Ángel López-Oriona

Postdoctoral Fellow. King Abdullah University of Science and Technology (KAUST), Saudi Arabia

Lives in Thuwal
(+34) 636564332
oriona38@hotmail.com
www.lopezoriona.com

Education

PhD in Statistics, University of A Coruña, A Coruña, Spain. Cum Laude Mention, International Mention, and Extraordinary Doctoral Award.

Master's Degree in Big Data Analytics (MBI), European University of Madrid, Madrid, Spain.

Master's Degree in Statistical Techniques, University of Santiago de Compostela, Santiago de Compostela, Spain.

Bachelor's Degree in Mathematics, University of Santiago de Compostela, Santiago de Compostela, Spain.

Work Experience

Sept 2023 – Present **Postdoctoral Fellow**, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia.

- Development of statistical methods for time series clustering, forecasting, and modeling, with a focus on solving important environmental problems.
- Participation at several conferences and collaboration with international universities.
- Supervision of PhD students.
- Teaching of undergraduate and graduate courses and seminars.

May 2020 – Jul 2023 **PhD Candidate**, University of A Coruña, A Coruña, Spain.

- Construction of machine learning procedures for time series, including clustering, classification, outlier detection and forecasting algorithms, among others.
- Development of software packages implementing several data mining methods for time series.
- Participation at several conferences and collaboration with international universities through research stays.
- Teaching of graduate seminars.

Jan 2021 – Dec 2021 **Instructor**, European Center for Postgraduate Studies (CEMP), A Coruña, Spain.

- Content creator for courses in Statistics.

Jun 2019 – Feb 2020 **Data Scientist**, Estrella Galicia, A Coruña, Spain.

- Development and implementation of new forecasting models, resulting in increased company productivity and efficiency.
- Collaboration with management to prioritize reporting needs and deliver analysis and insights on key performance indicators, such as gross profit and warehouse efficiency by product.
- Analysis and processing of complex datasets using advanced querying, visualization and sophisticated tools.

Before 2019 (part-time) **Online Poker Player**, POKERSTARS, Remote.

- *Sit & Go* specialist.
- Pokerstars status: *Supernova*. I achieved this position, the second best status for professional online players, after 1 (sabbatical) year of part-time dedication to online poker.
- Verified total net earnings (winnings − losses − taxes) of +$60,000 (US dollars) with a sample size of more than 300,000 *Sit & Go* tournaments played.

Academic Theses

New methodological contributions in statistical learning for time series (PhD thesis). Grade: Summa cum laude. Supervised by Professor José Antonio Vilar Fernández.

Development of a web application for computer vision using deep learning techniques (master thesis, Big Data Analytics). Grade: Summa cum laude. Supervised by José Javier Ruiz Cobo and Luis Férnandez Ortega.

Sales forecast using machine learning techniques (master thesis, Statistical Techniques). Grade: Summa cum laude. Supervised by Professor Alberto Rodríguez Casal and Jorge López Muñiz.

Statistical tools for treating data of double stars in the astrometric Gaia Mission (bachelor thesis). Grade: Summa cum laude. Supervised by Professor César Andrés Sánchez Sellero and Professor Josefina Ling Ling.

Languages

Spanish **Native Speaker**

English **Certificate of Proficiency in English, University of Cambridge (C2)**

French **Intermediate Level**

Portuguese **Intermediate Level**

Journal Papers

2025 **López-Oriona, Á.**, & Sun, Y. (2025). Forecasting time series collections via fuzzy clustering. Under review in *Fuzzy Sets and Systems* (second review round).

2025 **López-Oriona, Á.**, Sun, Y., & Vilar, J. A. (2025). Clustering locally stationary time series using quantile autocorrelations. Under review in *Journal of Computational and Graphical Statistics* (second review round).

2025 Ma, Z., **López-Oriona, Á.**, Sun, Y., & Ombao, H. (2025). ROBCPCA: A robust multivariate time series clustering method based on common principal component analysis. Accepted for publication in *Journal of Classification*.

2025 Ma, Z., **López-Oriona, Á.**, Sun, Y., & Ombao, H. (2025). FCPCA: Fuzzy clustering of high-dimensional time series based on common principal component analysis. *International Journal of Approximate Reasoning*, *187*, 109552.

2025 **López-Oriona, Á.**, & Sun, Y. (2025). Lag selection in feature-based clustering of time series. *Knowledge-Based Systems*, *329*, 114258.

2025 **López-Oriona, Á.**, Sun, Y., & Vilar, J. A. (2025). Improving the prediction accuracy of statistical models: A new hierarchical clustering approach. *Statistics and Computing*, *35*(6), 168.

2025 **López-Oriona, Á.**, Montero-Manso, P., & Vilar, J. A. (2025). Time series clustering based on prediction accuracy of global forecasting models. *Knowledge-Based Systems*, *323*, 113649.

2025 **López-Oriona, Á.**, Sun, Y., & Shang, H. L. (2025). Dependence-based fuzzy clustering of functional time series. *Journal of Computational and Graphical Statistics*, 1-24.

2025 **López-Oriona, Á.**, Sun, Y., & Crujeiras, R. M. (2025). Fuzzy clustering of circular time series with applications to wind data. *Environmetrics*, *36*(2), e2902.

2024 **López-Oriona, Á.**, & Vilar, J. A. (2024). Analyzing categorical time series with the R package *ctsfeatures*. *Journal of Computational Science*, *76*, 102233.

2023 **López-Oriona, Á.**, Weiss, C. H., & Vilar, J. A. (2023). Two novel distances for ordinal time series and their application to fuzzy clustering. *Fuzzy Sets and Systems*, *468*, 108590.

2023 Trigo-Tasende, N., et al. (2023). Wastewater early warning system for SARS-CoV-2 outbreaks and variants in a Coruña, Spain. *Environmental Science and Pollution Research*, *30*, 79315-79334.

2023 **López-Oriona, Á.**, & Vilar, J. A. (2023). Ordinal Time Series Analysis with the R Package *otsfeatures*. *Mathematics*, *11*(11), 2565.

2023 **López-Oriona, Á.**, & Vilar, J. A. (2023). Machine learning for multivariate time series with the R package *mlmts*. *Neurocomputing*, *150*, 55-82.

2023 **López-Oriona, Á.**, Vilar, J. A., & D'Urso, P. (2023). Hard and soft clustering of categorical time series based on two novel distances with an application to biological sequences. *Information Sciences*, *624*, 467-492.

2022 **López-Oriona, Á.**, & Vilar, J. A. (2022). The bootstrap for testing the equality of two multivariate time series with an application to financial markets. *Information Sciences*, *616*, 255-275.

2022 **López-Oriona, Á.**, D'Urso, P., Vilar J. A., & Lafuente-Rego, B. (2022). Quantile-based fuzzy C-means clustering of multivariate time series: Robust techniques. *International Journal of Approximate Reasoning*, *150*, 55-82.

2022 **López-Oriona, Á.**, Vilar, J. A., & D'Urso, P. (2022). Quantile-based fuzzy clustering of multivariate time series in the frequency domain. *Fuzzy Sets and Systems*, *443*, 115-154.

2022 **López-Oriona, Á.**, D'Urso, P., Vilar J. A., & Lafuente-Rego, B. (2021). Spatial weighted robust clustering of multivariate time series based on quantile dependence with an application to mobility during COVID-19 pandemic. *IEEE Transactions on Fuzzy Systems*, *30*(9), 3990-4004.

2022 Vallejo, Juan A., et al. (2022). Modeling the number of people infected with SARS-COV-2 from wastewater viral load in Northwest Spain. *Science of The Total Environment*, *811*, 152334.

2021 **López-Oriona, Á.**, & Vilar, J. A. (2021). F4: An All-Purpose Tool for Multivariate Time Series Classification. *Mathematics*, *9*(23), 3051.

2021 **López-Oriona, Á.**, & Vilar, J. A. (2021). Outlier detection for multivariate time series: A functional data approach. *Knowledge-Based Systems*, *233*, 107527.

2021 **López-Oriona, Á.**, & Vilar, J. A. (2021). Quantile cross-spectral density: A novel and effective tool for clustering multivariate time series. *Expert Systems with Applications*, *185*, 115677.

2020 **Oriona, A. L.**, Ling, J. F., & Sellero, C. S. (2020). Photocenter Shift Effect in Double Stars of Gaia DR2 Database. *Acta Astronomica*, *70*, 19-32.

Submitted Papers and Works in Progress

2025 **López-Oriona, Á.**, & Sun, Y. (2025). Amortized neural clustering of time series based on statistical features. In preparation.

2025 **López-Oriona, Á.**, Sun, Y., & Shang, H. L. (2025). Nonlinear tests for functional time series based on the functional quantile autocorrelation. In preparation.

2025 Ma, Z., **López-Oriona, Á.**, Sun, Y., & Ombao, H. (2025). Robust fuzzy clustering for high-dimensional multivariate time series with outlier detection. Submitted.

2025 Ma, Z., **López-Oriona, Á.**, Sun, Y., & Ombao, H. (2025). Improving forecasts in high-dimensional multivariate time series through fuzzy clustering. A robust approach. In preparation.

Book Chapters

2023 **López-Oriona, Á.**, Montero-Manso, P., & Vilar, J. A. (2023). Clustering of Time Series Based on Forecasting Performance of Global Models. *Advanced Analytics and Learning on Temporal Data: 7th ECML PKDD Workshop, AALTD 2022, Grenoble, France, September 19–23, 2022, Revised Selected Papers*, (pp. 18-33). Springer International Publishing.

2023 **López-Oriona, Á.**, Vilar, J. A., & D'Urso, P. (2023). Unsupervised Classification of Categorical Time Series Through Innovative Distances. *17th Conference of the International Federation of Classification Societies, IFCS 2022, Porto, Portugal, July 19–23, 2022*, (pp. 233-241). Springer International Publishing.

Conference Papers

2022 **López-Oriona, Á.**, & Vilar, J. A. (2022). The Bootstrap for Testing the Equality of Two Multivariate Stochastic Processes with an Application to Financial Markets. *Engineering Proceedings*, *18*(1), 38.

2021 **López-Oriona, Á.**, D'Urso, P., Vilar J. A., & Lafuente-Rego, B. (2021). Robust Methods for Soft Clustering of Multidimensional Time Series. *Engineering Proceedings*, *7*(1), 60.

Conference Proceedings

2023 **López-Oriona, Á.**, Weiss, C. H., & Vilar, J. A. (2023), *Fuzzy Clustering Of Ordinal Time Series Based On Two Novel Distances*. 5th International Conference on Statistics: Theory and Applications (ICSTA 2023), London, United Kingdom, 03-05 August 2023. https://avestia.com/ICSTA2023_Proceedings/files/paper/ICSTA_110.pdf.

2022 **López-Oriona, Á.**, & Vilar, J. A. (2022), *Machine Learning for Multivariate Time Series with the R Package mlmts*. Joint Statistical Meetings (JSM 2022), Washington, D.C., USA, 06-11 August 2022. ww2.amstat.org/meetings/Proceedings/index.cfm.

2022 **López-Oriona, Á.**, Vilar, J. A., & D'Urso, P. (2022), *Unsupervised Classification of Categorical Time Series through Innovative Distances*. 4th International Conference on Statistics: Theory and Applications (ICSTA 2022), Prague, Czech Republic, 28-30 July 2022. https://avestia.com/ICSTA2022_Proceedings/files/paper/ICSTA_111.pdf.

2021 **López-Oriona, Á.**, D'Urso, P., Vilar, J. A., & Lafuente-Rego, B. (2021), *Spatial weighted robust clustering of multivariate time series based on quantile dependence with an application to mobility during COVID-19 pandemic*. 13th International Workshop on Fuzzy Logic and Applications (WILF 2021), Vietri sul Mare, Italy, 20-22 December 2021. http://ceur-ws.org/Vol-3074/paper07.pdf.

2021 **López-Oriona, Á.**, & Vilar, J. A. (2021), *An effective tool for clustering multivariate time series with an application to financial markets*. XV Galician Conference on Statistics and Operations Research (SGAPEIO 2021), Santiago de Compostela, Spain, 04-06 November 2021. http://xvcongreso.sgapeio.es/descargas/actas-xvSGAPEIO.pdf.

Conference Oral Presentations

2025 8th International Conference on Econometrics and Statistics (EcoSta 2025), Tokyo, Japan: *Clustering locally stationary time series using quantile autocorrelations*.

2024 26th International Conference on Computational Statistics (COMPSTAT 2024), Giessen, Germany: *Fuzzy clustering of circular time series based on a new dependence measure with applications to wind data*.

2024 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, China: *Fuzzy clustering of circular time series based on a novel distance with an application to wind data*.

2023 Australian Statistical Conference (ASC 2023), Wollongong, Australia: *Fuzzy clustering of circular time series based on a novel distance with an application to wind data*.

2023 Joint Statistical Meetings (JSM 2023), Toronto, Canada: *Fuzzy clustering of ordinal time series based on two novel distances with financial applications*.

2023 5th International Conference on Statistics: Theory and Applications (ICSTA 2023), London, United Kingdom: *Fuzzy clustering of ordinal time series based on two novel distances*.

2023 9th International Conference on Time Series and Forecasting (ITISE 2023), Gran Canaria, Spain: *Clustering of time series based on forecasting performance of global models*.

2023 9th International Conference on Time Series and Forecasting (ITISE 2023), Gran Canaria, Spain: *Machine learning for multivariate time series with the R package* ***mlmts***.

2022 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022), London, United Kingdom: *Time series clustering based on prediction accuracy of global forecasting models*.

2022 International Conference on Mathematics, Computational Sciences and Statistics (ICoMCoS 2022), Surabaya, Indonesia: *The bootstrap for testing the equality of two multivariate stochastic processes with an application to financial markets*.

2022 International Conference on Mathematics, Computational Sciences and Statistics (ICoMCoS 2022), Surabaya, Indonesia: *Unsupervised learning of temporal data based on global prediction models*.

2022 7th Workshop on Advanced Analytics and Learning on Temporal Data (AALTD 2022), Grenoble, France: *Time series clustering based on prediction accuracy of global forecasting models*.

2022 Joint Statistical Meetings (JSM 2022), Washington, D.C., USA: *Machine learning for multivariate time series with the R package* ***mlmts***.

2022 4th International Conference on Statistics: Theory and Applications (ICSTA 2022), Prague, Czech Republic: *Unsupervised classification of categorical time series through innovative distances*.

2022 17th Conference of the International Federation of Classification Societies (IFCS 2022), Porto, Portugal: *Unsupervised classification of categorical time series through innovative distances*.

2022 8th International Conference on Time Series and Forecasting (ITISE 2022), Gran Canaria, Spain: *The bootstrap for testing the equality of two multivariate stochastic processes with an application to financial markets*.

2022 XXIII International Symposium of Mathematical Methods Applied to Sciences (SIMMAC 2022), San José, Costa Rica: *Quantile-based fuzzy clustering of multivariate time series in the frequency domain*.

2022 11th Conference of the Asian Regional Section of the International Association for Statistical Computing (IASC-ARS 2022), Kyoto, Japan: *Soft clustering of multidimensional time series*.

2021 13th International Workshop on Fuzzy Logic and Applications (WILF 2021), Vietri sul Mare, Italy: *Spatial weighted robust clustering of multidimensional time series based on quantile dependence with an application to mobility during COVID-19 pandemic*.

2021 14th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2021), London, United Kingdom: *Spatial weighted robust clustering of multivariate time series with an application to COVID-19 pandemic*.

2021 XV Galician Conference on Statistics and Operations Research (SGAPEIO 2021), Santiago de Compostela, Spain: *An effective tool for clustering multivariate time series with an application to financial markets*.

2021 13th International Conference on Fuzzy Computation Theory and Applications (FCTA 2021), Virtual: *Fuzzy clustering of multivariate time series based on quantile dependence*.

2021 XXV Congress of the Portuguese Statistical Society (SPE 2021), Évora, Portugal: *Quantile-based fuzzy C-means clustering of multivariate time series: Robust techniques*.

2021 4th XoveTIC Conference for young researchers (XoveTIC 2021), A Coruña, Spain: *Quantile-based fuzzy C-means clustering of multivariate time series: Robust techniques*.

2021 7th International Conference on Time Series and Forecasting (ITISE 2021), Gran Canaria, Spain: *F4: An all-purpose tool for multivariate time series classification*.

2020 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2020), London, United Kingdom: *A novel structure-based approach for multivariate time series clustering*.

Conference Poster Presentations

2024 The KAUST 2024 Workshop on Statistics, Thuwal, Saudi Arabia: *Dependence-based fuzzy clustering of functional time series*.

2023 The KAUST 2023 Workshop on Statistics, Thuwal, Saudi Arabia: *Time series clustering based on prediction accuracy of global forecasting models*.

2021 5th International Workshop on Functional and Operatorial Statistics (IWFOS 2021), Brno, Czech Republic: *Outlier detection for multivariate time series: a functional data approach*.

Conference Contributions as Coauthor

2025 8th International Conference on Econometrics and Statistics (EcoSta 2025), Tokyo, Japan: *FCPCA: Fuzzy clustering of high-dimensional MTS based on common principal component analysis with robust extensions*. Speaker: Ziling Ma.

2025 24th International Conference on Robust Statistics (ICORS 2025), Stresa, Italy: *Fuzzy clustering of multivariate time series based on common principal component analysis with robust extensions*. Speaker: Ziling Ma.

2022 17th Conference of the International Federation of Classification Societies (IFCS 2022), Porto, Portugal: *Clusters based on prediction accuracy of global forecasting models*. Speaker: Pablo Montero-Manso.

2022 42nd International Symposium on Forecasting (ISF 2022), Oxford, United Kingdom: *Improving the forecasting accuracy of global models/cross-learning in large datasets by finding clusters of similar time series*. Speaker: Pablo Montero-Manso.

2022 32nd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID 2022), Lisbon, Portugal: *COVIDBENS: wastewater-based epidemiology to monitor COVID-19 pandemic and to predict new outbreaks in A Coruña (NW Spain)*. Speaker: Margarita Poza Domínguez.

Conference Organizations

2025 8th International Conference on Econometrics and Statistics (EcoSta 2025), Tokyo, Japan. Organizer of Session EO147, entitled *Statistical learning for time series*.

2024 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, China. Organizer of Session EO317, entitled *Clustering and classification for time series*.

Seminars and Short Courses

2024 Practical tutorial for the Biostatistics Group, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia: *Building R packages. From the first steps to CRAN submission*. Invited by Professor Hernando Ombao.

2024 Academic seminar for the Sequence Analysis Association (SAA), Stony Brook University, New York, USA: *Analyzing categorical time series with the R package ctsfeatures*. Invited by Professor Tim Liao.

2024 Academic seminar for the Computer, Electrical and Mathematical Sciences and Engineering (CEMSE) Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia: *Fuzzy clustering of circular time series based on a new distance with applications to wind data*. Invited by Professor Paula Moraga.

2023 PhD defence. University of A Coruña, A Coruña, Spain: *New methodological contributions in statistical learning for time series*.

2023 PhD pre-defence seminar. University of A Coruña, A Coruña, Spain.

2022 Academic seminar for the Department of Mathematics and Statistics, Helmut Schmidt University, Hamburg, Germany: *Clustering of categorical time series through innovative distances*. Invited by Professor Christian H. Weiss.

2022 PhD follow-up seminar. University of A Coruña, A Coruña, Spain.

2022 Academic seminar for the Discipline of Business Analytics, the University of Sydney, Business School, Sydney, Australia: *Time series clustering based on prediction accuracy of global forecasting models*. Invited by Lecturer Pablo Montero-Manso.

2021 PhD follow-up seminar. University of A Coruña, A Coruña, Spain.

Advising and Mentoring

PhD advisees

Aug 2023 - Present Ziling Ma, King Abdullah University of Science and Technology (KAUST). *Robust and fuzzy methods for high-dimensional time series clustering and forecasting*. Co-advised with Professor Ying Sun (KAUST) and Professor Hernando Ombao (KAUST).

Teaching

Teaching Assistant, European Center for Postgraduate Studies (CEMP), A Coruña, Spain.

- Course *Introduction to Statistics* (2020/2021). Master's degree in Biostatistics.

Software

R package mlmts: **López-Oriona, Á.**, & Vilar, J. A. mlmts: Machine Learning Algorithms for Multivariate Time Series, r package version 1.1.2 (2024). URL `https://CRAN.R-project.org/package=mlmts`.

R package ctsfeatures: **López-Oriona, Á.**, & Vilar, J. A. ctsfeatures: Analyzing Categorical Time Series, r package version 1.2.2 (2024). URL `https://CRAN.R-project.org/package=ctsfeatures`.

R package otsfeatures: **López-Oriona, Á.**, & Vilar, J. A. otsfeatures: Ordinal Time Series Analysis, r package version 1.0.0 (2023). URL `https://CRAN.R-project.org/package=otsfeatures`.

Research Stays

PhD stays

2023 Lancaster University. Department of Mathematics and Statistics. Lancaster, United Kingdom.

- One-month research stay working on clustering of nonstationary time series under the supervision of lecturer Carolina Euan (from 10/06/2023 to 10/07/2023).

2022 Helmut Schmidt University. Department of Mathematics and Statistics. Hamburg, Germany.

- Three-month research stay working on data mining for ordinal time series under the supervision of professor Christian H. Weiss (from 20/09/2022 to 20/12/2022).

2022 The University of Sydney, Business School. Discipline of Business Analytics. Sydney, Australia.

- Three-month research stay working on time series clustering and forecasting under the supervision of lecturer Pablo Montero-Manso (from 01/04/2022 to 30/06/2022).

2021 Sapienza University of Rome, Faculty of Statistics. Department of Social and Economic Sciences. Rome, Italy.

- Three-month research stay working on fuzzy clustering of multivariate time series under the supervision of professor Pierpaolo D'Urso (from 05/05/2021 to 05/08/2021).

Courses and Workshops

Multivariable Calculus. Instructor: Dr. Julian Grossmann, Self-employed mathematician (formerly Hamburg University of Technology, Hamburg, Germany).

Measure Theory. Instructor: Dr. Julian Grossmann, Self-employed mathematician (formerly Hamburg University of Technology, Hamburg, Germany).

Fundamentals of Probability. Instructors: Professor John Tsitsiklis and Professor Patrick Jaillet, Massachusetts Institute of Technology (MIT), Cambridge, United States.

Neural Methods for Amortised Inference. Instructor: Professor Andrew Zammit Mangion, University of Wollongong, Wollongong, Australia.

Data Analysis on the Sphere. Instructor: Professor Zubair Khalid, Lahore University of Management Sciences, Lahore, Pakistan.

An Introduction to Hidden Markov Models. Instructor: Professor Francesco Lagona, University Roma Tre, Rome, Italy.

Awards and Honors

2024 Extraordinary Doctoral Award by the University of A Coruña (UDC) for the most outstanding PhD thesis defended during the academic year 2022-2023 in the fields of Computer Science and Mathematics.

2022 Award by the International Federation of Classification Societies (IFCS) for the best work presented by a PhD student at the 17th Conference of the International Federation of Classification Societies (IFCS 2022).

2021 Young researcher grant awarded by the European Society for Fuzzy Logic and Technology (EUSFLAT) for the best work presented by a PhD student at the 13th International Workshop on Fuzzy Logic and Applications (WILF 2021).

2020 Award by the company *International Business Machines* (IBM) for the development of the most accurate Deep Learning model in the 1st IBM Competition of Computer Vision held in the European University of Madrid.

2020 Award (shared with many colleagues) by the Royal Galician Academy of Sciences (RAGC) for the development of a project (called COVIDBENS) for analyzing and monitoring the COVID-19 pandemic in the area of A Coruña.

2019 Merit award for academic achievements in Master's Degree at the University of Santiago de Compostela.

Grants

2023 Competitive grant for a research stay at Lancaster University awarded by the Research Center for Information and Communication Technologies (CITIC) of the University of A Coruña.

2022 Competitive grant for a research stay at the Helmut Schmidt University of Hamburg awarded by the company Inditex in collaboration with the University of A Coruña.

2022 Competitive grant for a research stay at the University of Sydney awarded by the Research Center for Information and Communication Technologies (CITIC) of the University of A Coruña.

2021 Competitive grant for a research stay at Sapienza University of Rome awarded by the Xunta de Galicia.

2020 Competitive grant for PhD students (2020-2023) awarded by the Xunta de Galicia.

2020 Competitive grant for PhD students (2020-2022) awarded by the Center for Information and Communications Technology Research (CITIC) of the University of A Coruña.

Research Projects

01/09/2024 - 31/08/2027 **Statistical inference using flexible methods for complex data: theory and applications**.

- Granting institution: Spanish Ministry of Science and Innovation.
- Duration: 3 years.
- Amount: €237,500.
- Principal investigators: Mario Francisco Fernández and Ricardo Cao Abad.
- Code: PID2023-147127OB-I00.

20/09/2023 - 19/09/2026 **Research methods for environmental statistics**.

- Granting institution: King Abdullah University of Science and Technology (KAUST).
- Duration: 3 years.
- Amount: Private.
- Principal investigator: Ying Sun.
- Code: BAS/1/1655-01-01.

01/09/2021 - 31/08/2024 **Flexible statistical methods in data science for complex and big data: theory and applications**.

- Granting institution: Spanish Ministry of Science and Innovation.
- Duration: 3 years.
- Amount: €435,500.
- Principal investigators: Ricardo Cao Abad and Juan Manuel Vilar Fernández.
- Code: PID2020-113578RB-I00.

Referee of the Following Journals

- *Advances in Data Analysis and Classification* (1 reviewed manuscript).
- *Annals of Operations Research* (2 reviewed manuscripts).
- *Artificial Intelligence Review* (1 reviewed manuscript).
- *Computational Statistics* (2 reviewed manuscripts).

- *Computational Statistics and Data Analysis* (1 reviewed manuscript).
- *Expert Systems with Applications* (1 reviewed manuscript).
- *Fuzzy Sets and Systems* (1 reviewed manuscript).
- *IEEE Access* (1 reviewed manuscript).
- *Information Sciences* (2 reviewed manuscripts).
- *International Journal of Approximate Reasoning* (1 reviewed manuscript).
- *Journal of Applied Statistics* (1 reviewed manuscript).
- *Journal of Computational and Graphical Statistics* (1 reviewed manuscript).
- *Journal of Nonparametric Statistics* (1 reviewed manuscript).
- *Pattern Recognition* (1 reviewed manuscript).
- *Spatial Statistics* (2 reviewed manuscripts).
- *Stochastic Environmental Research and Risk Assessment* (1 reviewed manuscript).