# Curriculum Vitae
# Dimitris Karlis
# 21/9/2022

## Contents

# 1. Personal details



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|---|---|
| **NAME** | Dimitris |
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# 2. Academic Positions

| | |
|---|---|
| **December 2015- today** | Professor Dept of Statistics, Athens University and Economic |
| **November 2011 – December 2015** | Associate Professor Dept of Statistics, Athens University and Economic |
| **November 2001 – October 2011** | Assistant Professor, Dept of Statistics, Athens University and Economic |
| **September 2005 – today** | Greek Open University, Lecturer for Quantitative Methods |
| **January 2003 – February 2003** | Visitor in the Dept of Business Informatics, Limburg Universitatair Centrum; Belgium |
| **2005- today** | Tutor, Hellenic Open University, Program in Business Administration |

# 3. Education

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|---|---|
| **1988 – 1992** | **BSc in Statistics**, Athens University of Economics and Business (AUEB) Department of Statistics (8.5/10). |
| **1994 -1998** | **PhD in Applied Statistics and Computational Statistics** (supported from the State Scholarships Foundation of Greece). Title: "*Estimation and Testing Problems in Poisson Mixtures*" Supervisor: Prof. Evdokia Xekalaki External Examiners: Sir David Cox Prof. Bruce Lindsay |

## 4. Scholarships

1993-1998        Scholarship from the National Scholarship Foundation for doctoral dissertation

## 5. Research Projects

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|---|---|
| **March 1997 – September 1997** | Centre of the Renewal Energy Sources: Statistical Analysis of fatigue loadings of a wind turbine |
| **September 1997-February 1998** | Formation of the Educational Program of the National Statistical Office of Greece |
| **January 1998- November 1998** | Integration of Statistical Software in Eurostat's Data Bases (SUP-COM 17) |
| **January 2000 -** | IST-99-1-1A – Proposal No 12134 : Extended Statistical Information System |
| **October 2002 – February 2003** | VL-CATS Virtual Library for Computer Assisted Training of Statistics. Preparation of 'Data Analysis' course |
| **January 2004 – May 2005** | Digital Era Statistical Indicators IST–2000–31083 |
| **August 2006 -- September 2007** | Building the Intrastat system in Romania- Team Leader |
| **November 2010- August 2012** | Analysis of the surveillance and monitoring data on zoonotic agents in EU |
| **January 2015 – March 2016** | Integration of Social Survey in a modular system. (Project Funded by Eurostat) |
| **September 2018 -April 2022** | Real Estate Analytics, project funded by FP7 |
| **September 2007 - Today** | Clinical Trials designs expert – Frontier Science Foundation Hellas |

## 6. Research Papers

### Papers published in peer-reviewed journals

1. Karlis D., Xekalaki E. (1999) On testing for the number of components in finite Poisson mixtures. *Annals of the Institute of Statistical Mathematics,* **51,** 149-161.
2. Karlis D., Xekalaki E. (1998) Minimum Hellinger distance estimation for finite Poisson mixtures. *Computational Statistics and Data Analysis,* **29**, 81-103.
3. Karlis D., Xekalaki E. (1999). Improving the EM algorithm for mixtures. *Statistics and Computing,* **9,** 303-307.
4. Diamantidis N., Karlis D., Giakoumakis M. (2000) Unsupervised stratification of cross-validation for accuracy estimation. *Artificial Intelligence,* **116,** 1-16.

5. Karlis D., Xekalaki E. (2000) A Simulation Comparison of Several Tests for the Poisson Distribution. *Journal of the Royal Statistical Society Series D, The Statistician,* **49,** 355-382

6. Karlis D. and Ntzoufras J. (2000). On Modelling Soccer Data. Student ,3, 229-245.

7. Karlis D., Xekalaki E. (2001) Robust Testing And Diagnostics For Finite Poisson Mixtures Journal of Statistical Planning and Inference, 93, 93-115

8. Dellaportas P., Karlis D. (2001) A simulation approach to hierarchical models. International Statistical Review 69, 63-79.

9. Karlis, D. (2002) A general EM approach for maximum likelihood estimation in Mixed Poisson Regression Models. Statistical Modelling : An International Journal, 1, 305 – 318.

10. Karlis D., (2002). An EM Type Algorithm for ML estimation for the Normal –Inverse Gaussian Distribution. Statistics and Probability 57, 43-52

11. Karlis D., Xekalaki E. (2003) Choosing initial values for the EM algorithm for finite mixtures *Computational Statistics and Data Analysis, 41, 577-590*

12. Karlis, D. Kostaki, A. (2002) Bootstrap Techniques for Mortality Models *Biometrical Journal,* **44,** 696-712.

13. Karlis D. (2003) An EM Algorithm for Multivariate Poisson Distribution and Related Models. *Journal of Applied Statistics, 30, 63-77.*

14. Karlis, D., Saporta, G. and Spinakis A. (2003) A Simple Rule for the Selection of Principal Components. *Communications in Statistics- Theory and Methods,* **32**, 643 –666.

15. Karlis D., Xekalaki E. (2003) A Zero frequency alternative method to the moment method of estimation in Finite Poisson Mixtures*, Journal of Statistical Computation and Simulation,* **73,** *409-427.*

16. Iliopoulos, G. and Karlis, D. (2003) Simulation from the Bessel distribution with applications. *Journal of Statistical Computation and Simulation,* **73,** *491-506*

17. Karlis, D. (2003) Maximum Likelihood Estimation for Multivariate Shock Models. *Annals of the Institute of Statistical Mathematics,* **55,** , 817-830

18. Karlis, D and Ntzoufras, J. (2003) Analysis of Sports Data Using Bivariate Poisson Models. *The Statistician,* **52,** 381-393

19. Tsiamyrtzis, P. and Karlis, D. (2004) Strategies for efficient computation of multivariate probabilities. *Communications in Statistics – Simulation and Computation*, 33, 271 –293.

20. Brijs, T., Karlis, D. , G. Swinnen, K. Vanhoof and G. Wets and Manchanda, P. (2004 ) A Multivariate Poisson Mixture for Marketing Applications . *Statistica Neerlandica*, 58, 322-348.

21. Frangos, N. and Karlis, D. (2004) Modelling Losses using a Exponential-Inverse Gaussian Distribution. *Inusrance: Mathematics and Economics,* 35, 53-67

22. Karlis, D. and Lillestol, J. (2004) Bayesian estimation for the NIG distribution *Applied Stochastic Models in Business and Industry*, 20,323-338.

23. Karlis, D. and Xekalaki, E. (2005) Mixed Poisson Distributions. *International Statistical Review,* 73, 35-58

24. Karlis, D. (2005) An EM algorithm for mixed Poisson distributions. *ASTIN Bulletin*, 35, 3-24

25. Ntzoufras, I., Katsis, A. and Karlis, D. (2005) Bayesian Assessment of the Distribution of Insurance Claim Counts Using Reversible Jump MCMC. *North American Actuarial Journal, 9,* 90-108

26. Karlis, D. and Meligкotsidou, L. (2005) Multivariate Poisson Regression with Covariance Structure. *Statistics and Computing,* 15, 255-265

27. Karlis D. and Ntzoufras J. (2005). Bivariate Poisson and Diagonal Inflated Bivariate Poisson Regression Models R. *Journal of statistical Software*, vol 14, issue 10.

28. Iliopoulos, G., Karlis, D. and Ntzoufras, J. (2005). Bayesian estimation in Kibble's bivariate gamma distribution. *Canadian Journal of Statistics*, 33, 571-589

29. Karlis, D. and Ntzoufras, I. (2006)  Bayesian analysis of the differences of count data. *Statistics in Medicine 25, 1885-1905*

30. Geurts, K., Wets, G., Brijs, T, Van Hoof, K. , Karlis, D. (2006) Ranking And Selecting Dangerous Crash Locations: Correcting For The Number Of Passengers And Bayesian Ranking Plots. *Journal of Safety Research,* 37, 83-91

31. Brijs, T., Karlis, D.,  van den Bossche and Wets, G. (2006) A Model for Identifying and Ranking Dangerous Accident Locations: A Case-Study in Flanders. *Statistica Neerlandica, 60, 457-476*

32. Karlis, D. and Meligkotsidou, L. (2007) Finite multivariate Poisson mixtures with applications. *Journal of statistical Planning and Inference,*  137, 1942-1960

33. Karlis, D. and Patilea, V. (2007) Confidence Intervals of the hazard function for discrete distributions using mixtures. *Computational statistics and Data Analysis, 51, 5388-5401*

34. Nikoloulopoulos, AK, and Karlis, D. (2008)  On modeling count data: a comparison of some well known discrete distributions *Journal of Statistical Computation and Simulation,* 78, 437-457

35. Karlis, D., Rahmouni, M. (2007) Analysis of Defaulters' Behavior Using Poisson-Mixture Approach. *IMA Journal of Mathematics in Management,* 18, 297-311

36. Brijs, T., Karlis, D, Vad der Bosche, P and Wets, G. (2007). Bayesian Ranking of accident sites *Journal of the Royal statistical Society, Series A*  170, 1001-1017

37. Nikoloulopoulos, A.K and Karlis, D. (2008) Fitting copulas to bivariate earthquake data: the seismic gap hypothesis revisited. *Environmetrics*, 2008; 19: 251–269

38. Karlis, D. And Tsiamyrtzis, P. (2008). Exact Bayesian Inference for bivariate Poisson models *Statistics and Computing,* 18, 27-40

39. Karlis, D. and Patilea, V. (2008). Bootstrap confidence intervals intervals in mixtures of discrete distributions. *Journal of Statistical Planning and Inference,* 138, 2313-2329

40. Pavlopoulos, H. and Karlis, D. (2008)  INAR(1) Modelling of Overdispersed Count Series with an Environmental Application. *Environmetrics,* 19, 369-393

41. Karlis, D., Vasdekis, VSG, Banti, M. (2009) Heteroscedastic Semiparametric models for Domestic Water Consumption, *Ecological and Environmental Statistics,* 16, 355-267

42. Nikoloulopoulos, A.K. and Karlis, D. (2008) Copula model evaluation based on parametric bootstrap *Computational Statistics and Data Analysis,*52, 3342-3353

43. Karlis, D. and Santourian, A. (2009) Model Based Clustering with non-elliptically contoured distributions. *Statistics and Computing,* 19, 73-83

44. Brijs, T., Karlis, D. and Weets, G. (2008) An Integer Autoregressive Model to Study the Effect of Weather Conditions on Daily Car Accident Counts *Accident analysis and Prevention,* 40, 1180-1190

45. Karlis, D. and Ntzoufras, I. (2008) Bayesian modelling of football outcomes: Using the Skellam's distribution for the goal difference. *IMA Journal of Mathematics in Management, 20, 133-145*

46. Nikoloulopoulos, A.K. and Karlis, D. (2008). Multivariate logit copula model with an application to dental data. *Statistics in Medicine, 27,* 6393-406

47. Karlis, D. (2008) A note on the estimation of the Exponential Poisson distribution, a nested EM algorithm. *Computational Statistics and Data Analysiς, 53, 894-899*

48. Nikoloulopoulos, A.K. and Karlis, D. (2009) Finite normal mixture copula for m odeling multivariate discrete data. *Journal of Statistical Planning and Inference,* 139, 3878-3890

49. Nikoloulopoulos, A.K. and Karlis, D. (2010). Regression in a copula model for bivariate count data. *Journal of Applied Statistics*, 37, 1555-1568

50. K. Fragiadakis, D. Karlis and S. G. Meintanis (2009) Tests of Fit for Normal Inverse Gaussian Distributions. *Statistical Methodology*, 6, 553-564

51. Orfanogiannaki, K., Karlis, D. and Papadopoulos, J. (2009) Identifying seismicity patterns using Poisson Hidden Markov Models *Pure and Applied Geophysics,* 167, 919-931

52. Nikoloulopoulos, A.K. and Karlis, D. (2010). Modelling multivariate count data using copulas *Communications in statistics, Simulation and Computation,* 39, 172-187

53. Andersson J. and Karlis D. (2009) Treating missing values in INAR model with an application to syndromic surveillance *Journal of Time Series Analysis, 31,* 12-19

54. Pedeli, X. and Karlis, D. (2011) A bivariate Poisson INAR(1) model with application. *Statistical Modelling,*11, 325-349

55. Karlis, D. and Ntzoufras, I. (2011) Robust fitting for football prediction models. *IMA Journal of Mathematics in Management,* 22, 171-182

56. Ng, C.T., Joe, H., Karlis, D. amd Liu, J (2011) Composite Likelihood Methods for Time Series Models With A Latent Autoregressive Process *Statistica Sinica* **21**, 279-305

57. Bermudez, L. and Karlis, D. (2011) Bayesian multivariate Poisson models for assuming dependence in a ratemaking procedure. *Insurance: Mathematics and Economics*, 48, 226-236

58. Pedeli, X. and Karlis, D. (2012). On estimation for the bivariate Poisson INAR process *Communications in Statistics, Simulation and Computation,* **42**,3, 514-533

59. Perakis, K, Karlis, D, Cools, M., Jansen, D., Van Hoof, K. and Wets, G. (2011) A Bayesian Approach for Modeling Origin-Destination Matrices. *Transportation Research, Part A,* Vol 46, 200-212

60. Wikström, P-O.H., Tseloni, A. and Karlis, D. (2011) Do people comply with the law because they fear getting caught*? European Journal of Criminology,* 8, 401-420

61. Bermudez, L. and Karlis, D. (2012) A finite mixture of bivariate Poisson regression models with an application to insurance ratemaking. *Computational Statistics and Data Analysis,* 56 , 3988-3999

62. Fragiadakis, K., Karlis, d. and Meintanis, S. (2013) Inference procedures for the variance gamma model and applications. *Journal of Statistical Computation and Simulation,* 83, 555-567

63. Pedeli, X. and Karlis, D. (2013) On composite likelihood estimation of a multivariate INAR(1) model. *Journal of Time Series Analysis,* 34, 206-220

64. Arakelian, V. and Karlis, D. (2014) Clustering dependencies via mixtures of . *Communications in Statistics, Simulation and Computation.* 43, 1644-1661

65. Karlis, D. and Pedeli, X. (2013) Flexible bivariate INAR(1) model using copulas. *Communications in Statistics, Theory and Methods,* 42, 723-740

66. Ghitany, M., Karlis, D., Al-Mutiari, D. and Al-Awhadi, F. (2013) Expectation-Maximization algorithm for multivariate mixed Poisson regression models and its application Applied Mathematical Sciences, 6. 6843 – 6856

67. Poulopoulou, S., Karlis D and Dafni, U., Yiannoutsos, C. (2014) Phase II Design with Sequential Testing of Hypotheses within Each Stage. *Journal of Biopharmaceutical Statistics* 24(4), 768-784

68. Pedeli, X. and Karlis, D. (2013) Some properties of multivariate INAR(1) processes *Computational Statistics and Data Analysis,* 67, 213-225

69. Andersson, J. and Karlis, D. (2014) A Parametric Time Series Model with Covariates for Integers in Z. *Statistical Modeling Journal*, 14 (2), pp. 135-156

70. Perrakis, K., Karlis, D, Cools, M. and Janssen, D. (2015) Bayesian inference for transportation origin-destination matrices: the Poisson-inverse Gaussian and other Poisson mixtures *Journal of the Royal Statistical Society, Series A,* 178, 271-296

71. Orfanogiannaki, K., Karlis, D. and Papadopoulos, G. (2014) Identification of temporal patterns in the seismicity of Sumatra using Poisson Hidden Markov Models. *Research in Geophysics* volume 4:4969

72. Meintanis, S.G. and Karlis, D. (2014) Validation Tests for the Innovation Distribution in INAR Time Series Models *Computational Statistics* 29 (5), 1221-1241

73. O'Hagan, A., Murphy,B., Gormley, C., McNicholas, P. and Karlis, D. (2016) Clustering with the Multivariate Normal Inverse Gaussian Distribution *Computational Statistics and Data Analysis*, 93, 18-30

74. Dafni, U., Karlis, D., Smit, E., Peters, S. (2014) Second line treatment for EGFR wild-type advanced NSCLC: The Jury is Still out (Letter), Lung Cancer, 84(3), 314-315

75. Chesneau, C., Kachour, M. and Karlis, D. (2015) On some distributions arising from a generalized trivariate reduction scheme. Statistical Methodology, 25, 36-50

76. Kosmidis, I. and Karlis, D. (2016) Model Based clustering using copulas. Statistics and Computing 26, 1079-1099

77. Bermudez, L. and Karlis, D. (2017) A posteriori ratemaking using bivariate Poisson models. *Scandinavian Actuarial Journal,* (2), 148-158

78. Karlis, D., Papatla, P, Roy, S. (2016) Finite Mixtures of Censored Poisson Regression Models. *Statistica Neerlandica,* 70, 100-122

79. Sherene Loi, Urania Dafni, Dimitris Karlis, Varvara Polydoropoulou, Brandon M. Young, Scooter Willis, Bradley Long, Evandro de Azambuja, Christos Sotiriou, Giuseppe Viale, Josef Rüschoff, Martine J. Piccart, Mitch Dowsett, PhD13; Stefan Michiels, PhD14; Brian Leyland-Jones, (2016) Effects of Estrogen Receptor and Human Epidermal Growth Factor Receptor-2 Levels on the Efficacy of Trastuzumab A Secondary Analysis of the HERA Trial. *JAMA Oncology,* 2(8), 1040-1047

80. Orfanogiannaki, K. and Karlis, D. (2018) Multivariate Poisson Hidden Markov models with a case study of modelling seismicity. *Australian and New Zealand Journal of Statistics* **60**, 301-322

81. Bermúdez, L.,Karlis, D. and Santolino, M. (2017) A finite mixture of multiple discrete distributions for modelling heaped count data *Computational Statistics & Data Analysis*, **112**, 14-23

82. D Karlis, G Tzougas, N Frangos (2018) Confidence intervals of the premiums of optimal bonus malus systems, *Scandinavian Actuarial Journal*, 129-144

83. Cherny, N. I., Dafni, U., Piccart, M., Latino, N. J., Douillard, J. Y., Bogaerts, J., ... & Zielinski, C. (2018). Reply to "ESMO-MCBS v1. 1: Statistical and Patient Relevant Shortcomings" by R. Emprechtinger et al. Annals of Oncology.

84. Alexandridis, A. and Karlis, D.and Papastamos, D.and Andritsos, D. (2019) Real Estate valuation and forecasting in non-homogeneous markets: A case study in Greece during the financial crisis. *Journal of the Operational Research Society*, **70,** 1769-1783

85. Bermúdez, L., M. Guillén, Karlis, Δ. (2019) Allowing for time and cross dependence assumptions between claim counts in ratemaking models, *Insurance: Mathematics and Economics* **83**, 161-169

86. Bermúdez, L.,Karlis, D. and Santolino, M. (2018) A discrete mixture regression for modeling the duration of non-hospitalization medical leave of motor accident victims. *Accident Analysis & Prevention* **121**, 157-165

87. Cherny, N. I., de Vries, E. G., Dafni, U., Garrett-Mayer, E., McKernin, S. E., Piccart, M., ... & Bogaerts, J. (2018). Comparative Assessment of Clinical Benefit Using the ESMO-Magnitude of Clinical Benefit Scale Version 1.1 and the ASCO Value Framework Net Health Benefit Score. Journal of Clinical Oncology, **37**(4), 336-349.

88. Willis, S., Polydoropoulou, V., Sun, Y., Young, B., Tsourti, Z., Karlis, D., ... & Győrffy, B. (2018). Exploratory Analysis of Single-Gene Predictive Biomarkers in HERA DASL Cohort Reveals That C8A mRNA Expression Is Prognostic of Outcome and Predictive of Benefit of Trastuzumab. *JCO Precision Oncology*, **2**, 1-12.

89. Dafni, U., Michielin, O., Lluesma, S. M., Tsourti, Z., Polydoropoulou, V., Karlis, D., ... & Kammula, U. S. (2019). Efficacy of adoptive therapy with tumor-infiltrating lymphocytes and recombinant interleukin-2 in advanced cutaneous melanoma: a systematic review and meta-analysis. *Annals of Oncology*, **30,** 1902-1913

90. Pedeli, X. and Karlis, D. (2020) An integer-valued time series model for multivariate surveillance. *Statistics in Medicine*, **39**(7):940-954

91. Bermúdez, L., Karlis, D and Morillo, I. (2020) Modelling Unobserved Heterogeneity in Claim Counts Using Finite Mixture Models Risks **8**(1), 10

92. Tzougas, G. and Karlis, D. (2020) An EM Algorithm for Fitting Mixed Exponential Regression Models with Varying Dispersion. *ASTIN Bulletin* **50** (2). 555 - 583

93. Roick, T., Karlis, D, and McNicholas, P. (2020) Clustering Discrete Valued time series. *Advances in Data Analysis and Classification,* **15**(1), 209-229

94. Bermudez, L, and Karlis, D. (2021) Multivariate INAR(1) regression models based on the Sarmanov distribution. *Mathematics* **9**(5), 505

95. Tsamtsakiri, P. and Karlis, D. (2021). On Bayesian model selection for INGARCH models via transdimensional Markov chain Monte Carlo methods. *Statistical Modelling (to appear)*

96. Chutoo, A., Karlis, D., Mamode Khan, N. and Jowaheer, V. (2021) The Unilateral Spatial Autoregressive Process for the Regular Lattice 2-dimensional Spatial Discrete Data. *SORT-Statistics and Operations Research Transactions* **45**, 67-90

97. Karlis, D, Ntzoufras, I and Repousis, P. (2021) Mathematics Meet Sports. Editorial for the special issue in Mathematics in Sports. *IMA Journal of Management Mathematics* **32 (4),** 381-383.

98. Markatou, M., Karlis, D., & Ding, Y. (2021). Distance-Based Statistical Inference. *Annual Review of Statistics and its Application*, 8, 301-327

99. . Otting, M. and Karlis, D (2022) Football tracking data: a copula-based hidden Markov model for classification of tactics in football. *Annals of Operational Research* (to appear) https://doi.org/10.1007/s10479-022-04660-0

100. Y Fang, D Karlis, S Subedi (2022) Infinite mixtures of multivariate normal-inverse Gaussian distributions for clustering of skewed data. *Journal of Classification (to appear)*

101. Bermudez, L. and Karlis, D. (2022) Copula-based bivariate finite mixture regression models with an application for insurance claim count data. *Test (to appear)* https://doi.org/10.1007/s11749-022-00814-1

## 7. Submitted Papers

1. G Mazo, D Karlis, A Rau (2021) A randomized pairwise likelihood method for complex statistical inferences. https://hal.inrae.fr/hal-03126620/

2. Y Fang, D Karlis, S Subedi (2020) A Bayesian approach for clustering skewed data using mixtures of multivariate normal-inverse Gaussian distributions. arXiv preprint arXiv:2005.02585

3. Panagou, F., Karlis, D. and Kosmidis, I. (2021) Parsimonious model-based clustering using copulas for mixed mode data

4. Kekempanos, A. Karlis, D., Papastamos, D., Alexandridis, A. (2021) Prediction with limited information: an automatic valuation system approach with incomplete data for real estate application

5. Martzikos, N. , Karlis, D., Tsoukala, V. (2021) Mediterranean coastal storms and copulas modelling

6. Eleftheriou, D. and Karlis,D. (2021) Piecewise survival models: a change-point analysis on herpes zoster associated pain data revisited and extended
7. Chasiotis V. and Karlis, D. (2022) Subset selection for big data regression: an improved approach.
8. Karlis, D., Chutoo, A., Mamode Khan, N. and Jowaheer, V (2022) The Multilateral Spatial Integer-valued Process of order 1
9. Karlis D., Mamode Khan, N. (2022). Review on Models in Z.

## 8. Papers in Edited Volumes

1. Karlis, D and Xekalaki, E. (2003). Mixtures everywhere. In Stochastic Musings, ed J. Panaretos, pp 78-95.
2. Brijs, K., Vanhoof, K., Brijs, T. and Karlis, D (2006) Using Fuzzy Set Theory to Assess Country-of-Origin Effects on the Formation of Product Attitude. In Modelling Decisions in Artificial Intelligence, Lecture Notes in Computer Science (Artifical Intelligence), vol 3558, eds Torra, Vicenç; Narukawa, Yasuo; Miyamoto, Sadaaki, pp 138-149, Springer-Verlag Berlin-Heidelberg.
3. Karlis, D. and Xekalaki, E. (2008) The Polygonal Distribution, In. *Advances* in *Mathematical and Statistical Modeling in Honor of Enrique Castillo Arnold, B. C., Balakrishnan, N, Minués, M and Sarabia, J. M. (eds)*, Birkhauser: Boston, 21-33
4. Karlis, D. (2016) Modelling multivariate times series for counts. In *Handbook of Discrete-Valued Time Series, edited by Richard A. Davis, Scott H. Holan, Robert Lund, Nalini Ravishanker*, CRC Press, ISBN 9781466577732,
5. Karlis, D. (2018) Mixtures of discrete distributions. In *Handbook of mixture models*. pp 193-218
6. Karlis, D. and Orfanogiannaki K. (2020) Markov Regression Models for Time Series of Earthquake Counts. In "Statistical Methods and Modeling of Seismogenesis", edited by Nikolaos LIMNIOS, Eleftheria PAPADIMITRIOU and George TSAKLIDIS.

## 9. Conferences Proceedings

1. Xekalaki E., Karlis D.(1995) Testing hypotheses in Poisson family distributions. *Proceedings of the 51th World conference of the International Statistical Institute, pp 1301-1302, Behing, China, August 1995*
2. Xekalaki E., Karlis D., (1998) Conditions for zero values of the Likelihood Ratio Test when testing for a Poisson mixture, *Proceedings of the Applied Statistical Modeling Conference, New Orleans, 396-403*
3. Karlis D., Xekalaki E (1998) An improvement of the EM algorithm for finite Poisson mixtures. *Proceeding of HERCMA 98, Athens, 596-604*
4. Karlis D., Ntzoufras I. (1998) Statistical Modelling for Soccer Games. *Proceedings of HERCMA 98, Athens, 541-548*
5. Karlis, D. (2001) The Normal-Inverse Gaussian Distribution and its application to financial data. 14 th *Panhellenic Conference in Statistics, Skiathos, April, 2001.*

6.  Karlis, D., Saporta, G., Spinakis, A. and Anastasiou, G. (2001) On a statistical package for non-expert users. *Proceedings of the ETK-NTTS 2001 Conference, Crete, 18-22 June 2001, pp 903-905*

7.  Yiokari, N., Xekalaki, E. and Karlis, D. (2001). "On Some Discrete-Valued Time Series Models Based on Mixtures and Thinning", *Proceedings of HERCMA 2001, Athens*, 872-877.

8.  Karlis, D. and Xekalaki, E. (2001).Maximum Likelihood Estimation For Integer Valued Time Series Models with an Environmental Application. *Proceedings of HERCMA 2001, Athens*, 778-783 .

9.  Karlis, D. (2002) Models based on the Normal-Inverse Gaussian distribution. *Proceedings of the 17th International Workshop on Statistical Modelling, eds Stasinopoulos and Touloumi, pp 375-382*

10. Karlis, D. and Ntzoufras, I. (2003)  Bayesian and non-Bayesian analysis of soccer data using bivariate Poisson regression model. Proceedings of the 16th Pan-Hellenic Conference in Statistics, Kavala,  pp 605-613

11. Karlis, D. and Meligkotsidou, L. (2003) Model Based Clustering for multivariate Count Data. *Proceedings of the 18th International Workshop on Statistical Modelling,Leuven, Belgium eds Lessaffre, Verbeke, Moolenbergs, pp 375-382*

12. Brijs T., Karlis D., Van den Bossche F. and Wets G. (2003). A Bayesian Model for Ranking Hazardous Sites.  In: Proceedings of the 11th Symposium Statistical Software, organized by the Royal Dutch Academy of Sciences, November 6, Amsterdam, The Netherlands. Pp 55-72. ISBN:90-8084-16-1-7.

13. Ntzoufras, I.,, Katsis, A., and Karlis, D. (2003), A Bayesian Statistical modelling for the distribution of Insurance Counts.  In T.E. Simos (ed). Computational Methods in Sciences and Engineering, Proceedings of the International Conference 2003 (ICCMSE 2003), World Scientific Publishing Co. Pte. Ltd. Singapore: pp. 470-473.

14. Karlis, D. and Tsiamyrtzis, P.(2004) Exact Bayesian inference for bivariate Poisson data. *Proceedings of the 19th International Workshop on Statistical Modelling, Firenze, July 2004, eds Biggeri et al.,* pp 435-439. (ISBN 88  - 8453-193-4)

15. Nikoloulopoulos, A.K. and Karlis, D. (2006) Modelling multivariate count data using copula functions. COMPSTAT 2006 - Electronic Proceedings in Computational Statistics 17th Symposium Held in Rome, Italy, 2006. Rizzi, Alfredo; Vichi, Maurizio (Eds.). ISBN: 3790817082.

16. Karlis, D. Sermaidis, G. and Brijs, T. (2007) Discrete valued time series models for examining weather effects in daily accident counts. *Proceedings of the 22th International Workshop on Statistical Modelling, Barcelona, July 2007, eds De Castillo  et al.,* pp 368-373. (ISBN  978-84-690-5943-2)

17. Poulopoulou S. - Karlis D. - Yiannoutsos CT. – Dafni U. (2009)  Optimal multi-stage phase II design with sequential testing within each stage for evaluating response rates and survival probabilities.  323-330 Πρακτικά 22ου Πανελληνιου Συνέδριου στατιστικής, Χανιά Απρίλιος 2009

18. Pedeli, X. and Karlis, D. (2010) On composite likelihood estimation of a multivariate Poisson INAR(1) model. *Proceedings of the 25th Workshop in statistical Modelling, July 2010, Glaskow*, pp 429-432

19. Poulopoulou S., Karlis D. , Yiannoutsos CT.  Dafni U.  (2010) Adaptive Hypothesis multi-stage Phase II design. Πρακτικά 23ου Πανελληνιου Συνέδριου στατιστικής, Βέροια Απρίλιος 2010

20. Poulopoulou S. Karlis D. Yiannoutsos CT. Dafni U. (2011) Adaptive Phase II design for evaluating survival probabilities Πρακτικά 24ου Πανελληνιου Συνέδριου στατιστικής, Πάτρα Απρίλιος 2011

21. L. Bermúdez, D. Karlis (2012) How to deal with unobserved heterogeneity when modelling bivariate claim counts, Proceedings of Actuarial and Financial Mathematics Conference 2012, 65-71

22. Perrakis, K., Cools, M., Karlis, D., Janssens, D., Kochan, B., Bellemans, T., & Wets, G. (2012). Quantifying Input Uncertainty in Traffic Assignment Models. In *Proceedings of the 91st Annual Meeting of the Transportation Research Board (DVD-ROM). Transportation Research Board of the National Academies.*

23. OIKONOMOMPOULOU G., KARLIS D.: (2013) Statistical modeling of social networks: An application to co-authorship data. Πρακτικά 26ου Πανελλήνιου Συνέδριου Στατιστικής, Πειραιας, Απρίλιος 2013, σελ. 302-310

24. ORFANOGIANNAKI K., KARLIS D: (2013) Hidden Markov models in modelling time series of earthquakes. Πρακτικά 26ου Πανελλήνιου Συνέδριου Στατιστικής, Πειραιας, Απρίλιος 2013, σελ. 312-321

25. L. Bermúdez, D. Karlis (2014) Risk classification for claim counts using finite mixture models. Proceedings of Actuarial and Financial Mathematics Conference 2014, 71-76

26. Lluís Bermúdez, Montserrat Guillén and Dimitris Karlis. (2015) A bivariate INAR(1) model for insurance claim counts International Conference on Risk Analysis ICRA 6 / RISK 2015 Barcelona, May 26 - 29, 2015, pp 143-151

27. Lluís Bermúdez, Dimitris Karlis and Miguel Santolino (2015). A finite mixture of multiple Poisson distributions for modelling days of absence from work due to motor accident International Conference on Risk Analysis ICRA 6 / RISK 2015 Barcelona, May 26 - 29, 2015, pp 153-160

28. Tripodis, C. and Karlis, D. (2019) HIERARCHICAL FORECASTING IN GREEK CONVENIENCE RETAIL INDUSTRY Proceedings of the 32nd Panhellenic Statistics Conference, pp.392-406

29. Tsamtsakiri P and Karlis, D. (2019) Bayesian analysis for INGARCH models. Πρακτικά 31ου Πανελλήνιου Συνέδριου Στατιστικής, Lamia, May 2018,

30. Tsamtsakiri, P., & Karlis, D. (2019). Bayesian model selection for a family of discrete valued time series models. In 21st European Young Statisticians Meeting (Vol. 26, No. 1, p. 52).

## 10. **Other Conferences (**With presentation by myself)

1. Karlis, D Dellaportas P (1997) Bayesian Estimation for finite Poisson mixtures. 4th Practical Bayesian Conference, Nottingham, July 1997

2. Karlis D., Xekalaki E (1998) Maximum Likelihood Estimation For The Poisson-Binomial Distribution Via The EM Algorithm With Environmental Applications. *SESS- TIES Conference, Athens, August 1999*

3. Karlis D. (2000) Exact ML estimation for Mixed Poisson Regression Models. *Euroworkshop on Mixed Models, Munich, November 2000*

4. Karlis, D. and Xekalaki, E. (2001) Choosing initial values for the EM algorithm for finite Poisson mixtures: A simulation comparison. *Mixtures 2001 Conference, Hamburg, July 2001*

5.  *Karlis, D. (2002 Model based clustering for count data. 15th *Panhelenic Conference in Statistics , Ioannina,  May 2002*

6.  Karlis, D. (2002) Overdispersed Integer Valued Autoregressive Models. *In COMPSTAT 2002, Berlin, August 2002.*

7.  Karlis , D. and Tsiamyrtzis, P. (2004). Exact Bayesian Inference for Bivariate Poisson data. *2nd International Workshop in Applied Probability*, Pireaus, Greece, March 2004.

8.  Karlis, D. and Papadimitriou A. (2004) Inference for the multivariate Normal Inverse Gaussian Model.  *17th Panhelenic Confenrence in Statistics, Lefkada, April 2002.*

9.  Karlis, D. and Patilea, V. (2005)  Bootstrap confidence intervals for reliability measures for discrete distributions. 3rd IASC Conference, Limassol, Cyprus, 28-31 October 2005

10. Karlis, D. (2006) Time Series Models for accident count data. Transportation Research Board Conference, Washington DC, January 2006 (invited presentation)

11. Karlis, D. and Nikoloulopoulos, A.K. (2007) Copula Functions for Modelling Multivariate Binary Data, 4th Eeastern Mediteranean Regions biometrics Conferences, Eilat, Israel, 22-25 January, 2007 ( Invited)

12. Karlis, D. and Patilea, V. (2007). A sieve nonparametric maximum likelihood estimator in mixtures of discrete exponential families. German classification society Conference, (GFKL) Freiburg, 7-9 March.

13. Karlis, D. and Arakelian, V. Mixtures of copulas and their applications in clustering.  German classification society Conference, (GFKL) Freiburg, 7-9 March.

14. Karlis, D. and Ntzoufras, I. (2007) Bayesian modeling of football outcomes. IMA Conference on mathematics in sports, Manchester, june 2007.

15. Karlis, D. and Andersson, J. (2008)  Missing data for discrete valued time series. COMPSTAT 2008, Porto, Portugal, August 2008.

16. Karlis, D. and Andersson, J. (2008) Missing Values in Discrete Valued Time Series Models, 4th IASC Conference, Yokohama, Japan, December 2008

17. Karlis, D. (2008) On modeling multivariate count data. NIPS, Workshop, December, 2008, Whistler Canada (invited)

18. Karlis, D. and Ntzoufras, I. (2009) Robust fitting of soccer prediction models. 2nd Conference Mathematics in Sports, Groningen, The Netherlands

19. Karlis, D. and Andersson, J. (2009) Time series processes in Z: a ZINAR process. Workshop on Integer valued Time series, Aveiro, 3-5 September, 2009

20. Karlis, D, Arakelian, V. (2009) Clustering dependencies via mixture of copulas. 5th ERCIM, Limassol, Cyprus, October, 2009

21. Karlis, D. (2010) Model Based Clustering using copulas. Workshop on Model Based Clustering, Grenoble, INRIA, July 2010

22. Karlis, D. (2010) Multivariate Integer Autoregressive Models. In 7th Conference for Multivariate Distribution and Applications, Maresias, Sao Paolo, Brazil, August 2010

23. Karlis, D. and  Urania Dafni (2010)  Estimation of Survival Curves in the Case of "Time Varying Treatment". Symposium in honor of Steve Lagakos, Athens, October 2010.

24. Karlis, D. (2011) Model based clustering via copulas. 24th Conference of Greek Statistical Institute. Patras, 28 April, 2011

25. Karlis, D. and Orfanogiannaki, K. (2011) Multivariate Hidden Markov Models for modeling earthquakes. STATSEI 7 , Santorini, May 2011

26. Karlis, D. and Orfanogiannaki, K. (2011) Multivariate Hidden Markov Models for count data 2nd International Workshop on Integer Valued Time Series, Cyprus, June 2011

27. Karlis, D. and Ntzoufras, I. (2011) Bivariate Skellam distributions with applications to soccer modeling and betting. $3^{rd}$ IMA Conference in Mathematics in Sports, Manchester, UK, June 2011

28. Karlis, D. (2011) Modelling Health Surveillance Data via multivariate discrete time series models. CEIB 2011, XII Spanish-Iberoamerican Conference of Biometrics, Barcelona, September 2011 (invited)

29. Karlis, D. (2012) Composite Likelihood Methods for Discrete Valued Time Series. Workshop on Composite Likelihood, Banff, Canada, April, 2012, (participation by invitation only)

30. Karlis, D. and Kosmidis, I. (2012) Mixture modelling through copulas. Workshop on model based clustering. Guelph Canada, July 2012

31. Karlis, D. (2013) Clustering Longitudinal Count Data. $7^{th}$ EMR-IBS conference, Tel Aviv, April 2013

32. Dafni, U, Karlis, D and Polydoropoulou, V. (2013) Randomization: To Block or Not To Block, $7^{th}$ EMR-IBS conference, Tel Aviv, April 2013

33. Karlis, D. (2013) Multivariate count data with censoring, $26^{th}$ Conference of Greek Statistical Institute. Pireus, 9 May, 2013

34. Karlis, D. (2013) Clustering Longitudinal Count Data. XIV Spanish Biometrics Conference, Ciudad Real, May 2013

35. Karlis, D., Poulopoulou, S., Dafni, U. (2014) Single-arm Phase II design for time-to-event endpoint based on Edgeworth expansion. 27th International Biometric Conference, Firenze, July 2014

36. Karlis, D. (2014) Model Based clustering for censoring count data. Workshop on Model Based Clustering, Dublin July 2014.

37. Karlis, D. and Pedeli, X. (2015) Modelling multivariate time series of earthquake data: selection of covariance structure. $28^{th}$ Conference of Greek Statistical Institute. Athens, April, 2015

38. Karlis, D., Dafni, U, Pedeli, X. (2015) Adaptive Designs for Phase II clinical Trials. $8^{th}$ EMR-IBS Conference, Nevsehir, Turkey, May 2015

39. Karlis, D. and Pedeli, X. (2015) Selection of covariance structure for multivariate count time series of earthquake data. 3rd Workshop on Statistical Modelling of Complexly Correlated Data with Applications, University of Prince Edwards Island, Canada, June 2015 (by invitation)

40. Karlis, D (2015) On Multivariate Time Series for Counts Based on Multivariate Integer Autoregressive models. (Invited Session, 43rd Annual Meeting of the Statistical Society of Canada, Halifax, Canada, June 2015)

41. Karlis, D. (2015) Clustering discrete valued time series, 3rd Meetings of Statistics, Athens June 2015

42. Karlis, D. (2015) Robust modelling in Soccer. $5^{th}$ Mathsport International Conference, Loughborough, UK, July 2015/07/06

43. Karlis, D., Dafni, U, Pedeli, X. (2015) A new adaptive design for Phase II Clinical Trials. XVth Spanish Biometrics Society Conference. Bilbao, September 2015

44. Karlis, D. (2016) Model Based Clustering using copulas, recent advances. Workshop on Model Based Clustering, Paris, July 2016

45. Karlis, D, Bermudez, L and Santoolino, M. (2016) On mixtures of multiple discrete distributions with application. International Conference on Statistical Distributions and Applications, ICOSDA 2016, Oct. 14-16, 2016, Niagara Falls, Canada

46. Karlis, D. (2016)  Statistical modeling and Prediction for Football Games, Workshop on Sports Analytics, November, 2016

47. Karlis, D. (2016) Sports Analytics, Conference of the Greek Society of Administration in Sports, Athens, December 2016.

48. Karlis, D., Bermudez, L. and Santolino, M.  (2017) Multiple discrete distributions for modelling heaped count data  in health insurance. 9th EMR-IBS Conference, Thessaloniki, May 2017

49. Karlis, D. (2017) Clustering discrete time series data via model based clustering. Working Group on Model Based Clustering, Perugia, July 2017

50. Karlis, D., Manasis, V, and Ntoufras, I. (2017) On the stochastic nature of indices of competitive balance. Conference on Mathematics in Sports, Padova, June 2017

51. Karlis, D., (2017) Clustering with copulas: Some new results. Statistics4@Florence, June 2017

52. Karlis, D. (2017)  Models  for Football Games, 2$^{nd}$  Workshop on Sports Analytics, November, 2017

53. Karlis, D (2018) Modelling Longitudinal discrete data with a BINAR Regression model, 31$^{st}$ Panhellenic Conference of Statistics, Lamia, May 2018

54. Karlis, D. (2018) Advances on time series for multivariate counts, (invited talk) Multivariate Count Analysis, July 2018 Besancon, France

55. Karlis, D., Stavropoulos, C. and Dafni U. (2018) Adaptive clinical trial designs for survival outcomes considering the proportionality of hazards assumption. XXIXth International Biometric Conference, Barelona, 2018

56. Karlis, D.  (2018) On modelling multivariate time series of counts. COMPSTAT 2018, Iasi, Romania, Augist 2018

57. Karlis, D (2018) Model Based Clustering through copulas for high dimensional data.Keynote Lecture, Workshop on Model-BasedClustering and Classification, Catania, Italy Septembr 2018

58. Karlis, D (2018) Modelling time series of multivariate counts with applications (invited Talk) . Fifth Workshop on "Recent Developments in Dependence Modelling with Applications in  Finance and Insurance "13-14 September 2018, The Island of Aegina.

59. Karlis, D. (2017)  Models  for inplay prediction in soccer, 3$^{rd}$  Workshop on Sports Analytics, November, 2018

60. Karlis, D. (2018) Exact Methods for clinical trials with discrete outcome. 10$^{th}$ EMR-IBS Conference, Jerusalem, December 2018

61. Karlis, D. (2018) Parsimonious Model Based clustering with copulas. Greek Stochastics, Kappa, Athens December 2018

62. Karlis, D., Dafni, O. and Dimopoulou, G. (2019) Clinical trials with discrete outcomes: an exact approach. ISCB40, Leuven July 2019

63. Karlis, D., Alexandridis, A.. and Papastamos, D. (2019) "Automatic Mass Valuation for Non-Homogeneous Housing Markets". 39th International Symposium on Forecasters, Thessaloniki, Grece, 16-19 June 2019.

64. Karlis, D. (2019) Clustering Discrete Valued Time Series, 32nd Panhellenic Statistcs Conference, Ioannina, June 2019

65. Karlis, D. and Tzougas, G. (2019) Using the Poisson-Lognormal Regression Model with Varying Dispersion to analyze soccer data. 7th Mathsports International Conference, July 2019, Athens

66. Karlis, D., Kosmidis, I. and Panagou, F. (2019) Model based clustering through copulas: parsimonious models for mixed mode data. 16th Conference of the International Federation of Classification Societies

67. Karlis, D. (2020) A family of discrete distributions for modeling heaped count data. Sixth International Conference on Statistics for Twenty-first Century-2020 [ICSTC-2020] (Virtual, Kerala, India)

68. Karlis, D. (2021) Model based clustering through copulas: parsimonious model. MiMo 2021 : Workshop on Mixture Models. Rouen (virtual)

69. Karlis, D. and Otting, M. (2021) Using player tracking data in football analysis. Euro2021, European Conference in Operational Research, (virtual)

70. Karlis, D, Dafni, U. and Zygoura, P. (2022) An adaptive design to handle deviations from proportionality assumption

71. Dimitris Karlis, Urania Dafni and Panagiota Zygoura, XVIII Congreso de Biometría CEBMADRID Madrid, May 25-27, 2022

72. Karlis, D. (2022) Modelling basketball data: some new results, 6th Workshop on Sports Analytics, May 2022, Athens.

73. Karlis, D., Dafni, U, Zygoura, P. and Dellaporta M.T. (2022) Adaptive designs based on testing for proportional hazards. IBC 2022, Riga Latvia.


## Coauthor presented

1. Brijs, T., Karlis, D., Swinnen, G., Vanhoof, K., and Wets, G. (2002), Tuning the multivariate Poisson mixture model for clustering supermarket shoppers, at: *Statistical Modelling and Inference for Complex Data Structures, poster paper, Louvain-La-Neuve, May 21-23.*

2. Iliopoulos, G. and Karlis, D. (2002) Simulation from the Bessel distribution with applications. *$15^{th}$ Panhelenic Confenrence in Statistics , Ioannina, May 2002*

3. Tsiamyrtzis, P. and D. Karlis (2003). Strategies for efficient computation of multivariate Poisson probabilities. *Recent Advances in Statistical Designs and Related Combinatorics, Athens 7-9 of July 2003, conference in honour of Prof. St. Kounias.*

4. Patilea, V and Karlis, D. (2003). Intervalles de confiance bootstrap pour les mélanges des lois discrètes $34^{th}$ Conference of France Statistical Society, Lyon, June 2003

5. Brijs T., Karlis D., Van den Bossche F. and Wets G. (2004). A Bayesian Model for Ranking Hazardous Sites. CORS/INFORMS Joint International Meeting, Banff, Canada, 16-19 May 2004.

6. Karlis, D and Nikoloulopoulos, A. (2005) Modelling bivariate count data using copulas. $3^{rd}$ EMR-IBS Conference, Corfu, May 2005

7. Ntzoufras, I. and Karlis, D. (2005). Bayesian modelling of Poisson difference data. $3^{rd}$ EMR-IBS Conference, Corfu, May 2005

8. Nikoloulopoulos, A.K. and Karlis D. (2006). Modelling multivariate binary data using copulas. $19^{th}$ Panehellenic Conference in statistics, Kastoria, Greece, April 2006

9. Ntzoufras, I. and Karlis, D. (2005) Bayesian analysis of bivariate count data. . 3rd IASC Conference, Limassol, Cyprus, 28-31 October 2005

10. Xekalaki, E. and Karlis, D. (2006) The Polygonal Distribution . International Conference on Mathematical and Statistical Modelling in Honour of Enrique Castillo (ICMSM 2006)

11. Arakelian, V. and Karlis, D. (2006) Financial applications of flexible copula families based on mixing. 12th International Conference On Computing In Economics And Finance Limassol, Cyprus, June 22-24, 2006

12. Orfanogiannaki K., Karlis, D. and G. Papadopoulos (2006) Identification of seismicity patterns in Sumatra using Poisson Hidden Markov models. 11th International Symposium on Natural and Human Induced Hazards & 2nd Workshop on Earthquake Prediction University of Patras, Greece, 22-25 June 2006

13. Nikoloulopoulos, A.K. and Karlis, D. (2007) Finite normal mixture copula for modelling multivariate discrete data. IAP Workshop on statistical Inference for dependent data, Hasselt, Belgium, 26-27 April, 2007.

14. K. Orfanogiannaki, D. Karlis and G.A. Papadopoulos (2007) Application of Poisson Hidden Markov Models on Foreshock Sequences: The Cases of Samos, October 2005, And Zakynthos, April 2006, Earthquakes ASMDA 2007, Chania

15. Nikoloulopoulos,A.,K. and D. Karlis: (2007) Finite Normal Mixture Copula for Modelling Multivariate Discrete Data. The 6th Conference on Multivariate Distributions with Fixed Marginals and Given Dependence Structure, Tartu, Estonia, June 2007

16. Jonas Andersson and Dimitris Karlis (2008) Treating missing values in INAR(1) models International Workshop in Recent Advances in Time Series Analysis University of Cyprus, Cyprus, June 2008

17. Pedeli, X. and Karlis, D. (2009) A Bivariate Integer Autoregressive Model. 5th EMR-IBS conference, Istanbul, May 2009

18. Bermudez-Morata, L. and Karlis, D. (2009) Modelling Dependence in a Ratemaking Procedure Using Bayesian Multivariate Poisson Regression Models. 13th Conference in Insurance: Mathematics and Economics, Istanbul, May 2009

19. Ghitany, M, Karlis, D. AL-Mutairi, D. (2010) Multivariate Poisson-Inverse Gaussian Regression Model. In The 7th Conference on Multivariate Distributions with Applications, Maresias, Sao Paolo, Brazil, Ausust 2010

20. Pedeli, X. and Karlis, D. (2010) On Some Multivariate Integer-Valued Autoregressive Models. 28th European Meeting of statisticians, Athens Greece, August 2010.

21. Bermúdez, L. and Karlis, D. (2010) "Mixture of bivariate Poisson regressions with an application to insurance" 3rd International Conference of the ERCIM WG on COMPUTING & STATISTICS (ERCIM'10), London (United Kingdom), December 10- 12.

22. Orfanogiannaki, K. and Karlis, D. (2010) Multivariate Hidden Markov Models for discrete data. 28th European Meeting of Statisticians, Athens Greece, August 2010

23. Pedeli, X. and Karlis, D. (2011) On a Modified Bivariate INAR(1) Process 2nd International Workshop on Integer Valued Time Series, Cyprus, June 2011

24. Bermúdez, L. and Karlis, D. (2011) "Mixture of Bivariate Poisson Regressions with an Application to insurance" IV Conferencia anual UB-IREA, Barcelona (March, 14).

25. Bermúdez, L. and Karlis, D. (2011) "Actuarial implications when modelling bivariate claim counts" 4th Workshop on Risk Management and Insurance, RIESGO 2011, Seville (October, 20-21).

26. Urania Dafni and Dimitris Karlis (2011) Graphical Presentation for the Cox Model with Time-Varying Covariates ICSA 2011 Applied Statistics Symposium, June 26-29, 2011

27. I. Kosmidis and D. Karlis (2011) Model-based clustering via copulas. ERCIM 2011, London, December 2011

28. I. Ntzoufras and D. Karlis (2013) Modeling goal arrival times in association football. 4th Conference in Mathematics in Sports, Leuven 6-8 June, 2013.

29. Bermudez, L. and Karlis, D. (2013) A posteriori ratemaking using bivariate Poisson models. The 17th International Congress on Insurance: Mathematics and Economics July 1-3, 2013 Copenhagen

30. Pedeli, X and Karlis, D. (2014) Count time Series model for syndromic surveillance and outbreak detection. 27th International Biometric Society Conference, Florence, July 2014

31. Sudipt Roy, Purushottam Papatla, Dimitris Karlis (2014) Do Supplements Increase Customer Retention? Investigation with a Copula for Multivariate Poisson Renewals, 2014 INFORMS Marketing Science Conference

32. Chanialidis, C., Friel, N., Karlis, D., and Ntzoufras, I. (2015) Analysis of soccer data using COM-Poisson regression models. 5th Mathsport International Conference, Loughborough, UK, July 2015

33. Bermudez, L, Guillen, M. and Karlis, D. (2017)A bivariate regression model for panel count data21st International Congress onInsurance: Mathematics and Economics - IME 2017 Vienna,July 3–5, 2017

34. Tzougas, G. Karlis, D. and Frangos, . (2017) Confidence Intervals of the Premiums of Optimal Bonus-Malus Systems.21st International Congress on Insurance: Mathematics and Economics - IME 2017 Vienna,July 3–5, 2017

35. Bermudez, L., Karlis, D.and Santolino, M. (2017) Modelling work disability days data for workers compensation insurance21st International Congress on Insurance: Mathematics and Economics - IME 2017 Vienna,July 3–5, 2017

36. Eleftheriou, D. and Karlis, D. (2017) On detecting the change-points in piecewise regression models 9th EMR-IBS Conference, Thessaloniki, May 2017

37. Panagou, F. and Karlis, D. (2017) Use of Gaussian copula for clustering mixed mode data 30th Panhellenic Conference in Statistics, Pyla, Cyprus, April 2017

38. Bermudez, L, Guillen, M. and Karlis, D. (2017) A bivariate INAR(1) regression model for insurance claim counts Workshop on "Recent Developments in Dependence Modelling with Applications in Finance and Insurance" 22-23 May 2017, The Island of Aegina

39. Orfanogiannaki, K, Karlis,D. and G. A. Papadopoulos (2017) Developing earthquake probability forecasts from statistical models: The case study of the Killini region, Western Greece. Safe Athens 2017, New Technologies for Civil Protection, Athens June 2017

40. Alexandridis, A.K., Karlis, D., Papastamos, D., (2017). "Real Estate valuation and forecasting in non-homogeneous markets: A case study in Greece during

the financial crisis." In: 7th International Conference of the Financial Engineering and Banking Society. Glasgow, Scotland, 1st -3rd June, 2017

41. Papastamos, Dimitrios, Antonis Alexandridis, and Dimitris Karlis. "Real Estate valuation and forecasting in non-homogeneous markets: A case study in Greece during the financial crisis." In 24th Annual European Real Estate Society Conference. ERES: Conference. Delft, Netherlands, 2017.

42. Tsamstakiri, P, and Karlis, D (2018) Bayesian Estimation for Poisson INGARCH model, 31$^{st}$ Panhellenic Conference of Statistics, Lamia, May 2018

43. Dafni U., Zygoura, P, Karlis, D., (2018) Statistical assessment of the characteristics of the ESMO Magnitude of Clinical Benefit Scale (ESMO-MCBS) threshold rules XXIXth International Biometric Conference, Barelona, 2018

44. Bermudez, L. and Karlis, D. (2018) Bivariate Random Effects Models for Panel Count Data. 4th European Actuarial Journal Conference, Leuven, September 2018

45. Vervita K., Karlis, D, Dafni U. (2018) Mixture of Weibull Regressions as Parametric Models for flexible Hazard functions. 10th EMR-IBS Conference, Jerusalem, December 2018

46. Zygoura, P. Dafni U and Karlis, D (2018) Comparative Assessment of clinical benefit using the ESMO_ Magnitude of Clinical Benefit Scale and the ASCO value framework net health benefit score. 10th EMR-IBS Conference, Jerusalem, December 2018

47. Dafni, U, Karlis, D., Zygoura, P. (2018) Statistical development of the dual rule for evaluating the magnitude of clinical benefit (ESMO_MCBS) 10th EMR-IBS Conference, Jerusalem, December 2018

48. Leriou, I., Ntzoufras, I. and Karlis, D. (2019) Survival Modelling of Goal Arrival Times in Champions League. 7th Mathsports International Conference, July 2019, Athens

49. Tripodis, C. and Karlis, D (2019) Hierarchical Forecasting in Greek Convenience retail industry. 32nd Panhellenic Statistics Conference, Ioannina, June 2019

50. Tsamtsakiri, P and Karlis, D. (2019) A new bivariate INGARCH model based on Sarmanov Distributions. 32nd Panhellenic Statistics Conference, Ioannina, June 2019

51. Tsamtsakiri, P and Karlis, D. (2019) Construction of Bivariate distributions with flexible structure. Statistics @Aegina 5th Greco-Italian Meeting of Statistics, Aegina, September 2019

52. Otting, M and Karlis, D (2021) Analysing football tactics using high-frequency tracking data, 8$^{th}$ Mathsports International Conference (virtual)

53. Bermudez, L and Karlis, D. (2021) Ratemaking Based on Finite Mixture of Regressions and a Classification Rule 24th International Congress on Insurance: Mathematics and Economics (IME) (virtual)

54. Zygoura, P., Karlis, D, Dafni, U. and On a composite endpoint for cancer studies , XVIII Congreso de Biometría CEBMADRID Madrid, May 25-27, 2022

55. Chasiotis, V and Karlis, D (2022) Subdata Selection for big data regression. 34th Panhellenic Statistics Conference

56. P. Tsamtsakiri, D. Karlis (2022) A novel conditional autoregressive range model. 34th Panhellenic Statistics Conference

57. Bermudez, L. and Karlis, D. (2022) Modelling bivariate claim count data using a finite mixture of regressions and a classification rule. 10th International Hybrid Conference on MATHEMATICAL AND STATISTICAL METHODS FOR ACTUARIAL SCIENCES AND FINANCE MAF2022, University of Salerno, 20-22 April 2022

## 11. Citations

Scholar google account
https://scholar.google.gr/citations?user=imkGH5wAAAAJ&hl=el&oi=ao

|           | All  | Since 2017 |
|-----------|------|------------|
| Citations | 5881 | 3062       |
| h-index   | 40   | 29         |
| i10-index | 89   | 62         |

Accessed in 21st of September, 2022

## 12. Invited Talks

- Multivariate Poisson models: Invited talk in the Department of Applied Economics, University of Diependeek, Limburg, Belgium. (23 October 2002)
- Short course on Bayesian Statistics: Department of Applied Economics, University of Diependeek, Limburg, Belgium. (13-14 February 2003)
- An introduction to Bootstrap: short course during the 17th Panhellenic Statistical Conference Lefkada, April 2004.
- Issues in statistical Credit scoring, Norwegian Business School, Bergen, Norway (30 April, 2004)
- Advanced Statistical models in credit scoring. Department of Applied Economics, University of Diependeek, Limburg, Belgium. (May 2004)
- On modelling multivariate count data, Department of Biostatistics, Katholik Universitair Leueven, April (2005)
- Model Based Clustering for non-elliptical distributions. Invited talk in Dept of Mathematics and Statistics, University of Lancaster, 27 June, 2007
- Treating missing values in INAR model with an application to syndromic surveillance, 18 April, 2008, Center for Statistics, University of Hasselt.
- Statistical modeling for soccer data. Norwegian School of Economics and Business Administration, Bergen, Norway, September 2008
- Missing Data for discrete time series models. 12 December 2008, Dept of Statistics, University of British Columbia, Canada
- "Mixed Poisson Distribution" 18 October, 2009, Department of Statistics and Operational Research, University of Kuwait, Kuwait City.
- "On models for multivariate count data", February 4th, 2010, University of Barcelona

- "Modeling multivariate time series for counts" on September, 2010, University of Hasselt
- "Multivariate Integer values autoregressive models" on October 2011, University of Laval, Quebec city
- "Composite Likelihood methods for discrete valued time series" on October 2011, University of Quebec at Montreal,
- "Modelling multivariate time series for counts", on March, 2012, University College London.
- "On multivariate time series for counts". on March, 2012, University of East Anglia, UK.
- "Multivariate count data with censoring" on June 2013, RWTH University of Aachen, Germany
- "Parametric Time Series Models with Covariates for Integers in Z", September 2013, Universitat Autonoma Barcelona
- "Censoring in multivariate count data: an application to marketing" September 2014, Universite de Lille II
- "Clustering discrete time series data via model-based clustering", March, 2015, University Ca Foscari, Venice, Italy.
- "Model-based clustering: an approach based on copulas", October 2016, University of Buffalo, USA
- "Censored Multivariate Discrete data and Application in Marketing" October, 2016, University of Wisconsin, Milwaukee,
- "Modelling multivariate time series of counts with applications" May 2018,
- "Clinical trials in the era of Big Data" November 2018, European Thoracic Oncology Platform, Residential Meeting, Barcelona, November 2018.
- Model Based Clustering through Copulas for High Dimensional Data, Aristotle University of Thessaloniki, December 2019
- Bivariate Models for Ratemaking, Norwegian School of Business, Bergen Norway, March 2020
- Uncertainty in competitive balance: a model-based approach. Reading on Sports Economics Seminar, 16 October 2020
- A randomized pairwise likelihood method. Dept of Mathematics, Durham University UK, February 22, 2021
- Στατιστική και Κλινικές Δοκιμές, Λέσχη φίλων Μαθηματικών, Πανεπιστήμιο Ιωάννινων, Τμήμα Μαθηματικών
- Model Based Clustering: EM and MCMC considerations, Seminar, Dept of Mathematics, University of Athens
- Model Based Clustering for Categorical Time Series, INRAE, Jouy En Josas, Paris, November 2021

## 13. Lecture Notes
1. Computational Statistics (255 pages)
2. Multivariate Statistical Analysis (340 pages)
3. Statistics for Archaeometrics (150 pages)
4. An Introduction to SPLUS/R (185 pages)

## 14. Books (in Greek)

- Καρλής, Δ., Πολυμεταβλητή Στατιστική Ανάλυση (2005, Εκδόσεις Σταμούλη)
- Καρλής, Δ. και Ντζούφρας, Ι. Εισαγωγή στον Προγραμματισμό με R. (2015, Εκδόσεις Κάλλιπος)

## 15. Refereeing

*I have refereed around 320 papers in several journals, including JASA, JRSS, Biometrics, Bimetrika, CSDA, JCGS, Statistics and Computing, Annals of Statistics, Annals of Aplied Statistics and several others.*

## 16. Memberships

- Member of the American Statistical Association
- Member of the International Statistical Institute (elected)
- Member of the International Biometric Society (Eastern Mediterranean Region)
- Member of the Greek Statistical Institute

## 17. Organizing Committees

- Member of the Organizing Committee of the 17th Workshop on Statistical Modelling in Chania (July 2002)
- Member of the Organizing Committee of the 17th Greek Statistical Conference in Lefkada (April 2004)
- Member of the Organizing Committee of the 3rd EMR-Biometrics Conference in Kerkira (May 2005)
- Member of the Organizing Committee of the ISCB conference in Alexandroupolis (July 2007)
- Member of the Organizing Committee of the 6rd EMR-Biometrics Conference in Crete (May 2011)
- Chair of the Organizing Committee of the 9thd EMR-Biometrics Conference in Thessaloniki (May 2017)
- Co-Chair of the Organizing Committee of the 7th Mathsports International Conference, Athens July 2019
- Co-Chair of 5th Greek-Italian Statistical Meeting, Aegina, September 2019

## 18. Phd Committees

As external (other Universities)
- Member of the jury of the Ph D presentation of Tom Brijs, Limburg Univeristy, Belgium.
- Member of the jury of the Ph D presentation of Veanous Arakelian, Athens University of Economics Greece
- Member of the jury of the Ph D presentation of Liu Feng, Univeristy of Hasselt, Belgium. (2007)
- Member of the jury of the PhD presentation of Ms Sonia Malefaki, University of Peireaus, Greece (Septmeber 2008)
- Member of the jury of the PhD presentation of Mr Kostas Fragiadakis, Athens University, Greece (September 2009)

- Member of the jury of the PhD presentation of Mr Shaochuan Lu, School of Mathematics, Statistics and Operations Research, Victoria university of Wellington, New Zealand
- Member of the jury of the PhD presentation of Mr Panagiotis Papastamoulis, University of Peireaus, Greece (September 2010)
- Member of the jury of the PhD of Mrs Vasiliki Christou, University of Cyprus (November 2013)
- Member of the jury of the PhD of Mathieu Marback, University of Lille (July 2014)
- Member of the jury of the PhD of Pertsinidou E., Aristotle University of Thessaloniki and University of Compiegne, France (joint PhD program) March 2017
- Member of the jury of the PhD of Amanda Fernandez-Fontelo, University Autonoma de Barcelona, November 2018
- Member of the jury of the PhD presentation of Lia Dikopoulou, Univeristy of Hasselt, Belgium. (2020)
- Member of the jury of the PhD presentation of Nikolas Martzikos, National Technical University of Athens, Greece, (2021)

## 19. Editorships
- **Editor in chief** – Journal of Quantitative Analysis in Sports, 2020 - today
- **Associate Editor** for Metron journal (2007- )
- **Associate Editor** for Communications in Statistics (2008 -  )
- **Associate Editor** for IMA Journal of Mathematics in Management (2009 - 2022)
- **Associate Editor** for Stochastic Environmental Research and Risk Assessment (2012-2017)
- **Associate Editor** Risks (2020-  )
- Guest editor for the volume of Proceedings of the Greek Conference of Statistics 2013.
- Editor of Biometrics Bulletin (2013- 2015)
- Guest Editor in IMA Journal of Mathematics in Management special issue on Mathematics in Sports (2020)

## Other
- Reviewer για το *Zentralblat MATH* (24 reviews) .
- Reviewer  for TRB, NIPS and AISTAT, ICODS conferences
- Visitor in Limburg Univeristy, Belgium (January- February 2003)
- Invited Speaker in the TRB2006 conference, Washington DC, Session of time series
- Publicity Officer of the EMR-IBS (2007-2013)
- Secretary, EMR-IBS (2013-2015)
- President, EMR-IBS (2017-2019)
- Visitor, institute of Transportation, Hasselt University (February – June 2008)

## 20. Awards

12th Ferran Armengol i Tubau Prize by the **Catalan Economics Society** of the **Institute for Catalan Studies** for contributions to Actuarial Science (May 2019)

## 21. Invited Courses given

- **Computational statistics** (Master in statistics, University of Barcelona, July 2010)

- **Discrete Choice models (**Master in Transportation, University of Hasselt, September, 2012**)**
- **Predictive Analytics (**Seminar on Business Analytics, Athens, AUEB, November 2012**)**
- **Statistical and Predictive Analytics (**1st summer school on E-Business, Molivos Lesvos, August 2013)
- **On Adaptive Designs for Clinical Trials:** IPSEN Pharmaceuticals Paris, November 2019
- **Adaptive Designs,** Summer School in Biostatistics organized by AUEB,FSFH, NKUA and Indiana University, July 2022

## 22. Administration Duties
- Board of Directors member, Frontier Science Foundation Hellas (2007- today)
- Secretary treasurer of the EMR/IBS (2013-2015)
- Member of the Communication committee of International Biometric Society (2013-2015)
- President of the EMR/IBS (2017-2019)
- Member of the Research Board, AUEB (2013 - today)
- Vice President, Research Board of AUEB (2020 -today)
- Deputy Head of the Department of Statistics (2016 – today)
- Director of the Master program in Statistics, Dept of Statistic, AUEB, (2018 - today)
- Director of the Laboratory of Computational and Bayesian Statistics, AUEB (2017-today)

## 23. Theses supervised
**PhD Thesis**
**Completed**

1. Nikoloulopoulos, A.K. (2007) Applications of copula function in statistics.
2. Pedeli X. (2011) Multivariate time series models for count data
3. Poulopoulou, S. (2013) Adaptive Designs in Phase II Clinical Trials
4. Orfanogiannaki, K. (2015)  Hidden Markov models for seismicity modelling

**Ongoing**
1. Panagou, F. (2014- ) Model based clustering for mixed mode data
2. Tsamtsakiri (2018- ) On multivariate time series for counts
3. Kekempanos, A. (2018 - ) On modelling dynamic networks with a discrete response
4. Zygoura, P. (2018 - ) Issues on clinical trials.