

Michail Tsagris

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PERSONAL DETAILS

Date of Birth: 17/07/1984

Work Address: Department of Economics, University of Crete, Gallos Campus, Rethymnon, Greece

Work Tel.: (+30) 28310 77438

Greek military service: Completed

APPOINTMENTS

Associate Professor in Quantitative Methods in Economics <i>Department of Economics, University of Crete</i>	Jul. 2024 – <i>Rethymnon, Greece</i>
Adjunct Professor in Data Science and Machine Learning <i>Hellenic Open University</i>	Oct. 2022 – Jul. 2025 <i>Patras, Greece</i>
Assistant Professor in Quantitative Methods in Economics <i>Department of Economics, University of Crete</i>	Feb. 2019 – Jul. 2024 <i>Rethymnon, Greece</i>
Adjunct Professor in Statistics <i>Department of Mathematics and Statistics, University of New Brunswick</i>	Jan. 2019 – <i>Saint John, Canada</i>
Research Associate <i>Signal Processing Laboratory, Institute of Computer Science, FORTH</i>	Jan. 2019 – Feb. 2019 <i>Heraklion, Greece</i>
Teaching Fellow <i>Department of Economics, University of Crete</i>	Oct. 2018 – Jan. 2019 <i>Rethymnon, Greece</i>
Research Associate in Bioinformatics <i>Department of Computer Science, University of Crete</i>	Jun. 2015 – Jan. 2019 <i>Heraklion, Greece</i>
Assistant Professor in Statistics <i>College of Engineering and Technology, American University of the Middle East</i>	Sep. 2014 – Nov. 2014 <i>Egaila, Kuwait</i>
Research Associate in Directional Statistics <i>School of Mathematical Sciences, University of Nottingham</i>	Oct. 2013 – Jul. 2014 <i>Nottingham, UK</i>
Hourly paid instructor <i>School of Science & Technology, Nottingham Trent University</i>	Feb. 2013 – Apr. 2013 <i>Nottingham, UK</i>

PARTICIPATION IN RESEARCH PROJECTS

Region of Crete <i>Analysis of Labor Market in Crete II, Partnership Agreement for the Develop Frame 2020-2027.</i>	2024 – 2028 <i>Rethymnon, Greece</i>
BIOVALUE H2020 <i>Fork-to-farm agent-based simulation tool augmenting BIOdiversity ...</i>	Apr. 2022 – Sep. 2024 <i>Rethymnon, Greece</i>
AGRICORE H2020 <i>Agent-Based Support Tool for the Development of Agriculture Policies ...</i>	May 2020 – Oct. 2022 <i>Rethymnon, Greece</i>

EDUCATION

PhD in Statistics <i>School of Mathematical Sciences, University of Nottingham</i>	Oct. 2009 – Sep. 2013 <i>Nottingham, UK</i>
MSc in Statistics (8.57/10) <i>Department of Statistics, Athens University of Economics and Business</i>	Oct. 2008 – Sep. 2009 <i>Athens, Greece</i>

Erasmus student*Department of Probability and Statistics, University of Sheffield*

Sep. 2004 – Jan. 2005

*Sheffield, UK***BSc in Statistics (8.38/10)***Department of Statistics, Athens University of Economics and Business*

Sep. 2002 – Jan. 2006

*Athens, Greece***AWARDS****School of Mathematical Sciences, University of Nottingham***Scholarship funding the PhD studies (3.5 years)*

Oct. 2009 – Mar. 2013

*Nottingham, UK***School of Mathematical Sciences, University of Nottingham***Partial assistance to attend the 4th International Workshop on Compositional Data Analysis*

May 2011

*Nottingham, UK***Department of Statistics, Athens University of Economics and Business***3 partial scholarships covering the fees of the MSc in Statistics*

Oct. 2008 – Jun. 2009

*Athens, Greece***G. Halkiopoulos Foundation***Honorary scholarship for the academic performance during 2004-2005*

2005

*Athens, Greece***Athens University of Economics and Business***Award for successful completion of the Socrates Erasmus program*

2005

*Athens, Greece***JOURNAL PUBLICATIONS**

57. Tsagris M. and Alzeley O. (2026). Scalable approximation of the transformation-free linear simplicial-simplicial regression via constrained iterative reweighted least squares. *Statistical Analysis and Data Mining* (Accepted for publication).
56. Tsagris M., Alenazi A. and Stewart C. (2026). A Jensen-Shannon divergence based k -NN algorithm for missing value imputation in compositional data. *Journal of Applied Statistics* (Accepted for publication).
55. Sevinc V. and Tsagris M. (2026). Energy Based Equality of Distributions Testing for Compositional Data. *Communications in Statistics-Simulation and Computation* (Accepted for publication).
54. Alzeley O. and Tsagris M. (2026). On the generalized circular projected Cauchy distribution. *Mathematics*, 14(11): 1934.
53. Tsagris M. and Papadakis M. (2026). Fast and light-weight energy statistics using the *R* package *estats*. *Journal of Statistical Computation and Simulation*, 96(7): 1589–1605.
52. Mattas K., Tsagris M. and Tzouvelekas V. (2026). Using Synthetic Farm Data to Estimate Individual Nitrate Leaching Levels. *American Journal of Agricultural Economics*, 108(1): 336–362.
51. Tsagris M. and Papadakis M. (2025). On Wood's rejection sampling algorithm for the von Mises-Fisher distribution. *Communications in Statistics-Simulation and Computation* (Accepted for publication).
50. Tsagris M., Adam C. and Kontemeniotis N. (2025). Simplicial clustering using the α -transformation. *Lobachevskii Journal of Mathematics*, 46: 6471–6482.
49. Foutzopoulos G., Pandis N. and Tsagris M. (2025). Predicting full retirement attainment of NBA players. *International Journal of Data Science and Analytics*, 20: 6121–6134.
48. Michelaki D., Tsagris M. and Adam C. (2025). An overview of economics and econometrics related *R* packages. *Stats*, 8(4): 85.
47. Theofilou A., Nastis S.A., Tsagris M., Rodriguez-Perez S. and Mattas K. (2025). Design and Implementation of a Scalable Data Warehouse for Agricultural Big Data. *Sustainability*, 17(8): 3727.
46. Chatzimichael K., Daskalaki C., Emvalomatis G., Tsagris M. and Tzouvelekas V. (2025). Factors shaping innovative behavior: A meta-analysis of technology adoption studies in agriculture. *Canadian Journal of Agricultural Economics*, 73(1): 75–103.

45. Tsagris M., Papastamoulis P. and Kato S. (2025). Directional data analysis: spherical Cauchy or Poisson kernel-based distribution? *Statistics and Computing*, 35: 51.
44. Tsagris M. and Alzeley O. (2025). Circular and Spherical Projected Cauchy Distributions: A Novel Framework for Directional Data Modelling. *Australian & New Zealand Journal of Statistics*, 67(1): 77–103.
43. Tsagris M. (2025). Constrained least squares simplicial-simplicial regression. *Statistics and Computing*, 35: 27.
42. Tsagris M., Adam C. and Pantatosakis P. (2024). On predicting an NBA game outcome from half-time statistics. *Discover Artificial Intelligence*, 4(111).
41. Tsagris M., Papadakis M., Alenazi A. and Alzeley O. (2024). Computationally efficient outlier detection for high-dimensional data using the MDP algorithm. *Computation*, 12(9): 185.
40. Fabri C., Tsagris M., Moretti M. and Van Passel S. (2024). Adaptation to climate change: The irrigation technology mix of Italian farmers. *Applied Economic Perspectives and Policy*, 46(2): 781–802.
39. Tsagris M. and Alenazi A. (2024). An investigation of hypothesis testing procedures for circular and spherical mean vectors. *Communications in Statistics–Simulation and Computation*, 53(3): 1387–1408.
38. Fayomi A., Tsagris M., Pantazis Y. and Wood A.T.A. (2024). Cauchy robust principal component analysis with applications to high-dimensional data sets. *Statistics and Computing*, 34: 26.
37. Armillotta M., Tsagris M. and Fokianos K. (2023). Inference for Network Count Time Series with the *R* Package PNAR. *The R Journal*, 15(4): 255–269.
36. Lakiotaki K., Papadovasilakis Z., Lagani V., Fafalios S., Charonyktakis P., Tsagris M. and Tsamardinos I. (2023). Automated machine learning for Genome Wide Association Studies. *Bioinformatics*, 39(9): btad545.
35. Tsagris M., Alenazi A. and Stewart C. (2023). Flexible non-parametric regression models for compositional response data with zeros. *Statistics and Computing*, 33: 106.
34. Psathas A., Rallatou D. and Tsagris M. (2023). Skin tone of NBA players and performance statistics. Is there a relationship? *Communications in Statistics–Case Studies and Data Analysis*, 9(3): 234–251.
33. Tsagris M. (2022). The FEDHC Bayesian Network Learning Algorithm. *Mathematics*, 10(25): 2604.
32. Tsagris M. and Tzouvelekas V. (2022). Nitrate Leaching and Efficiency Measurement in Intensive Farming Systems: A Parametric By-Production Technology Approach. *Agricultural Economics*, 53(4): 633–647.
31. Tsagris M., Papadovasilakis Z., Lakiotaki K. and Tsamardinos I. (2022). The γ -OMP algorithm for feature selection with application to gene expression data. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 19(2): 1214–1224.
30. Gkatsikos A., Natos D., Staboulis C., Mattas L., Tsagris M. and Polymeros A. (2022). An Impact assessment of Young Farmers Scheme policy on regional growth in Greece. *Sustainability*, 14, 2882.
29. Tsagris M. (2021). A new scalable Bayesian network learning algorithm with application to economics. *Computational Economics*, 57(1): 341–367.
28. Tsagris M., Alenazi A. and Fafalios S. (2020). Computationally efficient univariate filtering for massive data. *Electronic Journal of Applied Statistical Analysis*, 13(2): 390–412.
27. Tsagris M. and Stewart C. (2020). A folded model for compositional data analysis. *Australian and New Zealand Journal of Statistics*, 62(2): 249–277.
26. Paine P.J., Preston S.P., Tsagris M. and Wood A.T.A. (2020). Spherical Regression Models With General Covariates And Anisotropic Errors. *Statistics and Computing*, 30(1): 153–165.
25. Tsagris M., Alenazi A. and Verrou K.M. (2020). Hypothesis testing for two population means: parametric or non-parametric test? *Journal of Statistical Computation and Simulation*, 90(2): 252–270.
24. Tsagris M. and Alenazi A. (2019). Comparison of methods for discriminant analysis on the sphere. *Communications in Statistics–Case Studies and Data Analysis*, 5(4): 467–491.

23. Chatzipantsiou C., Dimitriadis M., Papadakis M. and Tsagris M. (2019). Extremely efficient permutation and bootstrap hypothesis tests using R. *Journal of Modern Applied Statistical Methods*, 18(2): eP2898.
22. Tsagris M. and Tsamardinos I. (2019). Feature selection with the R package *MXM*. *F1000Research*, 7: 1505.
21. Pantazis Y. Tsagris M., and Wood A.T.A. (2019). Gaussian asymptotic limits for the α -transformation in the analysis of compositional data. *Sankhya A*, 81(1): 63–82.
20. Tsagris M. (2019). Bayesian network learning with the PC algorithm: an improved and correct variation. *Applied Artificial Intelligence*, 33(2): 101–123.
19. Tsagris M and Papadakis M. (2018). Forward regression in R: from the extreme slow to the extreme fast. *Journal of Data Science*, 16(4): 771–780.
18. Tsagris M., Borboudakis G., Lagnani V. and Tsamardinos I. (2018). Constraint-based Causal Discover with Mixed Data. *International Journal of Data Science and Analytics*, 6: 19–30.
17. Tsagris M. and Stewart C. (2018). A Dirichlet regression model for compositional data with zeros. *Lobachevskii Journal of Mathematics*, 39(3): 398–412.
16. Tsagris M., Lagnani V. and Tsamardinos I. (2018). Feature selection for high-dimensional temporal data. *BMC Bioinformatics*, 19(17).
15. Paine P.J., Preston S.P., Tsagris M. and Wood A.T.A. (2018). An Elliptically Symmetric Angular Gaussian Distribution. *Statistics and Computing*, 28(3): 689–697.
14. Alharbi N. and Tsagris M. (2018). Confidence Intervals for the Relative Risk. *Biostatistics and Biometrics Open Access Journal*, 4(5).
13. Lagnani V., Athineou G., Farcomeni A., Tsagris M. and Tsamardinos I. (2017). Feature Selection with the R Package *MXM*: Discovering Multiple, Statistically-Equivalent, Predictive Feature Subsets. *Journal of Statistical Software*, 80(7).
12. Fragkos K.C., Tsagris M. and Frangos C.C. (2017). Exploring the Distribution for the Estimator of Rosenthal’s ‘Fail-Safe’ Number of Unpublished Studies in Meta-analysis. *Communications in Statistics-Theory and Methods*, 46(11): 5672–5684.
11. Tsagris M. (2017). Conditional independence for categorical data using Poisson log-linear models. *Journal of Data Science*, 15(2): 347–456.
10. Tsagris M., Preston S. and Wood A.T.A. (2017). Nonparametric hypothesis testing for equality of means on the simplex. *Journal of Statistical Computation and Simulation*, 87(2): 406–422.
9. Tsagris M., Preston S. and Wood A.T.A. (2016). Improved supervised classification for compositional data using the α -transformation. *Journal of Classification*, 33(2): 243–261.
8. Tsagris M. (2015). Regression analysis with compositional data containing zero values. *Chilean Journal of Statistics*, 6(2): 47–57.
7. Scealy J.L., de Caritat P., Grunsky E.C., Tsagris M.T., and Welsh A.H. (2015). Robust principal component analysis for power transformed compositional data. *Journal of the American Statistical Association*, 110(509): 136–148.
6. Rjiba M., Tsagris M. and Mhalla H. (2015). Bootstrap for Value at Risk Prediction. *International Journal of Empirical Finance*, 4(6): 362–371.
5. Fragkos K.C., Tsagris M. and Frangos C.C. (2014) Publication bias in meta-analysis: Confidence intervals for Rosenthal’s fail-safe number. *International Scholarly Research Notices*, Volume 2014, doi:10.1155/2014/825383.
4. Tsagris M. (2014). The k-NN algorithm for compositional data: a revised approach with and without zero values present. *Journal of Data Science*, 12(3): 519–534.
3. Tsagris M., Beneki C. and Hassani H. (2014). On the Folded Normal Distribution. *Mathematics*, 2(1): 12–28.

2. Tsagris M., Elmatzoglou I. and Frangos C.C. (2012). The Assessment of Performance of Correlation Estimates in Discrete Bivariate Distributions Using Bootstrap Methodology. *Communications in Statistics–Theory and Methods*, 41(1): 138–152.
1. Beneki C., Papastathopoulos A. and Tsagris M. (2011). The Influence of Web-based Enterprise Systems on SMEs’ Internationalization Process. *International Bulletin of Business Administration*, 12: 41–55.

OTHER JOURNAL PUBLICATIONS

6. Faggion C., Atieh M., Tsagris M., Seehra J. and Pandis N. (2024). A case study evaluating the effect of clustering, publication bias, and heterogeneity on the meta-analysis estimates in implant dentistry. *European Journal of Oral Sciences*, 132(1): e12962.
5. Seehra J., Stonehouse-Smith D., Cobourne M.T., Tsagris M. and Pandis N. (2021). Are treatment effect assumptions in orthodontic studies overoptimistic? *European Journal of Orthodontics*, 43(5): 583–587.
4. McLeese R.H., Spinou A., Alfahl Z., Tsagris M., Elborn J.S., Chalmers J.D., De Soyza A., Loebinger M.R., Birring S.S., Fragkos K.C., Wilson R., O’Neill K. and Bradley J.M. (2021). Psychometrics of HRQoL questionnaires in bronchiectasis: A systematic review and meta-analysis. *European Respiratory Journal*, 58(5): 2100025.
3. Kyriakis D., Kanterakis A., Manousaki T., Tsagris M., Tsamardinos I., Tsakogiannis A., Tsigenopoulos C.S. and Potamias G. (2019). Scanning of genetic variants and genetic mapping of phenotypic traits in gilthead seabream (*Sparus aurata*). *Frontiers in Genetics*, 10: 675.
2. Lakiotaki K., Vorniotakis N., Tsagris M., Georgakopoulos G. and Tsamardinos I. (2018). BioDataome: a collection of uniformly preprocessed and automatically annotated datasets for data-driven biology *DATABASE*, January 2018.
1. Montenegro-Johnson T.D., Stamm P., Strauss S., Topham A.T., Tsagris M., Wood A.T.A., Smith R.S., and Bassel G.W. (2015). 3DCellAtlas–A computational method to generate quantitative multidimensional cellular atlases of 2 plant organ development. *Plant Cell*, 27(4): 1018–1033.

BOOK CHAPTERS

5. Tsagris M. and Stewart C. (2022). A review of flexible transformations for modeling compositional data. *Advances and Innovations in Statistics and Data Science*, pp. 225–234. Edited by He W., Wang L., Chen J. and Chunfang D.
4. Papadaki I. and Tsagris M. (2022). Are NBA players getting paid according to their performance on court? *Advances in Econometrics, Operational Research, Data Science and Actuarial Studies Techniques and Theories*, pp. 405–428. Edited by Terziologu K., Springer.
3. Tsagris M. and Fafalios S. (2022). Advanced car price modelling and prediction in the Greek retail market. *Advances in Econometrics, Operational Research, Data Science and Actuarial Studies Techniques and Theories*, pp. 479–494. Edited by Terziologu K., Springer.
2. Tsagris M. and Frangos K. (2018). Meta-analyses of clinical trials vs diagnostic test accuracy studies. *In Diagnostic Meta-Analysis: A Useful Tool for Evidence Synthesis*, pp. 31–40. Edited by Giuseppe Biondi-Zoccai, Springer.
1. Tsagris M. and Fragkos K.C. (2016). Umbrella reviews, overviews of reviews, meta-epidemiologic studies–similarities and differences. *In Umbrella Reviews: Evidence Synthesis with Overviews of Reviews and Meta-Epidemiologic Studies*, pp. 43–54. Edited by Giuseppe Biondi-Zoccai, Springer.

14. Perdikis T., Alharbi N. and Tsagris M. (2026). Model-based clustering for spherical and hyper-spherical data using elliptically symmetric distributions.
13. Tsagris M. and Tzouvelekas V. (2026). When Decoupled Isn't Decoupled: Price Risk, Wealth Effects, and Behavioral Responses in a Nonseparable Household Model.
12. Tsagris M. and Tzouvelekas V. (2026). A House Divided: Income Inequality and the Rise of Ideological Polarization in Europe.
11. Adam C., Stylidis D., Tsagris M. and Emvalomatis G. (2026). Tourism and Climate Change: A multi-index global perspective.
10. Vassis D., Tsagris M. and Stylidis D. (2026). Forecasting Hotel Reservations Using Neural Networks: A Data-Driven Approach.
9. Alenazi A. and Tsagris M. (2026). Simplicial nonnegative matrix factorization with applications to high-dimensional and large-scale datasets.
8. Rallatou D., Tsagris M. and Tzouvelekas V. (2026). Together We Stand, Divided We Fall: Political Polarization and Income Inequality in the EU (and UK).
7. Tsagris M. and Pantazis Y. (2026). The α -regression for compositional data: a unified framework for standard, temporal and spatial regression models including compositional predictors.
6. Kontemeniotis N., Vargiakakis R. and Tsagris M. (2025). On independence testing using the (partial) distance correlation.
5. Sevinc V. and Tsagris M. (2025). On the Hyperparameters of PCTABU and PCHC Bayesian Network Learning Algorithms.
4. Hussain A. and Tsagris M. (2025). Enhanced Lepage-type test statistics for location-scale shifts with right-skewed data.
3. Alharbi N. and Tsagris M. (2025). Compositional time series modelling via simplicial singular spectrum analysis.
2. Fayomi A., Pantazis Y., Tsagris M., and Wood A.T.A. (2024). A Robust Cauchy Likelihood-based Version of Fisher's Linear Discriminant Rule.
1. Tsagris M. (2022). Modelling structural zeros in compositional data via a zero-censored multivariate normal model.

BOOK REVIEWS

2. Tsagris M. (2014). *Circular statistics in R* by A. Pewsey, M. Neuhauser and G.D. Ruxton. *Gazette of the Australian Mathematical Society*, 41(3): 183–184.
1. Tsagris M. (2014). *Statistics through resampling methods and R (2nd ed.)* by P.I. Good. *Journal of Applied Statistics*, 41(12): 2780–2781.

PUBLICATIONS IN CONFERENCE PROCEEDINGS (* INDICATES ABSTRACT BASED REFEREED PAPER)

7. *Scealy J., Caritat P., Grunsky E., Tsagris M. and Welsh A. Robust Principal Component Analysis for Power Transformed Compositional Data. *LASR 2015–Geometry-Driven Statistics and its Cutting Edge Applications: Celebrating Four Decades of Leeds Statistics Workshops, 30 June–2 July 2015, Leeds, UK*.
6. Tsagris M. A novel, divergence based, regression for compositional data. *28th Panhellenic Statistics Conference, 15–18 April 2015, Athens, Greece*.
5. Tsagris M. and Garibaldi J.M. Modelling Distributions of the Temporal Membership Grades for Non-Stationary Fuzzy Sets. *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2013), 7–10 July 2013, Hyderabad, India*.

4. *Tsagris M., Frangos C.C. and Frangos C.C. Confidence intervals for Cronbach's reliability coefficient. *Recent Techniques in Educational Science, 14–16 May 2013, Athens, Greece.*
3. *Tsagris M.T., Preston S. and Wood A.T.A. A data-based power transformation for compositional data. *4th International International Workshop on Compositional Data Analysis. 9–13 May 2011, Girona, Spain.*
2. Beneki C., Papastathopoulos A. and Tsagris M. Simulation in the Expansion of SMEs through the Adoption of ICTs. An Empirical Study of SMEs in Greece. *9th WSEAS International Conference on Simulation, Modelling and Optimization. 3–5 September 2009, Budapest, Hungary.*
1. *Tsagris M., Elmatzoglou I. and Frangos C.C. Comparison of the classical methods with the bootstrap computer intensive techniques in estimating parameters of the bivariate Poisson distribution. *2nd International Conference: Quantitative and Qualitative Methodologies in the Economic and Administrative Sciences. 25–27 May 2009, Athens, Greece.*

CONFERENCE PRESENTATIONS

28. Vassis D., Tsagris M. and Stylidis D. (2026). Forecasting Hotel Reservations Using Neural Networks: A Data-Driven Approach. *2nd INTOCUS International Conference, 27–28 March 2026, Athens, Greece.*
27. Theofilou A., Tsagris M., Tzouvelekas V., Nastis S., Mattas K. *188th EAAE Seminar, 12–13 September 2024, Chania, Greece.*
26. Tsagris M. *AUEB Statistical Data Science & Economics Conference 2024, 28–30 August 2024, Aegina, Greece.*
25. Foutzopoulos G., Pandis N. and Tsagris M. *AUEB Sports Analytics Workshop 2024, 23–24 May 2024, Athens, Greece.*
24. Psathas A., Rallatou D. and Tsagris M. *AUEB Sports Analytics Workshop 2023, 4–5 May 2023, Athens, Greece.*
23. Fabri C., Tsagris M., Moretti M. and Van Passel S. *AgEconMeet – Early career development seminar for agricultural economists in Europe, 5–7 October 2022, Göttingen, Germany.*
22. Fabri C., Moretti M., Tsagris M. and Van Passel S. *9th EAAE PhD Workshop, 22–24 June 2022, Parma, Italy.*
21. Fabri C., Moretti M., Tsagris M., and Van Passel S. *XIV International Conference of the European Society for Ecological Economics, 14–17 June 2022, Pisa, Italy.*
20. Mattas K., Tsagris M. and Tzouvelekas V. *XVI EAAE Virtual Congress, 20–23 July 2021, Prague, Czech Republic.*
19. Tsagris M. and Papadaki I. *AUEB Sports Analytics Workshop 2021, 24–25 May 2021, Athens, Greece.*
18. Tsaris M. and Tzouvelekas V. *Third Meeting of the OECD Network on Agricultural Total Factor Productivity and the Environment, 30–31 October 2019, Maryland, USA.*
17. Tsagris M., Fafalios S. and Alenazi A. *32nd Panhellenic Statistics Conference, 30 May–1 June 2019, Ioannina, Greece.*
16. Tsagris M., Markaki M., Papadovasilakis Z., Verrou K.M., Tsamardinos I. (Poster). *7th European Conference on Computational Biology, 8–12 September 2018, Athens, Greece.*
15. Stewart C. and Tsagris M. *46th Annual Meeting of the Statistical Society of Canada, 3–6 June 2018, Montreal, Canada.*
14. Markaki M., Limaci M., Papoutsoglou G. Tsagris M. and Tsamardinos I. (Poster). *Hellenic Bioinformatics 10 Conference, 6–9 September 2017, Heraklion, Greece.*
13. Tsagris M. and Tsamardinos I. *MASSCAUSAL 2, Workshop in Computational Methods for Cytometry and Single-Cell Data, 1–3 September 2017, Heraklion, Greece.*

12. Tsagris M., Borboudakis G., Lagani V. and Tsamardinos I. *2017 ACM SIGKDD Workshop on Causal Discovery, 14 August 2017, Halifax, Nova Scotia, Canada.*
11. Preston S., Paine P., Tsagris M. and Wood A. European Meeting of Statisticians (EMS), 24–28 July 2017, Helsinki, Finland.
10. Preston S., Paine P., Tsagris M. and Wood A.T.A. *International Conference of the Royal Statistical Society, 5–8 September 2016, Manchester, UK.*
9. Tsagris M. *Statistical Analysis of Manifold-Valued Data and Beyond: Nottingham workshop, 4–6 April 2016, UK.*
8. Tsagris M. *Young Statisticians Meeting, 3–4 July 2014, Bristol, UK.*
7. Tsagris M. *36th RSC in Probability and Statistics. 25–28 March 2013, Lancaster, UK.*
6. Tsagris M. Preston S. and Wood A. *5th International Conference of the ERCIM on Computing and Statistics. 1–3 December 2012, Oviedo, Spain.*
5. Tsagris M. *35th RSC in Probability and Statistics. 9–12 July 2012, Southampton, UK.*
4. Tsagris M., Preston S. and Wood A.T.A. *1st Conference of the International Society for NonParametric Statistics. 14–19 July 2012, Chalkidiki, Greece.*
3. Tsagris M. and Beneki C. *A 1st International Symposium on Business, Economics and Financial Applications (ISBEFA). 1–2 June 2012, Argostoli, Greece.*
2. Tsagris M.T., Preston S.P. and Wood A.T.A. *3rd International Conference of the ERCIM on Computing and Statistics. 10–12 December 2010, London, UK.*
1. Tsagris M. *33rd RSC in Probability and Statistics 12–15 April 2010, Warwick, UK.*

INVITED TALKS

22. Simplicial nonnegative matrix factorization with applications to high-dimensional and large-scale datasets. *Department of Statistics and Quantitative Methods, University of Milano-Bicocca, 26 May 2026, Milano, Italy.*
21. A Journey into Compositional Data Analysis. *Department of Statistics and Quantitative Methods, University of Milano-Bicocca, 26 May 2026, Milano, Italy.*
20. Fast and Memory-efficient Computation of Energy Related Statistical Quantities. *9th European Conference on Electrical Engineering and Computer Science (ELECS 2025), December 21–23, 2025, Athens, Greece.*
19. A Jensen-Shannon divergence based k -NN algorithm for missing value imputation in compositional data. *19th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2025), 13–15 December 2025, London, UK.*
18. On predicting an NBA game outcome from half-time statistics. *5th International Conference on Artificial Intelligence and Machine Learning, 17–18 November 2025, London, UK.*
17. Directional data analysis: spherical Cauchy or Poisson kernel-based distribution? *Statistical Modeling with Applications (Σ statMod2025), 26–28 September 2025, Piraeus, Greece.*
16. Constrained least squares simplicial-simplicial regression. *Institute of Computer Science, Foundation for Research and Technology-Hellas, 21 February 2025, Heraklion, Greece.*
15. Basic statistical analyses: what to do and what not to do. *University of Crete Research Center for the Humanities, Social and Education Science, 5 April 2024, Rethymnon, Greece.*
14. Multivariate data analysis using statistical and machine learning techniques. *Institute of Marine Biology, Biotechnology and Aquaculture, Hellenic Center for Marine Research, 19 March 2024, Heraklion, Greece.*
13. Factors Shaping Farmer's Innovative Behavior: A Meta-Analysis of Technology Adoption Studies in Agriculture. *16th International Conference on Computational and Financial Econometrics (CFE 2023), 16–18 December 2023, Berlin, Germany.*

12. A Jensen–Shannon divergence based k -NN algorithm for missing value imputation in compositional data. *2023 Statistical Society of Canada Annual Meeting in Ottawa. 28–31 May 2023, Ottawa, Canada.*
11. Non-parametric regression models for compositional response data. *15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022), 17–19 December 2022, London, UK.*
10. Machine Learning and Artificial Intelligence in Business Analytics. *Department of Economics, Finance and Real Estate, University of South Alabama. 18 November 2022, Mobile, USA.*
9. Cauchy Robust Principal Component Analysis. *Department of Mathematics and Statistics, University of Cyprus. 16 March 2022, Nicosia, Cyprus.*
8. Compositional data analysis with the R Package *Compositional*. *19th Conference of the Applied Stochastic Models and Data Analysis International Society ASMDA2021, 1–3 June 2021, Athens, Greece.*
7. Compositional data analysis wielding a folded type model. *4th International Conference on Statistics, Mathematical Modelling and Analysis, 29–31 May 2021, Guilin, China.*
6. Some recent advances on modelling spherical data. *Department of Mathematics, University of Ioannina. 28 November 2019, Ioannina, Greece.*
5. Feature selection for high dimensional correlated data. *Foundation of Research and Technology Hellas. 19 October 2018, Heraklion, Greece.*
4. The elliptically symmetric angular Gaussian distribution for modelling spherical data. *Department of Statistics, Athens University of Economics and Business. 6 July 2018, Athens, Greece.*
3. Recent advances in regression for compositional data. *Department of Economics, University of Crete. 6 June 2018, Rethymnon, Greece.*
2. Classification of forensic glass fragments using R. *6th International Conference on Forensic Research & Technology (Forensic Research 2017). 18–19 September 2017, Houston, USA.*
1. Zero adjusted Dirichlet regression for compositional data. *45th Annual Meeting of the Statistical Society of Canada. 11–14 June 2017, Winnipeg, Canada.*

CONFERENCE COMMITTEES

- 37th Panhellenic and 3rd International Statistics Conference. 24–27 April 2025, Larissa, Greece.
- Conference of the Association of Southern European Economic Theorists. 27–29 October, 2022, Rethymnon, Greece.
- International Symposium on Big Data and Applied Statistics (ISBDAS 2018). 2–4 November, 2018, Guangzhou, China.
- 1st International Symposium on Business, Economics and Financial Applications (ISBEFA). 1–2 June, 2012, Argostoli, Greece.

BOOKS

- Imran M., Tsagris M., Jamal F. and Chesneau C. (2026). [Implementing R for Statistics](#) (350 pages). Academic Press.
- Tsagris M. and Koukouritakis M. (2022). [Statistics using IBM SPSS 26 and Eviews 11](#) (235 pages in Greek). Kallipos, Open Academic Editions.

STATISTICAL MANUALS

- [Multivariate statistical functions in R](#) (386 pages in English)
- [Statistics using excel 2010](#) (30 pages in English)
- [Statistics using IBM SPSS 22](#) (156 pages in Greek)

TEACHING EXPERIENCE

- **Lectures**
 - **Hellenic Open University, Oct. 2022 –Jul. 2025**
DAMA61 Numerical and Computational Techniques for Data Science and Machine Learning.
 - **University of Crete, Department of Economics, Oct. 2018 –**
Economic Growth, Mathematics I, II & III, Econometrics I & II, Introduction to Programming using R, Machine Learning with Applications to Economics I.
 - **University of Crete, School of Medicine, MSc program in Bioinformatics, Feb. 2017 –**
Advanced Statistics, Advanced Statistics with R.
 - **American University of the Middle East, Sep. 2014 – Nov. 2014**
Managerial Statistics, Probability & Statistics in Engineering.
- **Problem classes/Labs**
 - **University of Crete, Department of Economics, Advanced Summer School in Economics & Econometrics, 2019 – 2022**
Lab sessions.
 - **Nottingham Trent university, Feb. 2013 – Apr. 2013**
Statistics I, Statistics II, Skills for the Forensic Sciences.
 - **University of Nottingham, School of Mathematical Sciences, Oct. 2010 – May 2013**
Statistical Models and Methods, APTS course Statistical Modelling (Lab session in April 2013 and April 2010), Statistics using R, Probabilities, Statistics, Probability Models and Methods.
- **Seminars**
 - **University of Crete, Centre of Training and Lifelong Learning, February 2024 – May 2024**
Statistics using IBM SPSS.
 - **System Symvouleftiki Seminars at Hospital of Agia Olga, Asklepion Hospital & Attikon Hospital, Athens, Apr. 2008 – Jun. 2008**
Medical Statistics using SPSS.

SUPERVISION

Adam C. (PhD supervising committee) <i>Climate Impact in Tourists</i>	Ongoing <i>Department of Economics, University of Crete</i>
Christogiannis C. (PhD supervising committee) <i>Using multiple imputation and...</i>	December 2025 <i>Department of Primary Education, University of Ioannina</i>
Tzagkaraki S. (MSc thesis) <i>Optimization of γ-OMP algorithm for FS in GSE data</i>	Jun. 2024 <i>School of Medicine, University of Crete</i>
Kalaitzakis N. (MSc supervising committee) <i>Causal quests in aqueous research with Bayesian networks</i>	Sep. 2022 <i>Department of Stats, Athens U. of Econ. and Business</i>
Patsaroucha I. (MSc supervising committee) <i>Variable selection and prediction of bankruptcy using ML</i>	Aug. 2022 <i>Department of Stats, Athens U. of Econ. and Business</i>

Huang R. (MSc supervising committee)

Regression for compositional predictor data

Aug. 2022

Department of Maths and Stats, U. of New Brunswick, Canada

Fafalios S. (MSc unofficial summer project)

Translation of R code into C++

Sep. 2017

Department of Computer Science, University of Crete

Dimitriadis M. (BSc thesis)

Translation of R code into C++

Jun. 2017

Department of Computer Science, University of Crete

R PACKAGES

- 60. [BGFD](#): Bell–G and Complementary Bell-G Family of Distributions.
- 59. [binomCI](#): Confidence Intervals for a Binomial Proportion.
- 58. [bivpois](#): Bivariate Poisson Distribution.
- 57. [cauchy pca](#): Robust Principal Component Analysis Using the Cauchy Distribution.
- 56. [CCd](#): The Cauchy–Cacoullos (Discrete Cauchy) Distribution.
- 55. [choosepc](#): Choose the Number of Principal Components via Reconstruction Error.
- 54. [clusterindices](#): Cluster Validity Indices.
- 53. [cols](#): Constrained Ordinary Least Squares.
- 52. [Compositional](#): Compositional Data Analysis.
- 51. [CompositionalClust](#): Clustering with Compositional Data.
- 50. [CompositionalHDDA](#): High Dimensional Discriminant Analysis with Compositional Data.
- 49. [CompositionalML](#): Machine Learning with Compositional Data.
- 48. [CompositionalNAimp](#): Missing Value Imputation with Compositional Data.
- 47. [CompositionalRF](#): Multivariate Random Forest with Compositional Responses.
- 46. [CompositionalSR](#): Spatial Regression Models with Compositional Data.
- 45. [consrq](#): Constrained Quantile Regression.
- 44. [corrfuncs](#): Correlation Coefficient Related Functions.
- 43. [Cronbach](#): Cronbach’s Alpha.
- 42. [crwbmetareg](#): Cluster Robust Wild Bootstrap Meta Regression.
- 41. [DER](#): Income Polarization Index.
- 40. [dCovTS](#): Distance Covariance and Correlation for Time Series Analysis.
- 39. [dcorVS](#): Variable Selection Algorithms Using the Distance Correlation.
- 38. [Directional](#): Directional Data Analysis.
- 37. [epilogi](#): The ‘epilogi’ Variable Selection Algorithm for Continuous Data.
- 36. [estats](#): Fast and Light–Weight Energy Statistics.
- 35. [fertilmodel](#): Fertility Models.
- 34. [foldedt](#): The Folded t Family of Distributions.
- 33. [fsn](#): Rosenthal’s Fail Safe Number and Related Functions.
- 32. [geppe](#): Generalised Exponential Poisson and Poisson Exponential Distributions.

31. [gomp](#): The gamma–OMP Feature Selection Algorithm.
30. [gp](#): Maximum Likelihood Estimation of the Generalized Poisson Distribution.
29. [highd2means](#): High–Dimensional Tests for Two Population Mean Vectors.
28. [irls](#): Generalised Linear Models via Iteratively Reweighted Least Squares.
27. [kernreg](#): Nadaraya–Watson Kernel Regression.
26. [LePage](#): LePage Type Tests.
25. [MLE](#): Maximum Likelihood Estimation of Various Univariate and Multivariate Distributions.
24. [MN](#): Matrix Normal Distribution.
23. [mvcauchy](#): Multivariate Cauchy Distribution.
22. [mvcor](#): Correlation Coefficients for Multivariate Data.
21. [mvhtests](#): Multivariate Hypothesis Tests.
20. [MXM](#): Feature Selection (Including Multiple Solutions) and Bayesian Networks.
19. [nlgm](#): Non Linear Growth Models.
18. [nnmf](#): Nonnegative Matrix Factorization.
17. [nnsolve](#): Fast Non–Negative Least Squares.
16. [pchc](#): Bayesian Network Learning with the PCHC and Related Algorithms.
15. [pdcor](#): Fast and Light–Weight Partial Distance Correlation.
14. [plattice](#): Lattice Plot for Panel Data.
13. [PNAR](#): Poisson Network Autoregressive Models.
12. [ppks](#): Permutation Based Paired Kolmogorov–Smirnov Test.
11. [rangen](#): Random Number Generators and Utilities.
10. [rdcor](#): Rank Distance Correlation Coefficient.
9. [regda](#): Regularised Discriminant Analysis.
8. [Rfast](#): A Collection of Efficient and Extremely Fast R Functions.
7. [Rfast2](#): A Collection of Efficient and Extremely Fast R Functions II.
6. [Rnanoflann](#): Extremely Fast Nearest Neighbor Search.
5. [robqda](#): Robust Quadratic Discriminant Analysis.
4. [scpropreg](#): Simplicially Constrained Regression Models for Proportions.
3. [skellam](#): Densities and Sampling for the Skellam Distribution.
2. [sphereclust](#): Model Based Clustering for Spherical Data Using Elliptically Symmetric Distributions.
1. [TPXG](#): Two Parameter Xgamma & Poisson Xgamma: Regression & Distribution Functions.