

Curriculum Vitae

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Academic Degrees

- B.A. Mathematics, Churchill College, Cambridge 1984
M.Phil. Control Engineering & Operational Research, Churchill College, Cambridge, 1985
Thesis: “Linear Programming and Minimum Weight Design – A Comparison of Methods for Solving a Class of Structural Optimization Problems.”
M.A. Mathematics, Churchill College, Cambridge, 1988
Ph.D. Mathematical Programming, Churchill College, Cambridge, 1989
Thesis: “Weak Sharp Minima & Penalty Functions in Mathematical Programming.”

Professional Experience

- 2009– Theme Leader (Optimization), Wisconsin Institutes of Discovery, Madison
1988– Professor 1998, Associate Professor 1994-98, Assistant Professor 1988-94,
Computer Sciences Department, University of Wisconsin, Madison
2006– Professor (by courtesy) Mathematics Department, University of Wisconsin
1988– Professor (by courtesy) Industrial and Systems Engineering Department, University of Wisconsin
06/03 Professeur Invité, Mathematics Department, University of Limoges, Limoges
2001-02 Guggenheim Fellow, Visiting Fellow, Exeter College, Oxford,
and Visiting Professor, Oxford University Computing Laboratory
1988–2001 Member, Center for the Mathematical Sciences, University of Wisconsin
08/96, 12/98 Honorary Visiting Fellow, University of New South Wales, Sydney, Australia
1994–1995 Visiting Associate Professor, Department of Economics,
University of Colorado, Boulder
07/89 Visiting Professor, Consiglio Nazionale Delle Ricerche,
Istituto Di Analisi dei Sistemi ed Informatica, Rome
1980–81 Programmer, Programming Research Group,
Oxford University Computing Laboratory, Oxford

Professional Societies

Society for Industrial and Applied Mathematics, Institute for Operations Research and the Management Sciences, Mathematical Optimization Society

Research Interests

Mathematical Optimization, Modeling and Applications of Operations Research, Optimization in Medicine, Complementarity Problems, Grid Computation, Numerical Algorithms.

Professional Activities

NEOS	Overall control and management (2010–present)
Co-Editor	Mathematical Programming (2001–2011)
Associate Ed.	ACM Transactions on Mathematical Software (2004–present), Journal of Economic Dynamics and Control (2000–08), Mathematical Programming (1997–2001, 2012–present), Optimization Methods and Software (1992–present), SIAM Journal on Control and Opt. (1992–97), SIAM Journal on Optimization (2002–2015)
Ed. Board	MPS/SIAM Series on Optimization (2003–07)
Officer	SIAM Activity Group on Optimization, 2008–10 (Chair) Optimization Section of Institute for Operations Research and Management Sciences, 1997–98 (Vice-Chair), 1998–99 (Chair)
Exec. Comm.	Physical Sciences Division, University of Wisconsin (2005–08)
Member	Beale-Orchard-Hays Prize Comm. (2000, Chair 2012), Broyden Prize Comm. (Chair 2012–2015), INFORMS Nicholson Prize Comm. (2008, Chair 2009), ICCOPT Steering Comm., Mathematical Programming Society (2008–09), INFORMS Dantzig Thesis Award Comm. (2006–07), INFORMS Optimization Prize (2002), Lanchester Prize Comm. (1998–99, 2015–16)
Referee	National Science Foundation; Department of Energy; Australian, British, Canadian, Dutch, Israeli, Norwegian and Swedish Research Councils and various prof. journals.

Honours and Prizes

2013	Fellow of SIAM
2012	Power and Energy Society: Power System Analysis, Computing and Economics Prize for the paper K. W. Hedman, M. C. Ferris, R. P. O'Neill, E. B. Fisher, S. S. Oren; “Co-Optimization of Generation Unit Commitment and Transmission Switching With N-1 Reliability,” IEEE Transactions on Power Systems, v. 25, No.2, pp 1052–1063, May 2010.
2006	Fellow of INFORMS
2006	Carolyn Rosner Excellent Educator Award, Comp. Sci. Dept., Univ. Wisconsin
2004	Sonoco Technology Award, Sonoco Products Company
2002	The William Pierskalla best paper award for research excellence in health care management science, Institute for Operations Research and the Management Sciences
2001–02	Guggenheim Fellowship
1999–01	Vilas Associate Award, University of Wisconsin
1997	Beale-Orchard-Hays Prize for Excellence in Computational Mathematical Programming, Mathematical Programming Society
1994	National Comput. Science Award for Teaching Undergraduates, Dept. of Energy
1991	Presidential Young Investigators Award, National Science Foundation
1986–87	University of Wisconsin–Madison Chancellor’s Award
1986	Rayleigh Prize for Mathematics, Cambridge University
1985	Arthur Shercliff Memorial Prize, Cambridge University
1984–88	Science and Engineering Research Council Award, United Kingdom
1984–85	Churchill College Honorary Scholar, Cambridge University
1984	Wrangler, Mathematics, Cambridge University

Grants and Patents

Principal Investigator on various research grants from NSF, DOE, AFOSR, NIH, USDA, Microsoft

and GAMS Corp. U.S. Patent 6,868,452 “Method for caching of media files to reduce delivery cost”, US Patent 8,615,068 “System and Method for Intensity Modulated Arc Therapy Treatment Planning”.

Advisors and Advisees

Total number of Ph.D. students advised: 12 (S. Billups (University of Colorado), M. Cao (Industry), Q. Chen (Industry), G. Deng (Industry), S. Dirkse (Industry), J. Holzer (Industry), Q. Li (Industry), J.-H. Lim (University of Houston), Y. Liu (Industry), T. Munson (Argonne National Lab), K. Sinapiromsaran (Chulalongkorn University, Thailand), M. Voelker (APL, Johns Hopkins) Ph.D. and Master’s advisors: E. Anderson, A. Philpott

Recent Colloquia

Numerous invited talks at U.S. and foreign universities and professional meetings. Details available at <http://www.cs.wisc.edu/~ferris/ferris.talks.html>

Conference and Session Organizer

Program Comm. Member: ISMP 2009, ICCOPT II, SIAM Opt. Conf. (2011 (Chair), 2008, 1999)
Co-organizer of International Conf. on Complementarity Problems (1995, ’99, ’02, ’05, ’12, ’14)
Organizer: IPAM workshop: Optimization and equilibrium in energy economics

Publications

- [1] M C Ferris. *Linear Programming and Minimum Weight Design – A Comparison of Methods for Solving a Class of Structural Optimization Problems*. PhD thesis, University of Cambridge, Cambridge, 1985.
- [2] M C Ferris. *Weak Sharp Minima and Penalty Functions in Mathematical Programming*. PhD thesis, University of Cambridge, Cambridge, 1988.
- [3] M C Ferris and A B Philpott. On the Performance of Karmarkar’s Algorithm. *Journal of the Operational Research Society*, 39:257–270, 1988.
- [4] M C Ferris and A B Philpott. An Interior Point Algorithm for Semi-Infinite Linear Programming. *Mathematical Programming*, 43:257–276, 1989.
- [5] M C Ferris. Weak Sharp Minima and Penalty Functions in Mathematical Programming. Technical Report 779, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1988.
- [6] M C Ferris. Finite Termination of the Proximal Point Algorithm. *Mathematical Programming*, 50:359–366, 1991.
- [7] M C Ferris. Iterative Linear Programming Solution of Convex Programs. *Journal of Optimization Theory and Applications*, 65:53–65, 1990.
- [8] M C Ferris and O L Mangasarian. Finite Perturbation of Convex Programs. *Applied Mathematics and Optimization*, 23:263–273, 1991.

- [9] M C Ferris. Parallel Solution of Extremely Large Knapsack Problems. Technical Report 842, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1989.
- [10] J V Burke and M C Ferris. Characterization of Solution Sets of Convex Programs. *Operations Research Letters*, 10:57–60, 1991.
- [11] M C Ferris and O L Mangasarian. Minimum Principle Sufficiency. *Mathematical Programming*, 57:1–14, 1992.
- [12] E J Anderson and M C Ferris. Parallel Genetic Algorithms in Optimization. In *Proceedings of the Fourth SIAM conference on Parallel Processing for Scientific Computing, Chicago, Illinois, December 11-13*, 1989.
- [13] M C Ferris and M Vlach. Scheduling with Earliness and Tardiness Penalties. *Naval Research Logistics Quarterly*, 39:229–245, 1992.
- [14] E J Anderson and M C Ferris. A Genetic Algorithm for the Assembly Line Balancing Problem. In *Proceedings of the Integer Programming / Combinatorial Optimization Conference, Waterloo, Ontario, Canada, May 28–30*. University of Waterloo Press, 1990.
- [15] M C Ferris and A B Philpott. On affine scaling and semi-infinite programming. *Mathematical Programming*, 56:361–364, 1992.
- [16] J V Burke, M C Ferris, and M Qian. On the Clarke Subdifferential of the Distance Function to a Closed Set. *Journal of Mathematical Analysis and its Applications*, 166:199–213, 1992.
- [17] M Cao and M C Ferris. Genetic Algorithms in Optimization. *Journal of Undergraduate Mathematics and its Applications*, 12:81–90, 1991.
- [18] M C Ferris and O L Mangasarian. Parallel Constraint Distribution. *SIAM Journal on Optimization*, 1:487–500, 1991.
- [19] K Bennett, M C Ferris, and Y E Ioannidis. A Genetic Algorithm for Database Query Optimization. In R K Belew and L B Booker, editors, *Proceedings of the Fourth International Conference on Genetic Algorithms*, pages 400–407, San Mateo, California, 1991. Morgan Kaufmann Publishers, Inc.
- [20] Michael C. Ferris. Parallel Constraint Distribution in Convex Quadratic Programming. *Mathematics of Operations Research*, 19(3):645–658, August 1994.
- [21] M C Ferris and S Lucidi. Globally Convergent Methods for Nonlinear Equations. Technical Report 1030, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1991.
- [22] E J Anderson and M C Ferris. Genetic Algorithms for Combinatorial Optimization: The Assembly Line Balancing Problem. *ORSA Journal on Computing*, 6:161–173, 1994.
- [23] JV Burke and MC Ferris. Weak Sharp Minima in Mathematical Programming. *SIAM Journal on Control and Optimization*, 31(5):1340–1359, 1993.
- [24] M C Ferris and O L Mangasarian. Error Bounds and Strong Upper Semicontinuity for Monotone Affine Variational Inequalities. *Annals of Operations Research*, 47:293–305, 1993.

- [25] S P Dirkse, M C Ferris, P V Preckel, and T F Rutherford. The GAMS Callable Program Library for Variational and Complementarity Solvers. Mathematical Programming Technical Report 94-07, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1994.
- [26] J Eckstein and M C Ferris. Operator Splitting Methods for Monotone Linear Complementarity Problems. TMC 239, Thinking Machines Corporation, Cambridge, Massachusetts, 1992.
- [27] M C Ferris. The Linear Complementarity Problem. *Bulletin of the American Mathematical Society*, 28:169–175, 1993.
- [28] M Cao and M C Ferris. Interior-Point Algorithms for Monotone Affine Variational Inequalities. *Journal of Optimization Theory and Applications*, 83(2):269–283, 1994.
- [29] M Cao and M C Ferris. A Pivotal Method for Affine Variational Inequalities. *Mathematics of Operations Research*, 21:44–64, 1996.
- [30] M C Ferris and S Lucidi. Nonmonotone Stabilization Methods for Nonlinear Equations. *Journal of Optimization Theory and Applications*, 81:53–71, 1994.
- [31] M C Ferris and O L Mangasarian. Parallel Variable Distribution. *SIAM Journal on Optimization*, 4:815–832, 1994.
- [32] J V Burke and M C Ferris. A Gauss–Newton Method for Convex Composite Optimization. *Mathematical Programming*, 71:179–194, 1995.
- [33] S P Dirkse and M C Ferris. The PATH Solver: A Non-Monotone Stabilization Scheme for Mixed Complementarity Problems. *Optimization Methods and Software*, 5:123–156, 1995.
- [34] S C Billups and M C Ferris. Convergence of an Infeasible Interior–Point Algorithm from Arbitrary Positive Starting Points. *SIAM Journal on Optimization*, 6:316–325, 1996.
- [35] M C Ferris and J S Pang. Nondegenerate Solutions and Related Concepts in Affine Variational Inequalities. *SIAM Journal on Control and Optimization*, 34:244–263, 1996.
- [36] S P Dirkse and M C Ferris. MCPLIB: A Collection of Nonlinear Mixed Complementarity Problems. *Optimization Methods and Software*, 5:319–345, 1995.
- [37] M Cao and M C Ferris. P-C Matrices and the Linear Complementarity Problem. *Linear Algebra and Its Applications*, 246:299–312, 1996.
- [38] M Cao and M C Ferris. Lineality Removal for Copositive–Plus Normal Maps. *Communications on Applied Nonlinear Analysis*, 2:1–10, 1995.
- [39] S P Dirkse and M C Ferris. A Pathsearch Damped Newton Method for Computing General Equilibria. *Annals of Operations Research*, pages 211–232, 1996.
- [40] M C Ferris and J D Horn. Partitioning Mathematical Programs for Parallel Solution. *Mathematical Programming*, 80:35–62, 1998.
- [41] M C Ferris and D Ralph. Projected Gradient Methods for Nonlinear Complementarity Problems via Normal Maps. In D Du, L Qi, and R Womersley, editors, *Recent Advances in Nonsmooth Optimization*, pages 57–87. World Scientific Publishers, 1995.

- [42] S C Billups and M C Ferris. Solutions to Affine Generalized Equations Using Proximal Mappings. *Mathematics of Operations Research*, 24(February):219–236, 1999.
- [43] M C Ferris, S Lucidi, and M Roma. Nonmonotone Curvilinear Stabilization Techniques for Unconstrained Optimization. *Computational Optimization and Applications*, 6:117–136, 1996.
- [44] J Eckstein and M C Ferris. Operator Splitting Methods for Monotone Affine Variational Inequalities, with a Parallel Application to Optimal Control. *INFORMS Journal on Computing*, 10:218–235, 1998.
- [45] M C Ferris, A Meeraus, and T F Rutherford. Computing Wardropian Equilibrium in a Complementarity Framework. *Optimization Methods and Software*, 10:669–685, 1999.
- [46] M C Ferris and J S Pang. Engineering and Economic Applications of Complementarity Problems. *SIAM Review*, 39:669–713, 1997.
- [47] S C Billups and M C Ferris. QPCOMP: A Quadratic Program Based Solver for Mixed Complementarity Problems. *Mathematical Programming*, 76:533–562, 1997.
- [48] M C Ferris and T F Rutherford. Accessing Realistic Complementarity Problems within Matlab. In G Di Pillo and F Giannessi, editors, *Nonlinear Optimization and Applications*, pages 141–153. Plenum Press, New York, 1996.
- [49] C Böehringer, M C Ferris, and T F Rutherford. Alternative CO2 Abatement Strategies for the European Union. In *Climate Change, Transport and Environmental Policy*, pages 16–47, Cheltenham, England, 1998. Edward Elgar.
- [50] M C Ferris and O L Mangasarian. Breast Cancer Diagnosis via Linear Programming. *IEEE Computational Science and Engineering*, 2:70–71, 1995.
- [51] S C Billups, S P Dirkse, and M C Ferris. A Comparison of Large Scale Mixed Complementarity Problem Solvers. *Computational Optimization and Applications*, 7:3–25, 1997.
- [52] S P Dirkse and M C Ferris. Crash Techniques for Large-Scale Complementarity Problems. In M C Ferris and J S Pang, editors, *Complementarity and Variational Problems: State of the Art*, pages 40–61, Philadelphia, Pennsylvania, 1997. SIAM Publications.
- [53] F Tin-Loi and M C Ferris. Holonomic Analysis of Quasibrittle Fracture with Nonlinear Softening. In B L Karihaloo, Y W Mai, M I Ripley, and R O Ritchie, editors, *Advances in Fracture Research*, volume 2, pages 2183–2190, Oxford, 1997. Pergamon Press.
- [54] M C Ferris, M P Mesnier, and J J Moré. NEOS and Condor: Solving Nonlinear Optimization Problems over the Internet. *ACM Transactions on Mathematical Software*, 26:1–18, 2000.
- [55] E J Anderson and M C Ferris. A Direct Search Algorithm for Optimization with Noisy Function Evaluations. *SIAM Journal on Optimization*, 11:837–857, 2001.
- [56] M C Ferris and S K Zavriev. The Linear Convergence of a Successive Linear Programming Algorithm. Mathematical Programming Technical Report 96–12, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1996.

- [57] M C Ferris and J S Pang, editors. *Complementarity and Variational Problems: State of the Art*, Philadelphia, Pennsylvania, 1997. SIAM Publications.
- [58] J Eckstein and M C Ferris. Smooth Methods of Multipliers for Complementarity Problems. *Mathematical Programming*, 86:65–90, 1999.
- [59] F Tin-Loi and M C Ferris. A Simple Mathematical Programming Method for a Structural Identification Problem. In *Seventh International Conference on Computing in Civil and Building Engineering (ICCCBE-VII), Seoul, Korea, 19-21 August*, pages 511–518, Korea, 1997. Techno-Press.
- [60] M C Ferris and A Ruszczyński. Robust Path Choice in Networks with Failures. *Networks*, 35:181–194, 2000.
- [61] S P Dirkse and M C Ferris. Traffic Modeling and Variational Inequalities using GAMS. In Ph. L Toint, M Labbe, K Tanczos, and G Laporte, editors, *Operations Research and Decision Aid Methodologies in Traffic and Transportation Management*, volume 166 of *NATO ASI Series F*, pages 136–163. Springer-Verlag, 1998.
- [62] S P Dirkse and M C Ferris. Modeling and Solution Environments for MPEC: GAMS & MATLAB. In M Fukushima and L Qi, editors, *Reformulation: Nonsmooth, Piecewise Smooth, Semismooth and Smoothing Methods*, pages 127–148. Kluwer Academic Publishers, 1999.
- [63] M C Ferris and T S Munson. Interfaces to PATH 3.0: Design, Implementation and Usage. *Computational Optimization and Applications*, 12:207–227, 1999.
- [64] M C Ferris and F Tin-Loi. Nonlinear Programming Approach for a Class of Inverse Problems in Elastoplasticity. *Structural Engineering and Mechanics*, 6:857–870, 1998.
- [65] Michael C Ferris, Robert Fourer, and David M Gay. Expressing Complementarity Problems and Communicating them to Solvers. *SIAM Journal on Optimization*, 9(4):991–1009, 1999.
- [66] M C Ferris and F Tin-Loi. On the Solution of a Minimum Weight Elastoplastic Problem involving Displacement and Complementarity Constraints. *Computer Methods in Applied Mechanics and Engineering*, 174:107–120, 1999.
- [67] M C Ferris, C Kanzow, and T S Munson. Feasible Descent Algorithms for Mixed Complementarity Problems. *Mathematical Programming*, 86:475–497, 1999.
- [68] D M Shepard, M C Ferris, G Olivera, and T R Mackie. Optimizing the Delivery of Radiation to Cancer Patients. *SIAM Review*, 41:721–744, 1999.
- [69] D L Eager, M C Ferris, and M K Vernon. Optimized Regional Caching for On-Demand Data Delivery. In *Multimedia Computing and Networking, Proceedings of SPIE*, volume 3654, pages 301–316, Bellingham, Washington, 1999.
- [70] M C Ferris and T S Munson. Complementarity Problems in GAMS and the PATH Solver. *Journal of Economic Dynamics and Control*, 24:165–188, 2000.
- [71] Michael C. Ferris and Todd S. Munson. Modeling Languages and Condor: Metacomputing for Optimization. *Mathematical Programming*, 88:487–505, 2000.

- [72] D L Eager, M C Ferris, and M K Vernon. Optimized Caching in Systems with Heterogeneous Client Populations. *Performance Evaluation*, 42:163–185, 2000.
- [73] M C Ferris and T S Munson. Case Studies in Complementarity: Improving Model Formulation. In M Théra and R Tichatschke, editors, *Ill-Posed Variational Problems and Regularization Techniques*, number 477 in Lecture Notes in Economics and Mathematical Systems, pages 79–98. Springer Verlag, Berlin, Germany, 1999.
- [74] M C Ferris and C Kanzow. Complementarity and Related Problems: A Survey. In P M Pardalos and M G C Resende, editors, *Handbook of Applied Optimization*, pages 514–530. Oxford University Press, New York, New York, 2002.
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- [76] M C Ferris and T S Munson. Linear Programming for Emergency Broadcast Systems. *SIAG/OPT Newsletter*, 10:6–8, 1999.
- [77] M C Ferris and K Sinapiromsaran. Formulating and Solving Nonlinear Programs as Mixed Complementarity Problems. In V H Nguyen, J J Strodiot, and P Tossings, editors, *Optimization*, volume 481 of *Lecture Notes in Economics and Mathematical Systems*. Springer-Verlag, 2000.
- [78] M C Ferris and F Tin-Loi. Limit Analysis of Frictional Block Assemblies as a Mathematical Program with Complementarity Constraints. *International Journal of Mechanical Sciences*, 43:209–224, 2001.
- [79] F Tin-Loi and M C Ferris. Complementarity Problems in Engineering and Mechanics: Models and Solution. In C M Wang, K H Lee, and K K Ang, editors, *Computational Mechanics for the Next Millenium*, volume 2 of *Proceedings of APCOM '99, Fourth Asia-Pacific Conference on Computational Mechanics*, pages 1029–1036. Elsevier Science Ltd, 1999.
- [80] M C Ferris and R R Meyer. Models and Solution for On-Demand Data Delivery Problems. In P M Pardalos, editor, *Approximation and Complexity in Numerical Optimization: Continuous and Discrete Problems*, volume 42 of *Nonconvex Optimization and its Applications*, pages 175–188. Kluwer Academic Publishers, Dordrecht, 2000.
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- [82] J.-Cl. De Bremaecker, M.C. Ferris, and D. Ralph. Compressional fractures considered as contact problems and mixed complementarity problems. *Engineering Fracture Mechanics*, 66:287–303, 2000.
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- [84] D L Eager, M C Ferris, and M K Vernon. Models for Optimized Regional Caching in Heterogeneous Video-On-Demand Systems. Technical Report 1402, Computer Sciences Department, University of Wisconsin, Madison, Wisconsin, 1999.

- [85] W D D'Souza, R R Meyer, M C Ferris, and B R Thomadsen. Mixed Integer Programming Models for Prostate Brachytherapy Treatment Optimization. *Medical Physics*, 26(6):1099, 1999.
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- [88] M C Ferris, T S Munson, and D Ralph. A Homotopy Method for Mixed Complementarity Problems based on the PATH Solver. In D F Griffiths and G A Watson, editors, *Numerical Analysis 1999*, Research Notes in Mathematics, pages 143–167, London, 2000. Chapman and Hall.
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- [91] M C Ferris and D M Shepard. Optimization of Gamma Knife Radiosurgery. In D.-Z. Du, P Pardalos, and J Wang, editors, *Discrete Mathematical Problems with Medical Applications*, volume 55 of *DIMACS Series in Discrete Mathematics and Theoretical Computer Science*, pages 27–44. American Mathematical Society, 2000.
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- [95] M C Ferris, O L Mangasarian, and J S Pang, editors. *Complementarity: Applications, Algorithms and Extensions*, volume 50 of *Applied Optimization*, Dordrecht, The Netherlands, 2001. Kluwer Academic Publishers.
- [96] W D D'Souza, R R Meyer, B R Thomadsen, and M C Ferris. An Iterative Sequential Mixed-Integer Approach to Automated Prostate Brachytherapy Treatment Optimization. *Physics in Medicine and Biology*, 46:297–322, 2001.
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- [101] M C Ferris and S M Robinson. Enhanced Technology for Hard Optimization Problems. In *Proceedings of the Third International Conference on Intelligent Processing and Manufacturing of Materials (IPMM-2001)*, page J. A. Meech and S. M. Veiga and M. M. Veiga and S., Vancouver, British Columbia, 2001.
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- [107] J M Almeida, D L Eager, M C Ferris, and M K Vernon. Provisioning Content Distribution Networks for Streaming Media. In *Proceedings of 21st Annual Joint Conference of IEEE Computer and Communications Societies (Infocom 2002)*, pages 1746–1756, New York, 2002.
- [108] M C Ferris and M M Voelker. Fractionation in Radiation Treatment Planning. *Mathematical Programming B*, 102:387–413, 2004.
- [109] M C Ferris, S P Dirkse, and A Meeraus. Mathematical Programs with Equilibrium Constraints: Automatic Reformulation and Solution via Constrained Optimization. In T J Kehoe, T N Srinivasan, and J Whalley, editors, *Frontiers in Applied General Equilibrium Modeling*, pages 67–93. Cambridge University Press, 2005.
- [110] H Zhang, G Wahba, Y Lin, M M Voelker, M C Ferris, R Klein, and B Klein. Variable Selection and Model Building via Likelihood Basis Pursuit. *Journal of American Statistical Association*, 99(467):659–672, 2004.
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