# ANDREW J. PATTON

This version: *August 2024*

## CONTACT INFORMATION


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|---|---|---|
| Department of Economics | | |
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| Durham NC 27708-0097 | Web: | http://econ.duke.edu/~ap172 |
| USA | Google Scholar: | https://goo.gl/7JA7Kf |


## ACADEMIC EMPLOYMENT

| | | |
|---|---|---|
| Professor of Finance<br>Deputy Head of School (Research) | UNSW SYDNEY | 2024-present |
| Zelter Family Distinguished Professor of Economics and Professor of Finance | DUKE UNIVERSITY | 2016-present |
| Professor of Economics and Finance | | 2013-2016 |
| Associate Professor of Economics | | 2009-2013 |
| Professor of Finance | NEW YORK UNIVERSITY | 2015-2016 |
| Reader in Economics | UNIVERSITY OF OXFORD | 2007-2009 |
| Reader in Finance | LONDON SCHOOL OF ECONOMICS | 2007-2007 |
| Lecturer in Finance | | 2002-2007 |

## EDUCATION

| | | |
|---|---|---|
| Ph.D. in Economics | UNIVERSITY OF CALIFORNIA, | 2002 |
| M.A. in Economics | SAN DIEGO | 2000 |
| B. Business (Honours) | UNIVERSITY OF TECHNOLOGY, | 1997 |
| B. Business (Finance and Statistics) | SYDNEY | 1996 |

## PUBLICATIONS IN ACADEMIC JOURNALS

Better the Devil You Know: Improved Forecasts from Imperfect Models, (with Dong Hwan Oh), 2024, *Journal of Econometrics*, 242, 105767.

Testing for Unobserved Heterogeneity via *k*-means Clustering, (with Brian M. Weller), 2023, *Journal of Business & Economic Statistics*, 41(3), 737-751.

Dynamic Factor Copula Models with Estimated Cluster Assignments, (with Dong Hwan Oh), 2023, *Journal of Econometrics*, 237 2(C), 105374.

Bootstrapping Two-Stage Quasi-Maximum Likelihood Estimators of Time Series Models, (with Sílvia Gonçalves, Ulrich Hounyo and Kevin Sheppard), 2023, *Journal of Business & Economic Statistics*, 41(3), 683-694.

Risk Price Variation: The Missing Half of Empirical Asset Pricing, (with Brian M. Weller), 2022, *Review of Financial Studies*, 35(11), 5127-5184.

From Zero to Hero: Realized Partial (Co)Variances, (with Tim Bollerslev, Marcelo C. Medeiros and Rogier Quaedvlieg), 2022, *Journal of Econometrics*, 231(2), 348-360.

A Consistent Specification Test for Dynamic Quantile Models, (with Peter Horvath, Jia Li and Zhipeng Liao), 2022, *Quantitative Economics*, 13, 125-151.

Realized Semibetas: Disentangling "good" and "bad" downside risks, (with Tim Bollerslev and Rogier Quaedvlieg), 2022, *Journal of Financial Economics*, 144, 227-246.

Comparing Predictive Accuracy in the Presence of a Loss Function Shape Parameter, (with Sander Barendse), 2022, *Journal of Business & Economic Statistics*, 40(3), 1057-1069.

Equity Clusters through the Lens of Realized Semicorrelations, (with Tim Bollerslev and Haozhe Zhang), 2022, *Economics Letters*, 211, 110245.

Realized Semicovariances (with Tim Bollerslev, Jia Li and Rogier Quaedvlieg), 2020, *Econometrica*, 88(4), 1515-1551.

What You See is Not What You Get: The Costs of Trading Market Anomalies, (with Brian M. Weller), 2020, *Journal of Financial Economics*, 137, 515-549.

Multivariate Leverage Effects and Realized Semicovariance GARCH Models, (with Tim Bollerslev and Rogier Quaedvlieg), 2020, *Journal of Econometrics*, 217, 411-430.

Comparing Possibly Misspecified Forecasts, 2020, *Journal of Business & Economic Statistics*, 38(4), 796-809.

Dynamic Semiparametric Models for Expected Shortfall (and Value-at-Risk), (with Johanna F. Ziegel and Rui Chen), 2019, *Journal of Econometrics*, 211(2), 388-413.

Modeling and Forecasting (Un)Reliable Realized Covariances for More Reliable Financial Decisions, (with Tim Bollerslev and Rogier Quaedvlieg), 2018, *Journal of Econometrics*, 207(1), 71-91.

Time-Varying Systemic Risk: Evidence from a Dynamic Copula Model of CDS Spreads, (with Dong Hwan Oh), 2018, *Journal of Business & Economic Statistics*, 36(2), 181-195.

Asymptotic Inference about Predictive Ability using High Frequency Data, (with Jia Li), 2018, *Journal of Econometrics*, 203(2), 223-240.

Modelling Dependence in High Dimensions with Factor Copulas, (with Dong Hwan Oh), 2017, *Journal of Business & Economic Statistics*, 35(1), 139-154.

High Dimension Copula-Based Distributions with Mixed Frequency Data, (with Dong Hwan Oh), 2016, *Journal of Econometrics*, 193, 349-366.

Daily House Price Indexes: Construction, Modeling, and Longer-Run Predictions, (with Tim Bollerslev and Wenjing Wang), 2016, *Journal of Applied Econometrics*, 31, 1005-1025.

Exploiting the Errors: A Simple Approach for Improved Volatility Forecasting, (with Tim Bollerslev and Rogier Quaedvlieg), 2016, *Journal of Econometrics*, 192, 1-18.

The Impact of Hedge Funds on Asset Markets, (with Mathias Kruttli and Tarun Ramadorai), 2015, *Review of Asset Pricing Studies*, 5(2), 185-226.

Change You Can Believe In? Hedge Fund Data Revisions, (with Tarun Ramadorai and Michael Streatfield), 2015, *Journal of Finance*, 70(3), 963-999.

Does Anything Beat 5-Minute RV? A Comparison of Realized Measures Across Multiple Asset Classes, (with Lily Liu and Kevin Sheppard), 2015, *Journal of Econometrics*, 187(1), 293-311.

Dynamic Copula Models and High Frequency Data, (with Irving De Lira Salvatierra), 2015, *Journal of Empirical Finance*, 30(1), 120-135.

Good Volatility, Bad Volatility: Signed Jumps and the Persistence of Volatility, (with Kevin Sheppard), 2015, *Review of Economics & Statistics*, 97(3), 683-697.

Copulas in Econometrics, (with Yanqin Fan), 2014, *Annual Review of Economics*, 6, 179-200.

On the High Frequency Dynamics of Hedge Fund Risk Exposures, (with Tarun Ramadorai), 2013, *Journal of Finance*, 68(2), 597-635.

Simulated Method of Moments Estimation for Copula-Based Multivariate Models, (with Dong Hwan Oh), 2013, *Journal of the American Statistical Association*, 108(502), 689-700.

Does Beta Move with News? Systematic Risk and Firm-Specific Information Flows, (with Michela Verardo), 2012, *Review of Financial Studies*, 25(9), 2789-2839.

Forecast Rationality Tests Based on Multi-Horizon Bounds, (with Allan Timmermann), 2012, *Journal of Business & Economic Statistics*, 30(1), 1-17.

A Review of Copula Models for Economic Time Series, 2012, *Journal of Multivariate Analysis*, 110, 4-18.

Data-Based Ranking of Realised Volatility Estimators, 2011, *Journal of Econometrics*, 161(2), 284-303.

Predictability of Output Growth and Inflation: A Multi-Horizon Survey Approach, (with Allan Timmermann), 2011, *Journal of Business & Economic Statistics*, 29(3), 397-410.

Volatility Forecast Comparison using Imperfect Volatility Proxies, 2011, *Journal of Econometrics*, 160(1), 246-256.

Why do Forecasters Disagree? Lessons from the Term Structure of Cross-Sectional Dispersion, (with Allan Timmermann), 2010, *Journal of Monetary Economics*, 57, 803-820.

Monotonicity in Asset Returns: New Tests with Applications to the Term Structure, the CAPM & Portfolio Sorts, (with A. Timmermann), 2010, *Journal of Financial Economics*, 98, 605-25.

Are "Market Neutral" Hedge Funds Really Market Neutral?, 2009, *Review of Financial Studies*, 22(7), 2495-2530.

Optimal Combinations of Realised Volatility Estimators, (with Kevin Sheppard), 2009, *International Journal of Forecasting*, 25(2), 218-238.

Testing Forecast Optimality under Unknown Loss, (with Allan Timmermann), 2007, *Journal of the American Statistical Association*, 102(480), 1172-1184.

Properties of Optimal Forecasts under Asymmetric Loss and Nonlinearity, (with Allan Timmermann), 2007, *Journal of Econometrics*, 140(2), 884-918.

Modelling Asymmetric Exchange Rate Dependence, 2006, *International Economic Review*, 47, 527-556.

Common Factors in Conditional Distributions for Bivariate Time Series, (with Clive W. J. Granger and Timo Teräsvirta), 2006, *Journal of Econometrics*, 132(1), 43-57.

Estimation of Multivariate Models for Time Series of Possibly Different Lengths, 2006, *Journal of Applied Econometrics*, 21(2), 147-173.

Impacts of Trades in an Error-Correction Model of Quote Prices, (with Robert F. Engle), 2004, *Journal of Financial Markets*, 7(1), 1-25.

On the Out of Sample Importance of Skewness and Asymmetric Dependence for Asset Allocation, 2004, *Journal of Financial Econometrics*, 2(1), 130-168.

What Good is a Volatility Model? (with Robert F. Engle), March 2001, *Quantitative Finance*,1,237-245.

Multivariate GARCH Modeling of Exchange Rate Volatility Transmission in the European Monetary Union, (with Colm Kearney), February 2000, *The Financial Review*, 35(1), 25-46.

## OTHER PUBLICATIONS

Non-Standard Errors, (with Albert J. Menkveld + 341 other co-authors), 2024, *Journal of Finance*, 79(3), 2339-2390.

Discussion of "Of Quantiles and Expectiles: Consistent Scoring Functions, Choquet Representations, and Forecast Rankings," by Ehm, Gneiting, Jordan and Krüger, *Journal of the Royal Statistical Society*, 78(3), 505-562.

Discussion of "Comparing Predictive Accuracy, Twenty Years Later: A Personal Perspective on the Use and Abuse of Diebold-Mariano Tests" by F. X. Diebold, *Journal of Business & Economic Statistics*, 33(1), 22-24.

Copula Methods for Forecasting Multivariate Time Series, 2013, in G. Elliott and A. Timmermann (eds.), *Handbook of Economic Forecasting,* Volume 2, Elsevier.

Correction to "Automatic Block-Length Selection for the Dependent Bootstrap", (with Dimitris N. Politis and Halbert White), 2009, *Econometric Reviews,* 28(4), 372-375.

Generalized Forecast Errors, A Change of Measure, and Forecast Optimality, (with Allan Timmermann), 2010, in T. Bollerslev, J.R. Russell and M.W. Watson (eds.), *Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle*, Oxford University Press.

Copula Models for Financial Time Series, 2009. in T.G. Andersen, R.A. Davis, J.-P. Kreiss and T. Mikosch (eds.) *Handbook of Financial Time Series*, Springer Verlag.

Evaluating Volatility and Correlation Forecasts, (with K. Sheppard), 2009. in T.G. Andersen, R.A. Davis, J.-P. Kreiss and T. Mikosch (eds.) *Handbook of Financial Time Series*, Springer.

Non-Linearities and Stress Testing, (with M. Drehmann and S. Sorensen), 2006, *Proceedings of the 4th Joint Central Bank Research Conference on Risk Measurement and Systemic Risk*.

Book review: "Copula Methods in Finance", by U. Cherubini, E. Luciano and W. Vecchiato, 2004, John Wiley & Sons. In *RISK*, June 2005, 18(6).

## WORKING PAPERS

Granular Betas and Risk Premium Functions, with Tim Bollerslev and Rogier Quaedvlieg, October 2022, revised May 2024.

Bespoke Realized Volatility: Tailored Measures of Risk for Volatility Prediction, with Haozhe Zhang, October 2022, revised April 2024.

Testing Forecast Rationality for Measures of Central Tendency, with Timo Dimitriadis and Patrick Schmidt, October 2019, revised May 2023.

Generalized Autoregressive Score Trees and Forests, with Yasin Simsek, working paper, May 2023, revised February 2024.

Intraday Variation in Systematic Risks and Information Flows, with Yasin Simsek, work-in-progress, July 2024.

## AWARDS, HONOURS, AND GRANTS

Invited speaker, Econometric Society Australasian Meeting, Melbourne, 2024
Keynote speaker, Financial Econometrics Meets Machine Learning conference, Lugano, 2024
Best Associate Editor award, *Journal of Econometrics*, 2023
Invited speaker, Midwest Econometrics Group annual meeting, Cleveland, 2023
Distinguished Visitor, Department of Econometrics and Business Statistics, Monash University, 2023
BlackRock best paper award, Australasian Banking and Finance Conference, Sydney, 2021
Fellow, International Association for Applied Econometrics, 2021
Invited speaker, North American Summer Meeting of the Econometric Society, virtual, 2021
AQR Insight Award, Honorable Mention, 2019
Fellow, *Journal of Econometrics*, 2019
Keynote speaker, Time Series & Forecasting Symposium, Sydney, 2018
Australian Research Council Grant, 2018-21. (With J. Alcock, D. Foster, and S. Satchell)
Most downloaded paper, *Journal of Multivariate Analysis*, 2017
Keynote speaker, $EC^2$ Conference on Time-Varying Parameters, Amsterdam, 2017
Invited lecture, Workshop on Dependence modeling tools for risk management, Montreal, 2017
Giannini Memorial Lecture, International Association for Applied Econometrics meeting, Milan, 2016
*Review of Asset Pricing Studies* keynote paper, SFS Finance Cavalcade, Toronto, 2016
Boxer Faculty Fellow, Stern School of Business, New York University, 2015-2016.
Invited speaker, Nordic Econometric Society meeting, Helsinki, 2015
Best Paper award, Napa Conference on Financial Markets Research, 2014
Fellow, Society for Financial Econometrics, 2013
Invited speaker, Symposium on Econometric Theory and Applications (SETA), Seoul, 2013
Invited lecturer, OMI-SoFiE Financial Econometrics Summer School, Oxford, 2013
US Junior Oberwolfach Fellow, 2012
*Journal of Business and Economic Statistics* invited paper, 2011
Invited speaker, Society for Financial Econometrics (SoFiE) conference, Melbourne, 2010
*Journal of Financial Econometrics* "Robert F. Engle" prize, 2007
Inquire UK Research Grant 05-04, 2006
The Leverhulme Trust Research Grant, 2005-07
Inquire UK Best Paper award, 2004
Engineering & Physical Sciences Research Grant, 2005-07. (With R. Anderson and A. Mele)
Zellner Thesis Award in Business and Economic Statistics, Honorable Mention, 2004
UCSD Project in Econometric Analysis Fellowship, 2000-01 and 2001-02
Walter P. Heller Prize for Best Third Year Research Paper, 2001
UCSD Dean of Social Sciences Research Travel Grant, 2001
University of Technology, Sydney, University Medal, 1997
University of Technology, Sydney, Honours Scholarship, 1997
Commonwealth Bank of Australia - R.A.P. Jackson Scholarship, 1994-96

## OTHER EMPLOYMENT AND AFFILIATIONS

| | |
|---|---|
| President, Society for Financial Econometrics | 7/2023-present |
| Member, Society for Financial Econometrics Council | 6/2019 – present |
| Associate Member, Financial Markets Group, LSE | 3/2012 – present |
| Research Affiliate, Volatility Institute, New York University | 8/2009 – present |
| Visitor, School of Banking & Finance, UNSW Sydney | 7/2022-6/2023 |
| Member, Model Validation Council, Federal Reserve Board of Governors | 3/2019 –12/2021 |
| Associate Member, Nuffield College Oxford | 1/2009 – 12/2016 |
| Associate Member, Oxford-Man Institute of Quantitative Finance | 8/2009 – 10/2016 |

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|---|---|
| Visiting Professor of Finance, University of Sydney | 12/2013, 11/2014, 11/2018 |
| Official Fellow, St John's College Oxford | 9/2007 – 9/2008 |
| Academic consultant to the Bank of England | 10/2004 – 7/2008 |
| Visiting Scholar, University of Technology, Sydney | 7/2003 |

## GRADUATE STUDENT SUPERVISION

PhD STUDENT SUPERVISION

| | | | |
|---|---|---|---|
| Berna Kötehne | Duke | primary advisor | 2028 (expected) |
| Yasin Simsek | Duke | primary advisor | 2026 (expected) |
| Saketh Aleti | Duke | committee member | 2024 |
| Haozhe Zhang | Duke | primary advisor | 2022 |
| Morad Elsaify | Duke | committee member | 2021 |
| Rui Chen | Duke | primary advisor | 2020 |
| Peter Horvath | Duke | primary advisor | 2020 |
| Guilherme Salome | Duke | committee member | 2020 |
| Congshan Zhang | Duke | committee member | 2020 |
| Yuan Xue | Duke | committee member | 2018 |
| Robert Davies | Duke | committee member | 2017 |
| Bingzhi (Ben) Zhao | Duke | committee member | 2017 |
| Irving De Lira Salvatierra | Duke | primary advisor | 2015 |
| Lily Liu | Duke | primary advisor | 2015 |
| Yan Liu | Duke | committee member | 2014 |
| Dong Hwan Oh | Duke | primary advisor | 2014 |
| Erik Vogt | Duke | committee member | 2014 |
| Wenjing Wang | Duke | co-primary advisor | 2014 |
| Lai Xu | Duke | committee member | 2014 |
| Ben Carlston | Duke | primary advisor | 2013 |
| Sophia Zhengzi Li | Duke | committee member | 2013 |
| Aurel Hizmo | Duke | committee member | 2011 |
| Runquan Chen | LSE | primary advisor | 2009 |
| Sheng Li | LSE | second advisor | 2006 |
| Moacir Fernandez | LSE | second advisor | 2004 |

PhD / HABILITATION THESIS EXAMINATIONS

| | | |
|---|---|---|
| Andrea De Polis | University of Warwick Business School | September 2023 |
| Mathias Siggaard | Aarhus University, Department of Economics | October 2022 |
| Mamiko Yamashita | Toulouse School of Economics | December 2020 |
| Abdelaati Daouia | Toulouse School of Economics | March 2019 |
| Pekka Tolonen | University of Oulu, Department of Finance | February 2014 |
| Jakob Stöber | Technische Universität München | May 2013 |
| Cavit Pakel | University of Oxford, Department of Economics | June 2012 |
| Thijs Markwat | Erasmus Univ. Rotterdam, Dept of Econometrics | March 2011 |
| Rafael V. Fluentes | University of Essex, Department of Economics | February 2009 |
| George Lentzas | University of Oxford, Department of Economics | December 2007 |
| Peng Yu | Lancaster University, Department of Finance | March 2007 |
| Emese Lazar | University of Reading, Department of Finance | November 2006 |
| Freyan Panthaki | LSE, Department of Finance | September 2006 |
| Ryan Love | LSE, Department of Economics | May 2005 |

## PROFESSIONAL ACTIVITIES

### EDITORIAL BOARDS AND RESEARCH COMMITTEES

| | |
|---|---|
| 2024 – present: | Associate Editor, *Review of Financial Studies* |
| 2015 – 2018, 2022 - present: | Associate Editor, *Journal of Econometrics* |
| 2013 – present: | Assessor, Australian Research Council |
| 2009 – present: | Associate Editor, *Journal of Business and Economic Statistics* |
| 2022: | Guest Editor, Special issue of the *Journal of Econometrics* |
| 2016 – 2022: | Associate Editor, *Review of Asset Pricing Studies* |
| 2020 – 2021: | Organizer, Society for Financial Econometrics Seminar Series |
| 2014 – 2019: | Associate Editor, *Journal of the American Statistical Association* |
| 2015 – 2019: | Managing Editor, *Journal of Financial Econometrics* |
| 2015 – 2016: | Co-Editor, *Journal of Applied Econometrics* |
| 2013 – 2015: | Co-Editor, *Econometrics Journal* |
| 2012 – 2015: | Co-Editor, *Journal of Financial Econometrics* |
| 2010 – 2015: | Associate Editor, *Journal of Applied Econometrics* |
| 2008 – 2012: | Associate Editor, *Econometrics Journal* |
| 2007 – 2010: | Associate Editor, *International Journal of Forecasting* |
| 2006 – 2009: | Research committee, Inquire UK |
| 2006 – 2009: | Associate Editor, *Studies in Nonlinear Dynamics and Econometrics* |

### AD HOC REFEREE

*American Economic Review, Annals of Statistics, Biometrika, Econometrica,* Economic & Social Research Council (UK), European Research Council, *Financial Analysts Journal, IMF Staff Papers, Journal of Applied Econometrics, Journal of the American Statistical Association, Journal of Business & Economic Statistics, Journal of Econometrics, Journal of Finance, Journal of Financial Econometrics, Journal of Financial Economics, Journal of Monetary Economics, Journal of Political Economy, Journal of the Royal Statistical Society,* National Science Foundation (USA), Oxford University Press, Princeton University Press, *Quantitative Economics, Quarterly Journal of Economics, Review of Economic Studies, Review of Economics and Statistics, Review of Finance, Review of Financial Studies,* and many others.

### CONFERENCE COMMITTEES

CREST conference on Hedge Funds, Paris (2011-2024)
European Financial Management Association (2023)
Society for Financial Econometrics (SoFiE) conference (2009, 2012-2024)
Society for Financial Studies Cavalcade North America (2021-2024)
International Association for Applied Econometrics meeting (2015, 18, 19, 20, 22, 24x2)
Napa Conference on Financial Markets Research (2015-2022)
Program chair: Society for Financial Econometrics annual conference (2022)
Finance Down Under conference (2015-2020)
European Econometric Society meetings (2006-2009, 2019)
Vienna/Humboldt -Copenhagen Conference on Financial Econometrics (2011, 2017)
Volatility Institute conference, New York University (2016)
Midwest Finance Association (2016, 2024)
Mathematics and Statistics of Quantitative Risk Management, Oberwolfach (2015)
Oxford-Man Institute Hedge Fund Conference, Oxford (2009-2011)
NBER-NSF Time Series conference, Duke University (2010)
London-Oxford Financial Econometrics workshop (2006, 2007x2, 2008)
European Finance Association Doctoral Seminar (2004, 2005, 2007)

(EC)² Conference (Aarhus 2009; Rotterdam 2006)
Global Finance conference (2005, 2006)
European Finance Association (2004)

CONFERENCE PRESENTATIONS

2024: Financial Econometrics conference (Toulouse School of Economics), Society for Financial Econometrics annual conference (Rio de Janeiro), Econometric Society Australasian Meeting (Monash University)

2023: Machine Learning in Business workshop (University of Sydney), Advances in Financial Econometrics: A Conference in Honor of Torben Andersen (Copenhagen Business School), Society for Financial Econometrics annual conference (Seoul), Midwest Econometrics Group annual meeting (Cleveland), Forecasting workshop (Karlsruhe Institute of Technology)

2022: Financial Econometrics Workshop (Macquarie University), Time Series and Forecasting Symposium (University of Sydney), 35th Australasian Finance and Banking Conference (Sydney)

2021: North American Summer Meeting of the Econometric Society (Montreal/virtual), Conference on Econometrics and Business Analytics (St. Petersburg/virtual), Bristol Financial Markets Conference, Workshop on Financial Econometrics (Universidade Federal do Rio Grande do Sul/virtual), 34th Australasian Finance and Banking Conference (Sydney/virtual)

2020: ~~Rodney L. White Conference on Financial Decisions and Asset Markets (U. Penn), The Econometrics and Macroeconomics and Finance: A Conference in Honor of Francis X. Diebold (Dallas)~~, ~~Applied Time Series Workshop (St. Louis Fed),~~ Society for Financial Studies Cavalcade (Chapel Hill/virtual), ), Econometric Society World Congress (Milan/virtual), European Finance Association (Helsinki/virtual), 40th International Symposium on Forecasting (Rio de Janeiro/virtual), EC² conference: High Dimensional Modeling in Time Series (Paris/virtual)

2019: Market Microstructure and High Frequency Data (Chicago), SFS Finance Cavalcade (Pittsburgh), AQR Insight Award conference, NBER Summer Institute, Triangle Econometrics Conference (Durham), EC² Conference (Oxford)

2018: Market Microstructure and High Frequency Data (Chicago), Quantitative Finance and Financial Econometrics (Marseille), NBER Summer Institute, Italian Econometric Society summer school (Perugia), Conference in Honor of Tim Bollerslev's 60th Birthday (UCSD), Time Series and Forecasting Symposium (Sydney)

2017: Financial Econometrics and Risk Management conference (Western University), Financial Econometrics workshop (Toulouse), Stochastic Dynamical Models in Mathematical Finance, Econometrics, and Actuarial Sciences (EPF Lausanne), Society for Financial Econometrics conference (New York), Bundesbank Forecasting Workshop (Frankfurt), Dependence Modeling Tools for Risk Management (University of Montreal), EC² Conference on Time-Varying Parameters (Amsterdam)

2016: Frontiers in Financial Econometrics (Hitotsubashi University), Salomon Center Research Day (NYU), Financial Econometrics workshop (Toulouse School of Economics), SFS Finance Cavalcade (Toronto), Risk and Dependence: Theory and Applications (Columbia), Society for Financial Econometrics conference (Hong Kong), International Association for Applied Econometrics meeting (Milan), French Econometrics conference (Paris)

2015: Forecasting in Macro and Finance (Federal Reserve Bank of St. Louis), Nordic Econometric Society meeting (Helsinki), NBER Summer Institute, Econometric Society World Congress (Montreal), Swiss Finance Institute (Zurich)

2014: Napa Conference on Financial Markets Research, Q Group Spring conference (Charleston), Financial Econometrics workshop (Toulouse School of Economics), Global ARC conference (London and Boston), Joint Statistical Meetings (Boston), Realized Volatility conference (Montreal), New Horizons in Copula Modeling (Montreal)

2013: North American Econometric Society meetings (San Diego), Multivariate Time Series Modelling and Forecasting conference (Monash University), Humboldt-Copenhagen Conference in Financial Econometrics (Berlin), Forecasting in Macro and Finance (Federal Reserve Bank of St. Louis), CIREQ conference on Financial and Time Series Econometrics (Montreal), NBER Summer Institute on Forecasting and Empirical Methods (Boston), International Symposium on Econometric Theory and Applications SETA (Seoul), Financial Econometrics workshop, (Natal, Brazil)

2012: Mathematics and Statistics of Quantitative Risk Management (Oberwolfach), Volatility Institute conference (NYU), High Frequency Data and Algorithmic Trading (Isle of Skye), Conference in Honor of Timo Teräsvirta (Ebeltoft), Society for Financial Econometrics conference (Oxford), NBER Summer Institute on Forecasting and Empirical Methods (Boston), Joint Statistical Meetings (San Diego)

2011: North American Econometric Society meetings (Denver), Copulas in Econometrics conference (Rotterdam), Humboldt/Copenhagen Financial Econometrics Conference (Copenhagen), Handbook of Economic Forecasting conference (St Louis), Copula Models and Dependence workshop (Montreal), Western Finance Association meetings (Santa Fe), Econometric Society Australasian meetings (Adelaide), Recent Trends and Advances in Econometrics workshop, Monash University (Mebourne), Frontiers of Financial Econometrics workshop, Queensland University of Technology (Brisbane), Hedge Fund Conference (Vanderbilt), Oxford-Man Institute Hedge Fund conference (Oxford), Triangle Econometrics Conference (Durham)

2010: Econometrics of Hedge Funds conference (Paris), Econometrics and Forecasting in Macroeconomics and Finance (St Louis), Society for Financial Econometrics conference (Melbourne), Econometric Society World Congress (Shanghai)

2009: Econometrics of Hedge Funds conference (Paris), Recent Developments in Financial Econometrics (Berlin), Financial Econometrics workshop (Toulouse School of Economics), Society for Financial Econometrics conference (Geneva), Western Finance Association (San Diego), Frontiers of Financial Econometrics (Princeton), Oxford-Man Institute Hedge Fund Conference (Oxford), Triangle Econometrics Conference, (Durham), Financial Econometrics workshop (Hobart)

2008: North American Econometric Society meetings (New Orleans), Workshop on Nonlinear Economics and Finance (Keele University), Joint UK CFA Society-Inquire UK- Institute of Actuaries seminar (London), Forecasting in Macro and Finance (Federal Reserve Bank of St. Louis), Man Investments Quant Forum (Oxford), Financial Econometrics conference (Imperial College London), Integrating Historical Data and Expectations in Financial Econometrics (LSE), Society for Financial Econometrics conference (New York), Conference in Honor of Rob Engle's 65th Birthday (La Jolla), CREATES Volatility Symposium (University of Aarhus), Econometric Society European meetings (Milan), Forecasting under Model Instability workshop (University of Cambridge)

2007: Forecasting conference (Duke), Financial Econometrics conference (University of York), SITE workshop (Stanford), NBER Summer Institute on Forecasting and Empirical Methods, Econometric Society European meetings (Budapest), Multivariate Volatility Models conference, (Faro), Workshop on Model Evaluation, Predictive Ability and Model Risk (Paris), Adam Smith Asset Pricing conference (Imperial College London), London-Oxford Financial Econometrics workshop (Imperial College London), ECB Workshop on Forecasting Techniques (Frankfurt)

2006: North American Econometric Society meetings (Boston), CIREQ/CIRANO Financial Econometrics conference (Montreal), Financial econometrics workshop (CREST, Paris), Multivariate Modelling in Finance (Sandbjerg), NBER Summer Institute, European Econometric Society meetings (Vienna), Adam Smith Asset Pricing conference (Oxford)

2005: North American Econometric Society meetings (Philadelphia), Workshop on Dependence in Finance (Cass Business School, London), Nonlinear Dynamics and Econometrics Annual Symposium (London), Concordia Hedge Fund Investor conference (Bermuda), Global Finance conference (Dublin), Econometric Society World Congress (London), International Conference on Finance (University of Copenhagen), Hedge 2005 conference (London), $EC^2$ Conference: The Econometrics of Risk and Insurance (Istanbul), Thiele Symposium on Stochastic Volatility (University of Copenhagen)

2004: North American Econometric Society Meetings (San Diego), Deloitte Risk Management Conference (University of Antwerp), LSE FMG 2nd Hedge Fund conference, European Finance Association Annual Meeting (Maastricht), INQUIRE UK conference (Edinburgh), Innovations in Financial Econometrics conference (NYU)

2003: North American Econometric Society Meetings (Washington D.C.), LSE FMG Empirical Finance Conference, Australasian Econometric Society Meetings (Sydney)

2002: Applications of Copulas in Finance workshop (London), Multimoment Capital Asset Pricing Models conference (Paris), North American Econometric Society Meetings (Los Angeles), European Econometric Society Meetings (Venice), European Investment Review Annual Conference (London), Inquire UK Seminar (Bournemouth), NSF/NBER Time Series Conference (Philadelphia), LSE FMG Frontiers in Hedge Fund Management conference, CIREQ/CIRANO Workshop in Financial Econometrics (Montreal), $EC^2$ Conference: Model Selection and Evaluation (Bologna), Quantitative Methods in Finance Conference (Sydney)

Pre-2002: Forecasting Financial Markets Annual Conference (London), Advanced Computing for Financial Markets Conference (Wales), North American Econometric Society Meetings, (Maryland), Western Economic Association Annual Conference (San Francisco)

INVITED SEMINARS

2024: Virtual Time Series seminar, Washington University in St Louis, Virginia Tech

2023: Monash University, Macquarie University, Queensland University of Technology, Johns Hopkins University, University of Chicago, European Central Bank, Bundesbank Research Centre

2022: Boston University, Federal Reserve Board, University of New South Wales, University of Sydney, University of Melbourne, Singapore Management University

2021: UC Riverside, Aarhus University, University of Geneva, Philipps-Universität Marburg, Singapore Management University, Society for Financial Econometrics Seminar Series, Arizona State University, University of York, University of Liverpool

2020: University of Gothenburg, Central European University

2019: University of Chicago, Cornell University

2018: Manchester University, Warwick University, Lancaster University, Universitat Pompeu Fabra, Cambridge University, Bank of England, University of Tennessee, Queensland University of Technology, University of Sydney

2017: Federal Reserve Board, Duke University

2016: University of Southern California, Bank of Japan, National Graduate Institute for Policy Studies (Tokyo), University of Illinois at Urbana-Champaign, Northwestern University, New York Federal Reserve, Boston College, CEMFI

2015: New York University (x2), University of Southern California, University of Pennsylvania, Aalto University, Princeton University, Tinbergen Institute (Amsterdam), Columbia University

2014: UC San Diego, University College London, University of Cambridge, University of Maryland, Duke University, University of Sydney

2013: University of Technology Sydney, University of New South Wales, University of Sydney, New York University, Renmin University (Beijing), Sveriges Riksbank (Stockholm), University of Pennsylvania

2012: NC State University, University of California – San Diego, University of California – Riverside, University at Buffalo, Federal Reserve Board, Cass Business School London, University of Aarhus, Princeton University, University of Chicago, UNC Chapel Hill

2011: Michigan State, Vanderbilt University, Bank of Canada, HEC Montreal, McGill University

2010: University of Montreal, University of Technology Sydney, University of Michigan

2009: University of Warwick, Humboldt University, University of Copenhagen, CREST (Paris), Duke University, University of Massachusetts – Amherst, New York University, University of Tasmania

2008: Oxford, Bank of Italy, Tinbergen Institute Amsterdam, University of Chicago Graduate School of Business, Queensland University of Technology, Duke University, LSE, Erasmus University Rotterdam, University of Piraeus, Athens University of Economics and Business

2007: University College Dublin, Board of Governors of the Federal Reserve, University of Essex, Heriot-Watt University, University of Aarhus, Oxford-Man Institute of Quantitative Finance, University of Lugano

2006: University of Manchester, Cambridge University, City University London, Lancaster University

2005: London School of Economics, University of Pennsylvania, University of York, Bank of England, University of Warwick, University of Reading, University of Sydney, Australian National University, University of Toronto

2004: University of Aarhus, University of Amsterdam, Tilburg University, UC Berkeley, Bank of England, Queen Mary – University of London, Erasmus University Rotterdam, University of Venice, London School of Economics.

2003: London School of Economics, Cass Business School, University of Southampton, Brown University, CORE, University of Warwick, Marmara University, University of Technology Sydney, Monash University, Imperial College London

2002: Michigan State University, Purdue University, UCLA, Board of Governors of the Federal Reserve, Yale University, Princeton University, University of Chicago, Texas A&M University, LSE, University of Oxford, University of Pennsylvania, UC San Diego

Pre-2002: University of Technology Sydney, Monash University, Commonwealth Scientific and Industrial Research Organisation (Sydney), UC San Diego, UC Riverside

CONFERENCE DISCUSSIONS

Financial Econometrics conference, Toulouse School of Economics (2010, 2011, 2014, 2017, 2024)
Midwest Finance Association, Chicago (2024)
UNSW Asset Pricing workshop, Sydney (2022)
Society for Financial Studies Cavalcade, Chapel Hill (2022)
Artificial Intelligence and Big Data in Finance Forum (2022)
Australasian Banking and Finance Conference, Sydney/virtual (2021, 2023)
Western Finance Association meeting, virtual (2021)
Society for Financial Studies Cavalcade, Chapel Hill/virtual (2020)
~~Duke/UNC Asset Pricing Conference (2020)~~
Society for Financial Econometrics annual meeting, New York (2017)
Financial Econometrics conference, Duke University (2016)
Volatility Institute conference, NYU Stern (2010, 2013, 2015, 2016)
BIS conference on Systemic Risk, Buenos Aires (2010)
Oxford-Man Institute Hedge Fund Conference (2009, 2010)
Recent Advances in High Frequency Financial Econometrics, LSE (2008)
Adam Smith Asset Pricing workshop, London School of Economics (2008)
London-Oxford Financial Econometrics workshop (2006, 2007)
Workshop: Dependence or Contagion?, Cass Business School, London (2006)
Measuring Dependence in Finance, Cass Business School, London (2006)
CIREQ conference on Time Series, Montreal, (2005)
INQUIRE UK conference, Edinburgh (2004)
European Finance Association Doctoral Seminar, Maastricht (2004)
European Finance Association Annual Meeting, Maastricht (2004)
American Finance Association Meetings (2004, 2008)
North American Econometric Society Meetings (2003, 2004, 2005, 2014)
LSE FMG Frontiers in Hedge Fund Management conference (2002)
Western Finance Association Annual Meeting, Idaho (2000)

## PERSONAL INFORMATION

NATIONALITY: Australia and USA.
DATE OF BIRTH: 26 March, 1976.