

COSTIS MAGLARAS

Curriculum Vitae

RESEARCH INTERESTS & AREAS OF EXPERTISE

My research explores broad questions on the interface of stochastic modeling and operations management, with emphasis on stochastic networks, financial engineering, and quantitative pricing and revenue management. Recent work has focused on: high-frequency market microstructure; the design of portfolio trading systems and algorithms; the interface between social learning and revenue optimization; the economics of services that are prone to congestion, including cloud computing; and the application of quantitative pricing and risk management in the residential real-estate market.

ACADEMIC EXPERIENCE

Dean, Columbia Business School 2019 – present

Decision, Risk, and Operations, Columbia Business School

David and Lyn Silfen Professor of Business 2009 – present

Professor 2008 – present

Associate Professor (with tenure) 2006-2008; (without tenure) 2002 – 2006

Philip H. Geier, Jr. Associate Professor of Business 2004 – 2006

Assistant Professor 1998 – 2002

EDUCATION

Stanford University – Ph.D Electrical Engineering – Information Systems Laboratory 1998

Dissertation: *Dynamic Control of Stochastic Processing Networks: A Fluid model Approach*

Dissertation Advisers: Professors J. Michael Harrison, Sunil Kumar and Stephen Boyd

Stanford University – MS Electrical Engineering 1991

Imperial College Sci. Tech. & Med., London England – BS Electrical Engineering 1990

TEACHING EXPERIENCE

Current:

Core MBA course on *Managerial Statistics*, Columbia Business School 1998 – present

MBA elective on Quantitative Pricing & Revenue Analytics 2002; 2005 – present

MBA/PhD seminar *Electronic trading in limit order book markets*, 2016 – present

Executive Education, *Pricing Analytics*, 2017 – present

Past:

Director Executive Education course on Pricing Analytics 2017 – 2019

Co-director Executive Education course on Risk Management 2007 – 2010

PhD seminar on *Stochastic Processing Networks*, Columbia Business School 1998

PhD seminar *Revenue management*, Columbia Business School 2001, 2004, 2006

RESEARCH PUBLICATIONS

Appeared/Accepted

C. Maglaras (2001) Dynamic scheduling in multiclass queueing networks: Stability under discrete-review policies, *Queueing Systems*, 31(3), 171-206.

C. Maglaras (2000) Discrete-review policies for scheduling stochastic networks: Trajectory tracking and fluid-scale asymptotic optimality, *Annals of Applied Probability* 10 (3), 897-929.

G. Vulcano, G. van Ryzin G. and C. Maglaras (Oct. 2002) Optimal dynamic auctions for revenue management, *Management Science* 48(11), 1388-1407.

C. Maglaras (1999) (2003) Continuous-review tracking policies for dynamic control of stochastic networks, *Queueing Systems*, 43(1), 43-80. (Short version in *Proc. 37th Allerton Conf. on Comm., control and computing*, Allerton, IL.)

C. Maglaras, and A. Zeevi (2003) Pricing and capacity sizing for systems with shared resources: Approximate solutions and scaling relations, *Management Science* 49(8), 1018-1038.

M. Armony, and C. Maglaras (2004) On customer contact centers with a call-back option: Customer decisions, routing rules and system design, *Operation Research* 52(2), 271-292.

C. Maglaras, and J. Van Mieghem, J. (2005) Queueing systems with leadtime constraints: A fluid model approach for admission and sequencing control, *European Journal of Operational Research*, 167 (1), 179-207. (Short version published 2000 in *Proc. Informs MSOM Conf.* Ann Arbor MI.)

M. Armony, and C. Maglaras (2004) Contact centers with a call-back option and real-time delay information, *Operation Research*, 52(4), 527-545.

C. Maglaras, and A. Zeevi (2004) Diffusion approximations for a Multiclass Markovian Service System with "Guaranteed" and "Best-effort" service levels, *Mathematics of Operations Research*, 29(4), 786-813. (Short version 2002 in *Proc. 41th Allerton Conf. on Comm., control and computing*, Allerton, IL.)

C. Maglaras, C and A. Zeevi (2005) Pricing and design of differentiated services: Approximate analysis and structural insights. *Operations Research*, 53(2), 242-262.

C. Maglaras (2006) Revenue management for a multi-class single-server queue via a fluid model analysis, *Operations Research* 54(5), 914-932.

C. Maglaras, and J. Meissner (2006) Dynamic pricing strategies for multiproduct revenue management problems, *Manufacturing & Service Operations Management* 8(2), 136-148.

S. Celik and C. Maglaras (2008) Dynamic pricing and lead-time quotation for a multiclass make-to-order queue *Management Science*, 54 (6), 1132-1146.

M. Armony, I. Gurvich and C. Maglaras (2009) Cross-selling in a call center with a heterogeneous customer population *Operations Research* 57(2), 299-313.

- O. Besbes and C. Maglaras (2009) Revenue optimization for a make-to-order queue in an uncertain market environment. *Operations Research* 57(6), 1438-1450.
- U. Apte, C. Maglaras and M. Pinedo (2008) Operations in the service industries: Introduction to this special issue, *POM Journal* 17(3), 235-237.
- M. Bansal and C. Maglaras (2009) Dynamic pricing when customers strategically time their purchase: Asymptotic optimality of a two price policy, *Journal of Revenue and Pricing Management* 8(1):42-66.
- M. Bansal and C. Maglaras, (2009) Product design in a market with satisficing customers, in Consumer-Driven Demand and Operations Management Models: A Systematic Study of Information-Technology-Enabled Sales Mechanisms, Eds. S. Netessine and C. Tang, Springer.
- S. Eren and C. Maglaras (2010) Monopoly pricing with limited demand information. *Journal of Revenue and Pricing Management* 9(1),23-48.
- C. Maglaras (2010) Dynamic pricing strategies for multiproduct revenue management problems, *Manufacturing and Service Operations Management* 8(2), 136-148
- C. Maglaras (2010) Guest Editorial to Journal of Revenue and Pricing Management, suppl. An Associated Publication of the INFORMS Revenue Management. *Journal of Revenue and Pricing Management*, 9(5),383-385.
- O. Besbes, and C. Maglaras (2012) Dynamic pricing with financial milestones: feedback-form policies, *Management Science* 58(9), 1715-1731.
- S. Eren and C. Maglaras (2014) A maximum entropy joint demand estimation and capacity control policy, *POMS* 24(3), 438-450.
- N. Ayvaz, S. Kachani and C. Maglaras (2015) Revenue management with minimax regret negotiations, *Omega* 63 (1), 12-22.
- B. Ifrach, C. Maglaras and M. Scarsini (2016) Monopoly pricing in the presence of social learning, *Management Science* 63(11), 3586-3608.
- C. Maglaras, J. Yao and A. Zeevi (2018) Optimal Price and Delay Differentiation in Large-Scale Queueing Systems, *Management Science* 64(5), 2427-2444.
- Y-J. Chen, C. Maglaras and G. Vulcano (2018) Design of an aggregated marketplace under congestion effects: asymptotic analysis and equilibrium characterization. pp. 1-61. In Sharing Economy: Making Supply Meet Demand, M. Hu (Ed.), in Springer Series in Supply Chain Management, C. Tang (Series Ed.)
- B. Ifrach, C. Maglaras, M. Scarsini and A. Zseleva (2018) Bayesian learning from consumer reviews. Forthcoming, *Operations Research*.

Under review

C. Maglaras, C. Moallemi and H. Zhang (2013) Queueing dynamics and state space collapse in fragmented limit order book markets. Under review, *Management Science*.

C. Maglaras, C. Moallemi and H. Zheng (2015) Optimal execution in a limit order book and an associated microstructure market impact model. Under review, *Operations Research*.

C. Kilcioglu and C. Maglaras (2015) Revenue maximization for cloud computing services. Under review, *POMS*.

C. Maglaras, M. Scarsini and S. Vaccari (2016) Social learning in the presence of choice. Under review, *Management Science*.

P. Afeche, Z. Liu and C. Maglaras (2018) The impact of platform control on a ride-hailing network. Under review, *M&SOM*.

Cross-sectional Variation of Intraday Liquidity and its Impact on Portfolio Execution (2018), with S. Min and C. Moallemi, Under review, *Operations Research*.

Working papers and unpublished manuscripts

A. Kukanov and C. Maglaras (2013) A limit order queue with heterogeneous trading behaviors.

C. Maglaras, J. Yao and A. Zeevi (2014) Observational learning in queues with abandonments.

A tale of time scales: surge pricing and dynamic matching in ride-hailing networks, with Z. Liu and P. Afeche.

Thompson sampling with information relaxation penalties, with S. Min and C. Moallemi.

Liquidation in the presence of arbitrageurs and the dynamics of market impact, with J. Benveniste.

Optimal execution in the presence of stochastic liquidity, with J. Benveniste.

C. Maglaras, C. Moallemi and H. Zheng (2016) Dynamic matching market and an application to residential real-estate.

C. Maglaras and S. Kumar (1998) Capacity realization in stochastic batch-processing networks using discrete-review policies, (Unpublished Technical report.)

Other publications and papers in refereed conference proceedings

C. Toumazou, N. Battersbee and C. Maglaras (1990) High-performance algorithmic switched-current memory cell, *Electronics Letters* 26(19), 1593-1595.

C. Maglaras (1997) Design of dynamic control policies for stochastic processing networks via fluid models. *Proc. IEEE Conference in Decision and Control, San Diego, CA*.

C. Maglaras and A. Zeevi (2003) Pricing and performance analysis for a system with differentiated services and customer choice. *Proc. 42th Allerton Conf. on Communication, control and computing, Allerton, IL.*

B. Ifrach, C. Maglaras and M. Scarsini (2011) Monopoly pricing in the presence of social learning, NET Institute Proceedings.

C. Kilcioglu, and C. Maglaras (2015) Revenue maximization for cloud computing services, NETECON Conf.

C. Maglaras, M. Scarsini and S. Vaccari (2018) Social learning in the presence of choice, NETECON Conf.

CASES

Analyzing the analysts, with P. Glasserman, 2001. (Managerial Statistics)

NY Health Club A & B, 2006. (Revenue Management)

Markdown Pricing Optimization at Bloomingdale's A&B, with G. van Ryzin, 2006 (Revenue Management)

Every Day Medical, 2008 (Revenue Management)

Hannah Montana and the Tour of Doom, 2010 (Revenue Management)

A dynamic pricing problem for a retailer, 2010 (Revenue Management)

Demand modeling mini case, 2010 (Managerial statistics; regression)

GM integrative case for Managerial Statistics, with T. Harris, P. Glasserman, N. Stier-Moses, 2010.

HONORS AND AWARDS

2019 Invited plenary talk at Mostly OM, Shenzhen, China

2019 Invited plenary talk Goldman Sachs Asia Quantitative Trading Conference Hong Kong

2019 Invited plenary talk Goldman Sachs West Quantitative Trading Conference San Francisco

2018 Invited plenary talk Eurandom workshop on Queues in Finance, Oct 2018

2018 Dean's Award for Teaching Innovation at Columbia Business School, 2018 (Tech/Analytics Curriculum)

2016 Collaboratory Grant, University-wide Initiative, to develop Technology and Programming Curriculum at Columbia Business School

2016 Plenary talk, Euro Queueing Systems Conference, Toulouse, July 2016

2016 Plenary talk, Euro Working Group in Revenue Management, Hamburg, April 2015

2015 CFM – Imperial Distinguished Lecture Series, May 2015 (Limit order book markets)

2014 Plenary Speaker, Mostly OM Conf, Beijing, June 2014 (Social learning and social networks)

2012 Co-advised Hua Zheng, awarded honorable mention for best student paper in Financial Engineering (INFORMS)

2012 Co-advised Bar Ifrach, awarded honorable mention for best student paper in MSOM (INFORMS)

2011 Net Institute Research Grant (Bar Ifrach, Monopoly pricing under social learning)

- 2009 Appointed to David and Lyn Silfen Professor of Business
- 2008 Best paper award from Informs Revenue Management and Pricing Section (joint with A. Zeevi)
- 2006 Co-advised doctoral student Itay Gurvich awarded First prize Informs' MSOM student paper competition
- 2006 Columbia Center for Excellence in E-Business Research Grant
- 2004 Columbia Center for Excellence in E-Business Research Grant
- 2004 Appointed to the Philip H. Geier, Jr. Associate Professorship of Business
- 2003 Columbia Business School Dean's Award for Teaching Excellence in a Core Course
- 2003 Operations Research Journal Meritorious Service Award
- 2001 Co-advised with Prof. van Ryzin thesis of Gustavo Vulcano awarded 2nd prizes in INFORMS Nicholson & MSOM Student Paper Competitions
- 1999 First Prize INFORMS George Nicholson Student Paper Competition
- 1999 Eugene Lang Junior Faculty Research Fellowship, Columbia Business School
- 1993-7 Future Professors of Manufacturing Ph.D Program Fellowship, Stanford University
- 1990 Siemens Memorial Medal, Imperial College. Awarded to top graduating student in EE Dept
- 1990 First Class Honors, Bachelor of Science, Imperial College, London, England
- 1989 Silvanus P. Thompson Award, Imperial College. Awarded to top 2nd year student in EE Dept

PHD STUDENT SUPERVISION

- 2002 Gustavo Vulcano (jointly with Prof. G. van Ryzin) – currently Associate Professor, Stern School, NYU
 - 2004 Joern Meissner (jointly with Prof. A. Federgruen) – currently Professor, Lancaster University, UK
 - 2007 Sabri Celik (jointly with Prof. S. Savin) – currently at Credit Swiss
 - 2007 Ying-Ju Chen NYU (jointly with Prof. S. Seshadri and G. Vulcano) – currently Associate Professor IEO, HKUST
 - 2008 Omar Besbes (jointly with Prof. A. Zeevi) – currently Associate Professor, Columbia Business School
 - 2008 Serkan Eren (jointly with Prof. G. van Ryzin) – currently at Barclays Capital
 - 2008 Maulya Bansal (jointly with Prof. M. Broadie) – currently at J.P. Morgan
 - 2008 Itay Gurvich (jointly with Prof. M. Armony, Prof. W. Whitt) – currently Associate Professor, Kellogg, NWU & Cornell Tech, NY
 - 2011 Nur Ayvaz (jointly with Prof. S. Kachani)
 - 2012 Bar Ifrach – currently Senior Data Scientist, Airbnb, Inc
 - 2013 Arseniy Kukanov (secondary adviser) – AQR
 - 2015 Hua Zhang (jointly with Prof. C. Moallemi) – JP Morgan
 - 2015 John Yao (jointly with Prof. A. Zeevi)
 - 2016 Davide Crapis – Data Scientist, Lyft
 - 2016 Cinar Kilcioglu – Data Scientist, Uber
 - 2019 Zhe Liu (expected)
 - 2018 Stefano Vaccari (La Sapienza, Rome; co-advised with Prof. M. Scarsini)
- Thesis defense/reading committee member for 15-20 students from Business School, IEO and Math Dept.

SERVICE ACTIVITIES

Columbia Business School Admissions Committee 1999 – 2004
Decision, Risk and Operations Recruiting Committee 1999 – 2000, 2004
Pre-MBA (math camp) Committee 2000
Core course coordinator for Managerial Statistics 2000 – 2007, 2011 – 2018
Columbia Business School MBA Committee 2000 – 2007
Incoming MBA student orientation panelist 2001 – 2004
PhD Program Coordinator, Decision, Risk, and Operations Division 2001 – 2003
Chair, DRO Faculty Search Committee 2006 – 2007, 2008 – 2009, 2014 – 2015
Member and Chair of several Ad-hoc tenure review committees 2007 – 2011
Member of Core Effectiveness committee 2011
Member Core Curriculum Committee 2011
Director of PhD Program, Columbia Business School 2011 – 2017
Member Executive Committee of the Graduate School of Arts and Sciences (GSB representative) 2011 – 2016
Director of PhD Program, Columbia Business School 2011 – 2017
Member of Core Structure Committee 2012
University-wide committee for Presidential Teaching Award 2013 – 2016
Member Core curriculum review committee 2015
Chair of Decision, Risk and Operations Division 2015 – 2018
Member of the Columbia Business School Executive Committee 2015 – 2018, 2019 – present
University wide Data Science Taskforce 2015 – 2016
Member of the Executive Committee of Columbia University's Data Science Institute 2016 – 2019

PROFESSIONAL ACTIVITIES (selected)

Editorial positions

Associate Editor, Operations Research (MSOM, RM Area), 2002 – present
Associate Editor, Management Science (Stochastic Models Area), 2009 – 2011
Senior Editor, Manufacturing and Service Operations Management, 2004-2008; Editorial Board 2003 – 2004
Guest co-Editor, Special Issue for Production and Operations Management, 2005
Area Editor (Revenue Management) for Production and Operations Management, 2006 – 2011
Guest Editor, Special Issue Journal of Revenue and Pricing Management, 2010
Area Editor, Stochastic Models, Operations Research, 2012 – 2018

Professional affiliations

Member of INFORMS, Applied Probability, MSOM and Revenue Management Societies.
Council Member for INFORMS Applied Probability Society 2000 – 2 (Invited).
President INFORMS Pricing and Revenue Management Section, 2008; member of the board 2007 – 2010.
Member IEEE.

Outside Activities Disclosed in accordance with Columbia Business School policies

Canon Research Center America, Palo Alto, CA Research Scientist 1991– 1993
Mismi, Inc. Head of Research 2007 – 2014; adviser on design of algorithmic trade execution systems
RE Optima, LLC, Adviser 2007 – 2008; quantitative pricing tools for residential real-estate

First Manhattan Consulting Group, quantitative consultant to FMCG (pricing and risk management projects)

Delpor, LLC, Scientific Advisory Board, 2011 –

Stellar Labs, Inc., Advisory Board 2015 –

Bank of America Merrill Lynch 2015 – 2016, Consultant, Global Portfolio Trading

Cubesmart, Inc., 2017 – 2018; pricing and revenue analytics for self-storage

Element AI, 2018, consultant; advice on market microstructure; short seminar on trade execution

Goldman Sachs, 2018, consultant; trade execution, market microstructure, algorithmic trading research