

Curriculum Vita
Bacel Maddah

Department of Industrial Engineering and Management
Maroun Semaan Faculty of Engineering and Architecture
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EDUCATION

- Ph.D. in Industrial and Systems Engineering,**
Virginia Tech, February 2005. (Major: Operations Research.)
- M.S. in Engineering Management,**
American University of Beirut (AUB), June 2000.
- B.E. in Civil Engineering,**
Lebanese University, June 1998.

ACADEMIC EXPERIENCE

- Professor and Chairperson** September 2017 - present
Department of Industrial Engineering and Management, Faculty of Engineering and Architecture, AUB
- Associate Professor and Chairperson** September 2015 - August 2017
Department of Industrial Engineering and Management, Faculty of Engineering and Architecture, AUB
- Associate Professor** October 2011 - August 2015
Engineering Management Program, Faculty of Engineering and Architecture, AUB
- Assistant Professor** September 2005 - September 2011
Engineering Management Program, Faculty of Engineering and Architecture, AUB
- Visiting Scholar** Spring 2008
Department of Industrial and Systems Engineering, Virginia Tech

INDUSTRY EXPERIENCE**Senior Analyst**

United Airlines, Elk Grove Village, IL

March 2005 - September 2005

Business Information Analyst

Hannaford Bros., Scarborough, ME

Summer 2001 and Summer 2002

RESEARCH INTERESTS

Retail Operations Management, Supply Chain Management, Stochastic Models.

PUBLICATIONS**Journal Articles**

(primary author listed first; IF is the ISI impact factor; a * indicates a student of mine; citations are at scholar.google.com/citations?hl=en&user=0w1o0AcAAAAJ)

1. Nasr, W. W., A. Charanek*, and B. Maddah (2018). Fitting a Two-Phase Markovian Arrival Process to a Non-Renewal Point Process. **Stochastic Models**, forthcoming. (IF = 0.4)
2. Ghoniem, A. S., T. Varol, M. Houari and B. Maddah (2018). Integrated Assortment Planning and Store-wide Shelf Space Allocation: An Optimization-based Approach. **Omega**, 81, 134 -149. (IF = 4.029)
3. Maddah, B. and M. El-Taha (2017). Analysis of a Two-Node Closed Queueing Cyclic Network with One Non-Exponential Node. **Computers & Industrial Engineering**, 110: 297-306. (IF = 2.623) .
4. Maddah B., W. W. Nasr and A. Charanek* (2017). A Multi-Station System for Reducing Congestion in High-Variability Queues. **European Journal of Operational Research**, 262: 602-619. (IF = 2.679) .
5. Maddah B. and N. Noueihd (2017). EOQ Holds under Stochastic Demand, A Technical Note. **Applied Mathematical Modelling**, 45: 205-208. (IF = 0.938)
6. Ghoniem, A. S., T. Varol and B. Maddah (2016). Promoting Impulse Buying by Allocating Retail Shelf Space to Grouped Product Categories. **Journal of the Operational Research Society**, 67: 953–969. (IF = 0.971)
7. Ghoniem, A. S., B. Maddah, and A. Ismail (2016). Optimizing Assortment and Pricing of Multiple Retail Categories with Cross-Selling. **Journal of Global Optimization**, 66: 291–309. (IF = 1.355)
8. Maddah, B., M. Kharbeche, S. Pokharel, and A. S. Ghoniem (2016). Joint Replenishment Model for Multiple Products with Substitution. **Applied Mathematical Modelling**, 40: 7678–7688. (IF = 0.938)
9. Maddah, B. and M. El-Taha (2016). Selective Trunk with Multi-Server Reservation. **Advances in Operations Research**, doi:10.1155/2016/3478709. (Invited article)

10. Aprahamian*, H. and B. Maddah (2015). Pricing Asian Options via Compound Gamma and Orthogonal Polynomials. **Applied Mathematics and Computation**, 264: 21–43. (IF = 1.600)
11. Ghoniem, A. S. and B. Maddah (2015). Integrated Retail Decisions with Multiple Selling Periods and Customer Segments: Optimization and Insights. **Omega**, 55: 38-52. (IF = 3.190)
12. Nasr, W. W. and B. Maddah (2015). Continuous (s,S) policy with MMPP Correlated Demand. **European Journal of Operational Research**, 246: 874–885. (IF = 2.679)
13. Maddah, B., A. Yassine, M. K. Salameh, and L. Chatila* (2014). Reserve Stock Models: Deterioration and Preventive Replenishment. **European Journal of Operational Research**, 232: 64–71. (IF = 2.679)
14. Maddah, B., E. K.Bish and H. Tarhini* (2014). Newsvendor Pricing and Assortment under Poisson Decomposition. **IIE Transactions**, 46: 567–584. (IF = 0.856)
15. Maddah, B., A. Yassine, M. Hindi, and Z. Wahab* (2014). An Integrated Approach to State Decision-Making in Upstream Hydrocarbon Operations with Application to Lebanon. **IEEE Transactions on Engineering Management**, 61: 755–767. (IF = 0.940)
16. Salameh, M. K., A. Yassine, B. Maddah, and L. Ghaddar* (2014). Joint Replenishment Model with Substitution. **Applied Mathematical Modelling**, 38: 3662–3671. (IF = 0.938)
17. Nasr, W. W. and B. Maddah, M. K. Salameh (2013). EOQ with a Correlated Binomial Supply. **International Journal of Production Economics**, 144: 248–255. (IF = 2.026)
18. Yassine A., B. Maddah and N. Nehme* (2013). Optimal Information Exchange Policies in Integrated Product Development. **IIE Transactions**, 45: 1249–1262. (IF = 0.856)
19. Yassine, A., B. Maddah, and N. Younes* (2013). On Structuring Offshore Hydrocarbon Production Sharing Contracts: Lebanon’s Case. **The Journal of World Energy Law & Business**, 6:83–106. (IF = 0.231)
20. Kaysi, I. A. B. Maddah, N. Nehme*, and F. Mneimneh (2012). An Integrated Model for Resource Allocation and Scheduling in a Transshipment Container Terminal. **Transportation Letters**, 4: 143–152. (IF = 0.500)
21. Yassine, A., B. Maddah, and M. K. Salameh (2012). Disaggregation and Consolidation of Imperfect Inventory Shipments in an Extended EPQ Model. **International Journal of Production Economics**, 135: 345–352. (IF = 2.026)
22. Mezher, T., D. Noamani, A. Abdul-Malak, and B. Maddah (2011). Analyzing Sustainability Knowledge in the Arab World. **Sustainable Development**, 19: 402–416. (IF = 1.328)
23. Maddah, B., M. El-Taha, and R. Abou Tayeh* (2010). Optimal Allocation of Servers and Processing Time in a Load Balancing System. **Computers & Operations Research**, 37: 2173–2181. (IF = 1.366)

24. Maddah, B., L. Moussawi, M. El-Taha, and H. Rida* (2010). Dynamic Cruise Ship Revenue Management. **European Journal of Operational Research**, 207: 445–455. (IF = 1.627)
25. Maddah, B., L. Moussawi, and M. Y. Jaber (2010). Lot Sizing with a Markov Production Process and Imperfect Items Scrapped. **International Journal of Production Economics** 124: 340–347. (IF = 2.026)
26. Maddah, B., M. K. Salameh, and L. Moussawi (2010). Order Overlapping: A Practical Approach for Preventing Shortages during Screening. **Computers & Industrial Engineering**, 58: 691–695. (IF = 1.057)
27. Maddah, B. and E. K. Bish (2009). Locational Tying of Complementary Retail Items. **Naval Research Logistics**, 56: 421–438. (IF = 0.735)
28. Maddah, B., M. K. Salameh, and G. M. Karame* (2009). Lot Sizing with Random Yield and Different Qualities. **Applied Mathematical Modelling**, 33: 1997–2009. (IF = 2.158)
29. Maddah, B. and M. Y. Jaber (2008). Economic Order Quantity for Items with Imperfect Quality: Revisited. **International Journal of Production Economics**, 112: 808–815. (IF = 2.026)
30. Maddah, B. and E. K. Bish (2007). Joint Pricing, Assortment, and Inventory Decisions for a Retailer’s Product Line. **Naval Research Logistics**, 54: 315–330. (IF = 0.735),
31. El-Taha, M. and B. Maddah (2006). Allocation of Service Time in a Multi-Server System. **Management Science**, 52: 623–637. (IF = 2.354),
32. Maddah, B., M. Y. Jaber and N. E. Abboud (2004). Periodic Review (s, S) Inventory Model with Permissible Delay in Payments. **Journal of the Operational Research Society**, 55: 147–159. (IF = 0.839)

Refereed Book Chapters

1. Maddah, B., E. K. Bish, and B. Munreo (2010) Pricing, Variety, and Inventory Decisions for Product Lines of Substitutable Items. In **Planning Production and Inventories in the Extended Enterprise: A State of the Art Handbook**, Eds. K. Kempf, P. Keskinocak, and R. Uzsoy. Springer.
2. Bish, D. R., E. K. Bish, and B. Maddah (2007). Revenue Management and Capacity Planning. In **Handbook of Logistics Engineering**, Ed. G. D. Taylor. CRC Press.

Working Papers / Submitted for Publication (a * indicates a student of mine)

1. Ghoniem, A. S., T. Varol, and B. Maddah (2018). Analytics for Analytics for Store-Wide Shelf Space Management. Under review in Operations Research.
2. Maddah, B., F. Ben Abdelazizb, and H. Tarhini (2018). Bi-Objective Optimization of Profit and Welfare in Assortment and Pricing Planning. Under review in Annals of Operations Research.
3. Maddah B., H. Tarhini, M. Jabbour* (2018). Pricing and Inventory Decisions of an Assortment under Equal Profit Margin and Nested Logit Demand. In preparation for submission to IISE Transactions.

4. Gemayel*, J., B. Maddah, W. W. Nasr (2018). A Queueing Model of Traffic to Balance Costs and Emissions. In preparation for submission to Journal of the Operational Research Society.
5. Maddah B., A. S. Ghoniem and M. Bou Younes* (2015). Pricing and Assortment Decisions with Supply Chain Integration. In preparation for submission to Journal of the Operational Research Society.

RESEARCH FUNDING

External Funding

1. Title: Cutting-Edge Optimization for Modern, Consumer-Focused Retailing. PI: Bacel Maddah. Co-PIs: Ahmed Ghoniem and Shaligram Pokharel. Source: **Qatar Foundation**. Date: December 2012 - March 2015. Budget: \$511,185.
2. Title: Managing Reserve Stocks under Deterioration, with Application to Strategic Healthcare Reserves . PI: Bacel Maddah. Co-PIs: Ali Yassine and Moueen Salameh. Source: **Lebanese National Council for Scientific Research (LNCSR)**. Date: November 2012 - May 2015. Budget: \$12,000.
3. Hydrocarbon Production Sharing Contracts: Benchmarking and Recommendations for Lebanon. PI: Ali Yassine. Co-PIs: Bacel Maddah and Lama Moussawi. Source: **LNCSR**. Date: January 2010 - January 2011. Budget: \$6,300.
4. Inventory Management with Uncertain Supply and Different Qualities. PI: Bacel Maddah. Co-PI: PMoueen Salameh. Source: **LNCSR**. Date: November 2008 - November 2009. Budget: \$5,700.
5. Analytics for Retail Space Management Balancing Impulse Buying and Shopping Convenience. PI: Fouad Ben Abdelaziz. Co-PI: Bacel Maddah. Submitted to Neoma Business School. Pending. Budget: €10,000.
6. Submitted several grant proposals to National Science Foudation, Qatar Foundation, and LNCSR that were not awarded.

Internal (AUB) Funding

1. Title: Reducing Carbon Emissions in Queueing Systems Source: **AUB's University Research Board (URB)** Date: July 2017 - June 2019. Budget: \$15,000.
2. Title: Retail Pricing and Assortment Decisions with Supply Chain Integration. PI: Bacel Maddah. Source: **URB** Date: July 2015 - June 2017. Budget: \$12,000.
3. Title: Improving Patient Flow at the New Patient-Centric ENT Clinics of AUBMC via Discrete-Event Simulation. PI: Bacel Maddah. Source: **AUB Medical Center**. Date: Jan 2016 - May 2016. Budget: \$5,000.
4. Title: Pragmatic Analytics for Reducing Patient Delay at Outpatient Clinics with Applications at AUBMC. PI: Bacel Maddah. Source: **URB** Date: July 2014 - June 2015. Budget: \$6,000.
5. Title: Joint Optimization of Hydrocarbon PSC Parameters and Revenue Management via Stochastic Programming. PI: Joe Naoum-Sawaya. Co-PIs: Bacel Maddah and Mazen Skaf. Source: **Munib and Angela Masri Institute of Energy and Natural Resources (MINR), AUB**. Date: October 2012 - September 2014. Budget: \$10,000.

6. Title: Optimizing Inventory Management at AUBMC's Material Management Department. PI: Bacel Maddah. Source: **AUB's Evidence-based Healthcare Management Unit**. Date: Feb 2013 - June 2013. Budget: \$5,000.
7. Title: Multi-Objective Optimization for Contract Areas Delineation and Sequential Leasing of Lebanon's Offshore Hydrocarbon Assets. PI: Ali Yassine. Co-PIs: Bacel Maddah and Mahmoud Al-Hindi. Source: **MINR**. Date: October 2011 - September 2013. Budget: \$13,000.
8. Robust Inventory Management by Modeling Demand Ambiguity. PI: Bacel Maddah. Source: **URB**. Date: July 2011 - June 2012. Budget: \$6,300.
9. Portfolio Management of Upstream, Offshore, Petroleum Activities with Applications to Lebanon. PI: Bacel Maddah. Co-PIs: Lama Moussawi, Mazen Skaf, and Ali Yassine. Source: **MINR**. Date: October 2009 - September 2011. Budget: \$20,000.
10. Analyzing the Interaction between Retail Pricing, Assortment, and Inventory Decisions. PI: Bacel Maddah. Source: **URB**. Date: October 2009 - September 2010. Budget: \$9,800.
11. Inventory Management with Imperfect Quality and Screening. PI: Bacel Maddah. Source: **URB**. Date: October 2009 - September 2010. Budget: \$5,000.
12. Dynamic Cruise Ship Revenue Management. PI: Bacel Maddah. Source: **URB**. Date: October 2008 - September 2009. Budget: \$5,000.
13. Effective Schemes for Reducing Congestion in Heavy-Tailed Queueing Systems. PI: Bacel Maddah. Source: **URB**. Date: October 2007 - September 2008. Budget: \$6,100.
14. Pricing and Inventory Decisions of Bundled and Tied Retail Items. PI: Bacel Maddah. Source: **URB**. Date: October 2006 - September 2007. Budget: \$5,200.
15. Pricing, Variety and inventory Decisions in Retail Management. PI: Bacel Maddah. Source: **URB**. Date: January 2006 - September 2006. Budget: \$4,600.

INVITED SEMINARS

1. Rocket Science Retailing Is Here Too. April 27 2016, 15th Faculty of Engineering and Architecture Student and Alumni Conference, American University of Beirut.
2. Black-Scholes Equation, Risk-Neutral Valuation, and Application to Pricing Asian Options. February 18 2015, Physics Department, American University of Beirut.
3. Evidence Based Scheduling in Healthcare. November 12 2014, Lebanese Syndicate of Hospitals, Beirut.
4. Joint Optimization of Hydrocarbon PSC parameters & Revenue Management. July 4 2012, Lebanon's International Petroleum Exploration Forum, Beirut.
5. Production Sharing Contracts & Upstream Portfolio Management for Lebanon's Offshore Hydrocarbons. July 30 2011, Lebanon's International Petroleum Exploration Forum, Beirut.
6. Pricing, Assortment, and Inventory Decisions for a Retailer's Product Line. June 12, 2008, Centre for Innovation in Healthcare Logistics, University of Arkansas, Fayetteville, Arkansas.

7. Pricing, Assortment, and Inventory Decisions in Retail Operations Management. February 11, 2007, College of Administrative Sciences and Economics, Koç University, Istanbul, Turkey.

CONFERENCE PRESENTATIONS

- INFORMS Annual Meeting**, Nashville, November 2016. Pricing and Inventory Decisions of an Assortment under Equal Profit Margins.
- POMS Annual Meeting**, Orlando, May 2016. Pricing and Assortment Decisions with Supply Chain Integration.
- ISERC**, Nashville, June 2015. Pricing and Assortment Decisions with Supply Chain Integration.
- INFORMS Annual Meeting**, Minneapolis, October 2013. Pricing, Assortment and Inventory Decisions under Cross Selling.
- EURO - INFORMS**, Rome, July 2013. Integrated Retail Decisions with Multiple Selling Periods and Customer Segments: Optimization and Insights.
- INFORMS Annual Meeting**, Phoenix, October 2012. Joint Pricing and Inventory Decisions under Poisson Decomposition with Insights on Optimal Assortments.
- INFORMS Annual Meeting**, Phoenix, October 2012. Pricing Asian Options via Compound Gamma and Orthogonal Polynomials
- INFORMS Annual Meeting**, Phoenix, October 2012. Cycle Stealing and Truncation for Reducing Delay in Heavy-Tailed Queues.
- INFORMS Annual Meeting**, Charlotte, November 2011. Mathematical Programming for Integrated Retail Assortment, Pricing, and Inventory Management.
- INFORMS Annual Meeting**, Charlotte, November 2011. Managing Two Retail Product Lines under Cross-Selling Effects.
- INFORMS Annual Meeting**, Austin, October 2010. Optimal Information Exchange Policies in Integrated Product Development.
- INFORMS Annual Meeting**, Austin, October 2010. The Ambiguous Newsvendor Problem.
- INFORMS Annual Meeting**, Austin, October 2010. Optimal Information Exchange Policies in Integrated Product Development.
- INFORMS Annual Meeting**, San Diego, October 2009. On the Interaction between Retail Assortment, Pricing, and Inventory Decisions.
- INFORMS Annual Meeting**, Washington D.C., October 2008. Dynamic Cruise Ship Revenue Management.

INFORMS Annual Meeting, Washington D.C., October 2008. Locational Tying of Complementary Retail items.

IEEE/INFORMS Conference on Service Operations and Logistics, Philadelphia, August 2007. Locational Tying of Complementary Retail Item.

INFORMS Annual Meeting, Pittsburgh, November 2006. Lot Sizing with Random Yield and Different Qualities

INFORMS Annual Meeting, San Francisco, November 2005. Convenience Tying of Complementary Retail items.

INFORMS Annual Meeting, San Francisco, November 2005. Machine Repair with General Repair Times and Spares.

INFORMS Annual Meeting, Denver, October 2004. Pricing and Inventory Decisions for a Retailer's Product Line.

NSF Workshop on Supply Chain Management, Gainesville, FL, March 2004. Joint Pricing, Variety, and Inventory Decisions for a Retailer's Product Line.

INFORMS Annual Meeting, Atlanta, October 2003. Joint Pricing and Inventory Decisions for a Retailer's Product Line.

TEACHING EXPERIENCE

Developed and taught the following courses at AUB.

1. INDE 301 Engineering Economy

- Summer 2009. ICE: 4.1/5. Class size: 23 students.
- Summer 2010. ICE: 4.1/5. Class size: 27 students.
- Summer 2011. ICE: 3.8/5. Class size: 34 students.
- Summer 2012. ICE: 3.9/5. Class size: 30 students.
- Summer 2014. ICE: 4.3/5. Class size: 31 students.
- Fall 2014. ICE: 4.1/5. Class size: 47 students.
- Spring 2015. ICE: 4.1/5. Class size: 48 students.
- Summer 2015. ICE: 4.2/5. Class size: 21 students.
- Spring 2016. ICE: 4.2/5. Class size: 45 students.
- Fall 2016. ICE: 4.6/5. Class size: 39 students.
- Spring 2017. ICE: 4.4/5. Class size: 36 students.

2. INDE 302 Operations Research I (deterministic OR)

- Fall 2005. ICE: 4.0/5. Class size: 40 students.
- Fall 2006. ICE: 4.2/5. Class size: 41 students.
- Fall 2007. ICE: 4.1/5. Class size: 46 students.
- Fall 2009. ICE: 4.1/5. Class size: 38 students.

- Fall 2010. ICE: 4.0/5. Class size: 41 students.
- Fall 2012. ICE: 3.8/5. Class size: 43 students.

3. INDE 303 Operations Research II (probabilistic OR)

- Spring 2007. ICE: 4.0/5. Class size: 39 students.
- Spring 2009. ICE: 4.3/5. Class size: 38 students.
- Spring 2010. ICE: 4.2/5. Class size: 44 students.
- Spring 2011. ICE: 4.3/5. Class size: 30 students.
- Spring 2012. ICE: 4.1/5. Class size: 28 students.
- Spring 2013. ICE: 4.1/5. Class size: 39 students.
- Spring 2014. ICE: 4.2/5. Class size: 17 students.

4. INDE 504 Discrete-Event Simulation

- Fall 2017. ICE: 4.2/5. Class size: 41 students.

5. ENMG 602 Introduction to Financial Engineering (accounting, fixed-income)

- Fall 2008. ICE: 3.9/5. Class size: 42 students.
- Fall 2009. ICE: 4.1/5. Class size: 46 students.
- Fall 2010. ICE: 4.0/5. Class size: 60 students.
- Fall 2011. ICE: 4.3/5. Class size: 49 students.
- Fall 2012. ICE: 4.1/5. Class size: 40 students.
- Fall 2014. ICE: 4.3/5. Class size: 34 students.
- Fall 2015. ICE: 4.6/5. Class size: 34 students.
- Fall 2016. ICE: 4.5/5. Class size: 38 students.
- Fall 2017. ICE: 4.5/5. Class size: 34 students.

6. ENMG 622 Simulation

- Spring 2007. ICE: 4.2/5. Class size: 18 students.
- Fall 2008. ICE: 4.4/5. Class size: 21 students.
- Spring 2009. ICE: 4.6/5. Class size: 14 students.
- Summer 2011. ICE: 4.7/5. Class size: 12 students.
- Summer 2012. ICE: 4.3/5. Class size: 19 students.
- Summer 2014. ICE: 4.0/5. Class size: 14 students.
- Summer 2015. ICE: 4.6/5. Class size: 16 students.
- Summer 2016. ICE: 4.3/5. Class size: 13 students.

7. ENMG 624 Financial Engineering I (interest analysis, mean-variance theory)

- Spring 2006. ICE: 4.4/5. Class size: 21 students.
- Fall 2007. ICE: 4.5/5. Class size: 21 students.

- Spring 2009. ICE: 4.2/5. Class size: 21 students.
- Summer 2010. ICE: 4.3/5. Class size: 12 students.
- Fall 2011. ICE: 4.2/5. Class size: 21 students.
- Spring 2013. ICE: 3.9/5. Class size: 21 students.
- Spring 2014. ICE: 4.0/5. Class size: 25 students.
- Spring 2015. ICE: 4.8/5. Class size: 9 students.
- Spring 2016. ICE: 4.3/5. Class size: 16 students.
- Spring 2017. ICE: 4.3/5. Class size: 27 students.

8. ENMG 625 Financial Engineering II (derivatives pricing à la Black-Scholes)

- Fall 2006. ICE: 4.4/5. Class size: 8 students.
- Spring 2008. ICE: 4.3/5. Class size: 14 students.
- Summer 2009. ICE: 3.8/5. Class size: 15 students.
- Spring 2011. ICE: 4.4/5. Class size: 19 students.
- Spring 2012. ICE: 4.2/5. Class size: 15 students.
- Fall 2014. Taught as a tutorial for two students.
- Summer 2016. Taught as a tutorial for three students.
- Summer 2017. Taught as a tutorial for three students.

STUDENT ADVISING

Ph.D. Student

Nabil Nehme (co-advisor: Dr. Issam Kaysi). Graduation date: June 2013. Dissertation: An Integrated Framework for Optimizing Operations in a Container Terminal.

Master Students

1. Khalil Khalil (co-advisor: Dr. Moueen Salameh). Expected graduation date: September 2019. Enhancing Reserve Stocks via Supply Diversification.
2. Hoda Al Halabi. Expected graduation date: January 2019. PAQS: Pragmatic Analytics for Queueing Simulation.
3. Ghady Moussa (co-advisor: Dr. Moueen Salameh). Expected graduation date: January 2019. Thesis: Integrated Procurement and Production with Credit Facility on Raw Material.
4. Mario Yazbek. Expected graduation date: July 2017. Thesis: Simulating Patient Flow at LAUMC Radiology Department.
5. Maysaa Jaafar (co-advisor: Dr. Hussein Tarhini). Graduation date: February 2018. Thesis: Pricing and Inventory Decisions in an EOQ Setting under Logit Demand.
6. Hussein El-Hajj. Expected graduation date: July 2017. Thesis: Optimal Time and Cost Balance in Project Risk Management.

7. Johnny Gemayel (co-advisor: Dr. Walid Nasr). Graduation date: January 2017. Thesis: Reducing Carbon Emissions via Low-Cost Queueing Policies.
8. Mohammad Alzaeem (co-advisor: Dr. Moueen Salameh). Graduation date: August 2016. Thesis: Generating Feasible University Student Schedules via Graph Theory Concepts.
9. Mays Hmadh (co-advisor: Dr. Moueen Salameh). Graduation date: May 2016. Thesis: PERT-IA: A New Heuristic for Schedule Risk Analysis in Project Management.
10. Melanie Jabbour (co-advisor: Dr. Hussein Tarhini). Graduation date: December 2015. Thesis: Pricing and Inventory Decisions of an Assortment under Equal Profit Margin.
11. Jamal Sakaya (co-advisor: Dr. Ali Yassine). Graduation date: August 2015. Thesis: Carbon Emission in Supply Chains: The Case of Multi-Product Joint Replenishment.
12. Rawan Kordab (co-advisor: Drs. Moueen Salameh Ali Yassine). Graduation date: August 2015. Thesis: Supply Chain Management with Continuous and Lumpy Demand.
13. Myriam Bou Younes. Graduation date: February 2015. Thesis: Pricing and Assortment Decisions with Supply Chain Integration.
14. Hisham Arnaout. Graduation date: January 2014. Thesis: Applying Operations Research at AUBMC: Two Pilot Studies on Material Management and Family Medicine Patient Flow.
15. Likaa Ghaddar (co-advisors: Drs. Moueen Salameh Ali Yassine). Graduation date: September 2013. Thesis: Joint Replenishment with Substitution and Lost Sales.
16. Lama Chatila (co-advisor: Dr. Ali Yassine). Graduation date: February 2013. Thesis: Optimizing Reserve Stock under Deterioration.
17. Zayd Wahab (co-advisor: Dr. Ali Yassine). Graduation date: October 2012. Thesis: An Integrated Approach to State Decision-Making in Upstream Hydrocarbon Operations.
18. Hrayer Aprahamian. Graduation date: July 2012. Thesis: Pricing Asian Options via Compound Gamma and Orthogonal Polynomials.
19. Hadi El-Amine. Graduation date: August 2012. Thesis: Cycle Stealing and Truncation for Reducing Delay in Heavy-Tailed Queues.
20. Joe Jabbour (co-advisor: Dr. Ali Yassine). Graduation date: August 2012. Thesis: Optimal Information Exchange in Multi-Activity Product Development.
21. Imad Melki (co-advisor: Dr. Ali Yassine). Graduation date: October 2011. Thesis: Optimizing exploration and production decisions in upstream hydrocarbon portfolio management.
22. Ali Charanek (co-advisor: Dr. Walid Nasr). Graduation date: October 2011. Thesis: Fitting A 2-Phase Markovian Arrival Process MAP(2) to a non-renewal point process.
23. Najat Younes (co-advisor: Dr. Ali Yassine). Graduation date: February 2011. Thesis: Analysis of Hydrocarbon Production Sharing Contracts for Lebanon.

24. Hussein Tarhini. Graduation date: June 2010. Thesis: On Integrating Retail Pricing, Assortment and Inventory Decisions.
25. Ghina Karame. Graduation date: February 2008. Thesis: Reducing Delays in “Heavy Tailed” Queues.
26. Sari Kalakesh. Graduation date: February 2007. Thesis: Pricing, Variety and Inventory Decisions under Nested Logit Consumer Choice.

Final Year Project Students

1. Ramsey Fahed, Lea Nasr, Chris Maroun, Yara Mia Chamoun. Graduation date: June 2018. Project: Optimization of Warehousing Practices at Karim Trading, S.A.L.
2. Grace Abdallah, Danielle Boghos, Nour Fakhoury, Omar Omeish. Graduation date: June 2018. Project: IEs take on Construction.

Member of 35 master thesis committees.

INSTRUCTIONAL INNOVATIONS & DEVELOPMENT

- Developed **JPQ** (Java Powered Queueing, with Muhammad El-Taha), an educational and research-oriented software that encapsulates robust algorithms for Markovian queues. JPQ is being utilized by several instructors and scholars.
- Currently developing **PAQS** (Pragmatic Analytics for Queueing Simulation, with my MS student Hoda El Halabi), a similar software for simulating non-Markovian queues with a cutting-edge CPU time.

SERVICE TO UNIVERSITY

- Member of the University Publications Committee (Fall 2015 -).
- Member of the Board of Graduate Studies in AUB (Fall 2012 - Spring 2015).
- Member of the executive board of the Evidence-based Healthcare Management Unit, AUB (Spring 2014 -).
- Assisted (with my graduate students) AUBMC in planning consumer-centric patient flow in ENT and other speciality clinics (Jan 2016 - June 2016).
- Assisted (with my graduate students) AUBMC’s material management department in optimizing its ordering and stock-keeping policies (Jan 2013 - Dec 2014).
- Assisted (with my graduate students) AUBMC’s family medicine department in reducing patient waiting time (Aug 2013 - Dec 2014).
- Member of the university ad-hoc committee on setting the admission composite score for schools with a limited number of historical applicants to AUB (Spring 2013).

- Founding member of ORCADS (Operations Research Consulting and Decision Support), an initiative launched with AUB's Regional External Programs for providing consulting and training on decision support.
- Member of the following committees in MSFFEA:
 1. Advisory committee (Fall 2017 - present)
 2. Member of the Transportation Engineering faculty search committee (Fall 2015 - Fall 2018).
 3. Member of the Water Resources/Fluid-Hydraulics faculty search committee (Fall 2018).
 4. Ad-hoc committee on offering a new Course "Introduction to Engineering and Architecture" (Spring 2015).
 5. Undergraduate admissions committee (Fall 2013 -Spring 2013).
 6. Ad-hoc committee on faculty workload (Spring 2014).
 7. Ad-hoc committee on the undergraduate thesis and the MS in Engineering (Fall 2013).
 8. Undergraduate Curriculum and Student Academic Affairs Committee (Spring 2012).
 9. Engineering Management Program Review Committee (Fall 2011-)
 10. Committee on offering a new Course "Introduction to Engineering and Architecture" (Fall 2011)
 11. Dar Al-Handassah Endowment Fund in Engineering Review Committee (Spring 2010).
 12. Graduate Studies Committee (Fall 2005 - Summer 2011).
 13. Research Committee (Spring 2007).
 14. Student Affairs Committee (Fall 2005 - Spring 2006).
- Chair of the Graduate Studies Committee in FEA (Fall 2008 - Summer 2010).

SERVICE TO PROFESSION

Referee for

- Management Science (on 2 article).
- European Journal of Operational Research (on 16 articles).
- IIE Transactions (on 5 articles).
- Omega (on 6 articles).
- International Journal of Production Economics (on 10 articles).
- Computers & Industrial Engineering (on 8 articles).
- Applied Mathematical Modelling (on 10 article).

- Journal of the Operational Research Society (on 7 articles).
- Computers & Operations Research (on 3 articles).
- International Journal of Production Research (on 2 articles).
- IMA Journal of Management Mathematics (on 2 articles).
- International Transactions in Operations Research (on 1 article).
- Transportation Research Part E (on 1 article).
- Management Research News (on 1 article).
- INFOR (on 1 article)
- IMA Journal of Management Mathematics (on 1 article).
- Quantitative Finance (on 1 article).
- Journal of Manufacturing Systems (on 1 article).
- Mathematics and Computers in Simulation (on 1 article).
- International Journal of System Sciences (on 1 articles).
- International Journal of Operational Research (on 1 article).
- Journal of Operations and Logistics (on 1 article).
- Lebanese Science Journal (on 1 article).
- Undergraduate Research Experience Program in Qatar (on 6 proposals).
- National Priorities Research Program in Qatar (on 1 proposal).

SERVICE TO COMMUNITY

Industry Training and Consulting

- Wakilni, Beirut, Lebanon. (November 2017 - April 2018). Developed algorithms for motorcycle routing and order pricing of a package delivery start-up business. Guided a team of analysts through software implementation.
- Petrofac, Sharjah, UAE. (June 2016). Delivered a one-day workshop on Project Risk Management.
- Zamil Group, Khoubar, KSA. (March 2015). Delivered a two-day workshop on Inventory and Supply Chain Management.
- Nesma Holding, Khoubar, KSA. (January 2015). Delivered a two-day workshop on Decision and Risk Analysis.
- Nesma Holding, Khoubar, KSA (September 2014). Delivered a two-day workshop on Economic Feasibility.

- Nesma Holding (May 2014), Khoubar, KSA. Delivered a two-day workshop on Procurement and Supply Chain Management.
- AUB Medical Center, Beirut Lebanon (June 2011). Delivered a three-day workshop on Medical Material Management.
- Byblos sur Mer, Byblos, Lebanon (November 2007). Performed an economic feasibility study for a hotel sell/lease decision.
- D. G. Jones & Partners, Beirut, Lebanon (July 2007). Assisted in estimating contingency and escalation costs of a \$6 Billion construction project in UAE.

Public Sector and NGOs

- Arab Thought Foundation, Beirut, Lebanon (August 2016). Member of the Technological Creativity Award Committee.
- Arab Thought Foundation, Beirut, Lebanon (September 2015). Member of the Technological Creativity Award Committee.
- Lebanese Ministry of Education (July 2009). Designed a database system for electronic bookkeeping, detecting fraud, and analysis of higher education records.

DEVELOPMENT PROGRAMS

Visiting scholar at the Department of Operations & Information Management in the University of Massachusetts, Amherst, for one week. July 2017.

Organized (with Algo Traders, a hedge fund) and attended a workshop on Financial Engineering & Algorithmic Trading Practice. AUB, January 2016.

Visiting scholar at the Department of Operations & Information Management in the University of Massachusetts, Amherst, for one week. August 2014.

Attended the **Manufacturing & Service Operations Management 2008 Conference**, June 2008, University of Maryland, College Park, MD.

Attended the **Faculty Seminar on Teaching and Learning Excellence**, AUB, March-April 2006.

Attended the **MSOM 2005 Conference**, June 2005, Northwestern University, Evanston, IL.

Participated in the **Future Professoriate Program**, Virginia Tech, Dept. of Industrial and Systems Engineering, Summer 2004.

Participated in the **INFORMS 2004 Future Academician Colloquium**, October 22-23, 2004, Denver, CO.

COMPUTER SKILLS

Programming Languages: Java, Visual Basic, VBA Macro Excel and HTML.

Software Packages: Mathcad, Arena, AMPL, SAS, AutoCAD, L^AT_EX, Excel, Word, and Power Point.

LANGUAGES

Arabic, English, and some French.

PROFESSIONAL MEMBERSHIPS

Institute for Operations Research and the Management Sciences (INFORMS)

Institute of Industrial Engineers (IIE)

REFERENCES

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