

BRUCE MIZRACH  
CURRICULUM VITAE  
OCTOBER 2017

Department of Economics  
Rutgers University  
75 Hamilton Street  
New Brunswick, NJ 08901

VOICE: (908) 913-0253  
FAX: (425) 795-9942  
E-MAIL: [mizrach@econ.rutgers.edu](mailto:mizrach@econ.rutgers.edu)  
<http://snde.rutgers.edu>

EDUCATION:

1987                      UNIVERSITY OF PENNSYLVANIA  
                                 Ph.D. in Economics

1981                      TUFTS UNIVERSITY  
                                 A.B. in History and Economics  
                                 Phi Beta Kappa, Summa cum Laude

RESEARCH AREAS:

Market microstructure  
Financial crises  
Nonlinear time series

ACADEMIC POSITIONS:

1995-present              RUTGERS UNIVERSITY  
                                 Assistant, Associate and Full Professor  
                                 Department of Economics

Spring 2005                STERN SCHOOL NEW YORK UNIVERSITY  
                                 Visiting Associate Professor  
                                 Department of Finance

Sep 1992-Dec 1994        FEDERAL RESERVE BANK OF NEW YORK  
                                 Economist and Senior Economist

Jan 1990-Aug 1992        WHARTON SCHOOL UNIVERSITY OF PENNSYLVANIA  
                                 Visiting Assistant Professor  
                                 Department of Finance

Sep 1987-Aug 1991        BOSTON COLLEGE  
                                 Assistant Professor  
                                 Department of Economics

## Academic Activities

### SHORT TERM ACADEMIC APPOINTMENTS (2000-):

Oct 2017	FEDERAL RESERVE BANK OF NEW YORK	Visiting Scholar
Oct 2009	UNIVERSITY OF TECHNOLOGY - SYDNEY	Honorary Fellow
May 2008	NATIONAL CHIAO TUNG UNIVERSITY	Visiting Scholar
Jun 2005-Aug 2007	FEDERAL RESERVE BANK OF SAINT LOUIS	Consultant
Spring 2006	FEDERAL RESERVE BANK OF NEW YORK	Visiting Scholar
Apr. 2002	BILKENT UNIVERSITY	Visiting Scholar
Feb 2002	SANTA FE INSTITUTE	Visiting Scholar

### PROFESSIONAL ACTIVITIES:

1996-	STUDIES IN NONLINEAR DYNAMICS AND ECONOMETRICS Editor-in-Chief
2011-2016	JOURNAL OF STOCK AND FOREX TRADING Associate Editor
2007-	RUTGERS INITIATIVE ON CLIMATE AND SOCIETY Affiliate
2009-10	FINANCIAL MANAGEMENT ASSOCIATION Program Committee
1993-2008, 2011-13	SOCIETY FOR NONLINEAR DYNAMICS Board Member, Program Committee
2007-10, 2013	SOCIETY FOR COMPUTATIONAL ECONOMICS Program Committee

### GRANTS:

U.S. Department of Treasury, Office of Financial Research, Jul. 2017-Dec. 2019, \$154,700.  
U.S. Department of Treasury, Office of Financial Research, Jan. 2017-Jun. 2017, \$55,435.  
Intelligence Advanced Research Projects Activity (IARPA) Grant N66001-13-C-2008, "Strategy and Network Econometrics," (co-PI with G. Cybenko, G. Elliott, E. Santos and A. Timmermann), 2013-14, \$985,484.  
Paul Woolley Center Research Fellow, 2009.  
Taiwan National Science Council, Visiting Scholar, 2008.  
Rutgers University, Sidney Simon Grant: 2002; 2003; 2004; 2006; 2008; 2010, 2012;  
Rutgers University, Faculty Research Council Grant: 13 awards since 2002.

### HONORS AND AWARDS:

Market Microstructure and Nonlinear Dynamics, Keynote Speaker, 2013.  
RWE Best Paper Award, Conference on Energy Finance, 2012.  
2nd Intl. Symposium in Computational Economics and Finance, Invited Speaker, 2012.  
5th NCTU International Finance Conference, Invited Speaker, 2012.  
European Climate Exchange, New Thinking in Carbon Research Prize, 2010.  
Institute for Quantitative Investment, First Prize, 2009.  
JFS-Carli Foundation, Bank of Italy Conference, Invited Speaker, 2004.  
Rutgers University, Sigma Phi Epsilon Outstanding Faculty Finalist, 2001.

## Consulting

### FINANCIAL SERVICES

Jan 2015-	FINANCIAL REGULATORY AUTHORITY	Contractor
April 2014	ALLIANCE BERNSTEIN	Consultant
June 2013	WORLD GOLD COUNCIL	Consultant
May 2013	GOLDMAN SACHS ASSET MANAGEMENT	Consultant
Mar 2012-Sep 2013	SCOUT CAPITAL	Consultant
July 2011	CIPHER CAPITAL	Consultant
Aug 2010-	GERSON LEHMAN GROUP	Consultant
July-Dec 2010	ALGORITHMIC EXECUTION	Director of Research
July-Dec 2010	SYSTEMATIC STRATEGIES	Consultant
Sep 2007-May 2010	INVESTMENT ANALYTICS	Consultant
Jun 1998-	NONLINEAR ANALYSIS GROUP	Principal

### LITIGATION CONSULTING:

SEPTEMBER 11, 2001 PROPERTY DAMAGE AND BUSINESS LOSS LITIGATION, Cantor Fitzgerald et al v. American Airlines et al, The U.S. District Court, Southern District of New York, Defense expert retained by Condon & Forsyth, Deposition: May 15, 2013.

THE PNC FINANCIAL SERVICES GROUP, INC., LP v. LYNETTE PEDENSKY, ET AL, Cuyahoga County's Court of Common Pleas, Defense expert retained by Porter Wright, Report: April 25, 2012.

BGCANTOR MARKET DATA, LP v. TULLETT PREBON INFORMATION, LTD., American Arbitration Association, Defense expert retained by Schulte, Roth and Zabel, Report: June 24, 2011, Testimony: September 7, 2011.

STATE OF NEW JERSEY BY THE COMMISSIONER OF TRANSPORTATION v. 200 ROUTE 17 LLC, Superior Court of New Jersey Law Division: Bergen County, Plaintiff's expert retained by New Jersey Department of Transportation, Report: June 30, 2009 and March 16, 2015, Deposition: April 15, 2015, Testimony: July 2, 2009, April 27-29, 2015.

CANTOR FITZGERALD ET AL. v. THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY, Supreme Court of the State of New York, County of New York, Defense expert retained by Weil, Gotshal and Manges, August 2008-September 2011.

## Publications

### BOOKS:

*The Encyclopedia of Complexity and System Science*, Section Editor for Finance and Econometrics, 2009, New York: Springer-Verlag.

### PAPERS:

“The Microstructure of a U.S. Treasury ECN: The BrokerTec Platform,” (with M. Fleming and G. Nguyen), *Journal of Financial Markets*, forthcoming.

He, An and Bruce Mizrach, Analysis of Securitized Asset Liquidity, *Research Note*, FINRA Office of the Chief Economist, 2017.

Gao, Cheng and Bruce Mizrach, “Market Quality Breakdowns in Equities,” *Journal of Financial Markets*, 28, 2016, 1-23.

Mizrach, Bruce, “Analysis of Corporate Bond Liquidity,” *Research Note*, FINRA Office of the Chief Economist, 2015.

Mizrach, Bruce, “A Video Interview of James Stock,” *Studies in Nonlinear Dynamics and Econometrics* 19:4, 2015, 393-96.

“Econometric Analysis of Currency Carry Trade,” (with H. Chung and Y-J Wang) in C.F. Lee (ed.), *Handbook of Financial Econometrics and Statistics*, New York: Springer Verlag, 2015, 1877-90.

“Skyscraper Height and the Business Cycle: Separating Myth from Reality,” (with J. Barr and K. Mundra), *Applied Economics* 47, 2015, 148-60.

“Testing the CAPM Theory Based on a New Model for Fama-French 25 Portfolio Returns,” (with L. Li and Z. Zhou), *Theoretical Economics Letters* 4, 2014, 666-80.

“The Market Microstructure of the European Climate Exchange,” (with Y. Otsubo), *Journal of Banking and Finance* 39, 2014, 107-116.

“An Empirical Analysis of the Shanghai and Shenzhen Limit Order Books,” (with H. Chung, C. Gao and J. Lu), *Economic Modelling* 34, 2013, 37-41.

“Leverage and VaR as Measures of Bank Distress: Comment,” in Joseph Haubrich and Andrew Lo (eds.), *Quantifying Systemic Risk*, Chicago: U. Chicago Press for NBER, 2013, 94-105.

PUBLICATIONS (CONT.)

- “Jumps and Cojumps in Subprime Home Equity Derivatives,” *Journal of Portfolio Management* 38, 2012, 136-46.
- “Integration of the Global Carbon Markets,” *Energy Economics* 34, 2012, 335-49.
- “Learning and Conditional Heteroscedasticity in Asset Returns,” in C. Kyrtsov and C. Vorlow (eds.), *Progress in Financial Markets Research*, 2011, New York: Nova, 1-14.
- “Tail Return Analysis of Bear Stearns Credit Default Swaps,” *Economic Modelling* 27, 2010, 1529-36.
- “Does a Common Trend Exist Between EUA and CER prices?” *Trading Carbon* 4, 2010, 11.
- “Nonlinear Mean Reversion in EMS Exchange Rates,” *Brussels Economic Review* 53, 2010, 187-98.
- “Estimating Implied Probabilities From Option Prices and the Underlying,” in C.F. Lee and A.C. Lee (eds), *The Handbook of Quantitative Finance and Risk Management*, 2010, New York: Springer-Verlag, 515-29.
- “Experts Online: An Analysis of Trading Activity in a Public Internet Chat Room,” (with S. Weerts), *Journal of Economic Behavior and Organization* 70, 2009, 266-81
- “Highs and Lows: A Behavioural and Technical Analysis,” (with S. Weerts), *Applied Financial Economics* 19, 2009, 767-77.
- “The Microstructure of the U.S. Treasury Market,” (with C. Neely), *The Encyclopedia of Complexity and System Science*, 2009, New York: Springer-Verlag, 9565-77.
- “Introduction to Finance and Econometrics in Complex Systems,” *The Encyclopedia of Complexity and System Science*, 2009, New York: Springer-Verlag, 3388-91.
- “A Note On Demand and Supply Factors In Manufacturing Output Asymmetries,” (with O. Korenok and S. Radchenko), *Macroeconomic Dynamics* 13, 2009, 263–77.
- “Comment on Modelling Nonlinear Comovements Between Time Series,” *Journal of Macroeconomics* 31, 2009, 212-15
- “Estimating the Intensity of Choice in a Dynamic Mutual Fund Allocation Decision,” (with D. Goldbaum), *Journal of Economic Dynamics and Control* 32, 2008, 3866-76.
- “The Impact of Monetary Policy on Bond Returns Volatility: A Segmented Markets Approach,” (with F. Occhino), *Journal of Economics and Business* 60, 2008, 485-501.

PUBLICATIONS (CONT.)

- “A Video Interview with James Hamilton,” *Studies in Nonlinear Dynamics and Econometrics* 12, Issue 2, Article 1, 2008.
- “Information Shares in the U.S. Treasury Market,” (with C. Neely) *Journal of Banking and Finance* 32, 2008, 1221-33;
- “Nonlinear Time Series Analysis,” in L. Blume and S. Durlauf (eds.) *The New Palgrave Dictionary of Economics*, 2nd ed., 2008, London: Palgrave Macmillan, 4611-16.
- “The Next Tick on Nasdaq,” *Quantitative Finance* 8, 2008, 19-40.
- “Does SIZE Matter: Liquidity Provision by the Nasdaq Anonymous Trading Facility,” *Competition and Regulation in Network Industries* 1, 2006, 471-85.
- “The Enron Bankruptcy: When Did The Options Market Lose Its Smirk?,” *Review of Quantitative Finance and Accounting* 27, 2006, 365-82.
- “The Transition to Electronic Communications Networks in the Secondary Treasury Market,” (with C. Neely), Federal Reserve Bank of St. Louis *Review* 88, 2006, 527-41.
- “Assessing Central Bank Credibility during the EMS Crises: Comparing Option and Spot Market-Based Forecasts” (with M. Haas and S. Mitnik), *Journal of Financial Stability* 2, 2006, 28-54.
- “Does The Stock Market Punish Corporate Malfeasance? A Case Study Of Citigroup,” (with S. Z. Weerts), *Corporate Ownership and Control* 4, 2006, 154-8.
- “A Video Interview with Buz Brock, ” *Studies in Nonlinear Dynamics and Econometrics* 9, Issue 1, Article 1, 2005.
- “A Markov Switching Cookbook,” (with J. Watkins), in Philip Rothman (ed.), *Nonlinear Time Series Analysis of Economics and Financial Data*, Dordrecht: Kluwer, 1999, 33-43.
- “Real Versus Pseudo International Systemic Risk: Some Lessons from History,” (with M. Bordo and A. Schwartz), *Review of Pacific Basin Financial Markets and Policies* 1, 1998, 31-58.
- “Determining Delay Times for Phase Space Reconstruction with Application To The FF/DM Exchange Rate,” *Journal of Economic Behavior and Organization* 30, 1996, 301-25.
- “Forecasting Realignments: The Case of the French Franc in the Exchange Rate Mechanism,” in W.A. Barnett, A. Kirman and M. Salmon (eds.), *Nonlinear Dynamics and Economics*, Cambridge: Cambridge U. Press, 1996, 359-66.

PUBLICATIONS (CONT.)

“The Information in the Term Structure: A Non-parametric Investigation,” *Journal of Forecasting* 15, 1996, 137-153.

Review of *Complex Economic Dynamics: Exchange Rate Theory: Chaotic Models of Foreign Exchange Markets*, in *Journal of Economic Literature* 33, 1995, 1976-77.

“Target Zone Models with Stochastic Realignment: An Econometric Evaluation,” *Journal of International Money and Finance* 14, 1995, 641-57.

“New Evidence on the Effectiveness of Foreign Exchange Market Intervention,” (with C. DeVries, K. Koedijk, and P. Stork), *European Economic Review* 39, 1995, 501-8.

Review of *Exchange Rate Theory: Chaotic Models of Foreign Exchange Markets*, in *Journal of Economic Behavior and Organization* 25, 1994, 473-75.

“Using U-statistics to Detect Business Cycle Nonlinearities,” in Willi Semmler (ed.), *Business Cycles: Theory and Empirical Investigation*, Boston: Kluwer Press, 1994, 369-88.

“Nonlinear Exchange Rate Modeling,” American Statistical Association, *1993 Proceedings of the Business and Economic Statistics Section*, 1994, 383-7.

“Multivariate Nearest-neighbour Forecasts of EMS Exchange Rates,” *Journal of Applied Econometrics* 7 Supplement, 1992, S151-63, reprinted in M. H. Pesaran and S. Potter (eds.) *Nonlinear Dynamics Chaos and Econometrics*, West Sussex: John Wiley, 1993, 143-156.

“Parametric and Semiparametric Analysis of Nonlinear Time Series,” (with S. Mittnik), in *Advances in GLIM and Statistical Modeling*, L. Fahrmeir, B. Francis, R. Gilchrist and G. Tutz (eds.), New York: Springer-Verlag, 1992, 207-12.

“On Determining the Dimension of Real-Time Stock-Price Data,” (with E.S. Mayfield), *Journal of Business Economics and Statistics* 10, 1992, 367-74, reprinted in W. D. Dechert (ed.), *Chaos Theory in Economics: Methods, Models and Evidence*, Cheltenham: Edward Elgar, 1995.

“The Distribution of the Theil-U Statistic in Bivariate Normal Populations,” *Economics Letters* 38, 1992, 163-67.

“The State of Economic Dynamics: A Review Essay,” *Journal of Economic Dynamics and Control* 16, 1992, 175-90.

“Managing the Dollar: Has the Plaza Agreement Mattered?” (with M. Klein and R.G. Murphy), *Journal of Money, Credit and Banking* 23, 1991, 742-51.

PUBLICATIONS (CONT.)

“Nonparametric Estimation of the Correlation Exponent,” (with E.S . Mayfield), *Physical Review A* 88 #4, 1991, 5298-5301.

“Non-Convexities in a Stochastic Control Problem with Learning,” *Journal of Economic Dynamics and Control* 15, 1991, 515-38.

“A Liquidity-in-Advance Model of the Demand for Money Under Price Uncertainty,” (with A.M. Santomero), *Journal of Monetary Economics* 26, 1990, 143-59.

“Non-Convergence to Rational Expectations and Optimal Monetary Policy in Models with Learning,” in *Dynamic Modeling and Control of National Economies 1989. Selected Papers from the 6th IFAC Symposium*, Edinburgh, UK, 27-29 June 1989, N. Christodoulakis (ed.), Oxford: Pergamon Press, 1990, 293-98.

“Aggregation, Information, and the Instability of Asset Demands,” (with A.M. Santomero), *Studies in Banking and Finance* 5, Amsterdam: North Holland, 1988, 369-85.

“The Stability of Money Demand and Forecasting Through Changes in Regime,” (with A.M. Santomero), *Review of Economics and Statistics* 68, 1986, 324-28.

WORKING PAPERS:

“Quote Stuffing and Market Quality,” (with C. Gao), Rutgers University Working Paper, September 2017.

“High Frequency Trading in the Equity Markets During U.S. Treasury POMO,” (with C. Gao), Rutgers University Working Paper, December 2015.

“Location Basis Differentials in Oil Prices,” (with Y. Li and Y. Otsubo), Rutgers University Working Paper, Revised: April 2015.



## Public Service

### PROFESSIONAL:

New Jersey Environmental Federation, 2012.  
Union of Concerned Scientists, 2009-  
Environment New Jersey, 2012.  
North Jersey Public Policy Network, 2011-  
Financial Executives International, Princeton Chapter, 2011.  
San Diego Financial Executives International, 2012.  
New Jersey Department of Transportation, 2009.

### PERSONAL:

Intercounty Soccer Coach, Westfield, NJ, 2005-12.  
Travel Soccer Coach, Westfield, NJ, 2013-2015.

## University Service

### UNIVERSITY ACTIVITIES:

Debate, *Confronting Climate Change: What Should RU Do?*, 2013.

### UNIVERSITY COMMITTEES:

Graduate Curriculum Committee 2000-01;  
Advisory Committee for Appointments and Promotions of Nontenured Faculty 1997-98;  
Rutgers Initiative on Climate Change, Social Policy and Politics, 2007-;  
Library Advisory Committee, 2009-11,2013-;  
Faculty Research Grant Program, 2011-12;  
Advisory Committee for Appointments and Promotions to Professor I 2014-16;

### DEPARTMENT COMMITTEES:

Undergraduate Honors and Awards Committee: 2003, 2011-12;  
Graduate Admissions Committee, 2011-12, 2013-16, 2017 (chair);  
Graduate Honors and Awards Committee: 2003, 2004, 2013-.  
Promotion Committees: Ireland (1997); Chang (1999); Schmitt-Grohe (2000); Sbordone (2001); Occhino (2003).  
Faculty Recruiting: 1995-2005; 2007-2010; 2013-14; 2014-15; 2015-16;  
Financial Economics Qualifying Examination Committee: 2006-7;  
Macroeconomic Theory Qualifying Examination Committee: 1995-2000.  
Monetary Theory Field Examination Committee: June 1996;  
Undergraduate Education and Curriculum Committee: 1996-97.  
Working Paper Coordinator: 1996-2015;  
Workshop in Money, History and Finance: 1995-96 (co-organizer).  
Workshop on Macroeconomics: 1998-99, 2000-01; 2006-12.

## Research Supervision

### PHD THESIS:

- Roque Montero, “Forecasting and Monetary Policy Analysis. New Empirical Evidence,” 2016: Placement: UBS
- Wukuang Cun, “Essays on Information, Liquidity and Financial Frictions,” 2015, Placement: USC.
- Cheng Gao (chair), “High Frequency Trading, Hidden Orders, and Market Quality in Equities,” 2014, Placement: J.P. Morgan.
- Yoichi Otsubo (chair), “Essays on Market Microstructure of Natural Resource and Environmental Markets,” 2011, Placement: Manchester Business School.
- Adam Gulan, “Essays in International Macroeconomics,” 2011, Placement: Bank of Finland.
- Jessica Mai, “Alternative Approaches to Business Failure Prediction Models,” 2010, Placement: NCTU.
- Jie Lu (chair), “Three Essays on Market Microstructure and Behavioral Finance,” 2009, Placement: Cal State Long Beach.
- Xianghua Liu, “Financial Econometrics,” 2009, Placement: USAA Federal Savings Bank.
- Liuling Li, “Bayesian Analysis of Interest Rate Models,” 2009, Placement: Nankai University.
- Geetesh Bhardwaj, “Essays in Prediction and Specification Analysis,” 2006, Placement: Bates-White.
- Saubhik Deb, “Essays on Crises and Recoveries,” 2005. Placement: World Bank.
- Oleg Korenok (chair), “Bayesian Analysis of Macroeconomic Models,” 2005, Placement: VCU.
- Stanislav Radchenko, “Essays in Bayesian Econometrics,” 2002, Placement: UNC Charlotte.
- Padmasini Raman, “The Housing Market,” 2000, Placement: Fannie Mae.
- Amarnath Ananthanarayanan, “Essays in Environmental Policy,” 1998, Placement: GE Capital.
- Jongwoo Kim, “The Path and Volatility of Output Across Monetary Regimes: The Japanese Experience, 1880-1996,” 1998, Placement: J.P. Morgan.
- Fred Engst, “Asymmetry as a Source of Specification Error in the Macro Time Series,” 1997, Placement: AT&T.
- Zhongjian Xia, “What Causes Closed End Fund Discounts?”, 1996, Placement: American Express.
- Julia Fernald, “Comovement of Foreign Exchange and Term Premia with Overlapping and Non-Overlapping Returns,” Wharton School, 1992, Placement: Federal Reserve Bank of New York.
- Murat Ucer, “Essays on the Monetary Origins of Price Fluctuations in the Unofficial Market for Foreign Exchange in Turkey,” Boston College, 1991, Placement: IMF.
- Serhan Ciftcioglu, “The Macroeconomic Stability of a Small Open Economy under Fixed and Flexible Rates,” Boston College, 1988, Placement: Eastern Mediterranean University.

## RESEARCH SUPERVISION (CONT.)

### MASTERS THESIS:

- Philip Roth, "Investors Make Bottoms, Traders Make Tops," 2015.  
Gwen C De Baca, "The Evolution of Sovereign Credit Spread Dynamics," 2014.  
Lei Hou (chair), "Credit Expansions, Diversification and Financial Instability: Regulating China's Shadow Banking System," 2012.  
Myung-Joo Song (chair), "Hidden Orders in a Dynamic Limit Order Book," 2011.  
Lan Xu, "Money and the Stock Market Reconsidered," 1998.  
James Watkins (chair), "Nonlinear Time Series," 1997.  
Ti-fen Liang, "Evidence of Bank Managers' Risk Preferences," 1996.  
Madhu Kalimipalli, "Application of the Markov Regime Switching Model to Stock Market Volatilities," 1995.

### UNDERGRADUATE HONORS:

- Yosef Baruh, "Recent Trends in FCPA Enforcement," 2016-17, Honors.  
Charles Bruno, "High Frequency Trading," 2015-16, Henry Rutgers Award Winner.  
Brandon Li, "Bank Lending," 2011-12, High honors.  
Sean Vidolin, "Implied Correlations in CDOs," 2010-11, Honors.  
Matthew Karmel, "Predicting Financial Crises," 2008-9, Honors.  
Chris Maroldo, "Common Information in Technical Indicators: Implications for Stock Returns," Henry Rutgers, 2004-05, High honors.  
Gretchen Barrick, "Accounting for Options on the Balance Sheet," 2004-05, High honors.  
Rikin Pandya, "Analyst Conflicts and Nasdaq Market Making Activities," 2002-03, Highest honors.  
William Eng, "Decimalization," 2000-01, High honors.  
Mark Telymonde, "Effects of an Econometric Filter on Short-term Technical Trading Systems," 1999-2000, High honors.  
Vadim Mezrin, "Options Pricing with Stochastic Interest Rates," Senior Honors, 1997-98, High honors.  
Michael DaCosta, "Politics and the Federal Budget Deficit: An Empirical Analysis," Senior Honors, 1995-96. High honors;

## Presentations:

### 2017:

FINRA Economic Advisory Council; Office of Financial Research;

### 2016:

Society for Nonlinear Dynamics and Econometrics; Federal Reserve Board; Office of Financial Research; Fixed Income Trading and Investment;

### 2015:

Society for Nonlinear Dynamics and Econometrics; Lancaster; London School of Economics; Fordham; FINRA;

### 2014:

Society for Nonlinear Dynamics and Econometrics; IARPA MATCHES Workshop; Securities and Exchange Commission; FINRA;

### 2013:

North Jersey Public Policy Network; University of Paris; Market Microstructure and Nonlinear Dynamics; European Central Bank;

### 2012:

National Chiao Tung University; NCTU International Finance Conference; Nankai University; International Symposium in Computational Economics and Finance; Nasdaq; Conference on Energy Finance; Commodities Futures Trading Commission;

### 2011:

American Economic Association; Association of Environmental and Resource Economists; Symposium on Nonlinear Dynamics and Econometrics; FRB St. Louis Quantitative Easing Conference; High Frequency Data in Finance;

### 2010:

Association of Environmental and Resource Economists; Wilfred Laurier; Climate Change Policy & the European Experience; Symposium on Nonlinear Dynamics and Econometrics; Central Bank Workshop on Market Microstructure;

### 2009:

Jacksonville University; HEC Montreal; Symposium on Nonlinear Dynamics and Econometrics; Istanbul Bilgi; Workshop on Chinese Financial Markets and the World Economy; Bank of Norway; Baruch; Melbourne; ANU; UTS; Paul Woolley Center Conference on Capital Market Dysfunctionality; NBER Conference on Systemic Risk;