PROF. DR. GARETH W. PETERS

(YAS-RSE, FIOR, SIRM, FRSS, FIMA, CStat-RSS, CMath-FIMA, Elected ISI)

CONTACT INFORMATION

Prof. Dr. Gareth William Peters
Janet and Ian Duncan Endowed Chair Professor of Actuarial Science
Chair Prof. of Statistics for Risk and Insurance
Department of Statistics and Applied Probability,
University of California Santa Barbara,
California, USA
Email:garethpeters@ucsb.edu
Webpage: `https://www.qrslab.com/`

RESEARCH PUBLICATION SUMMARY

Total Scholarly Books (Author)	5
Total Scholarly Books (Author-in prep)	3
Total Scholarly Book Chapters	11
Total Scholarly Book Chapters (Author-in prep)	2
Total Peer Reviewed Journal Papers Accepted	120
Total Peer Reviewed Conference Papers Accepted	41
Total Current Journal Papers in Review	20
Total Technical Reports Industry	9

NOTE: *co-edited book for MCQMC2014 - Springer official count of chapter downloads - classified as a fast moving text - 2015 with 16,076 chapter downloads, 2014 with 17,309 chapter downloads and 2013 with 1,231 chapter downloads. Listed in top 10% of downloaded authors of all time on Social Science Research Network (SSRN).*

RESEARCH SUPERVISION SUMMARY

Total Postdoc supervised & under supervision	10
Total PhD students Pirmary supervision (or under supervision)	30
Total PhD students Secondary supervision (or under supervision)	8
Masters - 1 year research projects supervised	70+
Honors - 1 year research projects supervised	2

EXPERTISE

Actuarial Mathematics & Statistics:

- **Demographic Statistics:** population dynamics, environment and population spatial temporal models, climate change and population, pollution and health, deprivation indexes, social challenges and policy, land use analysis, ageing structure.
- **General insurance:** claims reserving methods, claims processes and loss process modelling, risk measures, insurance contract design and risk transfer analysis, rate making/pricing in incomplete markets.
- **Investment Decision Making:** optimal dynamic portfolio modelling, price process modelling, time series regression methods, wealth management, Environmental Social Governance and Divestment Practices.
- **Life insurance and Longevity:** stochastic mortality modelling, morbidity modelling, pension modelling, population modelling.

Econometrics and Computational Finance:

- **Time series methods:** time series regressions, panel regressions, isotonic regressions, functional time series regressions, causality testing, VARMAX models, dyanmic copula models, state-space models, spatial-temporal models, cointegration methods, univariate and multivariate stochastic volatility models, hawkes process, counting processes, Natural Language Processing time series for sentiment
- **Application Domains:** commodities, equity portfolios, Exchange Traded Funds, fixed income and bonds, environmental finance

Risk Management:

- **Operational Risk:** loss modelling, capital calculations and approximation, Loss Distributional Approach, Key Risk Indicators, dependence and copula modelling, cyber risk, natural disaster risk analysis
- **Portfolio Risk Analysis:** optimal risk adjusted investment decision making, optimal risk weighted allocation principles, Risk measure approximations, Dynamic Risk models.
- **Stress Testing Models:** analysis of portoflio stress testing, fixed income interest rate stress testing.

Statistics:

- **Time Series:** methodology and application, forecasting models, Bayesian time series methods, panel, term structure, state-space, non-linear, non-stationary methods, decomposition methods, machine learning methods in time series
- **Multivariate Analysis:** Copula methods, Feature Extraction Kernel Methods, multiple output Gaussian Process Models, extreme value theory and heavy tailed processes
- **Monte Carlo Methods and Sampling:** SMC Samplers, MCMC, RJ-MCMC, Cross Entropy, Variational approximation
- Spatial Temporal Modelling

Statistical Signal Processing:

- Communications Engineering and Channel Modelling
- Detection and Receiver Design
- Optimal Network Routing
- Participatory Sensing and privacy
- Location verification methods
- multi-modal spatial process field reconstruction
- Sensor networks

CURRENT AFFILIATIONS

2012+ Invited Professor in **Institute of Statistical Mathematics**, Tokyo, Japan.

2012+ Affiliated Member of **Oxford-Man Institute** , Oxford University.

2014+ Affiliated Member of **Systemic Risk Center** , London School of Economics.

2021+ Honorary Visiting Professor **Department Actuarial Mathematics and Statistics**, Heriot-Watt University, Scotland.

FORMER AFFILIATIONS AND VISITING POSITIONS

2010-2017 Adjunct Scientist: **Mathematics, Informatics and Statistics** group in Commonwealth Scientific and Industrial Research Organization.

2011-2021 Co-founder of **Quantitative Risk Solution Laboratory**, Heriot-Watt University, Edinburgh (previously University College London 2011-2018).

2012-2017 Principle Investigator in **Center for Computational Statistics and Machine Learning**, University College London.

2012-2023 Academic Member of **UK PhD Center in Financial Computing**, University College London.

2014-2017 Associate Lecturer of **Department of Statistics** , University of New South Wales (UNSW).

2015-2017 Affiliated Prof. **Institution of Theoretical and Applied Geophysics** , Peking University, Beijing, China.

2016-2023 Academic Member of **UCL Center for Blockchain Technology**, University College London.

2017-2018 Invited Nachdiploma Professor of **ETH Department of Mathematics** Jointly with Swiss Finance Institute.

2017-2019 Group leader of Sound Practice Guidance Series in Operational Risk practice **Institute of Operational Risk**.

2017-2023 Affiliated Member of **Department of Business Analytics**, Business School, University of Sydney, Australia.

2017-2023 Affiliated Prof of **Department of Statistics** , University of New South Wales (UNSW).

2018-2020 Selected Member of Bond Review Working Party (Knowledge Exchange Sub-Group) UK Mathematical Sciences.

2018-2021 Academic Director of Scottish Financial Risk Academy. **Scottish Financial Risk Academy**

2018-2023 Honorary Professor **Department of Statistics**, University of Sydney, Australia.

2018-2023 Honorary Professor **Department Actuarial Mathematics**, Maquarie University, Australia.

2021-2023 International Advisory Board for Institute of Statistical Mathematics **(ISM)**, Tokyo, Japan.

2021-2023 International Advisory Board for Research Organisation of Information and Systems **(ROIS)**, Tokyo, Japan.

ELECTED MEMBERSHIPS AND FELLOWSHIPS (CURRENT)

2018+ Fellow of Royal Statistical Society (FRSS) and Chartered Statistician (CStat-RSS)

2020+ Fellow of Institute of Mathematics and Applications (FIMA) and Chartered Mathematician (CMath-FIMA)

2021+ Elected Member International Statistical Institute. **ISI**

2020+ Elected Associate Editor of Annals of Actuarial Science, Insitute and Faculty of Actuaries IFoA, Cambridge University Press

ELECTED MEMBERSHIPS AND FELLOWSHIPS (FORMER)

2015-2023 Elected Fellow of Institute of Operational Risk (FIOR)

2018-2022 Elected Young Academy of Scotland - Royal Society of Edinburgh (YAS-RSE) **Royal Society of Edinburgh (RSE)**, Scotland, UK.

2016-2023 Member of the London Mathematical Society, UK.

2018-2023 Member of the Edinburgh Mathematical Society, UK.

2019-2023 Elected Specialist Institute of Risk Management (SIRM)

2021-2023 Elected Member Institute and Faculty of Actuaries IFoA General Insurance Machine Learning in Reserving Working Party

2021-2023 Member Institute and Faculty of Actuaries IFoA Sustainability Board

2021-2023 Member Institute and Faculty of Actuaries IFoA Statistical Learning in Actuarial Applications Working Party

2021-2023 Member American Institute of Risk and Insurance (ARIA)

EDUCATION

Ph.D. in Statistics (by publication) - University of NSW, Australia

Statistics and Mathematics Department(2006 - December 2009)

Thesis: Topics in trans-dimensional samplers and likelihood free inference.

Advisors: Dr.S.A. Sisson, Dr.Y. Fan [UNSW], Dr.P. Shevchenko [CSIRO]

Scholarships: APA, CSIRO Fellowship (top-up)

Awards: J.B.Douglas Award Statistical Society of Australia; (nominated - short listed) International Society of Bayesian Analysis (ISBA) Savage Award.

M.Sc. (by research) - Cambridge University, Cambridge, England

Statistical Signal Processing Group - Engineering, 2003 to 2005

Thesis: Sequential Monte Carlo Samplers.

Advisor:Prof. Araud Doucet [Cambridge]

Scholarships: Cambridge Commonwealth Trust and Caulfield.

B.Eng. 1st Class Hons. - The University of Melbourne, Australia

Electrical and Communications Engineering, June 1998 to 2003

Major: Signal Processing, Control, Communications; **Minor:**Photonics

B.Sc. (Deans Hons.) - The University of Melbourne, Australia

Science: Mathematics and Physics Departments, 1998 to 2003

Major: Mathematics - applied and financial; **Minor:** Physics

B.Sc. (Science Scholar - Sir John Monash Scholar) - Monash University, Australia

Science: Mathematics and Physics Departments, 1997 to 1998

Astrophysics and mathematics (transferred to Melbourne University)

V.C.E. Melbourne High School, Melbourne, Australia

Tertiary Entrance Rank: 98.5%

EXPERIENCE

Department Statistics and Applied Probabilty,
University of California Santa Barbara, California, USA.(2021+)

- Janet and Ian Duncan Endowed Chair Professor of Actuarial Sciences
- Chair Prof. of Statistics in Risk and Insurance (Tenured)
- Director fairAI Future AI Research for Actuarial Intelligence

ResilientML (Australia) (2020+)

- Research collaborator.
- Quantitative Analytics Company

Department of Actuarial Mathematics and Statistics,
Heriot-Watt University, Edinburgh, Scotland, UK.(2017-2021)

- Chair Prof. of Statistics in Risk and Insurance (Tenured)
- Leader of Quantitative Risk Solutions Laboratory (QRSLab)
- Leader of the Financial Risk and Insurance Research Theme

Scottish Financial Risk Academy

- Director 2017-2021
- Comprised of the Scottish Financial Risk Academy Group
  (Scottish Financial Risk Academy and Scottish Financial Enterprise).
  It is a collection of 200+ financial corporations with an executive board steering committee chaired by the President of the Institute and Faculty of Actuaries and comprised of senior executives including CEO of Scottish Financial Enterprise (SFE) and senior executives from major banks, asset managers, insurance firms, fintech start-ups, hedge funds, law firms, audit and accounting as well as academic members from Heriot-Watt University, Edinburgh University,

Glasgow University, University College London and ESC Rennes.

Department of Statistical Sciences,
University College London.(2012-2017)

- Lecturer in Statistics (Tenured)
- Founder of Quantitative Risk Solutions Laboratory (QRSLab)
- Leader of the Financial Risk and Insurance Research Theme

Quantitative Risk Solutions Ltd. (London, UK) (2015-2020)

- Founder and Executive Director
- Quantitative Analytics Company

Rimatec Ltd. (London, UK) (2016-2018)

- Non-Executive Director
- Head of Research
- Regulatory Reporting Company

Department of Mathematics and Statistics,
University of NSW, Sydney, Australia. (2009-2012)

- Lecturer in Statistics (Tenured)
- Founder of Quantitative Risk Solutions Laboratory (QRSLab)
- Leader of the Financial Risk and Insurance Research Theme

Boronia Managed Funds, Sydney, Australia. (2007-2012)

- Quantitative Researcher for Algorithmic Trading Commodities
- Research consultant

Commonwealth Bank of Australia, Sydney, Australia. (2005-2007)

- Quantitative Analyst - Risk Management
- Basel II Operational Risk Team

AWARDS AND HONORS

(Awarded) Prof. Peters is selected as the International Strategic Advisor to Inter-University Research Institute Corporation Research Organization of Information and Systems(ROIS) for the Institute of Statistical Mathematics, Tokyo Japan.

University of Maryland, Baltimore County Eminent Scholar Mentor 2022-2024

(Awarded) Prof. Peters was selected as an Eminent Scholar Mentoring Program at UMBC in actuarial science, to mentor junior faculty in actuarial research

Standout paper of the year for the 2017 Operational Risk awards.

(Awarded Risk Journal Paper of Year in Opertional Risk)
"Should the advanced measurement approach be replaced with the standardized measurement approach for operational risk?"

Nachdiplom Lecture Series Visiting Prof. in ETH Department of Mathematics

(Awarded) Nachdiplom Lecture Series by ETH Department of Mathematics and Swiss Finance Institute (2017) - 5 month lecture series and visiting position in ETH Zurich.

International Society of Bayesian Analysis (ISBA)

(Nominated) Savage Award (2010).

Statistical Society of Australia

J.B. Douglas Award Winner, for excellence in postgraduate research in Statistics or Econometrics, 2008.

University of New South Wales

Australian Postgraduate Award Scholarship, 2006 to 2009.

Statistics and Mathematics Postgraduate Scholarship Top Up, 2006 to 2009.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Ph.D. fellowship and travel bursary, 2006 to 2009.

University of British Columbia

Canadian International Postgraduate Research Scholarship, 2005 to 2006.

University of Cambridge

Cambridge Commonwealth Fellowship, 2003 to 2005.

Selwyn College Scholar and Caulfield scholarship 2003 to 2005.

Life time fellow of Cambridge Commonwealth Society.

Swinburne University

Scholarship for study at Parkes Radio Telescope, 2000.

Scholarship to work at Astrophysics and Super-computing Center, 2000.

University of Monash

Sir John Monash Scholarship, 1997.

Deans honors award in Science Faculty, 1997.

Commonwealth Bank of Australia

Economic and Capital group spot award, 2007.

Economic and Capital group spot award, 2006.

Group Risk Management service award, 2006.

GRANTS - PRINCIPAL INVESTIGATOR AND CHIEF INVESTIGATOR

- 2022-2023 Prof. Peters has been awarded jointly with colleagues in Japan a small research grant. ROIS International Network Fund - Co-Investigator with Prof. Tomoko Matsui (ISM Japan) - 2,000,000 JPY.
- 2022-2023 Research grant from UCSB College of Letters and Science to host the Duncan Chair Actuarial Research Day 2022 College of Letters and Science Council of Deans Conference Fund $3,000 USD
- 2022-2023 ROIS International Network Fund - Co-Investigator with Prof. Tomoko Matsui (ISM Japan) - 2,000,000 JPY.
- 2021-2022 Resilient Systems of Knowledge Exchange - grant is part of 20mil GBP grant on Industrial Decarbonisation EPSRC and UKRI, PI - Dr Dimitris Christopoulos (Heriot-Watt) and Co-I's Prof. Gareth W. Peters (Heriot-Watt), Prof H. McGregor (Heriot-Watt), Dr. Matthew Smith (University of Greenwich) - subgrant amount 200,000 GBP
- 2021-2022 Risk in decarbonisation finance - grant is part of 20mil GBP grant on Industrial Decarbonisation EPSRC and UKRI, PI - Prof H. McGregor (Heriot-Watt) and Co-I's Prof. Gareth W. Peters (Heriot-Watt), Dr Dimitris Christopoulos (Heriot-Watt). subgrant amount 200,000 GBP
- 2021 Ocean Foundation Blockchain Grants Round 4 ($6,500 USD) - Collaborator and PI with ResilientML.
- 2021 Ocean Foundation Blockchain Grants Round 5 ($7,500 USD) - Collaborator and PI with ResilientML.
- 2021 Ocean Foundation Blockchain Grants Round 8 ($33,208 USD) - Collaborator and PI with ResilientML.
- 2021 Ocean Foundation Blockchain Grants Round 9 ($22,764 USD) - Collaborator and PI with ResilientML.
- 2019-2023 - Machine Learning Methods for Credit Risk and Consumer Analytics. Joint lead investigator with Prof. Mike Chantler from Heriot-Watt University. (Royal Bank of Scotland 400,000 GBP).

- 2019-2023 - Machine Learning Methods for Credit Risk and Consumer Analytics. Joint lead investigator with Prof. Mike Chantler from Heriot-Watt University. (Data Laboratory Scotland 75,000 GBP).
- 2020-2022 - Cyber Risk and Cyber Insurance. Joint lead investigator with Prof. Pavel Shevchenko from Maquarie University. (200,000 AUD).
- 2020-2021 - Gaussian Processes for Voice Recognition Systems. Joint lead investigator with Prof. Mike Chantler from Heriot-Watt University. (Data Laboratory Scotland 100,000 GBP).
- 2017-2021 - Australian Research Council large grant on methodological extensions in machine learning methods for insurance and risk modelling. Joint lead investigator with Prof. Matthew Wand from University of Technology Sydney, Australia. ($450,000 AUD).
- 2017 - ETH Zurich Nachdiploma Professor and Swiss Finance Institute (20,000 GBP)
- 2015 - Highly competitive world tender for ORX Consortium ($https://www.orx.org/Pages/HomePage.aspx$) banking consortium joint project (2 projects awarded world wide - both projects awarded to Dr. Gareth W. Peters and his team of risk specialists for Operational Risk Modelling - Award includes access to 65 worlds biggest banks data bases on Basel II/Basel III loss experiences) - NOTE: *this database is sold commercially to consortium members for millions of pounds* - also provides opportunity to partner in joint working groups with industry for research and practical impact initiatives in modern regulation and banking risk modelling and management best practice.
- 2015-2016 - Research Organization of Information and Systems (ROIS) and The Institute of Statistical Mathematics (ISM) Japan - internal grant to host international workshop $20,000 USD.
- 2014-2015 - Research Organization of Information and Systems (ROIS) and The Institute of Statistical Mathematics (ISM) Japan- internal grant to host international workshop $20,000 USD.
- 2013-2014 - Research Organization of Information and Systems (ROIS) and The Institute of Statistical Mathematics (ISM) Japan- grant to host international workshop $20,000 USD.
- 2012-2013 - UK-ASEAN Knowledge Partnership Mobility Scheme Grant - British High Commision Singapore.
- 2013 - UCL Graduate School Staff Conference Fund
- 2013-2015 - Royal Society International Exchange Grant - 2 years of funding to work with colleagues in Institute of Statistical Mathematics - Japan.
- 2013-2016 - Japan Society for the Promotion of Science - 3 years of funding to work with Prof. Matsui (Institute of Statistical Mathematics, Tokyo), Prof. Takeda (Nagoya University) and Prof. Markov.
- 20Jun2014-31Mar2015 - MEXT “The Cooperation with Mathematics Program.” [Workshop on complex systems modeling and estimation challenges in big data], Japan. Funding agency,: Ministry of Education, Culture, Sports, Science and Technology-Japan(MEXT); length of grant: 20Jun2014-31Mar2015; amount awarded: 697,968yen

GRANTS - ASSOCIATE INVESTIGATOR

- 2014-2017 ARC Center of Excellence: Mathematical and Statistical Frontiers of Big Data, Big Models, New Insights, International Associate Investigator - Budget = $20 million AUD (Prof. Peter Hall, Professors Jan de Gier (UoM), Kerrie Mengersen (QUT) and Louise Ryan (UTS).)

- 2012-2015 Associate Researcher in Theme 1 of National Environmental Research Program (NERP) jointly with Commonwealth Scientific Industrial Research Organisation (CSIRO) - Marine monitoring Hub with Dr. Keith Hayes
- 2013 Associate Researcher in University Lille 1 - Research grant on heavy tailed modelling in Telecommunications with Prof. Laurent Clavier and Prof. Francois Septier.

DEPARTMENTAL DUTIES AND ACADEMIC DUTIES

- 2022-2023: University of California Santa Barbara
  - fairAI Centre Director
  - Statistics Seminar Organiser
  - Actuarial Centre of Excellence Committee Member
  - Graduate Admissions Committee member
  - Admissions Committee for Actuarial Program
  - Centre for Financial Mathematics and Actuarial Research member
  - Institute of Statistical Mathematics ISM Japan - National Reviewer
  - Research Organisation of Information and Systems (ROIS) Japan - National Reviewer
  - Institute and Faculty of Actuarial IFoA UK working party member: climate change, life insurance and mortality
  - Institute and Faculty of Actuarial IFoA UK working party member: climate change and portfolio management
  - Institute and Faculty of Actuarial IFoA UK working party member: machine learning in insurance
- 2021-2022: University of California Santa Barbara
  - Computing Committee 2022
  - Actuarial Centre of Excellence Committee 2022
  - Graduate Admissions Committee member 2022
  - Admissions Committee for Actuarial Program 2022
  - Merit Case Reviews PSTAT 2021
  - Upgrade PhD exam review committee 2021
- 2017-2021: Heriot-Watt University
  - Academic Director of the Scottish Financial Risk Academy, Heriot-Watt University (2017-2021).
  - Chair of the Scientific Committee of the Scottish Financial Risk Academy, Heriot-Watt University (2017-2021).
  - Manager of Heriot-Watt actuarial, banking, asset management and financial industry project placements (2017-2021).
  - Course Director for Industry placements and Research projects in the Department of Actuarial Mathematics and Statistics, Heriot-Watt (2018 and 2019)

- Heriot-Watt University selection and interview panels (lecturer, Associate Professor, Professor levels).
- Research development panel for Heriot-Watt Actuarial program Malaysia (2018).
- Actuarial lead on carbon reduction and green finance project grant development panel with UKRI Heriot-Watt (2019+).
- Heriot-Watt elected member of Young Academy of Scotland, Royal Society of Edinburgh (2018+).
- Heriot-Watt member of Data Laboratory organizing joint industry Ph.D. projects (2019+).
- Representative on the Bond Review Working Party (Knowledge Exchange Sub-Group) UK Mathematical Sciences (2019).

• 2012-2017: University College London (UCL)

- Departmental Timetabling Co-ordinator University College London (2015-2017).
- Member of the Committee of Departmental Computing and Infrastructure Committee University College London (DCIC) since (2014-2017).
- Set up and act as Theme Lead in University College London Department of Statistics research group - "Financial Risk, Insurance, Econometrics and Stochastic Finance".
- On 2 interview panels at University College London for new lecturers - mathematics and statistics departments.
- On 2 interview panels at Heriot-Watt for new lecturers - mathematics and statistics departments.
- External examiner for 8 different PhD viva exams.
- Co-supervisor of the Financial Risk Management MSc. program including setting up industry placements for MSc. students (4 students in 2015 jointly with Lloyds banking group).
- Co-organiser of monthly outreach workshop for banking and risk management NORM - 6-10 banks and regulators attend regular workshop discussion on risk management practice and academic / industry collaboration. The focus was on development of better risk management practices - principally for Operational Risk Management. It was jointly run by myself, Dr. Ariane Chappelle and Prof. Tomaso Aste in University College London (2013-2017).
- London Graduate School as part of the London Mathematical Society (LMS), I was a lecturer of two year long courses on insurance and risk management for PhD students from participating universities in the LMS.
- Organizer of 7 international joint University College London and Institute of Statistical Mathematics (Tokyo-Japan) international workshops (25+ speakers each time) for (2013-2018).

• 2010-2012: University of New South Wales

- Computing Committee
- Education Committee

POSTDOCTORAL RESEARCHERS SUPERVISED: JOINT PRIMARY SUPERVISOR

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1. Dr. Marta Campi (2022-2024)
   Sarbonne University Paris
   Speech signal processing for medical applications
   Advisors: Prof. Gareth W. Peters team in Paris
2. Dr. Ioannis Chalkiadakis (2023-2025)
   Institut des Systèmes Complexes de Paris Île-de-France
   Senitment Models for text based time series
   Advisors: Prof. Gareth W. Peters Team in Paris
3. Dr. Ioannis Chalkiadakis (2022-2023)
   Department of Business, Rennes Business School
   News Sentiment, Commodities and Cointegration
   Advisors: Prof. Guillaume Bagnaros and Prof. Gareth W. Peters
4. Dr. Chih-Yueh Huang (2022-2023)
   Center for Networks, Heriot-Watt University
   Green Finance
   Advisors: Prof. Dimitris Christopoulos and Prof. Gareth W. Peters
5. Dr. Ana Fernandez Vidal (2020-2021)
   Department of Actuarial Mathematics and Statistics, Heriot-Watt University, Edinburgh
   Topic Modelling and Natural Language Processing
   Advisors: Prof. Mike Chantler and Prof. Gareth W. Peters
6. Dr. Dorota Toczydlowska (2018-2021)
   Statistics Department, Univesity of Technology Sydney
   Robust statistics and time-frequency analysis
   Advisors: Prof. Matthew Wand, Prof. Luise Ryan and Prof. Gareth W. Peters
7. Dr. Daisuke Murakame (2015-2017)
   National Institute of Environmenal Studies (NIES), Tskuba, Japan
   Spatial and Temporal Heat Wave Modelling
   Advisors: Prof. Yamagata Y., Prof. Matsui T. and Prof. Gareth W. Peters
8. Dr. Malcolm Egan (2016-2017)
   Mathematics, Blaise Pascal, France
   Stable Process Characterizations
   Advisors: Dr. Nourddine Azzaoui, Dr. Arnaud Guillin, Dr. Gareth W. Peters
9. Dr. Ethstathios Panayi (2015-2016)
   University College London
   Liquidity Resilience Models in Limit Order Books
   Advisors: Dr. Gareth W. Peters and Dr. Tomaso Aste
10. Dr. Simon Fung (PhD Actuarial Science) (2015-2017)
    Commonwealth Scientific and Industrial Research Organisation
    Longevity Modelling and Mortality Models;
    Advisors: Dr. Gareth W. Peters and Dr. Pavel Shevchenko

PHD STUDENTS SUPERVISED: PRIMARY SUPERVISOR (OR JOINT CO-SUPERVISOR PRIMARY)

All supervisions included here involved Ph.D. student guidance that included at least fortnightly meetings, research productive supervisions with academic peer reviewed outputs from the joint supervisions. Other guidance or advisory positions are excluded from the list below.

1. Dr. Alice Dong (2009-2015)
   Department of Statistics, University of Sydney, Australia
   PhD Topic: Statistical Modelling in Actuarial Science
   PhD Advisors: Prof. Gareth W. Peters and Dr. Jenifer Chan
   (Completed with 3 journal papers and 1 conference paper)

2. Dr. Gordana Popovic (2010-2015)
   Department of Statistics, UNSW, Australia
   PhD Topic: Species Modelling and Spatial Maps
   PhD Advisors: Prof. David Warton and Prof. Gareth W. Peters
   Lecturer at University of New South Wales.

3. Dr. Shihao Yan (2012-2015)
   Electrical Engineering, UNSW Australia
   PhD Topic: Wireless Vehicular Networks and Signal Processing.
   PhD Advisors: Dr. Robert Malaney, Dr. Gareth W. Peters and Dr. Ido Nevat
   (Completed with 4 journal papers and 4 conference papers)
   Lecturer at Australian National University

4. Dr. Efstathios Panayi (2014-2017)
   Department of Statistical Sciences, University College London, UK
   PhD Topic: Liquidity Resilience in High Frequency Finance and LOB Models.
   PhD Advisors: Dr. Gareth W. Peters and Dr. Mark Harman
   (Completed with 3 journal papers and 2 conference papers)
   Awarded PhD with No Corrections Required!

5. Dr. Wilson Chen (2014-2016)
   Business Analytics, University of Sydney, Australia
   PhD Topic: Econometrics and Risk Management Dynamic Quantile Models.
   PhD Advisors: Dr. Gareth W. Peters and Dr. Richard Gerlach
   (Completed with 3 journal papers and 1 conference paper)
   Awarded J.B. Douglas Price - Australian Statistical Society.
   Research Associate Professor at Institute of Statistical Mathematics.

6. Dr. Rodrigo Targino (2012-2016)
   Department of Statistical Sciences, University College London, UK
   PhD Topic: Monte Carlo Methods in Risk and Insurance.
   PhD Advisors: Dr. Gareth W. Peters, Dr. Mario Wuthrich and Dr. Pavel Shevchenko
   (Completed with 4 journal papers)
   Now Lecturer in Think Tank in Rio Brazil - FGV
   (FGV is ranked #1 think tank in Latin America and #18 Internationally).

7. Dr. Mattew Ames (2012-2016)
   Department of Statistical Sciences, University College London, UK
   PhD Topic: Currency and Commodity Modelling.
   PhD Advisors: Dr. Gareth W. Peters, Dr. Guillaume Bagnarossa and Dr. Ioannis Kosmidis
   (Completed with 4 journal papers and 1 conference paper)
   Now Lecturer in Institute of Statistical Mathematics

8. Dr. Dorota Toczydlowska (2014-2018)
   Department of Statistical Sciences, University College London, UK

PhD Topic: Machine Learning Developments in Dependency Modelling and Feature Extraction.
PhD Advisors: Prof. Gareth W. Peters
(Completed with 4 journal papers and 1 conference paper)
Now Postdoc in UTS Sydney

9. Dr. Kevin Hongxuan Yan (2014-2018)
Department of Statistics, Sydney University, Australia
PhD Topic: Generalised linear Gegenbauer long memory models for time series of counts with financial and insurance applications.
PhD Advisors: Dr. Jennifer Chan and Prof. Gareth W. Peters
(Completed with 4 journal papers)
Now Postdoc in Chinese Academy of Science

10. Dr. Kylie-Anne Richards (2012-2018)
Department of Statistics, University of New South Wales, Australia
PhD Topic: Modelling the Dynamics of the Limit Order Book in Financial Markets.
PhD Advisors: Prof. William Dunsmui and Prof. Gareth W. Peters
(Completed with 3 journal papers)
Now lecturer Business School in University of Technology Sydney UTS

11. Dr. Antonio Dalessandro (2013-2018)
Department of Statistical Sciences, University College London, UK
PhD Topic: Functional Copulas.
PhD Advisors: Prof. Gareth W. Peters
(Completed with 4 journal papers)

12. Anna Zaremba (2012-2019)
Department of Statistical Sciences, University College London, UK
PhD Topic: Causality Measures in Multivariate Processes.
PhD Advisors: Prof. Gareth W. Peters
(Completed with 3 journal papers)

13. Maciek Marowka (2015-2019)
Department of Statistical Sciences, University College London, UK and Imperial College London.
PhD Topic: Cointegration in State Space Modelling.
PhD Advisors: Prof. Gareth W. Peters, Dr. Nick Kantas, Dr. Guilluame Bagnarosa
(Completed with 3 journal papers)

14. Marta Campi (2016+)
Department of Statistical Sciences, University College London, UK
PhD Topic: Non-stationary basis extraction.
PhD Advisors: Prof. Gareth W. Peters
(2 journal papers)

15. Fabio Dias (2016-2020)
Department of Statistical Sciences, University College London, UK
PhD Topic: Momentum and Signed Path Dependence.
PhD Advisors: Prof. Gareth W. Peters
(3 journal papers)

16. Andreas Koukorinis (2013-2023)
Department of Statistical Sciences, University College London, UK
PhD Topic: Machine learning for market making.
PhD Advisors: Prof. Gareth W. Peters and Dr. Guido Germano
(2 journal papers)

17. Deyu Ming (2016-2020)
    Department of Statistical Sciences, University College London, UK
    PhD Topic: Statistical Models for Strong Ground Motion Simulation.
    PhD Advisors: Dr. Carmine Galasso, Prof. Serge Guillas and Prof. Gareth W. Peters
    (Completed with 2 journal papers)

18. Chen Huang (2016-2020)
    Department of Statistical Sciences, University College London, UK
    PhD Topic: Building Damage Models from Earthquake Simulation.
    PhD Advisors: Dr. Carmine Galasso and Prof. Gareth W. Peters
    (Completed with 2 journal papers)

19. Ioannis Chalkiadakis (2017-2022)
    Department of Actuarial Mathematics and Statistics, Heriot-Watt, UK
    PhD Topic: Machine learning for Natural Language Processing.
    PhD Advisors: Prof. Gareth W. Peters and Prof. Mike Chantler
    (3 journal papers)

20. Pasin Marupanthorn (2019-2023)
    Department of Actuarial Mathematics and Statistics, Heriot-Watt, UK
    PhD Topic: Data Combining and Aggregation Methods in Insurance.
    PhD Advisors: Prof. Gareth W. Peters and Dr. Eric Ofosu-hene

21. Edward Antonioan (2019-2023)
    Department of Actuarial Mathematics and Statistics, Heriot-Watt, UK
    PhD Topic: Credit Risk Modelling and Network Regressions.
    PhD Advisors: Prof. Gareth W. Peters and Prof. Mike Chantler

22. Cole Van Jaarsveldt (2019-2023)
    Department of Actuarial Mathematics and Statistics, Heriot-Watt, UK
    PhD Topic: Empirical Mode Decomposition and Dynamic Portfolios.
    PhD Advisors: Prof. Gareth W. Peters and Prof. Mike Chantler

23. Ragnar Levi Gudmundarson (2021-2024)
    Department of Actuarial Mathematics and Statistics, Heriot-Watt, UK
    PhD Topic: Graphical Inference.
    PhD Advisors: Prof. Gareth W. Peters and Prof. Dimitrios Christopoulos

24. Louis Huang (2020+) University of Sydney, Australia
    PhD Topic: Machine Learning and Time Series Modelling
    PhD Collaborators: Dr. Jennifer Chan and Prof. Gareth W. Peters

25. Peilun He (2020+)
    Maquarie University, Australia
    PhD Topic: Commodity Modelling.
    PhD Collaborators: Prof. Pavel Shevchenko, Prof. Gareth W. Peters and Prof. Nino Kordzakhia

26. Meysam Sojoudi (2020+)
    ICMA Centre, Henley Business School
    University of Reading, UK
    PhD Topic: MIDAS models and Change Point Detection.
    PhD Collaborators: Prof. Emese Lazar , Prof. Gareth W. Peters and Prof. Vu Tran

27. Mahdi Sojoudi (2020+)
    Grenoble Ecole de Management, France PhD Topic: Fixed Income and Green Finance.

PhD Collaborators: Prof. Carole Bernard, Prof. Gareth W. Peters

28. Mohammadhadi Sehatpour (2023+)
UTS Sydney, Australia
PhD Topic: ESG and Green Finance.
PhD Collaborators: Prof. Christina Nikitopoulos Sklibosios, Prof. Gareth W. Peters, Prof. Kylie-Anne Richards

29. Jeff Wu (2022+)
University of California Santa Barbara
PhD Topic: Spatial Temporal time series models and Causal Inference.
PhD Collaborators: Prof. Gareth W. Peters, Prof. Alex Franks

30. Zimo Zhu (2022+)
University of California Santa Barbara
PhD Topic: Fixed Income Models and Stress Testing.
PhD Collaborators: Prof. Gareth W. Peters, Prof. Hengrui Cai

PHD STUDENTS SUPERVISED: SECONDARY SUPERVISOR

1. Thi Le Thu Nguyen (2013-2014)
Department of Engineering, University of Lille, France
PhD Topic: Signal Processing and Sequential Monte Carlo Samplers.
PhD Collaborators: Prof. Gareth W. Peters and Dr. Francois Septier
(Completed with 1 journal papers and 2 conference papers)

2. Emmanouli Karimalis (2013-2017)
Cass Business School, London, UK
PhD Topic: Risk Management and Stress Testing Yield Curves.
PhD Collaborators: Prof. Gareth W. Peters and Dr. Ioannis Kosmidis
(Completed with 3 journal papers)

3. Peng-Fei Zhang (2014-2016)
Department of Sensors, AStar, Singapore
PhD Topic: Sensor Network Models and Spatial Gaussian Processes.
PhD Collaborators: Dr. Gareth W. Peters and Dr. Ido Nevat
(Completed with 4 journal papers and 2 conference papers)

4. Jing Yang Koh (2015-2017)
Sensor Networks Group, AStar, Singapore
PhD Topic: Network Privacy and Security Stochastic Models.
PhD Collaborators: Dr. Gareth W. Peters and Dr. Ido Nevat
(Completed with 3 journal papers and 1 conference paper)

5. Suiki Gao (2016-2020)
Agricultural Crop Insurance and Yield Modelling
PhD Topic: Agricultural Crop Insurance and Yield Modelling.
PhD Collaborators: Prof. Guillaume Bagnarosa and Prof. Gareth W. Peters
(Completed with 2 journal papers and 1 conference paper)

6. Romeo Taewo (2020+)
Université Bretagne Sud, LMBA UMR CNRS 6205
PhD Topic: Multiperiod decision processes on networks and graphs.
PhD Collaborators: Prof. Francois Septier, Prof. Gareth W. Peters and Dr. Ido Nevat

7. Qikun Xiang (2020+)
NTU Singapore

PhD Topic: Cyber Risk and Cyber Insurance.
PhD Collaborators: Dr. Ariel Neufeld, Prof. Gareth W. Peters and Dr. Ido Nevat

8. Yusuf Ismalia (2020+) Heriot-Watt University, Scotland
   PhD Topic: Green Bond Dynamics
   PhD Collaborators: Dr. George Tzougas, Prof. Dimitris Christopoulos and Prof. Gareth W. Peters

ACADEMIC EXPERIENCE: RESEARCH VISITS AND INVITED POSITIONS

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor August 2023 - DELAYED DUE TO USA VISA PROCESSING

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor August 2022

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor June-July 2021 - DELAYED DUE TO COVID CRISIS

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor June-July 2020 - DELAYED DUE TO COVID CRISIS

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor June-July 2019

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor Feb-March 2018

Invited researcher to work on statistical methodology for spatial and temporal modelling for insurance

Thamasat University, Thailand

Visiting Professor Jan 2018

Invited researcher to present lectures on risk and insurance modelling and explore collaborations

Mahidol University, Thailand

Visiting Professor Jan 2018

Invited researcher to present lectures on risk and insurance modelling and explore collaborations

Bank of Thailand, Thailand

Visiting Professor Jan 2018

Invited to present on financial stress testing in the financial stability group.

ETH Zurich and Swiss Finance Institute, Switzerland

Visiting Professor Sept.-Jan 2017-2018

Invited researcher to work on risk and insurance modelling. Created and delivered special Ph.D. course on Machine Learning for Risk and Insurance.

University of Sydney, Sydney, Australia.

Visiting Professor July 2017

Invited researcher to work econometrics and time series.

Hong Kong University of Science and Technology, Hong Kong

Visiting Professor June 2017

Invited researcher to work econometrics.

Hitotsubashi University, Tokyo, Japan

Visiting Professor March-April 2017

Invited researcher to work on Green Finance and Green Bonds.

Osaka University, Osaka, Japan

Visiting Professor March-April 2017

Invited researcher to work on statistical methodology for stochastic processes.

University of Cape Town, Cape Town, South Africa

Visiting Professor June-July 2016

Invited researcher to work on statistical methodology for mathematical finance.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor July-Oct 2016

Invited researcher to work on statistical methodology for spatial and temporal modelling.

Deparment of Statistics, University of Sydney, Sydney, Australia

Visiting Professor Dec 2015

Invited researcher to work on statistical risk theory and financial mathematics. Financial Mathematics Team Challenge (2 weeks) University of Cape Town, South Africa June 2016.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor July-Oct 2015

Invited researcher to work on statistical methodology for spatial and temporal modelling.

Financial Modelling Department, ESC Rennes Business School, France

Visiting Professor June 2015

Invited researcher to work on currency modelling and insurance.

Department of Mathematics Blaise Pascal University, Claremont-Ferrand, France

Visiting Professor February 2015

Invited researcher to work on Stable Processes.

CMIS - Commonwealth Scientific and Industrial Research Organisation, Sydney, Australia

Visiting Scientist Oct 2014

Invited researcher to work on statistical risk theory and financial mathematics.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor July-Oct 2014

Invited researcher to work on statistical methodology for spatial and temporal modelling.

Department of Mathematics Blaise Pascal University, Claremont-Ferrand, France

Visiting Professor June. 2014

Invited researcher to work on Stable Processes.

A-STAR: I2R, Singapore

Invited scientist April 2014

Invited researcher to work on Wireless Communications and sensor network spatial modelling.

Telecom Lille 1, Lille, France

Invited lecturer March 2014

Invited researcher to work on Wireless Communications, Stable Interference and Sequential Monte Carlo methods.

Department of Mathematics Blaise Pascal University, Claremont-Ferrand, France

Visiting Professor January 2014

Invited researcher to work on Stable Processes.

Department of Computer Science Blaise Pascal University, Claremont-Ferrand, France

Visiting Professor November 2013

Invited researcher to work on Markov chains and network security.

Department of Mathematics Blaise Pascal University, Claremont-Ferrand, France

Visiting Professor October 2013

Invited researcher to work on Stable Processes.

Department of Statistics Maquarie Univesrity, Sydney, Australia

Visiting Scientist Sept 2013

Invited researcher to work on multiple optimal stopping time problems.

CMIS - Commonwealth Scientific and Industrial Research Organisation, Sydney, Australia

Visiting Scientist Sept 2013

Invited researcher to work on statistical risk theory and financial mathematics.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor June-Sept 2013

Invited researcher to work on statistical methodology for spatial and temporal modelling.

Telecom Lille 1, Lille, France

Invited lecturer June 2013

Invited researcher to work on Wireless Communications, Stable Interference and Sequential Monte Carlo methods.

Telecom Lille 1, Lille, France

Invited lecturer November 2012

Invited researcher to work on Wireless Communications, Stable Interference and Sequential Monte Carlo methods.

INRIA, Bordeaux, France

Invited lecturer September 2012

Invited researcher to work on financial risk modelling and Sequential Monte Carlo methods.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Invited lecturer June-July 2012

Invited researcher to work on Statistical Signal Processing and Machine Learning Methodology.

Statistics Department -National University of Singapore, Singapore

Invited lecturer January-February 2012

Invited researcher to work on statistical modelling of risk and Sequential Monte Carlo.

Statistics Department - Oxford University, Oxfordshire, England

Invited lecturer January-February 2012

Invited researcher to work on statistical modelling of risk and Sequential Monte Carlo.

CNRS - Telecom Lille, Lille, France

Invited lecturer November-December 2011

Invited researcher to work on statistical modelling of interference in wireless communications.

INRIA - University of Bordeaux, Bordeaux, France

Invited lecturer December 2011

Invited researcher to work on financial risk modelling and Sequential Monte Carlo.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Invited lecturer December 2011

Invited researcher to present on commodity models.

Commonwealth Scientific and Industrial Mathematics (CSIRO) - Mathematics, Informatics and Statistics, Tasmania, Australia

Visiting Scientist February 2010; June 2010 and November 2010 3mnths

Invited to participate in research on population dynamics.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Invited lecturer August-September 2010

Invited researcher to participate in non-linear filtering for commodity models.

Statistical and Applied Mathematics Sciences Institute (SAMSI), Durham, NC USA

Invited Lecturer November 2009

Invited researcher to present at transition workshop on Particle Filtering and collaborate with colleagues in Duke Statistics Department.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Invited Graduate Student Researcher August-September 2009

Invited researcher to participate in non-linear filtering for commodity models.

Statistical and Applied Mathematics Sciences Institute (SAMSI), Durham, NC USA

Invited Graduate Student Researcher September-October 2008

Invited researcher to participate in Particle Filtering workshop.

ETH University (RiskLab), Zurich, Switzerland

Invited Graduate Student Researcher August-September 2008

Commonwealth Scientific and Industrial Research Organisation (CSIRO), Sydney, Australia

Graduate Student Researcher 2006,2007,2008,2009

Member of Center for Mathematical and Information Sciences (CMIS). I perform research in statistics and financial modelling.

University of British Columbia (Statistics), Vancouver, BC, Canada

Research Assistant, Science: Statistics Department, 2005

Research focus: non-linear filtering and Sequential Monte Carlo Samplers.

University of British Columbia (Laboratory of Computational Intelligence (LCI), Vancouver, BC, Canada

Research Assistant, Science: Computer Science, 2005

Research focus: game theory and machine learning.

Universite Paul Sabatier Toulouse III, Toulouse, France

Invited Graduate Student Researcher April-May 2004

Astrophysics and Super Computing Centre , Melbourne, Australia

Invited Undergraduate Student Researcher December 2000 - April 2001

Plant Sciences and Biotechnology, Melbourne, Australia

Invited Student Researcher August 1995 - December 1995

KEY NOTE AND PLENARY SPEAKER INVITATIONS

Plenary speaker: 10th International Workshop on Applied Probability, IWAP2023 (https://iwap2020.web.auth.gr/plenary-speakers/), Thessaloniki, Greece, 7-10 JUNE 2023.

National Association of Insurance Commissioners, keynote address, 2023 National Association of Insurance Commissioners (NAIC) International Insurance Forum on May 18-19 at the Hyatt Regency Washington on Capitol Hill in Washington, DC.
(Declined - due to teaching committments during term)

31st International Statistics Symposium (Columbia, 2022) Department of Statistics of the Universidad Nacional de Colombia.

7th ASIA International Conference 2021 (Malaysia, 2021) (Declined due to COVID-19).

10th International Workshop on Applied Probability (Athens, Greece, 2020) (delayed due to COVID-19)

Belgium Actuarial Society Machine Learning Lectures (Belgium, 2020).

Yorkshire Actuarial Society and Aviva Actuarial Seminar, Yorkshire (UK 2019).

21st OpRisk Europe Conference Europe, London. (UK 2019) - declined

International Workshop on Stress Test and Risk Management, Ecole-Polytechnique and BNP Paribas France. (Paris, 2019).

Insurance Mathematics and Economics International Conference (Munich, Germany 2019)

Actuary Redefined, Malaysian Actuarial Society (Malaysia 2018).

Machine Learning Summery School in Risk and Insurance, Technical University Vienna (Austria 2018).

R in Insurance Conference (London, UK 2018)

German Actuarial Association Annual Meeting (Berlin, Germany 2018)

International Mathematical Sciences (IMS) workshop invited presentation (Lithuania, 2018).

Bank of Thailand (Bangkok, Thailand 2018)

London-Paris Bachelier Meeting, (London, UK 2017)

Central Banking Conference (Abu Dhabi, UAE 2017)

Swiss Actuarial Association Annual Meeting (Lugano, Switzerland, 2017)

Nomura Bank Invited Red Lecturer (London, UK 2017)

Federal Reserve Operational Risk Group (New York, US 2017)

European Bank of Reconstruction and Development (London, UK 2017)

Bank of Japan, Green Finance 2016

Bank of England (presented to Chief Economist of UK, 2016)

Advanced Statistics Symposium (unable to attend) CMAR, Hobart, Commonwealth Scientific and Industrial Research Organisation, March 2012.

PRESENTATIONS AND INVITED TALKS

Note: limited presentations due to Covid lockdowns 2020/2021.

Invited Speaker - International Statistics Symposium 31st Edition: Department of Statistics of the Universidad Nacional de Colombia September 2022

Invited Special Workshop Presenter - International Statistics Symposium 31st Edition: Department of Statistics of the Universidad Nacional de Colombia September 2022

Invited Presenter - 11th International Conference of the Financial Engineering and Banking Society, Portsmouth, UK June 2022

Invited Seminar - University of Maryland, Baltimore County, Statistics Department (March 2022)

Invited Speaker - Society of Actuaries Impact Annual Conference, October 2021

Invited Speaker - University of California Santa Barbara Statistics and Applied Probability Department, April 2020

Invited Speaker - Institute of Statistical Mathematics, Tokyo, Japan, July 2019

Invited Speaker - Mahidol University, Bangkok, Thailand, May 2019

Invited Speaker - Maquarie University, Sydney Australia, April 2019

Invited Speaker - Aviva Insurance and York Acutarial Department, York, UK March 2019

Invited Speaker - 31st International Congress of Actuaries (ICA). German Actuarial Association (DAV) in conjunction with the International Actuarial Association (IAA) will host the Congress from 4 to 8 June 2018

Invited Speaker - Joint 2018 IMS Annual Meeting / 12th International Vilnius Conference. Probability Theory & Mathematical Statistics July 2 - 6, 2018 in Vilnius, Lithuania. Invited paper session speaker

Invited Speaker - Computational Financial Econometrics 2017 Dec. International Conference on Financial Econometrics and Statistics. Invited Special Session Organisor and Presentor. London, UK.

Invited Speaker - Operational Risk: OpRisk North America. The premier industry and regulator conference in Operational Risk Modelling and Regulation. New York – Workshop Presenter. New York, March, 2017.

Invited Speaker - Big Data, Fintech and Blockchain. The Second International Conference on Data Mining and Big Data. - Special Session Presenter in “Big data and Financial Regulation”, Fukuoka, Japan, 2017.

Invited Speaker - Spatial Temporal Modelling 2017, 5th International Workshop on Spatial Temporal Modelling. Co-Organisor and Presentor. Tokyo, Japan.

Invited Speaker - Computational Financial Econometrics. 1st International Conference on Econometrics and Statistics. Invited Special Session Organisor and Presenter. 2017 June Hong Kong University of Science and Technology

Invited Speaker - 61st World Statistics Congress ISI. Invited Special Session Presenter. Marakeech, Morocco, 2017 June.

Invited Speaker - Workshop: Block Chain and the Constitution of a new Financial Order. Invited special session speaker - UCL Law 2017

Invited Speaker - Nippon Institute of Technology, Saitima, Japan, July 2016.

Invited Speaker - Jaffe Workshop on Economics and Agents, Tokyo, Japan, July 2016.

Invited Speaker - Ritsumeiken University, Kyoto, Japan, July 2016.

Invited Speaker - National Institute of Environmental Studies, Tskuba, Japan, July 2016.

Invited Speaker - Institute of Statistical Mathematics, Tokyo, Japan, July 2016.

Invited Speaker - Special Industry workshop Rand Bank, Johannesberg, South Africa, June 2016.

Invited Speaker - University of Cape Town - ETH Zurich Workshop on Financial Mathematics June 2016.

Invited Speaker - International UCL-Tsinghua Workshop on Catastrophe modelling and Financial Risk, UCL, June 2016.

Invited Speaker - Invited Joint Presentation - Bank of England Research group April, 2016.

Invited Speaker - OpRisk Europe 2016 International Conference on Operational Risk in Banking (http://www.opriskeurope.com/) June 2016.

Invited Speaker -Particle Methods in Risk and Insurance, Henri Poincare Institute Workshop, Paris, March 2016.

Invited Speaker - Oprisk Europe, Global Risk Management Conference, day long invited lecture series on Operational Risk Modelling and Regulation.

Invited Speaker -NORM, Operational Risk Practitioners Seminar – UCL London

Invited Speaker -The 20th Workshop on Economic Science with Heterogeneous Interacting Agents Sophia Antipolis, SKEMA Business School, 21–23 May 2015

Invited Speaker - University of Warwick, Statistics Department, Seminar Series.2015

Invited Speaker -University of Rennes, ESC, Rennes, France, Seminar Series.2015

Invited Speaker -CSIRO Australia, Sydney, Seminar Series.2015

Invited Speaker - NORM, Operational Risk Practitioners Seminar – NOMURA Bank London 2015

Invited Speaker -Oxford University Statistics Department, Oxford, UK. 2015

Invited Speaker - Computational Financial Econometrics, London, UK 12/12/2015.

Invited Speaker - Statistics Department, University of Sydney, Australia, Dec 2015.

Invited Speaker - Institute of Statistical Mathematics, Tokyo, Japan, July 2015.

Invited Speaker - Statistics Workshop - Gregynog, Wales April 2015.

Invited Speaker - ORIC International Insurance Consortium (CEO workshops), London, UK May - 2 day workshop 2015.

Invited Speaker - Mitsubishi UFJ Bank, London - NORM risk management meeting, Lodnon, UK May 2015.

Invited Speaker - Oxford Mann Institute, Oxford University, Oxford, UK May 2015.

Invited Speaker - Statistics Department, Warwick University, Warwick, UK May 2015.

Invited Speaker - ORX Consortium International Bank webinar presenter (65 banks globally dialed in to discuss and lister to the presentation), London, UK, March 2015.

Invited Speaker - Citibank, London - NORM risk management meeting, Canary Wharf, Lodnon, UK Jan 2015.

Invited Speaker - Computational Financial Econometrics, Pisa, Italy 05/12/2014.

Invited Speaker - Tsinghua University, Mathematics, Beijing, China 05/11/2014.

Invited Speaker - PKU, Peking University Mathematics Department, Beijing, China 04/11/2014.

Invited Speaker - ORX- Operational Risk and Insurance Banking Consortium Industry Presentation 16/10/2014.

Invited Speaker - Maquarie University, Actuarial and Statistics, Australia 20/10/2014.

Invited Speaker - University of Technology Sydney, Statistics, Australia 16/10/2014.

Invited Speaker - University of Sydney, Business Analytics and Economics, Australia 09/10/2014.

Invited Speaker - Seoul National University, Mathematics and Insurance group, Korea 01/10/2014.

Invited Speaker - Institute of Statistical Mathematics, Tokyo, Japan 26/7/2014.

Invited Speaker - Royal Statistical Society, London 24/2/2014.

Invited Speaker - Department of Statistics and Actuarial, Cass Business School, London 26/2/2014.

Invited Speaker and Syposium Organisor - 9th International Conference on Intelligent Sensors, Sensor Networks and Information Processing, 2014.

Invited Speaker and Workshop Organisor - 1st International Spatial and Temporal Modelling in Institute of Statistical Mathematics, Tokyo, Japan 2013.

Invited Speaker - International Competition in Banking: Theory and Practice , Sumy, Ukraine - March 2013.

Invited Speaker - Statistics Department, Imperial College, UK - March 2013.

Invited Speaker - Statistics Department, University of Kent, UK - March 2013.

Invited Speaker - Statistics Department,University of Nottingham , UK - March 2013.

Invited Speaker - Statistics Department, Bristol University, UK - March 2013.

Invited Speaker - Mathematical Models for Impulsiveness: Alpha Stable models for Signal Processing and Communications, Dec. 2012

Invited Speaker - Sequential Monte Carlo Methods and Efficient Simulation in Finance, Ecole Polytechnique, Paris, France - October 2012.

Invited Speaker - Closed Form Solutions to Loss Distributional Approach Insurance and Risk Models via Properties of Convolutional Semi-groups for sub-exponential Severity Models, National University of Singapore (NUS) - August 2012.

Invited Speaker - Generalized Interference Models in Doubly Stochastic Poisson Random Fields for Wideband Communications. Institute of Statistical Mathematics (ISM) - August 2012.

Invited Speaker - Risk: Modelling, Optimization and Inference, University of New South Wales, Sydney, Australia - July 2012.

Invited Speaker - Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, National University of Singapore, 2012.

Invited Speaker - Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, Institute of Statistical Mathematics - Tokyo Japan, 2011.

Invited Speaker - Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, Computational Financial Econometrics CFE- London School of Economics, 2011.

Invited Speaker - Multi-species modelling - Commonwealth Scientific and Industrial Research Organisation - Seminar, Perth, Nov. 2011.

Invited Speaker - Vector Autoregression Models Incorporating Alpha-Stable Noise. - Seminar, Univeristy NSW, Sydney, May. 2011.

Invited Speaker - Algorithmic Trading Models via Cointegration Frameworks. - Boronia Managed Funds, Sydney, Australia, April 2011

Invited Speaker - Vector Autoregression Models Incorporating Alpha-Stable Noise for Inter-day Price Level Shifts. - Seminar, ENSAE, Paris, April. 2011.

Invited Speaker - Bayesian Alpha Stable models via SMC Samplers PRC-ABC - SAMSI Transition Workshop for Program on Sequential Monte Carlo Methods, SAMSI, North Carolina, Nov. 2009.

Invited Speaker - Markov Switching Bayesian Cointegrated Vector Autoregression models - Boronia Managed Funds, Sydney, NSW - Seminar, Sept. 2009

Invited Speaker - Adaptive Trans-dimensional MCMC for Bayesian Cointegrated Vector Autoregression models - Department of Mathematics and Statistics, University of NSW - Statistics Seminar Series, Sept. 2009

Invited Speaker - SAMSI Transition Workshop for Program on Sequential Monte Carlo Methods, SAMSI, North Carolina, Nov. 2009.

Invited Speaker - Seminar Series University of NSW, Sydney, Australia, 2009.

Invited Speaker - Boronia Capital Pty. Ltd. Hedge Fund, Sydney, 2009.

Invited Speaker - Workshop for International Computing and Economics, University of Technology, Sydney, 2009.

Invited Speaker - Seminar Series University of NSW, Sydney, Australia, 2009.

Invited Speaker - Ninth Annual J. B. Douglas Awards (Winner), Statistical Society of Australia, Sydney, 2008.

Invited Speaker - 9th World Conference of the International Society for Bayesian Analysis, Hamilton Island, 2008.

Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) - AMRA Meeting, 2008.

Invited Speaker - Qintq, Great Malvern, UK, 2008.

Invited Speaker - Boronia Capital Pty. Ltd. Hedge Fund, Sydney, 2007.

Invited Speaker - 2nd World MCMSki of the International Society for Bayesian Analysis, Bormio, Italy, 2008.

Invited Speaker - Australasian Society for Bayesian Analysis, Spring Bayes, Coolangatta, 2007.

Invited Speaker - Commonwealth Scientific and Industrial Research Organisation (CSIRO) - Risk Management Seminar, 2007.

Invited Speaker - University of British Columbia (UBC) - Laboratory for Computational Intelligence Seminar, 2006.

Invited Speaker - University of British Columbia (UBC) - Statistics Department Seminar, 2005.

Invited Speaker - Qintq, Great Malvern, UK, 2005.

Invited Speaker - Cambridge University - Engineering Department Seminar 1, 2005.

Invited Speaker - Cambridge University - Engineering Department Seminar 2, 2005.

Invited Speaker - 6th World meeting of the Bernoulli Society for Mathematical Statistics and Probability and 67th Annual Meeting of the Institute of Mathematical Statistics, Barcelona, Spain, 2004.

European Machine Learning Summer School, Berder Island, France, 2004.

MANAGEMENT, ADMINISTRATIVE AND OTHER RELEVANT ACTIVITIES

In terms of demonstration of types of such activities:

- Organizing committee of the international (Monte Carlo Quasi Monte Carlo) MCQMC conference held in Stanford, Calafornia USA 2016.
- Organizing committee of the international (Monte Carlo Quasi Monte Carlo) MCQMC conference held in Leuven, Belgium 2014.
- Organizing committee of the international (Monte Carlo Quasi Monte Carlo) MCQMC conference held in Sydney, Australia 2012. (jointly with Prof. Ian Sloan.)
- Developed jointly with industry contacts a Quantitative Risk Solutions Laboratory (QRSLab) at the University of NSW. Including initiation, memorandum of understanding, laboratory board and university recognition.
- Developed a scholarship protocol and obtained scholarship money from industry partners for PhD. students including professional placement - Boronia Manged Funds QRSLab scholarship; Deloitte QRSLab scholarship and CSIRO QRSLab scholarship.
- I am the web master for the Department of Mathematics and Statistics at UNSW 2010 and 2011.
- I was the High Performance Computing staff representative for Statistics in the Faculty of Science at UNSW 2010 and 2011.
- I provide additional volunteer support and consultation times for all students across the university through the specifically designed lunch time Student Support Scheme.

CONFERENCES AND WORKSHOPS I HAVE CO-ORGANIZED OR EDITORIAL PANEL

- Duncan Chair Actuarial Research Day, University of California Santa Barbara, USA, Organisor
- Scottish Financial Risk Academy Colloquium, Institute of Mathematical Sciences, Edinburgh, UK, Organisor
- STM2017 - 5th International Spatial Temporal Modelling workshop, Tokyo - Institute of Statistical Mathematics (ISM), Japan, Organisor
- STM2016 - 4th International Spatial Temporal Modelling workshop, Tokyo - Institute of Statistical Mathematics (ISM), Japan, Organisor
- MCQMC-2016 - 12th international conference on Monte Carlo and Quasi Monte Carlo, Stanford University, US (Scientific Committee).
- STM2015 - 3rd International Spatial Temporal Modelling workshop, Tokyo - Institute of Statistical Mathematics (ISM), Japan, Organisor
- UCL-OpRisk - 2015- co-organisor of monthly workshop and discussion on Operational Risk modelling with academic and practitioners working group.
- NIPS - 2015- Neural Information Programming Society (programme committee)
- STM2014 - 2nd International Spatial Temporal Modelling workshop, Tokyo - Institute of Statistical Mathematics (ISM), Japan, Organisor
- UCL-OpRisk - 2014- co-organisor of monthly workshop and discussion on Operational Risk modelling with academic and practitioners working group.

- CFE - 2014- Computational Financial Econometrics, Pisa, Italy (programme committee and invited session organisor)
- NIPS - 2014- Neural Information Programming Society (programme committee)
- MCQMC-2014 - 11th international conference on Monte Carlo and Quasi Monte Carlo, Leuven, Belgium (Scientific Committee).
- STM2013 - 1st International Spatial Temporal Modelling workshop, Tokyo - Institute of Statistical Mathematics (ISM), Japan, Organisor
- ICORES - 2013- 2nd International Conference on Operations Research and Enterprise Systems - Portugal (programme committee)
- ORS - 2013 - Annual International Conference on Operations Research and Statistics (ORS), Singapore (programme committee)
- MCQMC-2012 - 10th international conference on Monte Carlo and Quasi Monte Carlo, Sydney, Australia (Co - organisor).
- CAMSAP - 2011 - 4th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing - Puerto Rico (invited special session speaker - Financial Mathematics)
- ICORES - 2012- 1st International Conference on Operations Research and Enterprise Systems - Portugal (programme committee)
- CFE-2011 5th CSDA International Conference on Computational and Financial Econometrics - London (invited special session speaker)
- AIStatistics - 2011 (programme committee)
- AIStatistics - 2010 (programme committee)

SERVICES TO THE PROFESSION: EDITORIAL AND REVIEWING ACTIVITY

- 2023
  - Associate Editor: Annals of Actuarial Science
    Academic Editor: Plos One
    Area Editor : Artificial Intelligence and Data Science - IET Blockchain Journal (Subject Editor and Associate Editor)
    Editor: Risks (MDPI Journal)
    Editor: Mathematics (MDPI Journal)
    Editor: AIMS Data Science in Finance and Economics
    Associate Editor: STATS (Frontiers Journal)
- 2022
  - Associate Editor: Annals of Actuarial Science
    Academic Editor: Plos One
    Area Editor : Artificial Intelligence and Data Science - IET Blockchain Journal (Subject Editor and Associate Editor)
    Editor: Risks (MDPI Journal)
    Editor: Mathematics (MDPI Journal)
    Editor: AIMS Data Science in Finance and Economics
    Associate Editor: STATS (Frontiers Journal)
- 2021
  - Associate Editor: Annals of Actuarial Science
    Academic Editor: Plos One
    Area Editor : Artificial Intelligence and Data Science - IET Blockchain Journal (Subject Editor and Associate Editor)
    Editor: Risks (MDPI Journal)
    Editor: Mathematics (MDPI Journal)
    Editor: AIMS Data Science in Finance and Economics
    Associate Editor: STATS (Frontiers Journal)
    Special Issue Editor: Spatial Temporal Models and Machine Learning (MDPI Journal Entropy)
    Spepcial Issue Editor: Financial Mathematics and Machine Learning (Frontiers Journal STATS).
- 2020
  - Area Editor : Artificial Intelligence and Data Science - IET Blockchain Journal
    Editor: Risks (MDPI Journal)
    Editor: Mathematics (MDPI Journal)
- 2017
  - Guest Special Issue Editor : "Statistical Methods and Machine Learning Techniques for Insurance and Risk Management Data Analytics." Risks Journal.
  - Associate Editor : Computational and Financial Econometrics - Econometrics and Statistics Part A.
- 2016
  - Associate Editor : Computational and Financial Econometrics - Econometrics and Statistics Part A.
- 2015

  - Associate Editor: Part A - Econometrics, Journal of the Computational Financial Econometrics Society. 2015+
    http://www.cfenetwork.org/EcoSta.php
  - Associate Editor : Journal of Mathematics, Statistics and Operations Research (GSTF)
  - Editorial Board Member : Mathematical Finance Letters
  - Editorial Board Member : Theoretical Economic Letters (TEL)
  - Editorial Board Member : Journal of Mathematical Finance (JMF)
  - International Reviewer - French National Scientific Grant Agency.
  - International Reviewer - CNPq - National Institutes of Science and Technology in Brazil.
  - Scientific Board: MCQMC International Conference (URL)
- 2014
  - Editorial Board Member : Theoretical Economic Letters (TEL)
  - Editorial Board Member : Journal of Mathematical Finance (JMF)
  - Associate Editor : Journal of Mathematics, Statistics and Operations Research (GSTF)
  - Editorial Board Member : Mathematical Finance Letters
- 2013
  - Editor in Chief : American Journal of Algorithms and Computing (2012)
  - Editorial Board Member : Theoretical Economic Letters (TEL)
  - Editorial Board Member : Journal of Mathematical Finance (JMF)
  - Associate Editor : Journal of Mathematics, Statistics and Operations Research (GSTF)
  - Editorial Board Member : Mathematical Finance Letters
- 2012
  - Editor in Chief (2012): American Journal of Algorithms and Computing
  - Editorial Board Member (2012): Theoretical Economic Letters (TEL)
  - Editorial Board Member (2012): Journal of Mathematical Finance (JMF)
- 2011
  - Editorial Board Member (2011): Theoretical Economic Letters (TEL)
  - Editorial Board Member (2011): Journal of Mathematical Finance (JMF)

SERVICES TO THE PROFESSION: REVIEWING ACTIVITY

Regular referee for the following journals:

- American Meteorological Society (AMS) Weather, Climate, and Society
- AIStats 2011-2020 - invited reviewer each year.
- Annals of Actuarial Science
- Annals of Institute of Statistical Mathematics

- ASTIN Bulletin
- Bayesian Analysis
- Bulletin of the Seismological Society of America
- Communications in Statistics - Simulation and Computation
- Computational Statistics and Data Analysis
- Frontiers in Blockchain, Financial Blockchain
- European Actuarial Journal
- Electronic Journal Of Statistics
- International Journal of Financial Engineering
- International Journal of Forecasting
- IEEE Access
- IEEE Journal of Selected Topics in Signal Processing
- IEEE Transactions on Information Forensics and Security
- IEEE Transactions on Emerging Telecommunications Technologies
- IEEE Transactions on Information Processing Over Networks
- IEEE transactions Signal Processing
- IEEE transactions Communications
- IEEE transactions Wireless Communications
- IEEE transactions Sensor Networks
- IEEE Information Theory
- IEEE Transactions on Sensors
- IEEE Transactions on Vehicular Technology
- Insurance: Mathematics and Economics .
- Journal of American Statistical Association
- Journal of Banking and Finance
- Journal of Econometrics
- Journal of Forecasting
- Journal of Time Series Analysis
- Journal of Royal Statistical Society Series-B
- Journal of Royal Statistical Society Series-A
- Journal of Multivariate Analysis
- Journal of Operational Risk
- Journal of Theoretical Probability
- Journal of Banking Regulation
- Journal of International Money and Finance

- Journal of Financial Engineering
- Journal of Financial Perspectives
- Mathematics
- Methods in Ecology and Evolution
- Methodology and Computing in Applied Probability (MCAP).
- North American Actuarial Journal
- Neural Information Processing NIPs 2014-2020 - invited reviewer each year.
- PLOS One
- Processes
- Royal Economics Society
- Risks
- Risk Analysis
- Risk Magazine
- Risk Management Reloaded
- Statistics in Medicine
- Stochastic Processes and Their Applications
- Statistics in Medicine
- Stochastic Analysis and Applications
- Scandinavian Journal of Statistics
- The North American Journal of Economics and Finance
- Quantitative Finance

PRIVATE SECTOR

- I have 4 years experience full-time work in the Financial Industry.
- I have set up and ran my own statistical consulting company Quantitative Risk Solutions - 4 years.
- I have worked both individually and as part of teams. Highlights include successfully leading a team of quantitative analysts and computer scientists for developing and testing a large commercial banking project in a risk setting - Operational Risk.
- I have worked as a junior Electrical Engineer at NEC Australia.

1 Professional Experience

JP Morgan, London, UK

Statistical Advisory and Senior Scientist 2019

Bond Portfolios and Market Making Quantitative Strategies.

InRobin, Edinburgh, UK

Statistical Advisory 2019

Real time insurance premiums for industrial machinery. Corporate and Technical Advisor to start-up firm.

Blockchain, London, UK

Statistical Consultancy 2019

Worlds largest blockchain company and wallet provider.

Stratagem Fund, London, UK

Statistical Consultancy February 2015 to 2018

Stratagem (client) - large hedge fund in London.

Quantitative Risk Solutions, London, UK

Statistical Consultancy February 2016 to 2020 (June)

I run this as a trading and hedge fund strategy consulting.

Stratagem (client) - large hedge fund in London.

Quantitative Solutions, Sydney, Australia

Statistical Consultancy March 2008 to 2012

I run my own statistical consultancy business.

Boronia Capital Pty Ltd (client) - large quantitative hedge fund in Australia. Work on filtering and model analysis in co-integrated vector auto regression models.

Commonwealth Scientific and Industrial Research Organisation (CSIRO), Sydney, Australia

CMIS Financial Mathematics and Risk Modelling group. 2007 to 2017

Work on filtering, numerical sampling, model development and analysis in Risk (Operational Risk); in Insurance (Non-life claims reserving); in Commodities (Stochastic factor models).

Commonwealth Bank of Australia, Sydney, Australia

Associate Quantitative Analyst - Market and Operational Risk 2005 to 2007

Performed mathematical modelling, methodological design and development, model validation and testing.

Worked on Operational Risk modelling, Credit Risk modelling and Market Risk modelling.

Jointly setup and ran Quantitative Research reading group and seminar series.

NEC Australia, Melbourne, Australia

Junior Engineer 1999, 2000

Analyzed, designed and tested crystal oscillator systems in mobile phones for synchronization of symbol detection.

TECHNICAL SKILLS

Extensive modelling, simulations and methodological development of financial models, time series models, non-linear filtering and sampling theory.

Python (Basic) toolboxes: Pandas, PyCharm, Scikit-Learn, NumPy, FastAI

Matlab (Advanced) experience: Statistical Signal Processing, Fourier transforms, nonlinear numerical methods, statistics (Classical and Bayesian), Machine Learning (Support Vector Machines, Boosting, Classification), Game Theory, Time series. toolboxes: communications, control system, genetic algorithm and direct search, signal processing, statistics, time series, excel link, excel builder

Instrumentation and Control: Simulink, LabVIEW and other

R (Advanced) IDE: RStudio packages: RStudio Server, Shiny Server, RStudio Package Manager, ggplot2, dplyr, Tidyverse, tidyr, TensorFlow, tidymodels, Sparklyr, Plumber, Reticulate, Databases using R

Trifecta-Wrangler (Intermediate) Data wrangling in Trifecta on cloud and AWS environments.

SQL relational databases (Basic) Basics of relational data and SQL queries

MongoDB NoSQL databases (Basic) Basics of relational data in MongoDB, using MongDB, Compas, MongDB Atlas.

Webscraping (Basic) HTLM, XML and JSON data analysis and webscraping (both HTML and Java-embedded webpages).

Smart Contracts and Blockchain Oracles (Basic) Basics of smart contract code on Etherium and ChainLink.

Amazon Web Services (Intermediate) Machine Learning in AWS environments, Blockchain development and smart contracts in AWS environments

Frotran 95 (Intermediate)

Bash Script (Intermediate)

PINE Script (Advanced)

Other Basics in Programming: minitab, Excel, VBA, C, Pascal.

Applications: TeX, LaTeX, BibTeX, Microsoft Office, and other common productivity packages for Windows, OS X, and Linux platforms

Operating Systems: Microsoft Windows XP/2000, Apple OS X, Unix