Curriculum Vita

Dimitris Bertsimas

Sloan School of Management, MIT

I. Education

- National Technical University of Athens (N.T.U.A.), Greece	Diploma in Electrical Engineering	1985
- Massachusetts Institute of Technology	M.S. in Operations Research	1987
- Massachusetts Institute of Technology	Ph.D. in Operations Research and Applied Mathematics	1988

II. Academic appointments

Associate Dean of Business Analytics, Sloan School, MIT	2019-present
Co-director, Operations Research Center, MIT	2006-2019
Faculty Director of the Masters of Business Analytics, MIT	2013-present
Boeing Professor of Operations Research, Sloan School, MIT	1997-present
Miller Visiting Professor, University of California, Berkeley	2002
Visiting Professor, Stanford University	1996
Professor of Operations Research, Sloan School, MIT	1995-1997
E. Pennell Brooks Professor of Operations Research, Sloan School, MIT	1994-1996
Associate Professor of Operations Research, Sloan School, MIT	1992-1993
Assistant Professor of Management Science, Sloan School of Management, MIT	1988-1992

III. Principal Research Interests: Optimization, Machine Learning, Health Care and Medicine, Transportation, Applied Probability, Finance.

Optimization: Convex, Discrete, Robust, Stochastic Optimization.

Applied Probability: Queueing Theory, Stochastic Processes.

Machine Learning: Sparse Regression, Classification and Regression Trees, Factor Analysis, Matrix Completion, Information Theory, Optimization Methods in Statistics.

Health Care: Personalized Medicine, Prediction of Health Care Risk, Quality in Health Care, Drug Surveilance, Multidrug Therapies in Cancer, Diabetes Therapies, Hospital Operations.

Transportation: Air Traffic Flow Management, Airport Operations, Congestion, Vehicle Routing.

Finance: Dynamic Portfolio Theory, Asset Allocation, Risk Management, Nonparametric Estimation, Optimal Execution, Derivative Pricing.

IV. Awards

- The John von Neumann Theory Prize, INFORMS	2019
- The President's award, INFORMS	2019
- Finalist in Edelman competition of INFORMS for work in Boston Public Schools	2019
- Outstanding teaching award, MIT Sloan	2017
- Distinguished IFORS Lecturer	2016
- The Harold Larnder Prize	2016
- The Military Operations Research Best Paper Prize	2015
- The Jamieson prize, MIT	2015
- The Philip Morse lectureship award	2013
- The William Pierskalla best paper award in health care	2013
- Best paper award in Transportation Science	2013
- Farkas prize	2008
- INFORMS fellow	2007
- Member of the National Academy of Engineering	2005

- OR Gold medal for Greek Scientists, Greek OR society	2004
- Miller fellowship, University of California, Berkeley	2002
- Samuel M. Seegal Prize awarded annually to an MIT faculty who excels in inspiring students to pursue and achieve excellence	1999
- Bodossaki prize awarded every two years to most distinguished Greek scientists under 40	1998
- Finalist in Edelman competition of INFORMS for best implemented work	1998
- Erlang prize awarded every two years to the outstanding applied probabilist under 35	1996
- SIAM Optimization Prize awarded every three years for best paper in optimization	1996
- Presidential Young Investigator award sponsored by the National Science Foundation	1991-1996
- First prize in the George E. Nicholson student paper competition sponsored by the Operations Research Society of America (ORSA)	1989
- First prize in the dissertation competition sponsored by the Transportation Science section of ORSA	1989

V. Professional Activites

1. Member of the board for mathematical sciences of the National Research Council, 2001-2004.
2. Member of the committee to elect new members for Section 8 (Industrial Engineeering), National Academy of Engineering, 2008-2011.
3. Member of the von Neuman award committee of INFORMS, 2010-2012, (chairman in 2012).
4. Member of the board for the Institute of Mathematics and its Applications (IMA), 2001-2004.
5. Member of the committee to select the EURO Gold award, 2005.

6. Chairman of the Lanchester prize committee of INFORMS, 2000-2001.

7. External reviewer for the Risk Lab, ETH, Switzerland, 2003, the Department of IE/MS, Northwestern University, 2004, New York University Stern School of Business in 2012.

8. External Advisory Board, Systems Engineering Division at Boston University, 2010.

9. Chairman of the Edgerton prize committee of MIT, 2006-2007.

10. Chairman of the board of directors, National University of Athens, Greece, 2013-2016.

11. Member of Institute for Operations Research and Management Sciences (INFORMS), American Mathematical Society (AMS), Society of Industrial and Applied Mathematics (SIAM), Mathematical Programming Society, The Econometrics Society, American Finance Society, Institute of Mathematical Statistics.

VI. Industrial Experience

1. Consultant for over one hundred leading companies, 1991-present.

2. Founder of Dynamic Ideas, LLC, 1998-present. Assets of the company sold to American Express in 2002. It operates as a consulting and publishing company.

3. Member of the board of D2-Hawkeye, 2003-2009. Company sold to Verisk Health in 2009.

4. Co-founder of Alpha Dynamics, 2011-present.

5. Co-founder of Savvi Financial, LLC, 2011-present.

6. Co-founder of Benefits Science, LLC, 2011-present.

7. Co-founder of Aviation Edge, LLC, 2012-present.

8. Co-founder of MyA Health, LLC, 2016-present.

9. Co-founder of P2 Analytics, LLC, 2016-Present.

10. Co-founder of Interpretable AI, LLC, 2018-present.

11. Co-founder of Alexandria Health, LLC, 2018-present.

VII. Journal Service

1. Editor in Chief of INFORMS Journal of Optimization, 2017-present
2. Area Editor for optimization in Management Science, 2009-2015.
3. Area Editor for Financial Engineering, Operations Research, 2003-2008.
4. Former Associate editor for many journals.

VIII. Thesis Supervision

Completed PhD students

1. Michel Goemans, Probabilistic and worst case analysis of LP relaxations for a class of connectivity problems, 1990 (Tucker prize of Mathematical Programming Society, 1991, 2nd prize in Nicholson competition of INFORMS, 1991).
2. Daisuke Nakazato, Transient distributional results in queues with applications to queueing networks, 1990.
3. Garrett van Ryzin, Dynamic vehicle routing problems, 1991 (2nd prize in Transportation dissertation competition of INFORMS, 1992, honorable mention in Nicholson competition of INFORMS, 1991).
4. Peter Vranas, Ground holding strategies for a network of airports in air traffic control, 1992 (2nd prize in Transportation dissertation competition, 1992).
5. Michael Peterson, Transient congestion phenomena in air transportation, 1992.
6. Carolyn Haibt-Norton, Topics in discrete optimization, 1993.
7. Haiping Xu, Optimal policies for stochastic and dynamic vehicle routing problems, 1994.
8. Zhihang Chi, Dynamic and network effects in airline yield management, 1994.

9. Georgia Mourtzinou, An axiomatic approach to queueing systems, 1995 (2nd prize in Nicholson competition of INFORMS, 1996).

10. Jose Niño-Mora, Optimal resource allocation in a dynamic and stochastic environment: a mathematical programming approach, 1995.

11. Michael Ricard, Optimization of queueing networks: a linear control approach, 1995.

12. Joe Millner, A market approach to airtraffic control, 1995.

13. Andrew Luo, Continuous linear programming: Theory, algorithms and applications, 1995.

14. Chung-Piaw Teo, Constructing approximation algorithms via linear programming relaxations: primal dual and randomized rounding techniques, 1996 (honorable mention in Nicholson competition of INFORMS, 1996).

15. John Paschalidis, Large deviations in high speed communication networks, 1996 (2nd prize in Nicholson competition of INFORMS, 1997).

16. Sarah Stock, Stochastic and dynamic models for airtraffic flow management, 1997 (1st prize in Transportation Dissertation of INFORMS, 1997, 2nd prize in Dantzig award, 1997).

17. David Gamarnik, Stability and performance of multiclass queueing networks, 1997.

18. Thalia Chryssikou, Multiperiod portfolio optimization in the presence of transaction costs, 1998.

19. Ioana Popescu, Applications of optimization in probability, finance and revenue management, 1999, (honorable mention in Nicholson competition of INFORMS, 1999).

20. Jay Sethuraman, A stochastic control approach for multiclass queueing networks, 1999 (honorable mention in Nicholson competition of INFORMS, 2000).

21. Leon Hsu, The bottleneck phenomenon in transportation systems, 1999.

22. Ramazan Demir, Approximate dynamic programming for integer programming problems, 2000.

23. Dessi Pachamanova, A robust optimization approach to finance, 2002.

24. Sanne de Boer, Pricing and revenue management in a netwrok environment, 2003 (2nd prize in Nicholson competition of INFORMS, 2003).

25. Adam Mersereau, Adaptive and dynamic models in marketing, 2003.

26. Romy Shioda, An Integer programming approach to data mining, 2003.

27. Natasha Busheva, Finance without price dynamics, 2003.

28. Jeff Hawkins, A Lagrangean decomposition method for dynamci optimization and its applications, 2003.

29. Karthik Natarajan, Probabilistic Combinatorial Optimization: Moments, Semidefinite Programming and Asymptotic Bounds, (Honorable mention in Nicholson competition of INFORMS, 2003), Singapore-MIT-Alliance, 2004.

30. Melvyn Sim, Robust optimization, 2004 (2nd prize in Nicholson competition of INFORMS, 2002 and 2nd prize in Nicholson competition of INFORMS, 2004), 2004.

31. Aurelie Thiele, A robust optimization approach to supply chains and revenue management, (first prize in Nicholson competition of INFORMS, 2003), 2004.

32. Michele Aghassi, Robust Optimization, game theory and variational inequalities, 2005.

33. David Brown, Risk and robust optimization, 2006 (2nd prize in Nicholson competition of INFORMS, 2005).

34. Constantine Caramanis, Adaptive optimization, 2006.

35. Kwong Meng Teo, Nonconvex robust optimization, 2007.

36. David Czerwinski, Assessing quality of health care, 2008.

37. Premal Shah, Analysis of employee stock options and guaranteed withdrawal benets for life, 2008 (first prize in student paper competition in Financial Services Section of INFORMS, 2007).

38. Margret Bjarnadottir, A data driven approach to health care: applications using claims data, 2008.

39. Dmitriy Katz-Rogozhnikov, Algorithmic issues in queueing systems and combinatorial counting problems, 2008.

40. Apostolos Fertis, A robust optimization appraoch to stastical estimation problems, 2009.

41. Xuan Vinh Doan, Optimization under moment, robust, and data-driven models of uncertainty, 2009.

42. Dan Iancu, Multi-stage adjustable robust optimization, with applications in inventory and revenue management, 2010 (first prize in student paper competition in Optimization Section of INFORMS, 2009).

43. Alex Rikun, Applications of robust optimization to queueing and inventory systems, 2011.

44. Nikos Trichakis, Fairness in operations: from theory to practice, 2011 (winner of the second prize of George Dantzig Best thesis award, 2011).

45. Xu Sun, Advances in power systems: robustness, adaptability and fairness, 2011.

46. Adrian Becker, Decomposition methods for large scale stochastic and robust optimization problems, 2011.

47. Shubham Gupta, A tractable optimization framework for air traffic flow management addressing fairness, collaboration and stochasticity. 2012.

48. Allison Chang, Integer optimization methods for machine learning, 2012.

49. Michael Frankovitch, Air traffic flow management at airports: A unified optimization approach, 2012.

50. Chaitanya Bandi, Tractable stochastic analysis in high dimensions: a robust optimization approach, 2013 (best paper award among ORC students in 2012, finalist in the Nicholson competition in 2012).

51. Allison O'Hair, Personalized diabetes management, 2013 (winner of the William Pierskalla award in 2013 for best paper in Health care).

52. Matthew Fontana, Optimal routes for electric vehicles facing uncertainty, congestion and energy constraints, 2013.

53. Vishal Gupta, Data-driven models for uncertainty and behavior (best paper award among ORC students in 2013, finalist in the Nicholson competition in 2013), 2014.

54. Nathan Kallus, From data to decisions through new interfaces between optimization and statistics (best paper award among ORC students in 2013, finalist in the Nicholson competition in 2013), 2015.

55. Angie King, Regression under a modern optimization lens, 2015.

56. John Silberholz, Analytics for Improved Cancer Screening and Treatment, (winner of the William Pierskalla award in 2013 for best paper in Health care), 2015.

57. Nataly Youssef, Stochastic Analysis via Robust Optimization, (best paper award among ORC students in 2012, finalist in the Nicholson competition in 2012), 2015.

58. Velibor Misic, Data, Models and Decisions in Large-Scale Stochastic Optimization Problems, 2016.

59. Iain Dunning, Advances in Robust and Adaptive Optimization: Algorithms, Software, and Insights, 2016. (best paper award among ORC students in 2016).

60. Nikita Korolko, A Robust Optimization Approach to Online Problems, 2017.

61. Alex Weinstein, From Data to Decisions in Healthcare: An Optimization Perspective, 2017.

62. Jerry Kung, An Analytics Approach to Problems in Health Care, 2017.

63. Frans de Ruiter, Primal and dual approaches to adjustable robust optimization, 2018 (1st prize in Optimization for 2017 best student paper).

64. Jack Dunn, Optimal Trees for Prediction and Prescription, 2018 (best paper award among ORC students in 2016).

65. Martin Copenhaver, Sparsity and robustness in modern statistical estimation, 2018 (best paper award among ORC students in 2015).

66. Daisy Ying Zhuo, New Algorithms in Machine Learning with Applications in Personalized Medicine, 2018.

67. Joel Tay, Integrated Robust and Adaptive Methods in the Heating Oil Industry, 2018.

68. Sebastien Martin, The Edge of Large-Scale Optimization in Transportation and Machine Learning, 2019 (best paper award among ORC students in 2018, George Dantzig dissetration award 2019, Transportation Thesis Prize, 2019,).

69. Yee Sian Ng, Advances in Data-Driven Models for Transportation, 2019.

70. Colin Pawlowski, Machine Learning for Problems with Missing and Uncertain Data with Applications to Personalized Medicine, 2019.

71. Chris McCord, Data-Driven Dynamic Optimization with Auxiliary Covariates, 2019.

72. Nishanth Mundru, Predictive and Prescriptive Methods in Operations Research and Machine Learning: An Optimization Approach, 2019.

Current PhD students

73. Julia Yan, expected completion 2020.

74. Brad Sturt, expected completion 2020 (2nd prize in Nicholson competition of INFORMS, 2017).

75. Jean Pauphilet, expected completion 2020.

76. Agni Orfanoudaki, expected completion 2021.

77. Arthur Delarue, expected completion 2021 (best paper award among ORC students in 2018).

78. Hari Bandi, expected completion 2021.

79. Matthew Sobiesk, expected completion 2021.

80. Nihal Koduri, expected completion 2021.

81. Yuchen Wang, expected completion 2021.

82. Holy Wilberg, expected completion 2022.

83. Ryan Cory-Wright, expected completion 2022.

84. Ted Papalexopoulos, expected completion 2022.

85. Michael Li, expected completion 2023.

86. Driss Lahlou Kitane, expected completion 2023.

87. Vasilis Digalakis, expected completion 2023.

88. Liangyuan Na, expected completion 2023.

89. Omar Skali Lami, expected completion 2023.

90. Ivan Paskov, expected completion 2023.

91. Kimberly Villalobos Carballo, expected completion 2024.

92. Zhen Lin, expected completion 2024.

93. Cynthia Zeng, expected completion 2024.

94. Leonard Boussioux, expected completion 2024.

Completed Postdoctoral students

1. Eugene Perevalov, 1999-2001.
2. Omid Nohadani, 2006-2009.
3. Vineet Goyal, 2008-2010.
4. Christopher Maes, 2009-2011,
5. Ebrahim Nasrabadi, 2010-2013.
6. Rahul Mazumder, 2012-2013.
7. Angelos Georghiou, 2012-2013.
8. Phebe Vayanos, 2012-2015.
9. Hoda Bidkhori, 2012-2015.
10. Nathan Kallus, 2015-2016.
11. John Silberholrz, 2015-2017.
12. Bart van Parys, 2016-2018.
13. Shimrit Shtern, 2015-2018.

Current Postdoctoral students

14. Bartolomeo Stellato, 2018-present.

Completed Master Students

1. Phillip Chervi, A computational approach to probabilistic routing problems, 1989.
2. Meng-Huai Chen, Optimal cash allocation in bank branches, 1991.
3. Michael Ricard, Algorithms for the 0-1 integer programming problem, 1991.
4. Ioannis Paschalidis, Bounds for multiclass queueing networks, 1992.

5. Angela Chiu, Stochastic inventory and distribution problems, 1993.
6. Elaine Chew, Multiperiod portfolio optimization: Feynmann diagrams and approximate dynamic programming, 1998.
7. Ed Wike, Supply chain management: an approximate dynamic programming approach, 1998.
8. Constantine Tsiligakis, Portfolio construction through mixed integer programming, 1999.
9. Mark Coumeri, Pricing in a competitive environment: a learning approach, 2000.
10. Zhang Yi, A discrete optimization approach to classification, Singapore-MIT-Alliance, 2001.
11. Constantine Caramanis, Bounds on linear partial differential equations via semidefinite optimization, 2001.
12. Cheong Foong Soon, Hedging Strategy and Effect of Transaction Costs for American Options in an Incomplete Market, Singapore-MIT-Alliance, 2002.
13. Premal Shah, Optimal bounds for American options, 2006.
14. Su Hua, A robust optimization approach to optimization of queueing networks, 2006.
15. Yun Lu, A robust optimization approach to network equilibrium, 2007.
16. Yanbo Wang, Robust optimization applications, 2008.
17. Clay Noyes, Optimizing the operations of the emergency department at the Beth Israel Hospital via simulation, 2008.
18. Si Chen, Robust option pricing - an epsilon arbitrage approach, 2009.
19. Kimberly Shenk, Patterns of heart attacks, 2010.
20. Jingting Zhou, Computational experiments for local search algorithms for binary and mixed integer optimization, 2010.
21. Van Vinh Nguyen, Fairness and optimality in trading, 2010.

22. Thai Dung Nguyen, Application of robust and inverse optimization in transportation, 2010.

23. Liwei He, Polynomial policies in supply chain networks, 2010.

24. Emily Frost, Dynamic planning for underwater unmanned vehicles, 2013.

25. Stephen Relyea, An Analytics Approach to Designing Clinical Trials for Cancer", 2013 (winner of the William Pierskalla award in 2013 for best paper in Health care).

26. David Culver, Addressing the Fog of War in Reconnaissance Operations: A Robust Optimization Approach, 2013.

27. Cristina Epstein, An Analytics Approach to Hypertension Treatment, 2014.

28. Jonathan Paynter, Optimized Border Interdiction, 2014.

29. Nicholas Jerningan, Robust Multi-modal, Multi-period, Multi-commodity Transportation: Models and Algorithms, 2014.

30. Kevin Rossillion, Optimized Air Asset Scheduling Within a Joint Air Operations Center, 2015.

31. Zachary Sanders, Multi-target tracking via mixed integer optimization, 2016.

32. Samer Haidar, Supply chain network strategy for consumer medical device introduction, 2016.

X. Publications

Books

1. *Introduction to Linear Optimization*, (with J. Tsitsiklis), Dynamic Ideas and Athena Scientific, Belmont, Massachusetts, 1997.

2. *Data, Models and Decisions: The Fundamentals of Management Science*, (with R. Freund), Dynamic Ideas, Belmont, Massachusetts, 2004.

3. *Optimization over Integers*, (with R. Weismantel), Dynamic Ideas, Belmont, Massachusetts, 2005.

4. *The Analytics Edge*, (with A. O'Hair and W. Pulleyblank), Dynamic Ideas, Belmont, Massachusetts, 2016.

5. *Machine Learning under a Modern Optimization Lens*, (with J. Dunn), Dynamic Ideas, Belmont, Massachusetts, 2019.

Journal articles

1. "On the exact steady state solution of the $E_k/C_2/s$ queue" (with X. Papaconstantinou), *European Journal of Operations Research*, 37(2), 272-287, 1988.

2. "On the steady-state solution of the $M/C_2(a,b)/s$ queueing system" (with X. Papaconstantinou), *Transportation Science*, 125-138, 1988.

3. "An exact FCFS waiting-time analysis for a general class of $G/G/s$ queueing systems", *Queueing Systems Theory and Applications*, 3, 305-320, 1988.

4. "On probabilistic traveling salesman facility location problems", *Transportation Science*, 3, 184-191, 1989.

5. "Worst case examples for the spacefilling curve heuristic for the Euclidean traveling salesman problem", (with M. Grigni), *Operations Research Letters*, 8, 241-244, 1989.

6. "Relations between the pre-arrival and post-departures state probabilities and the FCFS waiting-time distribution for the $E_k/G/s$ queue" (with X. Papaconstantinou), *Naval Research Logistics Quarterly*, 37, 135-149, 1990.

7. "An analytic approach to a general class of $G/G/s$ queueing systems", *Operations Research*, 38, 1, 139-155, 1990.

8. "The probabilistic minimum spanning tree problem", *Networks*, 20, 245-275, 1990.

9. "A priori optimization", (with P. Jaillet and A. Odoni), *Operations Research*, 38, 6, 1019-1033, 1990.

10. "An asymptotic determination of the minimum spanning tree and minimum matching constants in geometrical probability", (with G. van Ryzin), *Operations Research Letters*, 9, 223-231, 1990.

11. "Probabilistic analysis of the Held and Karp lower bound for the Euclidean traveling salesman problem", (with M. Goemans), *Mathematics of Operations Research*, 1, 72-89, 1991.

12. "Transient and busy period analysis of the $GI/G/1$ queue as a Hilbert factorization problem", (with J. Keilson, D. Nakazato, H. Zhang), *Journal of Applied Probability*, 28, 873-885, 1991.

13. "A stochastic and dynamic vehicle routing problem in the Euclidean plane", (with G. van Ryzin), *Operations Research*, 39, 4, 601-615, 1991.

14. "The minimum spanning tree constant in geometrical probability and under the independent model; a unified approach", (with F. Avram), *Annals of Applied Probability*, vol. 2, 1, 113-130, 1992.

15. "A vehicle routing problem with stochastic demand", *Operations Research*, 40, 574-585, 1992.

16. "Transient and busy period analysis for the $GI/G/1$ queue; The method of stages", (with D. Nakazato), *Queueing Systems and Applications*, 10, 153-184, 1992.

17. "Deducing queueing from transactional data: the queue inference engine, revisited, (with L. Servi), *Operations Research*, 40, S217-S228, 1992.

18. "Simulated annealing", (with J. Tsitsiklis), *Statistical Science*, Vol.8, No. 1, 10-15, 1993.

19. "Stochastic and dynamic vehicle routing in the Euclidean Plane: the multiple-server, capacitated vehicle case", (with G. van Ryzin), *Operations Research* , 41, 60-76, 1993.

20. "Survivable networks, LP relaxations and the parsimonious property", (with M. Goemans), *Mathematical Programming*, 60, 145-166, 1993.

21. "Further results on the probabilistic traveling salesman problem", (with L. Howell), *European Journal of Operations Research*, Vol. 65, 1, 68-95, 1993.

22. "On central limit theorems in geometrical probability", (with F. Avram), *Annals of Applied Probability*, vol. 3, 4, 1033-1046, 1993.

23. "Stochastic and dynamic vehicle routing with general arrival and demand distributions", (with G. van Ryzin), *Advances in Applied Probability*, 25, 4, 947-978, 1993.

24. "A technique for speeding up the solution of the Lagrangean dual", (with J. Orlin), *Mathematical Programming*, vol. 63, 1, 23-46, 1994.

25. "The multi-airport ground-holding problem in air traffic control" (with A. Odoni and P. Vranas), *Operations Research*, 42, 2, 249-261, 1994.

26. "Optimization of multiclass queueing networks: polyhedral and nonlinear characterizations of achievable performance", (with I. Paschalidis and J. Tsitsiklis), *Annals of Applied Probability*, 4, 1, 43-75, 1994.

27. "Dynamic ground-holding policies for a network of airports", (with A. Odoni and P. Vranas), *Transportation Science*, 28, 4, 275-291, 1994.

28. "The distributional Little's law and its applications", (with D. Nakazato), *Operations Research*, 43, 2, 298-310, 1995.

29. "Optimization of multiclass queueing networks: a linear control approach", (with F. Avram and M. Ricard), *Stochastic networks; proceedings of the IMA*, (F. Kelly and R. Williams, editors), 199-234, 1995.

30. "Branching bandits and Klimov's problem: achievable region and side constraints", (with I. Paschalidis and J. Tsitsiklis), *IEEE Automatic Control*, 40, 12, 2063-2075, 1995.

31. "Locating discretionary service facilities II: maximizing market size, minimizing inconvenience", (with O. Berman and R. Larson), *Operations Research*, 43, 4, 623-632, 1995.

32. "Computational approaches to stochastic vehicle routing problems", (with P. Chervi and M. Peterson), *Transportation Science*, 29, 4, 342-352, 1995.

33. "Decomposition algorithms for analyzing transient phenomena in multi-class queueing networks in air transportation", (with A. Odoni and M. Peterson), *Operations Research*, 43, 6, 995-1011, 1995.

34. "The achievable region method in the optimal control of queueing systems; formulations, bounds and policies," *Queueing Systems and Applications*, 21, 3-4, 337-389, 1995.

35. "Models and algorithms for transient queueing congestion at a hub airport", (with A. Odoni and M. Peterson), *Management Science*, 41, 1279-1295, 1995.

36. "A new generation of vehicle routing research", (with D. Simchi-Levi), *Operations Research*, 286-304, 1996.

37. "Conservation laws, extended polymatroids and multi-armed bandit problems; a unified polyhedral approach", (with Jose Niño-Mora), *Mathematics of Operations Research*, 21, 2, 257-306, 1996.

38. "A unified method to analyze overtake free systems", (with G. Mourtzinou), *Advances in Applied Probability*, 28, 588-625, 1996.

39. "Stability conditions for multiclass fluid networks", (with D. Gamarnik and J. Tsitsiklis), *IEEE Automatic Control*, 41, 1618-1631, 1996.

40. "Multiclass queueing systems in heavy traffic: an asymptotic approach based on distributional and conservation laws", (with G. Mourtzinou), *Operations Research*, 45, 3, 470-487, 1997.

41. "On the worst case complexity of potential reduction algorithms for linear programming", (with X. Luo), *Mathematical Programming.* 77, 321-333, 1997.

42. "Transient distributional laws and their applications", (with G. Mourtzinou), *Queueing Systems and their Applications*, 25, 115-155, 1997.

43. "The parsimonious property of cut covering problems and its applications", (with C. Teo), *Operations Research Letters*, 21, 123-132, 1997.

44. "From valid inequalities to heuristics: a unified view of primal-dual approximation algorithms in covering problems", (with C. Teo), *Operations Research*, 46, 4, 503-514, 1998.

45. "The air traffic flow management problem with enroute capacities", (with S. Stock-Paterson), *Operations Research*, 46, 3, 406-422, 1998.

46. "A new algorithm for state-contrained separated continuous linear programs" (with X. Luo), *SIAM Journal on Control and Optimization*, 37, 1, 177-210, 1998.

47. "Rounding algorithms for covering problems", (with R. Vohra), *Mathematical Programming*, 80, 63-89, 1998.

48. "On the large deviation behavior in acyclic networks of G/G/1 queues", (with I. Paschalidis and J. Tsitsiklis), *Annals of Applied Probability*, 8, 4, 1027-1069, 1998.

49. "Asymptotic buffer overflow probabilities in multiclass multiplexers", (with J. Paschalidis and J. Tsitsiklis), *IEEE Automatic Control*, 43, 3, 315-335, 1998.

50. "Optimal control of execution costs", (with A. Lo), *Journal of Financial Markets*, 1, 1-50, 1998.

51. "Semidefinite relaxations, multivariate normal distributions, and order statistics", (with Y. Ye), Handbook of Combinatorial Optimization (Vol. 3), D.-Z. Du and P.M. Pardalos (Eds.) pp. 1-19, Kluwer Academic Publishers, 1998.

52. "On dependent randomized rounding algorithms", (with C. Teo and R. Vohra), *Operations Research Letters*, 24, 3, 105-114, 1999.

53. "Decomposition results for general polling systems and their applications", (with G. Mourtzinou), *Queueing Systems and their Applications*, 31, 295-316, 1999.

54. "Bounds and policies for loss networks", (with T. Chryssikou), *Operations Research*, 47, 379-394, 1999.

55. "Optimization of multiclass queueing networks with changeover times via the achievable region approach: Part I, the single-station case", (with J. Niño-Mora), *Mathematics of Operations Research*, 24, 2, 306-329, 1999.

56. "Optimization of multiclass queueing networks with changeover times via the achievable region approach: Part II, the multi-station case", (with J. Niño-Mora), *Mathematics of Operations Research*, 24, 2, 331-361, 1999.

57. "Analysis of LP relaxations for multiway and multicut problems", (with C. Teo and R. Vohra), *Networks*, 102-113, 1999.

58. "Portfolio construction through mixed integer programming", (with C. Darnell and R. Soucy), *Interfaces*, 29, 49-66, 1999.

59. "Estimation of time-varying parameters in statistical models: an optimization approach", (with D. Gamarnik and J. Tsitsiklis), *Machine Learning*, 35, 225-245, 1999.

60. "Large deviation analysis of the generalized processor sharing policy", (with J. Paschalidis and J. Tsitsiklis), *Queueing Systems and their Applications*, 32, 319-349, 1999.

61. "Asymptotically optimal algorithms for job shop scheduling and packet routing", (with D. Gamarnik), *Journal of Algorithms*, 33, 296-318, 1999.

62. "Optimal control of execution costs for portfolios", (with P. Hummel and A. Lo), *Computing in Science and Engineering*, 40-53, 1999.

63. "Restless bandits, linear programming relaxations and a primal-dual heuristic", (with J. Niño-Mora), *Operations Research*, 48, 80-90, 2000.

64. "A new algebraic geometry algorithm for integer programming", (with G. Perakis and S. Tayur), *Management Science*, 46, 999-1008, 2000.

65. "When is time continuous", (with L. Kogan and A. Lo), *Journal of Financial Economics*, 55, 173-204, 2000.

66. "The traffic flow management rerouting problem in air traffic control: a dynamic network flow approach", (with S. Stock-Paterson), *Transportation Science*, 34, 239-255, 2000.

67. "Moment problems and semidefinite programming", (with J. Sethuraman), in Semidefinite programming H. Wolkovitz, ed., 469–509, 2000.

68. "Probabilistic service level guarantees in make-to-stock manufacturing system", (with I. Paschalidis), *Operations Research*, 49, 1, 119-133, 2001.

69. "Pricing derivative securities in incomplete markets: an ϵ-arbitrage approach", (with L. Kogan and A. Lo), *Operations Research*, 49, 3, 372-397, 2001.

70. "Improved randomized approximation algorithms for lot sizing problems", (with C. Teo), *Operations Research*, 49, 4, 599-608, 2001.

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253. "Optimizing Influenza Vaccine Composition: A Machine Learning Approach", (with H. Bandi), submitted to *Operations Research*, 2019.

254. "Informing national immigration policy through interpretable machine learning", (with M. Fazel-Zarandi), submitted to *PNAS*, 2019.

255. "Optimal Survival Trees", (with J. Dunn, E. Gibson and A. Orfanoudaki), submitted to *Machine Learning*, 2019.

256. "Probabilistic guarantees in Robust Optimization: a general methodology", (with D. den Hertog, J. Pauphilet), submitted to *Mathematical Programming*, 2019.

257. "Novel Mixed Integer Optimization Sparse Regression Approach in Chemometrics", (with D. Lahlou Kitanem N. Azami and F.R. Doucet), submitted to *Spectrochimica Acta Part B: Atomic Spectroscopy*, 2019.

Conference Proceedings (refereed)

258. "On the parsimonious property of connectivity problems", (with M. Goemans) , *Proceedings of the first annual ACM-SIAM symposium on discrete algorithms*, 388-396, 1990.

259. "A technique for speeding up the solution of the Lagrangean dual", (with J. Orlin), *Proceedings of the Second Conference on Integer Programming and Combinatorial Optimization*, (ed. E. Balas, G. Cornujelos, R. Kannan), 435-452, 1992.

260. "Conservation laws, extended polymatroids and multi-armed bandit problems; a unified polyhedral approach", (with Jose Niño-Mora), *Proceedings of the Third Conference on Integer Programming and Combinatorial Optimization*, 355-385, 1993.

261. "On a characterization of the minimum assignment and matching in the independent random model", (with F. Avram), *Proceedings of the Third Conference on Integer Programming and Combinatorial Optimization*, 161-171, 1993.

262. "Branching bandits and Klimov's problem: achievable region and side constraints", (with I. Paschalidis and J. Tsitsiklis), IEEE symposium on Automatic Control, 1994.

263. "From valid inequalities to heuristics: a unified view of primal-dual approximation algorithms in covering problems", (with C. Teo), *Sixth symposium on discrete algorithms*, San Fransisco, 102-112, 1994.

264. "Nonlinear formulations and improved randomized approximation algorithms for multicut problems", (with C. Teo and R. Vohra), *Proceedings of the Fourth Conference on Integer Programming and Combinatorial Optimization*, 1995.

265. "On dependent randomized rounding algorithms", (with C. Teo and R. Vohra), *Proceedings of the Fifth Conference on Integer Programming and Combinatorial Optimization*, 1996.

266. "Improved randomized approximation algorithms for lot sizing problems", (with C. Teo), *Proceedings of the Fifth Conference on Integer Programming and Combinatorial Optimization*, 1996.

267. "Solving convex optimization problems by random walks", (with S. Vempala), *Proceedings of the 34th Symposium on the Theory of Computing (STOC)*, 2002.

268. "Dynamic classification of online customers", (with A. Mersereau and N. Patel), *3rd SIAM conference in data mining*, 107–118, 2003.

269. "The Air Traffiffic Flow Management Problem: An Integer Optimization Approach", (with G. Lulli and A. Odoni), *IPCO*, 34-46, 2008.

270. "An integer optimization approach to associative classification", (with A. Chang and C. Rudin), *26th Annual Conference on Neural Information Processing Systems*, 3302-3310, 2012.

XI. Oral Presentations

Plenary/Distinguished Lectures:

1. Semi-plenary lecture in Mathematical Programming Conference, Berlin 2012, "Tractable stochastic analysis in high dimensions: a robust optimization approach".

2. Plenary lecture in European Control conference, Zurich 2013, "Tractable stochastic analysis in high dimensions: a robust optimization approach".

3. Plenary lecture in INFORMS conference, Minnesota 2013, "Healthcare Analytics."

4. Ray Fulkerson series of three lectures, Cornell University, 2014.

5. Philip Morse plenary lecture in INFORMS conference, San Fransisco, 2014. "Statistics and Machine Learning via a Modern Optimization Lens."

6. Distinguished lecture, IEOR department, Georgia Institute of Technology, 2015. "Statistics and Machine Learning via a Modern Optimization Lens."

7. Plenary lecture, Conference on optimization, Northwestern University, Chicago, 2015. "From Predictive to Prescriptive Analytics."

8. Plenary lecture, 17th British-French-Geramn Conference in optimization, London, 2015. "Statistics and Machine Learning via a Modern Optimization Lens."

9. Hotelling series of Lectures, University of North Carolina, March, 2016.

10. Plenary lecture, Canadian OR Society, Banff, June 2016.

11. Plenary distinguished IFORS lecturer, Poznan, Poland, July 2016.

12. Plenary lecture for INFORMS health care conference, Rotterdam, July 2017.

Invited talks at Cornell University, Stanford University, Princeton University, MIT, Yale University, University of Michigan, Northwestern University, Northeastern University, Boston University, Duke University, University of Maryland, University of Minnesota, University of Southern California, Columbia University, University of Berlin, New York University, McMaster University, CNRS, University of Montreal, UC Berkeley, Georgia Institute of Technology, GTE Laboratories, Royal Institute of Technology (Sweden), Boston University, Aussois (France), Oberwolfach (Germany), the Mathematical Programming Symposium, the Institute of Mathematics and its applications (IMA), ETH Zurich, Eurandom (Netherlands), Lunthern, Wharton School, University of Athens, University of Massachusetts, Amherst, National University of Singapore, Tsingua University, Beizing University. Talks at various conferences.