Curriculum Vitae: Prof. Gareth W. Peters (YAS-RSE, FIOR, CStat-RSS)

Contact Information

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Current Affiliations and Visiting Positions

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

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

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.

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

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

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

2017+ Elected Fellow of the **Institute of Operational Risk** and Group leader of Sound Practice Guidance Series in Operational Risk practice.

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

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

2018+ Elected Fellow Young Academy of Scotland **Royal Society of Edinburgh (RSE)**, Scotland, UK.

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

Former Affiliations and Visiting Positions

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

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

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

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

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

Research Publication Summary

Total Scholarly Books (Author)	2
Total Scholarly Books (Author-in prep for 2020)	3
Total Scholarly Books (Editor + contributor)	3
Total Scholarly Book Chapters	17
Total Peer Reviewed Journal Papers Accepted	100+
Total Peer Reviewed Conference Papers Accepted	60+
Total Current Journal Papers in Review	15

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	6
Total PhD students supervised (completed)	13
Total PhD students (under supervision)	5
Total PhD students visiting (supervised)	6
Masters - 1 year research projects supervised	22
Honors - 1 year research projects supervised	1

Education

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

Statistics and Mathematics Department(Submission date: 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 of Actuarial Mathematics and Statistics,
  Heriot-Watt University, Edinburgh, Scotland, UK.(2017+)
  - Chair Prof. of Statistics in Risk and Insurance (Tenured)
  - Leader of QRSLab
  - Leader of the Financial Risk and Insurance Research Theme
- Scottish Financial Risk Academy
  - Director 2017+
  - Comprised of the Scottish Financial Risk Academy Group
    (SFRA 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 QRSLab
  - Leader of the Financial Risk and Insurance Research Theme
- Quantitative Risk Solutions Ltd. (London, UK) (2015+)
  - Founder and Executive Director
  - Quantitative Analytics Company
- Rimatec Ltd. (London, UK) (2016+)
  - 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 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

Grants - Principle Investigator and Chief Investigator

- 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).
- 2020-2021 - 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) - 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) - 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) - 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 - Tokyo - Japan.
- 2013-2016 - Japan Society for the Promotion of Science - 3 years of funding to work with colleagues in the Institute of Statitsical Mathematics - Tokyo Japan and Prof. Takeda (Nagoya University) and Prof. Markov.
- 20Jun2014-31Mar2015 - MEXT undertake project The Cooperation with Mathematics Program. [Workshop on complex systems modeling an estimation challenges in big data], ISM 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

- Various selection and interview panels.
- Various advisory committees and panels.
- Departmental Timetabling Co-ordinator UCL 2015-2017
- Member of the Committee of Departmental Computing and Infrastructure Committee UCL (DCIC) since 2014-2017
- Set up and act as Theme Lead in UCL Department of Statistics research group - "Financial Risk, Insurance, Econometrics and Stochastic Finance"
- On 2 interview panels at UCL 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 programme including setting up industry placements for MSc students (4 students in 2015 jointly with Lloyds banking group).
- Since 2013-2017 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 and development of better risk management practices - principally for Operational Risk Management - jointly run by myself, Dr. Ariane Chappelle and Prof. Tomaso Aste.
- Lecturer in London Graduate School from London Mathematical Society year long courses on insurance for PhD students.
- Organiser of 7 international joint UCL and ISM (Tokyo-Japan) international workshops (25+ speakers each time) for 2013-2018.

Awards and Honors

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) - 6 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 present.
- Statistics and Mathematics Postgraduate Scholarship Top Up, 2006 to present.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

- **Ph.D. fellowship and travel bursary**, 2006 to present.

University of British Columbia

- **Canadian International Postgraduate Research Scholarship**, 2005.

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.

University of Monash

- **Sir John Monash Scholarship**, 1997.
- Deans honors award in Science Faculty, 1997.

Swinburne University

- Scholarship for study at Parkes Radio Telescope, 2000.
- Scholarship to work at Astrophysics and Super-computing Center, 2000.

Commonwealth Bank of Australia

- Economic and Capital group spot award, 2006.
- Economic and Capital group spot award, 2006.
- Group Risk Management service award, 2006.

Key Note and Planery Speaker Invitations:

- 10th International Workshop on Applied Probability (Athens, Greece, 2020).
- 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)

Academic Experience: Extended Research Visits and Invited Positions

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 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.

Institute of Statistical Mathematics (ISM), Tokyo, Japan

Visiting Professor July-April 2017

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

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 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 April 2015

- Invited researcher to work on Stable Processes.

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

Visiting Professor April 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 Feb. 2014

- Invited researcher to work on Stable Processes.

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

Visiting Professor Nov-Dec. 2013

- Invited researcher to work on Markov chains and network security.

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

Visiting Professor Oct. 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 October 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
Visiting Academic at National University of Singapore NUS - Department of Applied Probability - Feb 8th - Feb 16th 2012

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

Presentations and Invited Talks

- 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. (2017) Invited special session speaker - UCL Law
- 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 for the 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.

- Mathematical Models for Impulsiveness: Alpha Stable models for Signal Processing and Communications - Invited Speaker Dec. 2012
- Sequential Monte Carlo Methods and Efficient Simulation in Finance - Invited Speaker, Ecole Polytechnique, Paris, France - October 2012.
- Closed Form Solutions to Loss Distributional Approach Insurance and Risk Models via Properties of Convolutional Semi-groups for sub-exponential Severity Models - Invited Speaker, National University of Singapore (NUS) - August 2012.
- Generalized Interference Models in Doubly Stochastic Poisson Random Fields for Wideband Communications. - Invited Speaker, Institute of Statistical Mathematics (ISM) - August 2012.
- Risk: Modelling, Optimization and Inference - Invited Speaker, University of New South Wales, Sydney, Australia - July 2012.
- Advanced Statistics Symposium - Invited Keynote Speaker (unable to attend) CMAR, Hobart, Commonwealth Scientific and Industrial Research Organisation - March 2012.
- Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, National University of Singapore, 2012.
- Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, Institute of Statistical Mathematics - Tokyo Japan, 2011.
- Particle Markov Chain Monte Carlo methods for Commodity Models - Seminar, Computational Financial Econometrics CFE- London School of Economics, 2011.
- Multi-species modelling - Commonwealth Scientific and Industrial Research Organisation - Seminar, Perth, Nov. 2011.
- Vector Autoregression Models Incorporating Alpha-Stable Noise. - Seminar, Univeristy NSW, Sydney, May. 2011.
- Algorithmic Trading Models via Cointegration Frameworks. - Boronia Managed Funds, Sydney, Australia, April 2011
- Vector Autoregression Models Incorporating Alpha-Stable Noise for Inter-day Price Level Shifts. - Seminar, ENSAE, Paris, April. 2011.
- Bayesian Alpha Stable models via SMC Samplers PRC-ABC - SAMSI Transition Workshop for Program on Sequential Monte Carlo Methods, SAMSI, North Carolina, Nov. 2009.
- Markov Switching Bayesian Cointegrated Vector Autoregression models - Boronia Managed Funds, Sydney, NSW - Seminar, Sept. 2009
- Adaptive Trans-dimensional MCMC for Bayesian Cointegrated Vector Autoregression models - Department of Mathematics and Statistics, University of NSW - Statistics Seminar Series, Sept. 2009
- SAMSI Transition Workshop for Program on Sequential Monte Carlo Methods, SAMSI, North Carolina, Nov. 2009.
- Seminar Series University of NSW, Sydney, Australia, 2009.
- Boronia Capital Pty. Ltd. Hedge Fund, Sydney, 2009.
- Workshop for International Computing and Economics, University of Technology, Sydney, 2009.
- Seminar Series University of NSW, Sydney, Australia, 2009.

- Ninth Annual J. B. Douglas Awards (Winner), Statistical Society of Australia, Sydney, 2008.
- 9th World Conference of the International Society for Bayesian Analysis, Hamilton Island, 2008.
- Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) - AMRA Meeting, 2008.
- Qintq, Great Malvern, UK, 2008.
- Boronia Capital Pty. Ltd. Hedge Fund, Sydney, 2007.
- 2nd World MCMSki of the International Society for Bayesian Analysis, Bormio, Italy, 2008.
- Australasian Society for Bayesian Analysis, Spring Bayes, Coolangatta, 2007.
- Commonwealth Scientific and Industrial Research Organisation (CSIRO) - Risk Management Seminar, 2007.
- University of British Columbia (UBC) - Laboratory for Computational Intelligence Seminar, 2006.
- University of British Columbia (UBC) - Statistics Department Seminar, 2005.
- Qintq, Great Malvern, UK, 2005.
- Cambridge University - Engineering Department Seminar 1, 2005.
- Cambridge University - Engineering Department Seminar 2, 2005.
- 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 intiation, 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 accross the university through the spefically designed lunch time Student Support Scheme.

Conferences and Workshops I have Co-Organized or Editorial Panel

- 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

Associate Editor: Part A - Econometrics, Journal of the Computational Financial Econometrics Society. 2015+
http://www.cfenetwork.org/EcoSta.php

Regular referee for the following journals:

- Neural Information Processing NIPs 2014 - invited reviewer.
- Neural Information Processing NIPs 2012 - invited reviewer.
- AIStats 2011 - invited reviewer.
- AIStats 2013 - invited reviewer.
- ASTIN Bulletin
- Insurance: Mathematics and Economics .
- European Actuarial Journal
- Journal of Operational Risk
- Journal of Theoretical Probability
- Communications in Statistics - Simulation and Computation
- Electronic Journal Of Statistics
- Statistics in Medicine
- Journal of Econometrics
- Journal of Time Series Analysis
- Journal of Royal Statistical Society Series-B
- Journal of Royal Statistical Society Series-A
- Journal of Multivariate Analysis
- Stochastic Processes and Their Applications
- IEEE transactions Signal Processing
- IEEE transactions Communications
- IEEE transactions Wireless Communications
- IEEE transactions Sensor Networks
- IEEE Information Theory

Research Collaborators

- Dr. Francois Septier, Telecom Lille, Lille, France.
- Dr. Laurent Clavier, Telecom Lille, Lille, France.
- Dr. Nourddine Azaoui, Mathematics, University Blaise-Pascale, Clermont-Ferrand, France.
- Dr. Arnaud Guillin, Mathematics, University Blaise-Pascale, Clermont-Ferrand, France.
- Prof. Tomoko Matsui, Institute of Statistical Mathematics, Tokyo, Japan.
- Dr. Ioannis Kosmidis, Statistics, University College London, London, UK.
- Dr. Pavel Shevchenko, CSIRO CMIS, Sydney, Australia.
- Prof. Robert Kohn, Australian Business School, University of New South Wales (UNSW), Australia.
- Dr. Ido Nevat, Electrical Engineering Department, University of NSW, Australia.
- Prof. Arnaud Doucet, Institute of Statistical Mathematics, Tokyo, Japan.
- Dr. Mario Wüthrich, RiskLab, ETH, Zurich, Switzerland.
- Prof. Jinhong Yuan, Electrical Engineering Department, University of NSW, Australia.
- Prof. Simon Godsill, Statistical Signal Processing Laboratory, Cambridge University, Cambridge, UK.
- A.Prof. Adam Johansen, Statistics Department, University of Warwick, UK.
- Prof. Pierre del Moral, INRIA, Bordeaux, France.
- Dr. Scott Sisson, Statistics Department, University of NSW, Australia.
- Dr. Yanan Fan, Statistics Department, University of NSW, Australia.

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.

Professional Experience

JP Morgan, London, UK

Statistical Advisory and Senior Scientist 2019 Dec.+

- 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 present

- 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 present

- 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 present

- 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

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)

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

Mathematical Expertise

Statistics:
Bayesian model development and fitting; Multivariate numerical sampling and simulation; Markov chain theory; Markov chain Monte Carlo; Trans-dimensional MCMC; Sequential Monte Carlo (non-linear filtering); Likelihood Free inference.
Financial Mathematics:
Operational Risk; Non-life Insurance Claims Reserving Models; CoIntegration models in financial time series; sde commodities models and non-linear filtering; Game theory and mechanism design.
Signal Processing and Communications Engineering:
Communications Engineering and Signal Processing; Detection and Channel Estimation; Relay system design; Model selection in channel estimation. Machine Learning Support Vector Machines; Stochastic optimization.

Referees The following five referees have agreed to provide a reference on my behalf for this position application:

- Prof. Pavel Shevchenko

  Department of Applied Finance, Maquarie University, Sydney, Australia.

  - Director, Risk Analytics Lab
  - Co-Director, Centre for Financial Risk
  - Email pavel.shevchenko@mq.edu.au

- Dr. Andrea Macrina

  Department of Mathematics, University College London.

  - Gower Street, London WC1E 6BT, Office 814
  - Email: a.macrina@ucl.ac.uk

- Prof. Guillaume Bagnarosa

  Department of Fiance and Accounting, ESC Rennes School of Business, France.

  - Director for Agribusiness Area of Expertise.
  - Email: guillaume.bagnarosa@rennes-sb.com

- Dr. Jennifer Chan

  School of Mathematics and Statistics, University of Sydney, NSW 2006, Australia

  - Email: jennifer.chan@sydney.edu.au

- Dr. Ido Nevat

  TUM Create, Singapore.

  - Lead Researcher and Team Leader, Data Analytics Expert
  - Email: ido.nevat@tum-create.edu.sg

Recent significant publications (2004 onwards) – Gareth W. Peters

Summary:

Preprints Journal Papers (submitted) = 30
Scholarly Books In Preparation = 3
Scholarly Research Books Author = 2
Scholarly Research Books Editor = 3
Scholarly Book Chapters = 13
Journal Papers (peer reviewed) Appeared = 100
Conference Papers (peer reviewed) in Proceedings = 56

Refereed journal articles – Currently in Review (submitted)

1. W.T.M. Dunsmuir, K.A. Richards & **G.W. Peters** "Score Test for Marks in Hawkes Processes"

2. S. Clinet, W.T.M. Dunsmuir, **G.W. Peters** & K.A. Richards "Asymptotic Distribution of the Score Test for Detecting Marks in Hawkes Processes"

3. Jiang Y., Macrina A and **Peters G.W.** "Multiple barrier-crossing of an Ornstein-Uhlenbeck diffusion in consecutive periods"

4. Ames M., Bagnarossa G., Gao S., Matsui T. and **Peters G.W.** "A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields"

5. Danielsson J., Panayi S., **Peters G.W.** and Zigrand J.P. "Liquidity Resilience"

6. J. Fonseca, I. Nevat, **G.W. Peters** & A. Schlueter "Hybrid Engineering and Statistical Modelling of Energy Consumption for the Building Stock of the United States"

7. C. Zheng, M. Egan, L. Clavier, **G.W. Peters** & J-M Gorce "Statistical Characterization and Estimation for Interference Random Vectors in Poisson Spatial Fields of Interferers"

8. Jing Yang Koh, **Gareth W. Peters**, Derek Leong, Ido Nevat, and Wai-Choong Wong "Spatial Stackelberg Incentive Mechanism for Privacy-Aware Mobile Crowd Sensing"

9. Ido Nevat, Francois Septier, Karin Avnit, **Gareth W. Peters** and Laurent Clavier "Localization in IoT Networks with Clock and Ranging Offsets and Imperfect Wiresless Connectivity"

10. Yan H., Chan J. and **Peters G.W.** "Long Memory Models for Financial Time Series of Counts and Evidence of Systematic Market Participant Trading Behaviour Patterns in Futures on Us Treasuries"

11. Zaremba A., **Peters G.W.**, Aste T. "Statistical Causality for Multivariate Non-Linear Time Series via Gaussian Process Models."

12. Zaremba A., **Peters G.W.**, Matsui T. "Non-Parameteric Gaussian Process Vector Valued Time Series Models and Testing for Causality."

13. Yan S., **Peters G.W.**, Nevat I and Malaney R. “GLRT and Differential LRT with Common Factors and Their Applications to RSS-based Location Verification Systems”

14. Dalesandro A. and **Peters G.W.** “ Copula Decompositions via a Tensor Approximation of Generalized Correlated Diffusions”

15. Ames M., Bagnarosa G., **Peters G.W.**, Shevchenko P.V. and Matsui T. “Which Risk Factors Drive Oil Futures Price Curves? Speculation and Hedging in the Short and Long-Term”

16. Chen W.Y., **Peters G.W.**, Gerlach R.H. and Sisson S.A. “Dynamic Quantile Function Models.”

17. Azzaoui N., Guillin A. and **Peters G.W.** "Spectral characterization of the family of alpha-Stable processes that generalize Gaussian process models".

18. **Peters G.W.**, Matsui T., Septier F. and Tamamori A. "Estimation and Calibration in Gaussian Process State Space Models: MCDC Tool".

19. **Peters G.W.**, Hayes K., Hossack G. "Ecological non-linear state space model selection via adaptive particle Markov chain Monte Carlo (AdPMCMC)".

20. Clavier L., **Peters G.W.**, Septier F. and Nevat I. "Robust and Adaptive Receiver Design in Impulsive Subexponential Noise".

21. **Peters G.W.**, Nevat I., Septier F. and Clavier L. "Generalized Interference Models in Doubly Stochastic Poisson Random Fields for Wideband Communications: the PNSC(a) model" .

22. W. Gu, X. X.Yan, **Peters G.W.**, L. Clavier, F. Spetier, I. Nevat, "Robust and Adaptive Receiver Design in Impulsive Subexponential Noise".

23. Jing Yang K., **Peters G.W.**, Nevat I., Leong D. and Wong W.C. “Routing in Wireless Networks with Privacy Guarantees”

24. Zhang P., Nevat I., Septier F., **Peters G.W.** and Osborne M. "Spatial Field Reconstruction and Sensor Selection in Heterogeneous Sensor Networks with Stochastic Energy Harvesting"

Scholarly books in Preparation

25. Macrina A. and **Peters G.W.** *Innovations in Computational Statististics, Data Analytics and Machine Learning for Insurance and Risk Management.* CRC Press Oxford, (Contract being prepared). (500 pages) due at end of 2018.

26. **Peters G.W.**, Azzaoui N. and Macrina A. *Information-Based Approach to Generalised Momentum and Reversal*. Springer Briefs in Quantitative Finance. (120 pages) due mid 2018. Testing

27. **Peters G.W.**, Zhang V., Toczydlowska D., Bagnarosa G. and Macrina A. *Finance of Green Bonds: Quantitative and Qualitative Aspects,* Springer (250 pages) due mid 2018.

Scholarly books

28. Cruz M., **Peters G.W.**, and Shevchenko P.V., *Fundamental Aspects of Operational Risk Modelling and Insurance Analytics: A Handbook of Operational Risk* . Wiley New York, (in press, accepted 01/01/2014). (900 pages)

29. **Peters G.W.**, and Shevchenko P.V., *Advances in Heavy Tailed Risk Modelling: A Handbook of Operational Risk.* Wiley New York, (in press, accepted 01/01/2014). (700 pages)

30. Dick J., Kuo F., **Peters G.W.**, and Sloan I.H., eds. Monte Carlo and Quasi-Monte Carlo Methods 2012. Springer Berlin, 2014.

31. **Peters G.W.** and Matsui T. eds. *Theoretical Aspects of Spatial-Temporal Modeling*. Springer Briefs, Springer Japan, 2015.

32. **Peters G.W.** and Matsui T., eds. *Modern Methodology and Applications in Spatial-Temporal Modeling*. Springer Briefs, Springer Japan, 2015.

Scholarly book chapters (peer reviewed)

33. **Peters G.W.**, Korotsil I. and Regan D. (2013) "HPV Modelling Goes Bayesian: Inference via Advanced Markov chain Monte Carlo Methods.", Book chapter on Modeling and Calibration of Statistical Models in "Human Papilloma virus: Prevalence, Detection and Management" (76 pages)- Book Publisher, www.novapublishers.com (in press: accepted 02/13).

34. **Peters G.W.** and Panayi E. (2015) "Calibration of Financial Limit Order Book Stochastic Models via Approximate Bayesian Computation .", Book chapter in **Handbook of ABC (**eds. Sisson S., Fan Y. and Beaumont M.**).** Wiley New York.

35. **Peters G.W.** and Septier F. (2015) "An Overview of Recent Advances in Monte-Carlo Methods for Bayesian Filtering in High-dimensional Spaces." Book chapter in **Springer Briefs Japan (**eds. Peters GW. and Matsui T.**).** Springer Japan.

36. Azzaoui N., Clavier L., Guillin A. and **Peters G.W.** (2015) "Spectral Measures of Heavy Tailed Distributions: An Overview of their Applications in Wireless Communications Channel Modelling." Book chapter in **Springer Briefs Japan (**eds. Peters GW. and Matsui T.**).** Springer Japan.

37. **Peters G.W.**, Nevat I. and Matsui T. (2015) "Statistical Modelling in Wireless Sensor Networks for Spatial Field Reconstruction." Book chapter in **Springer Briefs Japan (**eds. Peters GW. and Matsui T.**).** Springer Japan.

38. **Peters G.W.** and Panayi E. (2016) "Understanding Modern Banking Ledgers through Blockchain Technologies: Future of Transaction Processing and Smart Contracts on the Internet of Money." **Book chapter in Edited volume on Blockchain "Banking Beyond Banks and Money"** Editor: Paolo Tasca, Tomaso Aste, Loriana Pelizzon and Nicolas Perony.

39. Peters G.W. and Vishnia G.R. (2016) “Blockchain Architectures for Electronic Exchange Reporting Requirements: EMIR, Dodd Frank, MiFID I/II, MiFIR, REMIT, Reg NMS and T2S.” Book chapter in **Handbook of Digital Banking and Internet Finance: Alternative Finance, Financial Inclusion, Impact Investing and Decentralized Consensus Ledger**, David LEE Kuo Chuen, and Robert Deng ed.

40. Peters G.W., Shevchenko P.V., Cohen R. and Maurice D. (2018) “**Understanding Cyber Risk and Cyber Insurance.**” Book chapter in FinTech: Growth and Deregulation which is edited by Diane Maurice (of the Banking and Financial Services department at the US Department of the Treasury and Resident Advisor for

the Tunisia Central Bank), Jack Freund (Senior Manager, Cyber Risk Framework at TIAA), and David Fairman (Chief Information Security Officer for the Royal Bank of Canada)ed. Risk Books.

41. Peters G.W., Shevchenko P.V., Cohen R. and Maurice D. (2018) “**Machine Learning Techniques in Event Case Studies for Cyber Risk.**” Book chapter in FinTech: Growth and Deregulation which is edited by Diane Maurice (of the Banking and Financial Services department at the US Department of the Treasury and Resident Advisor for the Tunisia Central Bank), Jack Freund (Senior Manager, Cyber Risk Framework at TIAA), and David Fairman (Chief Information Security Officer for the Royal Bank of Canada)ed.

Refereed journal articles – Accepted and Appeared

2020

42. Marowka M., **Peters G.W.**, Kantas N and Bagnarosa G. (2019) “Bayesian Inference for Dynamic Cointegration Models with application to Soybean Crush Spread” Journal of Royal Statistical Society Series C.

43. Yan K.H., **Peters G.W.** and Chan J. (2020) "Multivariate long memory cohort mortality models" ASTIN Bulletin, International Journal of the Actuarial Association.

44. Yan K.H., **Peters G.W.** and Chan J. (2020) “Mortality Models Incorporating Long Memory Improve Life Table Estimations: a comprehensive analysis." Annals of Actuarial Science.

2019

45. Georgescu D. I., Higham N.J. and **Peters G.W.** “Explicit Solutions to Correlation Matrix Completion Problems, with an Application to Risk Management and Insurance” Royal Society Open Science.

46. Fung S., **Peters G.W.** and Shevchenko P.V. (2019) “Cohort Effects in Mortality Modelling: A Bayesian State-Space Approach" Annals of Actuarial Science

47. Deyu M., Huang C., **Peters G.W.** and Galasso C. (2019) “Advancing Ground Motion Characterization for Post-Event Loss Assessment” 6th European Workshop on Earthquake Engineering

48. Ming D., Huang C., **Peters G.W**. and Galasso C. (2019) “An Advanced Estimation Algorithm for Ground-Motion Models with Spatial Correlation” Bulletin of the Seismological Society of America

49. **Peters G.W.** (2019) “Tutorial on General Quantile Time Series Constructions ” Risks (invited special issue)

50. Dias F. and **Peters G.W.** (2019) “Non-parameteric Price Momentum Models for Global Equity Index and Currency Markets.” Computational Economics

51. Dalesandro A. and **Peters G.W.** (2019) “Evaluating Concordance Measures via a Tensor Approximation of Generalized Correlated Diffusions” Methods in Computing and Applied Probability.

52. BA Desai, DM Divakaran, I Nevat, **GW Peters**, M Gurusamy (2019) “A feature-ranking framework for IoT device classification” 11th International Conference on Communication Systems & Networks (COMSNETS)

2018

53. Zhang P., Nevat I., Septier F., **Peters G.W.** and Osborne M. (2018) "Spatial Field Reconstruction and Sensor Selection in Heterogeneous Sensor Networks with Stochastic Energy Harvesting" IEEE Transactions on Signal Processing.

54. I Nevat, F Septier, K Avnit, **GW Peters**, L Clavier (2018) “Joint Localization and Clock Offset Estimation via time-of-arrival with ranging offset” 26th European Signal Processing Conference (EUSIPCO), 672-676

55. Ames M., **Peters G.W.**, Bagnarosa G and Shevchenko P. (2018) “Understanding the Interplay Between Covariance Forecasting Factor Models and Risk Based Portfolio Allocations in Currency Carry Trades” Journal of Forecasting.

56. Yan S., **Peters G.W.**, Nevat I and Malaney R. (2018) “Location Verification Systems Based on Received Signal Strength with Unknown Transmit Powers” IEEE Communication Letters.

57. **Peters G.W.**, Clark G., Thirlwell J. and Kulwal M. (2018) “Global Perspectives on Operational Risk Management and Practice. A survey by Institute of Operational Risk (IOR) and the Center for Financial Professionals (CeFPro)" Journal of Operational Risk

2017

58. Zhang P., Nevat I., **Peters G.W.**, Furthwirt W., Huang Y. and Osborne M. (2017) “Sensor Selection and Random Field Reconstruction for Robust and Cost-effective Heterogeneous Weather Sensor Networks for the Developing World" Neural Information Processing Workshop.

59. Furthwirt W., Zhang P., **Peters G.W.** (2017) “Riemannian tangent space mapping and \\elastic net regularization for cost-effective EEG markers of brain atrophy in Alzheimer's disease" Neural Information Processing Workshop.

60. **Peters G.W.**, Targino R. and Wuthrich M. “Bayesian Modelling, Monte Carlo Sampling and Capital Allocation of Insurance Risks” Risks (invited special issue "A Celebration of the Ties That Bind Us: Connections between Actuarial Science and Mathematical Finance")

61. Marowka M., **Peters G.W.**, Kantas N. and Bagnarosa G. (2017) "Some Recent Developments in Markov Chain Monte Carlo for Cointegrated Time Series." ESAIM: Proceedings and Surveys. Special issue (editors Prof. B Jourdain, Prof. E Gobet and Prof. B. Bouchard)

62. Toczydlowska D., **Peters G.W.**, Fung M.C. and Shevchenko P.V. (2017) “Stochastic Period and Cohort Effect State Space Mortality Models Incorporating Demographic Factors via Probabilistic Robust Principle Components.”, Risks: Special Issue on "Aging Population Risks".

63. Panayi S., **Peters G.W.** and Kyriakides G. (2017) “Sensor Network Based Precision Agriculture: Obtaining Optimal Environmental Schedules for Agaricus Bisporus Production via Variable Domain Functional Regression” PLOS One.

64. Nevat, P. Zhang, G. Frenkel and **Peters G.W.** (2017) "Parameter Estimation in Sensor Networks with Probabilistic Clipping". IEEE Transactions on Signal Processing.

65. Ames M., Bagnarosa G., **Peters G.W.** and Shevchenko P.V. (2017) “Understanding the Interplay Between Covariance Forecasting Factor Models and Risk Based Portfolio Allocations in Currency Carry Trades.” Journal of Forecasting.

66. Fung M.C., **Peters G.W.** and Shevchenko P.V. (2017) “A Unified Approach to Mortality Modelling Using State-Space Framework: Characterisation, Identification, Estimation and Forecasting.” Annals of Actuarial Science.

67. Dalesandro A. and **Peters G.W.** (2017)“Tensor Approximation of Generalized Correlated Diffusions and Functional Copula Operators”, Methodology and Computing in Applied Probability (MCAP).

68. Matthew Ames, Guillaume Bagnarosa and **Peters G.W.** (2017) "Reinvestigating the Uncovered Interest Rate Parity Puzzle via Analysis of Multivariate Tail Dependence in Currency Carry Trades." Journal of International Money and Finance.

69. de Freitas M., Egan M., Clavier L., Goupil A., **Peters G.W.**, and Azzaoui N (2017) “Capacity Bounds for Additive Symmetric alpha-Stable Noise Channels” IEEE Transactions on Information Theory.

70. I. Nevat, P. Zhang, G. Frenkel and **G.W. Peters.** (2017) ``Parameter Estimation in Sensor Networks with Probabilistic Clipping". IEEE Transactions on Signal Processing.

71. J.Y. Koh, D. Leong, **Peters G.W.**, I. Nevat, and W.C. Wong, (2017) “Optimal Privacy-Preserving Probabilistic Routing for Wireless Networks” IEEE transaction on Information Forensics and Security.

72. E. Karimalis, I. Kosmidis and **Peters G.W.** (2017) " Multi Yield Curve Stress-Testing Framework Incorporating Temporal and Cross Tenor Structural Dependencies." Bank of England Working Paper Staff Working Paper No. 655. (URL)

2016

73. **Peters G.W.** and Vishnia G.R (2016) “Overview of Emerging Blockchain Architectures and Platforms for Transparency and Pre and Post Trade Reporting from Electronic Exchanges.” White Paper for Hong Kong Monetary Authority - joint with ASTRI (HK).

74. Vishnia G.R. and **Peters G.W.** (2016) “Overview of Blockchain Platforms and Big Data”. Journal of Financial Transformation. Capco.com

75. **Peters G.W.**, Chen W. and Gerlach R. (2016) “Estimating Quantile Families of Loss Distributions for Non-Life Insurance Modelling via L-Moments.” Risks (Special Issue on General Insurance).

76. Panayi E.,**Peters G.W.**, Danielsson J. and Zigrand J.P. (2016) “Designating Market Maker Behaviour in Limit Order Book Markets” Econometrics and Statistics, Elseveir. [arXiv:1508.04348]

77. M. Egan, **Peters G.W.**, Nevat I., Shirvanimoghaddam M. and Collings I. (2016) " A Ruin Theoretic Design Approach for Wireless Cellular Network Sharing with Facilities", IEEE Transactions on Emerging Telecommunications Technologies.

78. **Peters G.W.**, Shevchenko P.V., Hassani B. and Chapelle A. (2016) “Should AMA be Replaced with SMA for Operational Risk ? ”. Journal of Operational Risk.

79. **Peters G.W.**, Shevchenko P.V., Hassani B. and Chapelle A. (2016) “Standardized Measurement Approach: Pros and Cons.” Response to Basel Committee BIS 2016 consultative call for SMA proposal. June. Basel Committee Website Publication.

80. Chapelle A, Hassani B, **Peters G.W.**, Sekeris E and Shevchenko P. “Removing the AMA could become a source of op risk.” Risk Magazine.

81. **Peters G.W.**, Targino R. and Wuthrich M.V. (2016) “Full Bayesian Uncertainty Analysis of the Claims Development Result. ”. Insurance Mathematics and Economics.

82. Ames M., Bagnarosa G., **Peters G.W.** and Shevchenko P.V. (2016) ``Understanding the Interplay Between Covariance Forecasting Factor Models and Risk Based Portfolio Allocations in Currency Carry Trades." Special issue of IEEE Transactions Signal Processing ICASSP Financial Engineering.

83. Murakami D., **Peters G.W.**, Yamagata Y. and Matsui T. (2016) ``Participatory Sensing Data "TWEETS" for Micro-Urban Real-Time Resiliency Monitoring and Risk Management". IEEE Access journal.

84. P. Zhang, I. Nevat, L, Clavier, **Peters G.W**. (2016) ``Event detection in Sensor Networks with Random Censoring via Mixture Series Expansion," IEEE Transactions on Sensors.

85. I. Nevat, **Peters G.W.**, K. Avnit, F. Septier and L. Clavier. (2016) ``Location of Things: GeoSpatial Tagging for IoT using Time-of-Arrival," IEEE Transactions on Information Processing over Networks.

86. S. Yan, I. Nevat, **Peters G.W.**, R. Malaney. (2016) ``Location Verification Systems for VANETs Under Spatially Correlated Shadowing", IEEE Transactions on Wireless Communications.

87. T. Nguyen, F. Septier, H. Rajaona, **Peters G.W.**, I. Nevat, Y. Delignon. (2016) ``A Bayesian Perspective on Multiple Source Localization in Wireless Sensor Networks", IEEE Transactions on Signal Processing, April.

2015

88. Richards K.A., **Peters G.W.** and Dunsmuir W. (2015) ``Heavy-Tailed Features and Emprical Analysis of the Limit Order Book Volume Profiles in Futures Markets." Journal of Financial Engineering. [arXiv: 1210.7215]

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