DESSISLAVA A. PACHAMANOVA

dpachamanova@babson.edu; dessi@mit.edu

EDUCATION

- **Massachusetts Institute of Technology**, Cambridge, MA, USA
  Ph. D. in Operations Research at the Sloan School of Management, June 2002
- **Princeton University**, Princeton, NJ, USA
  A.B. in Mathematics, *Magna cum laude*, June 1997
  Certificate in the Woodrow Wilson School of Public and International Affairs
- **United World College of the Adriatic (UWCAD)**, Duino (TS), Italy
  International Baccalaureate, May 1993

EMPLOYMENT

- **MIT Sloan School of Management, Cambridge, MA**
  Visiting Professor, September 2018 – May 2019
- **Mathematics and Sciences Division, Babson College, Wellesley, MA**
  Professor of Analytics and Computational Finance (tenured), September 2015 – present
  Associate Professor of Operations Research (tenured), September 2008 – August 2015
  Assistant Professor of Operations Research, September 2002 – May 2008
- **Optimal Path, LLC, Boston, MA**
  Consultant, August 2004 – present
  Advises clients on matters related to optimization, data mining, statistics, operations, and financial modeling.
- **Goldman, Sachs & Co., New York, NY**
  Associate – Fixed Income, Currency and Commodities, May-August 2000
  Worked with Foreign Exchange and Credit Derivatives strategists. Programmed potential exposure calculation libraries, worked on derivative products pricing and marketing.
- **Westdeutsche Landesbank (WestLB), Duesseldorf, Germany**
  Consultant – Credit Derivatives Department, June-August 1998
  Researched and implemented tools for pricing credit default swaps and credit spread options.

BOOKS

1. **D. A. Pachamanova** and F.J. Fabozzi, *Portfolio Construction and Analytics*, John Wiley & Sons, April 2016
2. **D. A. Pachamanova** and F.J. Fabozzi, *Simulation and Optimization in Finance: Modeling with MATLAB, @RISK or VBA*, John Wiley & Sons, October 2010
3. F. Fabozzi, P. Kolm, **D. Pachamanova** and S. Focardi, *Robust Portfolio Optimization and Management*, John Wiley & Sons, May 2007

PUBLICATIONS IN REFEREED JOURNALS[1]

Theoretical and Applied Robust Optimization; Decision-Making under Uncertainty

1. N. Gulpinar, **D. Pachamanova** and E. Canakoglu, "A Robust Asset-Liability Management Framework for Investment Products with Guarantees," *OR Spectrum*, 38(4), pp. 1007-1041, 2016, DOI 10.1007/s00291-016-0437-z
2. V. Lo and **D. Pachamanova**, "From Predictive Uplift Modeling to Prescriptive Uplift Analytics: A Practical Approach to Treatment Optimization While Accounting for Estimation Risk," *Journal of Marketing Analytics*, 3(2), 2015, pp. 79–95
3. N. Gulpinar, E. Canakoglu and **D. Pachamanova**, "Robust Investment Decisions under Disruption in Petroleum Markets," *Computers and Operations Research*, 44(4), 2014, pp. 75-91
4. *N. Gulpinar and **D. Pachamanova**, "A Robust Optimization Approach to Asset Liability Management under Time-Varying Investment Opportunities," *Journal of Banking and Finance*, 37(6), Jun 2013, pp. 2031-2041
5. N. Gulpinar, **D. Pachamanova** and E. Canakoglu, "Robust Strategies for Facility Location under Uncertainty," *European Journal of Operational Research*, 225(1), Feb 2013, pp. 21-35
6. *C. Low, **D. Pachamanova** and M. Sim, "Skewness-Aware Asset Allocation: A New Theoretical Framework and Empirical Evidence," *Mathematical Finance*, 22(2), April 2012, pp. 379-410
7. *N. Gulpinar, K. Katata and **D. Pachamanova**, "Robust Portfolio Optimization under Discrete Asset Choice Constraints," *Journal of Asset Management*, 12(1), April 2011, pp. 67-83
8. *K. Natarajan, **D. Pachamanova** and M. Sim, "Constructing Risk Measures from Uncertainty Sets," *Operations Research*, 57(5), September-October 2009, pp. 1129-1141
9. *K. Natarajan, **D. Pachamanova** and M. Sim, "Incorporating Asymmetric Distributional Information in Robust Value-at-Risk Optimization," *Management Science*, 54(3), March 2008, pp. 573-585
10. *D. Bertsimas and **D. Pachamanova**, "Robust Multiperiod Portfolio Management with Transaction Costs," *Computers and Operations Research*, special issue on *Applications of OR in Finance*, 35(1), January 2008, pp. 3-17
11. *D. Bertsimas, **D. Pachamanova** and M. Sim, "Robust Linear Optimization under General Norms," *Operations Research Letters*, 32(6), 2004, pp. 510-516

Analytics and Technology (Applications in Strategy, Accounting, Law, Public Policy, Search Marketing)

12. *A. Ali, R. Mancha and **D. Pachamanova**, "Correcting Analytics Maturity Myopia," *Business Horizons*, 61(2), March-April 2018, pp. 211-219
13. *J. Kokina, R. Mancha and **D. Pachamanova**, "Blockchain: Emergent Industry Adoption and Implications for Accounting," *Journal of Emerging Technologies in Accounting*, 14(2), September 2017, pp. 91-100
14. J. Kokina, **D. Pachamanova** and A. Corbett, "The Role of Data Visualization and Analytics in Performance Management: Guiding Entrepreneurial Growth Decisions," *Journal of Accounting Education*, 38, March 2017, pp. 50-62
15. *T. Lester and **D. Pachamanova**, "The Dilemma of False Positives: Making Content ID Algorithms More Conducive to Fostering Innovative Fair Use in Music Creation," *UCLA Entertainment Law Review*, 24(5), May 2017, pp. 52-73
16. *P. Benson, M. Casali and **D. Pachamanova**, "The 'Significance' of Optimization: How Statistical Analysis Can Be Your Most Powerful Optimization Strategy," *Search Marketing Standard*, Summer 2012, pp. 16-19
17. *C. Hicks and **D. Pachamanova**, "Back-Propagation of User Innovations: The Open Source Compatibility Edge," *Business Horizons*, 50(4), July-August 2007, pp. 315-324

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[1] Publications denoted with asterisk ("*") list the authors in alphabetical order.

Finance Practice

18. **D. A. Pachamanova** and F. J. Fabozzi, "Recent Trends in Equity Portfolio Construction Analytics," *Journal of Portfolio Management*, 40(3), Spring 2014, pp. 137–151

19. F. Fabozzi, P. Kolm, **D. Pachamanova** and S. Focardi, "Robust Portfolio Optimization: Recent Trends and New Directions," *Journal of Portfolio Management*, 33(3), Spring 2007, pp. 40-48

20. **D. Pachamanova**, "Handling Parameter Uncertainty in Portfolio Risk Minimization: The Robust Optimization Approach," *Journal of Portfolio Management*, 32(4), Summer 2006, pp. 70-78

Teaching-Centered

1. *D. Kopcso and **D. Pachamanova**, "Business Value in Integrating Predictive and Prescriptive Analytics Models," *INFORMS Transactions on Education*, 19(1), September 2018, pp. 36–42

2. *D. Kopcso and **D. Pachamanova**, "Managing Staffing Inefficiencies Using Analytics (B)," *INFORMS Transactions on Education*, 19(1), September 2018, pp. 36–42

3. **D. Pachamanova**, "Mapping Business Problems to Analytics Solutions: Surrogate Experiential Learning in an MBA Introductory Data Science and Business Analytics Course", *INFORMS Transactions on Education*, 16(1), September 2015, pp. 15-22

4. **D. Pachamanova**, "Managing Staffing Inefficiencies Using Analytics", *INFORMS Transactions on Education*, 16(1), September 2015, pp. 23-23

5. G. Truman, **D. Pachamanova** and M. Goldstein, "InterCon Travel Health Case Study (B)," *Journal of Information Systems Education*, 21(1), Spring 2010, pp. 27-32

6. *A. Nanni, **D. Pachamanova** and J. Shanks, "Even'Star Organic Farm," *IMA Educational Case Journal*, 3(3), 2010

7. S. Ansari, A. Nanni, **D. Pachamanova** and D. Kopcso, "Using Simulation to Model Customer Behavior in the Context of Customer Lifetime Value Estimation," *INFORMS Transactions on Education*, 9(1), September 2008, pp. 1-10

8. G. Truman, **D. Pachamanova** and M. Goldstein, "InterCon Travel Health Case Study," *Journal of the Academy of Business Education*, 8, Summer 2007, pp. 17-32

9. **D. Pachamanova**, "Introducing Integer Modeling with Excel Solver," special issue of *INFORMS Transactions on Education* on *Effective Use of Software in the Classroom*, 7(1), September 2006, pp. 89-99

Telecommunications; Engineering; Computer Science

10. B. Tsankov, R. Pachamanov and **D. Pachamanova**, "Resource Planning for Voice over Wireless Both-Way Transmission Media," *Radioengineering*, 17(1), April 2008, pp. 78-81

11. A. Pachamanov and **D. Pachamanova**, "Optimization of the Light Distribution of Luminaries for Tunnel and Street Lighting," *Engineering Optimization*, 40(1), January 2008, pp. 47-65

12. R. Pachamanov, **D. Pachamanova** and B. Tzankov, "Optimal Resource Allocation in WiMax," *Electrotechnica & Electronica*, 43(1-2), January 2008, pp. 41-47

13. B. Tsankov, R. Pachamanov and **D. Pachamanova**, "Modified Brady Voice Traffic Model for WLAN and WMAN," *Electronics Letters*, 43(23), November 2007, pp. 1295-1297

14. *C. Hicks and **D. Pachamanova**, "Metamodeling with Perl and AMPL," *Dr. Dobb's Journal: Software Tools for the Professional Programmer*, 30(1), January 2005, pp. 16-22, and *The Perl Journal*, December 2004

Other

15. *M. Elanjian and **D. Pachamanova**, "Is Revenue Sharing Working for Major League Baseball? A Historical Perspective," *The Sport Journal*, 12(2), April 2009

BOOK CHAPTERS

Invited and Peer-Refereed (Blind Review)

1. **D. A. Pachamanova**, N. Gulpinar and E. Canakoglu, "Robust Approaches to Pension Fund Asset-Liability Management under Uncertainty", Chapter 4 in *Optimal Financial Decision Making under Uncertainty*, P. Brandimarte, G. Consigli, D. Kuhn (eds.), Springer's International Series in Operations Research and Management Science, 2017, pp. 89-119
2. **D. A. Pachamanova**, "Robust Portfolio Selection," *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran, L. Cox, Jr., P. Keskinocak, J. Kharoufeh, J.C. Smith (eds.), J. Wiley & Sons, 2013

Invited and Editor-Refereed

3. **D. A. Pachamanova** and Frank J. Fabozzi, "Equity Portfolio Selection Models in Practice," *The Encyclopedia of Financial Models*, v. 2, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012, pp. 61-87
4. **D. A. Pachamanova**, P. N. Kolm, Frank J. Fabozzi, and S. M. Focardi, "Robust Portfolio Optimization," *The Encyclopedia of Financial Models*, v. 3, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012, pp. 137-147
5. **D. A. Pachamanova** and Frank J. Fabozzi, "Introduction to Financial Modeling with MATLAB," *The Encyclopedia of Financial Models*, v.3, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012, pp. 417-448
6. **D. A. Pachamanova** and Frank J. Fabozzi, "Introduction to Visual Basic," *The Encyclopedia of Financial Models*, v.3, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012, pp. 449-468
7. **D. A. Pachamanova**, "Monte Carlo Simulation in Finance," *The Encyclopedia of Financial Models*, v. 3, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012, pp. 637-652
8. **D. A. Pachamanova** and Frank J. Fabozzi, "Modeling Asset Price Dynamics," Chapter 6 in *The Theory and Practice of Investment Management*, Frank J. Fabozzi and H. M. Markowitz (eds.), Second Edition, J. Wiley & Sons, 2011, pp. 125-158. Also appeared (with modifications) as Chapter 6, v. 1 in *The Encyclopedia of Financial Models*, Frank J. Fabozzi (ed.), J. Wiley & Sons, 2012
9. **D. A. Pachamanova** and Frank J. Fabozzi, "Equity Portfolio Selection in Practice," Chapter 18 in *Equity Valuation and Portfolio Management*, Frank J. Fabozzi and H. M. Markowitz (eds.), J. Wiley & Sons, 2011, pp. 441-482. Also appeared (with modifications) as Chapter 5 in Volume II of *The Encyclopedia of Financial Models*, Frank J. Fabozzi (ed.), J. Wiley & Sons
10. **D. Pachamanova**, "Monte Carlo Simulation in Finance," Chapter 65 in Vol. 3 of *Handbook of Finance*, F. Fabozzi (ed.) , J. Wiley & Sons, 2008, pp. 751-762
11. **D. Pachamanova**, P. Kolm, F. Fabozzi and S. Focardi, "Robust Portfolio Optimization," Chapter 68 in Vol. 3 of *Handbook of Finance*, F. Fabozzi (ed.) , J. Wiley & Sons, 2008, pp. 785-792
12. P. Kolm, F. Fabozzi, S. Focardi and **D. Pachamanova**, "Quantitative Investment Management Today and Tomorrow," Chapter 5 in Vol. 2 of *Handbook of Finance*, F. Fabozzi (ed.) , J. Wiley & Sons, 2008, pp. 45-52

REFEREED CONFERENCE PROCEEDINGS

1. A. Pachamanov and **D. Pachamanova**, "Optimization of the Activities in the Construction and Operation of Small Roof Photovoltaic Power Plants for Municipalities," *Lighting 2017*, Varna, Bulgaria, October 19-21, 2017
2. *A. Nanni, **D. Pachamanova** and J. Shanks, "Even'Star Organic Farm: A Case Study," *Proceedings of the American Accounting Association International Case and Research Conference* (Management Accounting Section), Orange County, CA, January 10-12, 2008
3. T. Snow and **D. Pachamanova**, "What Drives the Demand for In-Vitro Fertilization? A Multivariate Statistical Analysis of the Utilization of Assisted Reproductive Technologies in the United States: 1995-2004," *Fertility & Sterility*, 88, Suppl. 1, p. S252 (Proceedings of the Annual Meeting of the American Society for Reproductive Medicine, ASRM 2007, October 13–17, 2007, Washington, D.C.)

4. R. Pachamanov, **D. Pachamanova** and B. Tsankov, "An Optimization-Based Admission Control Method for IEEE 802.16 Wireless Networks," *IEEE Africon 2007 Conference Proceedings*, Namibia, September 2007
5. A. Pachamanov and **D. Pachamanova**, "An Optimization Model for Control of Tunnel Lighting Using Power Line Carrier Communication," *Balkan Light'05 Conference Proceedings*, Cluj, Romania, June 2005
6. A. Pachamanov, **D. Pachamanova** and D. Bibev, "Control of the Voltage Regime of Electric Power Supply Systems in Industrial Enterprises" and "An Optimization Model for Determining the Optimal Voltage Regime in Industrial Electric Power Supply Systems," *Balkan Conference on Electric Supply and Equipment Conference Proceedings*, Sofia, Bulgaria, October 2003
7. **D. Pachamanova**, B. Pregyov and A. Pachamanov, "Optimization of Artificial Lighting in Road Tunnels," *Balkan Light'02 Conference Proceedings*, Istanbul, Turkey, October 2002
8. A. Pachamanov, B. Pregyov, **D. Pachamanova** and N. Ratz, "Dimming of Artificial Lighting in Threshold and Transition Zones of Road Tunnels," *Balkan Light'02 Conference Proceedings*, Istanbul, Turkey, October 2002
9. V. Todorova, A. Pachamanov and **D. Pachamanova**, "Optimization of the Light Distribution of Luminaries for Threshold and Transmission Zones of Road Tunnels," *Balkan Light'00 Conference Proceedings*, Varna, Bulgaria, June 2000
10. G. Georgieva, A. Pachamanov and **D. Pachamanova**, "Energy-Effective Light Distribution of Luminaries for Block Alleys," *Balkan Light'00 Conference Proceedings*, Varna, Bulgaria, June 2000

SELECTED INVITED TALKS

1. "Drivers of Commercial Value for Healthcare Innovations," with S. Erzurumlu, INFORMS Annual Meeting, Phoenix, AZ, November 2018
2. "Music Innovation, Math, Technology, and the Law: Ensuring Algorithms and Processes Are Fair to Independent Music Creators," with T. Lester, invited poster presentation, Babson Board of Trustees Meeting, May 2017
3. "Trends in Portfolio Construction and Analytics," invited plenary talk, 3rd Industrial-Academic Workshop on Optimization in Finance and Risk Management at the Fields Institute, Toronto, Canada, 6 October 2015
4. "Recent Computational Trends and Opportunities in Equity Portfolio Optimization", APMOD 2014, University of Warwick, UK, 10 April 2014
5. "R Workshop", Invited presentation, Business Analytics students' club, Babson College Graduate School, 5 December, 2013
6. "Constructing Risk Measures from Uncertainty Sets", Best of Women in ORMS session, INFORMS, 15 October 2012
7. "Tractable Asset-Liability Management", Session on Optimization in Finance, INFORMS, 16 October 2012
8. "Skewness-Aware Asset Allocation", International Symposium on Mathematical Programming (ISMP), Berlin, Germany, 21 August 2012
9. "Robust Portfolio Optimization," Invited talk, Fidelity Investments, Strategic Advisors Group, Boston, MA, 10 June 2009
10. "Robust Portfolio Optimization: Recent Trends and New Directions," Invited talk, University of Warwick Business School, Coventry, UK, 28 May 2008
11. "Robust Portfolio Optimization: Recent Trends and New Opportunities," Invited talk, Boston Chapter of QWAFAFEW (Quantitative Work Alliance for Applied Finance, Education and Wisdom), 13 November 2007
12. "Robust Optimization: Applications for Risk Management and New Directions," Invited talk, Bentley College, MA, USA, 11 October 2007

13. "Constructing Risk Measures from Uncertainty Sets" (with M. Sim and K. Natarajan), Invited talk, ICCOPT-MOPTA Conference on Continuous Optimization, Hamilton, Ontario, Canada, August 2007
14. "Robust Optimization and Portfolio Risk Measures" (with M. Sim and K. Natarajan), Invited talk, EUROXXII Operational Research Conference, Prague, Czech Republic, July 2007
15. "Tractable Parametric VaR Optimization" (with M. Sim and K. Natarajan), Invited talk, INFORMS Annual Meeting, Pittsburgh, November 2006
16. "Introducing Integer Modeling with Excel Solver," Invited talk, INFORMS Annual Meeting, Pittsburgh, November 2006
17. "A Tractable Probabilistic Approach to VaR Optimization" (with M. Sim and K. Natarajan), Invited talk, EUROXXI Operational Research Conference, Reykjavik, Iceland, July 2006
18. "The Profitability of Home Equity Protection" (with M. Allietta and T. Malloy), Invited talk, Financial Services section, INFORMS Annual Meeting, Denver, CO, October 2004
19. "Robust Portfolio Shortfall Minimization" (with R. Lombardi), EURO XX Operational Research Conference, Rhodes, Greece, July 2004
20. "Robust Multiperiod Portfolio Management with Transaction Costs" (with D. Bertsimas), Invited talk, Euro-INFORMS Meeting, Istanbul, Turkey, July 2003
21. "Robust Optimization: Norms, Convexity, and Applications" (with D. Bertsimas and M. Sim), INFORMS Annual Meeting, San Jose, CA, November 2002

SELECTED MEDIA

- "4 Important Trends Happening Now In Business Education" by Nathan Allen, Poets & Quants, January 10, 2018, https://poetsandquantsforundergrads.com/2018/01/10/four-important-trends-happening-now-business-education/
- "Learning What Matters," Babson Magazine, Winter 2017, http://magazine.babson.edu/2017/02/14/learning-what-matters/
- "Babson Executive Education and Pearson Collaborate to Offer Innovative Business Analytics for Managers in India Program", March 4, 2016, http://blogs.babson.edu/news/2016/03/04/babson-executive-education-and-pearson-collaborate-to-offer-innovative-business-analytics-for-managers-in-india-programme/
- "Babson College Prepares Students for Success with Business Analytics", March 2016, http://www.tableau.com/stories/customer/babson-college-prepares-students-success-data-analytics
- "IBM and Babson College Team Up to Teach Big Data Skills" , September 30, 2014, http://www.ibmbigdatahub.com/video/ibm-and-babson-college-team-teach-big-data-skills and https://www.youtube.com/watch?v=gvBQMzKJ-DY
- "Harnessing the Big Data Explosion", *NextExecutive*, August 28, 2014, http://www.nextexecutive.com/articles/harnessing-the-big-data-explosion
- "Data Management Challenges in Analytics: The Case of Portfolio Management" (with F.J. Fabozzi), *Babson Insight*, August 2014 Issue
- "Babson Offers New Concentrations in Business Analytics for Undergraduate and Graduate Students", *Association of Independent Colleges and Universities in Massachusetts* (*AICUM*) *Weekly Digest*, January 10, 2014
- "Babson Offers New Business Analytics Executive Education Program", *Metro MBA*, February 21, 2014, http://www.metromba.com/2014/02/babson-offers-new-business-analytics-executive-education-program/
- "Babson Offers New Concentration in Business Analytics", *MetroMBA*, January 9, 2014

TEACHING EXPERIENCE

Babson College, MBA and MS Programs
(Evening MBA, Two-Year MBA, One-Year MBA, Blended MBA, MS in Accounting)

1. **Designer and instructor, QTM9515, Introduction to Data Science and Business Analytics (F 2013-Summer 2018)**
   An intensive graduate-level elective that is a core requirement for the Business Analytics MBA concentration and the MS in Accounting program. The course discusses the business analytics lifecycle, and introduces examples of use of predictive analytics techniques in the context of real-world applications from diverse business areas such as database marketing, financial forecasting, and operations.

2. **Instructor, QTM7200, Data, Models and Decisions (Summer 2015-2018)**
   A core one-year MBA course covering descriptive statistics, hypothesis testing, regression, decision analysis, and simulation.

3. **Instructor, Management Consulting Field Experience, MCFE (F 2013)**
   Advisor for three MBA student teams staffed on business analytics management consulting projects for companies in the retail and the technology space.

4. **Designer and instructor, QTM7200, Data, Models and Decisions (S 2013)**
   A core evening time MBA course covering descriptive statistics, chi-square tests, regression, decision analysis, and simulation.

5. **Instructor, MBA 7301, Data, Models and Decisions (F 2011-2012)**
   A core full-time MBA course covering descriptive statistics, hypothesis testing, chi-square tests, regression, decision analysis, and simulation.

6. **Instructor/Lead, MBA7330, Designing and Managing Delivery Systems (S 2005-2008):**
   A core full-time MBA course integrating simulation and optimization modeling tools into management, accounting, and finance applications.

7. **Instructor, QTM8400, Data and Decision Modeling (F 2003-2005, S 2004-2009, 2012):**
   A core evening MBA course covering descriptive statistics, sampling, hypothesis testing, regression, decision analysis, simulation, linear and nonlinear optimization.

Babson College, Undergraduate Program

8. **Designer and instructor, QTM3650/QTM2000, Case Studies in Business Analytics (F 2013, F 2017)**
   An upper level undergraduate elective that is a required course for the Business Analytics undergraduate concentration. The course covers advanced methods for data visualization, logistic regression, decision tree learning methods, clustering, and association rules. Students gain exposure to a variety of software packages for data analysis, including R, IBM SPSS Modeler, and Tableau.

9. **Designer and Instructor, QTM3673 (QTM3625), Financial Modeling with Simulation and Optimization (S 2004, F 2005, S 2007, F 2008, F 2011, S 2013, F 2014-2016):**
   An upper level undergraduate elective focusing on simulation and optimization applications in finance. Topics covered: simulation of important probability distributions, bootstrapping, curve fitting, random walks, linear and nonlinear optimization, genetic algorithms. Applications and examples: asset allocation under different definitions of risk, index tracking, scenario approaches to project and portfolio management, hedging and arbitrage, derivative pricing.

10. **Instructor, QTM2420, Applied Quantitative Modeling (F 2012)**
    An intermediate level core undergraduate course covering applied multiple linear regression, basic time series analysis (including decomposition techniques), linear programming, basic decision analysis, and simulation.

11. **Instructor, QTM1310, Probability and Statistics (S 2003):**
    A core undergraduate course covering descriptive analysis, sampling, hypothesis testing, and regression.
12. **Instructor, QTM1300, Quantitative Methods with Calculus (F 2002):**
    A core undergraduate course covering time value of money, linear and nonlinear optimization, calculus, trendlines.

Babson College, Executive Education Center (BEEC)

13. **Faculty director and instructor, Business Analytics for Managers (March 2014-2016)**
    Co-designed, piloted, and continuously updated a two-day open enrollment executive education program in business analytics for mid-level managers. Involved Babson faculty from multiple disciplines as well as practitioners from financial and consulting companies.
14. **Faculty director and instructor, online Babson-Pearson Business Analytics Program in India (August 2015 – October 2016)**
    Designed and piloted a 60-credit-hour (13 week) open enrollment executive education online program in business analytics for mid-level managers in India. Worked with instructional designers from Babson and Pearson; involved seven Babson faculty from multiple disciplines as well as practitioners from consulting companies.
15. **Designer and instructor, various modules in Business Analytics for open enrollment and custom programs at Babson Executive Education (Fall 2013 – present)**
    Designed custom modules in business analytics for BEE clients in the manufacturing, insurance, and financial services industries, including modules on addressing specific problems involving customer data.

MIT, Sloan School of Management

16. **Instructor, 15.060 Data, Models, and Decisions (F 2018)**
    Team-taught a core MBA course covering descriptive statistics, sampling, regression, decision analysis, simulation, linear optimization, nonlinear optimization, integer optimization, and applications in supply chain management and operations.
17. **TA/Head TA for 15.060, Data, Models, and Decisions (F 2000-2001):**
    A core MBA course covering descriptive statistics, sampling, regression, decision analysis, simulation, linear, nonlinear, and integer optimization.
18. **TA for 15.053, Introduction to Management Science (F 1998, S 1999):**
    A core business undergraduate class covering optimization, regression analysis, decision analysis, simulation.
19. **TA for 15.055, Statistical Methodology (S 1998):**
    A core business undergraduate class covering exploratory data analysis, basic time series analysis, sampling.

MIT, Department of Computer Science and Electrical Engineering

20. **TA for 6.431, Probabilistic Systems Analysis (F 1999):**
    A core engineering class covering random variables and random processes, transform techniques, Markov processes, limit theorems, and elements of statistical inference.

Princeton University, Mathematics Department

21. **TA for MAT333, Financial Mathematics (S 1997):**
    An upper level elective covering the mathematical foundations of financial derivative pricing.

STUDENT ADVISEES

1. **Cody Wan**, Undergraduate, Spring-Fall 2018
   Honors Thesis: "Securitization for Pharmaceutical Research"
2. **Jamie Traverso**, Undergraduate, AY 2017-2018
   Honors Thesis: "Evaluating the Impact of Hurricanes Using Social Media: A Methodology"
3. **Julianne Carlin**, Undergraduate, AY 2016-2017
   Honors Thesis: "Using a Multi-Round Deferred Acceptance Algorithm to Solve the Undergraduate College Admissions Problem"
4. **Jessica Farber**, Undergraduate, Spring 2018
   Independent Study: "Introduction to Probability: Society of Actuaries Probability Exam"
5. **Finbar Fleming**, Evening MBA, Fall 2016
   Independent Study: "Using data visualization and predictive analytics with R to identify trends in a local real estate market"
6. **Hannah Haight**, Undergraduate, Summer 2016, Winter 2017
   Independent Study: "The Relationship Millennials Have with Money and Investing"
7. **Eileen Duray**, Blended MBA, Spring 2016
   Independent Study: "A Statistical Evaluation in R of Stock Price Performance vs Board Participation of Women in S&P 500 Companies"
8. **Kripa Shroff**, Undergraduate, AY 2014-2015
   Honors Thesis: "Are Financial Advisors Making a Mistake?"
9. **Ashley Hoffstetter**, Undergraduate, AY 2013-2014
   Honors Thesis: "Balancing an American Definition of Yoga"
10. **Ayush Biyani**, Undergraduate (Salutatorian, Class of 2014), Spring 2013 – Fall 2013
    Honors Thesis: "Predicting the Likelihood of Success of Attempts at Mergers and Acquisitions in India"
11. **Sarah Cullem**, Two-Year MBA (Valedictorian, Class of 2013), Spring 2013
    Independent Study: "Applied Data Mining for Business Decision Making (with R)"
12. **Michael Elanjian**, Undergraduate, Spring 2008 – Fall 2008
    Honors Thesis: "Quantifying Market Size Inefficiencies in Major League Baseball" (Paper published in *The Sport Journal*, 12(2), April 2009)
13. **David Peltier**, Full-time MBA, Summer 2007
    Global Management Program Internship: "Enhancement of the existing backtest package under R and documentation update for Kane Capital Management, Boston, MA"
14. **Thomas Snow**, Evening MBA (employed by EMD Serono, Inc.), Spring 2007
    Independent Study: "What Drives the Demand for In-Vitro Fertilization? A Multivariate Statistical Analysis of the Utilization of Assisted Reproductive Technologies in the United States: 1995-2004" (Paper selected for presentation at the Annual Meeting of the American Society for Reproductive Medicine, ASRM 2007, October 13–17, 2007, in Washington, D.C)
15. **Joseph Spinelli**, Undergraduate, AY 2004-2005
    Honors Thesis: "Quantifying Emerging Trends in the Promotion of "Independent" Recording Artists" (Paper selected for presentation at the Annual Conference of the International Association for the Study of Popular Music (IASPM-US) in Nashville, TN, February 2006)
16. **Ricardo Lombardi**, Undergraduate, AY 2003-2004
    Honors Thesis: "Robust Optimization Applications to Portfolio Risk Management " (Paper presented at the EURO XX Operational Research Conference, Rhodes, Greece, July 2004)

INSTITUTIONAL SERVICE AT BABSON COLLEGE

1. Member, **MS in Accounting Revision Task Force**. Collaborated with Accounting and Information Systems faculty members to revamp analytics topics in the Masters in Accounting curriculum at Babson, Spring 2017-Fall 2017
2. Elected faculty representative, **Graduate Academic Policy Committee** (GAPC), Fall 2012- Spring 2015; reelected Fall 2015 - Spring 2018
3. Co-chair, **MS in Business Analytics Task Force**, responsible for creating the design of an MS and a certificate program in Business Analytics, Spring 2016
4. Member, **edX committee**, responsible for assessing the implications for faculty of a potential Babson partnership with edX, October 2015 – June 2016
5. Co-lead, **market research for certificates and masters programs in analytics**, Babson College, Summer 2015
6. Faculty advisor, **Weissman Scholars Program**, Fall 2015 – Spring 2017
7. Co-designer, coordinator and student advisor, **Business Analytics concentrations** at the undergraduate and MBA levels, Babson College, Fall 2012 – present
8. Faculty advisor (by invitation from the students), **MBA Business Analytics Club** (Fall 2013-present) and **Undergraduate Data Analytics Club** (Fall 2014-present)
9. Chair, **Data Analytics Task Force**, responsible for studying the placement and market demand for graduates of analytics programs and coming up with a recommendation to the Provost of Babson College, Summer 2012
10. Member, **Math & Science curriculum redesign committee**, Spring 2012-Fall 2012
11. Co-designer, **Math & Science undergraduate core**, Summer 2012
12. Member, **Math & Science faculty recruiting committee**, Summer 2012-Spring 2013
13. Member, **Math & Science scheduling committee**, Fall 2012 – present
14. Member, **Honors Program Council**, F 2011 – F 2013
15. Member, **interdisciplinary task force Entrepreneurial Thought and Action for a Better World**, responsible for producing a conceptual framework and a report with guidelines for integrating the concepts of Entrepreneurial Thought and Action and People, Planet and Profits into the Babson curriculum, Summer 2009
16. Elected division representative, **Faculty Senate**, F 2008 – S 2010
    o Member of the Student Opinion Survey Task Force, responsible for investigating the issue of moving student opinion surveys online, F 2008 – F2009
17. Elected member, **Graduate Decision Making Board** (GDMB), F 2005–S 2008
    o GDMB representative on the Graduate Electives Task Force, F 2006–S 2006
    o Fast Track liaison on the GDMB, F 2007 – S 2007
    o GDMB representative on the Course Equivalencies Revision Task Force, F 2007–S 2008
    o Participant in the All-Program Calendar Coordination Task Force, F 2007–S 2008
18. Faculty advisor, **Babson Consulting Alliance Program** (BCAP), F 2007 – S 2008
19. Math/Science Division representative, **Liberal Arts Advisory Committee** to the Undergraduate DMB, S 2007
20. Elected member, **Babson College Board of Research**, F 2004–F 2005
21. Undergraduate student advisor, **Computational Finance concentration**, S 2004 – present
22. Faculty representative, **Academic Honesty and Integrity Committee**, S 2005
23. Faculty representative, **Undergraduate Judicial Board**, S 2005
24. Member, **Math/Science Division Concentrations Task Force**, F 2006 – present
25. Member, **Math/Science Division Electives Task Force**, F 2002 – present
26. Member, **Math/Science Division MBA Curriculum Task Force**, F 2003 – present
27. Coordinator, **Math/Science Division Colloquium Series** (F 2003–S 2006) and **Babson/Bentley Colloquium Series** (F 2007–S 2008)

PROFESSIONAL ACTIVITIES

- Member of INFORMS (Institute for Operations Research and Management Science), DSI (Decision Sciences Institute), and QWAFAFEW (Quantitative Work Alliance for Applied Finance, Education and Wisdom)
- **Member**, **INFORMS Continuing Education Committee**, Fall 2013 – present
- **Reviewer and designer**, INFORMS Continuing Education courses, 2013-2014
- **Judge**, **2018 INFORMS OR & Analytic Student Team Competition**, Dec 2017 – Apr 2018; Problem posed by Principal Investments
- **Guest editor**, special issue of *The Engineering Economist* on Nonconvex Portfolio Optimization, June 2018-June 2019
- **Member of the organizing committee and judge**, 2019 INFORMS OR & Analytic Student Team Competition, June 2018 – Apr 2019; Problem posed by General Motors
- **Member**, **Organizing Committee**, 11th Applied Mathematical Optimization and Modeling (APMOD) Conference, April 9-11, 2014, University of Warwick, UK
- **Elected Secretary, Financial Services Section of INFORMS** (2006-2009)
- **Member**, **Financial Services Section of INFORMS Advisory Board**, 2009-2010
- **Student paper competition judge**, Financial Services Section of INFORMS, 2005-2009
- **Session chair**, Financial Services Stream, INFORMS Annual Meetings in 2004, 2006, 2008
- **Session organizer and chair**, Second Mathematical Programming Society International Conference on Continuous Optimization, August 2007
- **Fellow**, Stephen D. Cutler Center for Investments and Finance at Babson College, Fall 2012 - present
- **Editorial board member**, *International Journal of Operations Research and Information Systems* (2008-present) and *Frontiers in Mathematical Finance* (2014-present)
- Ad-hoc **referee** for *Annals of Operations Research*, *Computers and Operations Research*, *Decision Sciences Journal of Innovative Education, European Journal of Operational Research, Expert Systems with Applications, IEEE Transactions on Systems, Man and Cybernetics: Systems, INFORMS Transactions on Education*, *International Journal of Information Technology & Decision Making, International Journal of Operations Research and Information Systems, International Journal of Risk Assessment and Management, Journal of Banking and Finance, Journal of Economic Dynamics and Control, Journal of the Operational Research Society, Journal of Optimization Theory and Applications, Journal of Portfolio Management, Management Science*, *Mathematical and Computer Modelling*, *Mathematical Finance*, *Mathematical Programming*, *Omega*, *Operations Research*, *Optimization Letters*, *Quantitative Finance, SIAM Journal on Optimization and Control, The Engineering Economist, The Quarterly Review of Economics and Finance, 4OR*
- Ad-hoc **reviewer** for MITACS Accelerate (Canadian Research Organization) and NWO (Netherlands Organisation for Scientific Research)

AWARDS AND HONORS

- Named among **Top 50 Undergraduate Professors** by Poets & Quants, November 2018
- Named **Zwerling Family Endowed Research Scholar**, September 2015 – May 2018; Renewed for September 2018 – May 2021
- Named **Babson Research Scholar**, a Dean's award of lower teaching load, September 2012 – May 2015
- Recipient of the **Faculty Scholarship Award**, awarded annually by the Babson Faculty Research Fund to 4-5 faculty members for substantive contributions to their field and to Babson College over the previous three years, September 2009 and September 2013
- Recipient of **The Deans' Teaching Award** in recognition of excellence and innovation in teaching in the Graduate School, Babson College, September 2008
- Awarded the **Zwerling Term Chair**, Babson College, September 2006 – May 2011

- Awarded the **Best Presentation Award** of the Financial Services Section of INFORMS during the INFORMS Annual Meeting in Denver, CO, October 2004
- Nominated and appointed to the **Young Researcher Roundtable**, INFORMS Conference on OR/MS Practice, April 25-27, 2004, Cambridge, MA
- Awarded the **Middleton Miller Prize** of the Math Department at Princeton for best independent research work during junior and senior year, June 1997
- Elected associate member of the **Sigma Xi Honorary Research Society**, 1997
- Awarded the **Sigma Xi Honorary Research Society Book Award** for best thesis in Mathematics, Princeton, 1997
- Recipient of a **Summer Institute for Mathematical Sciences Fellowship**, University of California at Berkeley, 1996

RESEARCH GRANTS

- 2016 PwC Grant, Business Analytics, June-December 2016
- Babson Board of Research Course Release Grant, Spring 2003, Fall 2003, Fall 2008
- Babson Faculty Research Fund Summer Stipend, Summer 2007, 2012
- Babson Faculty Research Fund Major Award (3 Course Releases), Fall 2006
- Gill/Babson Board of Research Grant, October 2003

OTHER

- *Computer Skills*: R, Python, Perl, AMPL, MATLAB, IBM SPSS Modeler, Tableau, Alteryx, S-plus, JMP, Minitab, SAS, MS Excel, @RISK, MS Access, Visual Basic, Crystal Ball
- *Languages*: fluent in English and Bulgarian; knowledge of Italian, German and Russian