Curriculum Vitae

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Kamil Feridun Turkman

Academic Record:

- Habilitation Degree, Applied Mathematics, University of Lisbon, 1989.
- Ph.D., Statistics, University of Sheffield, U.K., 1980.
- M.Sc. Probability and Statistics, University of Sheffield, U.K.,
- B.Sc. Mathematics, Middle East Technical University, Ankara, 1974

Professional Activity

- Full Professor, Department of Statistics and Operations Research, University of Lisbon, since 1993.
- President of the School Council December 2013 to December 2016
- Head of the Department of Statistics and Operations Research, University of Lisbon, 1997-2001 and 2009-2012
- Coordinator, Center of Statistics and Applications, University of Lisbon, 1992-1999.
- Associate Professor, Department of Statistics and Operations Research, University of Lisbon , 1988-1993
- Assistant Professor, Department of Statistics and Operations Research, University of Lisbon, 1981-1988.
- Research Student, University of Sheffield, 1976-1980. .

Society Memberships:

Bernoulli Society, Royal Statistical Society, International Statistical Institute, Portuguese Statistical Society.

Editorial services

Member of the Trustee of SPRUCE trust, London (until 2015).

Member of the Editorial Board Journal of Applied Mathematics Open Access journal (2010, 2011)

Member of the Editorial Board Journal of Statistical Theory and Practice (2008 -)

Associate Editor of Revstat 2014-

Area of Scientific Activity: Probability theory, Statistical Inference, Stochastic Processes, Time Series, Extreme Value Theory; Environmental Statistics; Bayesian Hierarchical Modelling.

Domain of Specialization: Time Series; Statistical Modelling

Research Interests: Nonlinear Time Series; Stochastic models and inference for environmental problems, Bayesian hierarchical models for non-homogeneous spatial point processes, Extremes of random fields

Supervising Experience

Post-doc

- Sofia Wichert 2004-2005
- Eugen Ursu, 2010-2011, FCT grant
- Pal Rakonczai 2012-2014

Ph.D.

- Soraia Perreira, Small Area Estimation of Unemployment Rate at NUTSIII level, Março 2018
- Paula Pereira, Métodos Probabilísticos e Estatísticos na Gestão de Fogos Florestais, Dezembro 2014
- Leonel Silva Vicente, Bayesian Hierarchical Models in Human Resources Planning' 2011
- Jorge Morais Mendes, 'Some Problems in Bayesian Hierarchical Modeling of Non-Gaussian Spatial-Temporal Data', 2006
- Patrícia de Zea Bermudez, 'Bayesian Approach to Extreme Quantile Estimation', 2003
- Marília Cristina de Sousa Antunes, 'Some Problems in Non-linear Prediction', 2003
- Manuel González Scotto, On the Extremes of Certain Transformations of Time Series', 2001
- Maria Fernanda Oliveira "Limit laws in hiden Markov Models" 1992

Financed Research Projects

- FireCast- Forecasting fire probability and characteristics for a habitable pyroenvironment. PCIF/GRF/0204/2017. Member (Coordination: Carlos da Câmara - IDL).
- FillGapsInMaps: Data Fusion and Calibration Methods for Spatial Risk Analysis. PDTC/MAT-STA/28649/2017. Member (coordinated by: Miguel de Carvalho and P. de Zea Bermudez, CEAUL)

- Fire in the Rural-Urban Interface: characterization, risk mapping, and fuel break design, PTDC/AGR-FOR/2586/2014. Member and responsible for Probabilistic models for fire risk in the RUI
- FCT: UID/MAT/00006/2019, member
- FCT:Pest-OE/MAT/UI0006/2014, member.
- LisbonLiving+: Innovative strategies for a healthy life and an active ageing in the Region of Lisbon EIT-KIC/IVE/0051/2013 (member)
- PERsonalised ICT supported Service for Independent Living and Active Ageing (PERSSILAA), FP7-ICT-2013-10 (member)
- FCT:Pest-OE/MAT/UI0006/2011, member
- Statistical Methods in Environmental and Epidemiological Processes, PTDC/MAT/118335/2010 – Coordinator Financed by FCT
- Statistical Methods in Genetics and Environment, PTDC/MAT/64353/2006 – Coordinator Financed by FCT
- Statistical Modelling of Environmental and Genetic Data, POCTI/MAT/44082/2002 – Coordinator Financed by FCT
- Statistical Screenings Methods (PRAXIS XXI) P/MAT/10001/98 – member Financed by FCT
- Statistical Modelling (PRAXIS XXI) 2/2.1/MAT/429/94 – Coordinator Financed by FCT
- Project MODEST financed by PRAXIS XXI and FEDER, 1996-1999 Coordinator
- Windsor Treaty project "The measurements of averages and extremes of environmental variables", with Dr. C. W. Anderson from the Department of Probability and Statistics, University of Sheffield.

Publications

Theses:

- Turkman, K.F. (1980). Limiting Distributions of Maxima of Certain Types of Non-stationary Stochastic Processes. Ph. D. Thesis, University of Sheffield.
- Turkman, K.F. (1977). The Analysis of Some Recent U.K. Temperature Data. M.Sc. Thesis, University of Sheffield.

Books:

- Turkman, K.F., Scotto, M., P. de Zea Bermudez (2014) Non-linear Time Series: Extreme Events and Integer Value Problems. Springer, Heidelberg
- Murteira, B., Muller, D. E Turkman, K.F. (1993). Time Series Analysis; Theory and Practice (in portuguese). McGraw-Hill Portuguesa.

Books (Editor)

- Barnet, V., Stein, A. and K.F. Turkman (1999) Statistics for the Environment 4: Statistical Aspects of Health and the Environment. John Wiley and Sons, UK
- Barnet, V. and Turkman, K.F. (1997). Statistics for the Environment 3: Statistical Aspects of Pollution. John Wiley and Sons, U.K.
- Barnet, V. and Turkman, K.F. (1994). Statistics for the Environment 2: Water related issues. John Wiley and Sons, U.K.

- Barnet, V. and Turkman, K.F. (1993). Statistics for the Environment. John Wiley and Sons, U.K.

Chapter of Books:

- J.M.C Pereira and K F Turkman (2019) Statistical models of vegetation fires; Spatial and temporal patterns. *Handbook of Environmental and Ecological Statistics*, (eds Alan E. Gelfand, Montserrat Fuentes, Jennifer A. Hoeting and Richard Smith), chapter 17. Chapman and Hall, Boca Raton.
- Rónán O'Caoimh , D. William Molloy , Carol Fitzgerald, Lex Van Velsen, Miriam Cabrita, Mohammad Hossein Nassabi, Frederiek de Vette, Marit Dekker-van Weering , Stephanie Jansen-Kosterink, Wander Kenter, Sanne Frazer, Amélia P. Rauter**, Antónia Turkman**, **Marília Antunes**, **Feridun Turkman**, Marta S. Silva, Alice Martins, Helena S. Costa, Tânia Gonçalves Albuquerque, António Ferreira, Mario Scherillo9, Vincenzo De Luca, Pasquale Abete, Annamaria Colao, Alejandro García-Rudolph, Rocío Sanchez-Carrion, Javier Solana Sánchez, Enrique J. Gomez Aguilera, Maddalena Illario, Hermie Hermens, Miriam Vollenbroek-Hutten. (2018) ICT-Supported Interventions Targeting Pre-Frailty: Healthcare Recommendations from the Personalised ICT Supported Service for Independent Living and Active Ageing (PERSSILAA) Study. In: Röcker C., O'Donoghue J., Ziefle M., Maciaszek L., Molloy W. (eds) Information and Communication Technologies for Ageing Well and e-Health. ICT4AWE 2017. Communications in Computer and Information Science, vol 869. Springer, ChamTechnologies for Ageing Well and e-Health). https://doi.org/10.1007/978-3-319-93644-4_4
- Bermudez, P. de Zea, Amaral Turkman, M.A. and Turkman, K.F. (2015). Parameter Estimation of Bilinear Processes Using Approximate Bayesian Computation, In E. Gonçalves, P. Oliveira, P. and C. Tenreiro (eds.), Contributions in Statistics and Inference: Celebrating Nazaré Mendes Lopes' Birthday. Textos de Matemática, Nº 47, Departamento de Matemática, Faculdade de Ciências e Tecnologia da Universidade de Coimbra, pp. 135-151.
- Turkman, K.F (2012) Discrete-Continuous Time Extremes of Stationary Processes. Handbook of statistics- vol 30, p. 565-582. Time Series-Methods and applications. Ed. C.R.Rao and Subba Rao, Elsevier-North Holland..
- Turkman, K. F., (1999) " Non-Linear Processes and Models", in On Nonparametric and Semiparametric Statistics, Lopes, Nazaré e Gonçalves, Esmeralda – CIM, (pg. 1-48)
- Stein, A. . Turkman, K. F., Van Heerd, Van and Bruin, P. (1999) " In Search of Spatial Extremes", in Environmental Statistics. John Wiley and Sons, UK
- Amaral Turkman, M.A. e Turkman, K.F. (1997). Optimal screening Methods in detection of water contamination. Statistics for the Environment 3, pp 241-248., John Wiley & Sons.
- Turkman, K.F. e Anderson, C.W. (1994). The measurement of averages and extremes of environmental variables. Extreme Value Theory and its Applications Vol 2, Washington, U.S.A.

- Amaral Turkman, M.A. e Turkman, K.F. (1988). Bayesian Analysis of a Pure Birth Processes with Linear Birth Rate. Bayesian Statistics 3, pp. 533-541.(J.M. Bernardo, M.H. DeGroot D.V. Lindley and A.F.M. Smith,eds.) Oxford University Press.
- Turkman, K.F. (1983). On the Asymptotic upcrossings of a class of Non-stationary sequences. Statistical Extremes and Applications, J.Tiago de Oliveira (Ed.), pp.669-678, D.Reidel Publishing Company

Papers in International Periodicals

- Pekalp, Mustafa Hilmi, Aydoğdu, Halil and Türkman, Kamil Feridun (2019). Discriminating between some lifetime distributions in geometric counting processes. Communications in Statistics - Simulation and Computation,.published on-line 09/2019 https://doi.org/10.1080/03610918.2019.1657452
- Pereira, J.M.C., Amaral Turkman, M.A., Turkman, K.F. and Oom,D. (2019). Anthromes displaying evidence of weekly cycles in active fire data cover 70% of the global land surface. *Scientific Reports, volume 9, Article number: 11424.* doi: 10.1038/s41598-019-47678-4
- Nunes, S. A., DaCamara, C. C., Turkman, K. F., Calado, T. J., Trigo, R. M., and Turkman, M. A. A. (2019). Wildland fire potential outlooks for Portugal using meteorological indices of fire danger, *Nat. Hazards Earth Syst. Sci*., 19, 1459-1470, https://doi.org/10.5194/nhess-19-1459-2019, 2019.
- Pereira, S., Turkman, K.F., Luis Correia, Haavard Rue (2019) Spatio-temporal models for georeferenced unemployment data. *Spatial Statistics.* https://doi.org/10.1016/j.spasta.2019.100363
- Pereira, S., Turkman, K.F., Luis Correia, Haavard Rue (2019). Unemployment estimation: Spatial point referenced methods and models, *Spatial Statistics*. https://doi.org/10.1016/j.spasta.2019.01.004.
- Pinto, M. M., DaCamara, C. C., Trigo, I. F., Trigo, R. M., and Turkman, K. F. (2018): Fire danger rating over Mediterranean Europe based on fire radiative power derived from Meteosat, Nat. Hazards Earth Syst. Sci. 18, 515–529, https://doi.org/10.5194/nhess-18-515-2018.
- Drees, H., de Haan, L. and Turkman, K.F. (2018) Extreme Value Estimation for Discretely Sampled Continuous Processes. *Extremes*, Volume 21, Issue 4, pp 533–550
- Pereira, S., Turkman, K.F. and Correia, L. (2018) Spatio-temporal analysis of regional unemployment rates: A comparison of model based approaches. *Revstat: Statistical Journal*, 16, 515-536.
- Sousa Pedro M. , David Barriopedro, Ricardo M. Trigo, Alexandre M. Ramos, Raquel Nieto, Luis Gimeno, Feridun Turkman, Margarida L. R. Liberato. (2016) Impact of Euro-Atlantic blocking patterns in Iberia precipitation using a novel high resolution dataset. Clim Dyn. 46: 2573. doi:10.1007/s00382-015-2718-7
- Pereira JMC, Oom D, Pereira P, Turkman AA, Turkman, KF (2015) Religious Affiliation Modulates Weekly Cycles of Cropland Burning in Sub-Saharan Africa. *PLOS one*. DOI: 10.1371/journal.pone.0139189. Published 29/09/2015
- DaCamara, C.C., Teresa J. Calado, Sofia L. Ermida, Isabel F. Trigo, Malik Amraoui and KF Turkman. (2014) Calibration of the Fire Weather Index over Mediterranean Europe

based on fire activity retrieved from MSG satellite imagery. *International Journal of Wildland Fire*. 23(7) 945-958.

- Turkman, (2014) On the upcrossings of trigonometric polynomials with random coefficients. *Revstat*. Volume 12, Number 2, 135–155
- Turkman, K.F., Amaral Turkman, M.A., Pereira,P. Sa, A., and Pereira, J.(2014) Generating annual fire risk maps using Bayesian hierarchical models. *Journal of Statistical Theory and Practice.* 8:3, 509-533. DOI:10.1080/15598608.2013.820158
- P. Pereira, K. F. Turkman, M.A. Amaral Turkman, A. Sa and J. M.C. Pereira (2013) Quantification of annual wildfire risk; A spatio-temporal point process approach. *Statistica*, 73, 55-68.
- de Carvalho, M., Turkman, K.F., Rua, A.(2013) Dynamic threshold modelling and he US business cycle. *Journal of the Royal Statistical Society, Series C*. 62, 535-550 http://onlinelibrary.wiley.com/doi/10.1111/rssc.12008/pdf
- Turkman, K.F. (2012) Book Review: Extreme value methods with applications o Finance. Journal of Time Series Analysis, DOI:10.1111/j.1467-9892.2012.00801.x
- E. Ursu and Turkman, K.F. (2012) Periodic autoregressive model identification using genetic algorithms. Journal of Time Series. Vol.33, pp 398 405
- Turkman, K.F. (2011) Discussion of the paper by Rue, H., Martino,S., and N. Chopin (2011) An explicit link between Gaussian fields and gaussian random fields: the stochastic partial differential equation approach JRSS Series B, 73, 489.
- Amaral-Turkman, M.A., Turkman, K.F., Le Page, Y., Pereira, J.M., Hierarchical space-time models for fire ignition and percentage of land burned by wildfires, ENVIRONMENTAL AND ECOLOGICAL STATISTICS (2011), Vol. 18, pp. 601-617.
- Turkman, K.F. , Discussion of the paper by Lindgren, Rue and Lindstrom An explicit link between Gaussian fields and Gaussian Markov random fields: the stochastic partial difgferential equation approach, JOURNAL OF THE ROYAL STATISTICAL SOCIETY B, vol 73, pp. 489
- J. Mendes, P. de Zea Bermudez, J. Pereira, K. F. Turkman, M. Vasconcelos , Spatial extremes of wildfire sizes: Bayesian hierarchical models for extremes., ENVIRONMENTAL AND ECOLOGICAL STATISTICS (2010), Vol.17, pp. 1-28.
- KF Turkman , Discussion of the paper Geostatistical Inference under preferential sampling by P Diggle, R Menezes and Ting Li, Su, JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES C- (2010), Vol.59, pp. 226-
- Turkman, K.F., Amaral Turkman, M.A., Pereira, J.M., Asymptotic models and inference for extremes of spatio-temporal data, EXTREMES (2010), Vol. 13, pp. 375-397.
- de Zea Bermudez, P, Mendes-Lopes, J, Pereira, J M C, Turkman, K F, Vasconcelos, M J P, Spatial and temporal extremes of wildfires sizes in Portugal (1984-2004), INTERNATIONAL JOURNAL OF WILDLAND FIRE (2009), Vol.18, pp. 985-993.
- Mendes, J. M., Turkman, K. F., Jardim, E., A Bayesian hierarchical model for over-dispersed count data: a case study for abundance of hake recruits, ENVIRONMETRICS (2007), Vol. 18, pp. 27-53..
- J. Mendes, K.F. Turkman, J. Corte Real (2006) A Bayesian hierarchical model for local precipitation by downscaling large scale atmospheric circulation patterns. Environmetrics, Vol 17, 721-738

- Turkman, K. F. (2006) A note on the extremal index for space-time processes. Journal of Applied Probability 43, 1-13
- M. Scotto and K.F. Turkman, K.F. (2005). Extremes of Volterra series expansions. Nonlinear Analysis 63, 106-122
- M.Scotto and K.F. Turkman, C.W. Anderson K.F. (2003). Extremes of some sub-sampled time series. Journal of Time Series, 24, 579-590
- Antunes, M, Amaral Turkman, M.A.,. e Turkman, K.F. (2003). A Bayesian Approach to Event Prediction". Journal of Time Series Analysis , 24, 631-646.
- Scotto ,M.G. and K.F. Turkman, K.F. (2002) On the extremal behaviour of sub-sampled solutions of stochastic difference equations. Portugaliae Mathematica, 59, 267-282
- J. Mendes and K.F. Turkman, K.F. (2002). A simple spatio-temporal procedure for the prediction of air pollution levels. Journal of Chemometrics, 16, 623-632
- de Zea Bermudez, P., Amaral Turkman, M.A. e Turkman, K.F. (2001). A Predictive Approach to Tail Probability Estimation. Extremes, 4, 295-314
- Turkman, K.F. (2001). Extremal Behaviour of Trigonometric Polynomials with Random Coefficients. Journal of Nonlinear Analysis: Series A , 47, 3113-3124.
- Amaral Turkman, M.A. e Turkman, K.F. (1997). Optimal Screening Methods in Detection of Water Contamination, Statistics for the Environment, 3, pp 241-248., John Wiley & Sons.
- Turkman, K.F. e Amaral Turkman, M.A. (1997). Extremes of Bilinear Time Series Models, Journal of Time Series Analysis, 18, pp 305 – 319
- Turkman, K.F. (1997). The Hurst Effect and Processes with Heavy local dependence. Revista de Estatistica, INE, p 11-24.
- Turkman, K.F. e Anderson, C.W. (1995). Sums and maxima of stationary sequences with heavy tailed distributions. Sankhya,, Vol. 57, Série A, p 1-10.
- Turkman, K.F. e Anderson, C.W (1992). Limiting joint distributions of sums and maxima in a statistical context. Theoriya Veroyatnostei e Prim. 37, 352-355
- Turkman, K.F. e Oliveira, M.F. (1992). A Note on the Asymptotic Independence of Maximum and Minimum of Stationary Sequences with Extremal Index. (with M.F.Oliveira). Portugaliae Matermatica, Vol. 49, 29-36
- Turkman, K.F. e Oliveira, M.F. (1992). Limit Laws for the Maxima of the Chain Dependent Sequences with Positive Extremal Index. Journal of Applied Probability, 29, 222-227
- Turkman, K.F. e Anderson, C.W (1991). Sums and maxima in stationary sequences. Journal of Applied Probability 28, 715-716
- Turkman, K.F. e Anderson, C.W (1991). The Joint Limiting Distribution of Sums and Maxima of Stationary Sequences. Journal of Applied Probability 28, 33-44
- Amaral Turkman, M.A. e Turkman, K.F. (1990).Optimal Alarm Systems for Auroregressive Processes: A Bayesian Approach. Computational Statistics and Data Analysis, 10, pp. 307-314.
- Turkman, K.F. e Walker, M. (1990). A Stability Result for the Periodogram. The Annals of Probability, Vol. 18, pp. 1765-1783.
- Turkman, K.F. e Amaral Turkman, M.A (1989). Optimal screening methods. Journal of Royal Statistical Society, série B , nº51 parte 2, pp. 287-295.
- Turkman, K.F. (1985). The Choice of Extremal Models by Akaike´s information criterion. Journal of Hydrology, Vol 82

- Turkman, K.F. e Walker, M. (1984). The Asymptotic Distribution of Maxima Of Trigonometric Polynomials with Random Coefficients. Advances in Applied Probability, 16, pp. 819-842
- Turkman, K.F. (1984). Degenerate Limit Laws for the Maxima of Trigonometric Polynomials with Random Coefficients. Portugalie Matemática,Vol.42, pp.355-369.
- Turkman, K.F. e Walker, M. (1983). Limit Laws for the Maxima of a Class of Quasi-stationary Sequences. Journal of Applied Probability 20, pp.814-821.