COSTIS MAGLARAS

David and Lyn Silfen Professor of Business and Dean
Columbia Business School
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EDUCATION

STANFORD UNIVERSITY - PHD ELECTRICAL ENGINEERING - INFORMATION SYSTEMS LABORATORY (1998)
Dissertation Title: *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)

ACADEMIC EMPLOYMENT

DEAN, COLUMBIA BUSINESS SCHOOL, 2019 –

DECISION, RISK, AND OPERATIONS, COLUMBIA BUSINESS SCHOOL

Division Chair, 2015 – 2018

David and Lyn Silfen Professor of Business 2009 –

Professor 2008 –

Associate Professor (with tenure) 2006 – 2008; (without tenure) 2002 – 2006
Philip H. Geier, Jr. Associate Professor of Business 2004 – 2006

Assistant Professor 1998 – 2002

HONORS AND AWARDS

2023 Leadership 100 Award for Excellence
2022 HABA Executive of the Year award
2020 Honorary Member, Foreign Policy Association
2020 Foreign Policy Association Medal
2020 Invited Tutorial INFORMS on "Stochastic market microstructure"
2019 Best Case Study in Production Operations Management Award, Case Center
2019 Fellow INFORMS
2019 Plenary, Mostly OM, Shenzhen, China
2018 Plenary, London Quant Group, UK
2018 Plenary, Eurandom workshop on Queues in Finance, October 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, Euro Queueing Systems Conference, Toulouse, July 2016
2016 Plenary, 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 in Revenue Management and Pricing Section (joint with A. Zeevi)
2006 Co-advised doctoral student Itay Gurvich, awarded first prize for Best Student Paper in MSOM (INFORMS)
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 PhD 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.

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.

RESEARCH PUBLICATIONS

Appeared/Accepted

1. S. Min, C. Maglaras and C. Moallemi (2024) Thompson sampling with information relaxation penalties. Forthcoming, *Management Science*.

2. C. Maglaras, M. Scarsini, D. Shin and S. Vaccari (2023) Product ranking in the presence of social learning. *Operations Research*, 71(4): 1136-1153.

3. P. Afeche, Z. Liu and C. Maglaras (2023) Ride-hailing networks with strategic drivers: The impact of platform control capabilities on performance. *M&SOM*, 25(5): 1890-1908.

4. C. Maglaras, C. Moallemi and M. Wang (2022) A deep learning approach to estimating fill probabilities in

a limit order book. *Quantitative Finance*, 22(11): 1989–2003.

5. S. Min, C. Maglaras and C. Moallemi (2022) Cross-sectional variation of intraday liquidity and its impact on portfolio execution. *Operations Research*, 70(2): 830-846.

6. C. Maglaras, C. Moallemi and H. Zhang (2021) Queueing dynamics and state space collapse in fragmented limit order book markets. *Operations Research*, 69(4): 1324-1348.

7. B. Ifrach, C. Maglaras, M. Scarsini and A. Zseleva (2019) Bayesian learning from consumer reviews. *Operations Research*, 67(5): 1209-1221.

8. 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.).

9. C. Maglaras, J. Yao and A. Zeevi (2018) Optimal price and delay differentiation in large-scale queueing systems. *Management Science*, 64(5): 2427-2444.

10. B. Ifrach, C. Maglaras and M. Scarsini (2016) Monopoly pricing in the presence of social learning. *Management Science*, 63(11): 3586-3608.

11. N. Ayvaz, S. Kachani and C. Maglaras (2015) Revenue management with minimax regret negotiations. *Omega*, 63(1): 12-22.

12. S. Eren and C. Maglaras (2014) A maximum entropy joint demand estimation and capacity control policy. *POMS*, 24(3): 438-450.

13. O. Besbes, and C. Maglaras (2012) Dynamic pricing with financial milestones: feedback-form policies. *Management Science*, 58(9): 1715-1731.

14. 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.

15. C. Maglaras (2010) Dynamic pricing strategies for multiproduct revenue management problems. *Manufacturing and Service Operations Management*, 8(2): 136-148

16. S. Eren and C. Maglaras (2010) Monopoly pricing with limited demand information. *Journal of Revenue and Pricing Management*, 9(1): 23-48.

17. 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.

18. 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.

19. 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.

20. 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.

21. U. Apte, C. Maglaras and M. Pinedo (2008) Operations in the service industries: Introduction to this special issue. *POM Journal*, 17(3): 235-237.

22. 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.

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

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

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

26. 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.*)*

27. 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.)

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

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

30. 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.

31. C. Maglaras (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)

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

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

34. C. Maglaras (2000) Discrete-review policies for scheduling stochastic networks: Trajectory fracking and fluid-scale asymptotic optimality. *Annals of Applied Probability*, 1(3): 897-929.

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

Under review

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

37. 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*.

Working papers and unpublished manuscripts

38. Portfolio market impact, with R. Ito, R. Piperakis and M. Steliaros (2023).

39. Liquidation in the presence of arbitrageurs and the dynamics of market impact (2020), with J. Benveniste

40. Optimal execution in the presence of stochastic liquidity (2020), with J. Benveniste

41. P. Afeche, Z. Liu and C. Maglaras (2019), A tale of time scales: surge pricing and dynamic matching in ride-hailing networks

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

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

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

45. 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

46. Is 9 to 5 over? Maybe it should be. Edited Volume Foreign Policy Association, America in the World (2020).

47. S. Min, C. Maglaras and C. Moallemi (2019) Thompson sampling with information relaxation penalties, NIPS, 33rd Conf. on Neural Information Processing Systems, Vancouver CA

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

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

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

51. 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*

52. 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*

TEACHING EXPERIENCE

Current:

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

MBA elective on *Breakthrough Technologies*, Columbia Business School (2022 –)

MBA elective on *Quantitative Pricing & Revenue Analytics*, Columbia Business School (2002; 2005 –)

MBA/PhD seminar on *Electronic trading in limit order book markets,* Columbia Business School (2016)

Executive Education on *Pricing Analytics,* Columbia Business School (2017 –)

Past:

Director Executive Education course on *Pricing Analytics*, Columbia Business School (2017 –)

Co-director Executive Education course on *Risk Management*, Columbia Business School (2007 - 2010)

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

PhD seminar on *Revenue Management,* Columbia Business School (2001, 2004, 2006)

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.

PhD STUDENT SUPERVISION

Gustavo Vulcano 2002 (jointly with Prof. G. van Ryzin) – currently Professor, Universidad Torcuato Di Tella
Joern Meissner 2004 (jointly with Prof. A. Federgruen) – currently Professor, Kühne Logistics University in Hamburg
Sabri Celik 2007 (jointly with Prof. Sergei Savin) – currently at Credit Swiss
Ying-Ju Chen NYU 2007 (jointly with Prof. S. Seshadri and G. Vulcano) – currently Professor IEOR, HKUST
Omar Besbes 2008 (jointly with Prof. Assaf Zeevi) – currently Professor, Columbia Business School
Serkan Eren 2008 (jointly with Prof. G. van Ryzin) – currently at Barclays Capital
Maulya Bansal 2008 (jointly with Prof. M. Broadie) – currently at J.P. Morgan
Itay Gurvich 2008 (jointly with Prof. Mor Armony, Prof. Ward Whitt) – Associate Professor, Cornell Tech, NY
Nur Ayvaz 2011 (jointly with Prof. S. Kachani))
Bar Ifrach 2012 – currently Head Uber Freight Marketplace
Arseniy Kukanov 2013 (secondary adviser) – Tower Research
Hua Zhang 2015 (jointly with Prof. C. Moallemi) – Citadel
John Yao 2015 (jointly with Prof. A. Zeevi) – Assistant Professor, University of Miami
Davide Crapis 2016 – Data Scientist, Lyft
Cinar Kilcioglu 2016 – Data Scientist, Uber
Zhe Liu 2019 – Assistant Professor, Imperial College, London
Stefano Vaccari 2018 (La Sapienza, Rome; co-advised with Prof. Marco Scarsini) – Research Scientist, Enel
Muye Wang 2021 – Two Sigma
Seungki Min 2021 – Assistant Professor KAIST, Seoul
(Thesis defense/reading committee member for ~20 students from Business School, IEOR and Math Dept.)

SERVICE ACTIVITIES

Columbia Business School Admissions Committee, 1999 – 2002.
Core course coordinator for Managerial Statistics, 2000 – 2007.
Columbia Business School MBA Committee, 2000 – 2007.
Incoming MBA student orientation panelist, 2001 – 2004.
Pre-MBA (math camp) Committee, 2000.
Decision, Risk and Operations Recruiting Committee, 1999 – 2000, 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.
Director, Columbia Business School PhD Program, 2011 – 2018.
Member, Core Effectiveness committee, 2011.
Core Course Coordinator, Managerial Statistics, 2011 –.
Member, Core Curriculum Committee, 2011.
Member, Core Structure Committee, 2012.

Member, Core curriculum review committee, 2015.
Member, Executive Committee of the Graduate School of Arts and Sciences (GSB representative), 2011 – 2017.
University-wide committee for Presidential Teaching Award, 2013 – 2018.
Chair, Decision, Risk and Operations Division, 2015 – 2018.
Member of the Columbia Business School Executive Committee, 2015 –.
University-wide Data Science Taskforce, 2015 – 2017.
Member of the Executive Committee of Columbia University's Data Science Institute, 2016 – 2019.
Director of PhD Program, Columbia Business School, 2011 – 2017.
University-wide Task Force on Climate Change, 2019.
University-wide search committees for Provost and Deans (Professional Studies, Engineering, Climate, and Law), 2020-2024.
University-wide Education Working Group (COVID), 2020 – 2022.
Member, President's Cabinet, 2024 –.
Member, President's Executive Committee, 2024 –.
Chair, Columbia University Council of Deans, 2024 –.
Chair, University-wide AI Vision Working Group, 2024 –.

PROFESSIONAL ACTIVITIES (selected)

Editorial positions

Associate Editor, Operations Research (MSOM, RM Area), 2002 – 2019.
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

Fellow INFORMS; Applied Probability, Revenue Management and MSOM 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.

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 – 2018.
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 – 2022, quantitative research on global markets division; trade execution, market microstructure, algorithmic trading research
Abu Dhabi Investment Authority (ADIA), 2023 –, advising in issues of quantitative finance.