 Diabetes," December 2007.
47. University of Cincinnati, Cincinnati, OH, Department of Operations Management, "Optimization of Surgery Delivery Systems," October 2007.
48. University of North Carolina, Chapel Hill, NC, Department of Statistics and Operations Research, "Optimization of the Design and Operation of Surgery Delivery Systems," October 2007.
49. University of Wisconsin, Madison, WI, Department of Industrial & Systems Engineering, "Optimization of Health Care Delivery and Medical Decision Making," April 2007.
50. University of Pittsburgh, Pittsburgh, PA, Department of Industrial Engineering, "Optimization of Appointment Based Service Systems," April 2007.
51. University of Toronto, Toronto, ON, Department of Industrial Engineering, "Optimization of Appointment Based Service Systems," March 2007.
52. University of Western Ontario, London, ON, Biostatistics Department Seminar, "A Markov Decision Process Approach to Optimize Statin Start Time for Patients with Type 2 Diabetes," November 2006.
53. University of Western Ontario, London, ON, Management Science Department Seminar, "Optimization of Health Care Delivery and Medical Decision Making," November 2006.
54. University of Wisconsin, Madison, WI, Department of Industrial & Systems Engineering, "Optimization of Appointment Based Service Systems," April 2006.
55. University of South Florida, Tampa, FL, Department of Industrial & Systems Engineering, "Optimization of Appointment Based Service Systems," March 2006.
56. Mayo Clinic Systems & Procedures Departmental Seminar, Rochester, MN, "Operations Research Methods for Health Systems Engineering,", March 2006.
57. Texas A&M, College Station, TX, Department of Industrial and Systems Engineering, "Supply Chain Optimization in the Semiconductor Manufacturing Industry," November 2004.
58. University of Minnesota Departmental Seminar, Minneapolis, MN, "Optimizing IBMs Semiconductor Supply Chain," April 2004.
59. Rensselaer Polytechnic Institute (RPI), Albany, NY, "Semiconductor Supply Chain Optimization," May 2003.

Editorship and Journal Review Assignments

- Associate Editor, *Service Science* (2016 –)
- Associate Editor, *Operations Research* (2015 –)
- Editorial Board Member, *Optimization and Engineering* (2013 –)
- Department Editor (Medical Decision Making), *IIE Transactions on Healthcare Systems Engineering* (2009 – 2015)

- Associate Editor, *M&SOM* (2012 – 2015)
- Editorial Board Member, *Health Systems* (2011 –)
- Editor, Handbook on Healthcare Operations Management, Springer (Published 2013)
- Editorial Board Member, *Medical Decision Making* (2009-2012)
- Recognized as a *Medical Decision Making* "Top Reviewer" for 2010
- Associate Editor, *MSOM*, Special Issue: Applications of Healthcare Operations Management (2011)
- Associate Editor, *Production and Operations Management*, Special Issue: Health Care Operations Management (2009)
- Associate Editor, *IIE Transactions – Focus Issue on Operations Engineering and Analysis* (2008, 2009)
- Associate Editor, *IIE Transactions – Focus Issue on Scheduling and Logistics* (2007)
- Associate Editor, *Canadian Journal of Administrative Sciences*, Operations and Decision Sciences Division (2006 - 2009)
- Contributing Editor, *Interfaces*, Practice Abstracts (2005 – 2012)
- Referee for the following journals:
  - *European Journal of Operational Research*
  - *Health Care Management Science*
  - *IEEE Transactions on Semiconductor Manufacturing*
  - *IIE Transactions*
  - *INFORMS Journal on Computing*
  - *Interfaces*
  - *International Journal of Flexible Manufacturing Systems*
  - *International Journal of Production Economics*
  - *Management Science*
  - *Manufacturing & Service Operations Management*
  - *Operations Research*
  - *Production and Operations Management*
  - *Cancer*
  - *Urology*
  - *Urologic Oncology*
  - *Journal of Anesthesiology & Analgesia*
  - *Medical Decision Making*

B. Funded Research Project Record

2017 Denton, B.T. (PI), Taylor, J., Shahinian, V., Wei, J.T., University of Michigan Cancer Center Big Data Award, "Data Science Models and Methods for Improving Active Surveillance in Prostate Cancer, April 1, 2017 - March 31, 2019, $50,000

Description: This internal University of Michigan award from the Cancenter provides funding for a collaborative study by investigators in Industrial and Operations Engineering, Biostatistics and Urology to study latent Markov models based on observational data from a series of international studies of active surveillance in prostate cancer. The ultimate goal is to develop approaches for estimating stochastic model parameters from observational data and use these models as the basis for optimization of the design of personalized active surveillance strategies.

2015 Greg Aufenberg (Project Owner), Denton, B.T.,Karandeep Singh, University of Michigan M-Cubed Initiative, "Integration of a Learning Prostate Cancer Risk Prediction Tool into the Electronic Medical Record,", June 1, 2016 - May 31, 2017, $60,000

Description: This internal University of Michigan award provides funding for a collaborative study by investigators in Urology, Industrial and Operations Engineering, and Learning Health Science, to develop and implement predictive models, based on machine learning methods, to improve decision making for men at risk of prostate cancer.

2015 Denton, B.T. (PI), Wei, J.T. (Co-I, University of Michigan, Department of Urology), National Science Foundation, "Optimal Design of Biomarker-Based Screening Strategies for Early Detection of Chronic Diseases," September, 2015 - August 31, 2017, $200,000

Description: The aim of this project is to create stochastic programming models and partially observable Markov decision processes that integrate screening, diagnosis, and treatment decisions over the complete lifecycle of a chronic disease to optimize population screening. New data-driven models will be created for optimal design of (a) one-time composite screening tests; (b) personalized dynamic protocols for screening over a patient's lifetime to optimally balance the competing goals of early disease detection and minimal cost and harm from screening. Theoretical properties that provide insight into optimal screening strategies will be analyzed and used to design efficient algorithms and approximation methods for solving these problems.

2015 Denton, B.T. (PI), Shah, N. (Mayo Clinic), National Science Foundation, "Optimization of Individualized Medical Treatment for Improved Population Health," September 1, 2015 – August 31, 2018, $375,000

Description: The research objective of this proposal is to develop new robust dynamic programming methods for optimal design of personalized treatment policies for patients with chronic diseases. Algorithmic methods will be developed for computing optimal and approximate (near optimal) treatment guidelines in the presence of uncertainty about a patients future health status and adherence to medication. The emphasis of this proposal is on ways to mitigate uncertainty in in the underlying disease progression using methods from robust optimization.

2013 Denton, B.T. (PI), Tomlins, S., Wei, J.T., University of Michigan M-Cubed Initiative, "Measuring the Costs and Benefits of New Biomarkers for Prostate Cancer Detection,", Sept 1, 2013 - May 31, 2014, $60,000

Description: This internal University of Michigan award provides funding for a the study of optimal design of screening strategies for prostate cancer that use new genetic biomarkers for high grade cancer detection.

2011 Mason, J (PI), Denton, B.T. (Faculty Mentor and Doctoral Advisor), Agency for Healthcare Research and Quality (AHRQ), R36 Dissertation Award, ”Optimal Design of Guidelines for Preventive Treatment to Manage Risk of Cardiovascular Disease,” Sept 1, 2011 - August 31, 2012, $35,363

Description: This doctoral dissertation award provided funding for PhD Student Jennifer Mason to complete her doctoral research on the use of Approximate Dynamic Programming methods for optimal control of treatment decision for managing cholesterol and blood pressure in patients with type 2 diabetes.

2011 Denton, B.T. (PI), UNC Hospital, “Optimization of Patient Scheduling at the UNC Cancer Hospital,” Sept 1, 2011 - August 31, 2012, $36,000

Description: The objective of this research project is to investigate optimization models for improving patient access at the UNC Cancer Center. The emphasis is on improving patient flow and reducing expected waiting time at the chemotherapy treatment center.

2011 Denton, B.T. (PI), UNC Lineberger Comprehensive Cancer Center, “Evaluation of Bladder Cancer Surveillance Policies,” January 1, 2010 - January 2, 2012, $36,000

Description: The objective of this research project is to use partially observable Markov decision process (POMDP) models to investigate optimal design of cystoscopy-based surveillance policies for the early detection of recurrence of bladder cancer. Published best practices will be compared to optimal policies generated from the POMDP model to estimate the potential for simultaneously improving detection rate, and lowering the total cost of surveillance.

2010 Denton, B.T. (PI), Duke Medicine, “Simulation Modeling of Cancer Center Operations,” August 17, 2010 - August 16, 2011, $46,000

Description: The objective of this research project is to develop and validate a discrete event simulation model for a large cancer center to improve patient access to care and practice efficiency. The simulation model will be used to answer questions related to daily scheduling and medium to long range planning, including staffing and capacity management decisions.

2010 Denton, B.T. (PI), National Science Foundation Research Experience for Undergraduates, “Robust Heuristics for Scheduling an Endoscopy Suite in the Presence of Urgent Inpatients and No-shows,” August, 2010 – August, 2011, $6,000

Description: The purpose of this research experience for undergrad students is to develop fast and reliable heuristics for scheduling of outpatient procedure centers in the presence of uncertainty in urgent add-on patients, and no-shows. University of North Carolina will form the test bed for this research project. An undergraduate team co-advised by a PhD student will design and analyze heuristics. This study will also help quantify the cost of uncertainty associated with no-shows in the outpatient procedure center setting.

2010 Uzsoy, R. (PI), Denton, B.T. (Co-I), Kempf, K. (Co-I, Intel), National Science Foundation, “Next Generation Algorithms for Planning Production and Inventories with Uncertain Demand and Congestion,” September 1, 2010 – August 31, 2014, $480, 095

Description: The research objective of this project is to develop new insights into the influence of supply and demand uncertainty and ways to mitigate their effects in the context of multiproduct, multistage production systems. The research team will develop new stochastic integer programming models, and

new decomposition based approximation methods for solving these computationally challenging problems.

2010 Denton, B.T. (PI), Shah, N. (Mayo Clinic), Smith, S. (Mayo Clinic), National Science Foundation, "Optimization of Medical Treatment Decisions for Type 2 Diabetes," September 1, 2010 – August 31, 2014 $330,000

Description: The research objective of this proposal is to develop new stochastic dynamic models and solution methodologies to study the design of optimal treatment plans for type 2 diabetes. The research will begin by investigating models for the management of cardiovascular risk using common drug treatment options such as cholesterol and blood pressure lowering medication. Algorithmic methods will be developed for computing optimal and approximate (near optimal) treatment guidelines in the presence of uncertainty about a patients future health status. Our models will consider multiple perspectives including a patient's quality adjusted lifespan, the costs of treatment, and the cost of diabetes related complications to the health system.

2009 Denton, B.T. (PI), National Science Foundation Research Experience for Undergraduates, "A Decision Support System for Robust Design of Schedules," August, 2009 – August, 2010, $12,000 (6,000 match from University of North Carolina)

Description: The purpose of this research experience for undergrad students is to develop fast and reliable heuristics for developing robust schedules for an endoscopy suite. University of North Carolina will form the test bed for this research project. An undergraduate student team co-advised by a PhD student will develop a prototype decision support system for designing schedules, and evaluating operational policy decisions.

2009 Schaefer, A. (PI), Maillart, L., Prokopyev, O., Denton, B.T. (Consultant), Veterans Affairs, Veterans Engineering Research Center, "Optimization of Screening and Treatment Delivery Systems for Chronic Diseases,", August, 2009 – October 2011, $66,894

Description: The research objective of this subcontract with University of Pittsburgh is to develop optimization models for surgery planning and scheduling in the VA health system. The research focus will be on stochastic integer programming models, and methods that can be used to achieve computational advantages to solve large-scale model instances for various surgical groups at the VA.

2009 Denton, B.T. (PI), National Science Foundation Career Award, "Optimization of Screening and Treatment Delivery Systems for Chronic Diseases," January 1, 2009 – January 1, 2015, $400,000

Description: The research objective of this Faculty Early Career Development(CAREER) project is to develop new operations research (OR) models and methods to advance the science of health care delivery for life-threatening chronic diseases such as cancer, diabetes, and cardiovascular disease. Chronic disease screening and medical treatment decisions combine large state spaces that define patient health characteristics, such as clinical risk factors and medication histories, with uncertainty in future health outcomes due to differences among patients in genetic, environmental, and other factors. Decisions about treatment and screening take place over long periods (sometimes decades) under constraints due to medication conflicts. As a result, the stochastic and sequential decision making process gives rise to computational optimization problems that are often unsolvable with state-of-the-art algorithms and computing resources. However, these problems have promising structural properties that can be exploited to achieve meaningful theoretical insights and computationally tractable stochastic optimization methods. Advancing the understanding of chronic care delivery has the potential to improve the quality of life for a large and growing proportion of the U.S. population. The translation of discov-

eries based on this research has the potential to improve the efficiency and effectiveness of national screening and treatment policies.

2008 Ivy, J. (PI), Denton, B.T. (Co-I), Uzsoy, R.(Co-I), Roberts, S. (Co-I), Centers for Disease Control, "Engineering the North Carolina Health AlertNetwork," September 30, 2009 – September 2013, $1,583,859

Description: Despite the continuous efforts to improve emergency preparedness and response, large-scale demonstrate the need for improved emergency preparation, alert and response systems within a state and beyond. Considering the dynamic and unpredictable circumstances under which emergency systems must operate, there is a growing interest among researchers and public health stake holders to measure the capacity and efficiency of these system. The goals of this proposal include developing optimization and simulation models to support the design and operation of Health Alert Networks to ensure efficient, effective response and sustainable public health preparedness and service.

2008 Denton, B.T. (PI), "Optimization of Cardiovascular Treatment Decisions for Patients with Type 2 Diabetes," NC State University FRPD Individual Program, July 1, 2008 – June 30, 2009, $6000

Description: According to the American Diabetes Association, there are more than 20 million children and adults in the United States who have diabetes. Of the affected population, approximately 90% have type 2 diabetes. Currently, several risk models exist to predict the probability of complications related to type 2 diabetes; however, there has been limited investigation of how to use these models to make optimal treatment decisions. Our proposal seeks to bridge this gap by furthering the basic knowledge of how to prevent complications related to cardiovascular disease for patients with type 2 diabetes. We will develop new mathematical models and new solution methodologies to study the design of optimal treatment plans for cholesterol and blood pressure control. Our models will consider multiple criteria including a patient's quality adjusted lifespan, the costs of treatment, and the cost of diabetes related complications to the health system.

2008 Shah, N. (PI), Denton, B.T. (Co-PI, NCSU Site PI), Smith, S., Ho. M, "Optimizing Prevention and Health Care for the Complex Patient,"Agency for Health Care Research and Quality (AHRQ), August 1, 2008 – July 31, 2010, $300,000 (Co-PI Denton Share: $164,830)

Description: Patients with type 2 diabetes are a growing population of complex patients with complicated treatment regimens and high number of comorbid conditions. There has been an increasing emphasis on evaluating provider performance for evidence-based diabetes care. However, these measures assume one-size fits all, and do not account for changing needs and preferences of the patients with age, disease state, and comorbidities. Thus, it is often difficult for primary care clinicians to prioritize interventions for diabetes patients that would be sensitive to patient preferences and at the same time respond to external quality measurement requirements. Over the next two years, we will bridge this gap by advancing knowledge regarding the optimal treatment of diabetes as measured by the patient's quality adjusted lifespan, adherence to treatment, the costs of treatment, and cost of diabetes-related complications to the health system. Specifically, we will focus on developing mathematical models to determine the optimal time for initiating and intensifying treatment for the management of diabetes, hypertension, and hyperlipidemia.

2008 Roberts, S. (PI), Denton, B.T., Ivy, J., Uzsoy, R., National Science Foundation,"Healthcare Engineering and Health Services Research: Building Bridges, Breaking Barriers," April 2008 – August 2008, $39,426

Description: The objective of this project is to bring together nationally recognized researchers from healthcare engineering and health services research for a symposium to educate each other as to their work and potential for collaboration, and to discuss actionable mechanisms for collaboration. The workshop was be held in Raleigh, NC on April 6-8, 2008. NSF funds were used to support travel by doctoral students and researchers travelling from out of state, as well as faculty time to prepare the formal report for publication and dissemination.

2007 Denton, B.T. (PI), Balasubramanian, H., Banerjee, R., Mayo Foundation, "Improving the Efficiency of Primary Care Access Using Simulation Optimization," June 2007 – May 31 2008, $9,735

Description: The purpose of this grant is to investigate the use of simulation optimization methods to improve the design and operation of primary care clinics. We will develop new models of patient access that explicitly account for uncertainty in patient demand for access, with a focus on the optimal design of physician panels, staffing, provider team design, and policies for managing patient access.

2006 Denton, B.T. (PI and Project Leader), Fowler, J (PI)., and Schaefer, A (PI)., National Science Foundation, "Collaborative Proposal: Optimization of the Design and Operation of Surgery Delivery Systems," September 2006 September 2009, Total: $330,559 (PI Denton Share: $89,999)

Description: This grant aims to improve the design and operation of surgery delivery systems. There are four primary research goals. First, we will develop new optimization models and solution methodologies for determining the optimal investment and configuration of surgical resources under uncertainty. Second, we will construct advance scheduling systems that allocate surgeries in a multi-OR setting. Third, we will develop robust real-time scheduling systems that consider the impact of unanticipated events on initial schedules. Fourth, we will develop a sophisticated discrete-event simulation model to evaluate the models described above, and compare them to existing policies.

2006 Denton, B.T. (PI), Shah, N., Smith, S., Bryant, S., Mayo Foundation, "Optimization of Diabetes Treatment Decisions," June 2006 – May 31 2007, $9,560

Description: Diabetes is recognized as one of the leading causes of mortality and morbidity in the United States with an estimated cost burden in the U.S. of $132 billion in direct and indirect costs in the United States. The underlying goal of this proposal is two fold. First, we will leverage existing patient medical records at Mayo Clinic to provide new dynamic risk models for diabetes. Second, we will use the dynamic models we develop the groundwork to initiate a long term research program into optimization of health care delivery decisions for treating diabetes patients.

2006 Denton B.T. (PI), Mayo Foundation,"Development of an Operations Research Course Mayo Clinical Research Training Program," May 2006 – May 2007, $10,000

Description: The purpose of this grant is to fund the development of a new course to be offered in the Mayo Clinic graduate school on operations research and systems engineering based methods for optimization of health care delivery and medical decision making.

C. Participation in Centers, Consortia, Institutes

1. Advisory Board Member, Center for Healthcare Engineering and Patient Safety (CHEPS), University of Michigan, (2012–Present)
2. Fields Institute Invited Speaker, Toronto, ON, “Design and Operation of Surgery Delivery Systems,” June 2009
3. Fellow, Cecil C. Sheps Research Center, University of North Carolina, Chapel Hill, NC
4. Visiting Research Appointment, Department of Health Science Research, Mayo Clinic, Rochester, MN (2007-2010)

IV. SERVICE

A. University Service

2017 Member, University of Michigan, Department of Industrial and Operations Engineering Department Chair Search Committee

2016 Chair, University of Michigan, Department of Industrial and Operations Engineering Faculty Search Committee

2015 Chair, University of Michigan, Department of Industrial and Operations Engineering Promotion and Tenure Committee

2015 Chair, University of Michigan, Department of Industrial and Operations Engineering Faculty Search Committee

2015 Member, University of Michigan, Department of Industrial and Operations Engineering, Department Committee

2015 Member, University of Michigan, Department of Industrial and Operations Engineering, Wilson Prize Committee

2015 Member, University of Michigan, Department of Industrial and Operations Engineering, Lecturer Renewal Review

2015 Member, Faculty Launch Committee

2014 Co-Chair, University of Michigan, Department of Industrial and Operations Engineering Faculty Search Committee

2014 Freshman Advisor, University of Michigan, Department of Industrial and Operations Engineering (2014–Present)

2014 Seminar Organizer (Spring Semester), University of Michigan, Department of Industrial and Operations Engineering

2014 Member, University of Michigan, Department of Industrial and Operations Engineering Reappointment Committee

2014 Member, University of Michigan, Department of Industrial and Operations Engineering Launch Committee

2013 Member, University of Michigan, College of Engineering, Scholastic Standing Committee

2013 Member, University of Michigan, Department of Industrial and Operations Engineering, Department Committee

2013 Member, University of Michigan, Department of Industrial and Operations Engineering, Faculty Search Committee

2013 Chair, University of Michigan, Department of Industrial and Operations Engineering, Ad Hoc Research Committee

2012 Member, University of Michigan, Department of Industrial and Operations Engineering, Wilson Prize Committee

2012 Member, University of Michigan, Department of Industrial and Operations Engineering, Graduate Program Committee (2012-2014)

2012 Chair, University of Michigan, Department of Industrial and Operations Engineering Reappointment Committee

2012 Judge, University of Michigan Engineering Research Symposium Poster Competition

2011 Member, North Carolina State University Operations Research Program, Faculty Search Committee

2010 Member, North Carolina State University Operations Research Program, Faculty Search Committee

2010 Engineering Open House Faculty Representative, North Carolina State University

2009 North Carolina State University, NSF CAREER Proposal Advice Panel

2008 Member, NC State Operations Research Program, Admissions Committee (2008 – 2012)

2007 Member, Edward P. Fitts Department of Industrial & Systems Engineering Search Committee for the A. Doug Allison Distinguished Professor of Health Systems Engineering Chair

2007 Organizer, Mayo Clinic Seminar Series on Health Systems Engineering (2007 – 2008)

2005 Member, Mayo Clinic, Patient Access Committee (2005–2006)

2004 Member, IBM Intellectual Property and Patent Review Board (2004 – 2005)

B. Service to Professional Societies

2015 President-Elect (2016), President (2017) and Past-President (2018) of INFORMS

2015 European Operational Research Society Session Organizer, 2015 Euro Meeting, Glasgow, Scotland

2015 Committee Member, INFORMS Poster Prize Competition, 2015 INFORMS Annual Meeting, Philadelphia, PA

2015 Committee Member, INFORMS Health Applications Society Student Prize Competition

2015 Institute of Medicine Workshop Reviewer, ”Engineering Optimal Health Care Scheduling: Perspectives for the Nation.”

2014 NSF Panel Reviewer

2013 International Program Committee Member, Annual Conference of the EURO Working Group on Operational Research Applied to Health Services (ORAHS), Instanbul, Turkey

2013 Organizing Committee Member, INFORMS Healthcare Conference, Chicago, IL

2013 Committee Member, INFORMS Health Applications Society Student Prize Competition

2012 National Advisory Council for I-PrACTISE (Improving Primary Care Through Industrial and Systems Engineering), University of Wisconsin

2012 Member, Advisory Board, Center for Healthcare Engineering and Patient Safety, University of Michigan (2012 –)

2012 Secretary and Executive Board Member, INFORMS (2012-2015)

2011 Program Chair, INFORMS Annual Meeting, Charlotte, NC

2011 Cluster Chair, INFORMS Healthcare Conference, Montreal, Canada

2011 Grant Proposal Reviewer, Michael Smith Foundation, Canada

2010 External Grant Reviewer, Austrian Science Fund

2010 Elected Member, INFORMS Subdivisions Council

2009 Invited Participant and Area Leader (Finance and Quantitative Decision Making), AHRQ/NSF Industrial & Systems Engineering Healthcare Workshop, Washington, D.C., September 2009

2009 External Grant Reviewer, Netherlands Organization for Health Research and Development (ZonMw), Dutch Ministry of Health

2009 External Grant Reviewer, Health Services Research Competitive Research Grant, Ministry of Health Singapore

2009 Session Chair, INFORMS Computing Society Conference, Charleston, SC, January 2009

2009 International Committee, ORAHS Conference, Leuven, Belgium, July 2009

2008 International Committee, ORAHS Conference, Toronto, Canada, July 2008

2008 INFORMS Health Applications Sponsored Cluster Chair, INFORMS Annual Meeting, DC (2008)

2007 External reviewer for Research Chair at University of Ottawa, ON, Canada

2007 Health Care Practice Track Co-Chair, INFORMS Practice Meeting Organizing Committee, Vancouver, BC, May 2007

2007 Member, INFORMS Professional Recognition Committee

2007 Member, INFORMS Journal Review Committee

2007 Plenary Chair, INFORMS Annual Meeting, Franz Edelman Award Winner Reprise (2007,2008)

2007 Session Chair, INFORMS Annual Meeting, "Optimization of Medical Decisions," Pittsburgh

2007 Grant Review Panel Member, Mayo Foundation, Quality Innovations Development Award

2006 Grant Review Panel Member, National Science Foundation (2006, 2010, 2011, 2012)

2006 Advisory Council Member, INFORMS Business Analytics Conference Organizing Committee, Baltimore (2006, 2007, 2008)

2006 INFORMS Franz Edelman Award Committee Chair (2006-2008)

2006 External Grant Reviewer, Mathematics of Information Technology and Complex Systems Network of Centers of Excellence (MITACS-NCE), Canada (2006, 2009)

2005 Presentation Selection Committee Member, INFORMS Business Analytics Conference, Palm Springs,CA (2005)

2005 CPMS Sponsored Cluster Chair, INFORMS Annual Meeting, San Francisco, CA

2005 Invited Cluster Chair, INFORMS Annual Meeting, San Francisco, CA

2005 Participant, Health Care Systems Engineering Workshop, Sponsored by NSF, Arlington, VA

2004 Session Chair, "Applications of OR to Semiconductor Manufacturing," INFORMS Annual Meeting, Denver, CO (2004)

2004 Session Chair, INFORMS Business Analytics Conference, Cambridge, MA

2003 Participant, IBM Mentoring Program (2003 – 2005)

2003 Graduate Student Project Evaluation Panel, Dartmouth College, Hanover, NH

2002 INFORMS Franz Edelman Prize Committee Member: Verifier, Finalist Selection Committee, and Finalist Team Coach (2002–2004)