

## Piotr Fryzlewicz

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*(no telephone number – please email to set up a Zoom call)*

- 2022– Professor of Statistics (0.6 FTE, followed by 0.4 FTE), Department of Statistics, London School of Economics, UK. (Deputy Head of Department 2021–22.)
- 2011–2022 Professor of Statistics, Department of Statistics, London School of Economics, UK. (Deputy Head of Department 2019–20, 2021–22.)
- 2009–2011 Reader in Statistics, Department of Statistics, London School of Economics, UK.
- 2005–2009 Lecturer, then Lecturer (0.1 FTE), then Senior Lecturer (0.1 FTE) in Statistics, Department of Mathematics, University of Bristol, UK.
- 2003–2005 Chapman Research Fellow, Department of Mathematics, Imperial College London, UK.
- 2000–2003 PhD in Statistics, Department of Mathematics, University of Bristol, UK. Thesis title: *Wavelet techniques for time series and Poisson data*. Adviser: Prof. Guy Nason.
- 1995–2000 MSci in Mathematics, Faculty of Fundamental Problems of Technology, Wroclaw University of Science and Technology, Poland. 1st class degree (with distinction).

### Professional accreditations

- 2018– Chartered Statistician; the Royal Statistical Society.

### Non-academic work experience and business ownership

- 2022– Quantitative Strategist (0.4 FTE, followed by 0.6 FTE), Nanook Advisors LLP, London, UK.
- 2021– Founder and director, L1L2 Ltd.
- 2008–2009 Researcher (0.9 FTE), Winton Capital Management, London, UK.

### Awards and honours

- 2016 Distinguished Alumnus, Wroclaw University of Science and Technology, Poland.
- 2014–2019 Fellowship; Engineering and Physical Sciences Research Council.
- 2013 Guy Medal in Bronze; the Royal Statistical Society.
- 2007–2008 University Research Fellowship; University of Bristol.
- 2005–2007 Award to Newly Appointed Lecturers in Science, Engineering and Mathematics; Nuffield Foundation.
- 2000–2003 Overseas Research Student Award; Universities UK.

## Editorial and related posts

2023–	Associate Editor, <i>Journal of the American Statistical Association</i>
2021–	Associate Editor, <i>Probability and Mathematical Statistics</i>
2020–	Editorial board reviewer, <i>Journal of Machine Learning Research</i>
2018–	Associate Editor, <i>Journal of Business and Economic Statistics</i>
2018–2019	Series Editor, <i>Chapman &amp; Hall/CRC Monographs on Statistics &amp; Applied Probability</i>
2014–2017	Joint Editor, <i>Journal of the Royal Statistical Society Series B</i>
2012–2014	Associate Editor, <i>Journal of Computational and Graphical Statistics</i>
2012–2014	Associate Editor, <i>Journal of Statistical Planning and Inference</i>
2011–2012	Secretary, Research Section Committee, the Royal Statistical Society, UK
2010–2012	Member, Research Section Committee, the Royal Statistical Society, UK
2010–2013	Associate Editor, <i>Journal of the Korean Statistical Society</i>
2006–2010, 2013	Associate Editor, <i>Journal of the Royal Statistical Society Series B</i>

## Research interests

Time series analysis; detecting and quantifying the uncertainty of change in time-ordered data; multiscale and data-adaptive methods in statistics; causality; reinforcement learning; data-analytic aspects of modern machine learning methods; high-dimensional inference, regularisation and dimension reduction.

## Publications – preprints (year in brackets refers to the latest version)

- A. Kostic and P. Fryzlewicz (2023) A change-point approach to estimating the proportion of false null hypotheses in multiple testing. In submission.
- S. Gavioli-Akilagun and P. Fryzlewicz (2023) Fast and optimal inference for change points in piecewise polynomials via differencing. Under revision.
- L. Hu, M. Li, C. Shi, Z. Wu and P. Fryzlewicz (2022) Doubly inhomogeneous reinforcement learning. In submission.
- M. Li, C. Shi, Z. Wu and P. Fryzlewicz (2022) Testing stationarity and change point detection in reinforcement learning. Under revision.
- R. Baranowski, Y. Chen and P. Fryzlewicz (2024) Multiscale autoregression on adaptively detected timescales. Under revision.

## Publications – in journals

- P. Fryzlewicz (2024) Book review: “Telling Stories with Data: With Applications in R” by Rohan Alexander. *The American Statistician*, to appear.
- P. Fryzlewicz (2024) Robust Narrowest Significance Pursuit: Inference for multiple change-points in the median. *Journal of Business & Economic Statistics*, to appear.
- J. Li, P. Fearnhead, P. Fryzlewicz and T. Wang (2024) Automatic change-point detection in time series via deep learning. *Journal of the Royal Statistical Society Series B* (with discussion), 86, 273–285.
- H. Maeng and P. Fryzlewicz (2024) Detecting linear trend changes in data sequences. *Statistical Papers*, 65, 1645–1675.
- P. Fryzlewicz (2024) Narrowest Significance Pursuit: inference for multiple change-points in linear models. *Journal of the American Statistical Association*, 119, 1633–1646.

- H. Cho and P. Fryzlewicz (2024) Multiple change point detection under serial dependence: Wild contrast maximisation and gappy Schwarz algorithm. *Journal of Time Series Analysis*, 45, 479–494.
- Y. Li, D. Li and P. Fryzlewicz (2023) Detection of multiple structural breaks in large covariance matrices. *Journal of Business & Economic Statistics*, 41, 846–861.
- C. Yuen and P. Fryzlewicz (2022) Exploiting disagreement between high-dimensional variable selectors for uncertainty visualization. *Journal of Computational and Graphical Statistics*, 31, 351–359.
- A. Anastasiou, I. Cribben and P. Fryzlewicz (2022) Cross-covariance isolate detect: a new change-point method for estimating dynamic functional connectivity. *Medical Image Analysis*, 75, 102252.
- A. Anastasiou and P. Fryzlewicz (2022) Detecting multiple generalized change-points by isolating single ones. *Metrika*, 85, 141–174.
- R. Blaser and P. Fryzlewicz (2021) Regularizing axis-aligned ensembles via data rotations that favor simpler learners. *Statistics and Computing*, 31, 15.
- P. Fryzlewicz (2020) Detecting possibly frequent change-points: Wild Binary Segmentation 2 and steepest-drop model selection. *Journal of the Korean Statistical Society* (with discussion), 49, 1027–1070. Rejoinder, 49, 1099–1105.
- R. Baranowski, Y. Chen and P. Fryzlewicz (2020) Ranking-Based Variable Selection for high-dimensional data. *Statistica Sinica*, 30, 1485–1516.
- S. Antier, K. Barynova, P. Fryzlewicz, C. Lachaud and G. Marchal-Duval (2020) Detection of gamma-ray transients with wild binary segmentation. *Monthly Notices of the Royal Astronomical Society*, 493, 4428–4441.
- T. Kley, P. Preuss and P. Fryzlewicz (2019) Predictive, finite-sample model choice for time series under stationarity and non-stationarity. *Electronic Journal of Statistics*, 13, 3710–3774.
- N. Huang and P. Fryzlewicz (2019) NOVELIST estimator of large correlation and covariance matrices and their inverses. *Test*, 28, 694–727.
- H. Maeng and P. Fryzlewicz (2019) Regularized forecasting via smooth-rough partitioning of the regression coefficients. *Electronic Journal of Statistics*, 13, 2093–2120.
- R. Baranowski, Y. Chen and P. Fryzlewicz (2019) Narrowest-Over-Threshold detection of multiple change-points and change-point-like features. *Journal of the Royal Statistical Society Series B*, 81, 649–672.
- P. Fryzlewicz (2018) Likelihood ratio Haar variance stabilization and normalization for Poisson and other non-Gaussian noise removal. *Statistica Sinica*, 28 (special issue in memory of Prof. Peter Hall), 2885–2901.
- P. Fryzlewicz (2018) Tail-greedy bottom-up data decompositions and fast multiple change-point detection. *Annals of Statistics*, 46, 3390–3421.
- M. Barigozzi, H. Cho and P. Fryzlewicz (2018) Simultaneous multiple change-point and factor analysis for high-dimensional time series. *Journal of Econometrics*, 206, 187–225.
- J. Hamilton, M. Nunes, M. Knight and P. Fryzlewicz (2018) Complex-valued wavelet lifting and applications. *Technometrics*, 60, 48–60.
- K. Korkas and P. Fryzlewicz (2017) Multiple change-point detection for non-stationary time series using Wild Binary Segmentation. *Statistica Sinica*, 27, 287–311.

- P. Fryzlewicz and C. Timmermans (2016) SHAH: SHape-Adaptive Haar wavelets for image processing. *Journal of Computational and Graphical Statistics*, 25, 879–898.
- R. Blaser and P. Fryzlewicz (2016) Random rotation ensembles. *Journal of Machine Learning Research*, 17, 1–26.
- M. Valenzuela, I. Zer, P. Fryzlewicz and T. Rheinländer (2015) Relative liquidity and future volatility. *Journal of Financial Markets*, 24, 25–48.
- H. Cho and P. Fryzlewicz (2015) Multiple change-point detection for high-dimensional time series via Sparsified Binary Segmentation. *Journal of the Royal Statistical Society Series B*, 77, 475–507.
- P. Fryzlewicz (2014) Wild Binary Segmentation for multiple change-point detection. *Annals of Statistics*, 42, 2243–2281.
- P. Fryzlewicz and S. Subba Rao (2014) Multiple-change-point detection for auto-regressive conditional heteroscedastic processes. *Journal of the Royal Statistical Society Series B*, 76, 903–924.
- A. L. Schroeder and P. Fryzlewicz (2013) Adaptive trend estimation in financial time series via multiscale change-point-induced basis recovery. *Statistics and Its Interface*, 6, 449–461.
- P. Fryzlewicz (2013) High-dimensional volatility matrix estimation via wavelets and thresholding. *Biometrika*, 100, 921–938.
- O. Christodoulaki, H. Cho and P. Fryzlewicz (2012) A reflection of history: fluctuations in Greek sovereign risk between 1914 and 1929. *European Review of Economic History*, 16, 550–571.
- H. Cho and P. Fryzlewicz (2012) High-dimensional variable selection via tilting. *Journal of the Royal Statistical Society Series B*, 74, 593–622.
- P. Fryzlewicz (2012) Time-Threshold Maps: using information from wavelet reconstructions with all threshold values simultaneously. *Journal of the Korean Statistical Society* (with discussion), 41, 145–159. Rejoinder: Time-Threshold Maps: using information from wavelet reconstructions with all threshold values simultaneously. *Journal of the Korean Statistical Society*, 41, 173–175.
- H. Cho and P. Fryzlewicz (2012) Multiscale and multilevel technique for consistent segmentation of nonstationary time series. *Statistica Sinica*, 22, 207–229. [This paper was presented as part of “Statistica Sinica Editors’ Invited Papers” session at JSM 2012.]
- H. Cho and P. Fryzlewicz (2011) Multiscale interpretation of taut string estimation and its connection to Unbalanced Haar wavelets. *Statistics and Computing*, 21, 671–681.
- P. Fryzlewicz and H.-S. Oh (2011) Thick-pen transformation for time series. *Journal of the Royal Statistical Society Series B*, 73, 499–529.
- P. Fryzlewicz and S. Subba Rao (2011) Mixing properties of ARCH and time-varying ARCH processes. *Bernoulli*, 17, 320–346.
- A. Antoniadis, P. Fryzlewicz and F. Letue (2010) The Dantzig selector in Cox’s proportional hazards model. *Scandinavian Journal of Statistics*, 37, 531–552.
- J. Sanderson, P. Fryzlewicz and M. Jones (2010) Estimating linear dependence between nonstationary time series using the locally stationary wavelet model. *Biometrika*, 97, 435–446.
- P. Fryzlewicz and H. Ombao (2009) Consistent classification of nonstationary time series using stochastic wavelet representations. *Journal of the American Statistical Association*, 104, 299–312.
- P. Fryzlewicz (2008) Data-driven wavelet-Fisz methodology for nonparametric function estimation. *Electronic Journal of Statistics*, 2, 863–896.

- P. Fryzlewicz, G.P. Nason and R. von Sachs (2008) A wavelet-Fisz approach to spectrum estimation. *Journal of Time Series Analysis*, 29, 868–880.
- P. Fryzlewicz, T. Sapatinas and S. Subba Rao (2008) Normalized least-squares estimation in time-varying ARCH models. *Annals of Statistics*, 36, 742–786.
- P. Fryzlewicz (2007) Unbalanced Haar technique for nonparametric function estimation. *Journal of the American Statistical Association*, 102, 1318–1327.
- P. Fryzlewicz (2007) Bivariate hard thresholding in wavelet function estimation. *Statistica Sinica*, 17, 1457–1481.
- P. Fryzlewicz, V. Delouille and G.P. Nason (2007) GOES-8 X-ray sensor variance stabilization using the multiscale data-driven Haar-Fisz transform. *Journal of the Royal Statistical Society Series C*, 56, 99–116.
- E.S. Motakis, G.P. Nason, P. Fryzlewicz and G.A. Rutter (2006) Variance stabilization and normalization for one-color microarray data using a data-driven multiscale approach. *Bioinformatics*, 22, 2547–2553.
- P. Fryzlewicz, T. Sapatinas and S. Subba Rao (2006) A Haar-Fisz technique for locally stationary volatility estimation. *Biometrika*, 93, 687–704.
- P. Fryzlewicz and G.P. Nason (2006) Haar-Fisz estimation of evolutionary wavelet spectra. *Journal of the Royal Statistical Society Series B*, 68, 611–634.
- A. Antoniadis and P. Fryzlewicz (2006) Parametric modelling of thresholds across scales in wavelet regression. *Biometrika*, 93, 465–471.
- P. Fryzlewicz (2005) Modelling and forecasting financial log-returns as locally stationary wavelet processes. *Journal of Applied Statistics*, 32, 503–528.
- P. Fryzlewicz and G.P. Nason (2004) A Haar-Fisz algorithm for Poisson intensity estimation. *Journal of Computational and Graphical Statistics*, 13, 621–638.
- P. Fryzlewicz, S. Van Bellegem and R. von Sachs (2003) Forecasting non-stationary time series by wavelet process modelling. *Annals of the Institute of Statistical Mathematics*, 55, 737–764.

## Publications – other

- X. Kang, P. Fryzlewicz, C. Chu, M. Kramer and E. Kolaczyk (2018) Multiscale network analysis through tail-greedy bottom-up approximation, with applications in neuroscience. Proceedings of 2017 51st Asilomar Conference on Signals, Systems and Computers, 29 October–1 November 2017, DOI: 10.1109/ACSSC.2017.8335617.
- R. Blaser and P. Fryzlewicz (2017) Invited discussion of “Random projection ensemble classification” by Cannings and Samworth. *Journal of the Royal Statistical Society Series B*, 79, 1007.
- P. Fryzlewicz (2016) Invited discussion of “Statistical modelling of citation exchange between statistics journals” by Varin, Cattelan and Firth. *Journal of the Royal Statistical Society Series A*, 179, 49–51.
- P. Fryzlewicz (2014) Discussion of “Multiscale change point inference” by Frick, Munk and Sieling. *Journal of the Royal Statistical Society Series B*, 76, 547–548.
- P. Fryzlewicz (2013) On multi-zoom autoregressive time series models. *Oberwolfach Reports* 48/2013, 21–24.

- P. Fryzlewicz and N. Huang (2013) Invited discussion of “Large covariance estimation by thresholding principal orthogonal complements” by Fan, Liao and Mincheva. *Journal of the Royal Statistical Society Series B*, 75, 648–650.
- P. Fryzlewicz (2010) Wavelet methods. Invited overview paper in *Wiley Interdisciplinary Reviews: Computational Statistics*, 2, 654–667.
- P. Fryzlewicz (2010) On the thick-pen transformation for time series. *Oberwolfach Reports* 05/2010, 27–30.
- H. Cho and P. Fryzlewicz (2008) Multiscale breakpoint detection in piecewise stationary AR models. Proceedings of IASC 2008, Yokohama, Japan, 5–8 December 2008.
- J. Sanderson and P. Fryzlewicz (2007) Locally stationary wavelet coherence with application to neuroscience. Proceedings of the 56th Session of the International Statistical Institute, Lisbon, Portugal, 22–29 August 2007.
- J. Sanderson and P. Fryzlewicz (2007) Locally stationary wavelet coherence with application to neuroscience. Proceedings of the LASR 2007 Workshop: Systems Biology & Statistical Bioinformatics, Leeds, UK, 4–6 July 2007.
- P. Fryzlewicz and V. Delouille (2005) A data-driven Haar-Fisz transform for multiscale variance stabilization. Proceedings of the 13th IEEE/SP Workshop on Statistical Signal Processing, 17–20 July 2005, pages 539–544.
- S. Van Bellegem, P. Fryzlewicz and R. von Sachs (2003) A wavelet-based model for forecasting non-stationary processes. In *GROUP 24: Physical and Mathematical Aspects of Symmetries*, Eds. J-P. Gazeau, R. Kerner, J-P. Antoine, S. Metens, J-Y. Thibon; IOP Publishing, Bristol.

## Software

R packages available from CRAN: `breakfast`, `ccid`, `DDHFm`, `factorcpt`, `forecastSNSTS`, `haarfisz`, `hdbinseg`, `IDetect`, `not`, `novelist`, `nsp`, `srp`, `tilting`, `trendsegmentR`, `unbalhaar`, `wbs`, `wbsts`. Contributed to `CNLTreg`, `CNLTtsa`, `wavethresh`.

## Research grants

- 2021-24 *Was that change real? Quantifying uncertainty for change points*. Principal Investigator. EPSRC grant EP/V053639/1. £323,942. Collaboration with Paul Fearnhead at Lancaster University (EP/V053590/1, £267,420).
- 2014-19 *New challenges in time series analysis*. Principal Investigator. EPSRC Fellowship EP/L014246/1. £1,044,886.
- 2011-12 *Statistical techniques for analysing the relationship between the content of microblogs and the behaviour of financial markets*. Research Seed Fund, London School of Economics. £4,000+3,000.
- 2010 Funding from the Institute for Mathematical Sciences, National University of Singapore, to organise a thematic programme on “Financial Time Series Analysis: High-dimensionality, Non-stationarity and the Financial Crisis”, 1–22 June 2012. With Ying Chen (NUS) and Qiwei Yao. SGD 100,000.

- 2010 Royal Society Conference Grant to attend the 2010 Joint Statistical Meetings, Vancouver, Canada, 31 July – 5 August 2010. £2,620.
- 2008 Royal Society Conference Grant to attend the International Conference on Statistical Paradigms – Recent Advances and Reconciliations, Kolkata, India, 1–4 January 2008. £1,540.
- 2007 Royal Society Conference Grant to attend the 56th Session of the International Statistical Institute, Lisbon, Portugal, 22–29 August 2007. £1,113.
- 2007–2008 University Research Fellowship, University of Bristol. £7,673.
- 2005–2007 *Locally stationary financial time series models*. Sole investigator. Award to Newly Appointed Lecturers in Science, Engineering and Mathematics; Nuffield Foundation. £5,000.
- 2004 *Model selection & smoothing for locally stationary wavelet time series*. Co-Investigator. EPSRC Mathematics Small Grant GR/T22278/01. £10,103.

### Postdoctoral colleagues

- 2021-2023 Dr Jie Li, funded by EPSRC grant EP/V053639/1 (“Was that change real? Quantifying uncertainty for change points”).
- 2016-2019 Dr Andreas Anastasiou, funded by EPSRC Fellowship EP/L014246/1 (“New challenges in time series analysis”).
- 2015-2018 Dr Tobias Kley, funded by EPSRC Fellowship EP/L014246/1 (“New challenges in time series analysis”).

### Graduate students

Rafal Baranowski, viva passed November 2016. Thesis title: “On variable selection in high dimensions, segmentation and multiscale time series”.

Rico Blaser, viva passed December 2021. Thesis title: “Random rotations in machine learning”.

Wenqian Cheng, viva passed November 2016. Thesis title: “Statistical data mining for a Chinese micro-blog: sentiment modelling and randomness reduction for topic modelling”.

Haeran Cho, viva passed November 2010. Thesis title: “Sparse modelling and estimation for nonstationary time series and high-dimensional data”. In 2010, Haeran won a Laha Travel Award, awarded by the Institute of Mathematical Statistics, to attend the IMS 2010 Annual Meeting (Gothenburg, Sweden).

Shakeel Gavioli-Akilagun, viva passed March 2024. Thesis title: “On inference and causality in change point regressions”.

Jean Hamilton, viva passed June 2010. Thesis title: “Wavelet methods for time series with bivariate observations and irregular sampling grids”.

Na Huang, viva passed June 2016. Thesis title: “Estimation of covariance, correlation and precision matrices for high-dimensional data”.

Karolos Korkas, viva passed November 2014. Thesis title: “Randomised and  $L_1$ -penalty approaches to segmentation in time series and regression models”.

Anica Kostic, viva passed November 2022. Thesis title: “On change-point perspectives in multiple testing and weak signal inference”.

Hyeyoung Maeng, viva passed December 2019. Thesis title: “Adaptive multiscale approaches to regression and trend segmentation”. In 2019, Hyeyoung won a Hannan Graduate Student Travel Award, awarded by the Institute of Mathematical Statistics, to attend JSM 2019 (Denver, USA).

Anna Louise Schroeder, viva passed May 2016. Thesis title: “Methods for change-point detection with additional interpretability”.

Shuhan Yang, viva passed January 2024. Thesis title: “Tools for model selection for mean-nonstationary time series”.

Lok Ting (Christine) Yuen, viva passed January 2021. Thesis title: “High-dimensional variable selection and time series classification and forecasting with potential change-points”.

## Academic visits

CEA-Saclay, France (2015), University of Toulouse, France (2014), National University of Singapore (2012), University Cergy Pontoise, France (2012), Ruhr University Bochum, Germany (2011), Princeton University, USA (2011), Texas A&M University, USA (2010), Seoul National University, Korea (2009, 2011), The Chinese University of Hong Kong (2008), Joseph Fourier University, Grenoble, France (2007), *Statistics for Innovation* Centre, Norway (2007), University of Illinois at Urbana-Champaign, USA (2007), Royal Observatory of Belgium (2006), University of Cyprus (2004, 2007, 2009), numerous visits at the Catholic University of Louvain, Belgium (2001–2012).

## Invited conference and seminar talks

2004– UK seminar talks: Cardiff University (2022); University of York (2021, 2014, 2005); University of Kent (2019, 2009); Imperial College London (2018, 2008, 2004); Alan Turing Institute (2017); University of Southampton (2016); University of Bristol (2015); University of Cambridge (2015, 2010); University of Oxford (2014 [Nomura seminar], 2011, 2007); University College London (2013, 2008); University of Glasgow (2013); Brunel University (2013); University of Warwick (2013); University of Birmingham (2012); University of Bath (2012); Open University (2012); University of Leeds (2012, 2005); University of Sheffield (2010); London School of Economics (2010, 2008, 2006); Lancaster University (2008); University of Liverpool (2006).

2024 – Department of Mathematics, Otto-von-Guericke University Magdeburg, Germany, virtual

2023 – 2023 Joint Statistical Meetings, Toronto, Canada  
– Royal Statistical Society Discussion Meeting: “Probabilistic and statistical aspects of machine learning” (keynote session at the RSS 2023 International Conference, Harrogate, UK)

2022 – International Conference on Robust Statistics (ICORS 2022), virtual  
– DAGStat Conference 2022, virtual  
– Department of Statistics, University of Florida, virtual  
– Department of Statistics, The Chinese University of Hong Kong, virtual  
– 2022 Joint Statistical Meetings, Washington DC, USA



- 2021 – Hong Kong Baptist University Mathematics Conference for the 60th Anniversary of the Faculty of Science, virtual  
– 2021 Joint Statistical Meetings, virtual  
– Department of Economics and Business, Universitat Pompeu Fabra, Spain, virtual  
– “Stein’s Method and High-Dimensional Time Series”, Heilbronn Institute for Mathematical Research workshop, Bristol, UK, virtual  
– StatScale Workshop 2021, Lancaster University, UK, virtual
- 2020 – UCLA Statistics Seminar, USA, virtual
- 2019 – CMStatistics 2019, London, UK  
– Workshop on Change Point Detection: Limit Theorems, Algorithms, and Applications in Life Sciences, University of Greifswald, Germany
- 2018 – Workshop on Data Science Theory and Practice, LSE, UK  
– “Statistics of geometric features and new data types”, Isaac Newton Institute workshop, Cambridge, UK  
– York Econometric Symposium, University of York, UK  
– 5th Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Singapore  
– 2018 Joint Statistical Meetings, Vancouver, Canada
- 2017 – 2017 Joint Statistical Meetings, Baltimore, USA  
– Department of Finance, Accounting and Statistics, Vienna University of Economics and Business, Austria  
– Statistics Department, The Wharton School, University of Pennsylvania, USA  
– CMStatistics 2017, London, UK
- 2016 – 2016 Joint Statistical Meetings, Chicago, USA  
– 2nd UCL Workshop on the Theory of Big Data, London, UK
- 2015 – CMStatistics 2015, London, UK  
– “Statistical and Computational Challenges in Large-Scale Data Analysis”, Alan Turing Institute Scoping Workshop, University of Cambridge, UK  
– CRiSM workshop on “Non-likelihood Based Statistical Modelling”, University of Warwick, UK  
– “Data science in particle physics, astrophysics and cosmology”, joint AIM/APC/LAL Seminar, Paris, France  
– Distinguished Speaker seminar series, Jump Trading International Ltd, London, UK
- 2014 – “International Conference on Statistical Analysis of Large Scale High Dimensional Socio-Economic Data”, Sendai, Japan  
– “Nonlinear time series analysis – thresholding and beyond”, London School of Economics, UK  
– “New Developments in Econometrics and Time Series”, Rome, Italy  
– Institute of Mathematical Statistics Annual Meeting, Sydney, Australia  
– 3rd Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Taipei, Taiwan

- Workshop on “Recent Advances and Trends in Time Series Analysis: Nonlinear Time Series, High Dimensional Inference and Beyond”, Banff International Research Station, Canada
  - “Recent Advances in Time Series Econometrics”, University College London, UK
  - Newton Institute Programme on Inference for Change-Point and Related Processes, Cambridge
- 2013
- Workshop on “Statistical Inference for Complex Time Series Data”, Oberwolfach Research Institute for Mathematics, Germany
  - 29th European Meeting of Statisticians, Budapest, Hungary
  - Swiss Statistics Seminar, Bern, Switzerland
  - “Recent Developments in Financial Econometrics”, Humboldt-Copenhagen Conference 2013, Berlin, Germany
  - Workshop on “Recent Advances in Nonstationary Time Series”, Lancaster University, UK
  - Workshop on the change-point problem and its applications, Cass Business School, City University, UK
- 2012
- 2012 Joint Statistical Meetings, San Diego, USA
  - 2nd Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Tsukuba, Japan
  - Cergy-Pontoise University, France
- 2011
- 5th CSDA International Conference on Computational and Financial Econometrics, London
  - Department of Mathematics, Université Libre de Bruxelles, Belgium
  - Department of Statistics, Dortmund University of Technology, Germany
  - 58th Congress of the International Statistical Institute, Dublin, Ireland
  - 2011 Joint Statistical Meetings, Miami Beach, Florida, USA
  - Department of Finance, Accounting and Statistics, Vienna University of Economics and Business, Austria
  - Department of Economics and Finance, Institute for Advanced Studies, Vienna, Austria
  - Institute of Statistics, Catholic University of Louvain, Belgium
  - Department of Quantitative Economics, School of Business and Economics, Maastricht University, Holland
- 2010
- “Fourier meets Wavelets” workshop, Karlsruhe, Germany
  - 28th European Meeting of Statisticians, Piraeus, Greece
  - “Semiparametric Methods in Economics and Finance” workshop, Financial Markets Group, London School of Economics
  - Séminaire de statistique et économétrie, University of Lille 3, France
  - Department of Statistics, Texas A&M University, USA
  - Mini-workshop on “Semiparametric modelling of multivariate economic time series with changing dynamics”, Oberwolfach Research Institute for Mathematics, Germany

- 2009 – Institute of Statistics, Catholic University of Louvain, Belgium  
 – 1st IMS Asia Pacific Rim Meeting, Seoul, Korea
- 2008 – IASC 2008, Yokohama, Japan  
 – Department of Statistics, The Chinese University of Hong Kong  
 – ENAR Spring Meeting, Arlington, VA, USA  
 – International Conference on Statistical Paradigms – Recent Advances and Reconciliations, Kolkata, India
- 2007 – Statistics Seminar, *Statistics for Innovation* Centre, Oslo, Norway  
 – Department of Statistics, University of Illinois at Urbana-Champaign, USA
- 2006 – Statistics Seminar, Institute of Statistical Science, Academia Sinica, Taipei, Taiwan  
 – Multiscale Methods and Statistics: A Productive Marriage (2006 Graybill Conference), Fort Collins, Colorado, USA
- 2005 – Institute of Statistics, Catholic University of Louvain, Belgium
- 2004 – Department of Mathematics and Statistics, University of Cyprus  
 – “Recent Advances in Time Series Analysis” conference, Protaras, Cyprus
- 2002 – Conference: Journées de Statistique, Brussels, Belgium.

### **External professional commitments other than editorial**

- 2022 Institute of Mathematical Statistics Annual Meeting (London, UK) – chair, statistics invited sessions committee.
- Institute of Mathematical Statistics programme chair (invited sessions) at the 2019 Joint Statistical Meetings (Denver, USA).
- Member of the Editorial Search Committee, *Journal of the Royal Statistical Society Series B* (2020–2021; 2024).
- Co-chair of the “Time Series” specialised team within CMStatistics, the European Research Consortium for Informatics and Mathematics (ERCIM) working group on Computational and Methodological Statistics (2020-).
- *Meeting and conference session organisation.*
  - Invited session on *Challenges in time series analysis: causality, non-stationarity, high-dimensionality, structure* at the 2023 Joint Statistical Meetings (Toronto, Canada).
  - Invited session on *Change-point Modeling and Analytics for Complex Data* at the 2023 Joint Statistical Meetings (Toronto, Canada).
  - Invited session on *Learning Under Nonstationarity* at the 2022 Joint Statistical Meetings (Washington DC, USA).
  - Invited session on *Advances in Time Series: Statistics Meets Machine Learning* at the 2022 Joint Statistical Meetings (Washington DC, USA).

- Invited session on *Change-points in multivariate and high-dimensional data* at the 2021 Joint Statistical Meetings (virtual).
  - Invited session on *Structural changes in multivariate and high-dimensional data* at CMStatistics 2019 (London, UK).
  - Invited session on *Recent advances in change-point detection and segmentation* at the 2018 Joint Statistical Meetings (Vancouver, Canada).
  - Invited session on *Recent advances in change-point detection and data segmentation* at IMS-APRM 2018 (Singapore).
  - Invited session on *Non-stationarity and high-dimensionality in time series analysis* at CMStatistics 2017 (London, UK).
  - CMStatistics 2015, 2017 (London, UK): member of the Scientific Programme Committee.
  - Invited session on *Recent advances in time series analysis* at CMStatistics 2015 (London, UK).
  - Topic Contributed Session on *Recent advances in change-point and feature detection* at the 2015 Joint Statistical Meetings (Seattle, USA).
  - Invited Session at the 5th IMS-China International Conference on Statistics and Probability (2015, Kunming, China).
  - “Nonlinear time series analysis – thresholding and beyond: a conference in honour of Professor Howell Tong to celebrate his 70th birthday” (2014, London, UK): member of the scientific committee.
  - Invited Session on *Recent advances in nonstationary time series* at the 3rd Institute of Mathematical Statistics Asia Pacific Rim Meeting (2014, Taipei, Taiwan).
  - Topic Contributed Session on *An overview of recent advances in adaptive and nonlinear estimation in nonparametrics* at the 2013 Joint Statistical Meetings (Montreal, Canada).
  - Invited Session on *Nonparametric techniques for locally stationary time series* at the 1st conference of the International Society for Nonparametric Statistics (2012, Chalkidiki, Greece).
  - Thematic programme on *Financial Time Series Analysis: High-dimensionality, Non-stationarity and the Financial Crisis* at the Institute for Mathematical Sciences, National University of Singapore (1–22 June 2012). With Ying Chen (NUS) and Qiwei Yao.
  - Invited Session on *Sparsity, non-stationarity and dimension reduction in financial statistics* at the 2011 Joint Statistical Meetings (Miami Beach, Florida, USA).
  - Invited Session on *Sparse Inference* at the INSPIRE 2010 Conference on Information Representation and Estimation (London, UK).
  - Topic Contributed Session on *Advances in Nonparametric Multiscale Methods for Non-stationary Time Series* at the 2010 Joint Statistical Meetings (Vancouver, Canada).
  - Invited Session on *Wavelets* at the International Conference on Statistical Paradigms: Recent Advances and Reconciliations (2008, Kolkata, India).
  - Special Topic Contributed Paper Meeting on *Locally stationary processes – applications and theory* at the 56th Session of the International Statistical Institute (2007, Lisbon, Portugal).
- *Evaluations for tenure, promotions and awards.* The University of Southern California, USA; Temple University, USA; Cornell University, USA; ENSAI, France; The University of Alberta, Canada; The University of Virginia, USA; Renmin University of China; The Leverhulme Trust; The Polish-US Fulbright Commission.
  - *Refereeing and reviewing.* Regular referee for journal papers. Book reviewer for Springer Verlag, CRC Press. Technical Reviewer, “Quantitative Finance for Dummies”, Wiley.

- Reviewer of research proposals for the Catholic University of Leuven, Belgium (2005–2006), the Flemish Science Foundation, Belgium (2007, 2011), the EPSRC (2010–), the Swiss National Science Foundation (2017), Canadian Statistical Sciences Institute (2018), the Medical Research Council (2019), the European Research Council (2019). Member of the EPSRC Peer Review College (2014–). Reviewer for the EPSRC New Horizons Call (2020).
- Peer reviewer in the Italian “Evaluation of the Quality of Research” exercise (VQR 2004–2010), 2012.
- *Professional body membership.* Fellow of the Royal Statistical Society (membership category: Chartered Statistician), member of the American Statistical Association, “voting member” of the International Society for Nonparametric Statistics.
- *External PhD examining.* University of Nottingham (2010), National Institute of Technology Calicut, India (2011), Université Catholique de Louvain, Belgium (2012), University of Warwick (2013), University of Oxford (2013), Cardiff University (2021).
- *External examining to UK degree programmes.* University of Kent (Year in Data Analytics, MSc in Statistics [replaced by MSc in Statistical Data Science in 2019], MSc in Statistics with Finance 2018–2022).
- Member of the ‘Convention’ (external advisory board) to the Faculty of Pure and Applied Mathematics, Wrocław University of Science and Technology, Poland (my alma mater; 2016–).
- Mentor to Graduate Statisticians who wish to work towards the Chartered Statistician status, the Royal Statistical Society, UK (2019–).
- Associate Member, Oxford-Man Institute of Quantitative Finance, 2013–2019. Associate Member, Department of Statistics, University of Oxford, UK, 2019–2022.

## Teaching

To undergraduate students: *Statistics 2* (University of Bristol, 2nd year, about 60 students), *Time Series* (Imperial College London, 3rd year, about 40 students), *Time Series and Forecasting* (London School of Economics, 3rd year, about 70 students), *Elementary Statistical Theory* (London School of Economics, 1st year, about 500 students).

To postgraduate students: *Multiscale Methods in Statistics* (University of Bristol, about 10 students), *Advanced Time Series Analysis* (University of Bristol, about 10 students), *Time Series* (London School of Economics, about 25 students), *Financial Statistics* (London School of Economics, about 35 students).

I have also supervised a number of MSc dissertations and served as a mentor to undergraduate students.

Chief Examiner (Advanced Statistics: Statistical Inference) to the EMFSS Board of Examiners, University of London International Academy (2013–14).

2013, 2014, 2020 Nominated in LSE Students’ Union Teaching Awards (2020 nomination for the PhD supervision award)

## Consultancy

Bonamy Finch (2012), BrandScience (2012), John Street Capital (2012–), The British Broadcasting Corporation (2012–2013), GfK (2013), Nanook Energy Advisors (2015–2022), Amadeus (2016), Propportunity (2017), Barefaced TV (2017), Bandicoot Productions (2018), Gooroo (2018–), Google (2020), Quadram Institute Bioscience (2020), McGill University (Department of Bioresource Engineering; 2021), BugSnag (2023).

## External courses given

- 30 July – 1 August 2014 EPSRC/RSS Graduate Training Programme for PhD students in statistics, 12h course on *Time series analysis with applications in finance*, Newcastle University.
- 28–29 June 2010 Intensive course on *Wavelets / multiscale methods in statistics* at the London Taught Course Centre for PhD students in the mathematical sciences.
- 24 June 2009 Two postgraduate lectures on *Haar-Fisz transform* and *Unbalanced wavelets*, Department of Statistics, Seoul National University, Korea.
- 26 October 2007 Short course on *Locally stationary modelling in finance*, as part of the “3rd Probability and Statistics Seminar Series” at the Department of Mathematics and Statistics, University of Cyprus.
- 26 April 2006 *Wavelets in Statistics*, for Higher Education Academy – Maths, Stats & OR Network, Day Break Programme 2005–06. Held at the Department of Mathematics, University of Bristol.

## Courses completed

- June 2008 “Teaching and Learning” programme for academic staff, University of Bristol (3 years’ duration).

## Internal commitments and administrative duties

- 2019–20, 21–22 Deputy Head of Department of Statistics, London School of Economics.
- 2019–22 Affiliate member of the Data Science Institute (formerly the ‘Social and Economic Data Science’ research unit), London School of Economics.
- 2018–21 Member of committee and “internal reader” for the Department of Statistics REF 2021 submission.
- 2018– Member of the Department of Statistics’ committee to support grant applications.
- 2018–22 Member of the Department of Statistics’ ‘Departmental Evaluation Committee’.
- 2018 Organised a half-day Departmental away session devoted to research and applying for external funding.
- 2018–20 Member of the Promotions Committee, London School of Economics.
- 2016 Chair of the hiring panel for the post of Professor in Data Science, Department of Statistics, London School of Economics.
- 2013–14 Chair of the Department of Statistics Research Committee, London School of Economics.
- 2011– Mentor to junior colleagues, Department of Statistics, London School of Economics.
- 2010–11 Chair of a working group in charge of creating a new “stream” on Financial Statistics (started October 2012) within the existing MSc Statistics programme, Department of Statistics, London School of Economics.
- 2009–14 Programme Director, MSc Statistics (including the Financial Statistics stream), Department of Statistics, London School of Economics. I was also Chair of the MSc Statistics examination sub-board and of the MSc Statistics Student-Staff Liaison Committee, as well as being in charge of MSc Statistics projects.

- 2009–19 Member of the Department of Statistics Research Committee.
- 2009–14 Member of the Department of Statistics Teaching Committee.
- 2006–08 Responsible for worldwide marketing of postgraduate opportunities in the Statistics Group (University of Bristol).

### **Personal details**

- Year of birth: 1976.
- Citizenships: Poland, UK.
- Married, two daughters born 2015, 2017.
- Languages other than English: Polish (native), French (intermediate to advanced), Spanish (intermediate to advanced), German (intermediate), Mandarin Chinese (intermediate; HSK [Hanyu Shuiping Kaoshi, Chinese Proficiency Test] Level 4 and HSK Speaking Test Intermediate Level passed December 2014).