ACADEMIC RESUME

NAME: JOHN R. BIRGE DATE: February 2024

DATE OF BIRTH: AUGUST 13, 1956 CITIZENSHIP: USA

PRESENT POSITION:

Hobart W. Williams Distinguished Service Professor of Operations Management,
The University of Chicago Booth School of Business (2004-)

PREVIOUS POSITIONS:

Dean, Robert R. McCormick School of Engineering and Applied Science
Northwestern University (1999-2004)

Professor, Industrial Engineering and Management Sciences
Northwestern University (1999-2004)

Chair, Industrial and Operations Engineering
University of Michigan (1993-1999)

Chair, Financial Engineering
University of Michigan (1997-1999)

Professor, Industrial and Operations Engineering
University of Michigan (1992-1999)

Associate Professor, Industrial and Operations Engineering
University of Michigan (1986-1992)

Assistant Professor, Industrial and Operations Engineering
University of Michigan (1980-1986)

DEGREES, WITH FIELD, INSTITUTION AND DATE:

Ph.D. in Operations Research, Stanford University, December 1980.
M.S. in Operations Research, Stanford University, June 1979.
A.B. in Mathematics, Princeton University, June 1977.

EXPERIENCE:

Visiting Fellow, School of Mathematics, The University of New South Wales, Sydney, Australia, June-July, 1990.

National Research Council - Naval Postgraduate School Research Associate, Monterey, California, January - June, 1987.

Visiting Associate Professor, Department of Mathematics, Statistics and Computing Science, Dalhousie University, Halifax, Nova Scotia, September - December, 1986.

Visiting Scientist, International Institute for Applied Systems Analysis, Vienna, Austria. July 1982, July-August 1983, July-August 1984.

Research Assistant, Systems Optimization laboratory, Stanford University, Stanford, California. Developing large-scale system software, September 1979 - August 1980.

Young Summer Scientist, International Institute for Applied Systems Analysis, Vienna, Austria. Mathematical programming research, June 1979 - September 1979.

Statistical Analyst, TRW, Inc. Redondo Beach, California. Developing statistical models for system reliability, June 1978 - September 1978.

CONSULTING:

Pacific Select Corp, 1979.
Facility Management Institute (Herman Miller), 1981-1984.
State of Michigan Senate, 1982.
Ervin Industries, 1982.
Michigan State Police Troopers Association, 1984 - 1987.
Pacific-Ten Conference, 1984.
Birmingham (MI) Public Schools, 1985.
University of Michigan Hospitals, 1985.
Libralter Plastics Corp., 1994-5.
Comisión de Regulación de Energía y Gas, Colombia, 1998-2000.
Deutsche Bank, 1999-2003.
PROS Revenue Management, 1999-2004. (Member of Scientific Advisory Board)
Blink Trading (acquired by GETCO LLC), 2001-2003. (Member of Board of Advisors)
Allstate Insurance Company, 2004-2006.
Morgan Stanley, 2004-2006.
Moody's KMV, 2006-8.
Ziena Optimization, Inc., 2006-7.
CalPERS, 2008-2013.
RogersCasey, 2008-9.
Yuanta Bank, 2013-2015.
Rehabilitation Institute of Chicago, 2015-2016.

OTHER PROFESSIONAL AND ACADEMIC ACTIVITIES:

i. Conference General Chair, Fifth International Conference on Stochastic Programming, Ann Arbor, MI, August, 1989.

ii. Member, Committee on Stochastic Programming, The Mathematical Programming Society, 1983-2000. (Secretary, 1994-1997)

iii. Vice-President, ORSA/TIMS Southeastern Michigan Geographical Section, 1985-88.

iv. Associate Editor, *Naval Research Logistics, INFORMS Journal on Applied Analytics, INFORMS Journal on Optimization.*

v. Special issue editor, *Annals of Operations Research, Naval Research Logistics, Management Science*.

vi. Editor-in-Chief, *Mathematical Programming, Series B,* 1994-1999.

vii. Conference General Chair, 15th International Symposium on Mathematical Programming, Ann Arbor, 1994; 20th International Symposium on Mathematical Programming, Chicago, 2009.

viii. Association of Chairs of Operations Research Departments, 1993-1999. (Secretary, 1993-4; Vice-President; 1994-5; President, 1995-6).

ix. Council of Industrial Engineering Academic Department Heads, 1993-1999. (Secretary, 1994-5, Vice-Chair, 1995-6, Chair, 1996-7).

x. Institute for Operations Research and Management Science, Subdivisions, Fora Subcommittee, Chair, 1995-6; Vice-President of Subdivisions, 1997-1998, President-Elect, 1999, President, 2000.

xi. National Academy of Engineering-Institute of Medicine Joint Committee on Engineering and Health Care, 2002-2003.

xii. National Academy of Engineering Committee on Engineering Education, 2004-2007.

xiii. National Academy of Engineering, Section 08, Industrial, Manufacturing and Operational Systems Engineering: NRC Liaison, 2012-2014, Vice-Chair, 2014-2016, Chair, 2016-2018.

xiv. National Academy of Sciences, Board on Mathematical Sciences and Analytics, 2014-2020.

xv. Editor-in-Chief, *Operations Research*, 2018-2023.

xvi. International Institute for Applied Systems Analysis Scientific Advisory Council, Vienna, Austria: USA Representative, 2018-2023, Chair: 2023.

xvii. Chair, Mathematical Optimization Society, 2018-2023; Vice Chair, 2023-2025.

PRINCIPAL RESEARCH INTERESTS:

Mathematical Modeling of Systems with Uncertainty, Stochastic Programming, Large-Scale Optimization, Operational and Financial Modeling.

SCIENTIFIC AND PROFESSIONAL SOCIETIES OF WHICH A MEMBER:

The Institute for Operations Research and the Management Sciences
The Mathematical Programming Society
Mathematical Association of America
American Mathematical Society
Society for Industrial and Applied Mathematics
Institute of Industrial Engineers

Production and Operations Management Society
Sigma Xi
Omega Rho (Honorary Member 2010)

AWARDS:

Asia-Pacific Artificial Intelligence Association, Elected Fellow, 2023.
Manufacturing and Service Operations Management Society iFORM SIG Best Paper Award, 2020.
Harold Larnder Prize, Canadian Operational Research Society, 2018.
Manufacturing and Service Operations Management Society Distinguished Fellow Award, 2013.
William P. Pierskalla Best Paper Award, 2012.
National Academy of Engineering, Elected Member, 2011.
Omega Rho Distinguished Lecturer, 2010.
George E. Kimball Medal, The Institute for Operations Research and the Management Sciences, 2008.
Harold W. Kuhn Award, *Naval Research Logistics*, 2008.
Best Paper Award, Japan Society for Industrial and Applied Mathematics, 2004.
Institute for Operations Research and the Management Sciences Fellows Award, 2002.
Institute of Industrial Engineers Medallion Award, 2002.
E. Leonard Arnoff Memorial Lecturer on the Practice of Management Science, 2002.
Ilyong Ham Distinguished Lecturer, Pennsylvania State University, 1999.
Office of Naval Research Young Investigator Award, 1986.
National Science Foundation Research Initiation Grant, 1983.
National Science Foundation Energy Traineeship, 1977.
United States Army ROTC Scholarship, 1974.

CONTRACTS AND GRANTS:

"Advanced Automotive Technology for Quality Assurance," Volkswagen of America, 1981-82, $60,000, Birge - Project Director.

"Strategies for Wide-Area Police Patrol," National Institute of Justice, 1981-82, $75,309, Birge - Principal Investigator, S.M. Pollock - Project Director.

"Computation and Approximation in Stochastic Programming," National Science Foundation, 1983-85, $46,426 total, Birge - Project Director.

"Real Time Adaptive Scheduling," General Motors Corporation, 1983-1986, $299,986 total, Birge - Project Director, J.C. Bean - Principal Investigator, 1983-85.

"Advanced Computation Methods for Stochastic Linear Programs with Recourse," Office of Naval Research, 1986-1989, $149,843 total, Birge - Project Director.

"Computational and Applied Aspects of Multiperiod Stochastic Programming," National Science Foundation, 1989-1992, $149,940 total, Birge - Project Director.

"International Conference on Stochastic Programming," National Science Foundation, 1989, $11,520 total, Birge - Project Director.

"Computational and Applied Aspects of Multiperiod Stochastic Programming: Accomplished-Based Renewal," National Science Foundation, 1992-1995, $194,959 total, Birge - Project Director.

"Modeling Investment Uncertainty in the Costs of Global CO2 Emission Policy," National Science Foundation, 1992-1994, $138,006 total, Birge - Project Director.

"Intelligent Unified Control of Unit Commitment and Generation Allocation," National Science Foundation, 1993-1995, $200,000 total, Birge - Project Director.

"Intelligent Unified Control of Unit Commitment and Generation Allocation," Electric Power Research Institute, 1993-1996, $100,000 total, Birge - Project Director.

"Computational and Applied Aspects of Multiperiod Stochastic Programming: Accomplished-Based Renewal," National Science Foundation, 1995-1998, $200,000 total, Birge - Project Director.

"Capacity Modeling," Ford Motor Company, 1995-1997, $100,000 total, Birge - P.I. , Izak Duenyas , Project Director.

"Due Date Setting, Order Release and Sequencing under Time Competition," National Science Foundation, 1995-1997, $131,493 total, Birge - P.I., Izak Duenyas, Project Director.

National Science Foundation Engineering Research Center on Reconfigurable Manufacturing Systems, National Science Foundation, 1997-2000, approximately $250,000 as Project Director; Leader for Cluster of Projects 1.

Ford Motor Company, "Financial Engineering," 1999-2000, $30,000, Birge - P.I.

National Science Foundation, Economic Life-Cycle Models for Reconfigurable Systems, 2000-2001, $40,000. Birge – P.I.

Central Research institute of Electric Power Industry (CRIEPI, Japan), New Stochastic Programming Methods for Electric Power Generation Planning and Unit Commitment, 2000-2001, $20,000. Birge – P.I.

National Science Foundation, Collaborative Research: Managing Material Flow and Cash Flow in the Supply Chain, 2001-2004, $162,058. Birge – P.I.

Department of Energy, Stochastic Optimization of Complex Systems, 2009-2011, $481,800. Birge – P.I.

DOCTORAL COMMITTEES:

CHAIR or CO-CHAIR (Current Employer)

Mustafa Al-Idrisi, 1981, Co-Chair (Department of Industrial Engineering, Kind Abdul Aziz University, Jeddah, Saudi Arabia).
John Mittenthal, 1986, Chair (School of Business, University of Alabama, Tuscaloosa, AL).
José Dulá, 1986, Chair (School of Business, University of Alabama, Tuscaloosa, AL).

Marilyn Maddox, 1988, Chair (Ford Motor Company, Detroit, MI).
José Arantes, Co-Chair, 1990, (Banco Central do Brasil, Campinas, Brazil).
Charles Rosa, 1993, Chair, (XPO Logistics, Ann Arbor).
Samer Takriti, 1994, Chair, (Viking Global Investors, New York).
Harriet Black Nembhard, 1994, Chair (Mechanical, Industrial and Manufacturing Engineering, Oregon State University).
Saida Benhajla, 1995, Chair, (New Millennium Consulting, Michigan).
Christopher J. Donohue, 1996, Chair, (Global Association of Risk Professionals, New York).
John Drogosz, 1998, Co-Chair, (Optiprise, Holland, MI).
Chonawee Supatgiat, 1999, Co-Chair, (Sasin Graduate Institute of Business Administration, Chulalongkorn University, Bangkok, Thailand).
Scott Grasman, 2000, Co-Chair, (Industrial and Manufacturing Engineering, Kettering University).
Joyce Yen, 2000, Chair, (University of Washington, Seattle).
Wichai Narongwanich, 2002, Co-Chair, (Thai Farmer Bank, Bangkok, Thailand).
Xiaodong Xu, 2005, Chair, (Merrill Lynch, New York).
Umut Aytekin, 2005, Chair, (Booz-Allen-Hamilton Consulting, Chicago).
Xuefeng (Jennifer) Jiang, 2007, Chair, (Standard and Poor's, New York).
Zhen Liu, 2007, Chair, (Benedictine University, Lisle, Illinois).
Amit Bhandari, 2008, Chair (Bridgewater Associates, Westport, CT).
Song (Alex) Yang, 2010, Chair (London Business School).
Luis Chávez-Bedoya, 2011, Co-chair (ESAN Graduate School of Business, Lima, Peru).
Vishal Ahuja, 2013, Chair (Southern Methodist University).
Michelle Xiao Wu, 2014, Chair (MIT).
Jing Wu, 2016, Chair (Chinese University of Hong Kong).
Matthew Stern, 2017, Chair (Wayfair).
Adam Schultz, 2017, Chair (Uber).
Hongfan (Kevin) Chen, 2020, Chair (Chinese University of Hong Kong).
Zuguang Gao, 2023, Chair (University of California, Irvine).

EXTERNAL EXAMINER

Robert Merkovsky, 1988, Mathematics, Dalhousie University, Halifax, NS.
Linos Frantzeskakis, 1990, Civil Engineering and Operations Research, Princeton.
Zengxin Wei, 1997, Mathematics, University of New South Wales, Australia.
Matthias Nowak, 2000, Mathematics, Humboldt University, Berlin, Germany.

PUBLICATIONS:

(i) Books:

1. J.R. Birge and F.V. Louveaux, *Introduction to Stochastic Programming*, Springer-Verlag, New York, 1997; Second edition, published 2011.

2. J.R. Birge and K.G. Murty, eds., *Mathematical Programming: State of the Art 1994*, University of Michigan, Ann Arbor, MI, 1994.

(ii) Chapters in Books:

1. J.R. Birge, "An L-Shaped Method Computer Code for Multi-Stage Stochastic Linear Programs," in *Numerical Methods in Stochastic Programming,* R. Wets and Y. Ermoliev, eds., Springer-Verlag, Berlin, 1988, Chapter 12, pp. 255-266.

2. J.R. Birge, "The Relationship between the L-Shaped Method and Dual Basis Factorization for Stochastic Linear Programming," in *Numerical Methods in Stochastic Programming*, R. Wets and Y. Ermoliev, eds, Springer-Verlag, Berlin, 1988, Chapter 13, pp. 267-272.

3. J.R. Birge, "Exhaustible Resource Models with Uncertain Returns from Exploration Investment," in *Numerical Methods in Stochastic Programming,* R. Wets and Y. Ermoliev, eds., Springer-Verlag, Berlin, 1988, Chapter 27, pp. 481-488.

4. J.R. Birge, "Real-Time Adaptive Scheduling in Flexible Manufacturing Systems," in J. White, ed., *Current Research in the Movement, Storage, and Control of Material, Volume 1,* Springer-Verlag, Berlin, 1989, pp. 249-256.

5. J.R. Birge and J.M. Mulvey, "Stochastic Programming in Industrial Engineering," in: *Mathematical Programming for Industrial Engineers*, M. Avriel and B. Golany, eds., Marcel Dekker, Inc., New York, 1996, pp. 543-574.

6. J.R. Birge, S.M. Pollock, and L. Qi, "A Quadratic Recourse Function for the Two-Stage Stochastic Program," in*: Progress II in Optimization: Contributions from Australasia*, X. Yang, ed., Kluwer Academic Publisher, Nowell, MA, USA, 1999.

7. F. Louveaux and J.R. Birge, "Two-Stage Stochastic Programs with Recourse," *Encyclopedia of Optimization*, C.A. Floudas and P.M. Pardalos, eds., Springer New York, 2009.

8. F. Louveaux and J.R. Birge, "Stochastic Integer Programs," *Encyclopedia of Optimization*, C.A. Floudas and P.M. Pardalos, eds., Springer New York, 2009.

9. F. Louveaux and J.R. Birge, "L-Shaped Method for Two-Stage Stochastic Programs with Recourse," *Encyclopedia of Optimization*, C.A. Floudas and P.M. Pardalos, eds., Springer New York, 2009.

10. J.R. Birge, "The persistence and effectiveness of large-scale mathematical programming strategies: projection, outer linearization, and inner linearization," in: *A Long View of Research and Practice in Operations Research and Management Science: The Past and the Future*, M.S. Sodhi and C.S. Tang, eds., Springer, New York, 2010, pp. 23-34.

11. J.R Birge, "Particle methods for data-driven simulation and optimization," in: *Tutorials in Operations Research: New Directions in Informatics, Optimization, Logistics, and Production*, P.B. Mirchandani, ed., Institute for Operations Research and the Management Sciences, Catonsville, MD, 2012, pp. 92-102.

12. J.R Birge, A. Khabazian, and J. Peng, "Optimization modeling and techniques for systemic risk assessment and control in financial networks," in: *Tutorials in Operations Research: Recent Advances in Optimization and Modeling of Contemporary Problems*, E. Gel and L. Ntaimo, eds., Institute for Operations Research and the Management Sciences, Catonsville, MD, 2018, pp. 64-84.

(iii) Articles in refereed journals, transactions or archives:

1. J.C. Bean, J.R. Birge. "Reducing Travel Costs and Player Fatigue in the NBA," *Interfaces* 10 (1980), pp. 98-102.

2. J.R. Birge, "The Value of the Stochastic Solution in Stochastic Linear Programs, with Fixed Recourse," *Mathematical Programming* 24 (1982), pp. 314-325.

3. J.R. Birge, and Akli Gana, "Computational Complexity of Van der Heyden's Variable Dimension Algorithm and Dantzig-Cottle's Principal Pivoting Method for Solving LCP's," *Mathematical Programming* 26 (1983), pp. 316-325.

4. J.R. Birge, "Redistricting to Maximize the Preservation of Political Boundaries," *Social Science Research* 12 (1983), pp. 205-214

5. J.R. Birge, V. Malyshko and V. Pedhko, "Optimization of the Structure of a Field of Solar Energy Heliostats," (in Russian), *Gilioteknika,* 1984 (3) pp. 49-52, translated as "Optimizing the Structure of a Heliostat Array Control System in a Solar Electric Power Station," in *Applied Solar Energy* 20 (1985), pp. 54-56.

6. J.R. Birge and V. Malyshko, "Methods for a Network Design Problem in Solar Power Systems," *Computers and Operations Research* 10 (1985), pp. 125-138.

7. J.R. Birge and Robert L. Smith, "Random Procedures for Nonredundant Constraint Identification in Stochastic Linear Programs," *The American Journal of Mathematical and Management Sciences,* (special issue on Statistics in Optimization) 4 (1984), pp. 41-70.

8. J.R. Birge, "Decomposition and Partitioning Methods for Multi-Stage Stochastic Linear Programs," *Operations Research* 33 (1985), pp. 989-1007.

9. J.R. Birge, "Aggregation Bounds in Stochastic Linear Programming," *Mathematical Programming* 31 (1985), pp. 25-41.

10. J.R. Birge, "A Dantzig-Wolfe Decomposition Variant Equivalent to Basis Factorization," *Mathematical Programming Study* 24 (1985), pp. 43-64.

11. J.R. Birge and R. J-B. Wets, "Designing Approximation Schemes for Stochastic Optimization Problems, in particular, for Stochastic Programs with Recourse," *Mathematical Programming Study* 27 (1986), pp. 54-102.

12. J.R. Birge and S.W. Wallace, "Refining Bounds for Stochastic Linear Programs with Linearly Transformed Independent Random Variables," *Operations Research Letters* 5 (1986), pp. 73-77.

13. J.R. Birge and R. J-B Wets, "Computing Bounds for Stochastic Programming Problems by Means of a Generalized Moment Problem," *Mathematics of Operations Research* 12 (1987), pp. 49-162.

14. J.C. Bean, J.R. Birge, and R.L. Smith, "Aggregation in Dynamic Programming," *Operations Research* 35 (1987), pp. 215-220.

15. J.R. Birge and F. Louveaux, "A Multicut Algorithm for Two-Stage Stochastic Linear Programs," *European Journal of Operations Research* 34 (1988), pp. 384-392.

16. J.R. Birge and S.W. Wallace, "A Separable Piecewise Linear Upper Bound for Stochastic Linear Programs," *SIAM Journal on Control and Optimization* 26 (1988), pp. 725-739.

17. J.R. Birge and R. J-B Wets, "Sublinear Upper Bounds for Stochastic Programs with Recourse," *Mathematical Programming* 43 (1989), pp. 131-149.

18. J.R. Birge and L. Qi, "Computing Block-Angular Karmarkar Projections with Applications to Stochastic Programming," *Management Science* 34 (1988), pp. 1472-1479.

19. J.R. Birge and M. Teboulle, "Upper Bounds on the Expected Value of a Convex Function using Subgradient and Conjugate Function Information," *Mathematics of Operations Research* 14 (1989), pp. 745-759.

20. J.R. Birge and K.D. Glazebrook, "Assessing the Effects of Machine Breakdowns in Stochastic Scheduling," *Operations Research Letters* 7 (1988), pp. 267-271.

21. J.R. Birge and S.M. Pollock, "Modeling Rural Police Patrol," *Journal of the Operational Research Society* 40 (1988), pp. 41-54.

22. J.R. Birge and S.M. Pollock, "Using Parallel Iteration for Approximate Analysis of a Multiple Server Queueing System," *Operations Research* 37 (1989), pp. 769-779.

23. J.R Birge, H. Frenk, J. Mittenthal, and A. Rinnooy Kan, "Single Machine Scheduling subject to Machine Breakdowns," *Naval Research Logistics Journal* 37 (1990), pp. 661-677.

24. J.C. Bean, J.R. Birge, J. Mittenthal, and C.E. Noon, "Matchup Scheduling with Multiple Resources, Release Dates and Disruptions," *Operations Research* 39 (1991), pp. 470-483.

25. J.R. Birge and J. Dulá, "Bounding Separable Recourse Functions with Limited Distribution Information," *Annals of Operations Research* 30 (1991), pp. 277-298.

26. J.R. Birge, R. M. Freund, and R. Vanderbei, "Prior Reduced Fill-in in the Solution of Equations in Interior Point Algorithms," *Operations Research Letters* 11 (1992), pp. 195-198.

27. J.R. Birge and Liqun Qi, "Semiregularity and Generalized Subdifferentials with Applications to Stochastic Programming," *Mathematics of Operations Research* 18 (1993) 982-1005.

28. J.C. Arantes, J. R. Birge, and K. G. Murty, "Studies of Lexicography in the Generalized Network Simplex Method," *Annals of Operations Research* 47 (1993) 237-248.

29. J.R. Birge and J.K. Ho, "Optimal Flows in Stochastic Dynamic Networks with Congestion," *Operations Research* 41 (1993), pp. 203-216.

30. J.R. Birge and Liqun Qi, "Subdifferential Convergence in Stochastic Programs," *SIAM J. Optimization* 5 (1995), pp. 436-453.

31. J.R. Birge and D. Holmes, "Efficient Solution of Two-Stage Stochastic Linear Programs using Interior Point Methods," *Computational Optimization and Applications* 1 (1992), pp. 245-276.

32. J.R. Birge and M.A.H. Dempster, "Optimal Match-Up Strategies in Stochastic Scheduling", *Discrete Applied Mathematics* 57 (1995), pp. 105-120.

33. J.R. Birge, "Models and Modeling Value in Stochastic Programming," *Annals of Operations Research*. 59 (1995), pp. 1-18.

34. J.R. Birge and Liqun Qi, "Continuous Approximation Schemes for Stochastic Programming," *Annals of Operations Research*. 56 (1995), pp. 15-38.

35. J.R. Birge and M.J. Maddox, "Bounds on Expected Project Tardiness," *Operations Research* 43 (1995), pp. 838-850.

36. J.R. Birge and C.H. Rosa, "Modeling Investment Uncertainty in the Costs of Global CO2 Emission Policy," *European Journal of Operational Research* 83 (1995), pp. 466-488.

37. J.R. Birge and C.H. Rosa, "Parallel Decomposition of Large-Scale Stochastic Nonlinear Programs," *Annals of Operations Research* 64 (1996), pp. 39-65.

38. J.R. Birge and C. H. Rosa, "Incorporating Investment Uncertainty into Greenhouse Policy Models," *The Energy Journal* 17 (1996), pp. 79-90.

39. J.R. Birge, C.J. Donohue, D.F. Holmes, and O.G. Svintsiski, "A Parallel Implementation of the Nested Decomposition Algorithm for Multistage

Stochastic Linear Programs," *Mathematical Programming* 75 (1996), pp. 327-352.

40. S. Takriti, J.R. Birge, and E. Long, "A Stochastic Model of the Unit Commitment Problem," *IEEE Transactions on Power Systems* 11 (1996), pp. 1497-1508.

41. J.R. Birge and M.A.H. Dempster, "Stochastic Programming Approaches to Stochastic Scheduling," *Journal of Global Optimization* 9 (1996), pp. 383-409.

42. J.R. Birge and C.J. Donohue, "An Upper Bound on the Expected Value of a Non-Increasing Convex Function with Convex Marginal Return Functions," *Operations Research Letters* 18 (1996), pp. 213-221.

43. J.R. Birge and Tang Hengyong, "Computing Karmarkar's Projections Quickly by Using Matrix Factorization," *Applied Mathematics - Journal of Chinese Universities* 11 (1996), pp. 355-360.

44. J.R. Birge, L. Qi, and Z. Wei, "A General Approach to Convergence Properties of Some Methods for Nonsmooth Convex Optimization," *Applied Mathematics and Optimization* 38 (1998), pp. 141-158.

45. Z. Wei, L. Qi, and J.R. Birge, "A New Method for Nonsmooth Convex Optimization," *Journal of Inequalities and Applications* 2 (1998), pp. 157-179.

46. J.R. Birge and K.D. Glazebrook, "Bounds on Optimal Values in Stochastic Scheduling," *Operations Research Letters* 21 (1997), pp. 107-114.

47. J.R. Birge, "Stochastic Programming Computation and Applications: State-of-the-Art Survey," *INFORMS Journal on Computing* 9 (1997), pp. 111-133.

48. H.B. Nembhard and J.R. Birge, "A Startup Procedure for Process Industries using a Multiobjective Nonlinear Program," *IIE Transactions* 30 (1998), pp. 291-300.

49. Z. Wei, J.R. Birge, and L. Qi, "Convergence Analysis of Some Methods for Minimizing a Nonsmooth Convex Function," *Journal of Optimization Theory and Applications* 97 (1998), pp. 357-383.

50. J.R. Birge and S. Takriti, "Successive Approximation of Linear Control Models," *SIAM Journal on Control and Optimization* 37 (1998), pp. 165-176.

51. J.R. Birge, J. Drogosz, and I. Duenyas, "Setting Single-Period Optimal Capacity Levels and Prices for Substitutable Products," *Int. J. Flexible Manufacturing Systems* 10 (1998), pp. 407-430.

52. S. Takriti and J.R. Birge, "Using Integer Programming to Refine Lagrangian-Based Unit Commitment Solutions," *IEEE Transactions on Power System*s 15 (2000), pp. 151-156.

53. J.R. Birge, L. Qi, and Z. Wei, "A Variant of the Topkis-Veinott Method for Solving Inequality Constrained Optimization Problems," *Applied Mathematics and Optimization* 41 (2000), pp. 309-330.

54. J.R. Birge and R. Zhang, "Risk-Neutral Option Pricing Methods for Adjusting Constrained Cash Flows," *The Engineering Economist* 44 (1999), pp. 36-49.

55. S. Takriti and J.R. Birge, "Lagrangian Solution Techniques and Bounds for Loosely-Coupled Mixed-Integer Stochastic Programs," *Operations Research* 48 (2000), pp. 91-98.

56. X.D. Qi, G. Yin, and J.R. Birge, "Single-Machine Scheduling with Random Machine Breakdowns and Randomly Compressible Processing Times," *Stochastic Analysis and Applications* 18 (2000), pp. 635-653.

57. C. Supatgiat, R.Q. Zhang, and J.R. Birge, "Equilibrium Values in a Competitive Power Exchange Market," *Computational Economics* 17 (2001), pp. 93-121.

58. X.D. Qi, G. Yin, and J.R. Birge, "Scheduling Problems with Random Processing Times under Expected Earliness/Tardiness Costs," *Stochastic Analysis and Applications* 18 (2000), pp. 453-473.

59. L. Dai, C.H. Chen, and J.R. Birge, "Convergence Properties of Two-Stage Stochastic Programming," *Journal of Optimization Theory and Applications* 106 (2000), pp. 489-509.

60. S. Sen, J.L. Higle, and J.R. Birge, "Duality Gaps in Stochastic Integer Programming," *Journal of Global Optimization* 18 (2000), pp. 189-194.

61. J.R. Birge, "Option Methods for Incorporating Risk into Linear Capacity Planning Models," *Manufacturing and Service Operations Management* 2 (2000), pp. 19-31.

62. X.D. Qi, G. Yin, and J.R. Birge, "Single-Machine Scheduling with Randomly Compressible Processing Times," *Stochastic Analysis and Applications* 20 (2002), pp. 591-613.

63. T. Shiina and J.R. Birge, "Stochastic Unit Commitment Problem," *International Transactions in Operations Research* 11 (2004), pp. 19-32.

64. T. Shiina and J.R. Birge, "Multistage Stochastic Programming Model for Electric Power Capacity Expansion Problem," *Japan Journal of Industrial and Applied Mathematics* 20 (2003), pp. 379-397.

65. S.E. Grasman, T.L. Olsen, and J.R. Birge, "Finite Buffer Polling Models with Routing," *European Journal of Operational Research* 165 (2005), pp. 794-809.

66. J.R. Birge, "Scheduling a Professional Sports League in Microsoft ® Excel," *INFORMS Transactions on Education* 5 (2004), No. 1, http://archive.ite.journal.informs.org/Vol5No1/Birge/

67. J. Yen, J.R. Birge, "A Stochastic Programming Approach to the Airline Crew Scheduling Problem," *Transportation Science* 40 (2006), pp. 3-14.

68. X. Xu, J.R. Birge, "Equity Valuation, Production, and Financial Planning: A Stochastic Programming Approach," *Naval Research Logistics* 53 (2006), pp. 641-655.

69. C.J. Donohue, J.R. Birge, "The Abridged Nested Decomposition Method for Multistage Stochastic Linear Programs with Relatively Complete Recourse," *Algorithmic Operations Research* 1 (2006), pp. 18-28.

70. S.E. Grasman, T.L. Olsen, and J.R. Birge, "Setting Basestock Levels in Multiproduct Systems with Setups and Random Yield," *IIE Transactions 40* (2008), pp. 1158-1170.

71. J.R. Birge and S. Yang, "A Model for Tax Advantages of Portfolios with Many Assets," *Journal of Banking and Finance* 31 (2007), pp. 3269-3290.

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