STEVEN M. SHECHTER

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ACADEMIC APPOINTMENT

University of British Columbia, *Professor* 2020 – Present
Director, Centre for Operations Excellence 2018 – Present
Sauder School of Business, Operations and Logistics Division

University of British Columbia, *Associate Professor* 2013– 2020
Sauder School of Business, Operations and Logistics Division

University of British Columbia, *Assistant Professor* 2006 – 2013
Sauder School of Business, Operations and Logistics Division

VISITING APPOINTMENTS

University of Chicago, Booth School of Business 2014-2015
Northwestern University, Industrial Engineering and Management Sciences 2014-2015

EDUCATION

University of Pittsburgh, *PhD in Industrial Engineering* 2002 – 2006
Advisor: Andrew J. Schaefer, PhD

Georgia Institute of Technology, *MS in Operations Research* 1997 – 1999

Loyola University Chicago, *BS in Mathematics, Summa Cum Laude* 1994 – 1997
(Minor in Computer Science)

JOURNAL PUBLICATIONS

* indicates a student or post-doc I co-authored with

1. Skandari MR*, Shechter SM. Patient-type Bayes-adaptive treatment plans. *Operations Research*, 69(2): 574-598, 2021.

2. Carew S, Nagarajan M, Shechter S, Arneja J, Skarsgard E. Dynamic capacity allocation for elective surgeries: reducing urgency-weighted wait times. *Manufacturing and Service Operations Management*, 23(2): 407-424, 2021.

3. Shechter SM, Hardisty DJ. Preferences for rank in competition: Is first-place seeking stronger than last-place aversion? *Judgement and Decision Making*, 15(2): 246-253, 2020

4. Sabouri A*, Huh WT, Shechter SM. Screening strategies for patients on the kidney transplant waiting list. *Operations Research*, 65(5): 1131-1146, 2017.

5. Shechter SM, Chandler T*, Skandari MR*, Zalunardo N. Cost-effectiveness analysis of vascular access referral policies in chronic kidney disease. *American Journal of Kidney Diseases*, 70(3): 368-376, 2017.

6. Skandari R*, Shechter SM, Zalunardo N. Optimal vascular access choice for patients on hemodialysis. *Manufacturing and Service Operations Management*, 17(4): 608-619, 2015.

7. Sabouri A*, Shechter SM, Huh WT. Inspecting a vital component needed upon emergency. *Production and Operations Management*, 24(12): 1839-1851, 2015.

8. Shechter SM, Ghassemi F*, Gocgun Y*, Puterman ML. Trading off quick versus slow actions in optimal search. *Operations Research*, 63(2): 353-362, 2015.

9. Nagarajan M, Shechter S. Prospect theory and the newsvendor problem. *Management Science*, 60(4): 1057-1062, 2014.

10. Shechter SM, Skandari MR*, Zalunardo N. Timing of arteriovenous fistula creation in patients with chronic kidney disease: A decision analysis. *American Journal of Kidney Diseases*, 63(1): 95-103, 2014.

11. Regnier ED, Shechter S. State-space size considerations for disease-progression models. *Statistics in Medicine*, 32(22): 3862-3880, 2013.

12. Icten GZ*, Shechter SM, Maillart LM, Nagarajan M. Optimal management of a limited number of replacements under Markovian deterioration. *IIE Transactions*, 45(2): 206-214, 2013.

13. Saveh-Shemshaki F*, Shechter S, Tang P, Isaac-Renton J. Setting sites for faster results: Optimizing locations and capacities of new tuberculosis testing laboratories. *IIE Transactions in Health Systems Engineering*, 2(4): 248-258, 2012.

14. Shechter SM, Huh WT, Slofstra A*. Simultaneous testing of multicharacteristic components. *Operations Research Letters*, 40(5): 411-415, 2012.

15. Shechter SM. Efficient solution procedures for a class of optimal stopping problems. *Operations Research Letters*, 40(5): 409-410, 2012.

16. Shechter SM. Treatment evolution and new standards of care: implications for cost-effectiveness analysis. *Medical Decision Making*, 31(1): 35-42, 2010.

17. Shechter SM, Alagoz O, Roberts MS. Irreversible treatment decisions under consideration of the research and development pipeline for new therapies. *IIE Transactions*, 42(9): 632-642, 2010.

18. Werker G*, Saure A*, French J, Shechter S. The use of discrete-event simulation modelling to improve radiation therapy planning processes. *Radiotherapy and Oncology*, 92(1): 76-82, 2009.

19. Shechter SM, Bailey MD, Schaefer AJ. Replacing nonidentical vital components to extend system life. *Naval Research Logistics*, 55: 700-703, 2008.

20. Shechter SM, Bailey MD, Schaefer AJ. A modeling framework for replacing medical therapies. *IIE Transactions*, 40(9): 861-869, 2008.

21. Shechter SM, Bailey MD, Schaefer AJ, Roberts MS. The optimal time to initiate HIV therapy under ordered health states. *Operations Research*, 56(1): 20-33, 2008.

22. Braithwaite RS, Roberts MS, Chang CCH, Goetz MB, Gilbert CL, Rodriguez-Barradas MC, Shechter S, Schaefer A, Nucifora K, Koppenhaver R, Justice AC. Influence of alternative thresholds for initiating HIV treatment on quality-adjusted life expectancy: A decision model. *Annals of Internal Medicine*, 148(3): 178-185, 2008.

23. Braithwaite RS, Conigliaro J, Roberts MS, Shechter S, Schaefer A, McGinnis K, Rodriguez MC, Rabenek L, Bryant K, Justice AC. Estimating the impact of alcohol consumption on survival for HIV+ individuals. *AIDS Care*, 19(4): 459-466, 2007.

24. Braithwaite RS, Shechter S, Chang CCH, Schaefer A, Roberts MS. Estimating the rate of accumulating drug resistance mutations in the HIV genome. *Value in Health*, 10(3): 204-213, 2007.

25. Braithwaite RS, Shechter S, Roberts MS, Schaefer A, Bangsberg DR, Harrigan PR, Justice AC. Explaining variability in the relationship between antiretroviral adherence and HIV mutation accumulation. *Journal of Antimicrobial Chemotherapy*, 58: 1036-1043, 2006.

26. Shechter SM, Schaefer AJ, Braithwaite RS, Roberts MS. Increasing the efficiency of Monte Carlo cohort simulations with variance reduction techniques. *Medical Decision Making*, 26(5): 550-553, 2006.

27. Bailey MD, Schaefer AJ, Shechter SM. SPAR: stochastic programming with adversarial recourse. *Operations Research Letters*, 34(3): 307-315, 2006.

28. Shechter SM, Bryce CL, Alagoz O, Kreke JE, Stahl JE, Schaefer AJ, Angus DC, Roberts MS. A clinically based discrete-event simulation of end-stage liver disease and the organ allocation process. *Medical Decision Making*, 25(2): 199-209, 2005.

29. Stahl JE, Kong N, Shechter SM, Schaefer AJ, Roberts MS. A methodological framework for optimally reorganizing liver transplant regions. *Medical Decision Making*, 25(1): 35-46, 2005.

30. Alagoz O, Bryce CL, Shechter S, Schaefer A, Chang CCH, Angus DC, Roberts MS. Incorporating biological natural history in simulation models: Empirical estimates of the progression of end-stage liver disease. *Medical Decision Making*, 25(6): 620-632, 2005.

CONFERENCE PROCEEDINGS

- Shechter SM, Braithwaite RS, Schaefer AJ, Roberts MS. Modeling the progression and treatment of HIV. *Proceedings of the 2004 Winter Simulation Conference*, Ingalls RG, Rossetti MD, Smith JS, Peters BA, eds., p. 953-959, 2004.

BOOK CHAPTERS

- Shechter SM. Monte Carlo simulation as an aid for deciding among treatment options. *Encyclopedia of Operations Research and Management Science.*
- Schaefer AJ, Bailey MD, Shechter SM, Roberts MS. Modeling medical treatment using Markov decision processes, Chapter 23 in *Operations Research and Health Care: A Handbook of Methods and Applications*. Brandeau M, Sainfort F, Pierskalla W, eds., Kluwer, Boston, p. 593-612, 2004.

GRANTS

- Natural Sciences and Engineering Research Council (NSERC): Discovery Grant
  2019-2024
  Role: PI
  Title: Analytics for managing health care wait lists: predictive and prescriptive approaches

- Social Sciences and Humanities Research Council (SSHRC): Insight Development Grant
  2015-2017
  Role: PI
  Title: Utility and effort in contests

- Michael Smith Foundation for Health Research (MSFHR): Career Investigator Award
  2011-2019
  Title: Optimal timing of medical decisions
  http://www.msfhr.org/who_we_fund/archive/2011/Steven_Shechter

- Natural Sciences and Engineering Research Council (NSERC): Discovery Grant
  2012-2017
  Role: PI
  Title: Optimal timing of medical decisions

- Natural Sciences and Engineering Research Council (NSERC): Discovery Grant
  2007-2012
  Role: PI
  Title: Nonhomogeneous Markov decision processes in medical decision making

- Martha Piper Research Fund, UBC
  2009-2010
  Role: Co-PI
  Title: Optimal search with application to minimally invasive surgery

- Mathematics of Information Technology and Complex Systems (MITACS): Accelerate Internship Program
  2009
  Role: Academic Supervisor
  This grant funded a Masters student for a four-month internship with the Department of Urology at Vancouver General Hospital and the Sauder School of Business at UBC.

- MITACS: Accelerate BC Training Event
  2008
  Role: Course developer/instructor
  This grant helped fund a 2-day workshop on "Discrete Event Simulation Modeling in Health Care"

- Canadian Institutes of Health Research (CIHR): New Emerging Team Grant—Access to Quality Cancer Care
  2007-2012
  Role: Co-Applicant
  Title: Improving access to quality cancer care using operations research methods

- MITACS: Grant for Scientific Networking Event
  2007
  Role: Conference Chair
  This grant helped fund a 2-day summer symposium at UBC on "Operations Research in Health Care"

- Agency for Healthcare Research and Quality (AHRQ): Grant for Health Services Dissertation Research
  2005-2006
  Role: PI
  This grant supported my dissertation research on applying Markov decision processes to inform optimal therapy planning for HIV patients.

HONORS AND AWARDS

- Graduate Teaching Award, 2018, Sauder School of Business, UBC
- Career Investigator Award, Michael Smith Foundation for Health Research
- Early Career Scholar of the Peter Wall Institute for Advanced Studies, UBC
- Finalist, INFORMS Decision Analysis Society student paper competition
- INFORMS Bonder Scholarship for Applied Operations Research in Health Services

- Presidential Fellowships at Georgia Tech and Loyola University Chicago
- Joseph Zajdel Memorial Award for Outstanding Junior, Senior in Mathematics at Loyola University

TEACHING EXPERIENCE

University of British Columbia, Sauder School of Business

Simulation Modeling (Masters in Business Analytics)	2007-Present
Managerial Decision Modeling & Analytics (MBA, PT MBA)	2010-Present
Decision Analysis (Masters in Business Analytics)	2016-Present
Optimization (Masters in Business Analytics)	2018-Present
Business Analytics for Competitive Advantage (Executive Education)	2012-Present
Markov Decision Processes (PhD)	2010-2012
Logistics and Operations Management (Undergraduate)	2008-2010
Business Statistics (Undergraduate)	2007

Workshops taught:

University of Chicago, Center for Health and the Social Sciences 2012
Simulation Modeling in Health Care

University of Piura, Peru, National Industrial Engineering Student Conference 2012
Simulation Modeling with Arena and @Risk

University of British Columbia, Centre for Health Care Management 2008, 2009, 2011
Discrete Event Simulation Modeling in Health Care (http://chcm.ubc.ca/2009/08/25/des_2009/)

Society for Medical Decision Making, Annual Conference 2002, 2004, 2007, 2011
Short Courses: Discrete-Event Simulation Modeling (2002, 2007, 2011), Simulation Optimization (2011), Markov Decision Processes – Analytic Methods for Sequential Decisions (2004).

INVITED SEMINARS

- Bayes-Adaptive Treatment Plans: The Case of Chronic Kidney Disease, UCLA, Anderson School of Management, 2019
- Dynamic capacity allocation for elective surgeries, Ivey Business School, Western University, 2019
- The Victory Effect: Is first-place seeking stronger than last-place aversion? University of British Columbia, Sauder School of Business, Marketing Division, 2018.
- Discrete-event simulation for managing health care wait lists. Health Economics and Simulation Modeling Group, UBC, 2018.
- Optimal screening strategies for patients on the kidney transplant waiting list. University of Toronto, Industrial Engineering, 2017.
- Optimal screening strategies for patients on the kidney transplant waiting list. University of Chicago, Booth School of Business, 2015.
- Approximate dynamic programming in health care: linear programming and simulation-based approaches. University of Michigan, Industrial and Operations Engineering, 2015.
- Approximate dynamic programming in health care: linear programming and simulation-based approaches. University of Cincinnati, Lindner College of Business, 2015.
- The endowment effect over space and time. University of Chicago, Booth School of Business, Center for Decision Research, 2014.
- Operations research in health care. UBC Division of Nephrology Grand Rounds, 2014.
- Optimal screening strategies for patients on the kidney transplant waiting list. UBC Centre for Health Evaluation and Outcome Sciences, 2014.
- Optimal screening strategies of patients on the kidney transplant waitlist. Northwestern University, Department of Industrial Engineering and Management Science, 2012.

- How industrial engineering can help improve health care management. National Industrial Engineering Student Conference, University of Piura, Peru, 2012. (plenary speaker)
- Optimal screening strategies of patients on the kidney transplant waitlist. University of Texas, McCombs School of Business, 2012.
- Optimizing testing and preparation guidelines for dialysis. Northwestern University, Department of Industrial Engineering and Management Science, 2011.
- The optimal timing of arteriovenous fistula preparation: a decision analytic approach. UBC Division of Nephrology Grand Rounds, 2011.
- Optimal search in minimally invasive surgery. Cornell University, School of Operations Research and Information Engineering, 2010.
- Optimal search with application to minimally invasive surgery. University of Iowa, Tippie College of Business, 2010.
- Optimal search with application to minimally invasive surgery. University of Michigan, Industrial and Operations Engineering, 2010.

STUDENT ADVISING

PhD

- Forough Pourhossein (current)
- Hossein Piri (current)
- Yiwen Jin (current)
- Mona Imanpoor (current)
    - Position starting Fall 2020: Assistant Professor, Beedie School of Business, Simon Fraser University
- Mohammad Reza Skandari (2016)
    - Current position: Assistant Professor, Imperial College London
- Alireza Sabouri (2014, co-advised with Tim Huh)
    - Current position: Assistant Professor, Haskayne School of Business, University of Calgary

Masters of Business Analytics (MBAN) and Masters of Management in Operations Research (MMOR)

- Several students over the years; projects include:
    - Equitable housing allocation in the Bay Area
    - Performance evaluation for BC Ferries
    - Resource planning at Silver Standard Mine
    - Blood inventory planning
    - Improving access to palliative care in Vancouver
    - Location modeling of TB testing facilities in British Columbia
    - Forecasting end-stage kidney failure
    - Improving spinal cord injury patient flow/access to care
    - Forecasting the incidence and economic impact of spinal cord injury: Evaluation of a software tool.
    - An evaluation of alternative designs for the surgical suite at BC Children's Hospital
    - The transport of critically ill patients in British Columbia

SERVICE TO PROFESSION

- Associate Editor, *Management Science*, 2017-present
- Senior Editor, *Production and Operations Management*, 2017-present
- Associate Editor, *Health Care Management Science*, 2019-present
- Editorial Board Member, *Medical Decision Making*, 2013-2018
- Chair, INFORMS Scholarship Committee, 2019-2020
- Member, Bonder Scholarship Committee, INFORMS 2018-2019
- Reviewer, several INFORMS paper competitions (Junior Faculty Interest Group, MSOM, Decision Analysis, Health Applications Society)
- Planning Committee, 2013 INFORMS Health Care Conference

- Co-chair, 2013 Health Applications Society student paper competition
- Chair, Health Applications Society, INFORMS, 2012
- Vice-Chair, Health Applications Section, INFORMS, 2011
- Co-chair, joint sessions of the 2012 INFORMS and SMDM annual meetings
- Technical Expert Panel, Agency for Healthcare Research and Quality (AHRQ)
- Academic Co-Chair, Health Services and Policy Research Support Network Steering Council of the Michael Smith Foundation for Health Research
- Conference Chair: "Operating on Health Care: An Operations Research Symposium"; a two-day symposium featuring leading experts in health care operations research; held at UBC on August 16 and 17, 2007 (http://chcm.ubc.ca/2007/08/16/ophcsymposium/)
- Reviewer for the journals: *Operations Research*, *Management Science*, *Manufacturing and Service Operations Management*, *Production and Operations Management, Naval Research Logistics, Interfaces, Transportation Science, Transportation Research, Socio-Economic Planning Sciences, Medical Decision Making*, *Health Economics, Journal of Critical Care*

OTHER WORK EXPERIENCE

- **United Airlines**, Chicago, IL *Senior Analyst in Revenue Management* July 1999 – October 2001
  - Developed C++ simulation program used to test different revenue management booking strategies. Designed and analyzed the simulation experiments.
  - Researched and developed algorithm for modifying overbooking levels when passengers get rebooked from canceled flights.
  - Developed routing program to find optimal routes on which to put passengers booking through internet channels such as Priceline.com.

- **Automation Associates, Inc.,** San Diego, CA *Simulation Analyst* Summer 1998
  - Developed a simulation model and animation of a distribution center using the SIMAN modeling language and Proof animation software