

# Maxime C. Cohen

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My research lies at the intersection of data analytics and operations management. More specifically, I am interested in pricing applications such as retail, ride-sharing, sustainability, cloud computing, online advertising, and social networks. I have collaborated on research and consulting projects with different companies including Google, Oracle Retail, IBM Research, Accenture, Via (ride-sharing), Staples as well as several startups.

## Employment

- 2016 - **New York University, Stern School of Business**, New York, NY  
Assistant Professor of Information, Operations and Management Sciences  
Member of the Center for Business Analytics
- 2015-2016 **Google Research**, New York, NY  
Postdoctoral Research Scientist  
Worked on developing mathematical models for pricing optimization in several applications: cloud computing, future contracts for online advertising and Internet domain names
- 2012  
(Summer) **IBM T. J. Watson Research Center**, Yorktown Heights, NY  
Research Intern - Business Analytics and Math Sciences  
Worked on improving pricing and marketing strategies by incorporating social and influence data. Proposed and implemented a practical formulation that allows efficient computation of the optimal pricing strategies while considering network and influence effects
- 2012 & 2013  
(Winter) **Oracle Corporation**, Burlington, MA  
Research Scientist Intern - Retail Global Business Unit  
Analyzed and designed different methodologies to solve dynamic pricing optimization and promotion planning for retail environments. Implementation with actual clients' data
- 2009 **Matrix ABC Capital Markets Ltd** (merged into GHF group), Israel  
Trading of futures in the short-term interest rate European market (Euribor)
- 2007 - 2011 **Eurolaxo Ltd**, Israel  
Co-founder and Partner - Field: Private real estate investment company

## Education

- 2010 - 2015 **MIT**, Cambridge, MA  
PhD in Operations Research - Operations Management track  
GPA: 5/5 - Thesis committee: Prof. Aharon Ben-Tal, Prof. Georgia Perakis (chair), and Prof. Retsef Levi  
**Thesis Title:** *Pricing for Retail, Social Networks and Green Technologies*
- 2006 - 2009 **Technion**, Israel Institute of Technology, Haifa, Israel  
MS in Electrical Engineering - GPA: 96/100 - Advisor: Prof. Nahum Shimkin  
**Thesis title:** *Network Time Synchronization using Decentralized Kalman Filtering*
- 2002 - 2006 **Technion**, Haifa, Israel  
BSc. in Aerospace Engineering, Summa Cum Laude - GPA: 93.5/100 (top 2%)  
Completion of several courses in the EE department - **GPA:** 98.1/100
- 2002  
(Summer) **Harvard University**, Cambridge, MA  
High intermediate level intensive integrated skills English program

## Published and Accepted Papers

1. M. Cohen, R. Lobel, G. Perakis, "The Impact of Demand Uncertainty on Consumer Subsidies for Green Technology Adoption," **Management Science** 62(5):1235-1258, 2016
2. M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "The Impact of Linear Optimization on Promotion Planning," **Operations Research**, 65(2):446-468, 2017
3. J. Chemama, M. Cohen, R. Lobel, G. Perakis, "Consumer Subsidies with a Strategic Supplier: Commitment vs. Flexibility," Forthcoming in **Management Science**
4. L. Baardman, M. Cohen, K. Panchamgam, G. Perakis, D. Segev, "Scheduling Promotion Vehicles to Boost Profits," Forthcoming in **Management Science**
5. M. Cohen, "Big Data and Service Operations," Forthcoming in **Production and Operations Management**
6. M. Cohen, R. Lobel, G. Perakis, "Dynamic Pricing Through Data Sampling," Forthcoming in **Production and Operations Management**
7. M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "Overcommitment in Cloud Services - Bin packing with Chance Constraints," Forthcoming in **Management Science**
8. M. Cohen, P. Harsha, "Designing Price-Incentives in a Network with Social Interactions," Forthcoming in **M&SOM**

## Under Review and Working Papers

- M. Cohen, M. Fiszer, B. J. Kim, "Frustration-Based Promotions: Field Experiments in Ride-Sharing," Major Revision in **Management Science**
- M. Cohen, I. Lobel, R. Paes Leme, "Feature-based Dynamic Pricing," Major Revision in **Management Science** (2<sup>nd</sup> round)
- M. Cohen, G. Perakis, R. Pindyck, "Pricing with Limited Knowledge of Demand," Major Revision in **M&SOM**
- M. Cohen, J. Kalas, G. Perakis, "Optimizing Promotions for Multiple Items in Supermarkets," Major Revision in **Management Science**
- M. Cohen, A. Desir, N. Korula, B. Sivan, "Allocation and Price Guarantees in an Uncertain Internet Advertising Market," submitted, 2018
- M. Cohen, R. Zhang, "Coopetition and Profit Sharing for Ride-sharing Platforms," soon to be submitted
- M. Cohen, G. Perakis, C. Thraves, "A Unifying Framework for Consumer Surplus under Demand Uncertainty," submitted, 2018
- M. Cohen, A. Jacquillat, "Matching or Not Matching? Strategic Pricing in a Competitive Airline Environment," working paper
- M. Cohen, S. Gupta, J. Kalas, K. Panchamgam, G. Perakis, "An Efficient Algorithm for Dynamic Pricing using a Graphical Representation," working paper
- M. Cohen, G. Perakis, C. Thraves, "Competition and Externalities in Green Technology Adoption," working paper

M. Cohen, I. Lobel, R. Paes Leme, "Ellipsoids for Contextual Dynamic Pricing", SIGecom Exchanges, vol. 15, no. 2, pp. 40-44, 2017

M. Cohen, N. Shimkin, "Decentralized algorithms for sequential network time synchronization", Proc. NETCOOP 2010 – 4<sup>th</sup> Workshop on Network Control and Optimization, Dec. 2010, pp. 97-104

## Case Studies

M. Cohen, G. Perakis, "Optimizing Promotions for Supermarkets Using Data Analytics," Taught at NYU and MIT and published at thecasecentre.org, March 2017

M. Cohen, W. Xiao, "Managing Champagne Inventory in a Liquor Store," Taught at NYU

M. Cohen, D. Guetta, W. Xiao, "Supply Chain Coordination and Contracts in the Sharing Economy - a Case Study at Cargo," Columbia CaseWorks 180203, April 2018. Taught at NYU and Columbia

## Patents

**US20150081393 A1** – "Product promotion optimization system"

Published in March 2015 (M. Cohen, Z. Leung, K. Panchamgam, G. Perakis)

**US20150006267 A1** - "Designing Price Incentives in a Network with Social Interactions"

Published in January 2015 (M. Cohen, P. Harsha, M. Ettl)

**US20130275183 A1** – "Time-dependent Product Pricing Optimizer"

Published in October 2013 (M. Cohen, A. Vakhutinsky, K. Panchamgam)

**US20170140414 A1** – "Computerized Promotion Price Scheduling Utilizing Multiple Product Demand Model".

Published in May 2017 (M. Cohen, J. Kalas, K. Panchamgam, G. Perakis)

## Teaching Experience

- 2017 & 2018 **NYU Stern**, New York, NY  
(Spring) Operations Management core course (undergraduate) - 131 students
- 2016 **NYU Stern**, New York, NY  
(Spring) Lecturer for "**Applying Revenue Management: Optimization in Retail**" – Master of Science in Business Analytics program - 61 students
- 2013 & 2014 **MIT**, Cambridge, MA  
(Summer) Instructor for "**Data, Models and Decisions: Pre-Term**" – MBA refresher course - 93 students
- 2013 **MIT**, Cambridge, MA  
(Fall) TA for "**Introduction to Healthcare Delivery in the U.S: Market & System Challenges**" – Elective MBA and PhD course
- 2012 **MIT**, Cambridge, MA  
(Fall) TA for "**Introduction to Operations Management**" – Elective/core MBA course
- 2006 – 2009 **Technion**, Haifa, Israel  
TA for 3 different undergraduate/graduate level courses: *Random Signals, Control Systems, and Non-Linear Control Systems*

## Students

Kevin Jiao - OM PhD Student at NYU Stern

Baek Jung Kim - Marketing PhD Student at NYU Stern (main advisors: M. Ishihara and V. Singh)

Park Sinchaisri - OID PhD Student at Wharton (main advisor: Gad Allon)

Carlos Fernandez - IS PhD Student at NYU Stern (co-advisor: Anindya Ghose)

Weitao Lin - MS in Data Science at NYU

Marcos Galante - Senior at NYU Stern, Stern Honors Program

Thesis committee member for: Dmitry Mitrofanov (OM PhD Student at NYU Stern)

## Professional Service

OM Seminar Coordinator at NYU Stern (2016-present)

Co-organizer of the first-ever annual New York City Operations Day (2018)

Senior Editor for Production and Operations Management (2017-present)

Reviewer for Management Science, Operations Research, M&SOM, Production and Operations Management, NRL, Networks, M&SOM SIG Conference

Reviewer for Hong Kong Research Grants Council (2017 and 2018)

Program Committee for the INFORMS Revenue Management and Pricing Conference (2016)

Session Chair (INFORMS 2016, 2017, 2018; POMS 2016, 2018)

Student Coordinator for the MIT ORC Seminar series (Spring 2013), Officer at the INFORMS student chapter at MIT (2010-2011)

## Honors and Awards

2017: M&SOM Meritorious Service Award

2017: Honorable mention in the Best Cluster Paper Award - INFORMS Service Science Section

2016: INFORMS Revenue Management and Pricing Section Dissertation Award

2016: First Place in the Best Cluster Paper Award - INFORMS Service Science Section

2015: Finalist in the INFORMS Revenue Management and Pricing Section Practice Award

2015: First Place in the Best Student Paper POM Supply Chain Section

2015: Best Application of Theory award from the 2015 NEDSI Conference

2014: First Place in the Best Student Paper - INFORMS Service Science Section

2014-2015: UPS PhD Fellowship (awarded to a single MIT PhD student)

2013-2014: Martin's Fellowship for Sustainability

2011-2012: MIT Energy Initiative Fellowship

2006-2008: Technion Excellence scholarship and Lady Davis Fellowship

2007: Winner of the *Technion Creativity in Science and Technology* competition

2007: Best student project of the 47<sup>th</sup> Israel Annual Conference on Aerospace Sciences

2002-2006: Technion Presidential Honors in 5 out of 8 semesters & Dean Honors in 2 semesters

## Research Presentations

M. Cohen, M. Fiszer, B. J. Kim, "*Frustration-Based Promotions: Field Experiments in Ride-Sharing*," (NYU OM Seminar; NYU IS Seminar; OMEGA Seminar at Baruch College, CUNY; Fashion Retail Conference, McGill University; Technion IE&M Seminar; 2018 Marketplace Innovation Workshop; 2018 M&SOM Service SIG)

M. Cohen, R. Zhang, "Coopetition and Profit Sharing for Ride-sharing Platforms," (University of Maryland, 2017; NYU Stern OM Seminar, 2017; INFORMS 2017; RMP 2018; M&SOM 2018)

M. Cohen, A. Jacquillat, "Matching or Not Matching? Strategic Pricing in a Competitive Airline Environment," (M&SOM 2017; INFORMS 2017)

M. Cohen, P. Keller, V. Mirrokni, M. Zadimoghaddam, "Overcommitment in Cloud Services - Bin packing with Chance Constraints," (ACM SIGMETRICS 2017, Google Cloud Analytics Seminar 2016; RMP 2016; INFORMS 2016, NYU Stern IOMS Colloquium 2016, ISMP 2018)

M. Cohen, I. Lobel, R. Paes Leme, "Feature-based Dynamic Pricing," (POMS 2016; Google Algorithms Seminar 2016; ACM conference on Economics and Computation 2016)

M. Cohen, G. Perakis, R. Pindyck, "Pricing without Knowledge of Demand," (RMP 2015; M&SOM 2015; INFORMS 2015; ACM conference on Economics and Computation 2016)

L. Baardman, M. Cohen, K. Panchamgam, G. Perakis, D. Degev, "Scheduling Promotion Vehicles to Boost Revenues: A Provably-Good Analytical Approach," (ISMP 2015; INFORMS 2015)

M. Cohen, Z. Leung, J. Kalas, K. Panchamgam, G. Perakis, A. Smith, "When Data Analytics Meets Promotion Pricing," 2014–2015 (Technion; UBC Sauder; Northwestern Kellogg; Cornell Johnson; Cornell ORIE; Duke Fuqua; UNC Chapel Hill; UT Dallas; Chicago Booth; NYU Stern; Boston College; Harvard Business School; Michigan Ross; Berkeley Haas; Stanford GSB; Yale SOM; Columbia DRO; CMU Tepper; UCLA Anderson; INSEAD; Cornell Tech; Google NYC; McGill)

M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "Optimization models and insights for promotion planning," (Big Data Workshop, Cornell, Ithaca, October 2014; M&SOM and INFORMS 2014, Oracle Retail Seminar October 2014, MIT Sloan OM Seminar November 2014; NEDSI 2015; RMP 2015)

M. Cohen, S. Gupta, K. Panchamgam, G. Perakis, A. Smith, "When Dynamic Pricing Meets Graph Theory," (M&SOM 2014 & 2015; RMP 2015; INFORMS 2014 & 2015)

M. Cohen, G. Perakis, C. Thraves, "Competition and Externalities in Green Technology Adoption," (M&SOM 2013 & 2014; INFORMS 2014; POMS 2015)

M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Smith, "The Impact of Linear Optimization on Promotion Planning," (M&SOM 2013; INFORMS 2013 & 2014)

M. Cohen, R. Lobel, G. Perakis, "Designing Consumer Subsidies for Green Technology Adoption," (Aug. 2012, ISMP, Berlin Germany; June 2012, M&SOM, Columbia University, NY; April 2012, POMS, Chicago IL; March 2012, OM seminar series, Sloan, MIT; Dec. 2011, Student Workshop on Smarter Cities, IBM T. J. Watson Research Center, Hawthorne NY; Nov. 2011, INFORMS, Charlotte NC; Oct. 2011, MIT Energy Research Conference, Cambridge MA)

J. Chemama, M. Cohen, R. Lobel, G. Perakis, "Designing Subsidies with Industry Response Dynamics: Commitment vs. Flexibility," (Oct 2012, INFORMS, Phoenix AZ; June 2012, M&SOM, Columbia University, NY; April 2012, POMS, Chicago IL, M&SOM 2013 & 2014)

M. Cohen, P. Harsha, "Designing Price-Incentives in a Network with Social Interactions," (Optimization Seminar, IBM T. J. Watson Research Center, Yorktown Heights NY; M&SOM, INSEAD, Fontainebleau, June 2013; INFORMS, Minneapolis, Oct 2013)

M. Cohen, Z. Leung, K. Panchamgam, G. Perakis, A. Vakhutinsky, "*Multi-Period Price Optimization for Grocery Retailers*," (INFORMS, Phoenix AZ, Oct 2012)

## **Languages, Computer Skills and Personal**

Languages: French (native), English (fluent), Hebrew (fluent)

Programming languages: R, Matlab, Maple, C/C++, Gurobi/CPLEX/Julia

Extracurricular activities: hiking, travelling and sports: squash, soccer and tennis

Citizenship: France and US permanent resident