

## **JIAN YANG**

Department of Management Science and Information Systems  
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Business School, Rutgers University  
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### **EDUCATION**

Doctor of Philosophy in Management Science, 2000  
Department of Management Science and Information Systems, University of Texas, Austin, TX  
Dissertation: A Priori Planning and Real-time Resource Allocation

Master of Science in Physics, 1996  
Department of Physics, Texas A&M University, College Station, TX

Bachelor of Science in Physics, 1994  
Department of Modern Physics, University of Science and Technology of China, P.R. China

### **WORK EXPERIENCE**

July 2018—present, Professor, Department of Management Science and Information Systems, Rutgers Business School: Newark and New Brunswick, Rutgers University

July 2018—present, Vice Chair, Department of Management Science and Information Systems, Rutgers Business School: Newark and New Brunswick, Rutgers University

September 2012—June 2018, Associate Professor, Department of Management Science and Information Systems, Rutgers Business School: Newark and New Brunswick, Rutgers University

July 2006—August 2012, Associate Professor, Department of Mechanical and Industrial Engineering (formerly Department of Industrial and Manufacturing Engineering), New Jersey Institute of Technology

September 2000—June 2006, Assistant Professor, Department of Industrial and Manufacturing Engineering, New Jersey Institute of Technology

### **COURSES TAUGHT**

#### *Undergraduate*

IE439—Deterministic Topics in Operations Research

IE440—Stochastic Topics in Operations Research

IE459—Production Planning and Inventory Control

29:623:311—Production and Operations Management

33:623:386—Operations Management

29:623:340—Business Research Methods

### *Graduate*

EM602—Management Science

IE623—Linear Programming

TRAN650—Urban Systems Engineering

IE650—Advanced Topics in Operations Research (with a focus on nonlinear programming)

IE704—Sequencing and Scheduling

IE706—A Queuing Approach to Performance Analysis

22:960:575—Data Analysis and Decision Making

26:711:563—Stochastic Calculus in Finance

26:711:564—Optimization Models in Finance

26:711:685—Special Topic in Management Science: Game Theory

26:711:685—Special Topic in Management Science: Fundamentals of Optimization

26:711:685—Special Topic in Management Science: Advanced Probability

26:711:685—Special Topic in Management Science: Dynamic Pricing and Revenue

### Management

Capstone Projects—advisement of 11 MITA students

## **RESEARCH INTERESTS**

Combinatorial Optimization; Production Planning; Stochastic Inventory Control; Supply Chain Management; Logistics; Revenue Management; Game-theoretic Applications

## **WORKING PAPERS**

4) Katehakis, M.N., Y. Liu, and J. Yang. A Revisit to the Markup Practice of Dynamic Pricing. Under Review at *Naval Research Logistics*.

3) Yang, J. and J. Li. Cooperative Game with Nondeterministic Returns. Under Review at *Games and Economic Behavior*.

2) Katehakis, M.N., J. Yang, and T. Zhou. Dynamic Inventory and Price Controls Involving Discrete Nonperishable Items and Unknown Demand. Under review at *Operations Research*.

1) Yang, J. Analysis of Markovian Competitive Situations using Nonatomic Games. Under Review at *International Journal of Game Theory*.

## **JOURNAL PUBLICATIONS**

- 40) Yuan, Q., Y.F. Chen, J. Yang, and Y. Zhou. 2018. Joint Control of Emissions Permit Trading and Production Involving Fixed and Variable Transaction Costs. *Production and Operations Management*, 27, pp. 1420-1454.
- 39) Yang, J. 2018. Game-theoretic Modeling of Players' Ambiguities on External Factors. *Journal of Mathematical Economics*, 75, pp. 31-56.
- 38) Wang, Y., J. Yang, and L. Qi. 2017. A Game-theoretic Model for the Role of Reputation Feedback Systems in Peer-to-peer Commerce. *International Journal of Production Economics*, 191, pp. 178-193.
- 37) Yang, J. 2017. Monotone Trends in Inventory-price Control under Time-consistent Coherent Risk Measure. *Operations Research Letters*, 45, pp. 293-299.
- 36) Yang, J. 2017. A Link between Semi-anonymous Sequential Games and their Large Finite Counterparts. *International Journal of Game Theory*, 46, pp. 383-433.
- 35) Xia, Y., J. Yang, and T. Zhou. 2015. Revenue Management under Randomly Evolving Economic Conditions. *Naval Research Logistics*, forthcoming.
- 34) Lei, L., M. Pinedo, L. Qi, S. Wang, and J. Yang. 2015. Personnel Scheduling and Supplies Provisioning in Emergency Relief Operations. *Annals of Operations Research*, 235, pp. 487-515.
- 33) Liu, Y. and J. Yang. 2015. Joint Pricing-procurement Control under Fluctuating Raw Material Costs. *International Journal of Production Economics*, 168, pp. 91-104.
- 32) Yang, J., Y. Xia, X. Qi, and Y. Liu. 2014. A Nonatomic-game Model for Timing Clearance Sales under Competition. *Naval Research Logistics*, 61, pp. 365-385.
- 31) Yang, J. and X. Qi. 2013. The Nonatomic Supermodular Game. *Games and Economic Behavior*, 82, pp. 609-620.
- 30) Katerhakis, M.N., I. Olkin, S.M. Ross, and J. Yang. 2013. On the Life and Work of Cyrus Derman. *Annals of Operations Research*, 208, pp. 5-26.
- 29) Yang, J. and X. Qi. 2013. An Order-centric Treatment of the Bayesian Supermodular Games. *Annals of Operations Research*, 208, pp. 371-381.
- 28) Chen, Y.F., W. Xue, and J. Yang. 2013. Note: Optimal Inventory Policy in the Presence of a Long-term Supplier and a Spot Market. *Operations Research*, 61, pp. 88-97.
- 27) Yang, J. and Y. Xia. 2013. A Nonatomic-game Approach to Dynamic Pricing under Competition. *Production and Operations Management*, 22, pp. 88-103.

- 26) Yang, J. 2011. Asymptotic Interpretations for Equilibria of Nonatomic Games. *Journal of Mathematical Economics*, 47, pp. 491-499.
- 25) Yang, L., J. Yang, G. Yu, and H. Zhang. 2011. Near-optimal  $(r, Q)$  Policies for a Two-Stage Serial Inventory System with Poisson Demand. *International Journal of Production Economics*, 133, pp. 728-735.
- 24) Yang, J. and Y.F. Chen. 2010. On Information Quality Ranking and Its Managerial Implications. *Journal of Industrial and Management Optimization*, 6, pp. 729-750.
- 23) Yang, J. and X. Qi. 2010. Managing Partially Controllable Raw Material Acquisition and Outsourcing in Production Planning. *IIE Transactions*, 42, pp. 188-202.
- 22) Yang, J. and X. Qi. 2009. On the Design of Coordinating Contracts. *International Journal of Production Economics*, 122, pp. 581-594.
- 21) Yang, J. and X. Zhang. 2009. Coordinated Dynamic Control of Marketing and Production. *Naval Research Logistics*, 56, pp. 348-365.
- 20) Yang, J. and Y. Xia. 2009. Acquisition Management under Fluctuating Raw Material Prices. *Production and Operations Management*, 18, pp. 212-225.
- 19) Qin, Z. and J. Yang. 2008. Analysis of a Revenue-sharing Contract in Supply Chain Management. *International Journal of Logistics: Research and Applications*, 11, pp. 17-29
- 18) Yang, J. and Z. Qin. 2007. Capacitated Production Control with Virtual Lateral Transshipments. *Operations Research*, 55, pp. 1104-1119.
- 17) Yang, J., X. Hu, and H. Zhang. 2007. Effects of a Reputation Feedback System on an Online C2C Auction Market. *Decision Support Systems*, 44, pp. 93-105.
- 16) Yang, S., J. Yang, and L. Abdel-Malek. 2007. Sourcing with Random Yields and Stochastic Demand: A Newsvendor Approach. *Computers & Operations Research*, 34, pp. 3682-3690.
- 15) Yang, J. and S. Yang. 2007. The Use of Premium Payment in a Supply Chain Involving Acquirable Capacity. *European Journal of Operational Research*, 181, pp. 207-223.
- 14) Yang, J., X. Qi, Y. Xia, and G. Yu. 2006. Inventory Control with Markovian Capacity and the Option of Order Rejection. *European Journal of Operational Research*, 174, pp. 622-645.
- 13) Yang, J., B. Golany, and G. Yu. 2005. A Concave-cost Production Planning Problem with Remanufacturing Options. *Naval Research Logistics*, 52, pp. 443-458.
- 12) Yang, J., X. Qi, and G. Yu. 2005. Disruption Management in Production Planning. *Naval Research Logistics*, 52, pp. 420-442.
- 11) Yang, J., X. Qi, and Y. Xia. 2005. A Production-inventory System with Markovian Capacity and Outsourcing Options. *Operations Research*, 53, pp. 328-349.
- 10) Yang, J. and J. Y-T. Leung. 2005. A Generalization of the Weighted Set Covering Problem. *Naval Research Logistics*, 52, pp. 142-149.
- 9) Yang, J., P. Jaillet, and H. Mahmassani. 2004. Real-time Multivehicle Truckload Pickup and Delivery Problems. *Transportation Science*, 38, pp. 135-148.

- 8) Yang, J. 2004. Production Control in the Face of Random Supply, Storable Raw Material, and an Outside Market. *Operations Research*, 52, pp. 293-311.
- 7) Yang, J. and J. Y-T. Leung. 2003. The Ordered Open-end Bin Packing Problem. *Operations Research*, 51, pp. 759-770.
- 6) Golany, B., Y. Xia, J. Yang, and G. Yu. 2002. An Interactive Goal Programming Procedure for Operational Recovery Problems. *Optimization and Engineering*, 3, pp. 109-127.
- 5) Yang, J. and G. Yu. 2002. Some New Dynamic Economic Lot Sizing Models. *Dynamics of Continuous, Discrete and Impulsive Systems, Series B: Applications & Algorithms*, 9, pp. 403-419.
- 4) Yang, J. and G. Yu. 2002. On the Robust Single Machine Scheduling Problem. *Journal of Combinatorial Optimization*, 6, pp. 17-34.
- 3) Golany, B., J. Yang, and G. Yu. 2001. Economic Lot-sizing with Remanufacturing Options. *IIE Transactions*, 33, pp. 995-1003.
- 2) Yang, J., P. Jaillet, and H. Mahmassani. 1999. On-line Algorithms for Truck Fleet Assignment and Scheduling under Real-time Information. *Transportation Research Record*, 1667, pp. 107-113.
- 1) Yu, G. and J. Yang. 1998. On the Robust Shortest Path Problem. *Computers & Operations Research*, 25, pp. 457-468.

## CONFERENCE PROCEEDINGS

- 2) Yang, J., L. Lei, and C. Fan. 2005. Effects of Errors in Production-Inventory Systems—The Advantage of RFID. Annual Meeting of the Northeast Region of the Decision Sciences Institute. Philadelphia, PA.
- 1) Yang, S., J. Yang, and L. Abdel-Malek. 2004. Multi-supplier Sourcing with Random Yields: A Newsvendor Approach. The 13<sup>th</sup> International Working Seminar on Production Economics. Igls/Innsbruck, Austria.

## BOOK CHAPTERS

- 3) Yang, J., Y. Xia, and J. Shi. 2015. A Game of Competitive Investment: Over-capacity and Under-learning. In *Supply Chain Management and Logistics: Innovative Strategies and Practical Solutions*, Liang, Z., W.A. Chaovalitwongse, and L. Shi (Eds.), Taylor & Francis, New York, pp. 197-230.
- 2) Qi, X., J. Yang, and G. Yu. 2004. Scheduling Problems in the Airline Industry. In *Handbook of Scheduling: Algorithms, Models, and Performance Analysis*, Joseph Y-T. Leung (Ed.), Chapman & Hall/CRC, Boca Raton, FL, pp. 50:1-50:21.
- 1) Yu, G. and J. Yang. 1998. Optimization Applications in the Airline Industry. In *Handbook of Combinatorial Optimization*, D.-Z. Du and P.M. Pardalos (Eds.), Kluwer Academic Publishers, Norwell, MA, pp. 635-726.

## RESEARCH FUNDING

- 13) *Co-Investigator* (with Z. Chen as PI and Y. Zhou as other co-I): Nonlinear Program through Penalty-free Methods, **National Natural Science Foundation of China** Grant 11371273 in the amount of RMB 550,000 (\$82,500), January 2014—December 2017
- 12) *Co-Investigator* (with Y.F. Chen as PI): Models for Production Operations and Emissions Permits Purchasing Decisions in the Presence of Emissions Trading Market, **Hong Kong RGC** Grant GRF 410812 in the amount of HKD 525,000 (\$68,250), October 2012—March 2016.
- 11) *Co-Investigator* (with X. Qi as PI): Cooperative Disruption Recovery, **Hong Kong RGC** Grant GRF 618311 in the amount of HKD 603,000 (\$78,000), December 2011—May 2015.
- 10) *Principal Investigator*: Risk Aversion and Cooperative Games, **Research Resource Committee** Grant in the amount of \$5,000, July 2013—June 2014.
- 9) *Principal Investigator*: Collaborative Research: The Nonatomic-game Approach to Revenue Management under Competition, **National Science Foundation** Grant CMMI-0854803 in the amount of \$249,592, September 2009—August 2012.
- 8) *Co-Investigator* (with Y.F. Chen as PI and S. Zhou as other co-I): Procurement-inventory Models in the Presence of Commodity Spot Markets and Hedging Instruments, **Hong Kong RGC** Grant GRF 410907 in the amount of HKD 596,160 (\$77,500), January 2008—December 2010.
- 7) *Co-Investigator* (with X. Qi as PI): Production Scheduling with Order Quotation, **Hong Kong RGC** Grant GRF 618807 in the amount of HKD 561,600 (\$73,000), January 2008—December 2010.
- 6) *Principal Investigator* (with Y. Xia as Co-PI): Inventory Management under Fluctuating Raw Material Prices. **National Science Foundation** Grant CMMI-0652942 in the amount of \$326,932, June 2007—May 2010.
- 5) *Co-Investigator* (with X. Qi as PI): Integrated Logistics Scheduling Models, **Hong Kong RGC** Grant GRF 618606 in the amount of HKD 534,000 (\$69,000), January 2007—December 2009.
- 4) *Investigator* (with S. Chien as PI , L.N. Spasovic as Co-PI, and A. Bladikas as other investigator): Route Design Model for Project SWIFT—Phase I. **Greyhound Lines, Inc.** grant in the amount of \$35,410, January 2005—June 2005.
- 3) *Principal Investigator* (with J.R. Daniel as Co-PI): Study of Optimal Travel Speed Limits for Shared Traffic. **New Jersey Department of Transportation** grant in the amount of \$136,688, January 2003—June 2004.
- 2) *Principal Investigator*: Production Planning under Uncertain Supply. **NJIT** Separately Budgeted Research Grant, \$20,000, July 2000—June 2002.
- 1) *Principal Investigator*: Policies for Real-time Vehicle Routing. **NJIT** Separately Budgeted Research Grant, \$19,150 (and NCTIP matching of \$19,150), July 2000—June 2001.

## INVITED TALKS

- 24) Game-theoretic Modeling of Players' Ambiguities on External Factors. March 2017, Department of Applied Mathematics and Statistics, Stony Brook University, Stony Brook, NY.
- 23) Modeling Risk and Ambiguity-on-nature in Normal-form Games. October 2015, 4<sup>th</sup> Rutgers Applied Probability Conference, Rutgers University, New Brunswick, NJ.
- 22) Noncooperative Game with Risk Considerations. September 2014. Department of Information, Operations and Management Sciences, Stern School of Business, New York University, New York, NY.
- 21) A Link between Sequential Semi-anonymous Games and their Large but Finite Counterparts. May 2014, Department of Industrial and Enterprise Systems Engineering, University of Illinois, Urbana-Champaign, IL.
- 20) On Sequential Semi-anonymous Nonatomic Games. December 2013, 2<sup>nd</sup> Rutgers Probability Day, Rutgers University, New Brunswick, NJ.
- 19) Inventory and Price Control under Time-consistent Markov and Coherent Risk Measure. November 2012, 1<sup>st</sup> Rutgers Probability Day, Rutgers University, New Brunswick, NJ.
- 18) The Nonatomic Supermodular Game. October 2012, INFORMS Annual Meeting, Phoenix, AZ.
- 17) Competitive Dynamic Pricing—the Nonatomic-game Approximation. April 2012, POMS Annual Meeting, Chicago, IL.
- 16) Analysis of Markovian Competitive Situations using Nonatomic Games. October 2011, Rutgers Center for Operations Research, Rutgers University, New Brunswick, NJ.
- 15) Dynamic Pricing in Presence of Product-form Demands. February 2011, Department of Management Science and Information Systems, Rutgers University, Newark, NJ.
- 14) Dynamic Pricing in an Oscillating Economy. April 2010, A. Gary Anderson School of Management, University of California at Riverside, Riverside, CA.
- 13) A Game of Competitive Investment: Over-capacity, Under-learning, and Implications of Information Sharing. October 2009, INFORMS Annual Meeting, San Diego, CA.
- 12) Nonatomic-game Models for Clearance Sales under Competition. October 2008, INFORMS Annual Meeting, Washington D.C.
- 11) Rational Expectations Models in Revenue Management. September 2007, Rutgers Business School, Rutgers University, Newark, NJ.
- 10) Coordinated Dynamic Control of Marketing and Production. January 2007, Department of Mathematical Sciences, Georgia Southern University, Statesboro, GA.
- 9) Managing Partially Controllable Raw Material Acquisition and Outsourcing in Production Planning. November 2005, Rutgers Business School, Rutgers University, Newark, NJ.
- 8) Flexible Resource and Quality of Information. April 2005, Rutgers Business School, Rutgers University, Newark, NJ.
- 7) Production Constraints and Remedial Options. February 2005, Department of Supply Chain Management & and Information, Pennsylvania State University, University Park, PA.

- 6) Production Constraints and Remedial Options. October 2004, Department of Industrial and Systems Engineering, Rutgers University, New Brunswick, NJ.
- 5) Inventory Control under Capacity Limitations. July 2004, Rutgers Business School, Rutgers University, Newark, NJ.
- 4) Inventory Control under Capacity Limitations. June 2004, Department of Industrial Engineering and Engineering Management, The Hong Kong University of Science and Technology, Hong Kong.
- 3) Inventory Control involving Capacity. June 2004, Department of Systems Engineering and Engineering Management, The Chinese University of Hong Kong, Hong Kong.
- 2) The Effects of a Feedback System on an Electronic Market. February 2004, DuPree College of Management, Georgia Institute of Technology, Atlanta, GA.
- 1) Results on Two Combinatorial Optimization Problems. October 2001, Rutgers Center for Operations Research, Rutgers University, New Brunswick, NJ.

#### **PH.D. STUDENTS**

- 6) Tingting Zhou (co-advising with Michael N. Katehakis): Inventory and Revenue Management when Demand Distribution is Unknown, graduated in May 2018.
- 5) Yifeng Liu: Joint Pricing-production Control under Fluctuating Raw Material Prices, graduated in May 2014.
- 4) Mojisola Otegbeye: Addressing the Procurement and Inventory Decision in a Volatile Commodity Price Environment, graduated in May 2010.
- 3) Godson Tetteh: Optimal Allocation of Blood Products, graduated in May 2008.
- 2) Yongqiang Yang (co-advised with Dr. J. Daniel): Optimal Speed Limit for Shared Traffic, graduated in August 2005.
- 1) Zhaoqiong Qin: Topics on Supply Chain Management, graduated in May 2005.

#### **PH.D. DISSERTATION COMMITTEES**

- 23) Qiang Wu, MSIS Dept., Rutgers, proposal defended in April 2018
- 22) Jingyuan Yang, MSIS Dept., Rutgers, defended in February 2018
- 21) Shui Yu, MSIS Dept., Rutgers, proposal defended in December 2016
- 20) Meng Qu, MSIS Dept., Rutgers, defended in June 2017
- 19) Jianing Yao, MSIS Dept., Rutgers, defended in March 2017
- 18) Yanjie Fu, MSIS Dept., Rutgers, defended in June 2016
- 17) Zhongmou Li, MSIS Dept., Rutgers, defended in November 2015
- 16) Chuanren Liu, MSIS Dept., Rutgers, defended in May 2015
- 15) Albert Forde, Transportation Program, NJIT, defended in April 2015



- 14) He Yang, Transportation Program, NJIT, defended in April 2015
- 13) Haifeng Lu, Transportation Program, NJIT, defended in May 2014
- 12) Laurens C. Smit, MSIS Dept., Rutgers, defended in April 2014
- 11) Patricia De Joseph, Transportation Program, NJIT, defended in July 2013
- 10) Zhaodong Huang, Transportation Program, NJIT, defended in July 2012
- 9) Fei Yang, Transportation Program, NJIT, defended in April 2010
- 8) Songyong Choi, MSIS Dept., Rutgers, defended in August 2009
- 7) Jongho Byun, Transportation Program, NJIT, defended in January 2009
- 6) Feng-ming Tsai, Transportation Program, NJIT, defended in November 2008
- 5) Changqian Guan, Transportation Program, NJIT, defended in November 2008
- 4) Wen Chen, MSIS Dept., Rutgers, defended in May 2008
- 3) Jun Xu, CS Dept., NJIT, defended in December 2007
- 2) Xin Wang, CS Dept., NJIT, defended in December 2007
- 1) Chunxing Fan, MSIS Dept., Rutgers, defended in May 2007

## **CAREER ACTIVITIES AND SERVICES**

Guest Editor, Special volumes at *Annals of Operations Research* commemorating Cyrus Derman, July 2011—June 2013, resulting in

- Katehakis, M.N., S.M. Ross, and J. Yang. 2016. Optimization under Uncertainty: Costs, Risks and Revenues Cyrus Derman Memorial Volume II. *Annals of Operations Research*, 241. DOI 10.1007/s10479-016-2183-7.
- Katehakis, M.N., S.M. Ross, and J. Yang. 2013. Optimization under Uncertainty: Costs, Risks and Revenues Cyrus Derman Memorial Volume I. *Annals of Operations Research*, 208. doi: 10.1007/s10479-013-1430-4.

Panelist, Service Enterprise Systems Program, CMMI Division, National Science Foundation, April 2009

Panelist, Manufacturing Enterprise Systems Program, CMMI Division, National Science Foundation, April 2007

Associate Editor, Area of Computing and Decision Technologies, *Operations Research*, February 2005—December 2005

Ad hoc Reviewer for

*Annals of Operations Research*  
*Applied Mathematical Modeling*  
*Computers & Industrial Engineering*  
*Computational Management Science*

*Computers & Operations Research*  
*Decision Support Systems*  
*Economic Theory Bulletin*  
*European Journal of Operational Research*  
*IIE Transactions*  
*Information Sciences*  
*Information Systems and Operational Research*  
*International Game Theory Review*  
*International Journal of Game Theory*  
*International Journal of Industrial Engineering*  
*International Journal of Management Science and Engineering Management*  
*International Journal of Production Economics*  
*International Journal of Production Research*  
*International Journal of Systems Science*  
*Journal of Combinatorial Optimization*  
*Journal of Industrial and Management Optimization*  
*Journal of Organizational Computing and Electronic Commerce*  
*Journal of Scheduling*  
*Journal of Systems Science and Systems Engineering*  
*Management Science*  
*Manufacturing & Service Operations Management*  
*Mathematics of Operations Research*  
*Naval Research Logistics*  
*Omega*  
*Operations Research*  
*Operations Research Letters*  
*Operations Research Spectrum*  
*Production and Operations Management*  
*Theoretical Computer Science*  
*Transportation Science*

Local Organization Committee Chair, MISTA—Multidisciplinary International Conference on Scheduling: Theory and Applications, July 2005. Stern Business School, New York University, New York, NY

Member, RBS PRME Research Committee, January 2018—present

Member, RBS MBA Programs Curriculum Task Force, January 2017—December 2017

Member, RBS Research Resource Committees, September 2016—present

Attendance, RBS open houses on behalf of MSIS Dept., September 2012—May 2017

Member, MSIS Faculty Recruiting Committee, October 2015—May 2016

Member, RBS MBA Policy Committee, September 2012—June 2013; April 2018—present

Member, NCE Research Committee, January 2008—December 2008

Member, NJIT Library Committee, January 2001—August 2006

Member, MIE Departmental Research Committee, September 2008—August 2012

Member, MIE Departmental Bylaws Committee, March 2009—August 2012

Member, Department Teaching Award Committee, 2002, 2003