

VITA

JAMES RICHARD SWEIGART

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EDUCATION

Ph.D. - Carnegie-Mellon University, H. John Heinz III School of Public Policy and Management, 1976 - Urban and Public Affairs

Dissertation: Equity and Estimation Problems in Air Quality Management

M.S. - Miami University, 1969 - Mathematics

B.A. - Elizabethtown College, 1967 - Mathematics

HONORS

Alfred G. Smith Award for Excellence in Teaching, College of Business Administration, University of South Carolina, 1990.

Richard King Mellon Fellow in the Environmental Studies Institute, Carnegie-Mellon University - 1975/1976.

TEACHING AND RELATED PROFESSIONAL EXPERIENCE

Associate Professor of Management Science, University of South Carolina, 1981 to present.

Coordinator for Graduate Programs in Management Science, 1982-1994.

Assistant Professor of Management Science, University of South Carolina, 1976-81.

Research Assistant - National Science Foundation Research Project: "Numerical Aspects of Pollution Abatement Problem," and "Numerical Optimization and Environmental Protection," Professor Kenneth O. Kortanek, Principal Investigator, 1972-76.

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Internal Consultant - Housing and Community Environment, Allegheny County Health Department, Pittsburgh, PA., October 1974 to April 1975.

Instructor, Department of Mathematics, Texas A&M University, College Station, Texas, 1969 to 1971.

Graduate Teaching Assistant at Miami University, Oxford, Ohio, 1967 to 1969.

PROFESSIONAL SOCIETIES

Decision Sciences Institute
Institute for Operations Research and the Management Science

EDITORIAL ACTIVITIES

Coordinator for the Proceedings of the American Institute for Decision Sciences, November 1981.

Co-Editor for Proceedings of the Third International Conference on Expert Systems and the Leading Edge in Production and Operations Management, May 1989.

RESEARCH AND TEACHING INTERESTS

Techniques of optimization for decision making in both the private and public sector. Modeling for public policy selection and evaluation. Effectiveness measurement and modeling in environmental management.

BOOKS

Quantitative Methods: Applications to Managerial Decision Making, John Wiley and Sons, 1987 (with Robert E. Markland).

RESEARCH PUBLICATIONS

"Equity and Selective Abatement Procedures," Management Science, Vol. 23, December 1976 (with R. Carbone).

"Numerical Optimization Techniques in Air Quality Modeling: Objective Interpolation Formulae for the Spatial Distribution of Pollutant Concentration," Journal of Applied Meteorology, Vol. 16, No. 12, December 1977 (with S.-A. Gustafson and K.O. Kortanek).

"A Bargaining Resolution of the Efficiency Versus Equity Conflict in Energy and Air Pollution Regulation," Energy Policy: TIMS Studies in the Management Sciences, Vol. 10, J.S. Aronofsky, A.G. Rao, M.F. Shakun, editors, December 1978 (with R. Carbone, W.L. Gorr, S.-A. Gustafson and K.O. Kortanek).

"A New Approach to Financing Public Schools," Journal of Educational Finance, 6, Summer, 1980 (with E. Cohn and G. R. Reeves).

"Product-Mix Models When Learning Effects are Present," Management Science, Vol. 27, February 1981 (with G. R. Reeves).

"Multiperiod Resource Allocation with Variable Technology," Management Science, Vol. 28, December 1982 (with G. R. Reeves).

"Master Scheduling in Assemble-to-Order Environments: A Capacitated Multiobjective Lot-Sizing Model", Decision Sciences, Vol. 23, No. 1, January/February 1992. (with H. Lewis and R. Markland).

"An Integrative Model-Based Approach to Hospital Layout", IIE Transactions, Vol. 24, No. 2, May, 1992 (with T.W. Butler, K.R. Karwan and G.R. Reeves).

"Multi-Level Strategic Evaluation of Hospital Plans and Decisions", Journal of the Operational Research Society, Vol. 43, No. 7, July 1992 (with T.W. Butler and K.R. Karwan).

"Assessing the Impact of Patient Care Policies Using Simulation Analysis", Journal of the Society for Health Systems, Vol. 3, No. 3, 1992 (with T.W. Butler, G.R. Reeves and K.R. Karwan).

"A Comparison of Two Intelligent Scheduling Systems for Flexible Manufacturing Systems", Expert Systems With Applications, Vol. 6, 1993 (with A.E. Smith, T.D. Fry and P.R. Philipoom).

"Coordinated Transportation Systems: An Alternative Approach to Traditional Independent Systems", European Journal of Operational Research, Vol. 66, No. 3, 1993 (with H.M. Baker and L.S. Franz).

"An Interactive Decision Framework for Multiple Objective Production Planning" International Journal of Production Research, Volume 34, No. 11 1996 (with H.S. Lewis and R.E. Markland).

"A Dynamic Programming Based Pruning Method for Decision Trees"
INFORMS Journal on Computing Volume 13, Number 4, Fall 2001 (with Xiaobai Li, James Teng, Joan Donohue, Lori Thombs)

"Multivariate Decision Trees Using Linear Discriminants and Tabu Search"
IEEE Transactions on Systems, Man and Cybernetics, Part A, Volume 33, Number 2, March 2003, (with Xiaobai Li, James Teng, Joan Donohue, Lori Thombs and Michael Wang)

REVIEWED PROCEEDINGS

"Designing a Regional Air Pollution Monitoring Network: An Appraisal of a Regional Experimental Design Approach," Environmental Modeling and Simulation, W. R. Ott, Editor, United States Environmental Protection Agency, June 1976 (with P. R. Gribik and K. O. Kortanek).

"Product-Mix Models with Learning," Proceedings of the American Institute for Decision Sciences, November 1979 (with G. R. Reeves).

"Educational Output Goals and Implementation Strategies in Public School Finance," Proceedings of the American Institute for Decision Sciences, November 1980 (with G. R. Reeves and E. Cohn).

"A Revenue Planning Model for Low Level Radioactive Waste Storage: Provision for Siting Incentives," Proceedings of the American Institute for Decision Sciences, November 1981 (with L. Franz and G. R. Reeves).

"A Multicriteria Approach to Day Care Policy Planning," Proceedings of the American Institute for Decision Sciences, November 1982 (with L. S. Franz).

"Coordination of Human Services Transportation Systems: A Modeling Approach," Proceedings of the American Institute for Decision Sciences, November 1983 (with L. S. Franz and H. Baker).

"Routing of Public Service Agency Vehicles: A Heuristic Approach," Proceedings of the Decision Sciences Institute, November 1987 (with H. M. Baker).

"A Simulation Model to Evaluate Hospital Nursing Service Interaction" Proceedings of the Decision Sciences Institute, November 1988 (with T.W. Butler, G.R. Reeves, and K.R. Karwan).

"Master Production Scheduling in Assemble-to-Order-Environments", Proceedings of the Decision Sciences Institute, November 1990 (with H.S. Lewis and R.E. Markland).

"Interactive Multiple Objective Optimization for the Multi-Stage/Multi-Item Capacitated Lot Sizing Problem", Proceedings of the Decision Sciences Institute, November 1991 (with H.S. Lewis and R.E. Markland).

TECHNICAL REPORTS

"Practicable Tools for Initial Studies in Air Pollution Abatement," Technical Report #15, Series in Numerical Optimization and Pollution Abatement, Carnegie-Mellon University, 1973, 45 pages.

"Objective Interpolation with Stable Formulas, A Numerical Study Involving Source Oriented Air Pollution Dispersion Models," Technical Report #34, Series in Numerical Optimization and Pollution Abatement, Carnegie-Mellon University, 1975 (with S. -A. Gustafson and K. O. Kortanek), 72 pages.

"Decent Housing and a Suitable Living Environment: First a Problem of Definition, Second a Problem of Finance," Working Paper #13, The Center for the Study of Environmental Policy, The Pennsylvania State University (with A. Wisch), 47 pages.

"Numerical Optimization Techniques in Air Quality Modeling: Objective Interpolation Formulae for the Spatial Distribution of Pollutant Concentration," EPA 600/4-76-058, Environmental Monitoring Series, Environmental Sciences Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27111, 1976 (with S. -A. Gustafson and K.O. Kortanek), 43 pages.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

"Smoothing of Air Pollution Data for Abatement Procedures," Invited paper delivered at the session on Environmental Policy Research at the Forty-sixth National ORSA/TIMS meeting, San Juan, 1975 (with S.-A. Gustafson and K. O. Kortanek).

"Environmental-Energy-Equity Models for Resource Management in an Airshed," Invited paper delivered at the session on Energy Production and Utilization at the Forty-seventh National ORSA/TIMS meeting, Chicago, 1975 (with R. Carbone, W. L. Gorr, S.-A. Gustafson and K. O. Kortanek).

"Designing a Regional Air Pollution Monitoring Network: An Appraisal of a Regression Experimental Design Approach," Conference on Environmental Modeling and Simulation, Cincinnati, Ohio, April 1975 (with P. R. Gribik and K. O. Kortanek).

"Optimal Air Quality Control Policy: Accounting for Equity Requirements Via a Bargaining Analysis," Invited paper presented at the International Symposium on Extremal Methods and Systems Analysis, Austin, September 1977.

"A New Approach to Financing Public Schools," Ninety-Second Annual Meeting of the American Economics Association, Atlanta, December 1979 (with E. Cohn).

"Product-Mix Models with Learning," Eleventh Annual Meeting, American Institute for Decision Sciences, New Orleans, November 1979 (with G. R. Reeves).

"Educational Output Goals and Implementation Strategies in Public School Finance," Twelfth Annual Meeting, American Institute for Decision Sciences, Las Vegas, November 1980 (with G. R. Reeves and E. Cohn).

"Incorporating Economies of Scale in Resource Allocation Models," National ORSA/TIMS Meeting, Colorado Springs, November 1980 (with G. R. Reeves).

"A Revenue Planning Model for Low Level Radioactive Waste Storage: Provision for Siting Incentives," Thirteenth Annual Meeting, American Institute for Decision Sciences, Boston, November 1981 (with L. Franz and G. R. Reeves).

"Changing Productivity Rates in Multiperiod Planning," National ORSA/TIMS Meeting, Detroit, April 1982 (with G. R. Reeves).

"A Multicriteria Approach to Day Care Policy Planning," Fourteenth Annual Meeting, American Institute for Decision Sciences, San Francisco, November, 1982 (with L. Franz).

"Coordination of Human Services Transportation Systems: A Modeling Approach," Fifteenth Annual Meeting, American Institute for Decision Sciences, San Antonio, November 1983 (with L. S. Franz and H. Baker).

"Transportation Service Management: A Shared Resource Solution," ORSA/TIMS Joint National Meeting, Miami Beach, October 1986 (with H. M. Baker and L. S. Franz).

"Routing of Public Service Agency Vehicles: A Heuristic Approach," Decision Sciences Institute Nineteenth Annual Meeting, Boston, November 1987 (with H. M. Baker).

"An Integer Programming Approach to Hospital Facility Planning", ORSA/TIMS Joint National Meeting, Washington, April 1988, (with T.W. Butler, G.R. Reeves, and K.R. Karwan).

"Multiobjective Lot Sizing in Assemble-to-Order Environment", Invited paper for ORSA/TIMS Joint National Meeting, Denver, October 1988 (with H. Lewis, M. Oliff, R.E. Markland).

"Coordinated Service Delivery in Transportation Systems", Invited paper for ORSA/TIMS Joint National Meeting, Denver, October, 1988 (with H.M. Baker).

"A Simulation Model to Evaluate Hospital Nursing Service Interaction" Decision Sciences Institute Twentieth Annual Meeting, Las Vegas, November 1988 (with T.W. Butler, G.R. Reeves and K.R. Karwan).

"A Model Based Approach to Linking Capacity Requirements and Layout Considerations in Hospitals". ORSA/TIMS Joint National Meeting, Philadelphia, November, 1990 (with T.W. Butler and K.R. Karwan).

"Master Production Scheduling in Assemble-to-Order-Environments", Decision Sciences Institute Annual Meeting, San Diego, November, 1990 (with H.S. Lewis and R.E. Markland).

"Interactive Multiple Objective Optimization for the Multi-Stage/Multi-Item Capacitated Lot Sizing Problem", Decision Sciences Institute Annual Meeting, Miami Beach, November, 1991 (with H.S. Lewis and R.E. Markland).

"A Review of Current Tools to Support the Development of Sustainable Business Organizations and Processes", Decision Sciences Institute Annual Meeting, San Francisco, 2001 (with K. R. Karwan)