

PROF. DR. GARETH W. PETERS

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

CONTACT INFORMATION

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/>

1 A summary of research papers by topics:

- (Section 2) **A**pproximate Bayesian Computation (ABC) & Likelihood Free Methods ([CLICK Section 2](#))
- (Section 3) **B**lock Chain & Crypto Currency ([CLICK Section 3](#))
- (Section 4) **C**ommodity Modelling ([CLICK Section 4](#))
- (Section 5) **C**yber Risk, Cyber Insurance & Cyber Security ([CLICK Section 5](#))
- (Section 6) **D**emographic Statistics ([CLICK Section 6](#))
- (Section 7) **E**conometrics, Computational Finance, Mathematical Finance ([CLICK Section 7](#))
- (Section 8) **E**nvironmental Modelling and Ecology ([CLICK Section 8](#))
- (Section 9) **G**aussian Process Methods & Applications ([CLICK Section 9](#))
- (Section 10) **G**reen Finance & Environmental Finance ([CLICK Section 10](#))
- (Section 11) **I**nsurance & Risk Management ([CLICK Section 11](#))
- (Section 12) **M**achine Learning Methods and Applications ([CLICK Section 12](#))
- (Section 18) **M**arkov Chain Monte Carlo (MCMC) Methods & Applications ([CLICK Section 13](#))
- (Section 14) **M**edical Applications ([CLICK Section 14](#))
- (Section 15) **M**onte Carlo Methods & Applications ([CLICK Section 15](#))
- (Section 16) **M**ultivariate Analysis, Copula, Dependence & Feature Extraction ([CLICK Section 16](#))
- (Section 17) **O**perational Risk ([CLICK Section 17](#))
- (Section 18) **S**equential Monte Carlo (SMC Sampler) & SMC Methods & Applications ([CLICK Section 18](#))
- (Section 19) **S**oftware Packages & Libraries ([CLICK Section 19](#))
- (Section 20) **S**patial Modelling ([CLICK Section 20](#))
- (Section 21) **S**tatistical Signal Processing ([CLICK Section 21](#))
- (Section 22) **T**ime Series Methods & Applications ([CLICK Section 22](#))

2 Approximate Bayesian Computation (ABC) & Likelihood Free

1. Del Moral, Pierre and Doucet, Arnaud and Peters, Gareth W., Sequential Monte Carlo Samplers. Cambridge University Engineering Department CUED Technical Report (June 1, 2004).
 - SSRN preprint: <https://ssrn.com/abstract=3841065>
2. Peters G, Sisson S. Bayesian Inference, Monte Carlo Sampling and Operational Risk. Peters GW and Sisson SA (2006) "Bayesian Inference, Monte Carlo Sampling and Operational Risk". Journal of Operational Risk. 2006;1(3).
 - SSRN preprint <https://ssrn.com/abstract=2980407>
3. Peters G.W. (2009) "Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference." PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
4. S. A. Sisson, G. W. Peters, M. Briers and Y. Fan 2010 "A Note on Target Distribution Ambiguity for Likelihood-Free Samplers (ABC)" [arXiv: 1005.5201]
5. Peters GW, Nevat I, Sisson SA, Fan Y, Yuan J. Bayesian symbol detection in wireless relay networks via likelihood-free inference. IEEE transactions on signal processing. 2010 Jun 10;58(10):5206-18. <https://ieeexplore.ieee.org/iel5/78/5571790/05483096.pdf>
6. Peters GW, Wüthrich MV, Shevchenko PV. Chain ladder method: Bayesian bootstrap versus classical bootstrap. Insurance: Mathematics and Economics. 2010 Aug 1;47(1):36-51. <https://doi.org/10.1016/j.insmatheco.2010.03.007>
 - SSRN preprint <https://ssrn.com/abstract=2980411>
7. Peters GW, Fan Y, Sisson SA. On sequential Monte Carlo, partial rejection control and approximate Bayesian computation. Statistics and Computing. 2012 Nov;22:1209-22.DOI10.1007/s11222-012-9315-y DOI10.1007/s11222-012-9315-y
 - SSRN preprint <https://ssrn.com/abstract=2980448>
8. Peters GW, Sisson SA, Fan Y. Likelihood-free Bayesian inference for α -stable models. Computational Statistics Data Analysis. 2012 Nov 1;56(11):3743-56. <https://doi.org/10.1016/j.csda.2010.10.004>
 - SSRN preprint <https://ssrn.com/abstract=2980440>
9. Dean TA, Singh SS, Jasra A, Peters GW. Parameter estimation for hidden Markov models with intractable likelihoods. Scandinavian Journal of Statistics. 2014 Dec;41(4):970-87. doi: 10.1111/sjos.12077 <https://doi.org/10.1111/sjos.12077>
10. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk. John Wiley Sons. (CHAPTER 7 - Estimation of Frequency and Severity Models)
11. Peters, G.W., Panayi, E. and Septier, F., 2018. Sequential Monte Carlo-ABC methods for estimation of stochastic simulation models of the limit order book. In Sisson, S. A. , Y. Fan and M. A. Beaumont (eds.), Handbook of Approximate Bayesian Computation (pp. 437-480). Chapman and Hall/CRC.

[Return to Main Menu CLICK](#)

3 Block Chain & Crypto Currency

1. Peters, G.W., Panayi, E. and Chapelle, A., 2015. Trends in cryptocurrencies and blockchain technologies: A monetary theory and regulation perspective. *Journal of Financial Perspectives*, 3(3).
 - SSRN preprint <https://ssrn.com/abstract=3084011>
2. Peters GW, Chapelle A, Panayi E. Opening discussion on banking sector risk exposures and vulnerabilities from virtual currencies: An operational risk perspective. *Journal of Banking Regulation*. 2016 Nov;17:239-72.
 - SSRN preprint <https://ssrn.com/abstract=2491991>
3. Peters, G.W. and Vishnia, G., 2016. Overview of emerging Blockchain architectures and platforms for electronic trading exchanges. *Journal of Financial Transformation*. Capco.com
 - SSRN preprint <https://ssrn.com/abstract=2867344>
4. 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, ASTRI and Hong Kong Monetary Authority.
5. 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. In *Banking beyond banks and money* (pp. 239-278). Springer, Cham.
6. Peters, G.W. and Vishnia, G.R., 2018. Blockchain architectures for electronic exchange reporting requirements: EMIR, Dodd Frank, MiFID I/II, MiFIR, REMIT, Reg NMS and T2S. In *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 2* (pp. 271-329). Academic Press.
7. Vishnia GR, Peters GW. Auditchain: A trading audit platform over blockchain. *Frontiers in Blockchain*. 2020 Feb 26;3:9.
<https://doi.org/10.3389/fbloc.2020.00009>
 - SSRN preprint <https://ssrn.com/abstract=3391634>
8. Chalkiadakis I, Zaremba A, Peters GW, Chantler MJ. On-chain analytics for sentiment-driven statistical causality in cryptocurrencies. *Blockchain: Research and Applications*. 2022 Jun 1;3(2):100063.
<https://doi.org/10.1016/j.bcra.2022.100063>
 - SSRN preprint <https://ssrn.com/abstract=3742063>
9. Chalkiadakis I., Peters G.W. and Ames M. (2023). Hybrid ARDL-MIDAS-Transformer Time-Series Regressions for Multi-Topic Crypto Market Sentiment Driven by Price and Technology Factors. *Digital Finance* (to appear)
 - SSRN preprint <https://ssrn.com/abstract=3908066>

[Return to Main Menu CLICK](#)

4 Commodity Modelling

1. Peters GW, Briers M, Shevchenko P, Doucet A. Calibration and filtering for multi factor commodity models with seasonality: incorporating panel data from futures contracts. *Methodology and Computing in Applied Probability*. 2013 Dec;15:841-74. DOI10.1007/s11009-012-9286-7
<https://link.springer.com/content/pdf/10.1007%2Fs11009-012-9286-7.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2531821>
2. Panayi E, Peters GW, Kyriakides G. Statistical modelling for precision agriculture: A case study in optimal environmental schedules for *Agaricus Bisporus* production via variable domain functional regression. *PLoS One*. 2017 Sep 29;12(9):e0181921.
<https://doi.org/10.1371/journal.pone.0280374>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
3. Ames M, Bagnarosa G, Matsui T, Peters GW, Shevchenko PV. Which risk factors drive oil futures price curves?. *Energy Economics*. 2020 Mar 1;87:104676.
<https://doi.org/10.1016/j.eneco.2020.104676>
 - SSRN preprint <https://ssrn.com/abstract=2840730>

[Return to Main Menu CLICK](#)

5 Cyber Risk, Insurance & Cyber Security

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Yan S, Malaney R, Nevat I, Peters GW. Optimal information-theoretic wireless location verification. *IEEE Transactions on Vehicular Technology*. 2014 Jan 22;63(7):3410-22. <https://doi.org/10.1109/TVT.2014.2302022>
3. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2015, May. Location spoofing detection for VANETs by a single base station in Rician fading channels. In 2015 IEEE 81st Vehicular Technology Conference (VTC Spring) (pp. 1-6). IEEE.
4. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk. John Wiley Sons.
5. Yan S, Malaney R, Nevat I, Peters GW. Location verification systems for VANETs in Rician fading channels. *IEEE Transactions on Vehicular Technology*. 2015 Jul 6;65(7):5652-64. <https://ieeexplore.ieee.org/iel7/25/7513343/07150554.pdf>
6. Peters, G.W. and Shevchenko, P.V., 2015. Advances in heavy tailed risk modelling: A handbook of operational risk. John Wiley Sons.
7. Nevat I, Peters GW, Avnit K, Septier F, Clavier L. Location of things: Geospatial tagging for IoT using time-of-arrival. *IEEE transactions on Signal and Information Processing over Networks*. 2016 Feb 18;2(2):174-85. DOI: 10.1109/TSIPN.2016.2531422 <https://doi.org/10.1109/TSIPN.2016.2531422>
8. Yan S, Nevat I, Peters GW, Malaney R. Location verification systems under spatially correlated shadowing. *IEEE Transactions on Wireless Communications*. 2016 Feb 26;15(6):4132-44. <https://ieeexplore.ieee.org/iel7/7693/7485904/07420743.pdf>
9. Koh, J.Y., Peters, G.W., Leong, D., Nevat, I. and Wong, W.C., 2017, May. Privacy-aware incentive mechanism for mobile crowd sensing. In 2017 IEEE International Conference on Communications (ICC) (pp. 1-6). IEEE.
10. Yan S, Peters GW, Nevat I, Malaney R. Location verification systems based on received signal strength with unknown transmit power. *IEEE Communications Letters*. 2017 Dec 25;22(3):650-3. Digital Object Identifier 10.1109/LCOMM.2017.2787129 <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8239790>
11. Peters, G.W., Shevchenko, P.V. and Cohen, R., 2018. Understanding cyber-risk and cyber-insurance. In *FinTech: Growth and Deregulation* (Chapter 12, pp. 1-31). Risk Books.
12. Peters, G.W., Shevchenko, P.V., Cohen, R. and Maurice, D., 2018. Statistical machine learning analysis of cyber risk data: event case studies. In *FinTech: Growth and Deregulation* (Chapter 3, 28 pages). Risk Books.
13. B. Chakraborty, D. M. Divakaran, I. Nevat, G. W. Peters and M. Gurusamy, "Cost-Aware Feature Selection for IoT Device Classification," in *IEEE Internet of Things Journal*, vol. 8, no. 14, pp. 11052-11064, 15 July 2021, doi: 10.1109/JIOT.2021.3051480. <https://doi.org/10.1109/JIOT.2021.3051480>
14. Campi M, Peters GW, Azzaoui N, Matsui T. Machine learning mitigants for speech based cyber risk. *IEEE Access*. 2021 Oct 1;9:136831-60. <https://doi.org/10.1109/ACCESS.2021.3117080>
 - SSRN preprint <https://ssrn.com/abstract=3643826>
15. P. Shevchenko, J. Jang, M. Malavasi, G.W. Peters, G. Sofronov S. Truck 2021. Quantification of Cyber Risk - Risk Categories and Business Sectors. Optus Macquarie University Cyber Security Hub. Telecommunications Industry Optus White Paper.

16. Malavasi M, Peters GW, Shevchenko PV, Trück S, Jang J, Sofronov G. Cyber risk frequency, severity and insurance viability. *Insurance: Mathematics and Economics*. 2022 Sep 1;106:90-114. <https://doi.org/10.1016/j.insmatheco.2022.05.003>
 - SSRN preprint <https://ssrn.com/abstract=3940329>
17. Shevchenko PV, Jang J, Malavasi M, Peters GW, Sofronov G, Trück S. The nature of losses from cyber-related events: risk categories and business sectors. *Journal of Cybersecurity*. 2023 Jan 1;9(1):tyac016. <https://doi.org/10.1093/cybsec/tyac016>
 - SSRN preprint <https://arxiv.org/pdf/2202.10189>

[Return to Main Menu CLICK](#)

6 Demographic Statistics

1. Murakami D, Peters GW, Yamagata Y, Matsui T. Participatory sensing data tweets for micro-urban real-time resiliency monitoring and risk management. *Ieee Access*. 2016 Jan 12;4:347-72. Digital Object Identifier 10.1109/ACCESS.2016.2516918
<https://doi.org/10.1109/ACCESS.2016.2516918>
2. Fung MC, Peters GW, Shevchenko PV. A unified approach to mortality modelling using state-space framework: characterisation, identification, estimation and forecasting. *Annals of Actuarial Science*. 2017 Sep;11(2):343-89.
<https://doi.org/10.1017/S1748499517000069>
 - SSRN preprint <https://ssrn.com/abstract=2786559>
3. Toczydlowska D, Peters GW, Fung MC, Shevchenko PV. Stochastic period and cohort effect state-space mortality models incorporating demographic factors via probabilistic robust principal components. *Risks*. 2017 Jul 27;5(3):42.
<https://doi.org/10.3390/risks5030042>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
4. Peters GW. General quantile time series regressions for applications in population demographics. *Risks*. 2018 Sep 13;6(3):97.
<https://doi.org/10.3390/risks6030097>
 - SSRN preprint <https://ssrn.com/abstract=3056728>
5. Fung MC, Peters GW, Shevchenko PV. Cohort effects in mortality modelling: a Bayesian state-space approach. *Annals of Actuarial Science*. 2019 Mar;13(1):109-44.
<https://doi.org/10.1017/S1748499518000131>
 - SSRN preprint <https://ssrn.com/abstract=2907868>
6. Jimeno A. Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, *Applied Energy*, Volume 277, 2020, 115556, ISSN 0306-2619.
<https://doi.org/10.1016/j.apenergy.2020.115556>
 - SSRN preprint <https://ssrn.com/abstract=3656280>
7. Murakami D, Peters GW, Matsui T, Yamagata Y. Spatio-Temporal Analysis of Urban Heatwaves Using Tukey g-and-h Random Field Models. *IEEE Access*. 2020 Jul 31;9:79869-88.
<https://doi.org/10.1109/ACCESS.2020.3013255>
 - SSRN preprint <https://ssrn.com/abstract=3575789>
8. Yan, H., Peters, G., Chan, J. (2020). MULTIVARIATE LONG-MEMORY COHORT MORTALITY MODELS. *ASTIN Bulletin: The Journal of the IAA*, 50(1), 223-263. doi:10.1017/asb.2019.35
<https://doi.org/10.1017/asb.2019.35>
 - SSRN preprint <https://ssrn.com/abstract=3166884>
9. Yan H, Peters GW, Chan J. Mortality models incorporating long memory for life table estimation: a comprehensive analysis. *Annals of Actuarial Science*. 2021 Nov;15(3):567-604.
<https://doi.org/10.1017/S1748499521000014>
 - SSRN preprint <https://ssrn.com/abstract=3149914>

10. Chalkiadakis I, Yan H, Peters GW, Shevchenko PV. Infection rate models for COVID-19: Model risk and public health news sentiment exposure adjustments. Plos one. 2021 Jun 28;16(6):e0253381. <https://doi.org/10.1371/journal.pone.0253381>

- SSRN preprint <https://ssrn.com/abstract=3813417>

11. Peters GW, Yan H, Chan J. Model Risk in Mortality-linked Contingent Claims Pricing. Journal of Risk Model Validation. 2022 Aug 2;16(3). <http://doi.org/10.21314/JRMV.2022.022>

- SSRN preprint https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4262766

[Return to Main Menu CLICK](#)

7 Econometrics, Computational Finance, Mathematical Finance

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.

- Available at SSRN: <https://ssrn.com/abstract=3785580>

2. Peters G.W., Kannan B., Lasscock B. and Mellen C. (2009) Rank Estimation and Adaptive Markov chain Monte Carlo for Bayesian Cointegrated VAR Models. 15th International Conference on Computing in Economics and Finance.
3. Peters, G.W., Lasscock, B. and Balakrishnan, K., 2011, December. Rank estimation in cointegrated vector auto-regression models via automated trans-dimensional Markov chain Monte Carlo. In 2011 4th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) (pp. 41-44). IEEE.
4. Peters, G.W., Kannan, B., Lasscock, B., Mellen, C. and Godsill, S., 2011. Bayesian cointegrated vector autoregression models incorporating alpha-stable noise for inter-day price movements via approximate Bayesian computation. *Bayesian Analysis*, 6(4), pp.755-792.DOI: 10.1214/11-BA628
<https://doi.org/10.1214/11-BA628>
5. Peters GW, Briers M, Shevchenko P, Doucet A. Calibration and filtering for multi factor commodity models with seasonality: incorporating panel data from futures contracts. *Methodology and Computing in Applied Probability*. 2013 Dec;15:841-74. DOI10.1007/s11009-012-9286-7
<https://link.springer.com/content/pdf/10.1007%2Fs11009-012-9286-7.pdf>

- SSRN preprint <https://ssrn.com/abstract=2531821>

6. Del Moral, P., Peters, G.W. and Vergé, C., 2013. An introduction to stochastic particle integration methods: with applications to risk and insurance. In *Monte Carlo and Quasi-Monte Carlo Methods 2012* (pp. 39-81) Dick J., Kuo F., Peters G.W., Sloan I. (eds) Springer Proceedings in Mathematics Statistics, vol 65. Springer, Berlin, Heidelberg.
7. Panayi, E. and Peters, G.W., 2014, March. Survival models for the duration of bid-ask spread deviations. In 2014 IEEE Conference on Computational Intelligence for Financial Engineering Economics (CIFER) (pp. 9-16). IEEE.
8. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk. John Wiley Sons.
9. Peters, G.W. and Shevchenko, P.V., 2015. Advances in heavy tailed risk modelling: A handbook of operational risk. John Wiley Sons.
10. Ames, M., Peters, G.W., Bagnarosa, G. and Kosmidis, I., 2015. Upside and downside risk exposures of currency carry trades via tail dependence. In *Innovations in quantitative risk management* (pp. 163-181), Glau K., Scherer M., Zagst R. (eds). Springer Proceedings in Mathematics Statistics, vol 99. Springer, Cham.
11. Panayi E, Peters GW, Kosmidis I. Liquidity commonality does not imply liquidity resilience commonality: a functional characterisation for ultra-high frequency cross-sectional LOB data. *Quantitative Finance*. 2015 Oct 3;15(10):1737-58. <https://doi.org/10.1080/14697688.2015.1071075>
12. Richards KA, Peters GW, Dunsmuir W. Heavy-tailed features and dependence in limit order book volume profiles in futures markets. *International Journal of Financial Engineering*. 2015 Sep 23;2(03):1550033.

- SSRN preprint <https://ssrn.com/abstract=2268283>

13. Panayi, E. and Peters, G.W., 2015. Stochastic simulation framework for the limit order book using liquidity-motivated agents. *International Journal of Financial Engineering*, 2(02), p.1550013.

- SSRN preprint <https://ssrn.com/abstract=2551410>

14. Ames M., Bagnarosa G., Peters G.W. and Shevchenko P.V. (2017) Forecasting covariance for optimal carry trade portfolio allocations. 2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 5910-5914.
 - SSRN preprint <https://ssrn.com/abstract=2949763>
15. Karimalis, E., Kosmidis, I. 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.
 - SSRN preprint <https://ssrn.com/abstract=2638163>
16. Ames M, Bagnarosa G, Peters GW. Violations of uncovered interest rate parity and international exchange rate dependences. *Journal of International Money and Finance*. 2017 May 1;73:162-87.
<https://doi.org/10.1016/j.jimonfin.2017.01.002>
 - SSRN preprint <https://ssrn.com/abstract=2646649>
17. Panayi E, Peters GW, Danielsson J, Zigrand JP. Designating market maker behaviour in limit order book markets. *Econometrics and Statistics*. 2018 Jan 1;5:20-44.
<https://doi.org/10.1016/j.ecosta.2016.10.008>
 - SSRN preprint <https://ssrn.com/abstract=2699020>
18. Ames M, Bagnarosa G, Peters GW, Shevchenko PV. Understanding the interplay between covariance forecasting factor models and risk-based portfolio allocations in currency carry trades. *Journal of Forecasting*. 2018 Dec;37(8):805-31.
<https://doi.org/10.1002/for.2505>
 - SSRN preprint <https://ssrn.com/abstract=2846670>
19. Dalessandro A, Peters GW. Efficient and Accurate Evaluation Methods for Concordance Measures via Functional Tensor Characterizations of Copulas. *Methodology and Computing in Applied Probability*. 2020 Sep;22:1089-124.
<https://doi.org/10.1007/s11009-019-09752-2>
 - SSRN preprint <https://ssrn.com/abstract=2846670>
20. Dias FS, Peters GW. A non-parametric test and predictive model for signed path dependence. *Computational Economics*. 2020 Aug;56(2):461-98.
<https://doi.org/10.1007/s10614-019-09934-7>
21. Ames M, Bagnarosa G, Matsui T, Peters GW, Shevchenko PV. Which risk factors drive oil futures price curves?. *Energy Economics*. 2020 Mar 1;87:104676.
<https://doi.org/10.1016/j.eneco.2020.104676>
 - SSRN preprint <https://ssrn.com/abstract=2840730>
22. Maciej Marowka, Gareth W. Peters, Nikolas Kantas, Guillaume Bagnarosa, Factor-Augmented Bayesian Cointegration Models: A Case-Study on The Soybean Crush Spread, *Journal of the Royal Statistical Society Series C: Applied Statistics*, Volume 69, Issue 2, April 2020, Pages 483–500
<https://doi.org/10.1111/rssc.12395>
 - SSRN preprint <https://ssrn.com/abstract=2960638>
23. Fabio S. Dias, Gareth W. Peters, Option pricing with polynomial chaos expansion stochastic bridge interpolators and signed path dependence, *Applied Mathematics and Computation*, Volume 411, 2021, 126484, ISSN 0096-3003.
<https://doi.org/10.1016/j.amc.2021.126484>
 - SSRN preprint <https://ssrn.com/abstract=3588871>

24. Jiang Y, Macrina A, Peters GW. Multiple barrier-crossings of an Ornstein-Uhlenbeck diffusion in consecutive periods. *Stochastic Analysis and Applications*. 2021 Jul 4;39(4):569-609.
<https://doi.org/10.1080/07362994.2020.1818581>
 - SSRN preprint <https://ssrn.com/abstract=3334142>
25. Clinet S, Dunsmuir WT, Peters GW, Richards KA. Asymptotic distribution of the score test for detecting marks in hawkes processes. *Statistical Inference for Stochastic Processes*. 2021 Oct;24(3):635-68.
<https://doi.org/10.1007/s11203-021-09245-5>
 - SSRN preprint <https://ssrn.com/abstract=3380754>
26. Tipakornrojjanakit K., Chudtong M., Peters G.W. and Satiracoo P. 2021. Covariance Forecasting Methods For Dynamic Asset Allocation. *International Journal of Data Science and Big Data Analytics*. ISSN: 2710-2599, IJDSBDA11012021MTN009 <https://www.svedbergopen.com/>
 - SSRN preprint <https://ssrn.com/abstract=3722136>
27. Zaremba AB, Peters GW. Statistical Causality for Multivariate Nonlinear Time Series via Gaussian Process Models. *Methodology and Computing in Applied Probability*. 2022 Mar 30:1-46.
<https://doi.org/10.1007/s11009-022-09928-3>
 - SSRN preprint <https://ssrn.com/abstract=3609497>
28. Peters GW, Yan H, Chan J. Model Risk in Mortality-linked Contingent Claims Pricing. *Journal of Risk Model Validation*. 2022 Aug 2;16(3).
<http://doi.org/10.21314/JRMV.2022.022>
 - SSRN preprint https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4262766
29. Chen WY, Peters GW, Gerlach RH, Sisson SA. Dynamic quantile function models. *Quantitative Finance*. 2022 Sep 2;22(9):1665-91.
<https://doi.org/10.1080/14697688.2022.2053193>
 - SSRN preprint <https://ssrn.com/abstract=2999451>
30. Chalkiadakis I, Zaremba A, Peters GW, Chantler MJ. On-chain analytics for sentiment-driven statistical causality in cryptocurrencies. *Blockchain: Research and Applications*. 2022 Jun 1;3(2):100063.
<https://doi.org/10.1016/j.bcra.2022.100063>
 - SSRN preprint <https://ssrn.com/abstract=3742063>
31. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear *North American Actuarial Journal NAAJ*)
 - SSRN preprint <https://ssrn.com/abstract=3447047>
32. Chalkiadakis I., Peters G.W. and Ames M. (2023). Hybrid ARDL-MIDAS-Transformer Time-Series Regressions for Multi-Topic Crypto Market Sentiment Driven by Price and Technology Factors. *Digital Finance* (to appear)
 - SSRN preprint <https://ssrn.com/abstract=3908066>

[Return to Main Menu CLICK](#)

8 Environmental Modelling and Ecology

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Burgman M, Franklin J, Hayes KR, Hosack GR, Peters GW, Sisson SA. Modeling extreme risks in ecology. *Risk Analysis: An International Journal*. 2012 Nov;32(11):1956-66.
<https://doi.org/10.1111/j.1539-6924.2012.01871.x>
3. Hosack GR, Peters GW, Hayes KR. Estimating density dependence and latent population trajectories with unknown observation error. *Methods in Ecology and Evolution*. 2012 Dec;3(6):1028-38.
<https://doi.org/10.1111/j.2041-210X.2012.00218.x>
4. Hayes KR, Barry SC, Hosack GR, Peters GW. Severe uncertainty and info-gap decision theory. *Methods in Ecology and Evolution*. 2013 Jul;4(7):601-11.
<https://doi.org/10.1111/2041-210X.12046>
5. Hosack GR, Peters GW, Ludsins SA. Interspecific relationships and environmentally driven catchabilities estimated from fisheries data. *Canadian journal of fisheries and aquatic sciences*. 2014;71(3):447-63.
<https://doi.org/10.1139/cjfas-2013-0236>
6. Yamagata, Y., Murakami, D., Peters, G.W. and Matsui, T., 2015. A Spatiotemporal Analysis of Participatory Sensing Data 'Tweets' and Extreme Climate Events Toward Real-Time Urban Risk Management. This manuscript was presented in the 14th International Conference on Computers in Urban Planning and Urban Management (CUPUM 2015). <https://arxiv.org/abs/1505.06188>
7. Nevat, I., Peters, G.W., Septier, F. and Matsui, T., 2015, June. Wind storm estimation using a heterogeneous sensor network with high and low resolution sensors. In 2015 IEEE International Conference on Communications (ICC) (pp. 4865-4870). IEEE.
8. Panayi E, Peters GW, Kyriakides G. Statistical modelling for precision agriculture: A case study in optimal environmental schedules for *Agaricus Bisporus* production via variable domain functional regression. *PLoS One*. 2017 Sep 29;12(9):e0181921.
<https://doi.org/10.1371/journal.pone.0280374>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
9. Murakami D, Peters GW, Matsui T, Yamagata Y. Spatio-Temporal Analysis of Urban Heatwaves Using Tukey g-and-h Random Field Models. *IEEE Access*. 2020 Jul 31;9:79869-88.
<https://doi.org/10.1109/ACCESS.2020.3013255>
 - SSRN preprint <https://ssrn.com/abstract=3575789>
10. Jimeno A, Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, *Applied Energy*, Volume 277, 2020, 115556, ISSN 0306-2619.
<https://doi.org/10.1016/j.apenergy.2020.115556>
 - SSRN preprint <https://ssrn.com/abstract=3656280>
11. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear *North American Actuarial Journal NAAJ*)
 - SSRN preprint <https://ssrn.com/abstract=3447047>

[Return to Main Menu CLICK](#)

9 Gaussian Process Methods & Applications

1. Nevat, I., Peters, G.W. and Collings, I.B., 2012, January. Location-aware cooperative spectrum sensing via Gaussian processes. In 2012 Australian Communications Theory Workshop (AusCTW) (pp. 19-24). IEEE.
2. Nevat, I., Peters, G.W., Yuan, J. and Collings, I.B., 2012, April. System identification in wireless relay networks via Gaussian process Iterated Conditioning on the Modes estimation. In 2012 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 369-374). IEEE.
3. Peters GW, Nevat I, Yuan J, Collings IB. System identification in wireless relay networks via a gaussian process. IEEE transactions on vehicular technology. 2012 Jul 25;61(9):3969-83. <https://doi.org/10.1109/WCNC.2012.6214392>
4. Nevat I, Peters GW, Collings IB. Random field reconstruction with quantization in wireless sensor networks. IEEE Transactions on Signal Processing. 2013 Sep 5;61(23):6020-33. <https://doi.org/10.1109/TSP.2013.2280442>
5. Nevat I, Peters GW, Septier F, Matsui T. Estimation of spatially correlated random fields in heterogeneous wireless sensor networks. IEEE Transactions on Signal Processing. 2015 Mar 13;63(10):2597-609. <https://doi.org/10.1109/TSP.2015.2412917>
6. Murakami D, Peters GW, Yamagata Y, Matsui T. Participatory sensing data tweets for micro-urban real-time resiliency monitoring and risk management. Ieee Access. 2016 Jan 12;4:347-72. Digital Object Identifier 10.1109/ACCESS.2016.2516918 <https://doi.org/10.1109/ACCESS.2016.2516918>
7. Nevat I, Peters GW, Avnit K, Septier F, Clavier L. Location of things: Geospatial tagging for IoT using time-of-arrival. IEEE transactions on Signal and Information Processing over Networks. 2016 Feb 18;2(2):174-85. DOI: 10.1109/TSIPN.2016.2531422 <https://doi.org/10.1109/TSIPN.2016.2531422>
8. Yan S, Nevat I, Peters GW, Malaney R. Location verification systems under spatially correlated shadowing. IEEE Transactions on Wireless Communications. 2016 Feb 26;15(6):4132-44. <https://ieeexplore.ieee.org/iel7/7693/7485904/07420743.pdf>
9. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. IEEE Transactions on Signal Processing. 2017 May 19;65(15):4047-58. <https://doi.org/10.1109/TSP.2017.2703686>
10. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. IEEE Transactions on Signal Processing. 2017 May 19;65(15):4047-58. <https://doi.org/10.1109/TSP.2017.2703686>
11. Koh JY, Leong D, Peters GW, Nevat I, Wong WC. Optimal privacy-preserving probabilistic routing for wireless networks. IEEE Transactions on Information Forensics and Security. 2017 Apr 26;12(9):2105-14. <https://doi.org/10.1109/TIFS.2017.2698424>

[Return to Main Menu CLICK](#)

10 Green Finance and Environmental Finance

1. Jimeno A. Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, Applied Energy, Volume 277, 2020, 115556, ISSN 0306-2619.
<https://doi.org/10.1016/j.apenergy.2020.115556>

- SSRN preprint <https://ssrn.com/abstract=3656280>

[Return to Main Menu CLICK](#)

11 Insurance and Risk Management

1. Peters, G.W., Johansen, A.M. and Doucet, A., 2007. Simulation of the Annual Loss Distribution in Operational Risk via Panjer Recursions and Volterra Integral Equations for Value at Risk and Expected Shortfall Estimation. *Journal of Operational Risk*, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2980408>
2. Peters G.W., Shevchenko P. and Wüthrich M. (2008) Model Risk in Claims Reserving within Tweedie's Compound Poisson Models". *Astin Colloquium*, UK.
3. Peters G.W. (2009) "Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference." PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
4. Peters G.W., Shevchenko P. and Wüthrich (2009) Dynamic Operational Risk: modelling dependence and combining different sources of information. 15th International Conference on Computing in Economics and Finance.
5. Peters GW, Shevchenko PV, Wüthrich MV. Model uncertainty in claims reserving within Tweedie's compound Poisson models. *ASTIN Bulletin: The Journal of the IAA*. 2009 May;39(1):1-33. <https://doi.org/10.2143/AST.39.1.2038054>
6. Peters, G.W., Shevchenko, P.V. and Wuthrich, M.V., 2009. Dynamic operational risk: modeling dependence and combining different sources of information. *The Journal of Operational Risk*, 4(2), pp.69-104. <http://doi.org/10.21314/JOP.2009.059>
 - SSRN preprint <https://ssrn.com/abstract=2529590>
7. Peters GW, Wüthrich MV, Shevchenko PV. Chain ladder method: Bayesian bootstrap versus classical bootstrap. *Insurance: Mathematics and Economics*. 2010 Aug 1;47(1):36-51. <https://doi.org/10.1016/j.insmatheco.2010.03.007>
 - SSRN preprint <https://ssrn.com/abstract=2980411>
8. Peters GW, Byrnes AD, Shevchenko PV. Impact of insurance for operational risk: Is it worthwhile to insure or be insured for severe losses?. *Insurance: Mathematics and Economics*. 2011 Mar 1;48(2):287-303. <https://doi.org/10.1016/j.insmatheco.2010.12.001>
 - SSRN preprint <https://ssrn.com/abstract=2980441>
9. Peters GW, Shevchenko PV, Young M, Yip W. Analytic loss distributional approach models for operational risk from the -stable doubly stochastic compound processes and implications for capital allocation. *Insurance: Mathematics and Economics*. 2011 Nov 1;49(3):565-79. <https://doi.org/10.1016/j.insmatheco.2011.08.007>
10. Peters, G.W., Targino, R. and Shevchenko, P.V., 2013. Understanding operational risk capital approximations: first and second orders. *Governance and Regulation*, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2373123>
11. Shevchenko, P. and Peters, G.W., 2013. Loss Distributional Approach of Operational Risk Capital Modelling under Basel II: Combining Different Data Sources for Risk Estimation. *Governance and Regulation*, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2980464>

12. Del Moral, P., Peters, G.W. and Vergé, C., 2013. An introduction to stochastic particle integration methods: with applications to risk and insurance. In Monte Carlo and Quasi-Monte Carlo Methods 2012 (pp. 39-81) Dick J., Kuo F., Peters G.W., Sloan I. (eds) Springer Proceedings in Mathematics Statistics, vol 65. Springer, Berlin, Heidelberg.
13. Peters GW, Dong AX, Kohn R. A copula based Bayesian approach for paid–incurred claims models for non-life insurance reserving. *Insurance: Mathematics and Economics*. 2014 Nov 1;59:258-78.
<https://doi.org/10.1016/j.insmatheco.2014.09.011>
 - SSRN preprint <https://ssrn.com/abstract=2980405>
14. Ames, M., Peters, G.W., Bagnarosa, G. and Kosmidis, I., 2015. Upside and downside risk exposures of currency carry trades via tail dependence. In Innovations in quantitative risk management (pp. 163-181), Glau K., Scherer M., Zagst R. (eds). Springer Proceedings in Mathematics Statistics, vol 99. Springer, Cham.
15. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk. John Wiley Sons.
16. Peters, G.W. and Shevchenko, P.V., 2015. Advances in heavy tailed risk modelling: A handbook of operational risk. John Wiley Sons.
17. Targino RS, Peters GW, Shevchenko PV. Sequential Monte Carlo samplers for capital allocation under copula-dependent risk models. *Insurance: Mathematics and Economics*. 2015 Mar 1;61:206-26.
<https://doi.org/10.1016/j.insmatheco.2015.01.007>
 - SSRN preprint <https://ssrn.com/abstract=2505539>
18. Dong AX, Chan JS, Peters GW. Risk margin quantile function via parametric and non-parametric bayesian approaches. *ASTIN Bulletin: The Journal of the IAA*. 2015 Sep;45(3):503-50.DOI:10.1017/asb.2015.8
<https://doi.org/10.1017/asb.2015.8>
19. Peters GW, Chen WY, Gerlach RH. Estimating quantile families of loss distributions for non-life insurance modelling via L-moments. *Risks*. 2016 May 20;4(2):14.
<https://doi.org/10.3390/risks4020014>
 - SSRN preprint <https://ssrn.com/abstract=2739417>
20. Peters GW, Targino RS, Wuthrich MV. Full bayesian analysis of claims reserving uncertainty. *Insurance: Mathematics and Economics*. 2017 Mar 1;73:41-53.
<https://doi.org/10.1016/j.insmatheco.2016.12.007>
 - SSRN preprint <https://ssrn.com/abstract=2783223>
21. Karimalis, E., Kosmidis, I. 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.
 - SSRN preprint <https://ssrn.com/abstract=2949763>
22. Fung MC, Peters GW, Shevchenko PV. A unified approach to mortality modelling using state-space framework: characterisation, identification, estimation and forecasting. *Annals of Actuarial Science*. 2017 Sep;11(2):343-89.
<https://doi.org/10.1017/S1748499517000069>
 - SSRN preprint <https://ssrn.com/abstract=2786559>
23. Toczydlowska D, Peters GW, Fung MC, Shevchenko PV. Stochastic period and cohort effect state-space mortality models incorporating demographic factors via probabilistic robust principal components. *Risks*. 2017 Jul 27;5(3):42.
<https://doi.org/10.3390/risks5030042>

- SSRN preprint <https://ssrn.com/abstract=2977306>
24. Peters GW, Targino RS, Wüthrich MV. Bayesian modelling, Monte Carlo sampling and capital allocation of insurance risks. *Risks*. 2017 Sep 22;5(4):53.
<https://doi.org/10.3390/risks5040053>
 - SSRN preprint <https://ssrn.com/abstract=2961888>
 25. Egan M, Peters GW, Nevat I, Shirvanimoghaddam M, Collings IB. A ruin theoretic design approach for wireless cellular network sharing with facilities. *Transactions on Emerging Telecommunications Technologies*. 2017 Jul;28(7):e3141.
<https://doi.org/10.1002/ett.3141>
 26. Targino RS, Peters GW, Sofronov G, Shevchenko PV. Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*. 2017 Jun;19:487-518. DOI10.1007/s11009-016-9493-8
[/https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf](https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf)
 27. Peters, G.W., Ming, D., Galasso, C. and Huang, C., 2018, June. Advancing Ground Motion Characterization for Post-Event Loss Assessment. In 16th European Conference on Earthquake Engineering.
 28. Georgescu DI, Higham NJ, Peters GW. Explicit solutions to correlation matrix completion problems, with an application to risk management and insurance. *Royal Society open science*. 2018 Mar 14;5(3):172348.
<http://dx.doi.org/10.1098/rsos.172348>
 - SSRN preprint <https://ssrn.com/abstract=3054171>
 29. Peters, G.W., Shevchenko, P.V. and Cohen, R., 2018. Understanding cyber-risk and cyber-insurance. In *FinTech: Growth and Deregulation (Chapter 12, pp. 1-31)*. Risk Books.
 30. Peters, G.W., Shevchenko, P.V., Cohen, R. and Maurice, D., 2018. Statistical machine learning analysis of cyber risk data: event case studies. In *FinTech: Growth and Deregulation (Chapter 3, 28 pages)*. Risk Books.
 31. Ming D, Huang C, Peters GW, Galasso C. An Advanced Estimation Algorithm for Ground-Motion Models with Spatial Correlation. *Bulletin of the Seismological Society of America*. 2019 Apr 1;109(2):541-66.
<https://doi.org/10.1785/0120180215>
 32. Fung MC, Peters GW, Shevchenko PV. Cohort effects in mortality modelling: a Bayesian state-space approach. *Annals of Actuarial Science*. 2019 Mar;13(1):109-44.
<https://doi.org/10.1017/S1748499518000131>
 - SSRN preprint <https://ssrn.com/abstract=2907868>
 33. Yan, H., Peters, G., Chan, J. (2020). MULTIVARIATE LONG-MEMORY COHORT MORTALITY MODELS. *ASTIN Bulletin: The Journal of the IAA*, 50(1), 223-263. doi:10.1017/asb.2019.35
<https://doi.org/10.1017/asb.2019.35>
 - SSRN preprint <https://ssrn.com/abstract=3166884>
 34. Campi M, Peters GW, Azzaoui N, Matsui T. Machine learning mitigants for speech based cyber risk. *IEEE Access*. 2021 Oct 1;9:136831-60.
<https://doi.org/10.1109/ACCESS.2021.3117080>
 - SSRN preprint <https://ssrn.com/abstract=3643826>
 35. Yan H, Peters GW, Chan J. Mortality models incorporating long memory for life table estimation: a comprehensive analysis. *Annals of Actuarial Science*. 2021 Nov;15(3):567-604.
<https://doi.org/10.1017/S1748499521000014>
 - SSRN preprint <https://ssrn.com/abstract=3149914>

36. P. Shevchenko, J. Jang, M. Malavasi, G.W. Peters, G. Sofronov S. Truck 2021. Quantification of Cyber Risk - Risk Categories and Business Sectors. Optus Macquarie University Cyber Security Hub. Telecommunications Industry Optus White Paper.
37. Jiang Y, Macrina A, Peters GW. Multiple barrier-crossings of an Ornstein-Uhlenbeck diffusion in consecutive periods. Stochastic Analysis and Applications. 2021 Jul 4;39(4):569-609.
<https://doi.org/10.1080/07362994.2020.1818581>
 - SSRN preprint <https://ssrn.com/abstract=3334142>
38. Peters GW, Yan H, Chan J. Model Risk in Mortality-linked Contingent Claims Pricing. Journal of Risk Model Validation. 2022 Aug 2;16(3).
<http://doi.org/10.21314/JRMV.2022.022>
 - SSRN preprint https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4262766
39. Chen WY, Peters GW, Gerlach RH, Sisson SA. Dynamic quantile function models. Quantitative Finance. 2022 Sep 2;22(9):1665-91.
<https://doi.org/10.1080/14697688.2022.2053193>
 - SSRN preprint <https://ssrn.com/abstract=2999451>
40. Malavasi M, Peters GW, Shevchenko PV, Trück S, Jang J, Sofronov G. Cyber risk frequency, severity and insurance viability. Insurance: Mathematics and Economics. 2022 Sep 1;106:90-114.
<https://doi.org/10.1016/j.insmatheco.2022.05.003>
 - SSRN preprint <https://ssrn.com/abstract=3940329>
41. Shevchenko PV, Jang J, Malavasi M, Peters GW, Sofronov G, Trück S. The nature of losses from cyber-related events: risk categories and business sectors. Journal of Cybersecurity. 2023 Jan 1;9(1):tyac016. <https://doi.org/10.1093/cybsec/tyac016>
 - SSRN preprint <https://arxiv.org/pdf/2202.10189>
42. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. Annals of Actuarial Science, 1-37. doi:10.1017/S1748499523000088
<https://tinyurl.com/rfcsd4w2>
 - SSRN preprint <https://ssrn.com/abstract=3947132>
43. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear North American Actuarial Journal NAAJ)
 - SSRN preprint <https://ssrn.com/abstract=3447047>

[Return to Main Menu CLICK](#)

12 Machine Learning Methods and Applications

1. Peters, G.W. Topics in Sequential Monte Carlo Samplers. Cambridge University Engineering Department Thesis, University of Cambridge, 2005.
 - Available at SSRN: <https://ssrn.com/abstract=3785582>
2. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
3. Del Moral, P., Peters, G.W. and Vergé, C., 2013. An introduction to stochastic particle integration methods: with applications to risk and insurance. In Monte Carlo and Quasi-Monte Carlo Methods 2012 (pp. 39-81) Dick J., Kuo F., Peters G.W., Sloan I. (eds) Springer Proceedings in Mathematics Statistics, vol 65. Springer, Berlin, Heidelberg.
4. Septier, F. and Peters, G.W., 2015. An overview of recent advances in Monte-Carlo methods for Bayesian filtering in high-dimensional spaces. In: Peters G., Matsui T. (eds) Theoretical Aspects of Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 31-61). Springer, Tokyo.
4. Azzaoui, N., Clavier, L., Guillin, A. and Peters, G.W., 2015. Spectral Measures of alpha-Stable Distributions: An Overview and Natural Applications in Wireless Communications. In: Peters G., Matsui T. (eds) Theoretical Aspects of Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 6394). Springer, Tokyo.
5. Peters, G.W., Nevat, I. and Matsui, T., 2015. How to utilize sensor network data to efficiently perform model calibration and spatial field reconstruction. In: Peters G., Matsui T. (eds) Modern Methodology and Applications in Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 25-62). Springer, Tokyo.
5. Murakami D, Peters GW, Yamagata Y, Matsui T. Participatory sensing data tweets for micro-urban real-time resiliency monitoring and risk management. Ieee Access. 2016 Jan 12;4:347-72. Digital Object Identifier 10.1109/ACCESS.2016.2516918
<https://doi.org/10.1109/ACCESS.2016.2516918>
6. Panayi E, Peters GW, Kyriakides G. Statistical modelling for precision agriculture: A case study in optimal environmental schedules for Agaricus Bisporus production via variable domain functional regression. PLoS One. 2017 Sep 29;12(9):e0181921.
<https://doi.org/10.1371/journal.pone.0280374>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
7. Peters, G.W., Shevchenko, P.V., Cohen, R. and Maurice, D., 2018. Statistical machine learning analysis of cyber risk data: event case studies. In FinTech: Growth and Deregulation (Chapter 3, 28 pages). Risk Books.
8. Dalessandro A, Peters GW. Efficient and Accurate Evaluation Methods for Concordance Measures via Functional Tensor Characterizations of Copulas. Methodology and Computing in Applied Probability. 2020 Sep;22:1089-124.
<https://doi.org/10.1007/s11009-019-09752-2>
 - SSRN preprint <https://ssrn.com/abstract=2846670>
9. Jimeno A. Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, Applied Energy, Volume 277, 2020, 115556, ISSN 0306-2619.
<https://doi.org/10.1016/j.apenergy.2020.115556>
 - SSRN preprint <https://ssrn.com/abstract=3656280>
10. Murakami D, Peters GW, Matsui T, Yamagata Y. Spatio-Temporal Analysis of Urban Heatwaves Using Tukey g-and-h Random Field Models. IEEE Access. 2020 Jul 31;9:79869-88.
<https://doi.org/10.1109/ACCESS.2020.3013255>

- SSRN preprint <https://ssrn.com/abstract=3575789>
11. Campi M, Peters GW, Azzaoui N, Matsui T. Machine learning mitigants for speech based cyber risk. IEEE Access. 2021 Oct 1;9:136831-60.
<https://doi.org/10.1109/ACCESS.2021.3117080>
 - SSRN preprint <https://ssrn.com/abstract=3643826>
 12. Chalkiadakis I, Yan H, Peters GW, Shevchenko PV. Infection rate models for COVID-19: Model risk and public health news sentiment exposure adjustments. Plos one. 2021 Jun 28;16(6):e0253381.
<https://doi.org/10.1371/journal.pone.0253381>
 - SSRN preprint <https://ssrn.com/abstract=3813417>
 13. Tipakornrojanakit K., Chudtong M., Peters G.W. and Satiracoo P. 2021. Covariance Forecasting Methods For Dynamic Asset Allocation. International Journal of Data Science and Big Data Analytics. ISSN: 2710-2599, IJDSBDA11012021MTN009 <https://www.svedbergopen.com/>
 - SSRN preprint <https://ssrn.com/abstract=3722136>
 14. Chen WY, Peters GW, Gerlach RH, Sisson SA. Dynamic quantile function models. Quantitative Finance. 2022 Sep 2;22(9):1665-91.
<https://doi.org/10.1080/14697688.2022.2053193>
 - SSRN preprint <https://ssrn.com/abstract=2999451>
 15. Chalkiadakis I, Zaremba A, Peters GW, Chantler MJ. On-chain analytics for sentiment-driven statistical causality in cryptocurrencies. Blockchain: Research and Applications. 2022 Jun 1;3(2):100063.
<https://doi.org/10.1016/j.bcra.2022.100063>
 - SSRN preprint <https://ssrn.com/abstract=3742063>
 16. Zaremba AB, Peters GW. Statistical Causality for Multivariate Nonlinear Time Series via Gaussian Process Models. Methodology and Computing in Applied Probability. 2022 Mar 30:1-46.
<https://doi.org/10.1007/s11009-022-09928-3>
 - SSRN preprint <https://ssrn.com/abstract=3609497>
 17. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. Annals of Actuarial Science, 1-37. doi:10.1017/S1748499523000088
<https://tinyurl.com/rfcsd4w2>
 - SSRN preprint <https://ssrn.com/abstract=3947132>
 18. Antonian et al., (2023). PyKronecker: A Python Library for the Efficient Manipulation of Kronecker Products and Related Structures. Journal of Open Source Software, 8(81), 4900, <https://doi.org/10.21105/joss.04900>
 19. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear North American Actuarial Journal NAAJ)
 - SSRN preprint <https://ssrn.com/abstract=3447047>
 20. Chalkiadakis I., Peters G.W. and Ames M. (2023). Hybrid ARDL-MIDAS-Transformer Time-Series Regressions for Multi-Topic Crypto Market Sentiment Driven by Price and Technology Factors. Digital Finance (to appear)
 - SSRN preprint <https://ssrn.com/abstract=3908066>

13 Markov Chain Monte Carlo (MCMC) Methods & Applications

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Peters GW, Nevat I, Yuan J. Channel estimation in OFDM systems with unknown power delay profile using transdimensional MCMC. *IEEE transactions on signal processing*. 2009 May 19;57(9):3545-61.
<https://doi.org/10.1109/TSP.2009.2023358>
3. Fan Y, Peters GW, Sisson SA. Automating and evaluating reversible jump MCMC proposal distributions. *Statistics and Computing*. 2009 Dec;19:409-21. DOI10.1007/s11222-008-9101-z
<https://link.springer.com/content/pdf/10.1007/s11222-008-9101-z.pdf>
4. Cornebise, J. and Peters, G.W., 2009. Discussion of ” Particle Markov Chain Monte Carlo” by C. Andrieu, A. Doucet and R. Holtenstein. *Journal of the Royal Statistical Society Series B - comments on read paper*, 72(3),269342.
5. Peters GW, Kannan B, Lasscock B, Mellen C. Model selection and adaptive Markov chain Monte Carlo for Bayesian cointegrated VAR model. *Bayesian Analysis*. 2010 Jan 1;5(3):465-91.DOI:10.1214/10-BA518
<https://doi.org/10.1214/10-BA518>
6. Peters, G.W., Kannan, B., Lasscock, B., Mellen, C. and Godsill, S., 2011. Bayesian cointegrated vector autoregression models incorporating alpha-stable noise for inter-day price movements via approximate Bayesian computation. *Bayesian Analysis*, 6(4), pp.755-792.DOI: 10.1214/11-BA628
<https://doi.org/10.1214/11-BA628>
7. Bornn, L., Cornebise, J. and Peters, G.W., 2011. Discussion of ” Riemann manifold Langevin and Hamiltonian Monte Carlo methods” by M. Girolami and B. Calderhead. *Journal of the Royal Statistical Society Series B - comments on read paper* 2011 Mar;73(2):123-214.
8. Dick, J., Kuo, F.Y., Peters, G.W., and Sloan, I.H. editors., 2013. *Monte Carlo and Quasi-Monte Carlo Methods 2012*. Springer Proceedings in Mathematics Statistics, vol. 65. New York: Springer.
9. Peters GW, Briers M, Shevchenko P, Doucet A. Calibration and filtering for multi factor commodity models with seasonality: incorporating panel data from futures contracts. *Methodology and Computing in Applied Probability*. 2013 Dec;15:841-74. DOI10.1007/s11009-012-9286-7
<https://link.springer.com/content/pdf/10.1007%2Fs11009-012-9286-7.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2531821>
10. Septier F, Peters GW. Langevin and Hamiltonian based sequential MCMC for efficient Bayesian filtering in high-dimensional spaces. *IEEE Journal of selected topics in signal processing*. 2015 Nov 2;10(2):312-27.
<https://ieeexplore.ieee.org/iel7/4200690/7406776/07314906.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2980641>
11. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. *Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk*. John Wiley Sons.
12. Septier, F. and Peters, G.W., 2015. An overview of recent advances in Monte-Carlo methods for Bayesian filtering in high-dimensional spaces. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 31-61). Springer, Tokyo.
13. Azzaoui, N., Clavier, L., Guillin, A. and Peters, G.W., 2015. Spectral Measures of alpha-Stable Distributions: An Overview and Natural Applications in Wireless Communications. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 6394). Springer, Tokyo.
14. Marowka M, Peters GW, Kantas N, Bagnarosa G. Some recent developments in Markov Chain Monte Carlo for cointegrated time series. *ESAIM: Proceedings and Surveys*. 2017;59:76-103.
<https://doi.org/10.1051/proc/201759076>

- SSRN preprint <https://ssrn.com/abstract=3011343>
15. Peters GW, Targino RS, Wüthrich MV. Bayesian modelling, Monte Carlo sampling and capital allocation of insurance risks. *Risks*. 2017 Sep 22;5(4):53.
<https://doi.org/10.3390/risks5040053>
 - SSRN preprint <https://ssrn.com/abstract=2961888>
 16. Yan, H., Peters, G., Chan, J. (2020). MULTIVARIATE LONG-MEMORY COHORT MORTALITY MODELS. *ASTIN Bulletin: The Journal of the IAA*, 50(1), 223-263. doi:10.1017/asb.2019.35
<https://doi.org/10.1017/asb.2019.35>
 - SSRN preprint <https://ssrn.com/abstract=3166884>
 17. Maciej Marowka, Gareth W. Peters, Nikolas Kantas, Guillaume Bagnarosa, Factor-Augmented Bayesian Cointegration Models: A Case-Study on The Soybean Crush Spread, *Journal of the Royal Statistical Society Series C: Applied Statistics*, Volume 69, Issue 2, April 2020, Pages 483–500
<https://doi.org/10.1111/rssc.12395>
 - SSRN preprint <https://ssrn.com/abstract=2960638>
 18. Jimeno A. Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, *Applied Energy*, Volume 277, 2020, 115556, ISSN 0306-2619.
<https://doi.org/10.1016/j.apenergy.2020.115556>
 - SSRN preprint <https://ssrn.com/abstract=3656280>
 19. Q. Xiang, I. Nevat and G. W. Peters, "Bayesian Spatial Field Reconstruction With Unknown Distortions in Sensor Networks," in *IEEE Transactions on Signal Processing*, vol. 68, pp. 4336-4351, 2020, doi: 10.1109/TSP.2020.3011023.
<https://doi.org/10.1109/TSP.2020.3011023>
 - SSRN preprint <https://ssrn.com/abstract=3656297>
 20. Peters, G., Chudtong, M., De Gaetano, A. (2023). Analysis of option-like fund performance fees in asset management via Monte Carlo actuarial distortion pricing. *Annals of Actuarial Science*, 1-43. doi:10.1017/S1748499522000203
<https://doi.org/10.1017/S1748499522000203>
 - SSRN preprint <https://ssrn.com/abstract=3946347>

[Return to Main Menu CLICK](#)

14 Medical Applications

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Korostil IA, Peters GW, Cornebise J, Regan DG. Adaptive Markov chain Monte Carlo forward projection for statistical analysis in epidemic modelling of human papillomavirus. *Statistics in medicine*. 2013 May 20;32(11):1917-53. <https://doi.org/10.1002/sim.5590>
3. Korostil I, Peters GW, Law MG, Regan D. Herd immunity effect of HPV vaccination program in Australia under assumption of reduced susceptibility to re-infection following recovery. *Vaccine*. 2013;31(15):1931-6. <https://doi.org/10.1016/j.vaccine.2013.02.018>
4. Fruehwirt, W., Gerstgrasser, M., Zhang, P., Weydemann, L., Waser, M., Schmidt, R., Benke, T., DalBianco, P., Ransmayr, G., Grossegger, D., Garn, H., Peters G.W., Roberts S. and Dorffner G. 2017. Riemannian tangent space mapping and elastic net regularization for cost-effective EEG markers of brain atrophy in Alzheimer’s disease. (peer reviewed Neural Information Processing Workshop.) arXiv preprint arXiv:1711.08359. <https://doi.org/10.48550/arXiv.1711.08359>
5. Peters, G.W., Korostil, I.A. and Regan, D.G., 2013. HPV Modelling Goes Bayesian: Inference via Advanced Markov Chain Monte Carlo Methods. In *Human Papilloma virus: Prevalence, Detection and Management*, Nova Science Publishers Chapter 17, pp. 453-526.
6. Chalkiadakis I, Yan H, Peters GW, Shevchenko PV. Infection rate models for COVID-19: Model risk and public health news sentiment exposure adjustments. *Plos one*. 2021 Jun 28;16(6):e0253381. <https://doi.org/10.1371/journal.pone.0253381>
 - SSRN preprint <https://ssrn.com/abstract=3813417>
7. Campi M, Peters GW, Toczydłowska D. Ataxic speech disorders and Parkinson’s disease diagnostics via stochastic embedding of empirical mode decomposition. *PLoS One*. 2023 Apr 26;18(4):e0284667. doi: 10.1371/journal.pone.0284667. PMID: 37099544; PMCID: PMC10132693. <https://doi.org/10.1371/journal.pone.0284667>
 - SSRN preprint <https://ssrn.com/abstract=4173535>

[Return to Main Menu CLICK](#)

15 Monte Carlo Methods & Applications

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Dong AX, Chan JS, Peters GW. Risk margin quantile function via parametric and non-parametric bayesian approaches. *ASTIN Bulletin: The Journal of the IAA*. 2015 Sep;45(3):503-50. DOI:10.1017/asb.2015.8
<https://doi.org/10.1017/asb.2015.8>
3. Fruehwirt, W., Gerstgrasser, M., Zhang, P., Weydemann, L., Waser, M., Schmidt, R., Benke, T., DalBianco, P., Ransmayr, G., Grossegger, D., Garn, H., Peters G.W., Roberts S. and Dorffner G. 2017. Riemannian tangent space mapping and elastic net regularization for cost-effective EEG markers of brain atrophy in Alzheimer’s disease. (peer reviewed Neural Information Processing Workshop.) arXiv preprint arXiv:1711.08359.
<https://doi.org/10.48550/arXiv.1711.08359>
4. Targino RS, Peters GW, Sofronov G, Shevchenko PV. Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*. 2017 Jun;19:487-518. DOI10.1007/s11009-016-9493-8
[/https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf](https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf)
5. Peters, G.W., Panayi, E. and Septier, F., 2018. Sequential Monte Carlo-ABC methods for estimation of stochastic simulation models of the limit order book. In Sisson, S. A. , Y. Fan and M. A. Beaumont (eds.), *Handbook of Approximate Bayesian Computation* (pp. 437-480). Chapman and Hall/CRC.
6. Fung MC, Peters GW, Shevchenko PV. Cohort effects in mortality modelling: a Bayesian state-space approach. *Annals of Actuarial Science*. 2019 Mar;13(1):109-44.
<https://doi.org/10.1017/S1748499518000131>
 - SSRN preprint <https://ssrn.com/abstract=2907868>
7. Yan, H., Peters, G., Chan, J. (2020). MULTIVARIATE LONG-MEMORY COHORT MORTALITY MODELS. *ASTIN Bulletin: The Journal of the IAA*, 50(1), 223-263. doi:10.1017/asb.2019.35
<https://doi.org/10.1017/asb.2019.35>
 - SSRN preprint <https://ssrn.com/abstract=3166884>
8. Ames M, Bagnarosa G, Matsui T, Peters GW, Shevchenko PV. Which risk factors drive oil futures price curves?. *Energy Economics*. 2020 Mar 1;87:104676.
<https://doi.org/10.1016/j.eneco.2020.104676>
 - SSRN preprint <https://ssrn.com/abstract=2840730>
9. Jing Yang Koh, Gareth W. Peters, Ido Nevat, Derek Leong, Probabilistic routing in wireless networks with privacy guarantees, *Computer Communications*, Volume 151, 2020, Pages 228-237, ISSN 0140-3664,
<https://doi.org/10.1016/j.comcom.2019.12.045>
10. Koh JY, Peters GW, Nevat I, Leong D. Privacy considerations in participatory data collection via spatial Stackelberg incentive mechanisms. *Methodology and Computing in Applied Probability*. 2021 Sep;23:1097-128.
<https://doi.org/10.1007/s11009-020-09798-7>
 - SSRN preprint <https://ssrn.com/abstract=3158616>

[Return to Main Menu CLICK](#)

16 Multivariate Analysis, Copula, Dependence & Feature Extraction

1. Nevat, I., Peters, G.W. and Yuan, J., 2008, September. Bayesian inference in linear models with a random Gaussian matrix: algorithms and complexity. In 2008 IEEE 19th International Symposium on Personal, Indoor and Mobile Radio Communications (pp. 1-6). IEEE.
2. Nevat, I., Peters, G.W. and Yuan, J., 2008, March. Maximum a-posteriori estimation in linear models with a random Gaussian model matrix: A Bayesian-EM approach. In 2008 IEEE International Conference on Acoustics, Speech and Signal Processing (pp. 2889-2892). IEEE.
3. Nevat, I., Peters, G.W. and Yuan, J., 2008, May. OFDM CIR estimation with unknown length via Bayesian model selection and averaging. In VTC Spring 2008-IEEE Vehicular Technology Conference (pp. 1413-1417). IEEE.
4. Peters, G.W., Shevchenko, P.V. and Wuthrich, M.V., 2009. Dynamic operational risk: modeling dependence and combining different sources of information. *The Journal of Operational Risk*, 4(2), pp.69-104. <http://doi.org/10.21314/JOP.2009.059>
 - SSRN preprint <https://ssrn.com/abstract=2529590>
5. Peters, G.W., Myrvoll, T.A., Matsui, T., Nevat, I. and Septier, F., 2014, December. Communications meets copula modeling: Non-standard dependence features in wireless fading channels. In 2014 IEEE Global Conference on Signal and Information Processing (GlobalSIP) (pp. 1224-1228). IEEE.
6. Hosack GR, Peters GW, Ludsin SA. Interspecific relationships and environmentally driven catchabilities estimated from fisheries data. *Canadian journal of fisheries and aquatic sciences*. 2014;71(3):447-63. <https://doi.org/10.1139/cjfas-2013-0236>
7. Peters GW, Dong AX, Kohn R. A copula based Bayesian approach for paid-incurred claims models for non-life insurance reserving. *Insurance: Mathematics and Economics*. 2014 Nov 1;59:258-78. <https://doi.org/10.1016/j.insmatheco.2014.09.011>
 - SSRN preprint <https://ssrn.com/abstract=2980405>
8. Yan, X., Clavier, L., Peters, G.W., Azzaoui, N., Septier, F. and Nevat, I., 2015, June. Skew-t copula for dependence modelling of impulsive (-stable) interference. In 2015 IEEE International Conference on Communications (ICC) (pp. 4816-4821). IEEE.
9. Targino RS, Peters GW, Shevchenko PV. Sequential Monte Carlo samplers for capital allocation under copula-dependent risk models. *Insurance: Mathematics and Economics*. 2015 Mar 1;61:206-26. <https://doi.org/10.1016/j.insmatheco.2015.01.007>
 - SSRN preprint <https://ssrn.com/abstract=2505539>
10. Richards KA, Peters GW, Dunsmuir W. Heavy-tailed features and dependence in limit order book volume profiles in futures markets. *International Journal of Financial Engineering*. 2015 Sep 23;2(03):1550033.
 - SSRN preprint <https://ssrn.com/abstract=2268283>
11. Karimalis, E., Kosmidis, I. 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.
 - SSRN preprint <https://ssrn.com/abstract=2949763>
12. Toczydlowska D, Peters GW, Fung MC, Shevchenko PV. Stochastic period and cohort effect state-space mortality models incorporating demographic factors via probabilistic robust principal components. *Risks*. 2017 Jul 27;5(3):42. <https://doi.org/10.3390/risks5030042>
 - SSRN preprint <https://ssrn.com/abstract=2977306>

13. Liu, J., Nevat, I., Zhang, P. and Peters, G.W., 2017, March. Multimodal data fusion in sensor networks via copula processes. In 2017 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 1-6). IEEE.
14. Dalessandro A, Peters GW. Tensor approximation of generalized correlated diffusions and functional copula operators. Methodology and Computing in Applied Probability. 2018 Mar;20:237-71.DOI10.1007/s11009-017-9545-8
<https://link.springer.com/content/pdf/10.1007/s11009-017-9545-8.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2569134>
15. Peters, G.W., Ming, D., Galasso, C. and Huang, C., 2018, June. Advancing Ground Motion Characterization for Post-Event Loss Assessment. In 16th European Conference on Earthquake Engineering.
16. Georgescu DI, Higham NJ, Peters GW. Explicit solutions to correlation matrix completion problems, with an application to risk management and insurance. Royal Society open science. 2018 Mar 14;5(3):172348.
<http://dx.doi.org/10.1098/rsos.172348>
 - SSRN preprint <https://ssrn.com/abstract=3054171>
17. Ames M, Bagnarosa G, Peters GW, Shevchenko PV. Understanding the interplay between covariance forecasting factor models and risk-based portfolio allocations in currency carry trades. Journal of Forecasting. 2018 Dec;37(8):805-31.
<https://doi.org/10.1002/for.2505>
 - SSRN preprint <https://ssrn.com/abstract=2699020>
18. Fung MC, Peters GW, Shevchenko PV. Cohort effects in mortality modelling: a Bayesian state-space approach. Annals of Actuarial Science. 2019 Mar;13(1):109-44.
<https://doi.org/10.1017/S1748499518000131>
 - SSRN preprint <https://ssrn.com/abstract=2907868>
19. Ming D, Huang C, Peters GW, Galasso C. An Advanced Estimation Algorithm for Ground-Motion Models with Spatial CorrelationAn Advanced Estimation Algorithm for Ground-Motion Models with Spatial Correlation. Bulletin of the Seismological Society of America. 2019 Apr 1;109(2):541-66.
<https://doi.org/10.1785/0120180215>
20. Zheng, C., Egan, M., Clavier, L., Peters, G.W. and Gorce, J.M., 2019, May. Copula-based interference models for IoT wireless networks. In ICC 2019-2019 IEEE International Conference on Communications (ICC) (pp. 1-6). IEEE.

[Return to Main Menu CLICK](#)

17 Operational Risk

1. Peters G.W., Shevchenko P. and Wüthrich (2009) Dynamic Operational Risk: modelling dependence and combining different sources of information. 15th International Conference on Computing in Economics and Finance.
2. Peters G.W., Shevchenko P. and Wüthrich M. (2008) Model Risk in Claims Reserving within Tweedie's Compound Poisson Models". Astin Colloquium, UK.
3. Peters G, Sisson S. Bayesian Inference, Monte Carlo Sampling and Operational Risk. Peters GW and Sisson SA (2006) "Bayesian Inference, Monte Carlo Sampling and Operational Risk". Journal of Operational Risk. 2006;1(3).
 - SSRN preprint <https://ssrn.com/abstract=2980407>
4. Peters, G.W., Johansen, A.M. and Doucet, A., 2007. Simulation of the Annual Loss Distribution in Operational Risk via Panjer Recursions and Volterra Integral Equations for Value at Risk and Expected Shortfall Estimation. Journal of Operational Risk, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2980408>
5. Peters, G.W., Shevchenko, P.V. and Wuthrich, M.V., 2009. Dynamic operational risk: modeling dependence and combining different sources of information. The Journal of Operational Risk, 4(2), pp.69-104. <http://doi.org/10.21314/JOP.2009.059>
 - SSRN preprint <https://ssrn.com/abstract=2529590>
6. Peters GW, Byrnes AD, Shevchenko PV. Impact of insurance for operational risk: Is it worthwhile to insure or be insured for severe losses?. Insurance: Mathematics and Economics. 2011 Mar 1;48(2):287-303. <https://doi.org/10.1016/j.insmatheco.2010.12.001>
 - SSRN preprint <https://ssrn.com/abstract=2980441>
7. Peters GW, Shevchenko PV, Young M, Yip W. Analytic loss distributional approach models for operational risk from the -stable doubly stochastic compound processes and implications for capital allocation. Insurance: Mathematics and Economics. 2011 Nov 1;49(3):565-79. <https://doi.org/10.1016/j.insmatheco.2011.08.007>
8. Peters, G.W., Targino, R. and Shevchenko, P.V., 2013. Understanding operational risk capital approximations: first and second orders. Governance and Regulation, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2373123>
9. Shevchenko, P. and Peters, G.W., 2013. Loss Distributional Approach of Operational Risk Capital Modelling under Basel II: Combining Different Data Sources for Risk Estimation. Governance and Regulation, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2980464>
10. Targino RS, Peters GW, Shevchenko PV. Sequential Monte Carlo samplers for capital allocation under copula-dependent risk models. Insurance: Mathematics and Economics. 2015 Mar 1;61:206-26. <https://doi.org/10.1016/j.insmatheco.2015.01.007>
 - SSRN preprint <https://ssrn.com/abstract=2505539>
11. Peters GW, Chapelle A, Panayi E. Opening discussion on banking sector risk exposures and vulnerabilities from virtual currencies: An operational risk perspective. Journal of Banking Regulation. 2016 Nov;17:239-72.
 - SSRN preprint <https://ssrn.com/abstract=2491991>

12. Peters, G.W., Shevchenko, P.V., Hassani, B. and Chapelle, A., 2016. Should the advanced measurement approach be replaced with the standardized measurement approach for operational risk?. *Journal of Operational Risk*, 11(3), pp. 1-49.
<http://doi.org/10.21314/JOP.2016.177>
 - SSRN preprint <https://ssrn.com/abstract=2788920>
13. Peters, G.W., Shevchenko, P.V., Hassani, B. and Chapelle, A., 2016. Standardized measurement approach for operational risk: Pros and cons. Response to Basel Committee BIS 2016 consultative call for SMA proposal. June. Basel Committee Website Publication.
 - SSRN preprint <https://ssrn.com/abstract=2789006>
14. Chapelle A, Hassani B, Peters G.W., Sekeris E and Shevchenko P. 2016. Discarding AMA could become a source of op risk. *Risk Magazine*. <https://www.risk.net/risk-management/operational-risk/2451089/discarding-the-ama-could-become-a-source-of-op-risk>
15. 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. In *Banking beyond banks and money* (pp. 239-278). Springer, Cham.
16. Peters GW, Targino RS, Wüthrich MV. Bayesian modelling, Monte Carlo sampling and capital allocation of insurance risks. *Risks*. 2017 Sep 22;5(4):53.
<https://doi.org/10.3390/risks5040053>
 - SSRN preprint <https://ssrn.com/abstract=2961888>
17. Peters, G.W. and Vishnia, G.R., 2018. Blockchain architectures for electronic exchange reporting requirements: EMIR, Dodd Frank, MiFID I/II, MiFIR, REMIT, Reg NMS and T2S. In *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 2* (pp. 271-329). Academic Press.
18. Peters, G.W., Shevchenko, P.V. and Cohen, R., 2018. Understanding cyber-risk and cyber-insurance. In *FinTech: Growth and Deregulation* (Chapter 12, pp. 1-31). Risk Books.
19. Peters, G.W., Shevchenko, P.V., Cohen, R. and Maurice, D., 2018. Statistical machine learning analysis of cyber risk data: event case studies. In *FinTech: Growth and Deregulation* (Chapter 3, 28 pages). Risk Books.
20. Targino RS, Peters GW, Sofronov G, Shevchenko PV. Optimal exercise strategies for operational risk insurance via multiple stopping times. *Methodology and Computing in Applied Probability*. 2017 Jun;19:487-518. DOI10.1007/s11009-016-9493-8
[/https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf](https://link.springer.com/content/pdf/10.1007/s11009-016-9493-8.pdf)
21. Peters, G.W., Clark, G., Thirlwell, J. and Kulwal, M., 2018. Global Perspectives on Operational Risk Management and Practice: A Survey by the Institute of Operational Risk (IOR) and the Center for Financial Professionals (CeFPro). *Journal of Operational Risk*, 13(4), pp. 47-88.
<http://doi.org/10.21314/JOP.2018.215>
 - SSRN preprint <https://ssrn.com/abstract=3296279>
22. P. Shevchenko, J. Jang, M. Malavasi, G.W. Peters, G. Sofronov S. Truck 2021. Quantification of Cyber Risk - Risk Categories and Business Sectors. Optus Macquarie University Cyber Security Hub. Telecommunications Industry Optus White Paper.
23. Malavasi M, Peters GW, Shevchenko PV, Trück S, Jang J, Sofronov G. Cyber risk frequency, severity and insurance viability. *Insurance: Mathematics and Economics*. 2022 Sep 1;106:90-114.
<https://doi.org/10.1016/j.insmathco.2022.05.003>
 - SSRN preprint <https://ssrn.com/abstract=3940329>
24. Shevchenko PV, Jang J, Malavasi M, Peters GW, Sofronov G, Trück S. The nature of losses from cyber-related events: risk categories and business sectors. *Journal of Cybersecurity*. 2023 Jan 1;9(1):tyac016. <https://doi.org/10.1093/cybsec/tyac016>

- SSRN preprint <https://arxiv.org/pdf/2202.10189>

[Return to Main Menu CLICK](#)

18 Sequential Monte Carlo Samplers (SMC Sampler), SMC Methods & Applications

1. Peters, G.W. Topics in Sequential Monte Carlo Samplers. Cambridge University Engineering Department Thesis, University of Cambridge, 2005.
 - SSRN preprint: <https://ssrn.com/abstract=3785582>
2. Del Moral, Pierre and Doucet, Arnaud and Peters, Gareth W., Sequential Monte Carlo Samplers. Cambridge University Engineering Department CUED Technical Report (June 1, 2004).
 - SSRN preprint: <https://ssrn.com/abstract=3841065>
3. Del Moral P, Doucet A, Peters GW. Sharp propagation of chaos estimates for Feynman–Kac particle models. *Theory of Probability Its Applications*. 2007;51(3):459-85. DOI.10.1137/S0040585X97982529 <https://epubs.siam.org/doi/10.1137/S0040585X97982529>
4. Peters, G.W., Johansen, A.M. and Doucet, A., 2007. Simulation of the Annual Loss Distribution in Operational Risk via Panjer Recursions and Volterra Integral Equations for Value at Risk and Expected Shortfall Estimation. *Journal of Operational Risk*, 2(3).
 - SSRN preprint <https://ssrn.com/abstract=2980408>
5. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
6. Peters GW, Fan Y, Sisson SA. On sequential Monte Carlo, partial rejection control and approximate Bayesian computation. *Statistics and Computing*. 2012 Nov;22:1209-22. DOI10.1007/s11222-012-9315-y DOI10.1007/s11222-012-9315-y
 - SSRN preprint <https://ssrn.com/abstract=2980448>
7. Del Moral, P., Peters, G.W. and Vergé, C., 2013. An introduction to stochastic particle integration methods: with applications to risk and insurance. In *Monte Carlo and Quasi-Monte Carlo Methods 2012* (pp. 39-81) Dick J., Kuo F., Peters G.W., Sloan I. (eds) Springer Proceedings in Mathematics Statistics, vol 65. Springer, Berlin, Heidelberg.
8. Peters GW, Briens M, Shevchenko P, Doucet A. Calibration and filtering for multi factor commodity models with seasonality: incorporating panel data from futures contracts. *Methodology and Computing in Applied Probability*. 2013 Dec;15:841-74. DOI10.1007/s11009-012-9286-7 <https://link.springer.com/content/pdf/10.1007%2Fs11009-012-9286-7.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2531821>
9. Dick, J., Kuo, F.Y., Peters, G.W., and Sloan, I.H. editors., 2013. *Monte Carlo and Quasi-Monte Carlo Methods 2012*. Springer Proceedings in Mathematics Statistics, vol. 65. New York: Springer.
10. Del Moral P, Jacob PE, Lee A, Murray L, Peters GW. Feynman-Kac particle integration with geometric interacting jumps. *Stochastic Analysis and Applications*. 2013 Sep 3;31(5):830-71. <https://doi.org/10.1080/07362994.2013.817247>
11. Cruz, M.G., Peters, G.W. and Shevchenko, P.V., 2015. *Fundamental aspects of operational risk and insurance analytics: A handbook of operational risk*. John Wiley Sons.
12. Septier, F. and Peters, G.W., 2015. An overview of recent advances in Monte-Carlo methods for Bayesian filtering in high-dimensional spaces. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 31-61). Springer, Tokyo.

13. Azzaoui, N., Clavier, L., Guillin, A. and Peters, G.W., 2015. Spectral Measures of alpha-Stable Distributions: An Overview and Natural Applications in Wireless Communications. In: Peters G., Matsui T. (eds) Theoretical Aspects of Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 6394). Springer, Tokyo.
14. Nguyen TL, Septier F, Peters GW, Delignon Y. Efficient sequential Monte-Carlo samplers for Bayesian inference. IEEE Transactions on Signal Processing. 2015 Nov 30;64(5):1305-19. DOI: 10.1109/TSP.2015.2504342 <https://doi.org/10.1109/TSP.2015.2504342>
15. Septier F, Peters GW. Langevin and Hamiltonian based sequential MCMC for efficient Bayesian filtering in high-dimensional spaces. IEEE Journal of selected topics in signal processing. 2015 Nov 2;10(2):312-27. <https://ieeexplore.ieee.org/ie17/4200690/7406776/07314906.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2980641>
16. Targino RS, Peters GW, Shevchenko PV. Sequential Monte Carlo samplers for capital allocation under copula-dependent risk models. Insurance: Mathematics and Economics. 2015 Mar 1;61:206-26. <https://doi.org/10.1016/j.insmatheco.2015.01.007>
 - SSRN preprint <https://ssrn.com/abstract=2505539>
17. Peters GW, Targino RS, Wüthrich MV. Bayesian modelling, Monte Carlo sampling and capital allocation of insurance risks. Risks. 2017 Sep 22;5(4):53. <https://doi.org/10.3390/risks5040053>
 - SSRN preprint <https://ssrn.com/abstract=2961888>

[Return to Main Menu CLICK](#)

19 Software Packages & Libraries

1. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. *Annals of Actuarial Science*, 1-37. doi:10.1017/S1748499523000088 <https://tinyurl.com/rfcsd4w2>
 - SSRN preprint <https://ssrn.com/abstract=3947132>
2. Antonian et al., (2023). PyKronecker: A Python Library for the Efficient Manipulation of Kronecker Products and Related Structures. *Journal of Open Source Software*, 8(81), 4900, <https://doi.org/10.21105/joss.04900>

[Return to Main Menu CLICK](#)

20 Spatial Modelling

1. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
2. Nevat, I., Han, C., Peters, G.W. and Yuan, J., 2011, June. Spectrum sensing in cooperative cognitive networks with partial CSI. In 2011 IEEE Statistical Signal Processing Workshop (SSP) (pp. 373-376). IEEE.
3. Nevat, I., Peters, G.W. and Collings, I.B., 2012, January. Location-aware cooperative spectrum sensing via Gaussian processes. In 2012 Australian Communications Theory Workshop (AusCTW) (pp. 19-24). IEEE.
4. Nevat, I., Peters, G.W., Yuan, J. and Collings, I.B., 2012, April. System identification in wireless relay networks via Gaussian process Iterated Conditioning on the Modes estimation. In 2012 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 369-374). IEEE.
5. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2012, December. An information theoretic location verification system for wireless networks. In 2012 IEEE Global Communications Conference (GLOBECOM) (pp. 5415-5420). IEEE.
6. Nevat, I., Peters, G.W. and Yuan, J., 2012, April. Blind spectrum sensing in cognitive radio over fading channels and frequency offsets. In 2012 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 1039-1043). IEEE.
7. Nevat, I., Peters, G.W. and Collings, I.B., 2013, September. Localization in mobile wireless sensor networks via sequential global optimization. In 2013 IEEE 24th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC) (pp. 281-285). IEEE.
8. Nevat, I., Peters, G.W. and Collings, I.B., 2013, June. Estimation of correlated and quantized spatial random fields in wireless sensor networks. In 2013 IEEE International Conference on Communications (ICC) (pp. 1931-1935). IEEE.
9. Ding, N., Nevat, I., Peters, G.W. and Yuan, J., 2013, June. Opportunistic network coding for two-way relay fading channels. In 2013 IEEE International Conference on Communications (ICC) (pp. 5980- 5985). IEEE.
10. Komatsu, T., Peters, G.W., Matsui, T., Nevat, I. and Takeda, K., 2013, June. Modeling room impulse response via composites of spatial-temporal Gaussian processes. In Proceedings of Meetings on Acoustics ICA2013 (Vol. 19, No. 1, p. 040098). Acoustical Society of America.
11. Nevat I, Peters GW, Collings IB. Random field reconstruction with quantization in wireless sensor networks. *IEEE Transactions on Signal Processing*. 2013 Sep 5;61(23):6020-33. <https://doi.org/10.1109/TSP.2013.2280442>
12. Nevat I, Peters GW, Collings IB. Distributed detection in sensor networks over fading channels with multiple antennas at the fusion centre. *IEEE transactions on signal processing*. 2013 Dec 3;62(3):671-83. DOI: 10.1109/TVT.2014.2302022 <https://doi.org/10.1109/TVT.2014.2302022>
13. Hosack GR, Peters GW, Ludsins SA. Interspecific relationships and environmentally driven catchabilities estimated from fisheries data. *Canadian journal of fisheries and aquatic sciences*. 2014;71(3):447-63. <https://doi.org/10.1139/cjfas-2013-0236>
14. Zhang, P., Peters, G.W., Nevat, I., Xiao, G. and Tan, H.P., 2014, October. Distributed event detection in sensor networks under random spatial deployment. In 2014 IEEE Military Communications Conference (pp. 623-629). IEEE.
15. Peters, G.W., Nevat, I., Clavier, L. and Septier, F., 2014, May. Distributional upper bound on the interference in spatial wireless multiuser ultrawideband communication systems. In 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 5764-5768). IEEE.
16. Nevat, I., Eger, O., Peters, G.W. and Septier, F., 2014, April. NEPS: Narrowband Efficient Positioning System for delivering resource efficient GNSS receivers. In 2014 IEEE Ninth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP) (pp. 1-6). IEEE.

17. Peters, G.W., Nevat, I., Lin, S. and Matsui, T., 2014, April. Modelling threshold exceedance levels for spatial stochastic processes observed by sensor networks. In 2014 IEEE Ninth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP) (pp. 1-7). IEEE.
18. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2014, June. Signal strength based wireless location verification under spatially correlated shadowing. In 2014 IEEE International Conference on Communications (ICC) (pp. 2617-2623). IEEE.
19. Peters, G.W., and Matsui, T. editors., 2015. Theoretical Aspects of Spatial-Temporal Modelling. Springer-Briefs in Statistics, Springer Tokyo.
20. Peters, G.W., and Matsui, T. editors., 2015. Modern Methodology and Applications in Spatial-Temporal Modelling. Springer-Briefs in Statistics, Springer Tokyo.
21. Yan S, Malaney R, Nevat I, Peters GW. Location verification systems for VANETs in Rician fading channels. IEEE Transactions on Vehicular Technology. 2015 Jul 6;65(7):5652-64. <https://ieeexplore.ieee.org/iel7/25/7513343/07150554.pdf>
22. Zhang P, Nevat I, Peters GW, Xiao G, Tan HP. Event detection in wireless sensor networks in random spatial sensors deployments. IEEE Transactions on Signal Processing. 2015 Jul 1;63(22):6122-35. <https://doi.org/10.1109/TSP.2015.2452218>
23. Nguyen TL, Septier F, Rajaona H, Peters GW, Nevat I, Delignon Y. A Bayesian perspective on multiple source localization in wireless sensor networks. IEEE Transactions on Signal Processing. 2015 Dec 4;64(7):1684-99. <https://doi.org/10.1109/TSP.2015.2505689>
24. Yamagata, Y., Murakami, D., Peters, G.W. and Matsui, T., 2015. A Spatiotemporal Analysis of Participatory Sensing Data 'Tweets' and Extreme Climate Events Toward Real-Time Urban Risk Management. This manuscript was presented in the 14th International Conference on Computers in Urban Planning and Urban Management (CUPUM 2015). <https://arxiv.org/abs/1505.06188>
25. Nevat, I., Peters, G.W., Septier, F. and Matsui, T., 2015, June. Wind storm estimation using a heterogeneous sensor network with high and low resolution sensors. In 2015 IEEE International Conference on Communications (ICC) (pp. 4865-4870). IEEE.
5. Peters, G.W., Nevat, I. and Matsui, T., 2015. How to utilize sensor network data to efficiently perform model calibration and spatial field reconstruction. In: Peters G., Matsui T. (eds) Modern Methodology and Applications in Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 25-62). Springer, Tokyo.
26. Nevat I, Peters GW, Septier F, Matsui T. Estimation of spatially correlated random fields in heterogeneous wireless sensor networks. IEEE Transactions on Signal Processing. 2015 Mar 13;63(10):2597-609. <https://doi.org/10.1109/TSP.2015.2412917>
27. Septier F, Peters GW. Langevin and Hamiltonian based sequential MCMC for efficient Bayesian filtering in high-dimensional spaces. IEEE Journal of selected topics in signal processing. 2015 Nov 2;10(2):312-27. <https://ieeexplore.ieee.org/iel7/4200690/7406776/07314906.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2980641>
28. Nevat I, Peters GW, Avnit K, Septier F, Clavier L. Location of things: Geospatial tagging for IoT using time-of-arrival. IEEE transactions on Signal and Information Processing over Networks. 2016 Feb 18;2(2):174-85. DOI: 10.1109/TSIPN.2016.2531422 <https://doi.org/10.1109/TSIPN.2016.2531422>
29. Yan S, Nevat I, Peters GW, Malaney R. Location verification systems under spatially correlated shadowing. IEEE Transactions on Wireless Communications. 2016 Feb 26;15(6):4132-44. <https://ieeexplore.ieee.org/iel7/7693/7485904/07420743.pdf>
30. Zhang P, Nevat I, Peters GW, Clavier L. Event detection in sensor networks with non-linear amplifiers via mixture series expansion. IEEE Sensors Journal. 2016 Jul 15;16(18):6939-46. <https://doi.org/10.1109/JSEN.2016.2592103>
31. Murakami D, Peters GW, Yamagata Y, Matsui T. Participatory sensing data tweets for micro-urban real-time resiliency monitoring and risk management. Ieee Access. 2016 Jan 12;4:347-72. Digital Object Identifier

10.1109/ACCESS.2016.2516918

<https://doi.org/10.1109/ACCESS.2016.2516918>

32. Koh JY, Leong D, Peters GW, Nevat I, Wong WC. Optimal privacy-preserving probabilistic routing for wireless networks. *IEEE Transactions on Information Forensics and Security*. 2017 Apr 26;12(9):2105-14. <https://doi.org/10.1109/TIFS.2017.2698424>
33. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. *IEEE Transactions on Signal Processing*. 2017 May 19;65(15):4047-58. <https://doi.org/10.1109/TSP.2017.2703686>
34. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. *IEEE Transactions on Signal Processing*. 2017 May 19;65(15):4047-58. <https://doi.org/10.1109/TSP.2017.2703686>
35. Zhang, P., Nevat, I., Peters, G.W., Fruehwirt, W., Huang, Y., Anders, I. and Osborne, M., 2017. Sensor Selection and Random Field Reconstruction for Robust and Cost-effective Heterogeneous Weather Sensor Networks for the Developing World. (peer reviewed Neural Information Processing Workshop.) arXiv preprint arXiv:1711.04308. <https://doi.org/10.48550/arXiv.1711.04308>
36. P. Zhang, I. Nevat, G. W. Peters, F. Septier and M. A. Osborne, "Spatial Field Reconstruction and Sensor Selection in Heterogeneous Sensor Networks With Stochastic Energy Harvesting," in *IEEE Transactions on Signal Processing*, vol. 66, no. 9, pp. 2245-2257, 1 May 1, 2018, doi: 10.1109/TSP.2018.2802452. <https://doi.org/10.1109/TSP.2018.2802452>
37. Peters, G.W., Ming, D., Galasso, C. and Huang, C., 2018, June. Advancing Ground Motion Characterization for Post-Event Loss Assessment. In 16th European Conference on Earthquake Engineering.
38. Ming D, Huang C, Peters GW, Galasso C. An Advanced Estimation Algorithm for Ground-Motion Models with Spatial Correlation. *Bulletin of the Seismological Society of America*. 2019 Apr 1;109(2):541-66. <https://doi.org/10.1785/0120180215>
39. Jing Yang Koh, Gareth W. Peters, Ido Nevat, Derek Leong, Probabilistic routing in wireless networks with privacy guarantees, *Computer Communications*, Volume 151, 2020, Pages 228-237, ISSN 0140-3664, <https://doi.org/10.1016/j.comcom.2019.12.045>
40. Q. Xiang, I. Nevat and G. W. Peters, "Bayesian Spatial Field Reconstruction With Unknown Distortions in Sensor Networks," in *IEEE Transactions on Signal Processing*, vol. 68, pp. 4336-4351, 2020, doi: 10.1109/TSP.2020.3011023. <https://doi.org/10.1109/TSP.2020.3011023>
 - SSRN preprint <https://ssrn.com/abstract=3656297>
41. Jimeno A. Fonseca, Ido Nevat, Gareth W. Peters, Quantifying the uncertain effects of climate change on building energy consumption across the United States, *Applied Energy*, Volume 277, 2020, 115556, ISSN 0306-2619. <https://doi.org/10.1016/j.apenergy.2020.115556>
 - SSRN preprint <https://ssrn.com/abstract=3656280>
42. Murakami D, Peters GW, Matsui T, Yamagata Y. Spatio-Temporal Analysis of Urban Heatwaves Using Tukey g-and-h Random Field Models. *IEEE Access*. 2020 Jul 31;9:79869-88. <https://doi.org/10.1109/ACCESS.2020.3013255>
 - SSRN preprint <https://ssrn.com/abstract=3575789>
43. Koh JY, Peters GW, Nevat I, Leong D. Privacy considerations in participatory data collection via spatial Stackelberg incentive mechanisms. *Methodology and Computing in Applied Probability*. 2021 Sep;23:1097-128. <https://doi.org/10.1007/s11009-020-09798-7>
 - SSRN preprint <https://ssrn.com/abstract=3158616>

44. Peters, Gareth W., Ido Nevat, Sai Ganesh Nagarajan, and Tomoko Matsui. 2021. "Spatial Warped Gaussian Processes: Estimation and Efficient Field Reconstruction" Entropy 23, no. 10: 1323. <https://doi.org/10.3390/e23101323>

- SSRN preprint <https://ssrn.com/abstract=3159687>

45. Zheng C, Egan M, Clavier L, Peters GW, Gorce JM. On the interference arising from random spatial fields of interferers utilizing multiple subcarriers. EURASIP Journal on Wireless Communications and Networking. 2022 Dec;2022(1):1-29. <https://doi.org/10.1186/s13638-022-02110-w>

46. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear North American Actuarial Journal NAAJ)

- SSRN preprint <https://ssrn.com/abstract=3447047>

[Return to Main Menu CLICK](#)

21 Statistical Signal Processing

1. Peters, G.W. Topics in Sequential Monte Carlo Samplers. Cambridge University Engineering Department Thesis, University of Cambridge, 2005.
 - Available at SSRN: <https://ssrn.com/abstract=3785582>
2. Nevat, I., Peters, G.W. and Yuan, J., 2008, September. Bayesian inference in linear models with a random Gaussian matrix: algorithms and complexity. In 2008 IEEE 19th International Symposium on Personal, Indoor and Mobile Radio Communications (pp. 1-6). IEEE.
3. Nevat, I., Peters, G.W. and Yuan, J., 2008, March. Maximum a-posteriori estimation in linear models with a random Gaussian model matrix: A Bayesian-EM approach. In 2008 IEEE International Conference on Acoustics, Speech and Signal Processing (pp. 2889-2892). IEEE.
4. Nevat, I., Peters, G.W. and Yuan, J., 2008, May. OFDM CIR estimation with unknown length via Bayesian model selection and averaging. In VTC Spring 2008-IEEE Vehicular Technology Conference (pp. 1413-1417). IEEE.
5. Peters G.W. (2009) "Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference." PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
6. Nevat, I., Peters, G.W. and Yuan, J., 2009. Coherent detection for cooperative networks with arbitrary relay functions using likelihood-free inference. In NEWCOM-ACorn Workshop.
7. Nevat, I., Peters, G.W. and Yuan, J., 2009, April. Channel estimation in OFDM systems with unknown power delay profile using trans-dimensional MCMC via stochastic approximation. In VTC Spring 2009- IEEE 69th Vehicular Technology Conference (pp. 1-6). IEEE.
8. Peters GW, Nevat I, Yuan J. Channel estimation in OFDM systems with unknown power delay profile using transdimensional MCMC. IEEE transactions on signal processing. 2009 May 19;57(9):3545-61. <https://doi.org/10.1109/TSP.2009.2023358>
9. Nevat I, Peters GW, Yuan J. Detection of Gaussian constellations in MIMO systems under imperfect CSI. IEEE transactions on communications. 2010 Mar 29;58(4):1151-60. <https://doi.org/10.1109/TCOMM.2010.04.080657>
10. Nevat, I., Han, C., Peters, G.W. and Yuan, J., 2011, June. Spectrum sensing in cooperative cognitive networks with partial CSI. In 2011 IEEE Statistical Signal Processing Workshop (SSP) (pp. 373-376). IEEE.
11. Nevat, I., Peters, G.W. and Yuan, J., 2011, September. Channel tracking in relay systems via particle MCMC. In 2011 IEEE Vehicular Technology Conference (VTC Fall) (pp. 1-5). IEEE.
12. Nevat, I., Peters, G.W. and Collings, I.B., 2012, January. Location-aware cooperative spectrum sensing via Gaussian processes. In 2012 Australian Communications Theory Workshop (AusCTW) (pp. 19-24). IEEE.
13. Nevat, I., Peters, G.W., Yuan, J. and Collings, I.B., 2012, April. System identification in wireless relay networks via Gaussian process Iterated Conditioning on the Modes estimation. In 2012 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 369-374). IEEE.
14. Nevat, I., Peters, G.W. and Yuan, J., 2012, April. Blind spectrum sensing in cognitive radio over fading channels and frequency offsets. In 2012 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 1039-1043). IEEE.
15. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2012, December. An information theoretic location verification system for wireless networks. In 2012 IEEE Global Communications Conference (GLOBECOM) (pp. 5415-5420). IEEE.
16. Gu, W., Peters, G.W., Clavier, L., Septier, F. and Nevat, I., 2012, August. Receiver study for cooperative communications in convolved additive -stable interference plus Gaussian thermal noise. In 2012 International Symposium on Wireless Communication Systems (ISWCS) (pp. 451-455). IEEE.

17. Peters GW, Nevat I, Yuan J, Collings IB. System identification in wireless relay networks via a gaussian process. *IEEE transactions on vehicular technology*. 2012 Jul 25;61(9):3969-83.
<https://doi.org/10.1109/WCNC.2012.6214392>
18. Nevat I, Peters GW, Collings IB. Distributed detection in sensor networks over fading channels with multiple antennas at the fusion centre. *IEEE transactions on signal processing*. 2013 Dec 3;62(3):671-83. DOI: 10.1109/TVT.2014.2302022
<https://doi.org/10.1109/TVT.2014.2302022>
19. Nevat I, Peters GW, Collings IB. Random field reconstruction with quantization in wireless sensor networks. *IEEE Transactions on Signal Processing*. 2013 Sep 5;61(23):6020-33.
<https://doi.org/10.1109/TSP.2013.2280442>
20. Del Moral, P., Peters, G.W. and Vergé, C., 2013. An introduction to stochastic particle integration methods: with applications to risk and insurance. In *Monte Carlo and Quasi-Monte Carlo Methods 2012* (pp. 39-81) Dick J., Kuo F., Peters G.W., Sloan I. (eds) Springer Proceedings in Mathematics Statistics, vol 65. Springer, Berlin, Heidelberg.
21. Nevat, I., Peters, G.W. and Collings, I.B., 2013, September. Localization in mobile wireless sensor networks via sequential global optimization. In *2013 IEEE 24th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)* (pp. 281-285). IEEE.
22. Nevat, I., Peters, G.W. and Collings, I.B., 2013, June. Estimation of correlated and quantized spatial random fields in wireless sensor networks. In *2013 IEEE International Conference on Communications (ICC)* (pp. 1931-1935). IEEE.
23. Ding, N., Nevat, I., Peters, G.W. and Yuan, J., 2013, June. Opportunistic network coding for two-way relay fading channels. In *2013 IEEE International Conference on Communications (ICC)* (pp. 5980- 5985). IEEE.
24. Komatsu, T., Peters, G.W., Matsui, T., Nevat, I. and Takeda, K., 2013, June. Modeling room impulse response via composites of spatial-temporal Gaussian processes. In *Proceedings of Meetings on Acoustics ICA2013* (Vol. 19, No. 1, p. 040098). Acoustical Society of America.
25. Peters, G.W., Myrvoll, T.A., Matsui, T., Nevat, I. and Septier, F., 2014, December. Communications meets copula modeling: Non-standard dependence features in wireless fading channels. In *2014 IEEE Global Conference on Signal and Information Processing (GlobalSIP)* (pp. 1224-1228). IEEE.
26. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2014, February. Timing information in wireless communications and optimal location verification frameworks. In *2014 Australian Communications Theory Workshop (AusCTW)* (pp. 144-149). IEEE.
27. Nevat I, Peters GW, Doucet A, Yuan J. Joint channel and Doppler offset estimation in dynamic cooperative relay networks. *IEEE Transactions on Wireless Communications*. 2014 Oct 8;13(12):6570-9.
<https://doi.org/10.1139/cjfas-2013-0236>
28. Yan S, Malaney R, Nevat I, Peters GW. Optimal information-theoretic wireless location verification. *IEEE Transactions on Vehicular Technology*. 2014 Jan 22;63(7):3410-22.
<https://doi.org/10.1109/TVT.2014.2302022>
29. Zhang, P., Peters, G.W., Nevat, I., Xiao, G. and Tan, H.P., 2014, October. Distributed event detection in sensor networks under random spatial deployment. In *2014 IEEE Military Communications Conference* (pp. 623-629). IEEE.
30. Peters, G.W., Nevat, I., Clavier, L. and Septier, F., 2014, May. Distributional upper bound on the interference in spatial wireless multiuser ultrawideband communication systems. In *2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)* (pp. 5764-5768). IEEE.
31. Nevat, I., Eger, O., Peters, G.W. and Septier, F., 2014, April. NEPS: Narrowband Efficient Positioning System for delivering resource efficient GNSS receivers. In *2014 IEEE Ninth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)* (pp. 1-6). IEEE.
32. Peters, G.W., Nevat, I., Lin, S. and Matsui, T., 2014, April. Modelling threshold exceedance levels for spatial stochastic processes observed by sensor networks. In *2014 IEEE Ninth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)* (pp. 1-7). IEEE.

33. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2014, June. Signal strength based wireless location verification under spatially correlated shadowing. In 2014 IEEE International Conference on Communications (ICC) (pp. 2617-2623). IEEE.
34. Egan, M., Peters, G.W., Nevat, I. and Collings, I.B., 2015, June. Pass go and collect \$200: the profitable union of facilities and small-cells. In 2015 IEEE International Conference on Communications (ICC) (pp. 3423-3428). IEEE.
35. Yan, X., Clavier, L., Peters, G.W., Azzaoui, N., Septier, F. and Nevat, I., 2015, June. Skew-t copula for dependence modelling of impulsive (-stable) interference. In 2015 IEEE International Conference on Communications (ICC) (pp. 4816-4821). IEEE.
36. Yan, S., Malaney, R., Nevat, I. and Peters, G.W., 2015, May. Location spoofing detection for VANETs by a single base station in Rician fading channels. In 2015 IEEE 81st Vehicular Technology Conference (VTC Spring) (pp. 1-6). IEEE.
37. Septier F, Peters GW. Langevin and Hamiltonian based sequential MCMC for efficient Bayesian filtering in high-dimensional spaces. *IEEE Journal of selected topics in signal processing*. 2015 Nov 2;10(2):312-27. <https://ieeexplore.ieee.org/iel7/4200690/7406776/07314906.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2980641>
3. Septier, F. and Peters, G.W., 2015. An overview of recent advances in Monte-Carlo methods for Bayesian filtering in high-dimensional spaces. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 31-61). Springer, Tokyo.
4. Azzaoui, N., Clavier, L., Guillin, A. and Peters, G.W., 2015. Spectral Measures of alpha-Stable Distributions: An Overview and Natural Applications in Wireless Communications. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 6394). Springer, Tokyo.
5. Peters, G.W., Nevat, I. and Matsui, T., 2015. How to utilize sensor network data to efficiently perform model calibration and spatial field reconstruction. In: Peters G., Matsui T. (eds) *Modern Methodology and Applications in Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 25-62). Springer, Tokyo.
38. Nguyen TL, Septier F, Peters GW, Delignon Y. Efficient sequential Monte-Carlo samplers for Bayesian inference. *IEEE Transactions on Signal Processing*. 2015 Nov 30;64(5):1305-19. DOI: 10.1109/TSP.2015.2504342 <https://doi.org/10.1109/TSP.2015.2504342>
39. Zhang P, Nevat I, Peters GW, Xiao G, Tan HP. Event detection in wireless sensor networks in random spatial sensors deployments. *IEEE Transactions on Signal Processing*. 2015 Jul 1;63(22):6122-35. <https://doi.org/10.1109/TSP.2015.2452218>
40. Nguyen TL, Septier F, Rajaona H, Peters GW, Nevat I, Delignon Y. A Bayesian perspective on multiple source localization in wireless sensor networks. *IEEE Transactions on Signal Processing*. 2015 Dec 4;64(7):1684-99. <https://doi.org/10.1109/TSP.2015.2505689>
41. Yan S, Malaney R, Nevat I, Peters GW. Location verification systems for VANETs in Rician fading channels. *IEEE Transactions on Vehicular Technology*. 2015 Jul 6;65(7):5652-64. <https://ieeexplore.ieee.org/iel7/25/7513343/07150554.pdf>
42. Nevat I, Peters GW, Septier F, Matsui T. Estimation of spatially correlated random fields in heterogeneous wireless sensor networks. *IEEE Transactions on Signal Processing*. 2015 Mar 13;63(10):2597-609. <https://doi.org/10.1109/TSP.2015.2412917>
43. Murakami D, Peters GW, Yamagata Y, Matsui T. Participatory sensing data tweets for micro-urban real-time resiliency monitoring and risk management. *Ieee Access*. 2016 Jan 12;4:347-72. Digital Object Identifier 10.1109/ACCESS.2016.2516918 <https://doi.org/10.1109/ACCESS.2016.2516918>
44. Zhang P, Nevat I, Peters GW, Clavier L. Event detection in sensor networks with non-linear amplifiers via mixture series expansion. *IEEE Sensors Journal*. 2016 Jul 15;16(18):6939-46. <https://doi.org/10.1109/JSEN.2016.2592103>
45. Nevat I, Peters GW, Avnit K, Septier F, Clavier L. Location of things: Geospatial tagging for IoT using time-of-arrival. *IEEE transactions on Signal and Information Processing over Networks*. 2016 Feb 18;2(2):174-85.

DOI: 10.1109/TSIPN.2016.2531422

<https://doi.org/10.1109/TSIPN.2016.2531422>

46. Yan S, Nevat I, Peters GW, Malaney R. Location verification systems under spatially correlated shadowing. *IEEE Transactions on Wireless Communications*. 2016 Feb 26;15(6):4132-44.
<https://ieeexplore.ieee.org/ie17/7693/7485904/07420743.pdf>
47. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. *IEEE Transactions on Signal Processing*. 2017 May 19;65(15):4047-58.
<https://doi.org/10.1109/TSP.2017.2703686>
48. Koh JY, Leong D, Peters GW, Nevat I, Wong WC. Optimal privacy-preserving probabilistic routing for wireless networks. *IEEE Transactions on Information Forensics and Security*. 2017 Apr 26;12(9):2105-14.
<https://doi.org/10.1109/TIFS.2017.2698424>
49. De Freitas ML, Egan M, Clavier L, Goupil A, Peters GW, Azzaoui N. Capacity Bounds for Additive Symmetric α -Stable Noise Channels. *IEEE Transactions on Information Theory*. 2017 Mar 2;63(8):5115-23.
<https://doi.org/10.1109/TIT.2017.2676104>
50. Nevat I, Zhang P, Frenkel G, Peters GW. Parameter estimation in sensor networks under probabilistic censoring. *IEEE Transactions on Signal Processing*. 2017 May 19;65(15):4047-58.
<https://doi.org/10.1109/TSP.2017.2703686>
51. Zhang, P., Nevat, I., Peters, G.W., Fruehwirt, W., Huang, Y., Anders, I. and Osborne, M., 2017. Sensor Selection and Random Field Reconstruction for Robust and Cost-effective Heterogeneous Weather Sensor Networks for the Developing World. (peer reviewed Neural Information Processing Workshop.) arXiv preprint arXiv:1711.04308.
<https://doi.org/10.48550/arXiv.1711.04308>
52. Egan M, Peters GW, Nevat I, Shirvanimoghaddam M, Collings IB. A ruin theoretic design approach for wireless cellular network sharing with facilities. *Transactions on Emerging Telecommunications Technologies*. 2017 Jul;28(7):e3141.
<https://doi.org/10.1002/ett.3141>
53. Yan S, Peters GW, Nevat I, Malaney R. Location verification systems based on received signal strength with unknown transmit power. *IEEE Communications Letters*. 2017 Dec 25;22(3):650-3. Digital Object Identifier 10.1109/LCOMM.2017.2787129
<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8239790>
54. Liu, J., Nevat, I., Zhang, P. and Peters, G.W., 2017, March. Multimodal data fusion in sensor networks via copula processes. In 2017 IEEE Wireless Communications and Networking Conference (WCNC) (pp. 1-6). IEEE.
55. Koh, J.Y., Peters, G.W., Leong, D., Nevat, I. and Wong, W.C., 2017, May. Privacy-aware incentive mechanism for mobile crowd sensing. In 2017 IEEE International Conference on Communications (ICC) (pp. 1-6). IEEE.
56. Nevat, I., Septier, F., Avnit, K., Peters, G.W. and Clavier, L., 2018, September. Joint localization and clock offset estimation via time-of-arrival with ranging offset. In 2018 26th European Signal Processing Conference (EUSIPCO) (pp. 672-676). IEEE.
57. P. Zhang, I. Nevat, G. W. Peters, F. Septier and M. A. Osborne, "Spatial Field Reconstruction and Sensor Selection in Heterogeneous Sensor Networks With Stochastic Energy Harvesting," in *IEEE Transactions on Signal Processing*, vol. 66, no. 9, pp. 2245-2257, 1 May1, 2018, doi: 10.1109/TSP.2018.2802452.
<https://doi.org/10.1109/TSP.2018.2802452>
58. Zheng, C., Egan, M., Clavier, L., Peters, G.W. and Gorce, J.M., 2019, May. Copula-based interference models for IoT wireless networks. In ICC 2019-2019 IEEE International Conference on Communications (ICC) (pp. 1-6). IEEE.
59. Zheng, C., Egan, M., Clavier, L., Peters, G. W. and Gorce, J.M., 2019, August. On the validity of isotropic complex α -stable interference models for interference in the IoT.
60. Desai, B.A., Divakaran, D.M., Nevat, I., Peter, G.W. and Gurusamy, M., 2019, January. A feature- ranking framework for IoT device classification. In 2019 11th International Conference on Communication Systems Networks (COMSNETS) (pp. 64-71). IEEE.

61. Q. Xiang, I. Nevat and G. W. Peters, "Bayesian Spatial Field Reconstruction With Unknown Distortions in Sensor Networks," in *IEEE Transactions on Signal Processing*, vol. 68, pp. 4336-4351, 2020, doi: 10.1109/TSP.2020.3011023. <https://doi.org/10.1109/TSP.2020.3011023>
- SSRN preprint <https://ssrn.com/abstract=3656297>
62. Jing Yang Koh, Gareth W. Peters, Ido Nevat, Derek Leong, Probabilistic routing in wireless networks with privacy guarantees, *Computer Communications*, Volume 151, 2020, Pages 228-237, ISSN 0140-3664, <https://doi.org/10.1016/j.comcom.2019.12.045>
63. Koh JY, Peters GW, Nevat I, Leong D. Privacy considerations in participatory data collection via spatial Stackelberg incentive mechanisms. *Methodology and Computing in Applied Probability*. 2021 Sep;23:1097-128. <https://doi.org/10.1007/s11009-020-09798-7>
- SSRN preprint <https://ssrn.com/abstract=3158616>
64. Peters, Gareth W., Ido Nevat, Sai Ganesh Nagarajan, and Tomoko Matsui. 2021. "Spatial Warped Gaussian Processes: Estimation and Efficient Field Reconstruction" *Entropy* 23, no. 10: 1323. <https://doi.org/10.3390/e23101323>
- SSRN preprint <https://ssrn.com/abstract=3159687>
65. Campi M, Peters GW, Azzaoui N, Matsui T. Machine learning mitigants for speech based cyber risk. *IEEE Access*. 2021 Oct 1;9:136831-60. <https://doi.org/10.1109/ACCESS.2021.3117080>
- SSRN preprint <https://ssrn.com/abstract=3643826>
66. Clavier L, Peters GW, Septier F, Nevat I. Impulsive noise modeling and robust receiver design. *EURASIP Journal on Wireless Communications and Networking*. 2021 Dec;2021(1):1-30. <https://doi.org/10.1186/s13638-020-01868-1>
67. B. Chakraborty, D. M. Divakaran, I. Nevat, G. W. Peters and M. Gurusamy, "Cost-Aware Feature Selection for IoT Device Classification," in *IEEE Internet of Things Journal*, vol. 8, no. 14, pp. 11052-11064, 15 July 2021, doi: 10.1109/JIOT.2021.3051480. <https://doi.org/10.1109/JIOT.2021.3051480>
68. Zheng C, Egan M, Clavier L, Peters GW, Gorce JM. On the interference arising from random spatial fields of interferers utilizing multiple subcarriers. *EURASIP Journal on Wireless Communications and Networking*. 2022 Dec;2022(1):1-29. <https://doi.org/10.1186/s13638-022-02110-w>
69. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. *Annals of Actuarial Science*, 1-37. doi:10.1017/S1748499523000088 <https://tinyurl.com/rfcsd4w2>
- SSRN preprint <https://ssrn.com/abstract=3947132>
70. Campi M, Peters GW, Toczydlowska D. Ataxic speech disorders and Parkinson's disease diagnostics via stochastic embedding of empirical mode decomposition. *PLoS One*. 2023 Apr 26;18(4):e0284667. doi: 10.1371/journal.pone.0284667. PMID: 37099544; PMCID: PMC10132693. <https://doi.org/10.1371/journal.pone.0284667>
- SSRN preprint <https://ssrn.com/abstract=4173535>
71. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. *Annals of Actuarial Science*, 1-37. doi:10.1017/S1748499523000088 <https://tinyurl.com/rfcsd4w2>
- SSRN preprint <https://ssrn.com/abstract=3947132>

72. Antonian et al., (2023). PyKronecker: A Python Library for the Efficient Manipulation of Kronecker Products and Related Structures. Journal of Open Source Software, 8(81), 4900, <https://doi.org/10.21105/joss.04900>

[Return to Main Menu](#) **CLICK**

22 Time Series Methods & Applications

1. Peters, G.W. Topics in Sequential Monte Carlo Samplers. Cambridge University Engineering Department Thesis, University of Cambridge, 2005.
 - Available at SSRN: <https://ssrn.com/abstract=3785582>
2. Peters G.W. (2009) “Trans-dimensional Markov Chain Monte Carlo and Likelihood Free Inference.” PhD. Dissertation (supervised by Dr. Sisson S.A., Dr. Fan Y. and Dr. Shevchenko P.), University of New South Wales, Sydney, Australia.
 - Available at SSRN: <https://ssrn.com/abstract=3785580>
3. Peters, G.W., Shevchenko, P.V. and Wuthrich, M.V., 2009. Dynamic operational risk: modeling dependence and combining different sources of information. *The Journal of Operational Risk*, 4(2), pp.69-104. <http://doi.org/10.21314/JOP.2009.059>
 - SSRN preprint <https://ssrn.com/abstract=2529590>
4. Peters GW, Kannan B, Lasscock B, Mellen C. Model selection and adaptive Markov chain Monte Carlo for Bayesian cointegrated VAR model. *Bayesian Analysis*. 2010 Jan 1;5(3):465-91.DOI:10.1214/10-BA518 <https://doi.org/10.1214/10-BA518>
5. Peters, G.W., Kannan, B., Lasscock, B., Mellen, C. and Godsill, S., 2011. Bayesian cointegrated vector autoregression models incorporating alpha-stable noise for inter-day price movements via approximate Bayesian computation. *Bayesian Analysis*, 6(4), pp.755-792.DOI: 10.1214/11-BA628 <https://doi.org/10.1214/11-BA628>
6. Hosack GR, Peters GW, Hayes KR. Estimating density dependence and latent population trajectories with unknown observation error. *Methods in Ecology and Evolution*. 2012 Dec;3(6):1028-38. <https://doi.org/10.1111/j.2041-210X.2012.00218.x>
7. Del Moral P, Jacob PE, Lee A, Murray L, Peters GW. Feynman-Kac particle integration with geometric interacting jumps. *Stochastic Analysis and Applications*. 2013 Sep 3;31(5):830-71. <https://doi.org/10.1080/07362994.2013.817247>
8. Peters GW, Briers M, Shevchenko P, Doucet A. Calibration and filtering for multi factor commodity models with seasonality: incorporating panel data from futures contracts. *Methodology and Computing in Applied Probability*. 2013 Dec;15:841-74. DOI10.1007/s11009-012-9286-7 <https://link.springer.com/content/pdf/10.1007%2Fs11009-012-9286-7.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2531821>
9. Dean TA, Singh SS, Jasra A, Peters GW. Parameter estimation for hidden Markov models with intractable likelihoods. *Scandinavian Journal of Statistics*. 2014 Dec;41(4):970-87. doi: 10.1111/sjos.12077 <https://doi.org/10.1111/sjos.12077>
10. Hosack GR, Peters GW, Ludsins SA. Interspecific relationships and environmentally driven catchabilities estimated from fisheries data. *Canadian journal of fisheries and aquatic sciences*. 2014;71(3):447-63. <https://doi.org/10.1139/cjfas-2013-0236>
11. Peters, G.W., and Matsui, T. editors., 2015. *Theoretical Aspects of Spatial-Temporal Modelling*. Springer-Briefs in Statistics, Springer Tokyo.
12. Peters, G.W., and Matsui, T. editors., 2015. *Modern Methodology and Applications in Spatial-Temporal Modelling*. Springer-Briefs in Statistics, Springer Tokyo.
13. Septier, F. and Peters, G.W., 2015. An overview of recent advances in Monte-Carlo methods for Bayesian filtering in high-dimensional spaces. In: Peters G., Matsui T. (eds) *Theoretical Aspects of Spatial-Temporal Modeling*. SpringerBriefs in Statistics (pp. 31-61). Springer, Tokyo.

14. Azzaoui, N., Clavier, L., Guillin, A. and Peters, G.W., 2015. Spectral Measures of alpha-Stable Distributions: An Overview and Natural Applications in Wireless Communications. In: Peters G., Matsui T. (eds) Theoretical Aspects of Spatial-Temporal Modeling. SpringerBriefs in Statistics (pp. 6394). Springer, Tokyo.
15. Ames, M., Peters, G.W., Bagnarosa, G. and Kosmidis, I., 2015. Upside and downside risk exposures of currency carry trades via tail dependence. In Innovations in quantitative risk management (pp. 163-181), Glau K., Scherer M., Zagst R. (eds). Springer Proceedings in Mathematics Statistics, vol 99. Springer, Cham.
16. Septier F, Peters GW. Langevin and Hamiltonian based sequential MCMC for efficient Bayesian filtering in high-dimensional spaces. IEEE Journal of selected topics in signal processing. 2015 Nov 2;10(2):312-27.
<https://ieeexplore.ieee.org/ie17/4200690/7406776/07314906.pdf>
 - SSRN preprint <https://ssrn.com/abstract=2980641>
17. Marowka M, Peters GW, Kantas N, Bagnarosa G. Some recent developments in Markov Chain Monte Carlo for cointegrated time series. ESAIM: Proceedings and Surveys. 2017;59:76-103.
<https://doi.org/10.1051/proc/201759076>
 - SSRN preprint <https://ssrn.com/abstract=3011343>
18. Toczydlowska D, Peters GW, Fung MC, Shevchenko PV. Stochastic period and cohort effect state-space mortality models incorporating demographic factors via probabilistic robust principal components. Risks. 2017 Jul 27;5(3):42.
<https://doi.org/10.3390/risks5030042>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
19. Panayi E, Peters GW, Kyriakides G. Statistical modelling for precision agriculture: A case study in optimal environmental schedules for Agaricus Bisporus production via variable domain functional regression. PLoS One. 2017 Sep 29;12(9):e0181921.
<https://doi.org/10.1371/journal.pone.0280374>
 - SSRN preprint <https://ssrn.com/abstract=2977306>
20. Fung MC, Peters GW, Shevchenko PV. A unified approach to mortality modelling using state-space framework: characterisation, identification, estimation and forecasting. Annals of Actuarial Science. 2017 Sep;11(2):343-89.
<https://doi.org/10.1017/S1748499517000069>
 - SSRN preprint <https://ssrn.com/abstract=2786559>
21. Ames M, Bagnarosa G, Peters GW. Violations of uncovered interest rate parity and international exchange rate dependences. Journal of International Money and Finance. 2017 May 1;73:162-87.
<https://doi.org/10.1016/j.jimonfin.2017.01.002>
 - SSRN preprint <https://ssrn.com/abstract=2638163>
22. Karimalis, E., Kosmidis, I. 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.
 - SSRN preprint <https://ssrn.com/abstract=2949763>
23. Ames M., Bagnarosa G., Peters G.W. and Shevchenko P.V. (2017) Forecasting covariance for optimal carry trade portfolio allocations. 2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 5910-5914.
24. Peters GW. General quantile time series regressions for applications in population demographics. Risks. 2018 Sep 13;6(3):97.
<https://doi.org/10.3390/risks6030097>

- SSRN preprint <https://ssrn.com/abstract=3056728>
25. Ames M, Bagnarosa G, Peters GW, Shevchenko PV. Understanding the interplay between covariance forecasting factor models and risk-based portfolio allocations in currency carry trades. *Journal of Forecasting*. 2018 Dec;37(8):805-31.
<https://doi.org/10.1002/for.2505>
 - SSRN preprint <https://ssrn.com/abstract=2699020>
 26. Fung MC, Peters GW, Shevchenko PV. Cohort effects in mortality modelling: a Bayesian state-space approach. *Annals of Actuarial Science*. 2019 Mar;13(1):109-44.
<https://doi.org/10.1017/S1748499518000131>
 - SSRN preprint <https://ssrn.com/abstract=2907868>
 27. Ames M, Bagnarosa G, Matsui T, Peters GW, Shevchenko PV. Which risk factors drive oil futures price curves?. *Energy Economics*. 2020 Mar 1;87:104676.
<https://doi.org/10.1016/j.eneco.2020.104676>
 - SSRN preprint <https://ssrn.com/abstract=2840730>
 28. Maciej Marowka and others, Factor-Augmented Bayesian Cointegration Models: A Case-Study on The Soybean Crush Spread, *Journal of the Royal Statistical Society Series C: Applied Statistics*, Volume 69, Issue 2, April 2020, Pages 483–500
<https://doi.org/10.1111/rssc.12395>
 - SSRN preprint <https://ssrn.com/abstract=2960638>
 29. Yan, H., Peters, G., Chan, J. (2020). MULTIVARIATE LONG-MEMORY COHORT MORTALITY MODELS. *ASTIN Bulletin: The Journal of the IAA*, 50(1), 223-263. doi:10.1017/asb.2019.35
<https://doi.org/10.1017/asb.2019.35>
 - SSRN preprint <https://ssrn.com/abstract=3166884>
 30. Dias FS, Peters GW. A non-parametric test and predictive model for signed path dependence. *Computational Economics*. 2020 Aug;56(2):461-98.
<https://doi.org/10.1007/s10614-019-09934-7>
 31. Fabio S. Dias, Gareth W. Peters, Option pricing with polynomial chaos expansion stochastic bridge interpolators and signed path dependence, *Applied Mathematics and Computation*, Volume 411, 2021, 126484, ISSN 0096-3003.
<https://doi.org/10.1016/j.amc.2021.126484>
 - SSRN preprint <https://ssrn.com/abstract=3588871>
 32. Chalkiadakis I, Yan H, Peters GW, Shevchenko PV. Infection rate models for COVID-19: Model risk and public health news sentiment exposure adjustments. *Plos one*. 2021 Jun 28;16(6):e0253381.
<https://doi.org/10.1371/journal.pone.0253381>
 - SSRN preprint <https://ssrn.com/abstract=3813417>
 33. Clinet S, Dunsmuir WT, Peters GW, Richards KA. Asymptotic distribution of the score test for detecting marks in hawkes processes. *Statistical Inference for Stochastic Processes*. 2021 Oct;24(3):635-68.
<https://doi.org/10.1007/s11203-021-09245-5>
 - SSRN preprint <https://ssrn.com/abstract=3380754>

34. Tipakornrojanakit K., Chudtong M., Peters G.W. and Satiracoo P. 2021. Covariance Forecasting Methods For Dynamic Asset Allocation. *International Journal of Data Science and Big Data Analytics*. ISSN: 2710-2599, IJDSBDA11012021MTN009 <https://www.svedbergopen.com/>
 - SSRN preprint <https://ssrn.com/abstract=3722136>
35. Yan H, Peters GW, Chan J. Mortality models incorporating long memory for life table estimation: a comprehensive analysis. *Annals of Actuarial Science*. 2021 Nov;15(3):567-604. <https://doi.org/10.1017/S1748499521000014>
 - SSRN preprint <https://ssrn.com/abstract=3149914>
36. Peters GW, Yan H, Chan J. Model Risk in Mortality-linked Contingent Claims Pricing. *Journal of Risk Model Validation*. 2022 Aug 2;16(3). <http://doi.org/10.21314/JRMV.2022.022>
 - SSRN preprint https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4262766
37. Chen WY, Peters GW, Gerlach RH, Sisson SA. Dynamic quantile function models. *Quantitative Finance*. 2022 Sep 2;22(9):1665-91. <https://doi.org/10.1080/14697688.2022.2053193>
 - SSRN preprint <https://ssrn.com/abstract=2999451>
38. Chalkiadakis I, Zaremba A, Peters GW, Chantler MJ. On-chain analytics for sentiment-driven statistical causality in cryptocurrencies. *Blockchain: Research and Applications*. 2022 Jun 1;3(2):100063. <https://doi.org/10.1016/j.bcra.2022.100063>
 - SSRN preprint <https://ssrn.com/abstract=3742063>
39. Zaremba AB, Peters GW. Statistical Causality for Multivariate Nonlinear Time Series via Gaussian Process Models. *Methodology and Computing in Applied Probability*. 2022 Mar 30:1-46. <https://doi.org/10.1007/s11009-022-09928-3>
 - SSRN preprint <https://ssrn.com/abstract=3609497>
40. Campi M, Peters GW, Toczydlowska D. Ataxic speech disorders and Parkinson's disease diagnostics via stochastic embedding of empirical mode decomposition. *PLoS One*. 2023 Apr 26;18(4):e0284667. doi: 10.1371/journal.pone.0284667. PMID: 37099544; PMCID: PMC10132693. <https://doi.org/10.1371/journal.pone.0284667>
 - SSRN preprint <https://ssrn.com/abstract=4173535>
41. Van Jaarsveldt, C., Ames, M., Peters, G., Chantler, M. (2023). Package AdvEMDpy: Algorithmic variations of empirical mode decomposition in Python. *Annals of Actuarial Science*, 1-37. doi:10.1017/S1748499523000088 <https://tinyurl.com/rfcsd4w2>
 - SSRN preprint <https://ssrn.com/abstract=3947132>
42. Antonian et al., (2023). PyKronecker: A Python Library for the Efficient Manipulation of Kronecker Products and Related Structures. *Journal of Open Source Software*, 8(81), 4900, <https://doi.org/10.21105/joss.04900>
43. Ames M., Bagnarossa G., Gao S., Matsui T. and Peters G.W. (2023) A Harvested Acreage Weighted Spatio-Temporal Model for Country Crop Yields (to appear *North American Actuarial Journal NAAJ*)
 - SSRN preprint <https://ssrn.com/abstract=3447047>

44. Peters, G., Chudtong, M., De Gaetano, A. (2023). Analysis of option-like fund performance fees in asset management via Monte Carlo actuarial distortion pricing. *Annals of Actuarial Science*, 1-43. doi:10.1017/S1748499522000203 <https://doi.org/10.1017/S1748499522000203>

- SSRN preprint <https://ssrn.com/abstract=3946347>

45. Chalkiadakis I., Peters G.W. and Ames M. (2023). Hybrid ARDL-MIDAS-Transformer Time-Series Regressions for Multi-Topic Crypto Market Sentiment Driven by Price and Technology Factors. *Digital Finance* (to appear)

- SSRN preprint <https://ssrn.com/abstract=3908066>

[Return to Main Menu CLICK](#)