

## CURRICULUM VITAE

### **AMR FARAHAT**

Operations Research and Statistics Group - MIT Sloan School of Management  
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#### **EDUCATION**

- Ph.D. (Operations Research), Massachusetts Institute of Technology, 2004  
Thesis: “Tractability Through Approximation - A Study of Two Discrete Optimization Problems”  
Advisor: Cynthia Barnhart
- M.Sc. (Operational Research), Lancaster University, 1996  
Thesis: “Modeling Call Duration Distributions at British Telecom”  
Advisor: Robert Fildes
- Graduate Diploma (Industrial Engineering), The American University in Cairo, 1995
- B.Sc. (Mechanical Engineering), Summa Cum Laude, The American University in Cairo, 1994  
Thesis: “An Integrated Municipal Solid Waste Management System for the City of Cairo”  
Advisor: Salah El-Haggar

#### **ACADEMIC APPOINTMENTS**

- Senior Lecturer in Operations Research and Statistics; Sloan School of Management; MIT; July 2018  
– Present.
- Visiting Assistant Professor of Operations Research and Statistics; Sloan School of Management, MIT; September 2017 – January 2018
- Assistant Professor of Operations and Manufacturing Management; Olin Business School, Washington University in St. Louis; July 2011 – June 2018
- Assistant Professor of Operations Management; Johnson Graduate School of Management, Cornell University; July 2004 – June 2011

#### **INDUSTRY EXPERIENCE**

- Unilever, Manager - Manufacturing and Supply Chain Technology Group, 1997 – 1999
- Priceline.com, Consultant, Summer 2010
- McKinsey & Company, Summer Associate, Summer 2001
- British Telecom, Intern - Monitoring, Forecasting, and Modelling Unit, Summer 1996

## RESEARCH

### Primary Research Interests

- Pricing and revenue management in differentiated product markets
- Supply chain structure and performance under horizontal and vertical competition
- Game theory applications
- Optimization applications

### Publications in Refereed Journals

- “On the Relationship Between Quantity Pre-Commitment and Cournot Games”, with T. Huh and H. Li. *Operations Research*. 67(1), 109-122, 2019. [SSCI count = 1; Google Scholar citations = 4]
- “The Multi-Product Newsvendor with Customer Choice”, with J. K. Lee. *Operations Research*, 66(1), 123-136, 2018. [SSCI count = 0; Google Scholar citations = 6]
- “On the Efficiency of Price Competition”, with G. Perakis, *Operations Research Letters*, 39(6), 414-418, 2011. [SSCI count = 5; Google Scholar citations = 11]
- “A Comparison of Bertrand and Cournot Profits in Oligopolies with Differentiated Products”, with G. Perakis, *Operations Research*, 59(2), 507-513, 2011. [SSCI count = 17; Google Scholar citations = 52]
- “A Nonnegative Extension of the Affine Demand Function and Equilibrium Analysis for Multiproduct Price Competition”, with G. Perakis, *Operations Research Letters*, 38(4), 280-286, 2010. [SSCI count = 14; Google Scholar citations = 33]
- “Profit Loss in Differentiated Oligopolies”, with G. Perakis, *Operations Research Letters*, 37(1), 43-46, 2009. [SSCI count = 17; Google Scholar citations = 32]
- “Airline Fleet Assignment with Enhanced Revenue Modeling: An Alternative Formulation and Solution Approach”, with C. Barnhart and M. Lohatepanont, *Operations Research*, 57(1), 231-244, 2009. [SSCI count = 37; Google Scholar citations = 82]

### Manuscripts in Preparation

- “The Multi-Product Extension to the Newsvendor Problem”

### Doctoral Students Advised

- Maryam Biazaran, Olin Business School, Washington University in St. Louis. Topic: Operational flexibility in co-production systems under yield and demand uncertainty
- Xiaomeng Guo, Olin Business School, Washington University in St. Louis. Topic: Quality and price competition when goods are durable and consumers are strategic
- Joonkyum Lee, Johnson Graduate School of Management, Cornell University. Topic: Retail inventory planning

### Masters Students Advised

- Mohamed Hamza Tazi Bouardi and Pierre-Henri Ramirez, MIT Sloan Masters of Business Analytics Capstone project (Comcast Strategic Analytics).
- Hossam Abuelwefa, Olin Business School, Washington University in St. Louis. Topic: Call Center Performance Measurement using Regression and Data Envelopment Analysis Techniques

### Press Coverage

- “Over- and Under- Supplying Hurts Profits” MIT Sloan Press Release, November 2017. [mitsloan.mit.edu/newsroom/press-releases/Over--and-under-supplying-hurts-profits--MIT-Sloan-professor-develops-new-methodology-to-help-firms-improve-inventory-decisions/](https://mitsloan.mit.edu/newsroom/press-releases/Over--and-under-supplying-hurts-profits--MIT-Sloan-professor-develops-new-methodology-to-help-firms-improve-inventory-decisions/)
- “A New Algorithm Helps Retailers Make Better Inventory Decisions” MIT Sloan Newsroom Article, December 2017. <http://mitsloan.mit.edu/newsroom/articles/a-new-algorithm-helps-retailers-make-better-inventory-decisions/>

### Practice Articles

- “Over- And Under-Supplying Hurts Profits: A New Methodology To Help Retailers Improve Inventory Decisions” Guest column at [www.retailoperationsinsights.com](http://www.retailoperationsinsights.com), January 18<sup>th</sup>, 2018.

## **TEACHING**

### Primary Teaching Interests

- Undergraduate and Graduate courses in the theory, methodology, and applications of Operations Research, Statistics, and Data Analytics
- Project-based advising and mentorship
- Analytics program development and management
- Case and textbook development

### MBA/MSc. Courses Taught

- Data, Models, and Decisions (MIT Sloan – 15.060); Fall 2017, Fall 2018, Fall 2019, Fall 2020
- The Analytics Edge (MIT Sloan – 15.071); Spring 2019
- Engineering Statistics and Data Science (MIT Sloan – 15.087); Summer 2020
- Critical Thinking Processes and Modeling for Effective Decision Making (Washington University in St. Louis – MGT550F); Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2016, Spring 2017, Spring 2018
- Supply Chain Analytics – Optimization (Washington University in St. Louis – OMM500N); Fall 2013, Spring 2013, Spring 2015, Spring 2016, Spring 2017, Spring 2018
- Operations Management in the Service Industry (Washington University in St. Louis – OMM573); Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018

- Statistics for Management (Cornell University – NCC501); Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010

#### Ph.D. Courses Taught

- Theory and Research Methods in Inventory and Supply Chain Management (Washington University in St. Louis – OMM652); Fall 2013
- Dynamic Programming and Optimal Control (Washington University in St. Louis – OMM655); Spring 2012

#### Other Teaching

- Lectures in Ph.D. Proseminar in Operations Management (Cornell University); Fall 2009
- Pre-MBA Quantitative Skills (Cornell University); August 2005, 2006
- Invited lectures on Transportation and Logistics Management (Columbia IEOR); Spring 2004, 2005
- Pre-term Mathematics (MIT); August 2003

#### Cases

- “Business Intelligence at Narayana Health”, with Anesh Shetty
- “Supply/Distribution Chain Planning at Dartboard Corporation 2.0”, with Robert M. Freund, Sebastian Cubela, John Silberholz, and Lauren Berk
- “Flight Delays at RegionEx”, with S. Martonosi, *INFORMS Transactions on Education*, 11(3), 100-105, 2011

#### Teaching Articles

- “The INFORMS Case Competition – And Why We Need Analytics Teaching Cases”, with J. J. Chochran, *ORMS Today*, April 2020.

#### Teaching Awards

- Core Faculty Teaching Award (2008-2009) “Honoring Teaching Excellence for the professor who best fosters learning through lecture, discussion, and coursework” Johnson Graduate School of Management, Cornell
- First Place, INFORMS Case and Teaching Materials Competition (2009) for the case “RegionEx Flight Delays” co-authored with Susan Martonosi

## Recent Teaching Evaluations

### *MIT Sloan School of Management*

(Recommend Instructor rating; averaged across sections; maximum = 5)

Course	Level	Fall 2017	Fall 2018	Spring 2019	Fall 2019	Summer 2020	Fall 2020
15.060	MBA	4.3	4.1		4.5		4.7**
15.071	MBA			4.6			
15.087	MBA/MSc					4.9*	

\* Class taught remotely

\*\* Class taught in hyflex format

### *Washington University in St. Louis – Olin School of Business*

(Overall average instructor rating; averaged across sections; maximum = 10)

Course	Level	Spring 2012	Spring 2013	Fall 2013	Spring 2014	Spring 2015	Spring 2016	Spring 2017
MGT562	MBA	9.13	9.08		9.04	7.53*	8.90	8.87
OMM573	MBA				9.71	9.26	9.34	9.13
OMM500N	M.Sc.		8.89	9.73		9.59	9.88	9.47
OMM655	Ph.D.	9.50						
OMM652	Ph.D.			10.00*				

\*Class was co-taught (50%)

## **FELLOWSHIPS & SCHOLARSHIP AWARDS**

- UPS Fellowship (2003 – 2004); Center for Transportation and Logistics, MIT
- Chevening Scholarship (1995 – 1996); UK Foreign and Commonwealth Office
- Graduate Merit Fellowship (1994 – 1995); School of Engineering, The American University in Cairo
- Academic Honor Awards (1992, 1993, 1994); School of Engineering, The American University in Cairo

## **PROFESSIONAL SERVICE**

- Chair, INFORMS Case Competition Committee, 2020
- Member, INFORMS Case Competition Committee, 2019
- Member, INFORMS OR & Analytics Student Team Project Judging Committee, 2018
- Member, INFORMS Committee on Academic Programs Database, 2014-2015
- Co-organizer, 10th Annual INFORMS Revenue Management and Pricing Section Conference, Cornell, June 16-18, 2010
- Reviewer: Journal of Revenue and Pricing Management, Management Science, Manufacturing and Service Operations Management, Operations Research, Naval Research Logistics, Production and

Operations Management, the POMS Supply Chain Student Paper Competition, Transactions on Economics and Computation, Transportation Science

### **SELECTED INVITED TALKS**

- “The Multi-Product Newsvendor Problem with Customer Choice”, MIT Sloan (2017), University of British Columbia (2016), MSOM (2015)
- “The Efficiency of Price and Quantity Competition”, Rutgers (2011), Washington University in St. Louis (2011)
- “A Comparison of Price and Quantity Competition in Oligopolies with Differentiated Products”, University of North Carolina (2010)
- “Managing the Cornell Store’s Textbook Retail Business”, Consortium for Operational Excellence in Retailing (2010)
- “The Newsvendor Problem with Customer-Driven Substitution”, MIT (2010)
- “Price Competition Among Multiproduct Firms”, Cornell IEOR (2010)

### **PERSONAL**

- Birthplace: Giza, Egypt
- Citizenship: United States