

Full CV
RALPH E. STEUER
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Position

Sanford Family Distinguished Chair in Business
Department of Finance
Terry College of Business
University of Georgia
Athens, Georgia 30602 USA

Areas of Interest

- Algorithms for Portfolio Optimization
- Sustainable, Socially Responsible, and Ethical Impact Investing
- Multiple Criteria Optimization
- Efficient Sets and Surfaces
- Multiple Criteria Decision Making

Education

University of North Carolina	Ph.D. in Business Administration (Quantitative Methods), 1973.
University of Chicago	Post M.B.A. Student (Mathematical Models and Computers), 1967.
Cornell University	M.B.A (Accounting and Finance), 1966.
Brown University	A.B. & Sc.B. (Economics and Electrical Engineering), 1963.

Notable Awards and Officerships

- Member of Executive Committee, International Society on Multiple Criteria Decision Making, 2022-2026.
- Terry College Distinguished Research Award, 2016.
- Trustee and Member of Investment Committee, Teachers Retirement System of Georgia, 2008-2015.
- President, INFORMS Section on Multiple Criteria Decision Making, 2013.
- Honorary Dean Award, School of Industrial Management, Ho Chi Minh City University of Technology, Vietnam, November 25, 2000.
- Gold Medal Award, International Society on Multiple Criteria Decision Making, Cape Town, South Africa, January 9, 1997.
- MCDM Presidential Service Award, for service as President of the International Society on Multiple Criteria Decision Making, 1996.

- President, International Society on Multiple Criteria Decision Making, 1992–1996.
- Honoured Professor, elected by the Scientific Council of Simferopol State University, Crimea, Ukraine, April 17, 1995.
- Henry A. Latané Distinguished Alumnus Award, Kenan-Flagler Graduate School of Business, University of North Carolina, Chapel Hill, May 7, 1994.
- Koopman Prize, Operations Research Society of America, for best-published paper in military operations research, October 16, 1989.
- Lamar Dodd Award for Creative Research in Science, University of Georgia, June 2, 1987.
- Creative Research Medal, University of Georgia, June 2, 1987.
- Distinguished Research Award, College of Business Administration, University of Georgia, April 24, 1987.
- MBA Teacher of the Year, Graduate Business Association, University of Georgia, June 1985.

Previous Academic Appointments

- University of Kentucky, Assistant Professor and Associate Professor, Department of Business Administration, 1977–1981 (except for 1978–1979).
- Princeton University, Visiting Associate Professor, Department of Civil Engineering, 1978–1979.
- Universität Bielefeld, Guest Professor, Fakultät für Wirtschaftswissenschaften, Bielefeld, West Germany, Summer 1982.
- Université de Valenciennes, First Class Full Professor, 2003.

Film Documentary

“Vietnam: Faces of Change” (1994). Prepared by the University of Georgia Office of Public Information. A 28-minute documentary centered about Professor Steuer’s involvement in the establishment of the School of Industrial Management at the Ho Chi Minh City University of Technology in Vietnam. Filmed in Vietnam and Singapore. Aired several times on Georgia Public Television in 1994 and 1995.

Featured Speaker of Some Sort since 2001

- Keynote Speaker, Conference of the International Federation of African Operational Research Societies, Tlemcen, Algeria, November 2-4, 2024.
- Plenary Speaker, [27th International Conference on Multiple Criteria Decision Making, Hammamet, Tunisia, June 2-7, 2024.](#)
- Keynote Speaker, 69th Meeting of the European Working Group on Multicriteria Decision Aid, ESSCA Business School, Paris, France, September 21-23, 2023.

- Keynote Speaker, [3rd International Conference on Decision Aid Sciences and Applications](#), Mae Fah Luang University, Chiang Rai, Thailand, March 22-25, 2022.
- Plenary Speaker, 14th International Conference on Operations Research, University of Havana, Cuba, March 3-6, 2020.
- First Voice, Mini-Seminar on Portfolio Theory and Derivative Pricing, Polish Academy of Sciences, Warsaw, Poland, March 27-29, 2019.
- Plenary Speaker, 6th International Conference on Multidimensional Finance, Insurance and Investment, Alcoy (Valencia), Spain, June 26-29, 2016.
- Keynote Speaker, 2016 International Conference on Management Science and Decision Making, Tamkang University, New Taipei City, Taiwan, May 4, 2016.
- Plenary Speaker, XI International Symposium on Generalized Convexity and Monotonicity, Instituto de Matematica Pura e Aplicad, Rio de Janeiro, Brazil, August 25-30, 2014.
- Keynote Speaker, International Conference on Multidimensional Finance, Insurance and Investment, University of Bahrain, Bahrain, November 27-29, 2013.
- Plenary Speaker, International Conference on Operations Research and Optimization, School of Mathematical Statistics and Computer Science, University of Tehran, Iran, January 19-25, 2013.
- Tutorial Speaker, 54th Annual Conference of the Canadian Operational Research Society and the 10th International Conference on Multiple Objective and Goal Programming, Niagara Falls, Canada, June 11-13, 2012.
- Featured Speaker, Meeting of the Indian Subcontinent Region of the Decision Sciences Institute, Chennai, India, January 4-6, 2012.
- Plenary Speaker, Second International Symposium on Operational Research, Algiers, Algeria, May 30 to June 2, 2011.
- Plenary Speaker, 1st International Conference on Multidimensional Finance, Insurance and Investment, Hammamet, Tunisia, April 14-16, 2011.
- Opening Speaker, Seminar on Management Education: Roles and Trends, Ho Chi Minh City, Vietnam, November 25, 2010.
- Plenary Speaker, 9th International Conference on Multiple Objective Programming and Goal Programming, Sousse, Tunisia, May 24-26, 2010.
- Keynote Speaker, International Conference on Engineering Systems, Management and Applications, American University of Sharjah, United Arab Emirates, March 30 to April 1, 2010.
- Opening Lecturer, 20th International Conference on Multiple Criteria Decision Making, Chengdu/Jiuzhaigou, China, June 21-26, 2009.
- Plenary Speaker, 3rd International Workshop on Multi-Criteria Methods in Finance and Insurance, Spanish Academy of Sciences, Madrid, Spain, April 22-24, 2009.
- Keynote Speaker, Meeting of the European Working Group on Financial Modelling, Lisbon, Portugal, November 8-10, 2007.
- Opening Speaker, 3rd International Conference on Hedge Funds, Montreal, Canada, May 6-8, 2007.

- Keynote Speaker, 21st European Conference on Operations Research, Reykjavik, Iceland, July 2-5, 2006.
- Opening Speaker, International Workshop on Multiple Criteria Decision Making, Ustron, Poland, April 4-6, 2005.
- Opening Speaker, 6th International Conference on Multiple Objective Programming and Goal Programming, Hammamet, Tunisia, April 14-16, 2004.
- Leadoff Speaker, 7th Meeting of the French Working Group on Multiobjective Mathematical Programming, Valenciennes, France, May 15, 2003.
- Opening Speaker, 37th Meeting of the Operational Research Society of New Zealand, Auckland, November 29-30, 2002.
- Opening Speaker, 5th International Conference on Multiple Objective Programming and Goal Programming, Nara, Japan, June 4-7, 2002.
- Opening Speaker, International Conference on Multi-Criteria Decision Making: Theory and Applications in Technology, Business, and Economics, Cairo, Egypt, May 27-30, 2001.
- Keynote Speaker, International Conference on Evolutionary Multi-Criterion Optimization, Swiss Federal Institute of Technology, Zurich, Switzerland, March 7-9, 2001.

Editorships

- Editorial Board, *Journal of Systems Science and Systems Engineering*, since 2000.
- Scientific Board, *Multiple Criteria Decision Making*, since 2000.
- Editorial Board, *International Journal of Information Technology & Decision Making*, World Scientific, since 2002.
- Editorial Board, *Operational Research: An International Journal*, since 2008.
- Editorial Board, *Advanced Modeling and Optimization*, since 2009.
- Editor, *International Journal of Portfolio Analysis & Management*, Inderscience, since 2010.
- Editorial Council, *Artificial Intelligence and Decision Making*, Russian Academy of Sciences, 2020-2022.
- Guest Editor, Special Issue of *Annals of Operations Research* on Managerial Multiobjective Optimization, 2019.
- Scientific Committee, *Multiple Criteria Decision Making*, 2008-2012.
- Editorial Board, *Journal of Multicriteria Decision Making in Economics and Finance*, 2008-2012.
- Editorial Board, *Journal of Computational Optimization in Finance and Economics*, 2006-2009.
- Editorial Board, *Journal of Financial Decision Making*, 2005-2009.
- Associate Editor, *Journal of Multi-Criteria Decision Analysis*, Wiley, 1992-2010.
- Editorial Board, *Applications of Management Science Series*, Emerald Press, since 2009-2010.

- Associate Editor, *Central European Journal for Operations Research and Economics*, since 1996-2011.
- Editorial Board, *Advances in Mathematical Programming and Financial Planning*, 1996-2007.
- Editorial Board, *Lecture Notes in Economics and Mathematical Systems*, Springer-Verlag, 2000-2003.
- Associate Editor, *Operations Research*, 1990-1994.
- Associate Editor, *Naval Logistics Research*, 1989-2003.
- Editor, *MCDM WorldScan*, the Newsletter of the International Society on Multiple Criteria Decision Making, 1987-2001.

Books

- Haimes, Y. Y. and R. E. Steuer (eds.) (2002). *Research and Practice in Multiple Criteria Decision Making*, Lecture Notes in Economics and Mathematical Systems, Vol. 487, Springer-Verlag, Berlin, 552 pp.
- Caballero, R., F. Ruiz and R. E. Steuer (eds.) (1997). *Advances in Multiple Objective and Goal Programming*, Lecture Notes in Economics and Mathematical Systems, Vol. 455, Springer-Verlag, Berlin, 391 pp.
- Steuer, R. E. (1992). Russian version of the below text. Radio e Syvaz, Moscow, 504 pp.
- Steuer, R. E. (1986). *Multiple Criteria Optimization: Theory, Computation, and Application* (ISBN 0-471-88846-X), Wiley Series on Probability and Mathematical Statistics-Applied, Wiley, New York, 546 pp.

Software

Steuer, R. E. “The ADBASE Multiple Objective Linear Programming Solver for All Efficient Extreme Points and All Efficient Unbounded Edges,” introduced in 1974, distributed to over 50 countries.

Publications

- Saini, B. S., K. Miettinen, K. Klamroth, R. E. Steuer and K. Dächert (2024). SCORE Band Visualizations: Supporting Decision Makers in Comparing High-Dimensional Outcome Vectors in Multiobjective Optimization, *IEEE Access*, Vol. 12, doi: 10.1109/ACCESS.2024.3191423.
- Utz, S. and R. E. Steuer (2024). Empirical Analysis of the Trade-offs among Risk, Return, and Climate Risk in Multi-criteria Portfolio Optimization, *Annals of Operations Research*, doi.org/10.1007/s10479-024-06047-2.
- Qi, Y. and R. E. Steuer (2024). An Analytical Derivation of Properly Efficient Sets in Multi-Objective Portfolio Selection, *Annals of Operations Research*, doi.org/10.1007/s10479-024-05848-2.

- Steuer, R. E., Y. Qi and M. Wimmer (2024). Computing Cardinality Constrained Portfolio Selection Efficient Frontiers via Closest Correlation Matrices, *European Journal of Operational Research*, Vol. 313, No. 2, 628-636.
- Steuer, R. E. and S. Utz (2023). Non-Contour Efficient Fronts for Identifying Most Preferred Portfolios in Sustainability Investing, *European Journal of Operational Research*, Vol. 306, No. 2, 742-763.
- Xidonas, P. and R. E. Steuer (2022). A Multicriteria Evaluation Methodology for Assessing the Impact of COVID-19 in EU Countries, *Decision Analytics*, Vol. 4, 100123, <https://doi.org/10.1016/j.dajour.2022.100123>.
- Xidonas, P., R. E. Steuer and C. Hassapis (2020). Robust Portfolio Optimization: A Categorized Bibliographic Review, *Annals of Operations Research*, Vol 292, 533-552.
- Qi, Y and R. E. Steuer (2020). An Analytical Derivation of the Efficient Surface in Quad-and-Higher Criterion Portfolio Selection, *Annals of Operations Research*, Vol 293, No. 2, 521-538.
- Piercy, C. A. and R. E. Steuer (2019). Reducing Wall-Clock Time for the Computation of All Efficient Extreme Points in Multiple Objective Linear Programming, *European Journal of Operational Research*, Vol. 277, No. 2, 653-666.
- Aouni, B., M. Doumpos, B. Pérez-Gladish, R. E. Steuer (2018). On the Increasing Importance of Multiple Criteria Decision Aid Methods for Portfolio Selection, *Journal of the Operational Research Society*, Vol. 69, No. 10, 1525-1542.
- Qi, Y., R. E. Steuer and M. Wimmer (2017). “An Analytical Derivation of the Efficient Surface in Portfolio Selection with Three Criteria,” *Annals of Operations Research*, Vol. 25, No. 1, pp. 161-177.
- Kao, C. and R. E. Steuer (2016). “Value of Information in Portfolio Selection: with a Taiwan Stock Market Application Illustration,” *European Journal of Operational Research*, Vol. 253, No. 2, pp. 418-427
- Spronk, J., R. E. Steuer and C. Zopounidis (2016). “Multicriteria Decision Aid/Analysis in Finance Multicriteria Decision Aid/Analysis in Finance.” In Figueira, J., S. Greco and M. Ehrgott (eds.), *Multiple Criteria Decision Analysis: State-of-the-Art Surveys*, 2nd edition, Springer, pp. 799-848.
- Steuer, R. E., M. Hirschberger and K. Deb (2016). “Extracting from the Relaxed for Large-Scale Semi-Continuous Variable Nondominated Frontiers,” *Journal of Global Optimization*, Vol. 64, No. 1, 33-48.

- Utz, S., M. Wimmer and R. E. Steuer (2015). "Tri-Criterion Modeling for Constructing More-Sustainable Mutual Funds," *European Journal of Operational Research*, Vol. 246, No. 1, pp. 331-338.
- Utz, S., M. Wimmer, M. Hirschberger and R. E. Steuer (2014). "Tri-Criterion Inverse Portfolio Optimization with Application to Socially Responsible Mutual Funds," *European Journal of Operational Research*, Vol. 234, No. 2, pp. 491-498.
- Hirschberger, M., R. E. Steuer, S. Utz, M. Wimmer, and Y. Qi (2013). "Computation of the Nondominated Surface in Tri-Criterion Portfolio Selection," *Operations Research*, Vol. 61, No. 1, pp. 169-183.
- Steuer, R. E., M. Wimmer, and M. Hirschberger (2013). "Overviewing the Transition of Markowitz Bi-criterion Portfolio Selection to Tri-criterion Portfolio Selection," *Journal of Business Economics*, Vol. 83, No. 1, pp. 61-85.
- Qi, Y., F. Wu, X. Peng, and R. E. Steuer (2013). "Chinese Corporate Social Responsibility by Multiple Objective Portfolio Selection and Genetic Algorithms," *Journal of Multi-Criteria Decision Analysis*, Vol. 20, Nos. 3-4, pp. 127-139.
- Spronk, J., R. E. Steuer and C. Zopounidis (2013). In Figueira, J., S. Greco and M. Ehrgott (eds.), "Multicriteria Decision Aid/Analysis in Finance," *Multiple Criteria Decision Analysis: State-of-the-Art Surveys*, 2nd edition, Springer, forthcoming.
- Deb, K., R. E. Steuer, R. Tiwari and R. Tiwari (2011). "Bi-objective Portfolio Optimization Using a Customized Hybrid NSGA-II Procedure," In R. H. C. Takahashi et al., *Evolutionary Multi-Criterion Optimization*, Lecture Notes in Computer Science, Vol. 6576, pp. 358-373.
- Steuer, R. E., Y. Qi and M. Hirschberger (2011). "Comparative Issues in Large-Scale Mean-Variance Efficient Frontier Computation," *Decision Support Systems*, Vol. 51, No. 2, pp. 250-255.
- Yang, J. B., B. Y. H. Wong, D. X. Xu, X. B. Liu, and R. E. Steuer (2010). "Integrated Bank Performance Assessment and Management Planning Using Hybrid Minimax Reference Point--DEA Approach," *European Journal of Operational Research*, Vol. 207, No. 3, pp. 1506-1518.
- Hirschberger, M., Y. Qi and R. E. Steuer (2010). "Large-Scale MV Efficient Frontier Computation via a Procedure of Parametric Quadratic Programming," *European Journal of Operational Research*, Vol. 201, No. 3, pp. 581-588.

- Luque, M., F. Ruiz and R. E. Steuer (2010). "Modified Interactive Chebyshev Algorithm (MICA) for Convex Multiobjective Programming," *European Journal of Operational Research*, Vol. 204, No. 3, pp. 557-564.
- Qi, Y., M. Hirschberger and R. E. Steuer (2009). "Dotted Representations of Mean-Variance Efficient Frontiers and their Computation," *INFOR*, Vol. 47, No. 1, pp. 15-21.
- Wallenius, J., J. S. Dyer, P. C. Fishburn, R. E. Steuer, S. Zionts and K. Deb (2008). "Multiple Criteria Decision Making, Multiattribute Utility Analysis: Recent Accomplishments and What Lies Ahead," *Management Science*, Vol. 54, No. 7, pp. 1336-1349.
- Steuer, R.E, Y. Qi and M. Hirschberger (2008). "Portfolio Seclction in the Presence of Multiple Criteria," *Handbook of Financial Engineering*, Springer, pp. 3-24.
- Hirschberger, M., Y. Qi and R.E. Steuer (2007). "Randomly Generating Portfolio-Section Covariance Matrices with Specified Distributional Characteristics," *European Journal of Operations Research*, Vol. 177, No. 3, pp. 1610-1625.
- Steuer, R. E., Y. Qi and M. Hirschberger (2007). "Suitable-Portfolio Investors, Nondominated Frontier Sensitivity, and the Effect on Standard Portfolio Selection," *Annals of Operations Research*, Vol. 152, No. 1, pp. 297-317.
- Steuer, R. E., Y. Qi and M. Hirschberger (2006). "Portfolio Optimization: New Capabilities and Future Methods," *Zeitschrift für Betriebswirtschaft*, Vol. 76, No. 2, pp. 199-219.
- Steuer, R. E., Y. Qi and M. Hirschberger (2006). "Developments in Multi-Attribute Portfolio Selection," In T. Trzaskalik (ed.), *Multi-Criteria Decision Making*, Karol Adamiecki Press, Katowice, Poland, pp. 251-262.
- Schechter, M. and R. E. Steuer (2005). "A Correction to the Connectedness of the Evans-Steuer Algorithm of Multiple Objective Linear Programming," *Foundations of Computing*, Vol. 30, No. 4, pp. 351-359.
- Steuer, R. E., Y. Qi and M. Hirschberger (2005). "Multiple Objectives in Portfolio Selection," *Journal of Financial Decision Making*, Vol. 1, No. 1, pp. 11-26.
- Steuer, R. E. and C. A. Piercy (2005). "A Regression Model for the Number of Efficient Extreme Points in Multiple Objective Linear Programming," *European Journal of Operational Research*, Vol. 162, No. 2, pp.484-496.

- Steuer, R. E. and P. Na (2003). "Multiple Criteria Decision Making Combined with Finance: A Categorized Bibliography" Special Issue on Financial Modeling, *European Journal of Operational Research*, Vol. 150, No. 3, pp. 496-515.
- Steuer, R. E. and Y. Qi (2003). "Computational Investigations Evidencing Multiple Objectives in Portfolio Optimization." In Tanino, T., T. Tanaka, and M. Inuiguchi (eds.), *Multi-Objective Programming and Goal-Programming*, Advances in Soft Computing, Springer-Verlag, pp. 35-44.
- Steuer, R. E. (2001). "Multiobjective Programming." In Gass, S. I. and C. M. Harris (eds.), *International Encyclopedia of Operations Research and Management Science*, Kluwer Academic Publishers, Boston, pp. 532-538.
- Steuer, R. E. (2001). "An Overview in Graphs of Multiple Objective Programming," *Lecture Notes in Computer Science*, Vol. 1993, Springer-Verlag, Berlin, pp. 41-51.
- Steuer, R. E. and C. Piercy (2000). "Difficulties in Solving Network Multiple Objective Linear Programming Problems." In Lawrence, K. D. (ed.), *Multi-Criteria Applications*, Applications of Management Science, Vol. 10, Elsevier Science, pp. 217-231.
- Agrell, P. J. and R. E. Steuer (2000). "ACADEA - A Decision Support System for Faculty Performance Reviews," *Journal of Multi-Criteria Decision Analysis*, Vol. 9, No. 5, pp. 191-204.
- Sun, M. and R. E. Steuer (2000). "Quad Tree Data Structures for Use in Large-Scale Discrete Alternative Multiple Criteria Problems." In Shi, Y. and M. Zeleny (eds.), *New Frontiers of Decision Making for the Information Technology Era*, World Scientific Publishing, Singapore, pp. 48-71.
- R. E. Steuer and C. Piercy (2000). "Cone Decomposition for the Solution of Efficient Extreme Points in Parallel." In Haimes, Y. Y. and R. E. Steuer (eds.), *Research and Practice in Multiple Criteria Decision Making*, Lecture Notes in Economics and Mathematical Systems, Vol. 487, Springer-Verlag, Berlin, pp. 369-380.
- Sun, M., A. Stam and R. E. Steuer (2000). "Interactive Multiple Objective Programming Using Tchebycheff Programs and Artificial Neural Networks," *Computers & Operations Research*, Vol. 27, Nos. 7-8, pp. 601-620.
- Korhonen, P., S. Salo and R. E. Steuer (1997). "A Heuristic for Estimating Nadir Criterion Values in Multiple Objective Programming," *Operations Research*, Vol. 45, No. 5, pp. 751-757.

- Steuer, R. E. (1997). "Status of Non-Fully Answered Questions about the Efficient/Nondominated Set." In J. Climaco (ed.), *Multicriteria Analysis*, Springer-Verlag, Berlin, pp. 585-589.
- Steuer, R. E. (1997). "Implementation of the Tchebycheff Method in a Spreadsheet." In M. H. Karwan, J. Spronk and J. Wallenius, *Essays on Decision Making: A Volume in Honour of Stanley Zionts*, Springer-Verlag, Heidelberg, pp. 93-103.
- Sun, M., A. Stam and R. E. Steuer (1996). "Solving Multiple Objective Programming Problems Using Feed-Forward Artificial Neural Networks: The Interactive FFANN Procedure," *Management Science*, Vol. 42, No. 6, pp. 835-849.
- Sun, M. and R. E. Steuer (1996). "Quad-Trees and Linear Lists for Identifying Nondominated Criterion Vectors," *ORSA Journal on Computing*, Vol. 8, No. 4, pp. 367-375.
- Sun, M. and R. E. Steuer (1996). "InterQuad: A Quad-Tree Based Procedure for Solving the Discrete Alternative Multiple Criteria Problem," *European Journal of Operational Research*, Vol. 89, No. , pp. 462-472.
- Steuer, R. E., L. R. Gardiner and J. Gray (1996). "A Bibliographical Survey of the Activities and International Nature of Multiple Criteria Decision Making," *Journal of Multi-Criteria Decision Analysis*, Vol. 5, No. 3, pp. 195-217.
- Steuer, R. E. (1996). "Multiobjective Programming." In C. Harris and S. I. Gass (eds.), *International Encyclopedia of Business and Management*, Kluwer Academic Publishers, Boston, pp. 413-419.
- Godfrey, J. T., R. A. Leitch and R. E. Steuer (1996). "A Decision-Support System for Planning and Budgeting with Multiple Objectives," *Management Accounting*, Vol. 77, No. 7, pp. 38-41.
- Steuer, R. E. and M. Sun (1995). "The Parameter Space Investigation Method of Multiple Objective Nonlinear Programming: A Computational Investigation," *Operations Research*, Vol. 43, No. 4, pp. 641-648.
- Steuer, R. E. (1995). "The Tchebycheff, Aspiration Criterion Vector, and Combined Procedures of Interactive Multiple Objective Programming," *Journal of Automation and Information Sciences*, Vol. 26, No. 6, pp. 27-37.
- Steuer, R. E. (1995). "The ADBASE Multiple Objective Linear Programming Package." In J. Gu, G. Chen, Q. Wei, and S. Wang (eds.), *Multiple Criteria Decision Making*, SCI-TECH, Windsor, England, pp. 1-6.

- Leitch, R. A., R. E. Steuer and J. Godfrey (1995). "A Search Process for Multiple-Objective Management Accounting Problems: A Budget Illustration," *Journal of Management Accounting Research*, Vol. 7, Fall, pp. 87-121.
- Gardiner, L. R. and R. E. Steuer (1994). "Unified Interactive Multiple Objective Programming: An Open Architecture for Accommodating New Procedures," *Journal of the Operational Research Society*, Vol. 45, No. 12, pp. 1456-1466.
- Steuer, R. E. (1994). "Random Problem Generation and the Computation of Efficient Extreme Points in Multiple Objective Linear Programming," *Computational Optimization and Applications*, Vol. 3, No. 4, pp. 333-347.
- Gardiner, L. R. and R. E. Steuer (1994). "Unified Interactive Multiple Objective Programming," *European Journal of Operational Research*, Vol. 74, No. 3, pp. 391-406.
- Steuer, R. E. (1994). "Random Problem Generation and the Computation of Efficient Extreme Points in Multiple Objective Linear Programming," *Computational Optimization and Applications*, Vol. 3, No. 4, pp. 333-347.
- Gardiner, L. R. and R. E. Steuer (1994). "Unified Interactive Multiple Objective Programming," *European Journal of Operational Research*, Vol. 74, No. 3, pp. 391-406.
- Steuer, R. E., J. Silverman and A. W. Whisman (1993). "A Combined Tchebycheff/Aspiration Criterion Vector Interactive Multiobjective Programming Procedure," *Management Science*, Vol. 39, No. 10, pp. 1255-1260.
- Steuer, R. E. (1993). "The Tchebycheff, Aspiration Criterion Vector, and Combined Procedures of Interactive Multiple Objective Programming," *Avtomatika*, Vol. 5, pp. 3-15, (in Russian).
- Dyer, J. S., P. C. Fishburn, R. E. Steuer, J. Wallenius and S. Zionts (1992). "Multiple Criteria Decision Making, Multiattribute Utility Theory: The Next Ten Years," *Management Science*, Vol. 38, No. 5, pp. 645-654.
- Steuer, R. E. (1992). "On the Academic Exchange of Research Software: An Opportunity for MCDM Leadership," *Computers & Operations Research*, Vol. 19, No. 7, pp. 553-557.
- Steuer, R. E. and L. R. Gardiner (1991). "On the Computational Testing of Procedures for Interactive Multiple Objective Linear Programming." In Fandel, G. and H. Gehring (eds.), *Operations Research: Beiträge zur Quantitativen Wirtschaftsforschung*, Springer-Verlag, Berlin, pp. 121-131.

- Steuer, R. E. and L. R. Gardiner (1991). "Concepts of the Reference Point Class of Methods of Interactive Multiple Objective Programming." In Lewandowski, A., P. Serafini and M. G. Speranza (eds.), *Methodology, Implementation and Application of Decision Support Systems*, CISM No. 320, Springer-Verlag, Berlin, pp. 245-270.
- Steuer, R. E. and L. R. Gardiner (1990). "Interactive Multiple Objective Programming: Concepts, Current Status, and Future Directions." In Bana e Costa, C. A. (ed.), *Readings in Multiple Criteria Decision Aid*, Springer-Verlag, Berlin, pp. 413-444.
- Whisman, A., J. Silverman and R. E. Steuer (1989). "Embedding a Manpower Optimization Model in a Managerial Environment." *Mathematical and Computer Modeling*, Vol. 12, No. 10/11, pp. 1383-1391.
- Steuer, R. E. (1989). "The Tchebycheff Procedure of Interactive Multiple Objective Programming." In Karpak, B. and S. Zionts (eds.), *Multiple Criteria Decision Making and Risk Analysis Using Microcomputers*, NATO ASI Series, Vol. 56, Springer-Verlag, Berlin, pp. 235-249.
- Steuer, R. E., L. R. Gardiner and J. J. Bernardo (1989). "Multiple Criteria Trajectory Decision Support Using Polyscreen Workstations: A Production Planning Illustration," *Lecture Notes in Economics and Mathematical Systems*, Vol. 335, Springer-Verlag, Berlin, pp. 486-497.
- Steuer, R. E. (1989). "Trends in Interactive Multiple Objective Programming," *Lecture Notes in Economics and Mathematical Systems*, Vol. 331, Springer-Verlag, Berlin, pp. 101-119.
- Silverman, J., R. E. Steuer and A. W. Whisman (1988). "Multi- Period, Multiple Criteria Optimization for Manpower Planning," *European Journal of Operational Research*, Vol. 34, No. 2, pp. 160-170. (Paper won 1988 ORSA Koopman Prize).
- Isermann, H. and R. E. Steuer (1988). "Computational Experience Concerning Payoff Tables and Minimum Criterion Values over the Efficient Set," *European Journal of Operational Research*, Vol. 33, No. 1, pp. 91-97.
- Silverman, J., R. E. Steuer and A. W. Whisman (1987). "User Control and Multiple Time Path Objectives in a Manpower Planning Decision Support Systems Environment," *Lecture Notes in Economics and Mathematical Systems*, Vol. 285, Springer-Verlag, Berlin, pp. 114-122.
- Steuer, R. E. and E. F. Wood (1986). "On the 0-1 Implementation of the Tchebycheff Solution Approach: A Water Quality Illustration," *Large Scale Systems*, Vol. 10, No. 1, pp. 243-255.

- Steuer, R. E. and A. W. Whisman (1986). "Toward the Consolidation of Interactive Multiple Objective Programming Procedures," *Lecture Notes in Economics and Mathematical Systems*, Vol. 273, Springer-Verlag, Berlin, pp. 232-241.
- Steuer, R. E., J. Silverman and A. W. Whisman (1985). "A Decision Support System for Multiple Criteria Optimization." In Lin, C. K., et al. (eds.), *Operational Research for Decision Support*, Operational Research Society of Singapore, Singapore, pp. 343-352.
- Silverman, J., R. E. Steuer and A. W. Whisman (1985). "Computer Graphics at the Multicriterion Computer/User Interface," *Lecture Notes in Economics and Mathematical Systems*, Vol. 242, Springer-Verlag, Berlin, pp. 201-213.
- Lawrence, K. D. and R. E. Steuer (eds.) (1984). "Special Report on Multiple Criteria Decision Making in Production Planning and Scheduling," *IIE Transactions*, Vol. 16, No. 4, pp. 298-328.
- Steuer, R. E. (1984). "Sausage Blending Using Multiple Objective Linear Programming," *Management Science*, Vol. 3, No. 11, pp. 1376-1384.
- Steuer, R. E. (1984). "Operating Considerations Pertaining to the Interactive Weighted Tchebycheff Procedure," *Lecture Notes in Economics and Mathematical Systems*, Vol. 229, Berlin: Springer-Verlag, pp. 132-138.
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- Greis, N. P., E. F. Wood, and R. E. Steuer (1983). "Multi-Criteria Analysis of Water Allocation in a River Basin: The Tchebycheff Approach," *Water Resources Research*, Vol. 19, No. 4, pp. 865-875.
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Presentations since 1994

- "On the Difficulties Involved on Solving ESG and Other Tri-Criterion Portfolio Selection Problems," Conference of the International Federation of African Operations Research Societies, Tlemcen, Algeria, November 2-4, 2024.
- "MCDM: How We Got Here & Difficulties in Viewing Nondominated Sets after 2 Objectives," 27th International Conference on Multiple Criteria Decision Making, Hammamet, Tunisia, June 2-7, 2024.
- "On the Differences between Tri-Criterion and Bi-Criterion Portfolio Selection in Graphs," 69th Meeting of the European Working Group on Multicriteria Decision Aid, ESSCA Business School, Paris, France, September 21-23, 2023.
- "A Visualization-Aided Approach for Solving Tri-Criterion Portfolio Selection Problems," [Seminar on Multiobjective Optimization on a Budget, Leibniz-Zentrum for Informatics, Schloss Dagstuhl, Wadern, Germany, September 3-8, 2023.](#)
- "ESG Integration as an Add-On Module to Current Markowitz-style ESG Portfolio Construction Procedures," [67th Meeting of the European Working Group on Financial Modeling and Commodity Markets, Rome, Italy, May 4, 2023.](#)
- "On the Task of Locating Optimal Portfolios in ESG Investing," NEOMA Business School, Rouen, France, April 29, 2023.
- "Problem of an M-V-ESG Investor in Graphs," Center for Climate Science, [University of Augsburg, Augsburg, Germany, February 24, 2023.](#)
- "Tutorial on Cardinality Constrained Problems in Portfolio Selection," [3rd International Conference on Decision Aid Sciences and Applications, Mai Fah Luang University, Chiang Rai, Thailand, March 22-25, 2022.](#)
- "Computing Equally-Sized Cones on a Sphere for Use in Multicriteria Optimization with Distributed Processing," 14th International Conference on Operations Research, University of Havana, Cuba, March 3-6, 2020.
- "Visualization Assistance for Multicriteria Optimization with High-Dimensional Objective Vectors," (with K. Daechert, K. Klamroth, and K. Miettinen), Seminar

on Scalability in Multiobjective Optimization, Schloss Dagstuhl, Wadern, Germany, January 12-17, 2020.

- "Using a Sphere to Compute Equally-Sized Cones in Multiple Objective Linear Programming for Distributed Processing," 13th International Conference on Multiple Objective and Goal Programming, Marrakech, Morocco, October 28-31, 2019.
- "Reducing Times for All Efficient Extreme Point Computation in MOLPs with Larger Numbers of Objectives," 25th International Conference on Multiple Criteria Decision Making, Istanbul, Turkey, June 16-21, 2019.
- "On the Extension of Markowitz Mean-Variance Portfolio Selection to a Third Criterion," Polytechnic University of Valencia, Valencia, Spain, May 26-31, 2019.
- "Domain of Expertise that Needs to Be Passed for Transiting from Conventional Bi-Criterion to Theme Tri-Criterion Investing," Mini-Seminar on Portfolio Theory and Derivative Pricing, Polish Academy of Sciences, Warsaw, Poland, March 27-29, 2019.
- "On the Analytical Derivation of Efficient Sets in Quad-and-Higher Criterion Portfolio Selection," 7th International Conference on Multidimensional Finance, Insurance and Investment, Technical University of Crete, Chania, Greece, May 10-12, 2018.
- "On the Extension of Markowitz Mean-Variance Portfolio Selection to a Third Criterion," Mini-Conference on Advances in Portfolio Selection, Polish Academy of Sciences, Warsaw, Poland, April 10-12, 2018.
- "On the Extension of Markowitz Mean-Variance Portfolio Selection to a Third Criterion," College of Business Administration, Qatar University, Qatar, March 22-27, 2018.
- Seminar on Personalized Multiobjective Optimization: An Analytics Perspective, Schloss Dagstuhl, Wadern, Germany, January 14-19, 2018.
- Center for Finance, University of Regensburg, Regensburg, Germany, March 15-18, 2017.
- 9th International Conference on Evolutionary Multi-Criterion Optimization, Münster, Germany, March 19-22, 2017.
- International Workshop on Multiple Criteria Decision Making, Ustron, Poland, April 2-4, 2017.
- Belarusian State University, Minsk, Belarus, April 5-8, 2017.
- 24th International Conference on Multiple Criteria Decision Making, Ottawa, Canada, July 10-14, 2017.
- 28th European Conference on Operational Research, Quebec, Canada, July 17-21, 2017.
- "On the Addition of Practicalities and a Third Criterion to Standard Mean-Variance Markowitz Portfolio Selection," 6th International Conference on Multidimensional Finance, Insurance and Investment, University of Valencia, Alcoy, Spain, June 26-29, 2016.
- "On the Addition of Practicalities and a Third Criterion to Standard Mean-Variance Markowitz Portfolio Selection," 2016 International Conference on

Management Science and Decision Making, Tamkang University, New Taipei City, Taiwan, May 4. 2016.

- "Markowitz Portfolio Selection -- With a Third Criterion?" University of Manchester Business School, Manchester, England, April 10-12. 2016.
- "Parallelizing Efficiency Calculations via Decompositions of the Criterion Cone," Laboratory of Decision Aid by the Techniques of Operations Research, Statistics and Informatics, University of Science and Technology Houari Boumediene, Algiers, Algeria, April 1-5, 2016.
- "On Extracting from the Relaxed for Semi-Continuous Variable Nondominated Frontiers," 23th International Conference on Multiple Criteria Decision Making, Hamburg, Germany, August 3-7, 2015.
- "A Computational Study of Efficient Sets and Surfaces in Portfolio Selection," 27th European Conference on Operational Research, University of Strathclyde, Glasgow, Scotland, July 12-15, 2015.
- "Tutorial on Large-Scale Multicriteria Portfolio Selection Leading Up to Difficulties Obstructing Further Progress," Seminar on Understanding Complexity in Multiobjective Optimization, Schloss Dagstuhl, Wadern, Germany, January 11-16, 2015.
- "On Exactly Expanding Markowitz Mean-Variance Portfolio Selection to a Third Criterion," XI International Symposium on Generalized Convexity and Monotonicity, Instituto de Matematica Pura e Aplicad, Rio de Janeiro, Brazil, August 25-30, 2014.
- "Extracting from the Classical for the Semi-Continuous Variable Efficient Frontier," 20th Conference of the International Federation of Operational Research Societies, Barcelona, Spain, July 13-18, 2014.
- "On Exactly Generalizing Markowitz to Portfolio Selection with a Third Criterion," National Cheng Kung University (Tainan), National Taiwan University (Taipei), Ming Chuan University (Taipei), National Chiao Tung University (Hsing-Chu), Taiwan, April 4-13, 2014.
- "Markowitz Bi-Criterion Portfolio Selection to the Tri-Criterion Case," NEOMA Business School, Operations, Decision Systems and Uncertainty Group, Rouen, France, February 11-14, 2014.
- "Multicriteria Portfolio Selection," International Conference on Multidimensional Finance, Insurance and Investment, University of Bahrain, Bahrain, November 25-27, 2013.
- "Extracting from the Standard for the Semi-Continuous Variable Portfolio Efficient Frontier," INFORMS (Institute of Operations Research and Management Science) Annual Meeting, Minneapolis, October 6-9, 2013.
- "Multicriteria Portfolio Selection," 2nd Industrial-Academic Workshop on Optimization in Finance and Risk Management, Fields Institute, University of Toronto, September 22-24, 2013.
- "Tri-Criterion Inverse Portfolio Optimization with Application to Socially Responsible Mutual Funds," 22th International Conference on Multiple Criteria Decision Making, Málaga, Spain, June 17-21, 2013.
- "Multicriteria Portfolio Selection," University of Regensburg, Regensburg, Germany, May 29, 2013.

- "Nondominated Surfaces: Computation, Analysis, Representation Difficulties, and Peculiarities," Department of Mathematical Information Technology, University of Jyväskylä, Finland, February 11, 2013.
- "Transitioning Canonical Bi-criterion Portfolio Selection to Tri-criterion Portfolio Selection," International Conference on Operations Research and Optimization, School of Mathematical Statistics and Computer Science, University of Tehran, Iran, January 19-25, 2013.
- "Computing the Nondominated Surface in Tri-Criterion Portfolio Selection," 25th European Conference on Operational Research, Vilnius, Lithuania, July 8-11, 2012.
- "Nondominated Surface Computation and Its Consequences in Tri-Criterion Markowitz Portfolio Selection," 54th Annual Conference of the Canadian Operational Research Society and the 10th International Conference on Multiple Objective and Goal Programming, Niagara Falls, Canada, June 11-13, 2012.
- "A Tutorial on Multiple Criteria Optimization in Graphs," Center for Finance, University of Regensburg, Regensburg, Germany, June 5, 2012.
- "A Graphical Overview of Tri-Criterion Portfolio Selection," Center for Finance, University of Regensburg, Regensburg, Germany, May 30, 2012.
- "Computing and Displaying the Efficient Surface in Tri-Criterion Markowitz Portfolio Selection," 50th Meeting of the European Working Group on Financial Modeling, Sapienza University, Rome, Italy, May 5, 2012.
- "Superiority of Parametric Programming in Standard and Tri-Criterion Portfolio Selection," Indian Institute of Technology, Kanpur, India, January 9, 2012.
- "An Overview in Graphs of Standard and Tri-Criterion Portfolio Selection," Meeting of the Decision Sciences Institute (Indian Subcontinent Region), Chennai, India, January 4, 2012.
- "Financial Decision Making and Computational Finance," Ecole Supérieure des Affaires, Beirut, Lebanon, November 23-26, 2011.
- Panel Discussion, Annual Meeting of the Institute of Operations Research and Management Science (INFORMS), Charlotte, NC, November 15, 2011.
- Overview of Tri-Criterion Portfolio Selection Optimization in Graphs," 21th International Conference on Multiple Criteria Decision Making, Jyväskylä, Finland, June 13-17, 2011.
- "Overview in Graphs of Tri-Criterion Portfolio Selection," Second International Symposium on Operational Research, Algiers, Algeria May 30 to June 2, 2011.
- "Post-Markowitz Multi-Criterion Portfolio Selection Decision Making," 1st International Conference on Multidimensional Finance, Insurance and Investment, Hammamet, Tunisia, April 14-16, 2011.
- "A Graphical Overview of Multiple Criteria Optimization," Taibah University Engineering Program, Yanbu, Saudi Arabia, January 15, 2011.
- "Decision Making via Multiple Criteria Optimization," College of Business, Effat University, Jeddah, Saudi Arabia, January 11, 2011.
- "Research Behind the Teaching," Seminar on Business Management Education, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam, November 26, 2010.

- "Principles of Computational Finance," College of Economics and Social Sciences, University of the Netherlands Antilles, Curacao, August 18, 2010.
- "Mixed Linear-Quadratic Multiple Objective Programming," 10th International Conference on Multiple Objective and Goal Programming, Sousse, Tunisia, May 25, 2010.
- "Multiple Criteria Decision Aid in Finance and Management," University of Nizwa, Nizwa, Oman, April 6, 2010.
- "Methods and Computational Issues Concerning Efficient Frontiers and Surfaces in Portfolio Selection," International Conference on Engineering Systems Management and Applications, American University of Sharjah, Sharjah, United Arab Emirates, April 1, 2010.
- "An Overview of Efficient Frontiers and Surfaces in Portfolio Selection," Meeting of the Finnish Society on Computational Sciences, University of Jyväskylä, Finland, February 10, 2010.
- "Im Flug über Efficient Frontier and Surface Computation in Standard and Multicriteria Portfolio Selection," Boat Seminar Helsinki-Stockholm-Helsinki, New Trends and Challenges in MCDM, February 5-7, 2010.
- "Combining Exact and Evolutionary Algorithms in Complex Mean-Variance Efficient Frontier Computation," 20th International Conference on Multiple Criteria Decision Making, Chengdu/Juizhaigou, China, June 20-23, 2009.
- "Parametric Headstart in Computing Semi-Continuous Constrained Mean-Variance Efficient Frontiers," 3rd International Workshop on Multi-Criteria Methods in Finance and Insurance, Madrid, Spain, April 21-23, 2009.
- "Financial Decision Making and Computational Finance," Ecole Supérieure des Affaires, Beirut, Lebanon, February 19-22, 2009.
- "Semi-Continuous Constrained Mean-Variance Efficient Frontiers in Portfolio Selection," 8th International Conference on Multiple Objective and Goal Programming, Portsmouth, England, September 24-26, 2008.
- "On the Composition and Computation of Mean-Variance Efficient Sets Mostly in Portfolio Selection," Seminar on Excellence in Business Technology, M.S. Galaxy, Helsinki, Finland and Tallinn, Estonia, May 20-21, 2008.
- "The Competitive Situation with Regard to the Computation of Markowitz Efficient Frontiers," Chinese Academy of Sciences, Beijing, China, April 4, and University of Electronic Science and Technology of China, Chengdu, China, April 8, 2008.
- "Obtaining Densely Distributed Discretized Representations of the Nondominated Set in Multiple Objective Linear Programming," 19th International Conference on Multiple Criteria Decision Making, Auckland, New Zealand, January 7-12, 2008.
- "Competitive Situation between the Computational Packages and New Research for Computing Mean-Variance Efficient Frontiers," Department of Finance & Investment, Erasmus University, Rotterdam, The Netherlands, December 20, 2007.
- "Competitive Situation between Package Approaches and New Research for Computing Mean-Variance of Efficient Frontiers," 41st Meeting of the European Working Group on Financial Modeling, Lisbon, Portugal, November 8-10, 2007.

- "The Situation with the Computation of Efficient Frontiers in Mean-Variance Portfolio Optimization," Chinese Academy of Sciences, Beijing, and Hunan University, Changsha, China, May 25-31, 2007.
- "The Techniques/Software Situation for Computing Efficient Frontiers in Large-Scale Portfolio Selection," 3rd International Conference on Hedge Funds, Montreal, Canada, May 6-8, 2007.
- "Methods and Computational Issues Concerning Efficient Frontiers in Portfolio Selection," Ustron, Poland, April 4-6, April 2007.
- "Practical Conceptual and Computational Advances in Portfolio Selection," Inaugural Conference on Business, Information and Management, American University of Sharjah, United Arab Emirates, March 18, 2007.
- "Methods and Computational Issues Concerning Efficient Frontiers in Portfolio Selection," University of Dubai, United Arab Emirates, March 14, 2007.
- "E-Learning Using Flash with a Portfolio Selection Illustration," Seminar on Information Economy, Helsinki/Stockholm, October 26, 2006.
- "Multiple Criteria Optimization and Interactive Procedures," 9th International Summer School on Multiple Criteria Decision Making, Taipei, Taiwan, July 10-15, 2006.
- "Advances in Portfolio Optimization," 21st European Conference on Operations Research, Reykjavik, Iceland, July 2-5, 2006.
- "Quadratic Parametric Programming for Portfolio Selection with Random Problem Generation and Computational Experience," International Conference on Approximation and Optimization in the Caribbean, Santo Domingo, Dominican Republic, April 3-7, 2006.
- "A Capability for Computing Efficient Frontiers and Surfaces in Mean-Variance and Multiple Objective Portfolio Optimization," International Conference on Financial Engineering, University of Florida, Gainesville, March 22-24, 2006.
- "Financial Institutions and Markets," School of Industrial Management, Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam, November 25, 2005.
- "Developments in Multi-Attribute Portfolio Selection," International Workshop on Multiple Criteria Decision Making, Ustron, Poland, April 4-6, 2005.
- "Multi-Attribute Portfolio Selection," First International Workshop on Multi-Attribute Portfolio Selection, Helsinki/Stockholm, March 13-15, 2005.
- "Classical and Evolutionary Approaches for Computing Nondominated Surfaces in Multi-Quadratic/Multi-Linear Multicriterion Optimization," Seminar on Practical Approaches to Multi-Objective Optimization, Schloss Dagstuhl, Germany, November 7-12, 2004.
- "Multi-Quadratic/Multi-Linear Multiple Criteria Optimization," XVII-th International Conference on Multiple Criteria Decision Making, Whistler, British Columbia, Canada, August 6-10, 2004.
- "Standard Portfolio Selection, Suitable-Portfolio Selection, and the Consequences of Omitting Criteria in Multiple Criteria Optimization," Faculty of Economic Applications, University of Malaga, Malaga, Spain, April 20, 2004.

- "Suitable-Portfolio Investors, Nondominated Frontier Sensitivity, and the Effect of Multiple Objectives on Standard Portfolio Theory," 6th International Conference on Multiple Objective Programming and Goal Programming, Hammamet, Tunisia, April 14-16, 2004.
- "Portfolio Selection and Theory with Multiple Objectives," 33th Meeting of the European Working Group on Financial Modeling, International University of Monaco, Monaco, November 6-8, 2003.
- "Multi-Objective Linear Programming and Interactive Procedures," 8th International Summer School on Multiple Criteria Decision Aid, Montreal, Canada, June 2-6, 2003.
- "Efficient Frontier Sensitivity and the case for Multiple Objectives in Portfolio Optimization," 7th Meeting of the French Working Group on Multiobjective Mathematical Programming, Valenciennes, France, May 15, 2003.
- "Multiple Criteria Optimization in Portfolio Selection," 37th Meeting of the Operational Research Society of New Zealand, Auckland, November 29-30, 2002.
- "Computational Investigations Evidencing Multiple Criteria in Portfolio Optimization," 5th International Conference on Multiple Objective Programming and Goal Programming, Nara, Japan, June 4-7, 2002.
- "Projections of the Nondominated Set onto Lower Dimensional Subspaces in Multiple Criteria Optimization," XVI-th International Conference on Multiple Criteria Decision Making, Semmering, Austria, February 18-22, 2002.
- "Looking at Nondominated Sets in Financial Optimization," Workshop on Complex Systems Modeling, International Institute for Applied Systems Analysis, Laxenburg, Austria, August 27-29, 2001.
- "Nondominated Sets in Financial Optimization," International Conference on Multi-Criteria Decision Making: Theory and Applications in Technology, Business, and Economics, Cairo, Egypt, May 27-30, 2001.
- "An Overview in Graphs of Multiple Objective Programming," First International Conference on Evolutionary Multi-Criterion Optimization, Zurich, Switzerland, March 7-9, 2001.
- "Portfolio Analysis on a Multicriteria Platform," Central Bank of the Bahamas, Nassau, Bahamas, February 16, 2001.
- "Multi-Dimensional Efficient Surfaces in Portfolio Theory," 17th Meeting of EURO Working Group on Financial Modeling, New York, November 16-17, 2000.
- "Difficulties in Solving Multiple Criteria Network Optimization Problems," Third International Conference on Applied Mathematics and Engineering Sciences (CIMASI'2000), Casablanca, Morocco, October 23-25, 2000.
- "Tutorial on Multiple Objective Programming: Basics," XII-th International Symposium on Mathematical Programming, Atlanta, August 7-11, 2000.
- "Tutorial on Multiple Objective Programming," XV-th International Conference on Multiple Criteria Decision Making, Ankara, Turkey, July 10-14, 2000.
- "Multiple Criteria Optimization," 7-th International Summer School on Multiple Criteria Decision Aid, Catania, Sicily, Italy, June 26 to July 7, 2000.

- "Efficient Frontiers and Surfaces in Multiple Criteria Optimization and Portfolio Theory in Finance," 4-th International Conference on Multiple Objective Programming and Goal Programming, Ustron, Poland, May 29 to June 1, 2000.
- "Efficient Surfaces in Multiple Criteria Optimization, Data Envelopment Analysis, and Finance," London School of Economics, London, England, May 25, 2000.
- "Tutorial on Multiple Criteria Optimization Including Connections to Data Envelopment Analysis and Finance," Main Lecturer, 4th International Conference on Operations Research: Optimization, Statistics, Mathematical Economics, Havana, Cuba, March 8, 2000.
- "An Animated Web-Based Tutorial on Multiple Criteria Optimization," Exceptional Meeting of the European Working Group on Multicriteria Aid for Decisions: 25th Anniversary, Cerisy-la-Salle, France, September 28 to October 2, 1999.
- "Nondominated Surfaces in Multiple Criteria Optimization, DEA and Portfolio Analysis," Workshop on Efficient Sets and Surfaces in Data Envelopment Analysis, Multiple Criteria Decision Making, and Finance: An Emphasis on Exploratory Ideas, M.S. Silja Symphony, Helsinki/Stockholm, February 7-9, 1999.
- "Efficient Sets in Multiple Criteria Optimization," International Conference on Mathematical Applications and Computation, Pinar del Rio, Cuba, November 2-6, 1998.
- "Methods of Multiple Objective Programming," 4th DAS Workshop on Multiple Criteria Decision Support in Network Centric Organizations, Buyukada, Istanbul, Turkey, September 1-4, 1998.
- "Parallelizing the Computation of Efficient Extreme Points," XVI-th International Conference on Multiple Criteria Decision Making, Charlottesville, Virginia, June 8-12, 1998.
- "Concepts and Principles of Multiple Objective Programming," 3-rd International Conference on Multiple Objective Programming and Goal Programming, Quebec City, Canada, May 31 and June 1-2, 1998.
- "Interactive Multiple Objective Programming in Colors, Animation, and Graphs," 3-rd National Meeting of the Finnish Operations Research Society, Lappeenranta, Finland, December 16-17, 1997.
- "Using Quad-Trees in the Sobol-Statnikov Method for Difficult Nonlinear Multicriteria Optimization Problems," Third Joint University of Georgia/Helsinki School of Economics Management Science Doctoral Seminar, M.S. Silja Serenade, Helsinki/Stockholm, December 12-14, 1997.
- "Implementations of Financial Goal Programming Models Using Interactive Multiple Objective Programming," XXI EURO Working Group Meeting on Financial Modelling, Venice, Italy, October 29-31, 1997.
- "Status Report on Four Topics Using ADBASE and ZFACET," Workshop on Advances in Methodology and Software in Decision Support Systems, International Institute for Applied Systems Analysis, Laxenburg, Austria, September 5-7, 1997.

- "Introduction to Vector Optimization and Interactive Methods of MCDA," International Summer School on Multicriteria Decision Aid: Methods, Applications and Software, Turku, Finland, July 28 - August 8, 1997.
- "Multiple Criteria Optimization in Graphs, Spreadsheets and on the Internet," International Conference on Methods and Applications of Multicriteria Decision Making, Mons, Belgium, May 14-16, 1997.
- "Tutorial on the Techniques of Multiple Objective Programming," Facultad Ciencias Economicas y Empresariales, University of Malaga, Malaga, Spain, May 19-20, 1997.
- "Interactive Multiple Objective Programming in Graphs and on the Internet," XVIII-th International Conference on Multiple Criteria Decision Making, Cape Town, South Africa, January 6-10, 1997.
- "Multiple Criteria Optimization in Graphs," International Conference on Applied Mathematics and Engineering Sciences (CIMASI'96), Casablanca, Morocco, November 14-16, 1996.
- "Issues in Teaching MBA Business Statistics," National Meeting of INFORMS, Atlanta, Georgia, November 3, 1996.
- "Measuring the Size of the Nondominated Set in Multiple Objective Programming," Second International Conference on Multi-Objective Programming and Goal Programming, Malaga, Spain, May 16-18, 1996.
- "Tutorial on Multiple Objective Programming in Graphs," University of Seville, Seville, Spain, May 14, 1996.
- "Twenty-Five Years of Multiple Objective Programming," University of Havana, Havana, Cuba, December 13, 1995.
- "Advances in Interactive Multiple Objective Programming," Workshop on Advances in Methodology and Software in Decision Support Systems, International Institute for Applied Systems Analysis, Laxenburg, Austria, September 4-5, 1995.
- "Multiple Criteria Decision Making," Nankai University, Tianjin, China, August 21, 1995.
- "The ADBASE Multiple Objective Linear Programming Package," 6-th National Conference of the Chinese Special Interest Group on MCDM, Beijing, China, August 15-17, 1995.
- "Difficulties in Solving Multicriteria Networks: A Combined Weighted-Sums/Tchebycheff/Aspiration Criterion Vector Interactive Procedure," XII-th International Conference on Multiple Criteria Decision Making, Hagen, Germany, June 18-23, 1995.
- "Random Problem Generation and the Computation of Efficient Extreme Points in Multiple Objective Linear Programming," XI-th International Conference on Multiple Criteria Decision Making, Coimbra, Portugal, August 1-6, 1994.
- "A Survey of the State-of-the-Art in Interactive Multiple Objective Programming," 5th International Summer School on Multi-Criteria Decision Aid, Chania, Crete, Greece, July 4-16, 1994.

- "A Review of Methods for Solving Nonlinear Multiple Objective Programming Problems by Discrete Representation," International Conference on Multi-Objective and Goal Programming, Portsmouth, England, June 1-3, 1994.
- "A Tutorial on Interactive Multiple Objective Programming," Carleton University, Ottawa, Canada, February 4, 1994.

Grants

Steuer, R. E. (February 1, 1993 to June 30, 1994). "First Business School in Vietnam," Office of the Vice President for Academic Affairs, University of Georgia, \$13,300.

Principal Investigator (September 6, 1986 to September 30, 1989). "A Meta Algorithm for Interactive Multiple Objective Programming with Graphics Extensions," Department of Management Science & Information Technology, University of Georgia, Office of Naval Research, \$95,062.

Principal Investigator. (November 6, 1985 to September 5, 1986). "Decision Making in a Multiple Criteria Tchebycheff/Trajectory Optimization Environment Using Computer Graphics," Department of Management Science & Information Technology, University of Georgia, Office of Naval Research, \$45,297.

Principal Investigator. (July 6, 1984. to November 5, 1985). "Minimum Criterion Values over the Efficient Set," Department of Management Science & Information Technology, University of Georgia, Office of Naval Research, NOOO14-84-K-Q555, \$57,969.

Co-investigator. (December 1, 1977 to November 30, 1981). "Effects of Expanded Function Dental Auxiliaries in Private Dental Practice: A Statewide Demonstration," College of Dentistry, University of Kentucky, Kellogg Foundation, \$1,000,194.

Co-investigator. (December 18, 1975 to October 30, 1976). "Effects of Expanded Function Dental Auxiliaries in Private Fee- for Service Dental Practice," College of Dentistry, University of Kentucky, U. S. Department of Health, Education and Welfare, Contract Number NOI-DH-44060, \$98,000.

Co-investigator. (August 15, 1974 to December 17, 1975). "Economic Effects of Expanded Duty Dental Assistants in Private Fee-for-Service Dental Practice," College of Dentistry, University of Kentucky, U. S. Department of Health, Education and Welfare, Contract Number NOI-DH-44060, \$219,050.

Dissertation

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Program Committee Activities for International Conferences (before 2005)

Co-Organizer, First International Workshop on Multi-Attribute portfolio Selection, Helsinki/Stockholm, March 13-15, 2005.

International Advisory Committee, Asia Pacific Industrial Engineering and Management Systems Conference, Gold Coast, Australia, December 12-15, 2004.

Co-Organizer, Dagstuhl Seminar on Multi-Objective Optimization, Dagstuhl, Germany, November 7-12, 2004.

Program Committee, 17th International Conference on Multiple Criteria Decision Making, Whistler, British Columbia, Canada, August 6-11, 2004.

International Committee, 6th International Conference on Multi-Objective Programming and Goal Programming, Hammamet, Tunisia, April 14-16, 2004.

Organizing Committee, 6th International Conference on Operations Research, Havana, Cuba, September 15-19, 2003.

International Scientific Committee, 4th International Conference on Applied Mathematics and Engineering Sciences (CIMASI '2002), Casablanca, Morocco, October 21-23, 2002.

International Committee, Fifth International Conference on Multi-Objective Programming and Goal Programming: Theory and Applications (MOPGP '02), Nara, Japan, June 4-7, 2002.

Organizing Committee, 5th International Conference on Operations Research: Optimization, Statistics, Mathematical Economics, and Numerical Methods, Havana, Cuba, March 4-8, 2002.

Program Committee, XVI-th International Conference on Multiple Criteria Decision Making, Semmering, Austria, February 18-22, 2002.

Scientific Committee, International Conference on Multiple Criteria Decision Making, Cairo, Egypt, May 27-30, 2001.

International Committee, 3th International Conference on Multi-Objective Programming and Goal Programming, Ustron, Poland, May 29 to June 1, 2000

International Scientific Committee, 3rd International Conference on Applied Mathematics and Engineering Sciences, Casablanca, Morocco, October 23-25, 2000.

International Advisory Committee, 15th International Conference on Multiple Criteria decision Making, Ankara, Turkey, July 10-14, 2000.

Co-Organizer, Workshop on Efficient Surfaces in Multicriteria Optimization, Data Envelopment Analysis and Finance, M,S, Silja Symphony, Helsinki, Finland and Stockholm, Sweden, February 1-10, 1999.

International Scientific Committee, Second International Conference on Applied Mathematics and Engineering Sciences (CIMASI '98), Casablanca, Morocco, October 27-29, 1998.

International Program Committee, Third International Conference on Management Science, Shanghai, China, July 25-28, 1998.

International Executive Committee and Local Organizing Committee, XIV-th International Conference on Multiple Criteria Decision Making, Charlottesville, Virginia, June 8-12, 1998.

International Committee, Third International Conference on Multi-Objective Programming and Goal Programming: Theory and Applications (MOPGP '98), Quebec City, Quebec, Canada, May 31 -June 1-3, 1998.

International Organizing Committee, International Conference on Methods and Applications of Multicriteria Decision Making, Mons, Belgium, May 14-17, 1997.

International Organizing Committee, IV Caribbean Conference on Approximation and Optimization, Caracas, Venezuela, March 17-21, 1997.

Organizing Committee, 3rd Conference on Operations Research: Optimization, Statistics, Mathematical Economics and Numerical Methods, Havana, Cuba, March 11-15, 1997.

International Executive Committee, XIV-th International Conference on Multiple Decision Making, Cape Town, South Africa, January 6-10, 1997.

International Scientific Committee, 1st International Conference on Applied Mathematics and Engineering Sciences, Casablanca, Morocco, November 14-16, 1996.

International Program Committee, Second International Conference on Intelligent Data Processing and Decision Support, Alushta, Crimea, Ukraine; June 3-7, 1996.

International Program Committee, Second International Conference on Multi-Objective Programming and Goal Programming, Torremolinos, Spain, May 16-18, 1996.

Program Committee, 3rd International Conference on Approximation in the Caribbean, Puebla, Mexico, October 8-13, 1995.

International Program Committee, XII-th International Conference on Multiple Criteria Decision Making, Hagen, Germany, June 18-23, 1995.

International Program Committee, XI-th International Conference on Multiple Criteria Decision Making, Coimbra, Portugal, August 1-6, 1994.

International Organizing Committee, International Conference on Multi-Objective and Goal Programming, Portsmouth, England, June 1-4, 1994.

International Program Committee, Second International Conference on Approximation and Optimization, Havana, Cuba, September 26-October 1, 1993.

International Advisory Committee, International Workshop on Multicriteria Decision Making: Methods, Algorithms and Applications Celakovice, Czech Republic, September 1-3, 1993.

International Program Committee, IIASA Conference on Intelligent Decision Support Systems, Kutzively, Crimea, Ukraine, October 1-8, 1992.

International Program Committee, X-th International Conference on Multiple Criteria Decision Making, Taipei, Taiwan, R.O.C., July 19-24, 1992.

International Programme Committee, Special International Conference on Multiple Criteria Decision Making, Cairo, Egypt, March 4-6, 1992.

International Program Committee, IIASA Workshop on User-Oriented Methodology and Techniques of Decision Analysis and Support, Warsaw, Poland, September 9-13, 1991.

International Program Committee, International Workshop on Multicriteria Decision Making: Methods, Algorithms and Applications, Liblici Castle, Czechoslovakia, March 18-22, 1991.

International Program Committee, International Conference on Multiple Criteria Decision Making in Service and Industry, Bangkok, Thailand, December 6-8, 1989.

International Program Committee, New Advances in Decision Support Systems, Helsinki, Finland, August 7-11, 1989.

International Organizing Committee, International Conference of Multiobjective Problems in Mathematical Programming, Yalta, U.S.S.R., October 24-28, 1988.

International Planning Committee, International Workshop on Methodology and Software for Interactive Decision Support, Albena, Bulgaria, October 19-23, 1987.

International Executive Committee, VII-th International Conference on Multiple Criteria Decision Making, Kyoto, Japan, August 18-22, 1986.

International Program Committee, International Conference on Vector Optimization, Darmstadt, FRG Germany, August 4-8, 1986.

Service as Referee

Advances in Decision Sciences
Annals of Operations Research
Asia-Pacific Management Review
Axioms
Canadian Journal of Administrative Sciences
Computational Management Sciences
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Computers & Operations Research
Decision Sciences
Decision Support Systems
Ecological Economics
European Journal of Operational Research
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Group Decision and Negotiation
IEEE Transactions on Medical Imaging
IEEE Transactions on Systems, Man, and Cybernetics
IIE Transactions
IMA Journal of Management Mathematics
INFOR
Information Sciences Interfaces
Information Systems and Operations Research
Intelligent Systems in Accounting, Finance and Management
International Journal of Banking, Accounting and Finance
International Journal of Production Economics
International Journal of Information Technology and Decision Making
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Journal of Applied Mathematics and Decision Sciences
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Journal of Operations Management
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Large Scale Systems
Management & Service Operations Research
Management Science
Managerial and Decision Economics
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Mathematics of Operations Research
Naval Research Logistics
Omega
Operations Research
Operations Research Letters
Optimization
Optimization Letters
OR Spektrum
Philippine Computing Journal
Project Management
Socio-Economic Planning Sciences
Swiss National Science Foundation
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Zeitschrift für Operations Research

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Piercy, C. A., "An Investigation of Multiple Objective Network Flows," Ph.D. Dissertation, Faculty of Management Science, University of Georgia, 2001.

Na, D.-Y., "Multi-Criteria Portfolio Optimization and Risk Modeling," Ph.D. Dissertation, Faculty of Management Science, University of Georgia, 2000.

Park, Y.-W., "Heuristic Multiple Objective Linear Programming: Interactive HIPSOL Procedure and Computational Results," Ph.D. Dissertation, Faculty of Management Science, University of Georgia, 1995.

Sun, M., "Interactive Multiple Objective Programming Procedures via Adaptive Random Search and Feed-Foward Artificial Neural Networks," Ph.D. Dissertation, Graduate Programs in Management Science, University of Georgia, 1992,

Gardiner, L. R., "Unified Interactive Multiple Objective Programming," Ph.D. Dissertation, Department of Management Science and Information Technology, University of Georgia, 1989.

Ruwe, M. L., "A Weighted Tchebycheff Approach to Interactive Multiple Objective 0-1 Programming as Applied to the Hospital Capital Budget," Ph.D. Dissertation, College of Business and Economics, University of Kentucky, 1981.

Hamid, A. A., "Algorithms for Multiple Objective Transportation Problems," Ph.D. Dissertation, College of Business and Economics University of Kentucky, 1979.

Masters Theses Directed

Bohner, A., "THREE-D+: The Development and Implementation of a Mainframe Graphical Package for Multiple Objective Linear Programming Instruction," Master of Arts in Management Science, Department of Management Science and Information Technology, University of Georgia, 1987, 160 pp.

Kreft, S. E., "VISIMOP: A Graphical Package to Support the Visual Analysis of Interactive Multiple Objective Program's Solution Output," Master of Applied Mathematical Sciences Technical Report, Department of Management Science and Information Technology, University of Georgia, 1987, 191 pp.

Blount, W. J., "THREE-D: A Mainframe Graphical Package for Portraying Three-Dimensional Feasible Regions Multiple Objective Linear Programming," Master of Applied Mathematical Sciences Technical Report, Department of Management Science and Information Technology, University of Georgia, 1987, 86 pp.

White, M. E., "A Graphics Package for Multi-Criteria Optimization," Master of Applied Mathematical Sciences Technical Report, Department of Management Science and Information Technology, University of Georgia, 1986, 35 pp.

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Liou, F. H., "A Routine for Generating Grid Point Defined Weighting Vectors," Master of Applied Mathematical Sciences Technical Report, Department of Management Science and Information Technology, University of Georgia, 1984, 80 pp.

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Lambert, T. D., "A Automated Tchebycheff/Weighted Sums Computer Capability for Solving Multiple Objective Linear Programming Problems," Master of Applied Mathematical Sciences Technical Report, Department of Management Science and Information Technology, University of Georgia, 1983.

External Thesis/Dissertation/Habilitation Examiner

Sara Mahdi, Optimization over the Integer Pareto Optimal Set," Ph.D. Dissertation, Université des Sciences et Technologie de Houari Boumedienne, Algiers, Algeria, 2016.

Haikun Ning, "Hierarchical Portfolio Management," Ph.D. Dissertation, Erasmus School of Economics, Rotterdam, The Netherlands, 2007.

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Halme, M., "Finding Efficient Solutions in Interactive Multiple Objective Linear Programming," Licentiate Thesis, Helsinki School of Economics, Finland, 1991.

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Choo, E.-U., "Multiple Objective Fractional Programming," Ph.D. Dissertation, University of British Columbia, Vancouver, British Columbia, Canada, 1980.