**Rodney D. Traub**

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E-Mail: Rodney.Traub@ndsu.edu

**Education**

Ph.D. Purdue University, Krannert Graduate School of Management

1994 Major: Operations Management

Minor: Strategic Management

Dissertation Title: Single-Machine Scheduling with Dynamic Arrivals

Dissertation Chairmen: Professor Suresh Chand

Professor Reha Uzsoy

1986 Masters of Business Administration, North Dakota State University

Thesis Title: North Dakota Rural Electric Cooperatives: A Comparative Study

1977 Bachelor of Science, North Dakota State University

Mechanical Engineering

1975 Associate Of Arts, Bismarck Junior College

Pre-Engineering

**Awards and Honors**

North Dakota State University – College of Business Administration – Teaching Award. 2003.

North Dakota State University – College of Business Administration – Service Award. 2003.

Finalist for INFORMS Edelman Award, 2002.

North Dakota State University – College of Business Administration – Research Award. 2001.

University of Iowa Old Gold Summer Fellowship, 1995.

Center for the Management of Manufacturing Enterprises Dissertation Fellowship, 1992-1993.

American Assembly of Collegiate Schools of Business Doctoral Fellowship, 1988-1989.

**Professional Affiliations**

Institute for Operations Research and the Management Sciences (INFORMS)

Production and Operations Management Society (POMS)

Decision Sciences Institute (DSI)

Institute for Supply Management (ISM)

**Publications**

Chand, Suresh, Dilip Chhajed, and Rodney Traub, “A Single-Machine Scheduling Model with Fixed-Interval Deliveries,” *Production and Operations Management*, 3,4, Fall 1994, pp. 296-307.

de Matta, R. and R Traub, “Minimizing the Average Inventory Holding Time in Mixed-Model Production Systems with Significant Setups,” *Proceedings of the 27th Annual Meeting of Decision Sciences Institute*, Cliff T. Ragsdale, Ed., Decision Sciences Institute, Atlanta, GA., 1995, pp. 1216-1218.

Chand, Suresh, Rodney Traub, and Reha Uzsoy, “An Iterative Heuristic for the Single Machine Dynamic Total Completion Time Scheduling Problem,” *Computers and Operations Research*, 23,7, July 1996, pp. 641-651.

Chand, Suresh, Rodney Traub, and Reha Uzsoy, “Single Machine Scheduling with Dynamic Arrivals: Decomposition Results and an Improved Algorithm,” *Naval Research Logistics*, 43,5, August 1996, pp. 709-719.

Chand, Suresh, Rodney Traub, and Reha Uzsoy, “Rolling Horizon Procedures for the Single Machine Dynamic Scheduling Problem,” *Annals of Operations Research*. 70, 1997, 115-125.

Dexter, Frank, Rodney Traub, and Fang Qian, “Comparison of statistical methods to predict the time to complete a series of surgical cases,” *Journal of Clinical Monitoring and Computing* 15, 1999, pp. 45-51.

Dexter, Frank, Alex Macario, Rodney Traub, M. Hopwood, and D. Lubarsky, “An operating room scheduling strategy to maximize the use of operating room block time. Computer simulation of patient scheduling and survey of patients’ preferences for surgical waiting time. *Anesthesia & Analgesia* 89, 1999, pp. 7-20.

Dexter, Frank, Alex Macario, and Rodney Traub, “Which Algorithm for Scheduling Add-on Elective Cases Maximizes Operating Room Utilization? Use of Bin Packing Algorithms and Fuzzy Constraints in Operating Room Management,” *Anesthesiology*,91, 1999, pp. 1491-1500.

Dexter, Frank, Alex Macario, Rodney Traub, and Fang Qian, “Forecasting Surgical Departments’ Total Hours of Elective Cases for Allocation of Block Time - Application of Time Series Analysis to Operating Room Management,” *Anesthesiology*, 91, 1999, pp. 1501-1508.

Dexter, Frank, Alex Macario, and Rodney Traub, “Optimal Sequencing of Urgent Surgical Cases - Scheduling Cases using Operating Room Information Systems,” *Journal of Clinical Monitoring and Computing*, 15, 1999, pp. 153-162.

**Publications** (cont.)

Dexter, Frank, Alex Macario and Rodney Traub, “Statistical method using operating room information system data to determine anesthetist weekend call requirements,”  *AANA Journal*, 2000, Feb: 68(1), 21-26.

Dexter, Frank and Rodney Traub, “Determining Staffing Requirements for a Second Shift of Anesthetists by Graphical Analysis of Data from Operating Room Information Systems,” *AANA Journal*, 2000, Feb: 68(1), 31-36.

Dexter, Frank and Rodney Traub, “Sequencing Cases in Operating Rooms - Predicting Whether One Surgical Case will Last Longer than Another,” *Anesthesia & Analgesia*, 90, 2000, 975-979.

Dexter, Frank and Rodney Traub, “Statistical Method for Predicting when Patients Should be Ready on the Day of Surgery,” *Anesthesiology*, 93, 2000, 1107-1114.

Dexter, Frank, Alex Macario and Rodney Traub, “Enterprise−Wide Patient Scheduling Information Systems to Coordinate Surgical Clinic and Operating Room Scheduling Can Impair Operating Room Efficiency,” *Anesthesia & Analgesia*, 91, 2000, 617-626.

Dexter, Frank and Rodney Traub, “The Lack of Systematic Month to Month Variation Over One Year Periods in Ambulatory Surgery Caseload,” *Anesthesia & Analgesia*, 91, 2000, 1426-1430.

Dexter, Frank, Rodney Traub and Philip Lebowitz, ”Scheduling a Delay Between Different Surgeons’ Cases in the Same Operation Room on the Same Day Using Upper Prediction Bounds for Case Durations,” *Anesthesia & Analgesia*, 92, 2001, 943-946.

Dexter, Frank, Donald H. Penning, and Rodney D. Traub, “Statistical Analysis by Monte-Carlo Simulation of the Impact of Administrative and Medical Delays in Discharge from the Postanesthesia Care Unit on Total Patient Care Hours,” *Anesthesia & Analgesia*, 92, 2001, 1222-1225.

Jones, Philip C., Timothy J. Lowe, Rodney D. Traub, and Greg Kegler, “Matching Supply and Demand: The Value of a Second Chance in Producing Hybrid Seed Corn,” *Manufacturing and Service Operations Management*, Spring 2001, (3,2), 122-137.

Macario, Alex, Frank Dexter and Rodney Traub, “Hospital Profitability per Hour of Operating Room Time Can Vary Among Surgeons,” *Anesthesia & Analgesia*, 93, 2001, 669-675.

Dexter, Frank, and Rodney D. Traub, “How to Schedule Elective Surgical Cases into Specific Operating Rooms to Maximize the Efficiency of use of Operating Room Time,” *Anesthesia & Analgesia*, 94, 2002, 933-942.

**Publications** (cont.)

Jones, Philip C., Timothy J. Lowe, Rodney D. Traub, “Matching Supply and Demand: The Value of a Second Chance in Producing Seed Corn,” *Review of Agricultural Economics*, 24:1, 2002, 222-238.

Dexter, Frank, Rodney Traub, Lee A. Fleisher and Peter Rock, What Sample Sizes are Required for Pooling Surgical Case Durations Among Facilities to Decrease the Incidence of Procedures with Little Historical Data?, *Anesthesiology*, 96, 2002, 1230-1236.

Epstein, Richard H., Frank Dexter, Rodney D. Traub, “Statistical power analysis to estimate how many months of data are required to identify PACU staffing to minimize delays in admission from ORs,” *Journal of PeriAnesthesia Nursing*, 2002, 17(2), 84-88.

Dexter, Frank, Rodney D. Traub, and Alex Macario, “How to Release Allocated Operating Room Time to Increase Efficiency: Predicting Which Surgical Service Will Have the Most Underutilized Operating Room Time,” *Anesthesia & Analgesia*, 96, 2003, 507-512.

Jones, Philip C., Greg Kegler, Timothy J. Lowe, Rodney D. Traub, “Managing the Seed Corn Supply Chain at Syngenta,” *Interfaces*, Vol. 33, No. 1, January-February 2003, 80-90.

Dexter, Frank, Alex Macario, Rodney D. Traub, David A. Lubarsky, “Operating Room Utilization Alone Is Not an Accurate Metric for the Allocation of Operating Room Block Time to Individual Surgeons with Low Caseloads,” *Anesthesiology*, 98, 2003, 1243-1249.

Tangpong, Chanchai, Michael D. Michalisin, Rodney D. Traub, and Arlyn J. Melcher. “A Review of Buyer-Supplier Relationship Typologies: Progress, Problems and Future Directions,” *Journal of Business and Industrial Marketing,* Vol. 30, No. 2, 2015, 153-170.

Loy, Maari, Rodney D. Traub, Limin Zhang, Pratap Kotala, Jesse Breidenbach, Monte Roemmich, and Robert Nelson. “Beyond the use of Robotics: Operations and Supply Chain Control for Effective Inventory Management in a Health System Pharmacy,” To Appear: *Annals of Information Systems*. Accepted September 2012.

**Conference Presentations**

March 2015, “Capital Investment Needs of the Small Railroads” 56th Annual Transportation Research Forum, Atlanta, Georgia.

October 2014 “Use Of Spreadsheets to Generate Unique Student Problems That Are Easy-To-Grade” AAA Midwest Region, Minneapolis, Minnesota.

April 2011 “Beyond the use of Robotics” 2nd Symposium on Healthcare Advancements in Research and Practice, Moorhead, Minnesota.

**Conference Presentations** (cont.)

April 2011 “Self-Confidence & Task Performance: Self-Efficacy and Goal Orientation in Supply Chain Decision Making.” Western Decision Sciences Institute, Portland Oregon.

April 2010 “ Role of Goal Setting and Self-Efficacy in Supply Chain Decision Making” Western Decision Sciences Institute, Lake Tahoe, Nevada.

March 2001 “Enterprise−Wide Patient Scheduling Information Systems to Coordinate Surgical Clinic and Operating Room Scheduling Can Impair Operating Room Efficiency” POMS National Meeting, Orlando, Florida.

November 1999 “Matching Supply and Demand: The Value of a Second Chance” INFORMS National Meeting, Philadelphia, Pennsylvania.

October 1998 “Management Strategies for Allocation of Surgical Block Time” INFORMS National Meeting, Seattle, Washington.

October 1997 “Minimizing Total Job Waiting Time in a Two-Stage Flowshop” INFORMS National Meeting, Dallas, Texas.

October 1997 “Cooperation Between Manufacturers and Retailers Under Supply and Demand Uncertainty” INFORMS National Meeting, Dallas, Texas.

October 1996 “Minimizing Average Inventory Holding Time in Mixed Model Production Systems with Significant Setups” INFORMS National Meeting, Atlanta, Georgia.

October 1995 “An Iterative Heuristic for in Single-Machine Dynamic Total Completion Time Scheduling Problems” INFORMS National Meeting, New Orleans, Louisiana

October 1995 “Identification of Forecast Horizons in Single-Machine Dynamic Scheduling Problems” INFORMS National Meeting, New Orleans, Louisiana

October 1995 “Minimizing Average Holding Time in Mixed Model Production Systems with Significant Setups” INFORMS National Meeting, New Orleans, Louisiana

April 1995 “A Release Date Iteration Heuristic” INFORMS National Meeting, Los Angeles, California

October 1994 “A Single-Machine Scheduling Model with Fixed-Interval Deliveries” ORSA/TIMS Joint National Meeting, Detroit, Michigan

April 1994 “Single-Machine Dynamic Scheduling: Decomposition Results and Rolling Horizon Procedures,” TIMS/ORSA Joint National Meeting, Boston, Massachusetts

May 1993 “Rolling Horizon Algorithms for the Dynamic Total Completion Time Problem,”

**Conference Presentations** (cont.)

TIMS/ORSA Joint National Meeting, Chicago, Illinois

May 1993 “Operation Control for a Manufacturing Process with Unknown Production Outputs,”

TIMS/ORSA Joint National Meeting, Chicago, Illinois

November 1992 “Rolling Horizon Procedures for Scheduling Problems with Dynamic Arrivals,”

ORSA/TIMS Joint National Meeting, San Francisco, California

November 1991 “Sequencing in Large Flowshops to Minimize Completion Time,”

ORSA/TIMS Joint National Meeting, Anaheim, California

**Additional Conferences Attended**

Institute for Supply Management Seminar: Understanding and Embedding Risk Management Concepts into Supply Practices, Fargo, North Dakota, February 2011.

Institute for Supply Management Seminar: Rails, Roads, Water and Air: Logistics, Inventory and Distribution, Fargo, North Dakota, April 2010.

Joint Logistics Education & Development Forum, Fort Lee, Virginia, January 2008.

Joint Logistics Education & Development Forum, Fort Lee, Virginia, May 2007.

AACSB Continuous Improvement Seminar, Minneapolis, MN., September 1999.

Midwest Roundtable on Manufacturing and Logistics, West Lafayette, IN., October 1998.

Midwest Roundtable on Manufacturing and Logistics, Madison WI., October 1997.

Midwest Roundtable on Manufacturing and Logistics, Champaign, IL., October 1996.

Teaching Manufacturing Strategy, Columbus, OH., July 1996.

Production and Operations Management Society, Indianapolis, IN., April 1996.

Midwest Roundtable on Manufacturing and Logistics, Iowa City, IA., December 1995.

Experiential Learning Workshop V, Cornell University, June 1995.

Decision Sciences Institute, San Francisco, CA., November 1992.

TIMS/ORSA, Nashville, TN. April, 1991.

**Teaching Experience**

North Dakota State University, 1999-2015.

Associate Professor:

Advanced Operations Management (graduate).

Operations Management (undergraduate).

Supply Chain Management (undergraduate / graduate)

Logistics Systems (graduate)

Advanced Supply Chain Planning Across the Enterprise (graduate)

University of Iowa, 1993-1999.

Assistant Professor:

Operations Management (graduate).

Operations Strategy (graduate).

Operating Systems Design (graduate).

Purdue University, 1989-1992

Instructor:

Operations Management (undergraduate).

Teaching Assistant:

Advanced Manufacturing Technologies (graduate).

Operations Management (graduate).

North Dakota State University, 1985-1988

Instructor:

Operations Research (undergraduate):

Operations Management (undergraduate):

Principles of Management (undergraduate):

**Industrial Experience**

1977-1983, Project Engineer, Westinghouse Electric Corporation

Involved in construction, start-up, and maintenance of turbine-generator units for public utilities and municipalities.

Duties included:

Verification of quality standards and engineering specifications

Continuous improvement of assembly / inspection procedures

Scheduling of professional and craft labor forces

Coordination with subcontractors

Administration of installation / maintenance contracts