

## VITA

**Arthur Gerstenfeld, Ph.D.  
Professor of Management  
Worcester Polytechnic Institute  
Worcester, MA 01609**

### **Education**

Massachusetts Institute of Technology (MIT), Ph.D. 1967 (Thesis: Interaction Study in Parallel R&D Projects) Field: Management

Massachusetts Institute of Technology (MIT), M.S. 1966 Field: Management

Rensselaer Polytechnic Institute (RPI), B.M.E. 1950 Field: Industrial Engineering

### **Academic Appointments**

Boston University, Associate Professor Management, 1968 – 1973

Boston University, Professor, Management, 1973 – 1978

WPI, Professor and Head, Department of Management, 1978 – 1985

### **Publications**

#### **Books (9, 1 translated into Japanese)**

1. Africa in the Next Decade, (with Raphael Njoroge), New Canaan, Conn. Business Books International, 2005.
2. International Business and Education: A Focus on Africa and United States (with Raphael J. Njoroge), Worcester/London: Transglobal Literacy, 2004.
3. U.S. Manufacturing Facing Global Competition, (Ed.) WPI, March 1988.
4. Manufacturing Research Perspectives: USA/Japan, (Ed) Elsevier Publishers, 1987.
5. Manufacturing Research: Organizational and Institutional Issues, (Ed) New York Elsevier, 1986.
6. Science Policy Perspectives: USA/Japan, (Ed) New York, Academic Press, 1982.
7. Technological Innovation: Government/Industry Cooperation, (Ed) New York, John Wiley-Interscience, 1979.

8. Innovation: A Study of Technological Policy, Washington, D.C.: University Press of America, 1977.
9. Effective Management of Research and Development, Massachusetts, Addison-Wesley, 1970 (English and translated to Japanese).

Articles Published 55 (all in refereed journals, most recent shown first) Articles shown with \*'s were co-authored with WPI students.

1. "A Decision-Analysis Approach for Optimal Airport Security", (with Berger, P.D.), International Journal of Critical Infrastructure Protection, (2011), doi:10.1016/j.ijcip.2011.01.002
2. "Applying the Analytic Hierarchy Process to the Offshore Outsourcing Location Decision" (with Liu, L.B., Berger, P.B., and Zeng, A.Z). Supply Chain Management: An International Journal, Vol 13, No. 6, 435-448, 2008.
3. "American Competitiveness in Africa and the World: Challenge from China", (with Raphael Njoroge), The International Journal of Business Disciplines, Vol 19, No. 2 Winter 2008.
4. "International Business: The Role of Ports in Africa", The International Journal of Business Disciplines, (with Raphael Njoroge) June 2007.
5. "Project-based Learning in Developing Countries," Proceedings of the ASEE New England Section 2006 Annual Conference, (with Raphael Njoroge), March, 2006.
6. \* "Wind Power: An International Perspective", The International Journal of Business Disciplines, (with Tyler Leeds and Robert Theriaque) Fall 2005.
7. "Business of Water in Africa" The International Journal of Business Disciplines, (with Raphael Njoroge) Spring 2005.
8. "The Optimal Use of Standby Suppliers: A Decision-Analysis Approach," International Journal of Logistics: Research and Applications, (with P.D. Berger and Amy Z. Zeng), vol. 8, #1, pgs. 67 – 80, March 2005.
9. "Managing the Supply-side Risks in Supply Chains: Taxonomies, Processes and Examples of Decision-Making Modeling" Applied Optimization Series, Vol 92 (with Zeng, A.Z. and Berger, P.D.) 2005.
10. \* "Planning Rural Telecommunications in Developing Countries" (with Boris Ramos), The International Journal of Business Disciplines, Volume 15, No. 1, Spring 2004.
11. "How Many Suppliers are Best? A Decision-Analysis Approach" (with Paul D. Berger and Amy Zeng) Omega Vol. 32, Issue 1, February 2004, Pages 9-15
12. "Foundation and Funding Opportunities for Globalization", (with Raphael J. Njoroge) 2004 International Symposium on Technology and Society, Worcester Polytechnic Institute, 2004.

13. "African Growth and Opportunity Act (AGOA)", The International Journal of Business Disciplines, (with Raphael J. Njoroge), Fall 2003.
14. "Economics of Cage Culture in Puerto Rico," Aquaculture Economics and Management, (with Susan Vernon Gerstenfeld et al), Sept. 2002.
15. "Global Business: A Focus on Africa," International Journal of Business Disciplines, (with Raphael J. Njoroge), Spring 2002.
16. \* "Using Lean Principles to Streamline the Quoting Process: A Case Study," International Management and Data Systems, (with Conan Buzby, Lindsay Voss, and Amy Zeng), Oct. 2002.
17. "Zeltron: Innovation in a Latin American Country," Casenet.Thompson.com, South-Western College Publishing, ISBN 0-324-00971-2, 1998.
18. "Workshop on the Engineering/Management Interface," Elsevier Science Inc, 1995.
19. "Engineering Management Interface," Technology Management 1995.
20. "En Route and Terminal Simulations," ATCA (Air Traffic Control Association) Proceedings 1992.
21. "ATC Simulation Strategy Can Benefit from Flight Training Experience," ICAO (International Civil Aeronautics Association) 1992.
22. "Simulation Combined with Cooperating Experts Systems," Air Traffic Control Journal 1988.
23. "A Simulation Application of Distributed Rule Based Learning," The Society for Computer Simulation International, AI Paper, 1988 (with Kiet Huong).
24. "Optimal Configuration of a New Product," Proceedings of the 1985 National American Institute of Decision Science Conference, November 1985 (with Paul D. Berger).
25. "What Makes New Products Successful?" Journal of Business Forecasting Vol. 4, No. 3, Fall 1985 (with Paul D. Berger).
26. "Microcomputers for Managers and Engineers: Now and the Future," Proceedings of the 1985 National American Institute of Decision Sciences Conference, November 1985 (with Paul D. Berger).
27. "Applications of Microcomputers by Engineers and Managers," 1985 ASEE Annual Conference Proceedings, June, 1985 (with Paul D. Berger).
28. "Major Issues in Transitioning Research to Applications," Proceedings of the 1984 Northeast American Institute of Decision Sciences Conference, April 1984 (with Paul D. Berger).
29. "An Experimental Design for Studying the Effects of Using Online Systems in Information Science," Proceedings of the 1984 National American Institute of Decision Sciences Conference November 1984 (with Paul D. Berger).

30. "The Major Factors that Influence the Transfer from Research to Application," Proceedings of the 1984 National American Institute of Decision Sciences Conference, March 1984 (with Paul D. Berger).
31. "Joint Research: 'A Wave of the Future?'" Research Management 1984 (with Paul D. Berger).
32. "A Quantitative Analysis of the Transition From Research to Application," Proceedings of the 1983 National American Institute of Decision Science Conference, April 7-8 1983 (with Paul D. Berger).
33. "Some Effects of Computerized Literature Search Systems," Omega, The International Journal of Management Science, Vol. 11, No. 4 1983 (with Paul D. Berger).
34. "A Systems Approach to Industrial Robots," Proceedings of the 13<sup>th</sup> International Symposium on Industrial Robots April 1983 (with Paul D. Berger).
35. "Industrial Robots: A Model of Social and Economical Appraisal," Proceedings of the 1982 National American Institute of Decision Sciences Conference, November 1982 (with Paul D. Berger).
36. "Description of a Study of the Transfer Process from Basic Research to Applications," Proceedings of the 1982 National American Institute of Decision Sciences Conference, November 1982 (with Paul D. Berger).
37. "University-Industry Cooperative Projects" Science Policy Perspectives: USA-Japan 1982.
38. "A Model for the Economic and Social Evaluation of Industrial Robots," Proceedings of the 12<sup>th</sup> International Symposium on Industrial Robots, June 1982 (with Paul D. Berger).
39. "Innovation Systems: The Present Need," The Business Graduate, spring 1982 (with Helmar Krupp).
40. "On The Role of Critical Review on the Progress of Science and Technology," Proceedings of the 1981 Northeast American Institute of Decision Sciences Conference, April 1981 (with Paul D. Berger).
41. "Scientific and Technical Information: A Study on Applications," Journal of College and University Libraries (Japanese Journal of Information Sciences), winter 1980 (with Paul D. Berger).
42. "The Role of Computerized Literature Search Systems on the Transfer of Scientific and Technical Information," Proceedings of the 1980 National American Institute of Decision Sciences Conference, November 1980 (with Paul D. Berger).
43. "An Analysis of Utilization Differences for Scientific and Technical Information," Management Science, Vol. 26 No. 2 February 1980 (with Paul D. Berger).
44. "The Management of Innovation in Japan – Seven Forces That Make the Difference," Research Management Vol. XXIII / No 1 January 1980 (with Keiji Sumioshi).
45. "An Experimental Design for Improving the Transfer of Information to Scientists and Engineers," Proceedings of the 1978 National American Institute of Decision Sciences Conference, March 1978 (with Paul D. Berger).

46. "Innovation and Health Care Management," Hospitals and Health Services Administration Spring 1978.
47. "MBO Revisited focus on Health Systems," Health Care Management Review Vol. 2 No. 4, Fall 1977.
48. "Technological Forecasting—Rejoinder," The Journal of Business of the University of Chicago, Vol. 50, No. 2, April 1977.
49. "Government Regulations Effects on the Directions of Innovations: A focus on Performance Standards," The Institute of Electrical and Electrical Engineers, 1977.
50. "Strategies for Innovation in Developing Countries", Sloan Management Review Vol. 19, No. 1, Fall 1977 (with Lawrence Wortzel).
51. "Temporary Assignments," OMEGA, the International Journal of Management Science, October 1975 (with Paul D. Berger).
52. "Cost of Effective Test Sequencing," Proceedings of the NATO Conference: Reliability Testing and Reliability Evaluation September 1972 (with Paul D. Berger).
53. "Decision Analysis for Increased Highway Safety," Sloan Management Review, MIT, Spring 1971 (with Paul D. Berger).
54. "Technological Forecasting," The Journal of Business of the University of Chicago Vol. XLIV No. 1, January 1971.
55. "The Goal Priorities of Medical Technologists," American Journal of Medical Technology, Vo. 36, No. 4 April 1970.

#### **Patents (4)**

1. "Direct Entry Air Traffic Control Systems for Accident Analysis and Training," 1992.
2. "Air Traffic Control System." 1990.
3. "Site-Selectable Air Traffic Control System." 1988.
4. "Expert Systems for Air Traffic Control and Controller Training." 1989.

## **Honors and Professional Organizations**

First Place IQP Award, WPI, “Aquaculture for the Developing World,” Costa Rica, Summer 2000 (with Prof. Susan Vernon-Gerstenfeld).

Second Place IQP Award, WPI, “GIS: An Aid for Firefighting”, Summer 2000 (with Prof. Susan Vernon-Gerstenfeld).

Second Place IQP Award, WPI, “A Study of Marketing Possibilities at Lankester”, Summer 1999 (with Prof. Susan Vernon-Gerstenfeld).

Major Qualifying Project Award, WPI, “RPS, Inc.–Switcher Simulation”, 1997 (with Prof. Sharon Johnson).

Best Paper of the Year Award, Institute of Electrical and Electronic Engineering, 1980.

United States Department of Commerce, Certificate of Appreciation, Advisory Committee on Industrial Innovation, 1979.

## **Funded Research Projects (12 Grants totaling >\$2,000,000)**

Under review with BNP Paribas, “Low-Latency Electronic Trading” \$100,000 (submitted, Nov. 2010) with Prof. Xinming Huang

1. Department of Education, Business & International Education Program, “South Africa: The Engine of Growth for Africa,” \$197,576 (Sept. 2005 – August 2007)
2. Department of Education, Business & International Education Program, “Building a Bridge of Knowledge to Africa”, \$173,000 (June 2003 – 2005)
3. USAID, “Leadership in Higher Education,” \$124,957 (May 2003 – Dec. 2004)
4. Department of Education, Business & International Education Program, “Africa: A Focus on the Southern Cone,” \$170,435 (July 2001 – June 2003).
5. Department of Education, Business & International Education Program, \$174,000 (1999 – 2001).
6. Department of Education, Business & International Education Program, \$168,806. (1997 – 1999).
7. Coleman Foundation Grant for study on entrepreneurship (co-director with Donald Beth), \$25,000 (1995).
8. Interface Disciplines Grant, WPI, Study on entrepreneurship (co-director with Donald Berth), \$30,000 (1993).

9. National Science Foundation (NSF) Grant for study on engineering/management interface, \$55,000 (1992-1993).
10. National Science Foundation (NSF) Grant Principal Investigator on Project, An Industry/University Center for Research on the Management of Advance Automation Technology (MAAT), \$100,000/year (1980 –1988).
11. Founder and co-director of MEAC, WPI (Manufacturing Engineer Application Center, \$50,000/year (1980 – 1981).
12. Japan Foundation, Principal Investigator for a study on Innovation Factors in Japan, \$60,000 (1980).

### **Reviewer**

U. S. Department of Education, Business and International Education Program

Aquaculture Economics and Management Journal, University of Hawaii

### **MQP and IQP advising (off site)**

IQP Advisor in Costa Rica (6 times),

IQP Advisor in Puerto Rico (2 times)

IQP Advisor in Namibia

IQP Advisor in Boston (2 times)

IQP Advisor in Australia

### **University Service and Committees**

My major university service has been as first Management Department Head, 1977 to 1984.

Member Undergraduate Policy and Curriculum Committee (UPCC) multi years

Member Graduate Policy and Curriculum Committee (GPCC) multi years

Founder MBA program

Founder Namibia Project Center

Founder Wall Street Project Center

### Industry Experience

Industrial Engineer and Cost Control Manager, Bogart Manufacturing, 1950- 1955 (plant was leading designer and manufacturer of microwave test equipment)

Plant Manager, Bogart Manufacturing, 1955- 1960

N.A.S.A. Cape Canaveral (now Cape Kennedy); Manager, Plans and Program Management 1960- 1964.

University Faculty Associates (UFA), founder and President, 1985-1988, while on leave from WPI (designer and manufacturer of air traffic control training systems).