

Hector H. Guerrero

PERSONAL INFORMATION

<i>Office Address:</i>	
College of William and Mary	
Mason School of Business Administration	
Williamsburg, VA 23187-8795	
757-221-2850 (W)	hector.guerrero@mason.wm.edu

TEACHING INTERESTS

Modeling and Simulation, Data Analysis/Statistical Methods, Operations Management, Decision Analysis, Quality Management, Six Sigma Tools

RESEARCH INTERESTS

Product Design and Control: product design, design for controllability, product/part end of life issues, product commonality, FMEA

Manufacturing: lean management, cycle time efficiency, scheduling, material requirements planning, demand management, inventory analysis

Automation: group technology, automation strategies, flexible manufacturing systems, and scheduling for robotic systems

General Management: six sigma, lean management, effective team implementation

Supply Chain Risk: port operation, catastrophic planning, and transportation safety

EDUCATION

University of Texas at Austin	BS Electrical Engineering	1971
University of Texas at Austin	MBA (Management Science)	1978
University of Washington	Ph.D. Operations and Systems Analysis	1983

EMPLOYMENT HISTORY

BUSINESS

Dow Chemical Co, Freeport, TX (1966-70 intern, 71-72 permanent)

Plant Engineer: Power plant operations engineer in charge of maintenance and capital projects for power plants within the Dow Texas Division. Duties included supervision of individuals in 5 power plants producing approximately 2000 megawatts of power--one of largest industry owned power generation systems in the world.

Lockheed Missiles and Space Co, Sunnyvale, CA. (1972-77)

Design Engineer: Digital Electronics design for guidance and avionics systems and software development. Computer simulation of vehicle subsystems performance.

Project Engineer: Responsible Engineer for flight equipment.

Reliability Engineer: Development of computer graphics software for reliability and safety analysis. Secret Clearance. Member of Engineering Change Board and Production Committee.

Central Texas Health Systems Agency, Austin, TX. (1978-79)

Information Systems Analyst: Design of information system for CTHSA for maintaining information on regional health care providers. Represented CTHSA through certification procedures administered by DHEW.

ACADEMIC

Amos Tuck School of Business Administration, Dartmouth College,

Hanover, NH. (1982-1986)

Assistant Professor of Operations Management: Taught courses in 1st and 2nd year MBA curriculum. Courses included Operations Management, Manufacturing Planning and Control, and Selected Applications in Management Science.

University of Notre Dame, College of Business Administration,

South Bend, IN. (1986-90)

Assistant Professor of Operations Management and Information Systems: Taught courses in Statistics, Computers in Business, and Operations Management to undergraduate and graduate business students. 1990 Professor of the Year in Executive MBA.

College of William and Mary School of Business, Williamsburg, VA. (1990-present)

Professor of Business Administration:

Teach courses in Statistics, Management Information Systems, Operations Management, and Modeling and Simulation, Decision Making under Uncertainty, to undergraduates, resident MBAs, MAcc, and Executive MBAs.

Director of Resident MBA Program (1991-1993):

Coordinated and organized the resident MBA program faculty, curriculum, operations, and special events. Additional duties included coordination of the part-time MBA.

Director of COMPETE Center, William & Mary, Mason School (1995-present):
Center for Operations Management, Process Engineering, and Technological Expertise.
Center takes on business projects related to Operations and Information Systems.

Visiting Professor: Santiago, Chile (1994-1995) Comparative Latin American
Operational Systems. ILADES (Instituto Latinoamericano de Estudios Sociales)-
Programa de Postgrado en Economía (affiliated with Georgetown; degree granted as
Masters of Economics)

RESEARCH ACTIVITIES

Journal Articles

H.H. Guerrero, "The Effect of Various Production Strategies on Product Structures with Commonality," *Journal of Operations Management*, 1985, Vol. 5, #4, pp. 395-410.

H.H. Guerrero, K. Baker, and M. Southard, "The Dynamics of Hedging the Master Schedule," *International Journal of Production Research*, 1986, Vol. 24, #6, pp. 1475-1483.

H.H. Guerrero, "Group Technology: I. The Essential Concepts," *Production and Inventory Management*, 1987, Vol. 28, #1, pp. 62-70.

H.H. Guerrero, "Group Technology: II. The Implementation Process," *Production and Inventory Management*, 1987, Vol.28, #2, pp. 1-9.

H.H. Guerrero and G. Kern, "How to more Effectively Accept and Refuse Orders," *Production and Inventory Management*, 1988, Vol.29, #4, pp. 59-62.

K. Matta and H.H. Guerrero, "Analyzing an Inventory System with Multiple Reorder Points and Periodic Replenishment," *Computers and Industrial Engineering*, 1990, Vol.18,#1, pp. 445-456.

G. Kern and H.H. Guerrero, "A Conceptual Model for Demand Management in the Assemble-to-Order Environment," *Journal of Operations Management*, 1990, Vol.9, #1, pp. 64-85.

H.H. Guerrero, "Demand Management Strategies for Assemble-to-Order Production Environments," *International Journal of Production Research*, 1991, Vol.29, #1, pp.39-51.

H.G. Chen and H.H. Guerrero, "A Rule-Based Scheduling System for Flexible Manufacturing Cells," *Journal of Intelligent Manufacturing*, 1992, Vol.3, #5, pp. 285-296.

H.G. Chen and H.H. Guerrero, "A General Search Algorithm for Cell Formation in Group Technology," *International Journal of Production Research*, 1994, Vol.32, #11, pp. 2711-2724.

H. H. Guerrero and David Murray, "A Supply Chain Analysis of a Public Sector Distribution System: Provisioning Corrections and Mental Health Systems," *Journal of Cycle Time Research*, Vol. 6, No. 1, 2000, pp. 65 - 84.

James Bradley and H. H. Guerrero, "Inventory Magic," *APICS Magazine*, May 2007, pp. 18-22.

H. H. Guerrero, David Murray, and Richard Flood, "A Model for Supply Chain and Vessel Traffic Restoration in the Event of a Catastrophic Port Closure," *Journal of Transportation Security*, 2008, Vol. 1, No. 1, pp. 71-80.

S. Bordoloi and H.H. Guerrero, "Design for Control: An IT Perspective on Product Design," *International Journal of Production Economics*, 2008, Vol. 113, pp. 346-358.

James Bradley and H. H. Guerrero, "Product Design for Life Cycle Mismatch," *Production and Operations Management*, 2008, Vol. 17 (5), pp. 497-512.

James Bradley and H. H. Guerrero, "Life-Time buy Decisions with Multiple Obsolete Parts," *Production and Operations Management*, 2009, Vol. 18 (1), pp. 113-126.

H.H. Guerrero, David Murray and Richard Flood "A Model for Supply Chain and Vessel Traffic Restoration in the Event of a Catastrophic Port Closure," *Supply Chain Security*, Editor Andrew Thomas, Praeger Security International, 2010, pp. 102-112.

James Bradley and H.H. Guerrero, "The Global Replenishment Problem," *Wiley Encyclopedia of Operations Research and Management Science*, Feb. 2010.

James Bradley and H. H. Guerrero, "A Strategic Framework Deployment of RFID in Supply Chains," *Information Technology Professional*, IEEE Computer Society, July-August 2010, pp. 44-50.

James Bradley and H. H. Guerrero, "An Alternative FMEA Method for Simple and Accurate Ranking of Failure Modes," *Decision Sciences*, Volume 42, Number 3, August 2011.

H. H. Guerrero and James Bradley, "Failure Modes and Effects Analysis: An Evaluation of Group versus Individual Performance," *Production and Operations Management*, forthcoming-accepted 2012.

Books

Excel Data Analysis, Modeling and Simulation, Springer-Verlag, Operations Research and Decision Theory Series, 2010.

<http://www.springer.com/business+%26+management/operations+research/book/978-3-642-10834-1>

Submissions in Process

Data Mining with MS Excel and Access, solicited by Executive Editor, Springer-Verlag

Dissertation

The Effects of Production Strategies on Product Structures with Commonality, University of Washington, 1984.

Book Reviews

H.H. Guerrero and M. Bowen, "A Review of-- Overcoming Organizational Defenses: Facilitating Organizational Learning," by Chris Argyris, *International Journal of Conflict Management*, 1991, Vol.2, #1, pp.69-71.

Published Journal Proceedings

"Group Technology: Theory and Practice," Proceedings of American Production and Inventory Control Society National Logistics Conference, April 1988, Dallas, TX.

"Analyzing the Inventory System on Board of U.S. Naval Vessels," with K. Matta, Proceedings of 19th Annual Pittsburgh Conference on Modeling and Simulation, May 1988, Pittsburgh, PA.

"The Dynamics of the Escalation Phenomenon," with M. Radzicki, M. Bowen, and R. Kuller, Proceedings of International System Dynamics Conference, July 1988, San Diego, CA.

"A Generic System Dynamics Model of Escalation Behavior," with M. Bowen, M. Radzicki, and R. Kuller, Proceedings of Natl. Academy of Management Meeting, August 1988, Anaheim, CA.

"Demand Management in the Assemble-to-Order Environment," with G. Kern, Proceedings of Decision Sciences Institute Natl. Fall meeting, November 1988, Las Vegas, NV.

"A Conceptual Model for Demand Management," with G. Kern, Proceedings of DSI Natl. Fall meeting, November 1989, New Orleans, La.

"Robot Scheduling System for Flexible Manufacturing Cells," Proceedings of IEEE International Engineering Management Conference, San Francisco Bay Area/Silicon Valley, October, 1990.

"A Program of Research in Demand Management," with G. Kern, Proceedings of DSI Natl. Fall meeting, November 1992, San Francisco, Ca.

"Scheduling Heuristics for Robots in Flexible Manufacturing Cells, " with H.G. Chen, Proceedings of DSI Natl. Fall Meeting, November 1994, Honolulu, Hawaii.

"A replication of a Model of Personality and Consumer Affective Processes in the Japanese Culture," with T.A. Mooradian, Proceedings of Conference on Marketing Communication, Lalonde, France, May 1999.

Cases

Henry Schwartzman (A), (B), (C)

Paco's Perfect Pits (A)

Aquatrix A & B

Garcia Products

Port of Serena, Chile

A Thirst for Risk

Akebono Gets Angry

Maintaining the Weiner Mobile

American Central Tacos

Accountants for Humanity

Vegas Night at OLPS

Unsavory Manor: Swim with the Gators

Geary Construction

Little Red Wagon Company

Screw Ball Shot- Master Production Scheduling Game (PC version)

(Many other short cases)

Papers Presented at Meetings

"A Generalized 0-1 Integer Network Formulation of the Nurse Scheduling Problem," ORSA/TIMS, Fall 1981, Houston TX.

"A System Dynamics Model of Yemen Airlines," with Robert Pizzi and Peter Haug, ORSA/TIMS, Fall 1982, San Diego, CA.

"A Model to Predict the Supply and Demand of Nursing Home Beds," with Robert Pizzi and Peter Haug, ORSA/TIMS, Spg.1983, Chicago, IL.

"The Effect of Commonality on Various Product Structures," ORSA/TIMS, Spring 1984, San Francisco, CA.

"Demand Management and Production Strategy," ORSA/TIMS, Fall 1984, Dallas, TX.

"The Dynamics of Hedging the Master Production Schedule," with K. Baker and M. Southard, ORSA/TIMS, Spring 1986, Los Angeles, CA.

"A Rule-based Scheduling System for Manufacturing Cells," with H.G. Chen, ORSA/TIMS, Spring 1991, Nashville, TN.

"A General Search Algorithm in Cell Formation in Group Technology," with H.G. Chen, ORSA/TIMS, Fall 1993, Phoenix, AZ.

"Restructuring the Bill of Material and its Effect on Forecasting," with P.K. Aggarwal, ORSA/TIMS, Fall 1993, Phoenix, AZ.

"Product Design for Control," with Tonya Boone, POMS, Spring 2003, Savannah, GA.

"Operation Restore," with Dick Flood and David Murray, presented a paper to Academy of Science Marine Transportation Board Fall Meeting, Washington, DC, 2005.

"Restoring System-wide Ocean Vessel Traffic in the Event of a Catastrophic Port Closure," with Dick Flood and David Murray, Transportation Research Board 85th Annual Meeting, January 2006, Washington, DC.

"Managing the Mismatch between Part Life Cycles and Product Life Cycles," POMS, May 2006, Boston, MA.

"Life-Time Buy Decisions with Multiple Products and Multiple Parts," INFORMS Conference, November 2006. (Bradley attended)

"Product Design for Life Cycle Management," INFORMS Conference, November 2006. (Bradley Attended)

"Life-Time Buy Decisions with Multiple Products and Multiple Parts," POMS Conference, May 2007. (I attended and Bradley presented)

“Life-Time Buy Decisions for Products with Multiple Obsolete Parts,” INFORMS, November 2007. (Bradley Attended)

“Product Design for Life Cycle Management, “INFORMS Conference, November 2007. (Bradley attended)

“Life-Time Buy Decisions for Products with Multiple Obsolete Parts,” INFORMS, May 2008. (Bradley presented)

“Vessel Rerouting for Catastrophic Port Closures,” POMS, May 2008

“Operation Restore—A Model for Planning Port Closures,” MODSIM, September 2008.

“A Case Study of the Port of Virginia and Its Supply Chains,” POMS Conference, May 2009. (Guerrero presented; with James Bradley)

“Modeling and Simulation in Business,” 2010 Modeling and Simulation Summit, Feb 2010. (Guerrero presented; with Jim Bradley)

Invited Presentations

"Robot Scheduling System for Flexible Manufacturing Cells," (with H.G. Chen), Operations Management Department, Indiana University, Bloomington, Indiana, Fall 1988.

"A Conceptual Model for Demand Management," (with G. Kern), Department of Management, Michigan State University, East Lansing, Michigan, July 15, 1989.

"A Conceptual Model for Demand Management," (with G. Kern), Department of Decision Sciences, University of Oregon, Eugene, Oregon, April 14, 1989.

"A Conceptual Model for Demand Management," (with G. Kern), Operations Management Department, Indiana University, Bloomington, Indiana, March 30, 1990.

"Working in the 21st Century," Alumni College, College of William and Mary, June 27, 1991.

Invited speaker Marine Terrorism Response conference in Seattle 2005.

Invited speaker US Coast Guard Training Center, Yorktown, VA, 2005.

Invited speaker Marine Terrorism Response conference in Seattle 2006.

Invited speaker Port of Seattle 2006.

Invited speakers (with Jim Bradley) SEVAPORT Grant White Paper at the Hampton Roads Transportation, Warehousing, and Distribution Forum, VMASC, Suffolk VA, 9/25/2009.

Invited speakers (with Jim Bradley) “Strategies to Maximize Port Utilization while Minimizing Traffic Congestion in Hampton Roads,” Maritime Port Summit, Portsmouth, VA, February 2009.

Invited speaker Modeling and Simulation Summit, Virginia Beach, VA, January 2010.

EDITORSHIPS, EDITORIAL BOARDS, JOURNAL REVIEW ACTIVITIES

Editorial Review Boards

Journal of Operations Management (advisor 1990)
IEEE Transactions of Engineering Management (2012)

Reviewer

Journal of Operations Management
Management Science
Decision Sciences
Simulation
Production and Operations Management
International Journal of Conflict Management
International Journal of Production Research
European Journal of Operational Research
IEEE Transactions on Engineering Management

Session Chair

POMS
Decision Sciences Institute
The Institute of Management Science

UNIVERSITY SERVICE

Chair Mason Business School Dean’s Search Committee (Pulley selected)
Area Coordinator Operations and Information Technology Faculty
Mason School Personnel Committee
Mason School Affirmative Action Committee
Director Resident MBA Program 1991-1993

Mason Curriculum Committee
Mason Faculty Affairs Committee
College Grievance Committee
Dean's International Opportunities Task Force
Search Committees—Clerical Staff, Director of MBA Placement, OIT Faculty
President's Advisory Taskforce on Productivity—Ad Hoc
College Faculty Assembly
OIT Business Student Advisor
Advisor to Business Fraternity Alfa Kappa Psi
Advisor to Hispanic Student Organization
Director of Mason School Compete Center

PROFESSIONAL SOCIETIES & RELATED ACTIVITIES

The Institute of Management Science
Decision Sciences Institute
Operations Management Society
International Society of Conflict Management
American Production and Inventory Control Society
Production and Operations Management Society

COMMISSIONS, DIRECTORSHIPS, & BORARDS

Board of Tienda.com
Board of William and Mary Business and Technology Center

CONTINUING EDUCATION, GRANTS, & CONSULTING ACTIVITY

CONTINUING EDUCATION

Have participated and designed executive programs and supervisory training programs for the institutions mentioned above and for private industry. A partial list of topics include:

Reengineering business processes
Manufacturing production planning and control
Quality control & total quality management
Operations strategy
Service operations
Managing information resources
Effective information system design
Lean/Six Sigma
Modern Procurement
Decision Making

Negotiation in Procurement

Programs have been presented to a broad spectrum of participants--top executives to first line supervisors. Have traveled extensively in Europe, Asia, and Central and South America to present these programs.

GRANTS

Department of Labor, Virginia Employment Commission Pilot Program Evaluation Project--\$129,924 with Roy Pearson and John Wallingford for 1992. Funded by the U.S. Dept. of Labor to evaluate the demonstration projects in Alaska, Minnesota, Missouri, and Virginia for creating common information databases for automated unemployment insurance and employment services. William and Mary identification #353171.

Department of Planning and Budget, State of Virginia, "Analysis of Product Distribution System for Virginia Correctional Facilities and Mental Health/Mental Retardation and Substance Abuse Agencies"-- \$50,000 with P.K. Aggarwal and David H. Murray. COMPETE Project-C1997-01.

South Carolina Department of Corrections, State of South Carolina, "Evolving Optimum Prison Classification Policies in the Implementation of Truth-in-Sentencing: A dynamic Model to Predict Bed-Type Mix"—\$149,585 with David H. Murray. COMPETE Project-C1998-02.

Transportation and Security Administration (Department of Homeland Security), "Operation Restore"--\$1,900,150 with R. Flood, D. Murray, Ciber Corp. COMPETE Project-C2004-01

HRRP (Hampton Roads Research Partnership): Assessment of Sensor Cluster and its Activity, with Ron Hess, William and Mary Office of Research and Grants Administration, \$32,000, 6/01/08.

William and Mary Office of Economic Development: White-Paper on the Supply Chains of Hampton Roads, City of Portsmouth sponsor, with James Bradley, \$6,000, 11/01/08.

WIRED 2 Grant Research and Development: Transportation, Warehousing, and Distribution, Opportunity Inc, with James Bradley, William and Mary Office of Research and Grants Administration, \$200,000, 6/23/08.

CONSULTING

Consultant to many small and large manufacturing and service firms, domestic and international, in the following areas: Lean Six Sigma, Reengineering, Inventory and

Manufacturing Control, Strategic Planning, Risk Analysis, Quality Control Systems implementation, Total Quality Management, Productivity, Information System design, Service Franchise, and Operations System design.

Partial list of Clients: Atlantic Ordnance Command, Department of Navy, IBM, Welsh Oil Corp., Newport News Shipbuilding Co., Treasure Isles LLC, Sterling Drug, Andersen Consulting, Miles Laboratories, Crowe Chizek Accountants, Lockheed, Digital Equipment, Dow Chemical, AMF Bowling, Trout Trading Co., Müller Martini Manufacturing Corp., IMS Ltd., U.S. Department of Labor, Virginia Employment Commission, Virginia Department of Planning and Budget, U.S. Department of Justice, Long John Silver's Franchisee Association, Department of Justice, High Technology Corporation, Northrop Grumman, Department of Homeland Security, Maersk Lines Limited, Virginia Port Authority, Technology and Business Center at William and Mary, Opportunity Inc., Department of Commerce, and Excel Corporation.