

DANIEL PEÑA

Born: June, 9th 1948 in Madrid, Spain

Address: Universidad Carlos III de Madrid,
c/ Madrid 126,
GETAFE, 28903; Tf: 91 624 9515;

email: daniel.pena@uc3m.es;

Web page :

<http://halweb.uc3m.es/esp/Personal/personas/dpena/dpenaweb.html>

**EDUCATION**

Universidad Politécnica de Madrid : Ph. D, 1976 and Master (Ingeniero Industrial) in Industrial Engineering, 1970

Universidad Complutense de Madrid: Master in Statistics (Diplomado Grado Superior), 1975, Graduate (Diplomado) in Sociology, 1971

Harvard University: ITP Business Administration 1972

CURRENTLY

Emeritus Professor Department of Statistics, Universidad Carlos III de Madrid.

PREVIOUS POSITIONS

- Director UC3M-BS Institute of Financial Big Data (2015-2018)
- Rector, Universidad Carlos III de Madrid (2007-2015)
- Head of the Department of Statistics, Universidad Carlos III de Madrid (2004-2007)
- Visiting Professor - Graduate School of Business, University of Chicago (1987, 1999, 2001)
- Founding Chairman of the Department of Statistics, Universidad Carlos III de Madrid (2004 - 2007)
- Chairman of the Department of Statistics and Econometrics, Universidad Carlos III de Madrid (1997 - 2000)
- Vice-Rector - Universidad Carlos III de Madrid (1993-96).
- Founding Chairman of the Department of Statistics and Econometrics, Universidad Carlos III de Madrid (1991-93)
- Founding Chairman of the Department of Economics, Universidad Carlos III de Madrid (1990-91)
- Professor of Statistics Universidad Carlos III de Madrid (1991-)

- Professor of Statistics and Director of the Statistics Lab, Universidad Politécnica de Madrid (1981-90)
- Visiting Professor, University of Wisconsin-Madison (1983-84)
- Associate Profesor, Universidad Politécnica de Madrid (1978-80)
- Assistant Professor, Universidad Politécnica de Madrid (1972-78)

Ph. D. COURSES and RESEARCH SEMINARS

a) Spain

U. Autónoma de Madrid, U. Complutense de Madrid, U. Politécnica de Madrid, U. Carlos III de Madrid, U. Politécnica de Cataluña, U. Pompeu-Fabra, U. Autónoma de Barcelona, U. de Barcelona, U. del País Vasco, U. de Granada, U. de Sevilla, U. Almería, U. Jaén, U. Córdoba, U. de Cádiz, U. de Málaga, U. Politécnica de Valencia, U. de Valencia, U. Jaume I de Castellón, U. Alicante, U. Santander, U. Menéndez-Pelayo, U. de Navarra, U. Pública de Navarra, U. de Santiago de Compostela, U. La Coruña, U. de Oviedo, U. Zaragoza, U. Valladolid, U. Salamanca, U. Murcia, U. Cartagena, U. La laguna, U. Las Palmas, U. Castilla-La Mancha, U. CEU San Pablo, U. de Alcalá, U. de las islas Baleares, U. Huelva. Real Academia de Ciencias Exactas, Físicas y Naturales; Real Academia de Ingeniería

b) Abroad

University of Wisconsin-Madison, (1983, 87, 99, EE. UU), Universidad de Roma, (1986, Italia), Universidad de Nápoles, (1986, Italia), Instituto Europeo de Florencia, (1988, Italia), University of Toronto, (1988, 89, 91, Canadá), University of Chicago, (87, 99, 01 EE. UU), University of Minnesota, (87, EE. UU), Carnegie-Mellon University, (89, EE. UU), Universidad Nacional de Colombia, (Bogota, 88), Universidad de Antofagasta, (90, Chile), Universidad Católica de Chile, CIENES, (90, Chile), Stanford University, (90, EE. UU), Universidad Federico Santa María de Valparaíso, (91, Chile), Universidad Libre de Bruselas, (92, Bélgica), Universidad de Buenos Aires, (92, 98, 99 Argentina), Universidad de las Américas de Puebla (92, Méjico), Conservatoire National d'Artes et Metiers (95, Paris), Universidad de Tucumán, (96, Argentina), California State University, (96, EE.UU.), Université Catholique de Lovaine, (97, Bélgica), Tilburg University (97, Holanda), Universidad de Konstanz (98, Alemania), Academia Sinica (98, Taipei), Universidad de Yunan (98, China), Universidad de Dortmund (98, Alemania), Cambridge University (98, UK), Universidad Politécnica Nacional de Quito (99, Ecuador), Trinity College (2000, Irlanda), Instituto Tecnológico Autónomo de México (2001, México), Escuela de Probabilidad y Estadística (Guanajuato, Mexico 2001), University of Illinois (2001, Urbana-Champaign), Université de Aix-Marseille, GREQAM (2003, Francia), Lancaster University (2003, UK), Universidad de Dortmund (2003, Alemania), Universidad Federico II de Nápoles (2003, Italia), Universidad de Roma La Sapienza (2003, Italia), Universidad Técnica de Lisboa (2003, Portugal), Universidad de Buenos Aires (2004, Argentina), Université de Toulouse II (2004, Francia), Universidad de Leuven (2005, Belgica), Universidad de Parma (2005, Italia), Universidad de Roma La Sapienza (2005 Italia),

Universidad Nacional de Colombia, (2005, Santafé de Bogotá, Colombia), University of Liverpool (2006, UK), Universidad de Buenos Aires (2006, Argentina), Universidad de Dortmund (2006, Alemania), Universidad Nacional de Córdoba (Argentina, 2006). U. Lisboa (2007, Portugal), U. Coimbra (2008, Portugal), U. de Budapest (2008, Hungría), U. de Cartagena (2008, Colombia), U. de Campinas (2012, Brasil), Universidad de Buenos Aires (2013, 2014 Argentina), U. Dortmund, (2015, Alemania), U. British Columbia (2015, Canadá), U. de Lisboa (2017, Portugal), U. Chicago (2017, EEUU), U. Libre de Bruxells (2017, Bélgica), U. Hong-Kong (2018, China), London School of Economics (2018, Gran Bretaña), U. Waseda, (2018, Japón). U. de Chicago (2018), KAUST (2019), U. de Bolonia (2019). U. Nacional de Colombia (2021),

THESIS SUPERVISION

31. Matías Ávila (in progress): Modelling Seasonal Time Series with Deep Learning using air pollution data (co-directed with Andrés Alonso).
30. Angela Caro (2019): Predicción with modelos factoriales dinámicos. Universidad Carlos III de Madrid, (co-directed with Máximo Camacho).
- 29 Stevenson Bolívar (2019) : Contrastes sobre el número de factores en modelos factoriales dinámicos. Universidad de Bogotá, (co-directed with Fabio Nieto).
28. Duván Castaño (2018): Dynamic Factor Models with loading matrices changing over time. Universidad de Sao Paulo, (co-directed with Chang Chiann).
27. Carolina Rendón (2017): Clustering by projections in multivariate and functional data (co-directed with Javier Prieto).
26. Dr. Adolfo Alvarez (2014): Recombining observations in cluster analysis: The SAGRA method. Universidad Carlos III de Madrid.
25. Dra. Ana Laura Badagian (2013): Análisis espectral de procesos localmente estacionarios, Universidad Carlos III de Madrid (co-directed with Regina Kaiser, UC3M)
24. Dra. Betsabé Pérez Garrido (2012): Influencia y Sensibilidad en modelos mixtos with efectos fijos y aleatorios, Universidad Carlos III de Madrid (co-directed with Isabel Molina UC3M)
23. Dr. Miguel Ángel Bermejo (2011): Modelos no lineales de series temporales, Universidad Carlos III de Madrid (co-directed with Ismael Sánchez, UC3M)
22. Dra. Andrea Giuliadori (2011): Análisis estadístico de imágenes. Universidad Carlos III de Madrid (co-directed with Rosa Lillo, UC3M)

21. Dra. Ester González (2011): Componentes independientes en series temporales multivariantes. Universidad Carlos III de Madrid (co-directed with Antonio García Ferrer, UAM).
20. Dr. José Eliud Silva (2010): Predicción with restricciones en series temporales. Universidad Carlos III de Madrid. (co-directed with Victor Guerrero. ITAM, México).
19. Dra. Julia Viladomat (2009): Cluster y reducción de la dimensionalidad en grandes bases de datos. Universidad Carlos III de Madrid. (co-directed with Javier Prieto, UC3M).
18. Dr. Jorge Caiado (2006): Cluster en series temporales. Universidad de Lisboa. (co-directed with Nuno Crato).
17. Dra. Maria Elsa Correal (2006): Modelo Factorial dinámico por umbrales. Universidad Nacional de Colombia. (Co-directed with Jorge Martínez).
16. Dra. Mónica Benito (2006): Técnicas estadísticas de tratamiento de imágenes. Universidad Carlos III de Madrid.
15. Dra. Dolores Redondas (2004): Promedio Bayesiano de Modelos. Universidad Carlos III de Madrid.
14. Dr. Pedro Galeano (2004): Atípicos, Cambios estructurales y Discriminación en Series temporales multivariantes. Universidad Carlos III de Madrid.
13. Dra. Ángeles Carnero (2003): Atípicos en Modelos GARCH y de Volatilidad Estocástica. Universidad Carlos III de Madrid (Co-directed with Esther Ruiz).
12. Dr. Julio Rodríguez (2002): Contribuciones al estudio de la Heterogeneidad y la Dependencia. Universidad Carlos III de Madrid.
11. Dr. Andrés Alonso (2001): Métodos de Remuestreo y Datos atípicos en series temporales. Universidad Carlos III de Madrid. (Co-directed with Juan Romo).
10. Dra. Pilar Poncela (1998): Contrastes de Factores Comunes en Series Temporales Múltiples. Universidad Carlos III de Madrid.
9. Dr. Luis Manzanedo (1997): Cointegración y Reducción de la Dimensionalidad en Series Temporales Múltiples. Universidad Autónoma de Madrid.
8. Dra. Pilar Rivera (1997): La Medición de Constructos a través de modelos de ecuaciones estructurales with variables latentes: Una aplicación empírica a la calidad percibida. Universidad de Zaragoza. (Co-directed with Alberto Lafuente).
7. Dr. Ismael Sánchez (1996): La función de error cuadrático de predicción fuera de la muestra como herramienta diagnóstica en modelos de series temporales. Universidad Carlos III de Madrid.
6. Dra. María Jesús Sánchez (1995): Cambios de estructura y secuencias de valores atípicos en series temporales. Su influencia en la estimación y en la previsión. Universidad Politécnica de Madrid.

5. Dra. Ana Justel (1995): Algoritmos Adaptativos de Gibbs Sampling para la identificación de la heterogeneidad en regresión y series temporales. Universidad Carlos III de Madrid.
4. Dr. José Mira McWilliams (1995): Modelos Estadísticos para la aproximación eficiente de códigos complejos. Una aplicación al código Melcor. Universidad Politécnica de Madrid.
3. Dra. Teresa Villagarcía (1989): Análisis de Datos de Supervivencia: una aplicación a la estimación del desempleo en España. Universidad Politécnica de Madrid.
2. Dr. Cándido Pañeda (1986): Cantidades y valores añadidos en el movimiento pecuario: un estudio de series temporales. Universidad de Oviedo.
1. Dr. Luis Arimany de Pablos (1984): La Demanda de Fuel-oil en España. ETSII, Universidad Politécnica de Madrid.

PERIODICALS

Associate Editor, *International Journal of Forecasting* (2019-2020)
 Associate Editor, *Journal of Statistical Planning and Inference* (2006-2011)
 Associate Editor, *Statistica Sinica* (2005- 2009)
 Associate Editor, *Statistical Modelling: An International Journal* (2000- 2007).
 Editeur Associé, *Journal de la Société Française de Statistique* (1999- 2007)
 Associate Editor, *Estadística* (1997 - 2007).
 Associate Editor, *TEST* (1995 -2004)
 Associate Editor, *Journal of Business and Economic Statistics* (1995 -2001)
 Director, *Estadística Española* (1986-1995).
 Editorial Board, *Investigaciones Económicas* (1986 - 1992).

HONORS

Académico Numerario de la Real Academia de Ciencias de España, 2021.
 BBVA-SEIO Prize 2021 for the Best Contribution in Statistics and Operation Research to Data Science for the article "Clustering time series by linear dependency, Alonso and Peña, *Statistics and Computing*, 2019.
 National Prize in Statistics of Spain, 2020.
 Member of the Spanish Science Academy (Real Academia de Ciencias de España, Académico Correspondiente Nacional). 2018
 Medal, University Carlos III of Madrid, (2015)
 Medal, Spanish Statistical and Operation Research Society (2014)
 Price Jaime I in Economics (2011).
 Price Engineer of the Year (2011).
 Lifetime Career Award, Alumni ETSII-UPM, 2010.
 Youden Prize for the best article in *Technometrics*, *ASQ*, (2006)
 Fellow, American Statistical Association (2006)
 Fellow, Institute of Mathematical Statistics (2000)

Research Grants CICYT, Spain (1987-92, 1992-95, 1996-99, 2000-03, 2003-7, 2007- 2012, 2012-2015).

Elected member, International Statistical Institute (1986)

Fellow, Royal Statistical Society (1984)

Fellow, Mathematics Research Center, University of Wisconsin, Madison (1983/1984)

Fulbright Scholarship (1983)

DYNA Research Award, ANII (1977)

PROFESSIONAL SERVICES

- Member of the High Council for Research in Spain (2007-2010)
- Member of the Spanish Advisory Board in Statistics (92-95, 07-11).
- Member of the Council, Institute of Mathematical Statistics (2005-07).
- Member of the American Statistical Association Committee on International Relations (2003-2007); Vice-chair (2005-07)
- Member of European Committee, Bernoulli Society (2002-2004)
- President of European Courses in Advanced Statistics (ECAS), (1998-2002).
- Member of the Board of Directors, Inter. Soc. for Bayesian Analysis, (1998- 2000)
- Vice-president, Inter-American Statistical Institute (1998-2000).
- Member of the Executive Board, European Courses in Advance-Statistics. (1990-96),
- President of the Spanish Statistical Society (1989-92).
- President of the Committee on Statistical Methods, Spanish Association for Quality Control (1988-91).
- Member Committee on Fellows, IMS (2006-2008)
- Member of the Organizing (OC) or Scientific (SC) Committee in the following meetings:
 - Jornadas Nacionales de Series Temporales. EOI Business School (President SC, Madrid, Spain 1979) Reunión Nacional de la Sociedad Española de Estadística e Investigación Operativa. (SC Alicante, Spain, 1988); Reunión Nacional de la Sociedad Española de Estadística e Investigación Operativa. (President SC and Segovia, Spain, 1991 OC). SNF/NBER International Meeting on Time Series. (President OC Madrid, Spain, 1989), European Meeting of Statisticians: (SC Barcelona, 1991). ECAS Course on Design of Experiments (President SC, Sète, France 1991), ECAS Course on Longitudinal Data Analysis (SC, Milton Keynes, 1995), ECAS Time Series course in Spain (President SC and OC, 1997), ECAS course on environmental statistics (SC, Sweden, 1999), World Meeting of the International Bayesian Society (SC, Crete, 2000), Bernoulli Society Meeting (SC Cuba, 2001), CLAD (SC Florence, Italy, 2006), International Symposium in Forecasting, ISF2006, (SC, Santander, Spain 2006). ICORS (SC, Argentina 2007).
- Committee of Quality Evaluation of the following Spanish universities: Autónoma de Barcelona (President, 2000), Huelva (President, 2003) and Sevilla (Member, 2005).

- Member of the European Team for evaluating the Departments of Economics in Italian Universities (CVIR, 2005).
- Founding Head: Department of Quantitative Methods and Computer Science, EOI Business School (1976-80); Statistics Laboratory, the School of Industrial Engineering, UPM (1987-1990), Department of Economics, Universidad Carlos III (1990/91), Department of Statistics and Econometrics, Universidad Carlos III de Madrid (1991/92), Department of Statistics, Universidad Carlos III de Madrid (2004/5)
- Member of the Founding Board of Directors - Universidad Carlos III de Madrid and Vice-Rector for Academics and Students (1992/1995). Rector of the University (2007/2015).
- Director: Master in Quality (since 1997), Universidad Carlos III de Madrid; Course on Statistical Methods for Researchers, National Research Council (*Consejo Superior de Investigaciones Científicas*) (87-94); Course on Quantitative Methods for Historians (1987-95), Fundación Sánchez-Albornoz, Avila.
- Member Scientific Committee: Fundación de Estudios de Economía Aplicada, FEDEA, (1993-2007).

COSULTING and KNOWLEDGE TRANSFER

- *Private companies*: Standard Eléctrica. IBM, Unilever (SAD), Pegaso, Aerolíneas Argentinas, Caja de Ahorros de Guipuzcoa, Bernabe Biosca S.A., Explosivos Rio Tinto, ERT-Consultores, RENFE, UNESA, INTELSA, FEMSA-BOSCH, Red Eléctrica de España, BBVA, Ericsson, Sorono, Fundación BBVA, STL, DIA, Banco Santander, FUNCAS.
- *Public sector* : Ministerio de Economía; Ministerio de Hacienda; Secretaría de Estado de Hacienda; Ministerio de Industria y Energía; Ministerio de Sanidad y Consumo; Instituto Nacional de Estadística; Ministerio de Obras Públicas y Transportes, Banco de España.

DIRECTION OF RESEARCH

- Director of Research Projects financed by the Spanish Government (Proyectos de Investigación nacionales, MEC, MCYT, CYCIT, ANI) during 37 consecutive years. (82-85; 86-89; 88-91; 91-94; 94-96; 96-99; 00-03; 03-06; 07-12; 13-16; 16-19).
- Director of Research Projects financed by the Province Government (Comunidad de Madrid, 2004, 05, 06, 07)
- Director Research Projects financed by private sector (Fundación BBVA (2003-05), FUNCAS (2018-2020)).
- Director of the Spanish group in UE research projects: Economic Applications of Time Series (1995-1998), Factor Models (1998-2001).
- Director of the Spanish group in the UE network SACD (Statistical Analysis of Complex Data), financed by the European Science Foundation (2004-08).

CONFERENCES

(Only Invited and Keynote lectures are listed)

1. I International Meeting on Bayesian Statistics (Valencia, Spain 1979). Invited Speaker.
2. Conference on Teaching Statistics for Engineering Education (Iowa, USA 1984). Invited Speaker.
3. International Meeting of Statistics in the Basque Country (Bilbao, Spain 1985). Invited Speaker.
4. Second International Catalan Symposium on Statistics (Barcelona, Spain 1986). Invited Speaker.
5. III International Meeting on Bayesian Statistics (Altea, Spain 1987). Invited Discussant and session Chairman.
6. NSF Meeting on Time Series - University of North Carolina (North Carolina, USA 1987). Invited Speaker.
7. NSF Meeting on Time Series - University of Chicago (Chicago, IL, USA 1988). Invited Speaker and Session Chairman.
8. NBER/NSF Meeting on Time Series (U. P. Madrid 1989), Invited Speaker and Session Chairman.
9. Congreso Nacional de Matemáticas de Marruecos (Rabat, Morocco 1990). Invited Speaker.
10. IV International Meeting on Bayesian Statistics (Peñíscola, Spain 1991). Invited Speaker.
11. European Meeting of Statisticians (Barcelona, Spain 1991). Invited Speaker.
12. Congreso Latinoamericano de Estadística (Valparaiso, 1991). Invited Speaker.
13. Journées de Statistique (Brussels, Belgium 1992). Invited Speaker.
14. 10th Symposium on Computational Statistics (Neuchatel, Switzerland 1992). Invited Speaker.
15. Joint Meeting of the American Statistical Association and the IMS (Boston, MA, USA 1992). Invited Speaker.
16. Primer Congreso Iberoamericano de Estadística (Cáceres, Spain 1992). Invited Speaker.
17. Foro de Estadística (Puebla, Mexico, 1992). Invited Speaker.
18. Meeting of the Psychometric Society (Barcelona, Spain 1993). Invited Speaker.
19. II Congreso Latinoamericano de Estadística (Buenos Aires, Argentina 1993). Invited Speaker.
20. V International Meeting on Bayesian Statistics (Alicante, Spain 1994). Invited Discussant and session Chairman.
21. Conference: Making Statistics More Effective in Schools of Business (Sacramento, CA, USA 1995). Keynote Speaker.
22. 50th Session International Statistical Institute (Beijing, China 1995). Invited Speaker.
23. International Workshop on Service Quality (Madrid, Spain 1996). Invited Speaker.

24. International Workshop on Descriptive Multivariate Analysis (Salamanca, Spain 1996). Invited Speaker.
25. NSF/NBER Time Series Seminar - Duke University (Durham, NC, USA 1997). Invited Speaker.
26. Reunión Internacional de Estrategias de Calidad en la Universidad (Barcelona, Spain 1998). Invited Speaker.
27. Taipei International Statistical Symposium (Taipei, Taiwan 1998). Keynote Speaker.
28. Statistica Sinica Meeting. (Yunan, China, 1998). Invited Speaker.
29. Congreso Iberoamericano de Estadística (Córdoba, Argentina, 1998). Invited Plenary Speaker.
30. Austrian Meeting of Statistics and Econometrics (Vienna, Austria 1999). Invited Speaker.
31. American Society for Quality (Anaheim, CA, USA 1999). Invited Speaker.
32. I Congreso de la Sociedad Ecuatoriana de Estadística (Quito, Ecuador 1999). Invited Plenary Speaker.
33. Xxéme Rencontre Franco-Belge, (Brussels, Belgium 1999). Invited Speaker.
34. International Symposium on Forecasting (Lisbon, Portugal 2000). Keynote Speaker.
35. Controlling Complexity for Strong Stochastic Dependencies (Mathemstisches Insitut Oberwalfach, Germany, 2000). Invited Speaker.
36. Escuela de Probabilidad y Estadística. Center for Mathematical Research – CIMAT. (Guanajuato, Mexico 2001). Invited Speaker.
37. International Meeting on Contemporary Data Analysis. (Buenos Aires, Argentina 2001). Invited Speaker.
38. 9th Escola de Series temporais y econometria (Minas Gerais, Brazil 2001). Invited Speaker.
39. The 53th Session of the International Statistical Institute (Seoul, Korea. 2001). Invited Speaker
40. Congreso Latinoamericano de Probabilidades y Estadística (CLAPEN) (La Habana, Cuba 2001). Invited Speaker.
41. VII International Meeting on Bayesian Statistics (Tenerife, Spain 2002). Invited Speaker.
42. Colloquium in Honour of Prof. Durbin (Amsterdam, Holland 2002). Invited Speaker.
43. NSF/NBER Time Series Seminar - University of Chicago (Chicago, IL, USA 2003). Invited Speaker.
44. Time Series Conference - Università Federico II di Napoli (Naples, Italy 2003). Invited Speaker.
45. Multivariate Time Series Conference - University of Heidelberg (Heidelberg, Germany 2004). Invited Speaker.
46. 36th Journees des Statistique - INRA (Montpellier, France 2004). Invited Speaker.
47. 6th World Congress of Bernoulli Society and 67th Meeting of Institute of Mathematical Statistics (Barcelona, Spain 2004). Invited Speaker.
48. International Conference on Distribution Theory, Order Statistics and Inference in Honor of Barry Arnols (Santander, Spain 2004). Invited Speaker.
49. Compstat' 04 - International Meeting on Computational Statistics (Prague, Czech Republic 2004). Invited Speaker and Session Organizer

50. Joint Meeting of the American Statistical Association and IMS (Toronto, Canada 2004). Invited Speaker.
51. Annual Meeting of the Portuguese Statistical Society (Evora, Portugal 2004). Invited Plenary Speaker
52. 1st Joint Meeting of RSME-SCM-SEIO-SEMA (Valencia, Spain 2005). Invited Plenary Speaker
53. 25th European Meeting of Statisticians (Oslo, Norway 2005). Invited Speaker.
54. International Conference in Robust Statistics - University of Jyväskylä (Jyväskylä, Finland 2005). Invited Speaker.
55. Biennial Meeting on Classification and Data Analysis (Parma, Italy 2005). Invited Speaker.
56. Meeting on the Evaluation of Research in Universities (Rome, Italy 2005). Invited Speaker.
57. Meeting of the Institute of Mathematical Statistics (Rio de Janeiro, Brazil 2006). Invited Speaker.
58. XIV Brazilian Symposium of Probability and Statistics (SINAPE). (Caxambu, Brazil 2006). Invited Plenary Speaker.
59. Internacional Statistical Meeting and CLAPEM (Rosario, Argentina, 2006). Invited Speaker.
60. International Conference on Robust Statistics (ICORS) (Buenos Aires, Argentina, 2007). Invited Speaker.
61. Joint Meeting of the American Statistical Association and IMS (Denver, CO, USA 2008). Invited Speaker.
62. Jornadas de Estadística de Colombia (Cartagena de Indias, Colombia, 2008). Plenary Speaker.
63. Workshop in honor of Pedro Morettin, Invited Speaker, U. de Campinas, Brasil, 2012.
64. International meeting on Advances in Latent Variables: Methods, Models and Applications, Brescia, Italy, Invited Speaker, 2013.
65. Frontiers of Statistics and Forecasting Conference, Invited Speaker, Academia Sinica. Taiwan, 2013.
66. Recent Advances and Trends in Time Series Analysis: Nonlinear Time Series, High Dimensional Inference and Beyond, Invited Speaker, Banff Center, Canada, 2014.
67. Jornadas en Big Data. Universidad A Coruña, Invited Plenary Speaker, La Coruña. 2015.
68. International Work-Conference on Time Series, Invited Plenary Speaker, Granada. 2015.
69. NBER/NSF Time Series Conference (U. Vienna of Economics and Business, 2015), Invited Speaker.
70. Current and Future Challenges in Robust Statistics, Invited Speaker, Banff Center, Canada, 2015.
71. Joint Statistical Meetings (ASA, IMS, RSS, etc), Chicago, 2016, Invited Speaker.
72. International Conference on Robust Statistics. Wollongong, Australia 2017, Invited Speaker.
73. Tsinghua Sanya International Mathematics Forum (TSIMF), Sanya, China, Invited Speaker, January 2018.
74. Waseda International Symposium, Japan, Invited Speaker, February, 2018.
75. Kagawa International Symposium, Japan, Invited Speaker, March, 2018.

76. IMS-Vilnius Conference 2018, Invited Speaker, Lithuania, July, 2018.
77. Workshop on recent development of time series and Econometrics, Invited Speaker, U. Copenhagen, Dinamarca, September 2018.
78. Conference in Data Analysis in honor of Domenico Piccolo, Invited Speaker, Naples, Italy, October 2018.
79. Conference on Statistical Learning of High-Dimensional Dependent Data, Invited Speaker, U. of Chicago, November 2018.
80. Simposium Estadística de Colombia, Plenary Invited Speaker. Barranquilla, Colombia, 2019.
81. Congreso de la Sociedad Española de Estadística e Investigación Operativa. Plenary Invited Speaker for the Sixto Ríos Talk. Alcoy, 2019.
82. Invited Speaker (on-line) in “Friends of CIMAT, 40th Anniversary”. Centro de Investigación en Matemáticas (CIEMAT), Monterrey, 2020
83. Plenary Invited Speaker “XI International Meeting on the History of Statistics and Probability”. Universidad de Cádiz, Campus de Jerez, 2020.
84. Keynote Speaker. 2021 European Seminar on Bayesian Econometrics, Madrid, 2021.
85. Invited Speaker. 14th International Conference on Computational and Methodological Statistics (CMStatistics 2021), King’s College London, Dec. 2021.
86. Invited Speaker. Workshop International Journal of Forecasting “Forecasting in a Changing Environment”, Madrid, Dec, 2021
87. Invited Speaker . Workshop “Workshop on Modern Research Topics on Time Series Econometrics”, Lisboa, March, 2021.
88. Keynote Speaker. 8th International Conference on Time Series and Forecasting (ITISE 2022). Gran Canaria, June 2022.
89. Invited Speaker and session chair. 17th conference of the International Federation of Classification Societies (IFCS 2022). Porto, July, 2022.
90. Invited Speaker IMS Conference on Statistics and Data Science (ICS DS 2022), Florence, December 2022.
91. Invited Speaker, Workshop on Time Series Econometrics, Zaragoza, 2023.
92. Invited Speaker. Conference on Advances in Time Series Analysis. U de Chicago, May 2023.

PUBLICATIONS

Books as Author

1. *Observación y Cálculo en Estadística con Datos Masivos*. Real Academia de Ciencias Exactas, Físicas y Naturales de España. 2022
2. *Statistical Learning with Big Dependent Data. (con Ruey Tsay)*. Wiley, 2021.
3. *Análisis de Series Temporales*. Alianza Editorial. 2005, 2010.
4. *El valor económico de la lengua española* (with A. Martín Municio y otros). Espasa. 2003
5. *Regresión y Diseño de Experimentos*. Alianza Editorial. 2002, 2010.

- 6.
7. *Análisis de datos multivariantes*. McGraw Hill. 2002.
8. *Fundamentos de Estadística*. Alianza Editorial. 2001, 2005, 2009, 2013.
9. *Estadística. Modelos y Métodos. Tomo I: Fundamentos*. Alianza Universidad Textos. (Primera edición 1986, décima 1999).
10. *Estadística. Modelos y Métodos. Tomo II: Modelos Lineales y Series Temporales*. Alianza Universidad Textos. (Primera edición 1987, sexta 1999).
11. *Introducción a la Estadística para las Ciencias Sociales*. (with Juan Romo). McGraw Hill. 1997, 99.
12. *Las Discapacidades de la población española. Un estudio basado en modelos de regresión logística*. (With E. Teijeiro) INE. 1989.
13. *Cómo mejorar la Calidad*. (with A. Prat) Manuales del IMPI. 1986.
14. *Dependencia dinámica entre precios agrícolas. El trigo en España, 1857 - 1890*. (With N. Sánchez - Albornoz). Estudios de Historia Económica número 8, Banco de España. 1983.

Books as editor and co-author

1. *Análisis financiero y Big Data* (editado con S. Carbó, J. Ganuza, y P. Poncela). FUNCAS. 2023.
2. *Marketing Digital y Big Data* (editado con N. Lado). FUNCAS. 2022
3. *Nuevos métodos de predicción económica con datos masivos* (editado con Poncela,P. y Ruiz ,E.) FUNCAS. 2021
4. *Análisis econométrico con Big Data* (editado con Poncela,P. y Ruiz , E.) FUNCAS. 2021
5. *Propuestas para la Reforma de la Universidad Española*. (editado por D. Peña). Fundación Alternativas, 2010.
6. *A Course in Time Series Analysis* (edited with C. G. Tiao and R. S. Tsay), John Wiley, New York, 2001.
7. *Box on Quality and Discovery*. (edited with C. G. Tiao, S. Bisgaard, W. Hill and S. Stigler), John Wiley, New York, 2000.

Research articles in English

1. "A Testing Approach to Clustering Time Series", (with Ruy S. Tsay) *Journal of Time Series Analysis*, in press, 2023.
2. "Detecting outliers in high dimensional time series by dynamic factor models" (with P. Galeano) in *Recent Advances in Econometrics and Statistics* -

- Festschrift in Honour of Marc Hallin*. M. Barigozzi, S. Hörmann and D. Paindaveine (editors), Springer (in press, 2024).
3. "A Review of Outlier Detection and Robust Estimation Methods for High Dimensional Time Series Data" (with V. Yohai). *Econometrics and Statistics*, (in press, 2023).
 4. "Robust Forecasting of Multiple Time Series with One-Sided Dynamic Principal Components" (with V. Yohai). *Festschrift in Honour of R. Tyler*, (in press, 2023).
 5. "Clustering Financial Time Series by Dependency" (with A. Alonso and C. Gamboa), in *Statistical Methods and Models for Data Analysis*, Gill L. et al (editors), pages 1-12, Springer, 2023.
 6. "Detecting Outliers and Influence and Sensitive Observations in Linear Regression", in *Handbook of Engineering Statistics" 2nd Edition*, Hoang Pham (editor), Springer, 2023.
 7. What drives industrial energy prices? (with Angela Caro y Máximo Camacho) *Economic Modeling* , 106, 106-158, 2023.
 8. "Understanding complex predictive models with ghost variables". (with Pedro Delicado). *TEST*, 32, 107-145, 2023.
 9. "Wavelet estimation for factor models with time-varying loadings".(with Cataño, D. H., Rodríguez-Caballero, C. V. and Chiann, C.) *International Journal of Wavelets, Multiresolution and Information Processing*, 20 (01), 2150033-1:27, 2022 .
 10. "Comment on Factor Models for High-Dimensional Tensor Time Series", *The Journal of the American Statistical Association*, 117:537, 118-123, 2022.
 11. "Robust Forecasting of Multiple Time Series with One-Sided Dynamic Principal Components" (with V. Yohai). *Festschrift in honour of R. Tyler*, (in press, 2022).
 12. "30 Years of Cointegration and Dynamic Factor Models Forecasting and its Future with Big Data", (with A. Escribano y E. Ruiz). *International Journal of Forecasting*, 37 , 2021.
 13. "Sparse One-Sided Dynamic Principal Components" (con E. Smucler and V. Yohai). *International Journal of Forecasting*, (in press), 2021.
 14. "On a new procedure for identifying a dynamic common factor model" (con S. Bolivar and F. Nieto). *Revista Colombiana de Estadística* (in press). 2021.
 15. "Gdpc: an R Package for Generalized Dynamic Principal Components" (with E. Smucler and V. J. Yohai), *Journal of Statistical Software*, 92, February,1-23, 2020.
 16. "A conversation with Agustín Maravall" , *International Journal of Forecasting*, (in press), 2020.
 17. "Akaike, Box and Efron and the Foundations of Statistical Learning with Big Data", en *Historia de la Probabilidad y la Estadística XI*, Santos, J. y De Paz, S. (editors), Thomson Reuters Aranzadi, 2020.
 18. "Detecting Outliers and Influence and Sensitive Observations in Linear Regression", in *Handbook of Engineering Statistics" 2nd Edition*, Hoang Pham (editor), in press, Springer, 2020.
 19. "A Conversation with Dennis Cook" (with C. Nachtsheim et al.) *Statistical Science*, in press, 2020.

20. "A Robust Procedure to Build Dynamic Factor Models with Cluster Structure" (with A. Alonso and P. Galeano) *Journal of Econometrics* 216, 35-52, 2019.
21. "Statistics, Big Data and Data Science" (con P. Galeano) with discussion, *TEST*, 28, 289-368, 2019.
22. "Empirical Dynamic Quantiles for Visualization of High-Dimensional Time Series" (con R. S. Tsay and R. Zamar), *Technometrics*, 61, 429-444, 2019.
23. "Forecasting Multiple Time Series with One-Sided Dynamic Principal Components" (con E. Smucler and V. Yohai). *The Journal of the American Statistical Association*, 114, 528, 1683-1694, 2019.
24. "Clustering Time Series by Linear Dependency" (with A. Alonso), *Statistics and Computing*, 29,4, pp 655-676, 2019.
25. "Distance weighted discrimination of face images for gender classification". (with M. Benito, E. García-Portugués and J. S. Marron), *STAT*, 6,231-240. 2017.
26. "Fast and robust estimators of variance components in the nested error model", (with B. Perez, I. Molina, A. Thieler and R. Fried), *Statistics and Computing*, 27,6, pp 1655-1675, 2017.
27. "Generalized Dynamic Principal Components" (with V. Yohai). *The Journal of American Statistical Association*, 111,515, 1121-1131, 2016.
28. "Common Seasonality in Multivariate Time Series" (with F. H. Nieto and D. Saboyá). *Statistica Sinica*, (in press, 2016).
29. "Rethinking Statistics with Big Data: learning from George Box" *Quality Technology & Quantitative Management* 12, 1, 2015.
30. "Time series segmentation procedures to detect, locate and estimate change-points" (with A. L. Badagian and R. Kaiser). In *festschrift for Prof. Heiler, Empirical Economic and Financial Research – Theory, Methods and Practice*, Beran, J., Feng, Y. and Hebbel, H. (eds.) Springer, Berlin. 2015.
31. "Outlier Detection and Robust Estimation in Linear Regression Models with Fixed Group Effects" (with B. Pérez and I. Molina) *Journal of Statistical Computation and Simulation*, 84, 2652-2669, 2014.
32. "Finding outliers in linear and nonlinear time series" (with P. Galeano). In *Robustness and Complex Data Structures*, Beker et al (editor), Springer, Chapter 15, 243-260. 2013.
33. "Nearest-neighbours medians clustering" (with J. Viladomat and R. Zamar), *Statistical Analysis and Data Mining*, 5, 4, 349-362, 2012.
34. "Outlier detection in seasonal ARIMA models by Bayesian Information Type Criteria" (with P. Galeano), in *Economic Time Series: Modeling and Seasonality*, edited by S. Holan, B. Bell and T. McElroy, 2012.
35. "Tests for comparing time series of unequal lengths" (with J. Caiado y N. Crato), *Journal of Statistical Computation and Simulation*, 82, 12, 1715-1725, 2012.
36. "Estimating GARCH Volatility in the presence of outliers" (with A. Carnero y E. Ruiz), *Economic Letters*, 114, 1, 86-90, 2012.
37. "A conditionally heteroskedastic independent factor model with an application to financial stock returns" (with A. Garcia Ferrer y E. Gonzalez), *International Journal of Forecasting*, 28, 70-93, 2012.
38. "Robust Henderson III Estimators of Variance Components in the Nested Error Model", (with Pérez, B. and Molina, I), in *Modern Mathematical Tools*

- and Techniques in Capturing Complexity*, edited by Pardo, L., Balakrishnan, N. and Gil, M.A. Springer, pp 329:339, 2011.
39. "Temporal disaggregation and restricted forecasting of multiple population time series" (with Jose E. Silva and V. Guerrero), *Journal of Applied Statistics*, 38, 4, 799-815, 2011
 40. "Identification of TAR models using Recursive Estimation" (with Miguel A. Bermejo and Ismael Sanchez), *Journal of Forecasting*, 30,1,31-50, 2011.
 41. "Eigenvectors of a kurtosis matrix as interesting directions to reveal cluster structure" (with J. Prieto y J.Viladomat), *Journal of Multivariate Analysis* 101, 9, 1995 -2007, 2010.
 42. "A Conversation with George Tiao" (with Ruey Tsay), *Statistical Science*, 2010, Vol. 25, 3, 408-428, 2010.
 43. "Coments on Testing for the Existence of Clusters by Fuentes and Casella" (with Adolfo Alvarez) *SORT*, 33, 153-158, 2009.
 44. "Dimension reduction in time series and the dynamic factor model" *Biometrika*, 96,2, 494-496, 2009.
 45. Comments on Invariant Coordinate Selection (with J. Viladomat) *The Journal of the Royal Statistical Society B*, 71, 3, 58, 2009.
 46. "Bayesian Likelihood Robustness in Linear Models" (with R. Zamar and G. Yan) *Journal of Statistical Planning and Inference*, 139,7, 2196-2207, 2009.
 47. "A Robust Partial Least Squares Regression Method with Applications" (with J. Gonzalez y R. Romera), *Journal of Chemometrics*, 23, 2, 78-90, 2009.
 48. "Robust Estimation for ARMA models", (with N, Muler and V. Yohai). *The Annals of Statistics* 37, 2, 816-840. 2009.
 49. "Comparison of time series with unequal lengths" (with J. Caiado y N. Crato) *Communication in Statistics, Computation and Simulation*, 38, 3, 527 – 540, 2009
 50. "Bayesian analysis of dynamic factor models: an application to air pollution and mortality in São Paulo, Brazil", (with Thelma Safadi). *Environmetrics*, 19,582-601, 2008.
 51. A Unified Approach to Model Selection, Discrimination, Goodness of Fit and Outliers in Time Series Models. (with P. Galeano). *In Advances in Mathematical and Statistical Modeling in Honor of Enrique Castillo* Arnold, B. C., Balakrishnan, N, Sarabia, J. M. and Minguéz, R. (eds), Birkhauser: Boston, Chapter 20, 267-77, 2008
 52. "Covariance Changes Detection in Multivariate Time Series", (with P. Galeano). *Journal of Statistical Planning and Inference*, 137, 194-2117, 2007.
 53. "Effects of outliers on the identification and estimation of GARCH models" (with A. Carnero and E. Ruiz), *Journal of Time Series Analysis*, 28, 471-497, 2007.
 54. "Improved model selection criteria for SETAR time series models" (with P. Galeano) *Journal of Statistical Planning and Inference*, 137, 2802-2814, 2007.
 55. "ARIMA models", (with A. Luceño) in *Encyclopedia of Statistics in Quality and Reliability*, Ruggeri F. Faltin F. and Kenett, R. (editors), 1-10, 2007.
 56. "General Measures of Variability and Dependence for Multivariate Continuous Distributions" (with A. van der Linde) *Communications in Statistics Theory and Methods* 36, 1845-1854, 2007.

57. On the connection between model selection criteria and quadratic discrimination in ARIMA time series models (with P. Galeano) *Statistics and Probability Letters*, 77, 896-900, 2007.
58. Comments on the Survey of Robust Methods by S. Morgenthaler, *Statistical Methods and its Applications*, 15, 288-290, 2007.
59. Detecting Defects with Image Data (with M. Benito), *Computational Statistics and Data Analysis*, 51, 6395-6403, 2007.
60. Measuring the Advantages of Multivariate versus Univariate Forecasts, (with I. Sánchez), *Journal of Time Series Analysis*, 28, 886-909, 2007.
61. "Combining Random and Specific Directions for Outlier Detection and Robust Estimation of High-Dimensional Multivariate Data," (with J. Prieto) *Journal of Computational and Graphical Statistics*, 16, 1, 228-254, 2007.
62. "A Dirichlet Random Coefficient Regression Model for Quality Indicators", (with V. Yohai), *Journal of Statistical Planning and Inference*, 136, 942-961, 2006.
63. "Bayesian Curve Estimation by Model Averaging" (with D. Redondas), *Computational Statistics and Data Analysis*, 50, 688-709, 2006.
64. "Introducing model uncertainty by moving blocks bootstrap" (with A. Alonso y J. Romo) *Statistical Papers*, 47, 167-179, 2006.
65. "The Log of the Autocorrelation Matrix for Testing Goodness of Fit in Time Series" (with J. Rodriguez). *Journal of Statistical Planning and Inference*, 136, 2706-2718, 2006.
66. "Nonstationary Dynamic Factor Analysis" (with P. Poncela). *Journal of Statistical Planning and Inference*, 136, 1237-1257, 2006.
67. "A periodogram-based metric for time series classification", (with J. Caiado y N. Crato) *Computational Statistics and Data Analysis*, 50, 2668-2684, 2006.
68. "Outlier Detection in Multivariate Time Series via Projection Pursuit", (with Pedro Galeano and Ruey S. Tsay). *The Journal of American Statistical Association*, 101, 474, 654-669, 2006.
69. "Dimension Reduction in Time Series.(with P. Poncela)", In. *Advances in Distribution Theory, Order Statistics and Inference*, Balakrishnan, N, Castillo, E. and Sarabia, J. M. (eds), Chapter 27, pp: , Birkhauser: Boston, 2006.
70. "Measures of Influence and Sensitivity in Linear Regression", In *Handbook of Engineering Statistics*, Hoang Pham (editor), pp: 523-536, Springer, 2006.
71. "Comments on frequentist and Bayesian approaches to hypothesis testing by E. Moreno and J.Girón", *SORT*, 2006.
72. "A Projection Method for Robust Estimation and Clustering in Large Data Sets" (with J. Prieto) in *Data Analysis, Classification and the Forward Search*, Zani S. Cerioli A. Riani M. Vichi M. eds, Springer Verlag, Berlin, pp: 209-16, 2006.
73. "Multifold Predictive Validation in Time Series Models" (with I. Sánchez), *The Journal of American Statistical Association*, 469, 135-146, 2005.
74. "A New Statistic for Influence in Regression" *Technometrics*, 47, 1-12, 2005 (This article was awarded the 2005 Jack Youden Prize for best article published in *Technometrics* in that year)
75. "A Bayesian Approach for Predicting with Polynomial Regression of Unknown Degree" (with I. Guttman y D. Redondas), *Technometrics*, 47, 23-33, 2005.
76. "A Fast Approach for Dimensionality Reduction with Image Data" (with Mónica Benito), *Pattern Recognition*, 38, 2400-2408, 2005.

77. "Detecting non linearity in time series by model selection criteria," (with J. Rodriguez), *International Journal of Forecasting*, 21, 731-748, 2005.
78. "Cross Validation in Time Series" (with I. Sánchez), in *Estatística Jubilar*, Braumann, C. et al (eds), Sociedade Portuguesa de Estatística, 37-50, 2005.
79. "A Note on Prediction and Interpolation Errors in Time Series" (with P. Galeano) *Statistics and Probability Letters*, 73, 71-78, 2005.
80. "Comments on Intrinsic Credible Regions by J.M. Bernardo", *TEST*, 14, 2, 355-384, 2005.
81. "Resampling Time Series by Missing Values Techniques" (with A. Alonso and J. Romo) *The Annals of the Institute of Statistical Mathematics*, 55, 4, 765-796, 2004.
82. "Dimensionality Reduction with Image Data" (with Mónica Benito), *Intelligent Data Engineering and Automated Learning, lecture Notes in Computer Science* 3177, Springer-Verlag, 326-332 2004
83. "Introducing Model Uncertainty in Time Series Bootstrap" (with A. Alonso and J. Romo) *Statistica Sinica*, 14, 155-174, 2004.
84. "Forecasting with Nonstationary Dynamic Factor Models" (with P. Poncela). *The Journal of Econometrics*, 119, 291-321, 2004.
85. "Persistence and Kurtosis in GARCH and Stochastic Volatility models", (with A. Carnero and E. Ruiz), *Journal of Financial Econometrics*, 2,319-342, 2004.
86. "A General Partition Cluster Algorithm," (with J. Rodriguez and G. C. Tiao), *Proceedings in Computational Statistics*, J. Antoch (editor), Phsyca-Verlag, 371-380, 2004.
87. Bayes' Theorem. In *An Eponymous Dictionary of Economics* (A Guide to Laws and Theorems Named after Economists), J. Segura and Rodríguez Braun, C. (eds.), Chentelham, UK; Northampton, MA, USA: Edward Elgar, pp 18-19, 2004.
88. "Combining Multiple Time Series Predictors: a Useful Inferential Procedure", (with V. Guerrero). *Journal of Statistical Planning and Inference*, 116, 249-276, 2003.
89. "Identifying Mixtures of Regression Equations by the SAR procedure," with discussion, (with J. Rodriguez and G. C. Tiao), in *Bayesian Statistics 7*, Bernardo et al. (eds). Oxford: Oxford University Press, 327-347, 2003.
90. Comment on Bayesian Clustering by L. Liu et al. in *Bayesian Statistics 7*, Bernardo et al. (eds). Oxford: Oxford University Press, 271-275, 2003.
91. "Descriptive Measures of Multivariate scatter and linear dependence", (with J. Rodriguez) *Journal of Multivariate Analysis*, 58, 2, 361-374, 2003.
92. "The Identification of Multiple Outliers in ARIMA models". (with M. J. Sánchez) *Communications in Statistics, Theory and Methods*, 32, 6, 1265-1287, 2003.
93. "On Sieve Bootstrap Prediction Intervals " (with A. Alonso and J. Romo) *Statistics and Probability Letters*, 65, 13-20, 2003
94. "Forecasting Time series with sieve bootstrap" (with A. Alonso and J. Romo) *Journal of Statistical Planning and Inference*, 100,1-11, 2002.
95. "A Powerful Portmanteau Test of Lack of Fit for Time Series", (with J. Rodriguez) *The Journal of American Statistical Association*, 97, 601-619, 2002.
96. "The Major Contribution of Professor George E. P. Box to Applied Statistics", *Chemometrics and Intelligent Laboratory Systems*, 63, 5-6, 2002.

97. "Properties of Predictors in Overdifferenced Nearly Nonstationary Autoregression" (with I. Sánchez). *Journal of Time Series Analysis*, 22, 45-66, 2001.
98. "Bayesian Unmasking in Linear Models" (with A. Justel). *Computational Statistics and Data Analysis* 36, 69-84, 2001.
99. "Robust covariance matrix estimation and multivariate outlier detection" (with F. J. Prieto). Invited article with discusión. *Technometrics*, 43, 286-310, 2001.
100. "An Interview with George E. P. Box". *International Journal of Forecasting*, 17, 1-9, 2001.
101. "Detection of Outlier Patches in Autoregressive Time Series" (with A. Justel and R. S. Tsay) *Statistica Sinica*, 11, 651-673, 2001.
102. "Outliers and Conditional Autoregressive Heterocedasticity in Time Series", (with A. Carnero y E. Ruiz) *Estadística*, 53, pp. 143-213, 2001.
103. "Cluster Identification using Projections" (with F. J. Prieto) *The Journal of American Statistical Association*, 96, 456, 1433-1445, 2001.
104. "An interview to Daniel Peña" *International Society for Bayesian Analysis Bulletin*, 8, 4, pp 6-9. 2001.
105. "Heterogeneity and Model Uncertainty in Bayesian Regression Models" (with A. Justel). *Revista de la Real Academia de Ciencias*, 93, 357-366, 2000.
106. "Linear Combination of Information in Time Series with Linear Restrictions ". (with V. Guerrero). *Journal of Forecasting*, 19, 103-122, 2000.
107. "The Kurtosis Coefficient and the Linear Discriminant Function" (with J. F. Prieto). *Statistics and Probability Letters*, 49, 257-261, 2000.
108. "Statistical Research in Europe: 1985-1997. (with J.A. Gil and J. Rodriguez). *Test*, 9, 255-281, 2000
109. "Outliers in Multivariate time Series" (with R. S. Tsay and A. Pankratz). *Biometrika*, 87, 789-804, 2000.
110. "Sieve Bootstrap Prediction Intervals" (with A. Alonso and J. Romo). *Proceedings in Computational Statistics*, Bethlehem, J. G. and Van de Heijden, P.G. (eds), 181-186, 2000.
111. "Multivariate Analysis in Vector Time Series" (with P. Galeano). *Resenhas*, Vol. 4, 383-404, 2000.
112. "Comment on Bayesian Inference on Latent Structure in Time Series". *Bayesian Statistics 6*. Bernardo et al (editors). Oxford University Press, pp 19-21, 1999.
113. "Comment on Quality Indexes Models". *Bayesian Statistics 6*. Bernardo et al (editors). Oxford University Press, pp 456, 1999.
114. "Missing Observations In ARIMA Models: Skipping Strategy versus Additive Outlier Approach" (with V. Gómez y A. Maravall). *The Journal of Econometrics*, 88, 341-363, 1999.
115. "A Methodology for Building Service Quality Indices". In the 53rd *Annual Quality Congress Proceedings*. 550-559. American Society for Quality. 1999
116. "A Fast Procedure for Outlier Diagnostics in Large Regression Problems (with V. Yohai). *The Journal of American Statistical Association*, 94, 434-445, 1999.
117. "Comments on Robust Principal Component Analysis for Functional Data" (with J. F. Prieto) *Test*, 8, 56-60, 1999.

118. "The Estimation of Food Expenditure from Household Budget Data in the Presence of Bulk Purchases". (with J. Ruiz Castillo). *The Journal of Business and Economic Statistics*, 16, 292-303, 1998.
119. "Measuring Intervention Effects on Multiple Time Series subject to Linear Restrictions". (with V. Guerrero and P. Poncela). *The Journal of Business and Economic Statistics*, 16, 4, 489-497. 1998.
120. "Comments on the Stochastic Control of Process Capability Indices". *Test*, 7, 1, 67-70, 1998
121. "Combining Information in Statistical Modeling". *The American Statistician* 51, 4, 326-332, 1997.
122. "A Multivariate Kolmogorov Smirnov goodness of fit test" (with A. Justel and R. Zamar). *Statistics and Probability Letters*, 35, 251-259, 1997.
123. "Measuring Service Quality by Linear Indicators" in *Managing Service Quality* (Vol. II). Edited by Kunst and Lemmink. pp 35-51. Chapman Publishing Ltd. London. 1997.
124. "A Simple Diagnostic Tool for Local Prior Sensitivity" (with R. Zamar). *Statistics and Probability Letters*, 36, 205-212, 1997.
125. "An Approximate Statistical Predictor for the Melcor Code" (with J. Mira) In *Advances in Safety & Reliability*. Edited by C. Guedes Soares, 1661-1668, 1997.
126. "On Bayesian Robustness: An Asymptotic Approach." (with R. Zamar). In *Robust Statistics, Data Analysis and Computer Intensive Methods. In Honor of P. Huber*. H. Rieder (editor). Springer Lecture Notes in Statistics, 361-374, 1996.
127. "Gibbs Sampling Will Fail in Outlier Problems with Strong Masking" (with A. Justel). *Journal of Computational and Graphical Statistics*, 5, 2, 176-189, 1996.
128. "Comments on Statistical Inference and Monte Carlo Algorithms by George Casella". *Test*, 5,2, 283-287, 1996.
129. "Comment on Hierarchical Models for Ranking and for Identifying Extremes with Applications". *Bayesian Statistics 5*. Bernardo et al (editores). Oxford University Press, 1995.
130. "The detection of influential subsets in linear regression using an influence matrix". (with Victor Yohai). *Journal of Royal Statistical Society B*, 57, 145-156. 1995.
131. "Forecasting Growth with Time Series Models". *Journal of Forecasting*, 14, 97-105. 1995.
132. "Comment on Testing for Mixtures : A Bayesian Entropy Approach". *Bayesian Statistics 5*. Bernardo et al (editores). Oxford University Press, 1995.
133. "Time Series Modelling Using Several Sources of Information". (with V. Guerrero). *Bulletin of the International Statistical Institute*, 50th session, Vol. 2, 975-977. 1995.
134. "The Decomposicion of the Forecast function in Seasonal ARIMA models" (with Antoni Espasa). *Journal of Forecasting*, 14, 565-583, 1995.
135. "Second Generation Time Series models: A comment to some advances in nonlinear and adaptive modeling in time series" *Journal of Forecasting* 13, 133-140, 1994.

136. "Teaching Time Series to Postgraduates Engineering Students". *International Journal of Continuous Engineering Education* 4, 42-49, 1994.
137. "Cointegration and Common Factors" (with A. Escribano). *Journal of Time Series Analysis*, 15, 6, 577-586, 1994
138. "A Bayesian look at Diagnostics in the univariate linear model". (with I. Guttman). *Statistica Sinica*, 3,2, 367-390. 1993.
139. "Comparing probabilistic methods for outlier detection". (with I. Guttman). *Biometrika*, 3, 603-610. 1993.
140. "Comments on Several Bayesians". *Test*, 2, 1, 17-20. 1993.
141. "Bayesian Outlier Functions for linear models". (with G.C. Tiao). *Bayesian Statistics IV*, Bernardo et al (editores). Oxford University Press, 365-388, 1992.
142. "On the elusive concept of statistical evidence". *Bayesian Statistics IV*, Bernardo et al (editores). Oxford University Press, 415-6, 1992.
143. "On model determination using predictive distributions". *Bayesian Statistics IV*. Bernardo et al (editores). Oxford University Press, 163-4, 1992.
144. "A Simple Method to Identify Significant Effects in Unreplicated Two-level Factorial Designs". (with J. Juan). *Communications in Statistics (Theory and Methods)*, 21, 1383-1403, 1992.
145. "Computing Missing Values in Time Series". (with V. Gómez y A. Maravall). In *Computational Statistics (Vol 1)* Dodge, Y. y Whittaker, J. (editores), Physica-Verlag, 283-296. 1992.
146. "Econometric Models and Multiple Time Series" (with A. Escribano y A. Espasa) *Proceedings American Statistical Association*, BE Section, 7-16. 1992.
147. "Measuring Influence in Dynamic Regression models". *Technometrics*. 33, 1, 93-102, 1991.
148. "A note on likelihood estimation of missing values in time series". (with C.G. Tiao). *The American Statistician*, 45, 3, 212-214, 1991
149. "Interpolation, Outliers and Inverse autocorrelation Function". (with A. Maravall). *Communications in Statistics (Theory and Methods)*, A20, 10, 3175-3186, 1991.
150. "Influential observations in time series". *Journal of Business and Economic Statistics*. 8, 2, 235-241, 1990.
151. "Optimal collapsing of mixture distributions in Robust Recursive Estimation". (with I. Guttman). *Communications in Statistics, (Theory and Methods)*, 18, 3, 817-834. 1989.
152. "Identifying significant effects in unreplicated fractional designs". (with J. Juan). *Bulletin of the International Statistical Institute*, 47th session, Vol. 2, 190-191. 1989.
153. "Comments on leave-k-out diagnostics for time series". *Journal of Royal Statistical Society B*, 51, 3, 414-415. 1989.
154. "The likelihood displacement: A unifying principle for influence measures". (with D.R. Cook y S. Weisberg). *Communications in Statistics (Theory and Methods)*., 17,3 623-640. 1988.
155. "Bayesian Approach to Robustifying the Kalman Filter". (with I. Guttman) en *Bayesian Analysis of Time Series and Dynamic Models*, J. Spall editor, Marcel Dekker, Cap 9, 227-255. 1988.

156. "On the logical development of Statistical models" *Trabajos de Estadística*, 3, 2, 195-255. 1988.
157. "Outliers and Influence: Evaluation by Posteriors of Parameters in the linear model". (with I. Guttman). *Bayesian Statistics III*. Bernardo et al. (editores) Oxford University Press, 631-640. 1988.
158. "Comment on Stochastic Models of Incarceration Careers". *Bayesian Statistics III*. Bernardo et. al (editores). Oxford University Press, 302-303, 1988.
159. "Identifying a simplifying structure in time series". (with G.E.P. Box). *Journal of the American Statistical Association*. 82, 399, 836-843. 1987.
160. "Measuring the importance of outliers in ARIMA models". *New Perspectives in Theoretical and Applied Statistics*. Puri et al (editores). Wiley, 109-118, 1987.
161. "On local influence". *Journal of Royal Statistical Society, B*. 48, 2, 164-165. 1986.
162. "Influential observations in regression models with ARMA errors. *Proceeding of the Second Catalan International Symposium on Statistics*, Vol. 1, 167-188. 1986.
163. "On Robust Filtering" (with I. Guttman) *Journal of the American Statistical Association*, 80, 389, 91-92. 1985.
164. "A measure of Influence in autorregressive models". *Bulletin of the International Statistical Institute*. Vol. 2, 481-482. 1985.
165. "Statistical education for Engineers: An initial task force report". (with R.V. Hogg y otros) *The American Statistician*, 39, 3, 168-175. 1985.
166. "Robust methods for Building regression models". (with J. Ruiz Castillo). *Journal of Business and Economic Statistics*, 2, 1, 10-20, 1984.
167. "The autocorrelation function of seasonal ARMA models". *Journal of Time Series Analysis*, 54, 269-272, 1984.
168. "Distributional aspects of public rental housing and rent control policies in Spain" (with J. Ruiz Castillo). *Journal of Urban Economics*, 15, 350-370. 1984.
169. "Wheat Prices in Spain 1857-1890: An application of the Box-Jenkins Methodology". (with N. Sánchez-Albornoz). *Journal of European Economic History*, 13, 2, 353-373. 1984.
170. "Periodicity of extinction in the Geologic past: deterministic versus Stochastic explanations" (with J. Kitchell) *Science*, 226, 689-692. 1984.
171. "Hidden Relationship in multivariate time series" (with G.E.P. Box) *American Statistical Association Proc. of Bus. and Ec. Sect*, 494-499, 1984.
172. "The relationship between farm and retail prices in the Spanish Broiler Chicken Industry". (with J. Sumpsi) *European Review of Agricultural Economics*, 7, 261-282. 1980.
173. "Decision Analysis Model for a serious medical problem". *Management Science*, 26,7, 707-718. 1980.
174. "On likelihood, sufficiency and ancillarity". En *Bayesian Statistics*, Bernardo, Lindley, De Groot and Smith, editores. Valencia University Press.1980.

Research articles in Spanish

1. "Importancia del Big Data en Marketing Digital" en *Marketing Digital y Big Data* (Lado, N, y Peña, D., eds.). Funcas, 2022.
2. "Predicción de series temporales económicas con datos masivos: perspectiva, avances y comparaciones" (con A, Caro) en *Nuevos métodos de predicción económica con Datos masivos* (Peña, D. , Poncela, P. y Ruiz, E. eds). Funcas, 2021 (en prensa).
3. "Análisis de factores comunes estacionales en datos masivos. " (con F. Nieto y S. Bolivar) en *Análisis económico con Big Data* (Peña, D. , Poncela, P. y Ruiz, E. eds). Funcas, 2021 (en prensa).
4. "Las nuevas oportunidades del Big Data para las instituciones financieras" (con P. Galeano) . *Papeles de Economía*, 162, 29 - 48, 2019.
5. "Reformar la Universidad: Cambiar los Incentivos". Revista de la Sociedad Española de Bioquímica y Biología Molecular (SEBBM), 191, 18-21, 2017.
6. "Big Data Ciencia y Estadística". *Revista de Ciencia y Humanidades*. Fundación Ramón Areces. 14, 97-106, 2015.
7. "Big Data y Estadística: ¿Tendencia o cambio?". *Boletín de Estadística e Investigación Operativa*. 30,3, 313-324, 2014.
8. "Suavizamiento bidimensional de tasas de mortalidad mediante P-splines", (with Silva, E. y Guerrero, V.), *Papeles de Población*, 20, 79, 99-131, 2014.
9. "Propuestas para la reforma de la universidad española" en *Innovación en la Universidad*, Martinez, J. B. Editor, editorial Grau, 163-178, 2012.
10. "El modelo factorial dinámico Threshold". (with Maria Elsa Corral) *Revista Colombiana de Estadística*, 31, 2, 183-190, 2008.
11. "El Análisis de series temporales: situación y perspectivas" (with I. Sánchez). *Boletín de la SEIO*, 4-12, 2007.
12. "Las Matemáticas en las Ciencias Sociales". *Encuentros Interdisciplinarios*, 23, 67-79, 2006.
13. "La Estadística en la economía y la administración de empresas" in *Las Matemáticas y sus aplicaciones en el mundo social y económico*, (JL Fernández, editor), Ministry of Science and Education, pp 133-152, 2006.
14. "Contribuciones de Albert Prat a la Estadística Industrial y la Calidad". *SORT*, Special Issue Albert Prat in memoriam, 1-8, 2006.
15. "El valor económico de la lengua española" (with A. Espasa and J. Girón) *Contrastes*, 39, 98-102, 2005.
16. "El valor económico de la lengua española" (with A. Espasa and J. Girón) *Boletín de la Fundación García Lorca*, 33-34, 247-258, 2004.
17. "Una revisión de los métodos de remuestreo en series temporales". (with A. Alonso and J. Romo) *Estadística Española*, 44, 150, 2002.
18. "La mejora de la calidad mediante la simplificación de procesos". (with C. López-Terradas) *Las Mejores Prácticas I*, Club Gestión de Calidad, pp 169-182, Madrid 2000.
19. "Calidad Total en las Universidades" en *Dirección Estratégica y Calidad en las Universidades*. Servicio de Publicaciones de la Universidad Politécnica de Cataluña, 235-253, 1999.

20. "Una comparación entre métodos de estimación de factores comunes y relaciones de cointegración en vectores de series temporales" (with Luis Manzanedo) *Estadística Española*, 41, 47-78, 1999
21. "Entrevista with Daniel Peña" *Organización y Gestión Educativa*, 6, 36-40, 1999.
22. "Construcción de indicadores de calidad de servicio: aplicación a un servicio informático" (with García, V., Gil, M.P., Montes, J.L.). *VII Congreso de la Calidad*. Asociación Española de Calidad. pp.: 29-34., 1998.
23. "Un modelo para la determinación de la satisfacción de los estudiantes universitarios with la docencia recibida". (with Gil, J.A.). *VII Congreso de la Calidad*. Asociación Española de Calidad. pp.: 465-475, 1998
24. "Evaluación de la Calidad de las Titulaciones" (with M. J. Alvarez and S. Carmona). *Las Mejores Prácticas II*. Club Gestión de Calidad, pp 145-167, 1998.
25. "Experiencias de evaluación de procesos docentes y de titulaciones en la Universidad Carlos III de Madrid" (with M. J. Alvarez and S. Carmona). En *Experiencias y Consecuencias de la Evaluación Universitaria* (F. Michavila, ed.) pp 255-277, 1998.
26. "La Mejora continua de la Calidad en la Universidad: Algunas experiencias en la Universidad Carlos III de Madrid". *Gestión y Análisis de Políticas Públicas*, 11-12, 83-94. 1998
27. "Un modelo de calidad de servicio" (with Pilar Rivera and Alberto Lafuente), *Actas del Forum Internacional: Las Ciencias, Las Técnicas y el Arte Aplicadas al Marketing*, Universidad Complutense de Madrid, pp :245-256, 1998.
28. "La mejora de la calidad en la educación: reflexiones y experiencias". *Boletín de Estudios Económicos*, pp: 207-226, Bilbao 1997.
29. "La Mejora de la Calidad en la Universidad Carlos III de Madrid". (in collaboration) *Las Mejores Practicas I*, Club Gestión de Calidad, pp 169-182, Madrid 1997.
30. "Encuestas Docentes: Resultados de los tres últimos años" (with J. A. Gil). *Carlos III*, 6, 3-4, 1996.
31. "Experiencias de Mejora de la Calidad en la Universidad". *Calidad*, Diciembre pp 19-23, 1995.
32. "El futuro de los métodos estadísticos" en *Jornadas de Estadística Española*, 50 Aniversario de la Fundación del Instituto Nacional de Estadística, 93-108, 1995.
33. "Estimación por máxima entropía, Comentarios al trabajo de L. Pardo". (with H. Gzyl), *Estadística Española*, 133, 292-95. 1993.
34. "Grupos de atípicos en Modelos Econométricos" (with A. Justel and M. J. Sánchez). *Información Comercial Española*, 55, 285-325. 1993
35. "Reflexiones sobre la enseñanza experimental de la Estadística". *Estadística Española*. 131, 469-490. 1992.
36. "Análisis de diseños factoriales sin replicación" (with J. Juan). *Trabajos de Estadística*. 6, 1, 63-68, 1991.
37. "Los métodos estadísticos en la gestión de Calidad en las empresas españolas". (with A. Ruiz Falcó, D. Diez) *Trabajos de Estadística*, 5, 2, 53-57, 1990.
38. "Los modelos ARIMA, el estado de equilibrio en variables económicas y su estimación". (with A. Espasa). *Investigaciones Económicas*, 2,191-211. 1990.
39. "La enseñanza de la Estadística en las Escuelas Técnicas". (with A. Prat and R. Romero). *Estadística Española*. 123, 147-177. 1990.

40. "Cointegración y Reducción de dimensionalidad en Series Temporales Multivariantes". *Cuadernos Económicos de ICE*. 44, 109-126, 88, 1990.
41. "Observaciones influyentes en Series Temporales". *Revista de la Real Academia de Ciencias Exactas Físicas y Naturales*, LXXXIV, 483-485. 1990.
42. "Aplicación de los diseños factoriales fraccionales a la mejora de la Calidad de procesos Industriales". (with M. J. Villamediana). *Actas del IV Congreso Nacional de la Calidad*, B42, 1-17. 1989.
43. "Sobre métodos lineales dinámicos y mixturas de distribuciones" *Estadística Española*. 31, 121, 197-199, 1989.
44. "Sobre la interpretación de modelos ARIMA". *Trabajos de Estadística*. 4, 2, 16-46, 1989.
45. "Sobre la robustez a la muestra de un modelo econométrico dinámico". *Revista Española de Economía*. 6, 1 y 2, 193-214. 1989.
46. "Sobre el concepto de distancia en Estadística". *Estadística Española*, 30, 119. 1988.
47. "Observaciones influyentes en modelos econométricos". *Investigaciones Económicas*. 1, 3-24. 1987.
48. "La enseñanza del diseño de experimentos en ingeniería: algunas experiencias prácticas". (with C. Molina and M. Cordero). *Questiio*, 11, 1 pp.: 121-130. 1987.
49. "Un estudio estadístico de la Investigación científica en los países de la OCDE". (with Blas Caballero). *Estadística Española*. 29, 114, pp.: 151-178. 1987.
50. "Una nueva etapa en Estadística Española". *Estadística Española*. 29, 114, pp.: 5-9. 1987.
51. "Un contraste de normalidad basado en la transformación Box-Cox" (with I. Peña). *Estadística Española*, 110, pp.: 33-46. 1986.
52. "Sobre la robustificación interna del algoritmo de Plackett-Kalman para la estimación recursiva del modelo de regresión lineal". *Trabajos de Estadística y de Investigación Operativa*, 36, 1, 93-106. 1985.
53. "Métodos de previsión histórica: Fundamentos, posibilidades y limitaciones". *Alta Dirección*, 19, 108, pp.: 107-128. 1983.
54. "La influencia de Newton y Darwin en la evolución de la Estadística Matemática", *Estadística Española*, 99, pp.: 103-121. 1983.
55. "Un análisis econométrico de la legislación sobre el control de alquileres". (with J. Ruiz Castillo). *Información Comercial Española*, 585, pp.: 31-41. 1982.
56. "Un análisis econométrico de las viviendas en arrendamiento de protección oficial" (with J. Ruiz Castillo) *Información Comercial Española*, 585, pp.: 42-48. 1982.
57. "Métodos Robustos de construcción de modelos de regresión". (with J. Ruiz-Castillo) *Estadística Española*, 97, pp.: 47-76. 1982.
58. "Criterios de Selección de Modelos ARIMA". (with G. Arnáiz). *Trabajos de Estadística e Investigación Operativa*, 32,1, pp.: 70-93. 1981.
59. "La Teoría de Series Temporales. Una evaluación crítica de los desarrollos más recientes".(with A. Prat and M. Martí). *Questiio*, 5, 3, pp.: 124-148. 1981.
60. "Modelos with parámetros variables en el análisis de series temporales univariantes". *Questiio*, 4, 2, pp.: 75-87. 1980.
61. "Modelos de previsión univariante: Comparación entre algunas formulaciones en el espacio de los estados y las representaciones ARIMA". *Actas del I Simposium Nacional Sobre Modelado y Simulación*. Sevilla, pp: 37-40, 1980.

62. "Un enfoque de series temporales para el análisis de la relación entre los precios del pollo en origen y consumo". (with J. Sumpsi). *Estadística Española*, 89, 4, pp.: 115-137. 1980.
63. "Interacción en la identificación de Modelos ARIMA estacionales". *Cuadernos Económicos del ICE*, 11-12. pp.: 1-35. 1979.
64. "Modelos Explicativos de las diferencias salariales entre los directivos españoles". *Economía Industrial*, 171, pp.: 51-61. 1978.
65. "La Metodología de Box-Jenkins: Una aplicación a la previsión del consumo de Gasolina en España". *Información Comercial Española*, 542, pp.: 135-152. 1978.
66. "Aplicaciones de la Teoría Bayesiana de la Decisión al Diagnóstico y Tratamiento Médico", *Trabajos de Estadística e Investigación Operativa*, 29, 3, pp.: 38-60. 1978.
67. "Ingeniería y Medicina". Work presented at the *I Congreso Español de Ingeniería Industrial*. Valencia 1977. Awarded the DYNA prize in 1977 by the National Association of Industrial Engineers. Published in *Dyna*, 53, 12. pp.: 319-326. 1977.
68. "Una sistemática para la toma de decisiones: Teoría Bayesiana de la Decisión", *Alta Dirección*, 12, 70, pp.: 22-38. 1976.
69. "El Método del caso en las Escuelas Técnicas Superiores". *Edutec*, 11, pp.: 17-20. 1976.

Research articles in French

1. "Discussion de l'article de Fréchet: Sur une limitation très générale de la dispersion de la médiane" (with Olivier Nuñez) *Journal de la Société Française de Statistique* (forthcoming), 2006.