

CURRICULUM VITAE

Guillermo Gallego

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Education

- Ph.D. **Cornell University**, Ithaca, NY. January 1988.
Operations Research and Industrial Engineering.
Minors: Economics and Statistics.
Advisor: R. Roundy
- M.S. **Cornell University**, Ithaca, NY. January 1987.
Operations Research and Industrial Engineering.
- B.A. **University of California**, San Diego, CA. January 1980.
Mathematics, with honors.

Professional Experience

- 2000-present Professor. Dept. of Ind. Eng. & Oper. Res. Columbia University
- 2002-present Department Chairman
- 1999-2003 Visiting Scientist. IBM Watson Research Center, NY.
- 1999-2001 Co-director, MS in Financial Engineering program.
- 1995-2000 Tenured Associate Professor, Dept. of Ind. Eng. & Oper. Res. Columbia University
- 1996 - 1997 Visiting Associate Professor. Graduate School of Business. Stanford University
- 1994 - 1995 Associate Professor. Dept. of Ind. Eng. & Oper. Res. Columbia University
- 1988 - 1993 Assistant Professor. Dept. of Ind. Eng. & Oper. Res. Columbia University

Consulting

Cannondale Corporation
Columbia Video Network
Lucent Technologies
Northwest Airlines
National Research Council
IBM
ISAGEN
Pitney Bowes
United Airlines
University of Michigan

Professional Activities

2002-present Senior Editor *M&SOM*
1998-2002 Editorial Board Member *M&SOM*
1997-2001 Departmental Editor *IIE-Transactions*
1994-2002 Associate Editor *Management Science*
1994-present Associate Editor *Naval Research Logistics*
1994-2000 Associate Editor *Operations Research*
1992-1997 Associate Editor *IIE-Transactions*

Referee

Management Science
Operations Research
Mathematical Programming
M&SOM
Naval Research Logistics
Operations Research Letters
European Journal of Operations Research
Annals of Operations Research
IIE-Transactions

Invited Talks

Carnegie Mellon University
Case Western
Chinese University of Hong Kong
Cornell University
Fudan University
Lehigh University
North Carolina State University
Northwestern University
MIT
Purdue
Stanford University
Tecnologico de Monterrey, campus Toluca
University of British Columbia
University of California Irvine
University of Michigan
University of Texas at Austin
University of Texas at Dallas
University of Southern California

Professional Society Memberships

American Institute of Industrial Engineers
The Institute for Operations Research and the Management Sciences
The Production and Operations Management Society

Honorary Society Memberships

Alpha Pi Mu
Omega Rho

Research Grants

National Science Foundation (1991-1993) DDM-91-09636 “Coordinating the Production of Components and Assemblies when Demands and Yields are Random” \$60,000.

National Science Foundation (1993-1995) SBR-94-0939 “Dynamic Pricing and Allocation Models for Revenue Management in the Airline and Retail Industries” \$90,000. (Garrett van Ryzin, co-Principal Investigator.)

National Science Foundation (1994-1997) SBR-94-10146 “Joint Pricing Allocation and Estimation Models for Revenue Management in the Airline and Retail Industries” \$150,000. (Garrett van Ryzin, co-Principal Investigator.)

Federated Merchandising Grant #29092 (1994-1997) Industrial support for “Joint Pricing Allocation and Estimation Models for Revenue Management in the Airline and Retail Industries” \$150,000. (Garrett van Ryzin, co-Principal Investigator.)

National Science Foundation (1999-2001) DMI-9908235 “Studies in Stochastic Production Systems,” \$212,545

Funding of \$350,000 from Brio Technology to start a Center for Excellence in Revenue Optimization. (Garrett van Ryzin, codirector).

National Science Foundation (2000-2001) DMI-0075627 “Contract Market Enterprise Modeling: Factoring, Pricing, and Forecasting,” \$200,000. (Robin Roundy, Peter Jackson, John Muckstadt, and Jim Rapold co-Principal Investigators.)

National Science Foundation (2002-2003) DMI-02-18104 “Strategic Pricing and Inventory Management of Constrained Capacity with Repeated Transactions,” \$361,727. (GOALI proposal with Dr. Robert Phillips from Manugistics.)

Publications

- Gallego, G., and D. Simchi-Levi. 1990. On the Effectiveness of Direct Shipping Strategy for One Warehouse Multi-Retailer R-Systems. *Management Science*. **36**, 240-243.
- Gallego, G. 1990. An Extension to the Class of Easy Economic Lot Scheduling Problems. *IIE Transactions*. **22**, 189-191.
- Gallego, G. 1990. Scheduling the Production of Several Items with Random Demands in a Single Facility. *Management Science*. **36**, 1579-1592.
- Inman, R., P. Jones, and G. Gallego. 1991. Economic Lot Scheduling of Bottlenecks with External Setups. *Naval Research Logistics*. **38**, 699-714.

- Moon, I., G. Gallego, and D. Simchi-Levi. 1991. Controllable Production Rates in a Family Productions Context. *International Journal of Production Research*. **29**, 2459-2470.
- Gallego, G. 1992. A Min-Max Distribution Free Procedure for the (Q,R) Inventory Model. *Operations Research Letters*. **11**, 55-60.
- Gallego, G. and I. Moon. 1992. The Effect of Externalizing Setups in the Economic Lot Scheduling Problem. *Operations Research*. **40**, 614-619.
- Gallego, G., D. Shaw, and D. Simchi-Levi. 1992. The Complexity of the Staggering Problem and other Classical Inventory Problems. *Operations Research Letters*. **12**, 47-52.
- Gallego, G., and R. Roundy. 1992. The Economic Lot Scheduling Problem with Finite Backorder Costs. *Naval Research Logistics*. **39**, 729-739.
- Gallego, G. 1993. Coordinating the Production of Components and Assemblies when Component Yields and Demands are Random. Proceedings of the National Science Foundation.
- Gallego, G. 1993. Reduced Production Rates in the Economic Lot Scheduling Problem. *International Journal of Production Research*. **31**, 1035-1046.
- Gallego, G. and I. Moon. 1993. The Distribution Free Newsboy Problem: Review and Extensions. *Journal of the Operational Research Society*. **44**, 825-834.
- Gallego, G., D. Yao, and I. Moon. 1994. Optimal Control of a Manufacturing Process that Involves Trial Runs. *Management Science*. **39**, 1499-1505.
- Gallego, G., and D. Joneja. 1994. A Capacitated Multi-Item Multi-Echelon Scheduling Problem. *Operations Research*. **42**, 92-101.
- Gallego, G. 1994. When is a Base Stock Policy Optimal in Recovering Cyclic Schedules? *Naval Research Logistics*. **41**, 317-333.
- Gallego, G. and D. Simchi-Levi. 1994. Rejoinder to a Note on Bounds for Direct Shipping. *Management Science*. **40**, 1393.
- Gallego, G. and G. van Ryzin. 1994. Optimal Dynamic Pricing of Inventories with Stochastic Demands over Finite Horizons. *Management Science*. **40**, 999-1020.
- Moon, I. and G. Gallego. 1994. Distribution Free Procedures for Some Inventory Models. *Journal of the Operational Research Society*. **45**, 651-658.
- Gallego, G. and G. van Ryzin. 1994. A Model of Joint Pricing and Allocation. *Proceedings of the AGIFOR society*
- Feng, Y. and G. Gallego. 1995. Optimal Starting Times for End of Season Sales and Optimal Stopping Times for Promotional Fares. *Management Science*. **41**, 1371-1391.
- Gallego, G. and I. Moon. 1995. Strategic Investment to Reduce Setup Times in the Economic Lot Scheduling Problem. *Naval Research Logistics*. **42**, 773-790.
- Gallego, G. and M. Queyranne. 1995. Inventory Coordination and Pricing Decisions: Analysis of a Simple Class of Heuristics. Chapter 6 in *Optimization in Industry 3, Mathematical Programming and Modeling Techniques in Practice*, Anna Sciomachen, Ed. Wiley.
- Gallego, G. 1996. A New Demand Model for Yield Management. *Proceedings of the AGIFOR society*
- Gallego, G. and I. Moon. 1996. How to Avoid Stockouts when Producing Several Items in a Single Facility? What to do if you Can't. *Computers Operations Research*. **23**, 1-12.

- Gallego, G., M. Queyranne, and D. Simchi-Levi. 1996. Single Resource Multi-Item Inventory Systems. *Operations Research*. **44**, 580-595.
- Gallego, G. and G. van Ryzin. 1997. A Multi-Product Dynamic Pricing Model with Applications to Network Yield Management. *Operations Research*. **45**, 24-41.
- Gallego, G., and D. Shaw. 1997. On The Complexity of the Economic Lot Scheduling Problem with General Cyclic Schedules. *IIE Transactions*. **29**, 109-113.
- Gallego, G. 1998. New Bounds and Heuristics for (Q,R) Policies. *Management Science*, **44**, 219-233.
- Gallego, G. and P. Zipkin. 1998. Qualitative Analysis of Multi-Stage Production-Transportation Systems: Stock Positioning and Performance Estimation. *M&SOM*, **1**, 77-88.
- Feng, Y. and G. Gallego. 2000. Perishable Asset Revenue Management with Markovian Time Dependent Demand Intensities. *Management Science*, **46**, 941-956.
- Gallego, G., J. K. Ryan, and D. Simchi-Levi. 2000. Minimax Analysis for Discrete Finite Horizon Inventory Models. *IIE Transactions*, 861-874.
- Boyacı, T., and G. Gallego. 2001. Serial Production/Distribution Systems Under Service Constraints. *MS&OM* **3**, 43-50.
- Gallego, G., and A. Wolf. 2001. Single Item Capacity Constrained Inventory Policies. *European Journal Of Operational Research* **33**, 861-874.
- Boyacı, T., and G. Gallego. 2001. Minimizing Holding and Ordering Costs Subject to a Bound on Backorders is as Easy as Solving a Single Backorder Cost Model. *Operations Research Letters* **29**, 87-92.
- Gallego, G., and Ö. Özer. 2001. Integrating Replenishment Decisions With Advance Demand Information. *Management Science* **47**, 1344-1360.
- Gallego, G., and Ö. Özer. 2001. Optimal Use of Demand Information in Supply Chain Management. 2001. In: Supply Chain Structures: Coordination, Information, and Optimization, J.S. Song and D.D. Yao (eds.), Kluwer.
- Boyacı, T., and G. Gallego. 2002. Coordination Pricing and Inventory Replenishment Policies for One Wholesaler and One or more Geographically Dispersed Retailers. *International Journal of Production Economics* **77**, 95-111
- Boyacı, T., and G. Gallego. 2002. Managing Waiting Times of Backordered Demands in Single-Stage (Q,r) Inventory Systems. *Naval Research Logistics*, **49**, 557-573.
- Heching, A., Gallego, G. and G. van Ryzin. 2002. A Theoretical and Empirical Investigation of Markdown Pricing in Fashion Retailing. *Journal of Revenue and Pricing Management*, 1, 2, July 139-160.
- Gallego, G. and Ö. Özer. 2003. Optimal Replenishment Policies for Multi-Echelon Inventory Problems under Advance Demand Information. *M&SOM*, **5**, 157-175.
- Boyacı, T., and G. Gallego. 2003. Supply Chain Coordination in a Market with Customer Service Competition. Forthcoming in *Production Operations Management*.
- Boyacı, T., G. Gallego, K.H. Shang, J.S. Song. 2003. Erratum to Bounds in Serial Production/ Distribution Systems under Service Constraints. *M&SOM* **5**, 372-374.
- Gallego, G. and H. Hu. (2004) Optimal policies for production/inventory systems with finite capacity and Markov-modulated demand and supply processes. in Stochastic Models of Production-Inventory Systems, G. Liberopoulos et al. (eds.), *Annals of Operations Research*, 125/126.

- G. Gallego and B. Toktay. All-or-Nothing Ordering under a Capacity Constraint and Forecasts of Stationary Demand. To appear in *Operations Research*.
- G. Gallego and Ö. Özer. A New Algorithm and a New Heuristic for Serial Supply Systems. To appear in *Operations Research Letters*.
- Gallego, G. and R. Phillips. Revenue Management of Flexible Products. To appear in *M&SOM*.
- Feng, Q., Gallego, G., Sethi, S.P., Yan, H., and Zhang, H., Periodic Review Inventory Model with Three Consecutive Delivery Modes and Forecast Updates. To appear in *Journal of Optimization Theory and Applications*.
- Gallego, G., Katircioglu, K., and B. Ramachandran. A Note on The Inventory Management of High Risk Items. To appear in *Operations Research Letters*.

Papers Submitted for Publication

- Gallego, G. and H. Hu. Optimal Policies for Production/Inventory Models with Limited Capacity and Markov-Modulated Demand and Supply Processes. *Naval Research Logistics*.
- Gallego, G. Ö. Özer, and P. Zipkin. 2003. Bounds, Heuristics and Approximations for Distribution Systems. *Operations Research*.
- Gallego, G., Iyengar, G., Phillips, R., and Duby, Managing Flexible Products on a Network.
- Feng, Y. and G. Gallego. Evaluating a Long-Term Contract for Airlines. *Operations Research*.
- Gallego, G. Phillips, R., and Krishnamoorthy S. Dynamic Revenue Management Games with Forward and Spot Markets. *Operations Research*.

Working Papers and Papers under Revision

- Federgruen A., Gallego, G., and Katalan, Z. The Effect of Product Variety on Manufacturing Performance.
- Gallego, G. Huang, Y, Katircioglu, K, and Leung, Y. When to Share Demand Information in a Simple Supply Chain?
- Gallego, G. and P. Jolly. Minimizing the Cost of the Capital Structure in a Catastrophe Bond Issue.
- Gallego, G. and X. Chao. Optimal Inventory Policies under Stochastic Supply and Demand Processes.
- Gallego, G. and H. Hu. Inventory Systems with Discretionary Sales and Emergency Orders.
- Gallego, G. and H. Hu. Inventory Systems with Discretionary Sales and Emergency Orders: Infinite Horizon.
- Gallego, G. Huang, Y., Katircioglu, K. , and Leung, Y. When to Share Demand Information in a Simple Supply Chain?

- Gallego, G., Katirciouglu, K, and Zhang, G. Optimal Inventory Policies for Multi-echelon Inventory Problems with Random Interarrival Times.
- Gallego, G., R. Phillips, and Kou, S. Callable Revenue Management.
- Gallego, G., Rodado,A., and Toktay, B. Full-Load Ordering Inventory System.
- Gallego, G. and W. Zhang. Optimal Stationary Policies for Multiple Procurement Modes.

Doctoral Students

Name	PhD date	Current Affiliation	Position
Ilkyeong Moon	July 1991	Pusan University	Professor
Youyi Feng	July 1994	National University of Singapore	Associate Professor
Tamer Boyacı	July 1998	McGill University	Assistant Professor
A. Özalp Özer	July 2000	Stanford University	Assistant Professor
Haichu Hu	May 2001		
Zheng Wang	2005 (expected)		
Srinivas Krishnamoorthy	2005 (expected)		
Ozge Sahin	2005 (expected)		
Haengju Lee	2005 (expected)		
Ge Zhang	2005 (expected)		

Courses Taught in the 2003-2004 Academic Year

Number	Name	Enrollment	CVN students
IEOR 4706	Financial Engineering I	0	50
IEOR 4150	Probability and Statistics	58	33

Other courses taught at Columbia University

IEOR E3402	Production Planning and Inventory Control
IEOR E3404	Production Scheduling
Mgmt. Sc.-IEOR W6406	Inventory Planning Models
Mgmt. Sc.-IEOR W6408	Inventory Theory
IEOR E6609	Dynamic Programming
B6015	Decision Models
B7015	Decision Models

Administrative Work:

Chairman 2002-present
 Co-director MS in Financial Engineering 1999-2001
 Library committee 1994-2000
 CVN faculty representative, 1994-present
 IEOR masters degree admissions, 1994-present
 IEOR masters degree program advisor, 1995-present
 AIIE Faculty Advisor 1989-1991 and 1993-1994
 IEOR Sophomore Advisor, 1990-1996