

## CURRICULUM VITAE

**RALPH L. KEENEY**

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**EXPERTISE**

Professor Keeney's areas of expertise are decision analysis, risk analysis, and management decision-making. He is an authority on decision making with multiple objectives. During his professional career, Dr. Keeney has contributed substantially toward the development of decision analysis and risk analysis. His experience includes corporate management problems, risk analyses, energy policy, large-scale siting studies (e.g., airports, power plants), and environmental studies. Dr. Keeney has been a consultant for several organizations including Fair Isaac, Seagate Technology, American Express, British Columbia Hydro, Pacific Gas and Electric, Westinghouse, Kaiser Permanente, Proctor and Gamble, Hewlett-Packard, GTE, Hunton & Williams, the Electric Power Research Institute, Arkansas Power and Light, International Institute of Management (Berlin), Ministry of Public Works (Mexico), U.S. Department of Commerce, U.S. Department of Energy, Environmental Protection Agency, and the Office of Naval Research.

**EDUCATION**

- Ph.D.            Massachusetts Institute of Technology - 1969. Operations Research.
- E.E.            Massachusetts Institute of Technology - 1968. Electrical Engineering.
- S.M.            Massachusetts Institute of Technology - 1967. Electrical Engineering.
- B.S.            University of California, Los Angeles - 1966. Engineering.

**PROFESSIONAL EXPERIENCE**

- 2002-* Duke University, Fuqua School of Business, Durham, North Carolina. Research Professor of Business.
- 1983-2002* University of Southern California, Los Angeles, California. Professor of Business and Professor of Systems Engineering with The Center for Telecommunications Management (1997-2002). Professor of Systems Management (1983-97).
- 1976-1983* Woodward-Clyde Consultants, San Francisco, California. Vice President and Head of Decision Analysis.
- 1974-1976* International Institute for Applied Systems Analysis, Laxenburg, Austria. Research Scholar.
- 1973-1974* Massachusetts Institute of Technology, Cambridge, Massachusetts. Associate Professor of Operations Research and Management.
- 1972-1973* Boston University (European Graduate Program, Heidelberg, West Germany). Assistant Professor.
- 1969-1972* Massachusetts Institute of Technology, Assistant Professor of Civil Engineering.
- 1966-1969* Bell Telephone Laboratories. Member of Technical Staff.

**PROFESSIONAL AFFILIATIONS**

National Academy of Engineering

Institute for Operations Research and The Management Sciences (INFORMS)

Decision Analysis Society

Society for Risk Analysis

**HONORS**

- 2007 Selected as the IFORS Distinguished Lecturer for the 2007 INFORMS Annual Meeting
- 2002 Received INFORMS Expository Writing Award

- 2002 Selected as Fellow of INFORMS Society
- 2001 Awarded Best Annual Publication on Decision-Making by the Decision Analysis Society for Smart Choices, co-authored with John S. Hammond and Howard Raiffa.
- 1999 Awarded Annual Book Prize from the Institute for Dispute Resolution of the Center for Public Resources for Smart Choices, co-authored with John S. Hammond and Howard Raiffa.
- 1998 Awarded Gold Medal of the International Society for Multiple Criteria Decision Making
- 1995 Selected as a Fellow of The Society for Risk Analysis
- 1995 Awarded Honorary Membership in Omega Rho, the International Operations Research and Management Science Honor Society
- 1995 Elected a member of The National Academy of Engineering.
- 1994 Decision Analysis Publication Award awarded by The Decision Analysis Group of The Operations Research Society of America for best publication on decision analysis in 1992 for the book Value-Focused Thinking.
- 1993 Philip McCord Morse Lectureship of The Operations Research Society awarded to an individual who exemplifies the spirit of Dr. Morse and is an outstanding spokesman of the operations research profession.
- 1991 Hermes Award from the Faculty of Administrative Sciences of Laval University for exceptional contributions to multiattribute utility theory.
- 1989 Ramsey Medal awarded by the Decision Analysis Group of the Operations Research Society for distinguished contributions in decision analysis.
- 1988 Applications Award from the Decision Analysis Group of the Operations Research Society for the best application of decision analysis for the presentation "*Evaluation of Alternative Sites for the Disposal of Nuclear Waste*" with M.L. Merkhofer.
- 1976 Lanchester Prize of the Operations Research Society for the best publication in Operation Research for the book Decisions With Multiple Objectives, co-authored with H. Raiffa.

## **PUBLICATIONS**

### **Books**

*Smart Choices: A Practical Guide to Making Better Decisions*, with John S. Hammond and Howard Raiffa, Harvard Business School Press, Boston, Massachusetts, 1999. Paperback edition by Broadway Books, New York, 2002. (Translated, or being translated, into Arabic, Chinese, Danish, Dutch, Farsi, German, Italian, Japanese, Korean, Portuguese, Russian, Serbian, Slovenian, Spanish, Swedish, and Turkish.)

*Wise Choices: Games, Decisions, and Negotiations*, edited with J.K. Sebenius, and R. Zeckhauser, Harvard Business School Press, Boston, Massachusetts, 1996. Chinese edition, 2004.

*Decisions with Multiple Objectives*, with H. Raiffa, Cambridge University Press, New York, 1993. Original edition published by Wiley, New York, 1976. Japanese edition, 1980. Russian edition, 1981.

*Value-Focused Thinking: A Path to Creative Decisionmaking*, Harvard University Press, Cambridge, Massachusetts, 1992. Chinese edition, 2003. Farsi edition, 2003.

*Multi-Attribute Decision Making Via O.R.-Based Expert Systems*, edited with R.H. Moehring, H. Otway, F.J. Radermacher, and M.M. Richter, Baltzer Scientific Publishing Company, Basel, 1988.

*Die Wertbaumanalyse: Entscheidungshilfe fuer die Politik*, with O. Renn, D. von Winterfeldt, and U. Kotte, High Tech Verlag, Munich, 1984 (in German).

*Acceptable Risk*, with B. Fischhoff, S. Lichtenstein, P. Slovic, and S. Derby, Cambridge University Press, New York, 1981. Paperback edition, 1983.

*Siting Energy Facilities*, Academic Press, New York, 1980. Russian edition, 1983.

*Decision Analysis* (a videotape course) with *Study Guide for Decision Analysis* (a guidebook), with A.W. Drake, MIT Center for Advanced Engineering Study, Cambridge, Massachusetts, 1978.

*Conflicting Objectives in Decisions*, edited with D.E. Bell and H. Raiffa, Wiley, London, 1977, 442 pp.

*Analysis of Public Systems*, edited with A.W. Drake and P.M. Morse, MIT Press, Cambridge, Massachusetts, 1972.

### **Professional Articles Published**

#### **2008**

"*Personal Decisions Are the Leading Cause of Death*", Operations Research, 56, No.6, to appear.

"A Theoretical Framework For Goal-based Choice and for Prescriptive Analysis", with Kurt A. Carlson, Chris Janiszewski, David H. Krantz, Howard C. Kunreuther, Mary Frances Luce, J. Edward Russo, Stijn M J. Osselear, and Detlof von Winterfeldt, Marketing Letters, 19, 241-254.

"Repeated Commit-or-Defer Decisions with a Deadline: The Influenza Vaccine Composition", with Laura J. Kornish, Operations Research, 56, No. 3, 527-541.

"Generating Objectives: Can Decision Makers Articulate What They Want?", with Samuel T. Bond and Kurt A. Carlson, Management Science, 54, No. 1, 56-70.

"Altruistic Utility Functions for Joint Decisions", with David E. Bell, in The Mathematics of Preference, Choice, and Order: Essays in Honor of Peter C. Fishburn, S.J. Brams, W.V. Gehrlein, and F.S. Roberts (eds.), Springer-Verlag, New York. To appear.

"Using Preferences for Multi-Attributed Alternatives", Journal of Multi-Criteria Decision Analysis, 14, 169-174, 2006 (published in mid-2008).

"Applying Value-Focused Thinking", Military Operations Research, 13, No. 2, 7-17.

## 2007

"Eliciting Knowledge about Values for Public Policy Decisions", International Journal of Information Technology and Decision Making, 5, pp 739-749.

"Developing Objectives and Attributes" in Advances in Decision Analysis, W. Edwards, R.F. Miles, and Detlof von Winterfeldt (Eds.), Cambridge University Press, pp 104-128

"Practical Value Models", with Detlof von Winterfeldt, in Advances in Decision Analysis, W. Edwards, R.F. Miles, and Detlof von Winterfeldt (Eds.), Cambridge University Press, pp 232-252.

"Analysis of the Biological Clock Problem", with Dinah A. Vernik, Decision Analysis, 4, pp 117-135.

"Modeling Values for Anti-Terrorism Analysis", Risk Analysis, 27, pp 585-596.

## 2006

"Using Preferences for Multi-Attributed Alternatives", Multi-Criteria Decision Analysis, 14, 169-74.

“*Evaluating Academic Programs: With Applications To U.S. Graduate Decision Science Programs*,” with Kelly E. See and Detlof von Winterfeldt, Operations Research, 54, 813-828.

“*Eliciting Knowledge about Values for Public Policy Decisions*”, International Journal of Information Technology and Decision Making, 5, No.4, 739-749.

“*Stimulating Creative Design Alternatives Using Customer Values*”, IEEE Transactions on Systems, Man, and Cybernetics, 34, No. 3, 450-459, 2004. Reprinted in Decision Making in Engineering Design, K.E. Lewis, W. Chen, and L.C. Schmidt,(Eds.), ASME Press, New York, 2006.

## 2005

“*Designing Win-Win Financial Loan Products for Consumers and Businesses*”, with Robert M. Oliver, Operational Research, 56, 1030-1040.

“*Selecting Attributes to Measure the Achievement of Objectives*”, with Robin S. Gregory, Operations Research, 53, No. 1, 1-11.

“*Your Money or Your Life: A Prescriptive Model for Health, Safety, and Consumption Decisions*”, with James E. Smith, Management Science, 51, No. 9, 1309-1325.

“*IFORS Operations Research Hall of Fame: Howard Raiffa*,” International Transactions in Operational Research, 12, No. 6, 631-634.

## 2004

“*Improving Lender Offers Using Consumer Preferences*”, with Robert M. Oliver, in Readings in Credit Scoring, L.C. Thomas, D. B. Edelman, and J. N. Crook (Eds.), Oxford University Press, Oxford, 73-88.

“*Framing Public Policy Decisions*”, International Journal of Technology, Policy, and Management, 4, No. 2, 95-115. Translated into Portuguese and published in Decisão Perspectivas Interdisciplinares, Eds. C.H. Antunes and L.C. Dias, University of Coimbra Press, Coimbra, Portugal, 2007.

“*Making Better Decision-Makers*”, Decision Analysis, 1, No. 4, 193-204.

“*Stimulating Creative Design Alternatives Using Customer Values*”, IEEE Transactions on Systems, Man, and Cybernetics, 34, No. 4, 450-459. Reprinted in Decision Making in Engineering Design, edited by K. E. Lewis, W. Chen, and L.C. Schmidt, ASME Press, 2006.

“*Communicating About Decisions*”, Decision Analysis, 1, No.2, 81-83.

**2002**

*"Common Mistakes in Making Value Tradeoffs"*, Operations Research, **50**, 935-945.

*"Making Smarter Environmental Management Decisions"*, with Robin S. Gregory, Journal of the American Water Resources Association, **38**, No. 6, 1601-1612.

**2001**

*"A Framework to Guide Thinking and Analysis Regarding Climate Change Policies"*, with T.L. McDaniels, Risk Analysis, **21**, 6, 989-1000.

*"Countering Terrorism: The Clash of Values"*, ORMS Today, **28**, No. 6, December, 20-22.

*"Modeling Values for Telecommunications Management"*, IEEE Transactions on Engineering Management, **48**, August, 370-379.

*"Appraising the Precautionary Principle—A Decision Analysis Perspective"*, with D. von Winterfeldt, Journal of Risk Research, **4**, 191-202.

**2000**

*"Evaluating Customer Acquisition at American Express Using Multiple Objectives"*, with Qing Lin, Interfaces, **30**, Vol. 5, 31-33.

*"Making Better Decisions Faster"*, ORMS Today, **27**, No. 3, June, 36-37.

*"The Even Swap Method for Multiple Objective Decisions"*, with J.S. Hammond and H. Raiffa, in Research and Practice in Multiple Criteria Decision-Making, Y.Y. Haimes and Ralph E. Steuer (Eds.), Springer, Berlin, 1-14.

**1999**

*"Developing a Foundation For Strategy at Seagate Software"*, Interfaces, **29**, No. 6, 4-15.

*"The Value of Internet Commerce to the Customer"*, Management Science, **45**, 533-542.

*"Making Smart Choices"*, with J.S. Hammond, IEEE Spectrum, **36**, November, 71-76.

*"Identifying and Structuring Values to Guide Integrated Resource Planning at BC Gas"* with T. L. McDaniels, Operations Research, **47**, 651-662.

*"Foundations for Making Smart Decisions"*, IIE Solutions, **31**, No. 5, 24-30.

*"Public Values and Public Policy"*, in Decision Science and Technology, J. Shanteau, B.A. Mellers, David A. Schum (Eds.), Kluwer, Boston, 291-312.

"*Value- Focused Thinking*" in The Technology Management Handbook, R.C. Dorf (Ed.), CRC Press, Boca Raton, Florida, 9.1-9.5.

### **1998**

"*The Core Ideas for Better Decision-Making*" with J. S. Hammond and H. Raiffa, ORMS Today, 25, No. 6, December, 8-9.

"*Principles for Conduct of Pest Risk Analysis: Report of an Expert Workshop*", with G.M. Gray et al., Risk Analysis, 18, 773-780.

"*The Hidden Traps in Decision Making*", with J. S. Hammond and H. Raiffa, Harvard Business Review, September-October, 47-58. Reprinted in Harvard Business Review on Decision Making, Harvard Business School Press, Boston, Massachusetts, 2001, 21-44.

"*Even Swaps: A Rational Method for Making Trade-offs*", with J. S. Hammond and H. Raiffa, Harvard Business Review, March-April, 137-148. Reprinted in Harvard Business Review on Decision Making, Harvard Business School Press, Boston, Massachusetts, 2001, 143-167.

### **1997**

"*Evaluating Electromagnetic Field Implications of a Transmission Line Moratorium*," IEEE Transactions on Engineering Management, 44, 268-275.

"*Estimating Fatalities Induced by the Economic Costs of Regulations*," Journal of Risk and Uncertainty, 14, 5-23.

"*An Evaluation of Our National Policy to Manage Nuclear Waste from Power Plants*," with D. von Winterfeldt, in Essays in Decision Making, M.H. Karwan, J. Spronk, J. Wallenius (Eds.), Springer, Berlin, 371-390.

### **1996**

"*Value-Focused Thinking: Identifying Decision Opportunities and Creating Alternatives*," European Journal of Operations Research, 92, 537-549.

"*The Role of Values in Risk Management*," The Annals of the American Academy of Political and Social Sciences, 545, May, 126-134.

"*Valuing Billions of Dollars*," in Wise Choices: Games, Decisions, and Negotiations, R. Zeckhauser, R.L. Keeney, and J.K. Sebenius (Eds.), Harvard Business School Press, Boston, Massachusetts, 63-80.

*"Using Values in Planning Wastewater Facilities for Metropolitan Seattle,"* with T.L. McDaniels, and V.L. Ridge-Cooney, Water Resources Bulletin, 32, 293-303.

**1995**

*"Understanding Life-Threatening Risks,"* Risk Analysis, 15, 627-637.

*"Evaluating Improvements in Electric Utility Reliability at British Columbia Hydro,"* with T.L. McDaniels, and C. Swoveland, Operations Research, 43, 933-947.

**1994**

*"Using Values in Operations Research,"* Operations Research, 42, 793-813.

*"Creativity in Decision Making with Value-Focused Thinking,"* Sloan Management Review, 35, No. 4, 33-41.

*"Decisions about Life-Threatening Risks,"* New England Journal of Medicine, 331, 193-196. Reprinted as *"Facts of Life About Risks,"* Consumers' Research, 77, No. 11, 28-31.

*"Creating Policy Alternatives Using Stakeholder Values,"* with R. Gregory, Management Science, 40, 1035-1048. Reprinted in Strategic Development, R.G. Dyson and F.A. O'Brien (Eds.), Wiley, Chichester, 1998, 19-38.

*"Managing Nuclear Waste from Power Plants,"* with D. von Winterfeldt, Risk Analysis, 14, 107-130.

*"Establishing Research Objectives to Address Issues of Climate Change,"* Socio-Economic Planning Sciences, 28, No. 1, 1-8.

*"Mortality Risks Induced by the Costs of Regulations,"* Journal of Risk and Uncertainty, 8, 95-110.

**1993**

*"Value-Focused Thinking: Creativity Directed Toward Decision Making,"* Interfaces, 23, No. 3, 62-67.

**1992**

*"On the Foundations of Prescriptive Decision Analysis,"* in Utility Theories: Measurements and Applications, W. Edwards (Ed.), Kluwer, Dordrecht, The Netherlands, 57-72.

*"Adapting the Environmental Impact Statement Process to Inform Decision Makers,"* with R. Gregory and D. von Winterfeldt, Journal of Policy Analysis and Management, 11, No. 1, 58-75.

"*Value-Focused Thinking about Strategic Decisions at BC Hydro*," with T.L. McDaniels, Interfaces, 22, No. 6, 94-109. Reprinted in Judgment and Decision Making, T. Connolly, H.R. Arkes, and K.R. Hammond (Eds.), Cambridge University Press, Cambridge, 2000, 114-130.

### **1991**

"*Structuring and Analyzing Values for Multiple-Issue Negotiations*," with H. Raiffa, in Negotiation Analysis, P. Young (Ed), University of Michigan Press, Ann Arbor, 131-151.

"*A Prescriptive Risk Framework for Individual Health and Safety Decisions*," with D. von Winterfeldt, Risk Analysis, 11, 523-533.

"*Use of Expert Judgment in Nureg-1150*," with N.R. Ortiz, T.A. Wheeler, R.J. Breeding, S. Hora, and M.A. Meyer, Nuclear Engineering and Design, 126, 313-331.

"*Eliciting Probabilities from Experts in Complex Technical Problems*," with D. von Winterfeldt, IEEE Transactions on Engineering Management, 38, 191-201.

### **1990**

"*Eliciting Public Values for Complex Policy Decisions*," with D. von Winterfeldt and T. Eppel, Management Science, 36, 1011-1030.

"*Mortality Risks Due to Economic Expenditures*," Risk Analysis, 10, 147-159. Reprinted in Classics in Risk Management, Vol. II, W.K. Viscusi and T. Gayer (Eds.), Edward Elgar Publishing, Northampton, Massachusetts, 2004.

### **1989**

"*On the Uses of Expert Judgment on Complex Technical Problems*," with D. von Winterfeldt, IEEE Transactions on Engineering Management, 36, 83-86.

### **1988**

"*Structuring Objectives for Problems of Public Interest*," Operations Research, 36, 396-405.

"*Facts to Guide Thinking about Life-Threatening Risks*," Proceedings of the 1988 IEEE International Conference on Systems, Man, and Cybernetics, Pergamon Press, Oxford.

"*Building Models of Values*," European Journal of Operational Research, 37, 149-157.

"*Probabilities Are Useful to Quantify Expert Judgments*," with D. von Winterfeldt, Reliability Engineering and System Safety, 23, 293-298.

"*The Analysis and It's Role for Selecting Nuclear Repository Sites*," with D. von Winterfeldt, Operational Research '87, G.K. Rand (Ed.), North-Holland, Amsterdam, 686-701.

"*Value-Focused Thinking and the Study of Values*." In Decision Analysis: Descriptive, Normative, and Prescriptive Aspects, D.E. Bell, H. Raiffa, and A. Tversky (Eds.), Cambridge University Press, 465-494.

### **1987**

"*Structuring West Germany's Energy Objectives*," with O. Renn and D. von Winterfeldt, Energy Policy, 15, 352-362.

"*An Analysis of the Portfolio of Sites to Characterize for Selecting a Nuclear Repository*," Risk Analysis, 7, 195-218.

"*A Multiattribute Utility Analysis of Alternative Sites for the Disposal of Nuclear Waste*," with M.W. Merkhofer, Risk Analysis, 7, 173-194.

"*New Industrial Product Design and Evaluation Using Multiattribute Value Analysis*," with G.L. Lilien, Journal of Product Innovation Management, 4, 185-198.

"*Value-Driven Expert Systems for Decision Support*." In Expert Judgment and Expert Systems, J.L. Mumpower, L.D. Phillips, O. Renn, and V.R.R. Uppuluri (Eds.), Springer, Berlin, 155-171. Also appeared in Decision Support Systems, 4, 1988, 405-412.

### **1986**

"*Why Indirect Health Risks of Regulations Should be Examined*," with D. von Winterfeldt, Interfaces, 16, 13-27.

"*Improving Risk Communication*," with D. von Winterfeldt, Risk Analysis, 6, 417-424.

"*An Analysis of Baltimore Gas and Electric Company's Technology Choice*," with J. Lathrop and A. Sicherman. Operations Research, 34, 18-39.

"*The Analysis of Risks of Fatalities*." In Risk Evaluation and Management, V.T. Covello, J. Menkes, and J. Mumpower (Eds.), Plenum Press, New York, pp. 233-248.

### **1985**

"*Research Needs and the Phenomena of Decision Making and Operations*," with ten co-authors. IEEE Transactions on Systems, Man, and Cybernetics, SMC-15, pp. 764-774.

"*Evaluating Decision Strategies for Equity of Public Risks*," with R.L. Winkler, Operations Research, **33**, 955-970.

"*Analyzing Radionuclide Emissions from Coal-Fired Power Plants*," with A. Sicherman and G.R. Smith. Interfaces, **15**, 12-24.

"*Issues in Evaluating Risks of Fatalities*." In Environmental Impact Assessment, Technology Assessment, and Risk Analysis, V.T. Covello, J.L. Mumpower, P.J.M. Stallen, and V.R.R. Uppuluri, (Eds.), Springer Verlag, Berlin, pp. 517-534.

"*Risk Assessment*," with L. Peter Jennergren. In Systems Analysis, W. Findeissen (Ed.), P.W. Naukowe, Warsaw (in Polish).

### **1984**

"*Ethics, Decision Analysis, and Public Risks*," Risk Analysis, **4**, 117-129.

"*Structuring Public Utility Functions*," Operations Research Letters, **3**, 1-4.

"*Analysis of Alternative National Ambient Carbon Monoxide Standards*," with R.K. Sarin and R.L. Winkler, Management Science, **30**, 518-528.

### **1983**

"*A Technology Choice Model for Electricity Generation*," The Energy Journal, **4**, 13-31.

"*Illustrative Comparison of One Utility's Coal and Nuclear Choices*," with A. Sicherman, Operations Research, **31**, 50-83.

"*Constructing a Complex Judgmental Model: An Index of Trauma Severity*," with D.G. Fryback, Management Science, **29**, 869-883.

"*Issues in Evaluating Standards*," Interfaces, **13**, 12-22.

"*Practicing Decision Analysis in Geotechnical and Environmental Fields*." In Decision Analysis and Decision Processes, L. Sjoberg, T. Tyszka, and J.A. Wise (Eds.), Doxa, Lund, Sweden, 95-108.

### **1982**

"*Structuring Objectives for Evaluating Possible Nuclear Material Control and Accounting Regulations*," with Gary R. Smith. IEEE Transactions on Systems, Man, and Cybernetics, SMC-12, 743-750.

"*Potential Research Topics in Decision Analysis*," Decision Sciences, **4**, 547-550.

"*Decision Analysis: An Overview*," Operations Research, 30, 803-838.

"*Evaluating Mortality Risks from an Organizational Perspective*." In The Value of Life and Safety, M.W. Jones-Lee (Ed.), North-Holland, Amsterdam, pp. 217-227.

"*An Illustrative Analysis of Ambient Carbon Monoxide Standards*," with V. Ozernoy. Journal of the Operational Research Society, 33, 365-375.

"*Statistical Examination of Reservoir-Induced Seismicity Data*," with G.B. Baecher. Bulletin of the Seismological Society of America, 72(2), 553-569.

### **1981**

"*Siting Major Facilities Using Decision Analysis*." In Operations Research '81, J.P. Brans (Ed.), North-Holland, Amsterdam, pp. 355-369.

"*Risk Analysis: Understanding How Safe is Safe Enough?*" with S.L. Derby. Risk Analysis 1, 217-224.

"*Analysis of Preference Dependencies Among Objectives*," Operations Research, 29, 1105-1120.

"*Formal Analysis Including Value Judgments and Public Risk*," Toxic Substances Journal, 3, 8-22.

"*Measurement Scales for Quantifying Attributes*," Behavioral Sciences, 26, 29-36.

### **1980**

"*Approaches for Determining Acceptable Risk*," with B. Fischhoff, S. Lichtenstein, P. Slovic, and S. Derby. In Nuclear Power and Its Alternatives, Proceedings of the American Nuclear Society Meeting, Los Angeles, February, 27-29.

"*Decision Approaches to Risk Criteria*," with S. Derby, B. Fischhoff, S. Lichtenstein, and P. Slovic. Proceedings of the American Nuclear Society Waste Management Conference, Tucson, Arizona, March.

"*Equity and Public Risk*," Operations Research, 28, 527-534.

"*Utility Functions for Equity and Public Risk*," Management Science, 26, 345-353.

"*Evaluating Alternatives Involving Potential Fatalities*," Operations Research, 28, 188-205.

### **1979**

"A Probabilistic Analysis of Landslide Potential," with Alan Lamont. Proceedings of the 2<sup>nd</sup> U.S. National Conference on Earthquake Engineering, Stanford University, Stanford, California August, 22-24, 1016-1025.

"A Risk Analysis of an LNG Terminal," with R. Kulkarni and K. Nair. Omega, 7, 191-205.

"Public Risk from Potential LNG Spills," Omega, 7, 364-366.

"A Survey of Multiattribute Utility." In Evaluation of Efficacy of Medical Action, A. Alperovitch, F.T. de Dombal, and F. Gremy (Eds.), North-Holland, Amsterdam, pp. 467-478.

"Decision Analysis-How to Cope with Increasing Complexity," Management Review, 68, 24-40.

"Evaluating Methodologies: A Procedure and Application to Nuclear Power Plant Siting Methodologies," with C.K. Ford and C.W. Kirkwood. Management Science, 25, 110.

"Evaluation of Proposed Pumped Storage Sites," Operations Research, 27, pp. 48-64. Also published in Evaluation of Efficacy of Medical Action, A. Alperovitch, F.T. de Dombal, and F. Gremy (Eds.), North-Holland, Amsterdam, pp. 467-478.

## **1978**

"Assessing the Risk of an LNG Terminal," with R.B. Kulkarni and K. Nair. Technology Review, 1(1), 64-72.

"Multiattribute Decision Analysis." In Methods of Operations Research, 35, W. Oettli and F. Steffens (Eds.), Atheneum/Hain/Scriptor/Hanbstein, Berlin, pp. 211-228.

"Decision Analysis." In Handbook of Operations Research, J.J. Moder and S.E. Elmaghraby (Eds.), Van Nostrand-Reinhold Company, New York, pp. 423-450.

"A Utility Model for Product Positioning," with G.L. Lilien. In Multiple Criteria Problem Solving, Stanley Zionts (Ed.), Springer-Verlag, Berlin, pp. 321-334.

"Examining Energy/Environment Policy Using Decision Analysis," with W.A. Buehring and W.K. Foell. Energy Systems and Policy, 2, 341-367.

## **1977**

"Selecting Nuclear Power Plant Sites in the Pacific Northwest Using Decision Analysis," with K. Nair. In Conflicting Objectives in Decisions, with D.E. Bell and H. Raiffa (Eds.), Wiley, London.

"A Preliminary Model of Adversary Preferences," Proceedings of the Lawrence Symposium on System and Decision Sciences, Western Periodicals, North Hollywood, California, 187-193.

"Nuclear Siting Using Decision Analysis," with K. Nair. Energy Policy, 5, 223-231.

"Assessing and Evaluating Environmental Impacts at Proposed Nuclear Power Sites," with G.A. Robilliard. Journal of Environmental Economics and Management, 4, 153-166.

"An Illustrative Application of the Use of Multiattribute Utility Theory for Water Resource Planning," with E.F. Wood. Water Resources Research, 13, 705-716.

"The Art of Assessing Multiattribute Utility Functions." Organizational Behavior and Human Performance, 19, 267-310.

"A Utility Function for Examining Policy Affecting Salmon in the Skeena River," Journal of the Fisheries Board of Canada, 34, 49-63.

## 1976

"Multiattribute Utility Analysis: A Brief Survey." In Systems Theory in the Social Sciences, H. Bossel, S. Klaczko, and N. Muller (Eds.), Birkhauser-Verlag, Basel, Switzerland, 534-550.

"Aspects of Multiple-Objective Evaluation at IIASA." IIASA Conference '76, International Institute for Applied Systems Analysis, Laxenburg, Austria.

"Assessing and Analyzing Preferences Concerning Multiple Objectives: An Interactive Computer Program," with A. Sicherman. Behavioral Science, 21, 173-182.

"Quantifying Corporate Preferences for Policy Analysis." In Multiple Criteria Decision Making, H. Thiriez and S. Zionts (Eds.), Springer-Verlag, Berlin, pp. 293-304.

"A Group Preference Axiomatization with Cardinal Utility," Management Science, 23, 140-145.

"Setting Goals in a Professional Service Firm," with K. Nair. Journal of Long Range Planning, June.

## 1975

"Additive Value Functions," with H. Raiffa. In Theorie de la Decision et Applications, J.P. Ponsard and P-H-Tri (Eds.), Fondation Nationale Pour l'Enseignement de la Gestion des Entreprises, Paris.

"*Decision Analysis of Environmental Problems.*" In Systems Approaches and Environmental Problems, H.W. Gottinger (Ed.), Vandenhoeck and Ruprecht, Gottingen, West Germany, 275-289.

"*Group Decision Making Using Cardinal Social Welfare Functions,*" with C.W. Kirkwood. Management Science, 22, 430-437.

"*Examining Corporate Policy Using Multiattribute Utility,*" Sloan Management Review, Fall, 63-76.

"*Generalized Utility Independence and Some Implications,*" with P.C. Fishburn. Operations Research, 33, 928-940.

"*A Market Share Theorem,*" with D.E. Bell and J.D.C. Little. Journal of Marketing Research, May, XII, 136-141.

"*Decision Analysis for Siting for Nuclear Power Plants: The Relevance of Multiattribute Utility Theory,*" with K. Nair. Proceedings of the IEEE, Special Issue on Social Systems Engineering, K. Chen, M. Ghausi, and A. Sage (Eds.), March, pp. 494-501.

#### **1974**

"*Multiattribute Utility Theory-Its Applications,*" (in Russian). Proceedings of the Third All-Union School Seminar on the Management of Large-Scale Systems, Tbilisi, USSR, December.

"*Seven Independence Concepts and Continuous Multiattribute Utility Functions,*" with P.C. Fishburn. Journal of Mathematical Psychology, 11, 294-327.

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