

# Petropoulos Constantinos, Associate Professor

## Curriculum Vitae (March 2024)

### Education

1995: B.Sc. in Mathematics, Department of Mathematics, University of Patras.

Grade: Excellent.

2002: Ph.D. in Mathematics, Department of Mathematics, University of Patras.

Thesis: Estimation of scale parameters and quantiles.

advisor: Prof. S. Kourouklis.

Grade: Excellent.

### Academic Positions

- 14/2/2022 – today : Associate Professor, Department of Mathematics, University of Patras.
- 3/9/2012 – 13/2/2022 : Assistant Professor, Department of Mathematics, University of Patras.
- 13/9/2005 – 2/9/2012 : Lecturer, Department of Mathematics, University of Patras.
- 7/6/2004 – 12/9/2005 : Lecturer, Department of Mathematics, University of the Aegean.
- 24/9/2003 – 6/6/2004 : Lecturer (PD 407/80), Department of Mathematics, University of the Aegean.

### Teaching Experience

#### Undergraduate Courses

- Department of Mathematics, University of Patras.  
Courses: Statistical Inference I, Statistical Inference II, Non-Parametric Statistics, Stochastic Processes.
- Department of Materials Science, University of Patras.  
Course: Probability Theory and Stochastic Processes.
- Department of Chemistry, University of Patras.  
Courses: Mathematics I, Mathematics II.
- Department of Mathematics, University of the Aegean.  
Courses: Probabilities, Statistics, Discrete Mathematics.

#### Postgraduate Courses

- Department of Mathematics, University of Patras – M.Sc. in *Computational and Statistical Data Analytics, MCDA*.  
Course: Methods for Statistical Data Analysis
- Department of Mathematics & Department of Computer Engineering and Informatics, University of Patras – M.Sc. in *Data Driven Computing and Decision Making*.  
Course: Methods for Statistical Data Analysis
- Department of Mathematics & Department of Computer Engineering and Informatics, University of Patras – M.Sc. in *Mathematics of Computers and Decisions*  
Courses: Statistics I, Decision Theory, Statistics II
- Faculty of Sciences, University of Patras – M.Sc. in *Environmental Sciences*  
Course: Multivariate Statistical Analysis
- Department of Mathematics, University of the Aegean. – M.Sc. in *Mathematical Modelling in Natural Sciences and Modern Technologies*.  
Courses: Probabilities – Statistics, Applied Statistics.
- Department of Statistics and Financial-Actuarial Sciences, University of the Aegean – M.Sc. in *Statistics and Actuarial-Financial Mathematics*.  
Course: Measure and Probability.

## Research Interests

Statistical Inference. Improved Estimators and Confidence Intervals. Parameter Estimation under Constraints. Multivariate Statistical Analysis. Statistical Data Analysis.

## Publications

### Refereed Journal Papers.

#### A. Mathematical Statistics

- J1. Petropoulos, C. and Kourouklis, S. (2001). Estimation of an exponential quantile under a general loss and an alternative estimator under quadratic loss. *Annals of the Institute of Statistical Mathematics*, **53**, 746-759.
- J2. Petropoulos, C. and Kourouklis, S. (2002). A class of improved estimators for the scale parameter of an exponential distribution with unknown location. *Communications in Statistics – Theory and Methods*, **31**, 325-335.
- J3. Petropoulos, C. and Kourouklis, S. (2004). Improved Estimation of extreme quantiles in the multivariate Lomax (Pareto II) distribution. *Metrika*, **60**, 15-24.
- J4. Petropoulos, C. and Kourouklis, S. (2005). Estimation of the scale parameter in mixture models with unknown location. *Journal of Statistical Planning and Inference*, **128**, 191-218.
- J5. Petropoulos, C. (2006). Estimation of a quantile in a mixture model of exponential distributions with unknown location and scale parameter. *Shankya*, **68**, 240 - 251.
- J6. Petropoulos, C. (2010). A class of improved estimators for the scale parameter of a mixture model of exponential distribution with unknown location. *Communications in Statistics – Theory and Methods*, **39**, 3153-3162.
- J7. Petropoulos, C. (2011). New classes of improved confidence intervals for scale parameter of a two-parameter exponential distribution. *Statistical Methodology*, **8**, 401-410.
- J8. Petropoulos, C. and Kourouklis, S. (2012). New classes of improved confidence intervals for the variance of a normal distribution. *Metrika*, **75**, 491-506.
- J9. Tripathi Y., Kumar S. and Petropoulos C. (2014). Improved Estimators for Parameters of a Pareto Distribution with a Restricted Scale. *Statistical Methodology*, **18**, 1-13.
- J10. Tripathi Y., Kumar S. and Petropoulos C. (2014). Estimation for the Parameters of an Exponential Distribution Under Constrained Location. *Mathematical Methods of Statistics*, **23**, 66–79.
- J11. Tripathi Y.M., Kumar S. and Petropoulos C. (2016). Estimating the shape parameter of a Pareto distribution under restrictions. *Metrika*, **79**, 91-111.
- J12. Tripathi Y.M., Kumar S. and Petropoulos C. (2017). Minimax estimators for the lower-bounded scale parameter of a location-scale family of distributions. *Communications in Statistics – Theory and Methods*, **46**, 9185-9193.
- J13. Petropoulos C. (2017). Estimation of the order restricted scale parameters for two populations from the Lomax distribution. *Metrika*, **80**, 483-502.
- J14. Tripathi, Y.M., Petropoulos, C., Sultana, F. and Rastogi, M.K. (2018). Estimating a linear parametric function of a doubly censored exponential distribution. *Statistics*, **52:1**, 99-114.
- J15. Tripathi, Y.M., Petropoulos, C. and Jha, M. (2018). Estimation of the Shape Parameter of a Pareto Distribution. *Communications in Statistics – Theory and Methods*, **47(18)**, 4459-4468.
- J16. Tripathi, Y.M., Petropoulos, C. and Sultana, F. (2019). Estimating an exponential scale parameter under double censoring. *Communications in Mathematics and Statistics*, **7**, 309-328.

- J17. Tripathi, Y.M., Petropoulos, C. and Sen, T. (2019). Quantile estimation for a progressively censored exponential distribution. *Communications in Statistics – Theory and Methods*, **49:16**, 3919-3932.
- J18. Petropoulos, C., Patra L.K. and Kumar, S. (2020). Improved estimators of the entropy in scale mixture of exponential distributions. *Brazilian Journal of Probability and Statistics*, **34:3**, 580-593.
- J19. Patra L.K., Kumar, S. and Petropoulos, C. (2021). Improved Estimators for Functions of Scale Parameters in Mixture Models. *Journal of the Korean Statistical Society*. **50(4)**, 918-954.
- J20. Patra L.K., Kumar, S. and Petropoulos, C. (2021). Componentwise estimation of ordered scale parameters of two exponential distributions under a general class of loss function. *Statistics*, **55:3**, 595-617.
- J21. Tripathi, Y.M., Petropoulos, C. and Mahto, A. (2022). Estimating the Scale Parameter of an Exponential Distribution under Progressive Type II Censoring. *Communications in Statistics – Theory and Methods*. **51:19**, 6777-6791.
- J22. Tripathi, Y.M., Petropoulos, C. and Jha, M.K. (2022). Estimation of  $P(Y<X)$  for lognormal distribution. *Quality Technology & Quantitative Management*, **19(6)**, 749-765.

## B. Applied Statistics

- J23. Augustinos A., Petropoulos C., Karasoulou V., Bletsos F. and Pappasotiropoulos V. (2016). Assessing diversity among traditional Greek and foreign eggplant cultivars using molecular markers and morphometrical descriptors. *Spanish Journal of Agricultural Research*, Volume 14, Issue 4, e0710. <http://dx.doi.org/10.5424/sjar/2016144-9020>.
- J24. Kallianezos, P., Plotas, P., Italou, A., Petropoulos, C., Pappa, P. Charalambous, G. and Jelastopulu, E. (2017). The Burden on Family Caregivers to the Patients with Alzheimer’s Disease and Other Dementias in Nicosia, Cyprus. *Journal of Advances in Medicine and Medical Research*, **24(3)**, 1-15.
- J25. Gramazio, P., Chatziefstratiou, E., Petropoulos, C., Chioti, V., Mylona, P., Kapotis, G., Vilanova, S., Prohens, J. and Pappasotiropoulos, V. (2019). Multi-Level Characterization of Eggplant Accessions from Greek Islands and the Mainland Contributes to the Enhancement and Conservation of this Germplasm and Reveals a Large Diversity and Signatures of Differentiation between both Origins. *Agronomy*, **9: 887**.
- J26. Kallianezos, P., Sinopidis, X., Petropoulos, C., Gkentzi, D., Plotas, P., Fouzas, S., Karatza, A. and Jelastopulu, E. (2021). Anxiety and depression among parents of children with mild head injury. *European Review for Medical and Pharmacological Sciences*. 25:1530-1535.
- J27. Sinopidis, X., Kallianezos, P., Petropoulos, C., Gkentzi, D., Fouzas, S., Karatza, A., Panagiotopoulos V., Spyridakis, I., Roupakias, S., Sakellaris, G., Jelastopulu, E. (2022). Patterns, outcomes, and risk factors of mild head injuries in children: do we know enough? *Health and Research Journal*, **8(2)**, 10-22.
- J28. Halkos, G., Leonti, A., Petropoulos, C. and Sardianou, E. (2022). Determinants of willingness to pay for urban parks: An empirical analysis in Greece. *Land Use Policy*, **119**, 106186. (2 ετεροαναφορές)
- J29. Chioti, V.; Zeliou, K.; Bakogianni, A.; Papaioannou, C.; Biskinis, A.; Petropoulos, C.; Lamari, F.N. and Pappasotiropoulos, V. (2022). Nutritional Value of Eggplant Cultivars and Association with Sequence Variation in Genes Coding for Major Phenolics. *Plants*, **11**, 2267.
- J30. Sinopidis, X., Kallianezos, P., Petropoulos, C., Gkentzi, D., Kostopoulou, E., Fouzas, S., Dassios, T., Vervenioti, A., Karatza, A., Roupakias, S., Panagidis, A., Blevrakakis, E. and Jelastopulu, E.

(2023). Post-traumatic stress as a psychological effect of mild head injuries in children. *Children*, 10 (7), 1115.

### **Conference Paper**

- J31. Kallianezos, P., Bakola, M., Kitsou, K.S., Petropoulos, C., Sinopidis, X. and Jelastopulu, E. (2020). Psychometric validation of the revised child injury scale (Cries-13) in Greek population. *European Journal of Public Health*, **30**, ckaa166.1188, <https://doi.org/10.1093/eurpub/ckaa166.1188>.
- J32. Kallianezos, P., Bakola, M., Kitsou, K.S., Petropoulos, C., Sinopidis, X., Gourzis, Ph. and Jelastopulu, E. (2021). Prevalence of post traumatic stress disorder in children with mild traumatic brain injury. *European Psychiatry*, S560.

### **C. Books**

- B1. Kourouklis S., Petropoulos, C. and Piperigkou V. (2015). Issues on Parametric Statistical Inference (in greek). [ebook] Athens:Hellenic Academic Libraries.
- B2. Batsidis A., Papastamoulis P., Petropoulos C. και Rakintzis A. (2023). *Non Parametric Statistics*. (in greek). [ebook] Athens:Hellenic Academic Libraries.

### **International Conference Talks**

- C1. 28th European Meeting of Statisticians, «EMS2010», 2010. Piraeus, Greece.  
Petropoulos, C. (2010). New classes of improved confidence intervals for the scale parameter of an exponential distribution.
- C2. 14th Applied Stochastic Models and Data Analysis International Conference, 2011. Rome, Italy.  
Petropoulos, C. (2011). New classes of improved confidence intervals for the scale parameter of the multivariate Lomax (Pareto II) distribution.
- C3. 30th European Meeting of Statisticians, «EMS2015», 6-10 July, 2015. Amsterdam, Netherlands.  
Petropoulos, C. (2015). Estimation for the ordered scale parameters from two populations of the multivariate Lomax distribution.
- C4. 31st European Meeting of Statisticians, «EMS2017», 24-28 July, 2017. Helsinki, Finland.  
Tripathi, Y.M., Petropoulos, C., Farha, S. and Rastogi, M.K. (2017). Estimating a linear parametric function of a doubly censored exponential distribution.
- C5. 32st European Meeting of Statisticians, «EMS2019», 22-26 July, 2019. Palermo, Italy.  
Patra, L.K., Kumar, S. and Petropoulos, C. (2019). Componentwise estimation of ordered scale parameters of two exponential distributions under a general class of loss function.
- C6. 33st European Meeting of Statisticians, «EMS2023», 3-7 July, 2023. Warsaw, Poland.  
Patra, L.K., Petropoulos, C. and Bajpai, S. (2023). Estimating location parameters of two exponential distributions with ordered scale parameters.

### **Refereeing Activities**

#### **Referee,**

*American Journal of Mathematical and Management Sciences, Communications in Statistics – Theory and Methods, Communications in Statistics – Simulation and Computation, Computational Statistics, Computational Statistics and Data Analysis, Concurrency and Computation Practice and Experience, Entropy, Gazi University Journal of Science, Hacettepe Journal of Mathematics and Statistics, Heliyon, Journal of Applied Statistics, Journal of Computational and Applied Mathematics, Journal of Multivariate Analysis, Journal of Probability and Statistics, Journal of Statistical Computation and Simulation, Journal of Statistical Theory and Practice, Journal of The Korean Statistical Society, Mathematics, Open Journal of Statistics, Pakistan Journal of Statistics, REVSTAT-Statistical Journal, South African*

*Statistical Journal, Statistical Papers, Statistics, Stochastic Models, Symmetry, Proceedings for the Panhellenic Conference of The Greek Statistical Institute.*

**Reviewer,**

*Mathematical Reviews, AMS. (36 reviews)*

**Master Thesis Advisor (Primary)**

**Department of Mathematics, University of the Aegean. – M.Sc. in Mathematical Modelling in Natural Sciences and Modern Technologies.**

2005 Konstantinos Karamatsoukis.

**Department of Mathematics & Department of Computer Engineering and Informatics, University of Patras – M.Sc. in Mathematics of Computers and Decisions.**

2007 Leonidas Panagiotopoulos.

2008 George Dedeletakis. George Nikolopoulos.

2009 Maria Tafiadi.

2010 Christos Katris, Andreas Dikaros, Ioanna Daskalaki.

2012 George Kambanis

2013 Christina Raftopoulou, Kyriaki Georgiadou.

2014 Konstantinos Aggelou, Grigoria Aggelou.

2016 Antiopi Katsara, Androula Dimitriou.

2018 Vassiliki Elena Tsolka, Ioulia Giannopoulou.

2019 Lambrini Kalfountzou, Evaggelos Batsis, Konstantina Stasinopoulou.

2021 Konstantinos Roumeliotis.

**Department of Mathematics, University of Patras – M.Sc. in Computational and Statistical Analysis in Data Science.**

2020 Athanassios Koulis, Andreas Galanis.

2022 Argyris Giannakopoulos, Eleni Papadimitriou, Nikolaos Tsiamoulos.

2023 Maria Papakonstantinou, Evaggelia Moukou.

2024 Panagiota Petroutsou.

**Ph.D. Advisor (Committee Member)**

2010 **Bobotas, P.** *Strawderman-type estimators for scale parameters.* Department of Mathematics, University of Patras.

2019 **Tafiadi, M.** *Inference for the parameters of a Laplace distribution.* Department of Statistics and Insurance Science, University of Piraeus.

2020 **Bartsokas, Ch.** *Satisfaction with healthcare services and health resources allocation in Patras, Western Greece Prefecture.* Department of Public Health, School of Medicine, University of Patras.

**Braessas, Z.** *High school students' conceptions of randomness and probability through their "potential worlds".* Department of Mathematics, University of Patras.

2021 **Kallianezos, P.** A study on the posttraumatic stress caused by mild head injuries in children. School of Medicine. University of Patras.

**Leonti, K.** Economic valuation of urban and environmental parks in Greece. Department of Economics & Sustainable Development. Harokopio University.