

**LIST OF PUBLICATIONS, DEPARTMENT OF STATISTICS AND ACTUARIAL-FINANCIAL
MATHEMATICS**

Publications in international peer-reviewed journals

2022	<p>1. Stelios Zimeras. Spreading Stochastic Models Under Ising/Potts Random Fields: Spreading Diseases, Quality of Healthcare in the Aftermath of the COVID-19 Pandemic, <i>IGI Global</i>, 65-78, 2022.</p>
2021	<p>1. Barbu, V. S., Makrides, A. and Karagrigoriou, A. (2021). Reliability and Inference for Multi State Systems: The Kumaraswamy case, <i>Mathematics</i>, 9 (16), 1834.</p> <p>2. Koukoumis, C. and Karagrigoriou, A. (2021). On entropy-type measures and divergences with applications in engineering, management and applied sciences, <i>J. of Mathematical, Engineering and Management Science</i>, 6(3), 688-707.</p> <p>3. Makris, K., Vonta, I. and Karagrigoriou, A. (2021). On similarity measures for stochastic and statistical modelling, <i>Mathematics</i> Vol. 9 (8), 840 https://doi.org/10.3390/math9080840</p> <p>4. Giannouli, P., Karagrigoriou, A., Kountzakis, C.E. and Ntotsis, K. (2021). Multilevel Dimension Reduction for Credit Scoring Modelling and Prediction: Empirical Evidence for Greece, <i>Comm. in Stat. Case Studies and Data Analysis</i> DOI: 10.1080/23737484.2021.1936690.</p> <p>5. Anastasiou, A., Hatzopoulos, P., Karagrigoriou, A., Mavridoglou, G. (2021). Causality Distance Measures for Multivariate Time Series with Applications, <i>Mathematics</i>, 9 (21), 2708.</p> <p>6. Ntotsis, K., Karagrigoriou, A. and Artemiou, A. (2021). Interdependency Pattern Recognition in Econometrics: A Penalized Regularization Antidote, <i>Econometrics</i>, 9(4), 44.</p> <p>7. E.Tachtsis, <i>The Boolean prime ideal theorem does not imply the extension of almost disjoint families to MAD families</i>, Bulletin of the Polish Academy of Sciences, Mathematics 68, No. 2 (2020), 105-115.</p> <p>8. E. Tachtsis (with P. Howard), <i>On metrizability and compactness of certain products without the Axiom of Choice</i>, Topology and its Applications (Elsevier) 290 (2021), 107591.</p>

9. E. Tachtsis (with K. Keremidsi and E. Wajch), *Second-countable compact Hausdorff spaces as remainders in ZF and two new notions of infiniteness*, **Topology and its Applications (Elsevier) 298** (2021), 107732.
10. E. Tachtsis (with K. Keremidsi and E. Wajch), *Several results on compact metrizable spaces in ZF*, **Monatshefte für Mathematik (Springer) 196** (2021), 67-102.
11. E. Tachtsis, *MA(\aleph_0) restricted to complete Boolean algebras and choice*, **Mathematical Logic Quarterly (Wiley-VCH) 67**, No. 4 (2021), 420-431.
12. E. Tachtsis (with J. Hejduk and E. Wajch), *On Urysohn's Lemma for generalized topological spaces in ZF*, accepted in **Results in Mathematics (Springer)**.
13. E. Tachtsis, *On the interrelation of a theorem of Juhász and certain weak axioms of choice*, accepted in **Fundamenta Mathematicae**.
14. E. Tachtsis, *Almost Disjoint and MAD Families in Vector Spaces and Choice Principles*, accepted in **The Journal of Symbolic Logic**.
15. N. Halidias, *On the absorption probabilities and mean time for absorption for discrete Markov chains*, *Monte Carlo Methods Appl. Journal Profile 27, No. 2, 105-115 (2021)*.
16. Causality Distance Measures for Multivariate Time Series with Applications
A Anastasiou, P Hatzopoulos, A Karagrighoriou, G Mavridoglou, *Mathematics 9 (21), 2708, 2021*
17. Vasileia Tsachouridou- Papadatou, Christos E. Kountzakis, 'Equilibrium in Incomplete Markets Revisited', *Afrika Matematika (2021) 32*, pp. 1193—1200
18. C.E. Kountzakis, D. Rossello, 'Monetary risk measures for stochastic processes via Orlicz duality', *Decisions in Economics and Finance (2021)* - Volume and pages to appear.
19. K. Ntotsis, A. Karagrighoriou, Christos Kountzakis, Panagiota Giannouli, 'Multiple Dimension Reduction for Credit Scoring Modelling and Prediction: Evidence from the Greek Banking System', *Communications in Statistics – Case Studies and Data Analysis (2021)* -Volume and pages to appear.
21. S. Zimeras: *Advance Techniques in Medical Imaging under in Big Data Analysis: COVID-19 Images*, *Advances in Computed Tomography, 2021, 10, 1, 1-10, 2021*.

	<p>22. S. Zimeras: Using Markovian Models to Simulate Disease Spread, ERCIM (European Community in Information Technology and Applied Mathematics) News, Special theme: Pandemic modeling and Simulation, N.214, 36-37, 2021.</p> <p>23.Σ. Ζήμερας, Χωρική Ανάλυση Γεωστατικών Δεδομένων: Εφαρμογή στην Χωρική Σεισμολογία, Κοινωνικές Επιστήμες και Γεωγραφία: Θεωρία, Μέθοδοι & Τεχνικές Χωρικής Ανάλυσης, Επιμέλεια: Καθηγητής Κωνσταντίνος Καλαμποκίδης, Πανεπιστήμιο Αιγαίου, Τμήμα Γεωγραφίας, Μυτιλήνη, 2021, 75-82, 2021</p> <p>24. Stelios Zimeras, Manolis Kalligeris. Clustering Techniques for Categorical Data: Correspondence Analysis, Interdisciplinary Perspectives on Operations Management and Service Evaluation, IGI Global, 76-93, 2021.</p>
<p>2020</p>	<ol style="list-style-type: none"> 1. Ntotsis, K., Kalligeris, E.-N. and Karagrigoriou, A. (2020). A comparative study of multivariate analysis techniques for highly correlated variable identification and management, <i>J. of Mathematical, Engineering and Management Science</i>, 5 (1), 45-55. 2. Toma, A.; Karagrigoriou, A.; Trentou, P. (2020). Robust Model Selection Criteria Based on Pseudodistances. <i>Entropy</i>, 22, 304. 3. Ntotsis, K., Papamichail, M., Hatzopoulos, P., Karagrigoriou, A. (2020). On the Modelling of Pension Expenditures in Europe, <i>Comm. in Stat. Case Studies and Data Analysis</i>, 6:1, 50-68, https://doi.org/10.1080/23737484.2019.1690598. 4. Ntotsis, K., Papamichail, M., Hatzopoulos, P., Karagrigoriou, A. (2020). ON THE MULTIVARIATE MODELING OF PUBLIC PENSION BENEFITS, <i>The European Actuary</i>, Vol. 23, 14-19. 5. Kalligeris, E.-N., Karagrigoriou, A. and Parpoula, C. (2020). On Mixed PARMA Modeling of Epidemiological Time Series Data, <i>Comm. in Stat. Case Studies and Data Analysis</i>, 6:1, 36-49, https://doi.org/10.1080/23737484.2019.1644253. 6. Meselidis, C. and Karagrigoriou, A. (2020). Statistical inference in multinomial populations based on the (Φ, α)-power divergence family, <i>J. of Statist. Comp. and Simul.</i> 90(10), 1773-1792. 7. Gkelsinis, T. and Karagrigoriou, A. (2020). Theoretical Aspects on Measures of Directed Information with Simulations, <i>Mathematics</i> Vol. 8 (5) 587; doi:10.3390/math8040587. 8. Barbu, V., Karagrigoriou, A. and Makrides, A. (2020). Statistical inference for a general class of distributions with time-varying parameters, <i>J. of Applied Stat.</i> Vol. 47 (13-15), 2354-2373.

9. Anastasiou, A., Karagrigoriou, A. and Katsileros, A. (2020). Comparative Evaluation of Goodness of Fit Tests for Normal Distribution Using Simulation and Empirical Data *Biometrical Letters*, 57 (2) 237-251.
10. E. Tachtsis, *Infinite Hausdorff spaces may lack cellular families or discrete subsets of cardinality \aleph_0* , **Topology and its Applications (Elsevier) 275** (2020), 106997, 19pp.
11. E. Tachtsis (with K. Keremidis), *Cellularity of Infinite Hausdorff Spaces in ZF*, **Topology and its Applications (Elsevier) 274** (2020), 107104, 20pp.
12. E. Tachtsis (with L. Halbeisen), *On Ramsey Choice and Partial Choice for infinite families of n -element sets*, **Archive for Mathematical Logic (Springer) 59** (2020), 583-606.
13. E. Tachtsis (with P. Howard), *On the set-theoretic strength of a topological Banach fixed point theorem for continua*, **Topology Proceedings 55** (2020), 295-313.
14. E. Tachtsis, *Juhász's topological generalization of Neumer's theorem may fail in ZF*, **Proceedings of the American Mathematical Society 148** (2020), no. 3, 1295-1310.
15. E. Tachtsis, *The Boolean prime ideal theorem does not imply the extension of almost disjoint families to MAD families*, **Bulletin of the Polish Academy of Sciences, Mathematics 68, No. 2** (2020), 105-115.
16. Introducing and Evaluating a New Multiple-Component Stochastic Mortality Model P Hatzopoulos, A Sagianou, North American Actuarial Journal 24 (3), 393-445, 2020
17. On the Modeling of Pension Expenditures in Europe, K Ntotsis, M Papamichail, P Hatzopoulos, A Karagrigoriou, Communications in Statistics: Case Studies, Data Analysis and Applications 6, 2020
18. C.E. Kountzakis, D. Rosello, 'Acceptability Indices of Performance for Bounded C`adl`ag Processes', Stochastics 92 (2020) pp. 1043–1063
19. Christos E. Kountzakis, Luisa Tibiletti and Mariacristina Uberti, 'The benefi-cost rate spread for Adjustable-Rate Mortgage with embedded options', Applied Mathematical Sciences 14 (2020) pp. 361–370
20. Riza Demirer, Konstantinos Gkillas, Christos Kountzakis, and Amaryllis Mavragani 'Risk appetite and correlation jumps in fiancial markets', MDPI Mathematics (2020), Vol. 8

	<p>21. Christos E. Kountzakis, 'Equilibrium in Options' Incomplete Markets', <i>Journal of Financial Markets and Derivatives</i> (2020) 7, pp. 414–423</p> <p>22. Stelios Zimeras, Konstantinos Chardalias, Marianna Diomidous. Epidemiological Analysis of the Covid-19 Epidemic in Greece, <i>Studies in Health Technology and Informatics</i> 272, 21-23, 2020.</p>
2019	<p>1. Karagrigoriou, A., Makrides, A. and Vonta, I (2019). On a Control Chart for the Gini Index with Simulations, <i>Comm. in Statist. – Comput. Simul.</i>, Vol. 48 (4), 1121-1137, doi. 10.1080/03610918.2017.1406510.</p> <p>2. Siouris, G.-J., Skilogianni, D. and Karagrigoriou, A. (2019). Post Model Correction in Risk Analysis and Management, <i>International Journal of Mathematical, Engineering and Management Sciences</i>, 4 (3), 542–566, https://dx.doi.org/10.33889/IJMEMS.2019.4.3-044.</p> <p>3. Siouris, G.-E., Skilogianni, D. and Karagrigoriou, A. (2019). Adjusted Evaluation Measures for Asymmetrically Important Data, <i>Econometric Research in Finance</i>, 4 (1), 41 - 66. https://doi.org/10.33119/ERFIN.2019.4.1.3.</p> <p>4. Barbu, V., Karagrigoriou, A. and Makrides, A. (2019). Estimation and Reliability for a Special Type of Semi-Markov Process <i>J. of Mathematics and Statistics</i>, 15, 259-272, https://thescpub.com/pdf/10.3844/jmssp.2019.259.272</p> <p>5. Kalligeris, E.-N., Karagrigoriou, A., Parpoula, C. (2020). Periodic-type ARMA Modeling with Covariates for Time-Series Incidence Data via Change-point Detection, <i>Stat. Meth. In Med. Res.</i> https://doi.org/10.1177/0962280219871587, 29 (6) 1039-1049.</p> <p>6. Mantalos, P., Karagrigoriou, A., Lubos Strelec, Pavlina Jordanova, Philipp Hermann, Jozef Kiselak, Juraj Hudak, Milan Stehlik (2020). On improved volatility modelling by fitting Skewness in ARCH models, doi 10.1080/02664763.2019.1671323, <i>J. of Applied Statistics</i> https://doi.org/10.1080/02664763.2019.1671323, 47 (6), 1031-1063.</p> <p>7. Kalligeris, E.-N., Karagrigoriou, A., Ladopoulos, K. and Parpoula, C. (2019). Adjusted Transformation Methods for Reproduction Quality Control <i>J. of Mathematics and Statistics</i>, 15, 273-279, https://thescpub.com/pdf/10.3844/jmssp.2019.273.279</p> <p>8. Konstantinides, D.G., Zachos, G.C., Exhibiting Abnormal Returns Under a Risk Averse Strategy. <i>Methodol. Comput. Appl. Probab.</i>, 21, 551--566, 2019.</p>

9. E. Tachtsis, *Łoś's theorem and the axiom of choice*, **Mathematical Logic Quarterly (Wiley-VCH) 65**, No. 3 (2019), 280-292.
10. E. Tachtsis, *On the existence of permutations of infinite sets without fixed points in set theory without choice*, **Acta Mathematica Hungarica (Springer) 157 (2)** (2019), 281-300.
11. E. Tachtsis, *On H-closed and Minimal Hausdorff Spaces and the Boolean Prime Ideal Theorem*, **Topology Proceedings 53** (2019), 255-268.
12. E. Tachtsis, *Dilworth's decomposition theorem for posets in ZF*, **Acta Mathematica Hungarica (Springer) 159 (2)** (2019), 603-617.
13. E. Tachtsis, *The Urysohn Lemma is independent of ZF + Countable Choice*, **Proceedings of the American Mathematical Society 147, Number 9** (2019), 4029-4038.
14. E. Tachtsis, *On the existence of almost disjoint and MAD families without AC*, **Bulletin of the Polish Academy of Sciences, Mathematics 67, No. 2** (2019), 101-124.
15. E. Tachtsis, *On ultracompact spaces in ZF*, **Topology and its Applications (Elsevier) 263** (2019), 257-278.
16. I. Stamatiou - N. Halidias, *Convergence rates of the Semi - Discrete method for stochastic differential equations*, *Theory of Stochastic Processes*, 2019.
17. C.E. Kountzakis, 'Conditional Risk Measures Relying On International Accounting Standards', *Applied Mathematical Sciences*, 13 (2019), pp. 455–462
18. C.E. Kountzakis, 'Sensitivity of Risk Measures defined on L^1 -Spaces', *Applied Mathematical Sciences* 13 (2019), pp. 449– 453
19. C.E. Kountzakis, 'Results on Infinite-Dimensional Demand Theory', *Applied Mathematical Sciences*, 13 (2019), pp. 163 – 171
20. C.E. Kountzakis, P.G. Michaelides, 'Duality in infinite-dimensional production economies', *Applied Mathematical Sciences*, 13 (2019), pp. 173–181
21. Peter Georgakopoulos, Michael Kyriakidis, Anastasia Perpinia, Apostolos Karavidas, **Stelios Zimeras**, Nikolaos Mamalis, Marousa Kouvela, Andriani Charpidou. The Role of Metoprolol and Enalapril in the Prevention of Docorbicin-induced Cardiotoxicity in Lymphoma Patients, *Anticancer Research*, 39, vol 10, 5703-5707, **2019**.

	<p>22. Dimitrios Zikos, Stelios Zimeras, Neli Ragina: A Bayesian Study of the Dynamic Effect of Comorbidities on Hospital Outcomes of Care for Congestive Heart Failure Patients, <i>Technologies</i> 2019, 7, 66, 2019.</p> <p>23. S. Zimeras: Brain segmentation tools under uncertain conditions for radiotherapy treatment planning, <i>Biomedical Research and Clinical Practice</i>, Vol 4, 1-5, 2019</p> <p>24. Stelios Zimeras, Yiannis Matsino: Modeling Uncertainty based on spatial models in spreading diseases: Spatial Uncertainty in Spreading Diseases, <i>International Journal of Reliable and Quality E-Healthcare (IJRQEH) Volume 8, Issue 4</i> 55-66, 2019.</p> <p>25. Zimeras S & Diomidous M. An epidemiological analysis for H1N1 infection, <i>Studies in health technology and informatics, IOS Press</i>, 262, 218-219, 2019.</p> <p>26. S. Zimeras. Mathematical models for computer virus: Computer virus epidemiology, <i>Mobile Health Applications for Quality Healthcare Delivery, IGI Global</i>, 203-212, 2019.</p>
2018	<ol style="list-style-type: none"> 1. Barbu, V.S., Karagrigoriou, A. and Preda, V. (2018). Entropy and divergence rates for Markov Chains: II. The weighted case, <i>Proc. of the Romanian Academy, Series A</i>, 19 (1), 3-10. 2. Barbu, V.S., Karagrigoriou, A. and Preda, V. (2018). Entropy and divergence rates for Markov Chains: III. The Cressie and Read case and applications, <i>Proc. of the Romanian Academy, Series A</i>, 19 (3), pp. 413–421. 3. Konstantinides, D.G., Ruin Probabilities for a Double Renewal Risk Model with Frequent Premium Arrivals. <i>{\it Quantitative Finance and Economics}</i>, {\bf 2}, No.3, 717--732, 2018. 4. Konstantinides, D.G., Precise Large Deviations for Subexponential Distributions in a Multi Risk Model. <i>{\it Risks}</i>, {\bf 6}, No.2, 2018. 5. E. Tachtsis (with M. Di Nasso), <i>Idempotent ultrafilters without Zorn's Lemma</i>, Proceedings of the American Mathematical Society 146 (2018), no. 1, 397-411. 6. E. Tachtsis, <i>On the Minimal Cover Property and Certain Notions of Finite</i>, Archive for Mathematical Logic (Springer) 57 (2018), no. 5-6, 665-686.

7. E. Tachtsis, *A Note on the Deductive Strength of the Nielsen-Schreier Theorem*, **Mathematical Logic Quarterly (Wiley-VCH) 64** (2018), no. 3, 173-177.
8. E. Tachtsis, *On the comparability of cardinals in the absence of the Axiom of Choice*, **Fundamenta Mathematicae 242** (2018), no. 3, 247-266.
9. E. Tachtsis, *On the set-theoretic strength of Ellis' Theorem and the existence of free idempotent ultrafilters on ω* , **The Journal of Symbolic Logic 83** (2018), no. 2, 551-571.
10. E. Tachtsis, *On certain non-constructive properties of infinite-dimensional vector spaces*, **Commentationes Mathematicae Universitatis Carolinae 59, 3** (2018), 285-309.
11. N. Halidias, *A generalization of Laplace and Fourier transforms*, *Asian Journal of Mathematics and Computer Research*, 24(1), pp. 32-41, 2018.
12. P. Giannouli, C.E. Kountzakis, *Towards an improved Credit Scoring System: the Greek case*, *International Journal of Financial Engineering and Risk Management* 3 (2018) pp. 19–31
13. **Zimeras S & Diomidous M.** *Survival Models in Computer Virus*, *Studies in health technology and informatics, IOS Press, 251, 320-322, 2018.*
14. **Zimeras S & Diomidous M.** *Computer Virus Models - The Susceptible Infected Removed (SIR) Model*, *Studies in health technology and informatics, IOS Press, 251, 75-77, 2018.*
15. [Who would invest only in the risk-free asset?](#) *N Azevedo, D Pinheiro, SZ Xanthopoulos, AN Yannacopoulos, International Journal of Financial Engineering 5 (03), 1850024, 2018*
16. [Contingent claim pricing through a continuous time variational bargaining scheme](#) *N Azevedo, D Pinheiro, SZ Xanthopoulos, AN Yannacopoulos, Annals of Operations Research 260 (1), 95-112, 2018*