James A. DiLellio, PhD, MBA

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EDUCATION

July 1994 - June 1997 **Northwestern University** Evanston, Illinois
Ph.D. – Program in Applied Mathematics, College of Engineering and Applied Science
Dissertation: *Analytical and Numerical Study of Shear Localization Phenomena*
Advisor: *W. Edward Olmstead*

January 2004 - Dec 2007 **Pepperdine University** Irvine, California
M.B.A. – Finance Emphasis

August 1993 - June 1994 **Northwestern University** Evanston, Illinois
M. S. – Program in Applied Mathematics

August 1989 - May 1993 **University of Akron** Akron, Ohio
B. S. – Applied Mathematics, *Summa Cum Laude*

TEACHING EXPERIENCE

August 2012 - Present **Pepperdine University** Irvine, West LA and Malibu California
Assistant Professor of Decision Sciences Department of Decision Sciences

- Taught undergraduate business students "Statistical Methods and Research Design" and MBA students "Quantitative Analysis for Business Operations", "Financial Modeling", and MS in Applied Finance students "Valuation of Real Options".
- Served on program committees and university-wide technology and learning steering committee.
- Taught students using blended learning pedagogies by adapting curriculum to include synchronous and asynchronous components.

August 2008 - August 2012 **Pepperdine University** Irvine & West LA, California
Practitioner of Decision Sciences, Blended Learning Fellow Department of Decision Sciences

- Taught fully employed MBA students "Quantitative Analysis for Business Operations". Topics included optimization, queuing theory, project management and regression. Achieved consistently high student evaluations and positive feedback on course curriculum.
- Taught undergraduate business students "Statistical Methods and Research Design". Topics included descriptive statistics, probability distributions, hypothesis testing, and other fundamental business statistics concepts. Achieved consistently high student evaluations and positive feedback on course curriculum.
- Mentored fully employed MBA and BSM program students on career issues.
- Supported lead faculty member for Business Integration Simulation. Provided oversight, student feedback, and grades on evidence-based decision analysis portions of the business simulation.

April 2008 - August 2008 **Pepperdine University** Irvine, California
Adjunct Professor Department of Decision Sciences

- Taught fully employed MBA students "Quantitative Analysis for Business Operations".

August 1994 - June 1995 **Northwestern University** Evanston, Illinois
Teaching Assistant Department of Engineering Science and Applied Mathematics

- Assisted professors in teaching calculus and differential equations, including grading and homework review. Taught weekly reviews of important points and facilitated problem solving exercises.

August 1989 - June 1990 **University of Akron** Akron, Ohio
Tutor University Tutoring Center

- Assisted university students in completing required mathematical curriculum required for graduation. Led small groups of student athletes through mathematical and statistical problem solving exercises.

SUMMARY OF RESEARCH INTERESTS & TEACHING PHILOSOPHY

My primary areas of research interest include applied mathematics, computation and statistical methods associated with engineering, finance, and investing. My greatest interest is the application of asymptotic and numerical methods, optimal estimation, Kalman filtering theory, and nonlinear optimization within these areas to link key concepts with quantitative models to deepen my understanding of the leading order factors.

My teaching philosophy is based on a fundamental belief in the importance of education within society, particularly as we move into the information age. I also recognize that good teaching can have a significant positive impact on an individual's life by creating opportunities for growth and prosperity. Ultimately, the pride I have in my job as a teacher lies in the growth of the student made during their time in my classroom and their ability to use what they've learned in their future careers and throughout their life.

PUBLICATIONS IN PEER REVIEWED JOURNALS

J. A. DiLellio, R. Hesse and D. J. Stanley, "Portfolio Performance with inverse and leveraged ETFs", *Financial Services Review*, **23,** No. 2, 2014, p.123-149.

L. Efremidze, J. A. DiLellio and D. J. Stanley, "Using VIX Entropy Indicators for Style Rotation Timing", *Journal of Investing*, accepted for publication June 2014.

J. Hahn, J. A. DiLellio and J. Dyer, "What do market-calibrated stochastic processes indicate about the long-term price of crude oil?", *Energy Economics*, **44**, July 2014, p. 212-221.

J. A. DiLellio and J. Forsyth, "Government-Sponsored Enterprises and Income Falsification on Mortgage Applications", *International Journal of Business, Accounting and Finance*, January 2014.

J. A. DiLellio, "A Kalman Filter Control Technique in Mean-Variance Portfolio Management", *Journal of Economics and Finance*, http://link.springer.com/article/10.1007/s12197-012-9244-9, October 2012.

J. A. DiLellio and D. J. Stanley, "ETF Trading Strategies to Enhance Client Wealth Maximization", *Financial Services Review, **20,*** 2011, p. 145-163.

J. A. DiLellio, "What to do when Traditional Diversification Strategies Fail - Revisited", *Graziadio Business Review*, **13**, No. 4, 2010.

J. A. DiLellio, "A hybrid GNSS integrity design leveraging a priori signal noise characteristics", *Journal of Navigation*, **63**, No. 3, 2010, p. 513-526.

J. A. DiLellio, "What to do when Traditional Diversification Strategies Fail", *Graziadio Business Report*, **12**, No. 4, 2009. http://gbr.pepperdine.edu/094/diversification.html.

J. A. DiLellio and W. E. Olmstead, "Numerical Solution of Shear Localization in Johnson-Cook materials". *Mechanics of Materials*, **35**, 2003, p. 571-580.

J. A. DiLellio and W. E. Olmstead, "Numerical Solutions of Shear Localization on a Finite Slab", *Mechanics of Materials*, **29**, No. 2, 1998, p. 71-80.

J. A. DiLellio and W. E. Olmstead, "Temporal Evolution of Shear Band Thickness", *Journal of Mechanics and Physics of Solids*, **45**, March 1997, p. 345-359.

J. A. DiLellio and W. E. Olmstead, "Shear Band Formation Due to a Thermal Flux Inhomogeneity", *SIAM Journal on Applied Mathematics*, **57**, August 1997, p. 959-971.

J. A. DiLellio and G. W. Young, "An Asymptotic Model of the Mold Region in a Continuous Steel Caster", *Metallurgical & Materials Transactions B*, **26B**, December 1995, p. 1225-1241.

SCHOLARLY WORK IN PROGRESS

"An Exact, Optimal Strategy for Traditiona vs. Roth IRA/401(k) Consumption During Retirement", final draft in preparation, with D. Ostrov.

"Income Falsification on Mortgage Applications during the Housing Bubble", in review at *The Journal of Real Estate Research*, with J. Forsyth.

CONTRACTS AND GRANTS

Pepperdine University Grant Award - Faculty Innovation in Technology and Learning. Received funding to continue development of a tablet-based interactive e-textbook for business statistics.

TEXTBOOKS

DiLellio, J. and Hall, O., (2013) StatCity: Statistical Methods for Business Practitioners, 2nd Edition, published by Google. https://play.google.com/store/books/details/James_DiLellio_and_Owen_Hall_Jr_StatCity_Volume_1_?id=5YsWJ5ZgUMwC, https://play.google.com/store/books/details/James_DiLellio_and_Owen_Hall_Jr_StatCity_Volume_2_?id=0qITO-D5zQwC

DiLellio, J. and Hall, O. (2012) StatCity, 1st Edition, published by Apple iTunes. https://itunes.apple.com/us/book/statcity-volume-1/id541091960?ls=1, https://itunes.apple.com/us/book/statcity-volume-2/id569035562?ls=1

EDITORIAL REVIEW ACTIVITIES

Manuscript Review, "Large Scale Parameter Estimation for Oil Price Forecasting Using Ensemble Kalman Filters", *Energy Economics*, August 2014.

Blind Manuscript Review, "International Diversification Among Islamic Investments: is there any benefit?", *Managerial Finance*, November 2013 and January 2014.

Blind Manuscript Review, "Regional Collaboration Innovation Capability In China from Innovation Actors Angle - Based on AHP and Cluster Analysis", *Technology in Society*, June 2013.

Blind Manuscript Review, "Impact of Online Review on Mobile App Sales", *Pacific Asia Conference on Information Systems* 2013, March 2013.

Blind Manuscript Review, "The Global Economy is Open for Business", *Graziadio Business Review*, May 2012.

Blind Manuscript Review, Manuscript ID FSR201135 "Empirical Analysis of ETF Intraday Trading", *Academy of Financial Services - Financial Services Review*, September 2011.

Blind Peer Review, Manuscript ID ICIS-0214-2011, "Can Project Management Maturity Endure Project Risk? A Strategic Perspective of IS Project Success", *International Conference on Information Systems 2011*, June 2011.

Blind Peer Review "Firms' Value Study Out of The Ordinary: Evidence from Taiwan," *DSI Annual Meeting*, May 2011.

Blind Peer Review, "Log-Robust Portfolio Management Strategies that Outperform the 1/n Strategy," *Decision Science Institute Annual Meeting*, May 2011.

Manuscript review "Show Us the Money: Local Economic Multipliers and Leakage in the Digital Age," *Global Business Development Institute 14th international conference*, March 2011.

Manuscript Review, Manuscript ID RQUF-2010-0284, "Application of random walk model to FTSE 100 index from April 1984 to July 2010", *Quantitative Finance*, August 2010.

Blind peer review, "IT-enabled Innovation: How Does the CIO Role Matter?", *Intl Conf. on Info. Systems 2010*, June 2010.

Blind peer review, "Aligning Information Security Program Objectives and Deployment with Organizational Culture for Increased Success", *2010 Decision Science Institute Annual Meeting*, May 2010.

Manuscript review (MS#072791), "Effective Equations for Localization and Shear Band Formation", *SIAM Journal of Applied Mathematics*. Society of Industrial and Applied Mathematics, August 2008.

LICENSES

Series 65: Uniform Investment Adviser Law Exam, April 21, 2007.

PATENTS GRANTED

- "GPS Navigation System with Integrity and Reliability Monitoring Channels", Patent Number 7,400,292, granted on July 15, 2008.
- "Global Positioning System Accuracy Enhancement", Patent Number 7,969,352, granted on June 28, 2011.

PRESENTATIONS AND PUBLICATIONS IN CONFERENCE PROCEEDINGS

- The American Association of Individual Investors, Los Angeles, California. June 21, 2014. "Are you better off with commission-free ETFs?" http://www.aaiilosangeles.org/SkirballPresentations/JamesDiLellio_CommFreeETFs%20-%20June%202014.pdf
- The Academy of Financial Services, Chicago, Illinois. October 17, 2013. "Commission-free Exchange-traded Funds - Are individual investors always better off?". (with P. Goldfeder) Paper published in conference proceedings at http://academyfinancial.org/wp-content/uploads/2014/01/E2_DiLellio_Goldfeder.pdf
- The Academy of Financial Services, San Antonio, Texas. October 1, 2012. "Market Timing for ETF Style Rotation through the use of Entropy Analytics and the VIX Index" (Presented by L. Efremidze, with D. Stanley).
- *The International Academy of Business and Public Administration, Honolulu, Hawaii*. August 1, 2012. "GSEs and Income Falsification on Mortgage Applications" (presented by J. Forsyth). Paper published in conference proceedings.

- *DSI Annual meeting – Award Competition Entry, Boston, Massachusetts.* November 20, 2011. "An Optimal Control Technique in Constrained Mean-Variance Portfolio Optimization". Paper published in conference proceedings.
- *DSI Annual meeting* – Contributed abstract, Boston, Massachusetts. November 21, 2011. "Optimizing retirement withdrawals from accounts with different tax structures" (with D. Ostrov).
- *The Academy of Financial Services, Las Vegas, Nevada,* October, 2011. Presented (with D. Stanley and R. Hesse) "Risk and Opportunities of Inverse ETFs for Long Term Investors". Paper published in conference proceedings.
- *INFORMS Annual meeting, Charlotte, North Carolina,* November 13, 2011. Co-authored presentation "Parameter Estimation for Two-factor Commodity Price Models" (Presented by J. Hahn, with J. Dyer).
- *SIAM Conference on Financial Mathematics & Engineering, San Francisco, California*. November 19, 2010. Presented "Controlling Portfolio Allocation Using a Kalman Filter and Multi-Factor Model Framework", http://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=10900.
- *Decision Science Annual Meeting, San Diego, California*. November 23rd, 2010. Presented "A Four-factor Equity-debt Model for Dynamic Asset Allocation along an Efficient Frontier".
- *2010 Southern California OR/OM day at UC Irvine, Irvine, California.* May 21, 2010. Presented "Kalman Filter Control Techniques in Portfolio Construction". Co-hosted by UC Irvine and Pepperdine University.
- *Southwest Decision Sciences Institute Annual Meeting, Houston, Texas,* March 2010. Presented "An Empirical Study of Kalman Filter Control Techniques in Mean-Variance Portfolio Optimization". Abstract published in conference proceedings.
- *The Academy of Financial Services, Anaheim, California,* October, 2009. Presented (with D. Stanley) "The Financial Planner, Exchange Traded Funds, and ETF Trading Strategies to Enhance Client Wealth Maximization". Paper published in conference proceedings.
- *The Institute of Navigation International Technical Meeting, Anaheim, California,* January 2009. Presented "An Optimized RAIM approach and performance characterization in the presence of non-Gaussian error sources", and published paper in conference proceedings.
- *International Space University Symposium, Strasbourg, France,* May 2003. Presented "The Use of Global Navigation Systems in the Aviation Industry", and published paper in symposium proceedings.
- *Joint Navigation Conference 2003, Las Vegas, Nevada*, April 2003. Presented "Signal-in-Space User Range Error Assessment via Combined Space and Ground-based Measurement Data".
- *Institute of Navigation GPS 2002, Portland, OR*, September 26, 2002. Presented "Signal-in-Space User Range Error Assessment via Combined Space and Ground-based Measurement Data", and published paper in conference proceedings.
- *Institute of Navigation National Technical Meeting, Anaheim, California,* January 2000. Presented (with P. Tran and J. Angus) "Sensitivity of CAT I Precision Approach Availability to Ionospheric Monitoring". Paper published in conference proceedings.
- *Institute of Navigation National Technical Meeting, San Diego, California*, January 2004. Supported presentation (with R. DiEsposti, J. A. DiLellio, C. Kelley, A. Dorsey, H. Fliegel, J. Berg, C. Edgar, T. McKendree, and P. Shome), "The Proposed State Vector Representation of Broadcast Navigation Message for User Equipment Implementation of GPS Satellite Ephemeris Propagation". Paper published in conference proceedings.
- *Institute of Navigation National Technical Meeting, Anaheim, California*, January 2003. Supported presentation (with R. DiEsposti, J. DiLellio, D. Galvin, C. Kelley, J. Shih, "GPS III URA and URRA Information for Optimal User Performance". Paper published in conference proceedings.
- *Mechanics of Materials Conference, San Diego, California*, June 2001. Presented (with W. E. Olmstead) "Numerical Solution of Shear Localization in Johnson-Cook Materials". Extended abstract published in conference proceedings.
- *The International Association of Institutes of Navigation World Congress, San Diego, California*, June 2000. Presented (with P. Tran) "Impacts of GEOs as Ranging Sources on Precision Approach Category I Availability", and published paper in conference proceedings.
- *The 12th Engineering Mechanics Conference, La Jolla, California*, May 1998. Presented (with W. E. Olmstead) "Numerical Simulations of Shear Localization", and published paper in conference proceedings.
- *The Fourteenth U. S. Army Symposium on Solid Mechanics*, Myrtle Beach, South Carolina, October 1996. Supported presentation (with W. E. Olmstead) "The Evolution of Shear Band Width". Paper published in conference proceedings.

UNIVERSITY AND COMMUNITY SERVICE

- Committee member – Bachelor of Science in Management Program (AY 2011-2014)
- Committee member – Fully employed MBA program admissions (AY 2010-2011)
- Good Shepherd Lutheran Church, Irvine. Backup drummer for contemporary services. Supported consolidation of church to a single site, including guidance on strategic planning and operations. (2010-2011)
- Ladera Elementary, Tustin. PTO Treasurer (AY 2011-2013), PTO Financial Secretary (AY 2013-2015)

- Launched the 1st Analytics seminar at Pepperdine's Irvine Graduate Campus to assist new fully employed MBA students obtain a refresher on undergraduate business math, probability and statistics (May 2010).
- Regular guest speaker, Fully Employed MBA information session, Pepperdine University
- Sakai® focus group member (March 2010) – participated in Sakai pilot program to evaluate its merits as a new learning management system, and replacing Blackboard as the default Pepperdine university wide system.
- Ladera Elementary School Principal for the Day – March 18th, 2010. Ladera elementary Art Masters volunteer.
- Regular donation of O+ blood to the American Red Cross, 1997-2010.
- Big Brothers and Big Sisters of Orange County – Big Brother Program, 2004-2005.
- Big Brothers and Big Sisters of Orange County – Big Couples Program, 2002-2003.
- Irvine Community Police Academy, June 2003. Career Day, Vista Verde Elementary School, May 2001.

INDUSTRY EXPERIENCE

October 2008 **Thales-Raytheon Systems** Fullerton, California
- January 2010 Department Manager Network Centric Systems

- *System Engineering Functional Manger* – Managed over 70 system engineers, including front-line managers, to provide development, integration, test and delivery of multiple military, civil and commercial programs. Approved bids for new programs from systems engineering departments, and supported improvements to internal business processes. Instrumental in award of $82M award for air traffic navigation system for India.

July 2001 **The Boeing Company** Seal Beach/Huntington Beach, California
- October 2008 Sr. Manager, Navigation Systems Space and Intelligence Systems

- *Chief Engineer* – Developed proposal, including design and budgetary aspects that encapsulated block upgrade program for GPS III space system. Identified new technology development plans while integrating cost, risk, and accelerated capability issues.
- *Proposal lead* – Led the development of a $300M capability insertion program as part of a large $2B+ GPS III proposal to US Air Force.
- *Lead system engineer* - Led team of 20+ systems engineers to support enterprise-level iGPS maturation, including technical, financial, and risk assessment to satisfy emerging military mission needs and create a value-added offering. Supported executive acquisition assessment, due diligence, patent portfolio reviews, market assessments, independent peer reviews, operations development, and executive-level sponsored initiatives.
- *Modeling and simulation R&D Principal* - Created a User Range Error simulation employing 250+ state Kalman Filter to improve orbit and clock estimation algorithms using proposed observation data in the GPS III system.

August 1999 **Raytheon Company** Fullerton, California
- July 2001 Senior Systems Engineer II WAAS Program

- Led development of a real-time service monitoring system. Conducted marketing demonstrations to Japanese civil aviation customer in Taipei, and FAA customer in Washington, D.C.
- Supported architectural enhancements and conducted trade studies to integrate and optimize system design and support system test and checkout.

July 1997 **The Aerospace Corporation** El Segundo, California
- August 1999 Member of the Technical Staff Satellite Navigation Department

- Produced a Monte Carlo simulation of a search-and-rescue satellite system to demonstrate effect of oscillator uncertainty on geo-location accuracy. Conducted performance analysis of GPS payload subsystem.

June 1990 **The Timken Company** Canton, Ohio
- June 1992 Intern Mechanical/Tribochemical Sciences Department

- Optimized cooling system using thermal stress analysis of company's continuous steel caster using multi-factor models for statistical analysis.

CORPORATE MANAGEMENT TRAINING

Earned Value Certification (2009); Critical Chain Project Management (2007); Lean 101 (2007); Leading from the Middle (2005, 2nd generation – 2007); Managing within the Law (2005); Leadership Essentials (2005); Leadership Excellence (2005, 2006, 2007)

PROFESSIONAL AFFILIATIONS

Decision Sciences Institute (DSI), Academy of Fiancial Services(AFS), Beta Gamma Sigma (BGS)
Institute of Navigation (ION), American Institute of Aeronautics and Astronautics (AIAA)
Society of Industrial and Applied Mathematics (SIAM), Academy of Economics and Finance (AEF).

AWARDS

- Julian Virtue Professorship, Pepperdine University Graziadio School of Business and Management (2014-16)
- Team Achievement Award, Raytheon - Network Centric Systems. (November 2009). Member of successful capture team for a competitive $82M upgrade to air traffic navigation system in India.
- Walter P. Murphy Fellowship (1993-1994) – Northwestern University
- SIAM Student Paper Competition (1993) – Honorable Mention