

## **JUAN ROMO: CURRICULUM VITAE**

Born in Madrid, February 1, 1959.

### **PROFESSIONAL EXPERIENCE**

- Professor of Statistics and Operations Research. Department of Statistics. Universidad Carlos III de Madrid. Since June, 1996.
- Associate Professor of Statistics and Operations Research. Department of Statistics. Universidad Carlos III de Madrid. From August, 1991 to June, 1996.
- Associate Professor of Statistics and Operations Research. Department of Statistics. Universidad Complutense de Madrid. From June, 1988 to August, 1991.
- Tutor. UNED. From October, 1988 to November, 1989.
- Teaching Assistant. Texas A&M University. From September, 1985 to May, 1986.
- Tutor. Texas A&M University. From February, 1985 to May, 1985.
- Teaching Assistant. Universidad Complutense de Madrid. From October, 1981 to June, 1988.

### **ACADEMIC DEGREES**

- B. Sc. in Mathematics with Honors, Universidad Complutense de Madrid. July, 1982.
- Ph. D. in Mathematics, Texas A&M University. December, 1987.

## RESEARCH

### ARTICLES

- Variable selection with  $P$ -splines in functional linear regression: application in graft-versus-host disease (2020). *Biometrical Journal* (with Carmen Aguilera and Rosa Lillo).
- Censored functional data for incomplete follow-up studies (2020) (with Ewa Strzalkowska-Kominiak).
- Initialization algorithm for  $k$ -means using bootstrap and data depth (2020) (with Aurora Torrente).
- Spearman's coefficient for functions (2020) (with Dalia Valencia and Rosa Lillo).
- Portfolio selection based on a directional data ordering (2020) (with Henry Laniado and Rosa Lillo).
- Roahd package: robust analysis of high dimensional data (2020). *R Journal*. (with Francesca Ieva, Anna Maria Paganoni and Nicholas Tarabelloni). *R Journal*, volume 11-2. 291-307.
- A Kendall correlation coefficient for functional dependence (2019). *Advances in Data Analysis and Classification*, 1-21. Doi: 10.1007/s11634-019-00360-z (with Dalia Valencia and Rosa Lillo).
- Pectoral muscle segmentation in mammograms based on anatomical features (2019) (with Jairo Ayala and Rosa Lillo).
- Iterative variable selection for high-dimensional data: Prediction of pathological response in triple-negative breast cancer (2018) (with Juan C. Laria, Carmen Aguilera, Enrique Álvarez, Rose E. Lillo, Sara López-Taruella, María del Monte-Millán, Antonio C. Picornell and Miguel Martín).
- Analyzing dependence in multivariate functional data (2018) (with Francesco Palma and Francesca Ieva).

- Data learning from big data (2018). *Statistics and Probability Letters*, 136, 15-19. Doi: 10.1016/j.spl.2018.02.038 (with José Luis Torrecilla).
- A novel predictive approach for GVHD after allogeneic SCT based on clinical variables and cytokine gene polymorphisms (2018) *Blood Advances* (2018), 2, 14, 1719-1737. Doi:10.118/bloodadvances.2017011502 (with E. Buces, C. Martínez-Laperche, C. Aguilera, A. Picornell, M. González-Rivera, R. Lillo *et al.*).
- Unsupervised scalable statistical method for identifying influential users in online social networks (2018) *Scientific Reports*, 8, 1. Doi: 10.1038/s41598-018-24874-2 (with A. Azcorra, L.F. Chiroque, R. Cuevas, A. Fernández Anta, H. Laniado, R. Lillo, J. Romo and C. Sguera).
- Homogeneity test for functional data (2018). *Journal of Applied Statistics*. 45, 5, 868-883. Doi 10.1080/02664763.2017. 1319470 ) (with Ramón Flores and Rosa Lillo).
- Robust analysis of complex data (2017). *Computational Statistics and Data Analysis*, 113, 395-397. Doi: <https://doi.org/10.1016/j.csda.2017.05.013> (with S. Mueller, G Boente, C Croux and S van Aelst)
- Functional boxplots based on epigraphs and hypographs (2016). *Journal of Applied Statistics* 43(6), 1088-1103. Doi: 10.1080/02664763.2015.1092108 (with Belén Martín Barragán and Rosa Lillo).
- Robust unit roots tests with autoregressive errors (2016). *Communications in Statistics-Theory and Methods*, 45(20), 5997-6021. Doi: 10.1080/03610926.2014.955114 (with Marta Moreno).
- A random walk test for functional time series (2015) (with Nicola Mingotti and Rosa Lillo).
- Lasso variable selection for functional regression (2014) (with Nicola Mingotti and Rosa Lillo).
- A new multiple single-nucleotide polymorphisms based predictive model for grades III to IV and extensive graft versus host disease after identical HLA-allogeneic stem-cell (2015). *Blood*, 126 (23), 921-921 Doi :10.1080/03610926.2014.955114 (with E. Buces, C. Martínez-Laperche, C. Aguilera, A. Picornell, R. Lillo *et al.*)

- A new predictive model based on the genomic profile of polymorphisms in genes of cytokines allows to predict the independence of posttransplant eicr allogeneic hematopoietic (2015). *Haematologica*, 100, 6-7 (con E. Buces, C. Martínez-Laperche, C. Aguilera, A. Picornell, R. Lillo *et al.*).
- Multivariate functional outlier detection: Discussion. (2015) *Statistical Methods and Applications*, 24(2), 263-267. Doi: 10.1007/s10260-015-0328-5 (with Ana Arribas).
- Measures of extremality and a rank test for functional data (2014) (with Alba Franco and Rosa Lillo).
- Shape outlier detection and visualization for functional data: the outliergram (2014). *Biostatistics*, 15(4): 603-619 Doi: 10.193/biostatistics/kxu006 (with Ana Arribas).
- Interpretable support vector machines for functional data (2014). *European Journal of Operational Research*, 232 (1), 146-155. Doi: 10.1016/j.ejor.2012.08.017 (with Belén Martín Barragán and Rosa Lillo).
- Testing for statistical arbitrage in credit derivatives markets (2014). *Journal of Empirical Finance*, 26, 59-75 Doi: 10.1016/j.jempfin. 2014.02.002 (with Sergio Mayordomo and Juan Ignacio Peña).
- Robust functional supervised classification for time series (2014). *Journal of Classification*, 31, 3, 325-350. Doi: 10.1007/s00357-014-9163-x (with Andrés Alonso, David Casado and Sara López).
- Portfolio selection based on a directional data ordering (2013) (with Henry Laniado and Rosa Lillo).
- depthTools: an R package for a robust analysis of gene expression data (2013). *Bioinformatics*, 14:237. Doi: 10.1186/1471-2105-14-237 (with Aurora Torrente and Sara López).
- Supervised classification of functional data: a weighted derivatives approach (2012). *Computational Statistics and Data Analysis*, 56, 7, 2334-2346. Doi: 10.1016/j.csda.2012.01.013 (with Andrés Alonso and David Casado).

- Robust depth-based estimation in the time warping model (2012). *Biostatistics*, 13, 3, 398-414. Doi: 10.1093/biostatistics/kxr037 (with Ana Arribas).
- Comparing residual quantile residual life functions by confidence bands (2012). *Lifetime Data Analysis*, 18, 195-214. Doi: 10.1007/s10985-011-9208-y (with Alba Franco and Rosa Lillo).
- Unit roots bootstrap tests under infinite variance (2012). *Journal of Time Series Analysis*, 33, 1, 32-47. Doi: 10.1111/j.1467-9892.2011.00737.x (with Marta Moreno).
- Portfolio selection through an extremality stochastic order. (2012). *Insurance: Mathematics and economics*, 51, 1, 1-9. Doi: 10.1016/j.insmathco.2012.02.010 (with Henry Laniado, Rosa Lillo and Francesco Pellerey).
- The percentile residual life up to time  $t_0$ : ordering and aging properties (2011). *Journal of Statistical Planning and Inference*, 141, 3554-3563. Doi: 10.1016/j.jspi.2011.05.009 (with Alba Franco and Rosa Lillo).
- Data depth in multivariate statistics (2011). *BEIO*, 27, 3, 151-174 (with Ignacio Cascos and Ángel López).
- Extremality for functional data (2011). *Recent Advances in Functional Data Analysis and Related Topics*, 131-134, Springer –Verlag. Doi: 10.1007/978-3-7908-2736-1\_20 (with Alba Franco and Rosa Lillo).
- The effect of liquidity on the price discovery process in credit derivatives markets in times of financial distress (2011). *European Journal of Finance*, 17, 9-10, 851-881. Doi: 88110.1080/1351847X.2010.538529 (with Sergio Mayordomo and Juan Ignacio Peña).
- Percentile residual life orders (2011). *Applied Stochastic Models for Business and Industry*, 27, 235-252. Doi: 10.1002/asmb.825 (with Alba Franco, Rosa Lillo and Moshe Shaked).
- A half-region depth for functional data (2011). *Computational Statistics and Data Analysis*, 55, 1679-1695. Doi: 10.1016/j.csda.2010.10.024 (with Sara López).
- Robust depth-based tools for the analysis of gene expression data (2010). *Biostatistics*, 11(2) 254-264. Doi: 10.1093/biostatistics/kxp056 (with Sara López and Aurora Torrente).

- Characterization of bathtub distributions via percentile residual life functions (2010) Oai:e-archivo.uc3m.es:10016/8397 (with Alba Franco and Rosa Lillo).
- On the concept of depth for functional data (2009). *Journal of the American Statistical Association*, 104, 486, 704-717. Doi: 10.1198/jasa.2009.0108 (with Sara López).
- A depth-based inference for functional data (2007). *Computational Statistics and Data Analysis*, 51, 10, 4957-4968. Doi: 10.1016/j.csda.2006.10.029 (with Sara López).
- Depth –based classification for functional data (2006). *DIMACS Series in Discrete Mathematics*, American Mathematical Society, 72, 103-119 (with Sara López).
- Bootstrap prediction for returns and volatilities in GARCH models (2006). *Computational Statistics and Data Analysis*, 50, 9, 2293-2312. Doi: 10.1016/j.csda.2004.12.008 (with Lorenzo Pascual and Esther Ruiz).
- Introducing model uncertainty by moving blocks (2006). *Statistical Papers*, 47, 2, 167-179 Doi 10.1007/s00362-005-0282-7 (with Andrés Alonso and Daniel Peña).
- Forecast of the expected nonepidemic morbidity of acute diseases using resampling methods (2005). *Journal of Applied Statistics*, 32, 3, 281-295. Doi: 10.1080/02664760500054780 (with Andrés Alonso).
- Bootstrap prediction intervals for powered transformed time series (2005). *International Journal of Forecasting*, 21, 2, 219-235. Doi: 10.1016/j.ijforecast.2004.09.006 (with Lorenzo Pascual and Esther Ruiz).
- Resampling time series using missing values techniques (2005). *Annals Inst. Statist. Math.*, 55, 4, 765-796 Doi 10.1007/BF02523392 (with Andrés Alonso and Daniel Peña).
- Bootstrap predictive inference for ARIMA models (2004). *Journal of Time Series Analysis*, 25, 4, 449-465. Doi: 10.1111/j.1467-9892.2004.01713.x (with Lorenzo Pascual and Esther Ruiz).
- Introducing model uncertainty in time series bootstrap (2004). *Statistica Sinica*, 14, 155-174 (with Andrés Alonso and Daniel Peña).

- Random coefficient regressions: parametric goodnessoffit (2004). *Journal of Statistical Planning and Inference*, 119, 377-400. Doi: 10.1016/S0378-3758(02)00484-6 (with Pedro Delicado).
- On sieve bootstrap prediction intervals (2003). *Statistics and Probability Letters*, 65, 1, 13-20. Doi:10.1016/S0167-7152(03)00214-1 (with Andrés Alonso and Daniel Peña).
- Una revisión de los métodos de remuestreo en series temporales (2002). *Estadística Española*, 44, 133 – 159 (with Andrés Alonso and Daniel Peña).
- Forecasting time series with sieve bootstrap (2002). *Journal of Statistical Planning and Inference*, 100,111. Doi: 10.1016/S0378-3758(01)00092-1 (with Andrés Alonso and Daniel Peña).
- Effects of parameter estimation on prediction densities: a bootstrap approach (2001). *International Journal of Forecasting*, 17, 83103. Doi: 10.1016/S0169-2070(00)00069-8 (with Lorenzo Pascual and Esther Ruiz).
- Bootstrap tests for unit roots based on LAD estimation (2000). *Journal of Statistical Planning and Inference*, 83, 2, 347- 367. Doi: 10.1016/S0378-3758(99)00101-9 (with Marta Moreno).
- Goodnessoffit tests in random coefficient regression models (1999). *Annals Inst. Statist. Math.* 51, 1, 125148. Doi: 10.1023/A:1003887303233 (with Pedro Delicado).
- Stability under contamination of robust regression estimators based on differences of residuals (1998). *Journal of Statistical Planning and Inference* 70, 149165. Doi: 10.1016/S0378-3758(97)00169-9 (with José Ramón Berrendero).
- On the explosive breakdown rate of the maximum bias function of some scale and location estimates (1998). *Canadian Journal of Statistics*, vol. 26, 2, 333351. Doi: 10.2307/3315515 (with José Ramón Berrendero, Sonia Mazzi and Ruben Zamar).
- Smoothed bootstrap: some asymptotic validity results (1997). *Annals of the Institute of Statistical Mathematics*, vol. 49, 2, 355-370 (with Antonio Cuevas) .

- Differentiable functionals and smoothed bootstrap (1997). *Annals of the Institute of Statistical Mathematics*, vol. 49, 2, 355370. Doi: 10.1023/A:1003123215461 (with Antonio Cuevas).
- Unit root Bootstrap tests for AR(1) models (1996). *Biometrika*, 83, 4, 849860. Doi: 10.1093/biomet/83.4.849 (with Nélida Ferretti).
- On the estimation of the influence curve (1995). *Canadian Journal of Statistics*, 23, 1, 19. Doi: 10.2307/3315546 (with Antonio Cuevas).
- The central limit theorem for empirical processes on VC classes: a majorizing measure approach (1994). *Test*, 3, 2, 4772. Doi: 10.1007/BF02562693.
- Técnicas bootstrap en econometría: una introducción (1994). *ICE*, 56, 1, 179194.
- Discussion on "The theory of search from a statistical viewpoint", de Wynn and Zhigljavsky (1994). *TEST*, 3, 2, 3032. Doi: 10.1007/BF02562692
- The bootstrap: a review (1994). *Computational Statistics*, 9, 165205 (with Wenceslao González Manteiga and José Manuel Prada).
- On robustness properties of bootstrap approximations (1993). *Journal of Statistical Planning and Inference*, vol. 37, 2, 181191. Doi: 10.1016/0378-3758(93)90087-M (with Antonio Cuevas).
- Stable limits for empirical processes on Vapnik-Cernovenkis classes of functions (1993). *Journal of Multivariate Analysis*, 45, 1, 7388. Doi: 10.1006/jmva.1993.1027.
- On the type hypothesis for the strong law of large numbers (1987). *Statistics and Probability Letters*, 5, 193195. Doi: 10.1016/0167-7152(87)90038-1 (with Víctor Hernández).
- Review note on *Multivariate Empirical Processes*, by J.H.J. Einmahl (1987). *Trabajos de Estadística*, 2, 127128.
- Comment on *La enseñanza de la Estadística en la Licenciatura de Matemáticas*, by Francisco Javier Girón (1987). *Estadística Española*.

- Generalización del teorema de Hanson y Russo para  $B$  variables aleatorias (1986). *Trabajos de Estadística*, 1, 4259. Doi: 10.1007/BF02873510 (with Víctor Hernández).

## OTHER RESEARCH WORKS

- *Teorema central del límite para procesos de Markov en tiempo discreto*. Tesina de Licenciatura. Universidad Complutense de Madrid.
- *Stable domains of attraction for empirical processes on VapnikCervonenkis classes of functions*. Ph. D. dissertation. Texas A&M University.

## RESEARCH PROJECTS

- *Big Data y datos complejos en Empresa y Finanzas*. (Leading Researcher). Ministerio de Economía y Competitividad (2016-2019).
- *Desarrollo de un Biobanco de microbiota intestinal humana para programas de intervención precoz en el control de la infección por Clostridium difficile*. Instituto de Salud Carlos III. (2016-2019).
- *Computationally-intensive methods for the robust analysis of non-standard data (CroNos)*. COST Action. European Union (2015-2019).
- *Métodos estadísticos avanzados para datos complejos*. Ministerio de Economía y Competitividad (2013-2015).
- *Análisis de datos de muy alta dimensión en Economía y Empresa* (Leading Researcher). Ministerio de Ciencia e Innovación (2012-2014).
- *Statistical Methods for Atmospheric and Oceanic Sciences*. Research Networks in Mathematical Sciences (RNMS). National Science Foundation USA) 10-584 (2011-2015).
- *5th International Workshop in Applied Probability*. Ministerio de Ciencia e Innovación (2010-2011).
- *Técnicas Estadísticas para Datos de Gran Complejidad en Empresa y Finanzas* (Leading Researcher). Ministerio de Ciencia e Innovación (2009-2012).

- *Orientación emprendedora e innovación: Información, Flexibilidad y Mercados*. Comunidad Autónoma de Madrid (2008-2011).
- *Base de datos sobre maltrato de género*. Ministerio de Trabajo (2007).
- *European Young Statisticians Meeting Organization*. Acción Complementaria. Ministerio de Educación y Ciencia (2007).
- *Técnicas No Paramétricas y de Computación Intensiva en Estadística*. (Leading Researcher). Comunidad Autónoma de Madrid (2007).
- *Métodos estadísticos de decisión basados en conocimiento*. Ministerio de Educación y Ciencia (2007-2012).
- *Técnicas No Paramétricas y de Computación Intensiva en Estadística*. (Leading Researcher). Comunidad Autónoma de Madrid (2006).
- *Modelización Estadística y Análisis de Datos*. Comunidad Autónoma de Madrid (2006).
- *Ingenio Matemática "i-MATH"*. Consolider Project. Ministerio de Ciencia e Innovación (2006-2012).
- *Técnicas No Paramétricas para Datos Económicos*. (Leading Researcher). Comunidad Autónoma de Madrid (2005).
- *Evaluación de modelos de riesgo en entidades financieras*. (AENOR) (2005-2008).
- *Métodos Estadísticos Avanzados para Datos de Muy Alta Dimensión en Empresa y Economía*. (Leading Researcher). CICYT (20052008).
- *Selección de Modelos Estadísticos para Bancos de Datos Empresariales de Alta Dimensión*. CICYT (20032006).
- *Contribución de Centros Tecnológicos a la Innovación Empresarial: Impacto de las ayudas públicas del Programa de Fomento de la Investigación Técnica (PROFIT)*. FEDIT (2003-2004).
- *Técnicas para el Análisis Estadístico de Datos Funcionales en Economía y Empresa*. (Leading Researcher). CICYT (20022005).

- *Análisis Estadístico de Bases de Datos Económicos y Empresariales con Estructura Compleja*. CICYT (2000-2003).
- *Evaluación de Centros Tecnológicos en Spain*. Ministerio de Ciencia y Tecnología. Dirección General de Política Tecnológica (2000-2002).
- *Community Innovation Survey II*. European Union (1999-2000).
- *Construcción de Modelos Dinámicos Multivariantes*. CICYT (1997-2000).
- *Econometric Inference using Simulation Techniques*. European Union (1994-1997).
- *Análisis Multivariante de Series Temporales*. CICYT (1994-1997).
- *Statistical Analysis of Tuna Fisheries in Eastern Atlantic*. ICCAT (1994).
- *Asesoría Estadística en el Programa de Clima Marítimo y Banco de Datos Oceanográficos*. Dirección General de Puertos (1992-1993).
- *Métodos Robustos y No Paramétricos en Series Temporales*. CICYT (1991-1994).
- *Procesos Empíricos y Aplicaciones en Estadística*. (Leading Researcher). Universidad Complutense de Madrid (1990- 1991).

#### **Ph.D. ADVISING**

- *Functional Linear Models*, by Nicola Mingotti (with Rosa Lillo). Grade: Sobresaliente *cum laude* por unanimidad. July, 2015.
- *Dependence for functional data*, by Dalia Valencia, Spain. (with Rosa Lillo). Grade: Sobresaliente *cum laude* por unanimidad. April, 2014.
- *Extremality in multivariate statistics*, by Henry Laniado (with Rosa Lillo). Grade: Apto *cum laude* por unanimidad. December, 2012. Premio Extraordinario de Doctorado.
- *Similaridad y contraste mediante profundidad estadística*, by Ángel López. Grade: Sobresaliente *cum laude* por unanimidad. July, 2010.

- *Classification techniques for time series and functional data*, by David Casado (with Andrés Alonso). Grade: Sobresaliente *cum laude* por unanimidad. July, 2010.
- *Arbitraje estadístico en finanzas*, by Sergio Mayordomo (with Ignacio Peña). Grade: Sobresaliente *cum laude* por unanimidad. July, 2010.
- *Ordenaciones estocásticas y nociones de envejecimiento basadas en funciones cuantílicas de vida residual*, by Alba Franco (with Rosa Lillo). Grade: Sobresaliente *cum laude* por unanimidad. November, 2009.
- *Métodos de clustering en datos de expresión génica*, by Aurora Torrente (with Alvis Brazma). Grade: Sobresaliente *cum laude* por unanimidad. June, 2007.
- *Profundidad para datos funcionales*, by Sara López. Grade: Sobresaliente *cum laude* por unanimidad. July, 2005. Premio Extraordinario de Doctorado.
- *Técnicas de remuestreo y datos omitidos en series temporales*, by Andrés Alonso. (with Daniel Peña). Grade: Apto *cum laude* por unanimidad. June, 2001. Premio Extraordinario de Doctorado.
- *Predicción bootstrap en series temporales*, by Lorenzo Pascual. (with Esther Ruiz). Grade: Apto *cum laude* por unanimidad. May, 2001. Premio Extraordinario de Doctorado.
- *Remuestreo en contrastes robustos para raíces unitarias*, by Marta Moreno. Grade: Apto *cum laude* por unanimidad. February, 2000.
- *Contribuciones a la teoría de robustez respecto al sesgo*, by José Ramón Berrendero (with Rubén Zamar). Grade: Apto *cum laude* por unanimidad. September, 1996.
- *Contrastes de bondad de ajuste en el modelo de regresión con coeficientes aleatorios*, by Pedro F. Delicado. Grade: Apto *cum laude* por unanimidad. April, 1995. Premio Extraordinario de Doctorado.

## SCIENTIFIC MEETINGS

- *Recent developments for complex data analysis*. 12th International Conference on Computational and Methodological Statistics. Organizador de sesión invitada. Londres, Reino Unido. December, 2019.
- *New developments on robustness and functional data analysis*. 11th International Conference on Computational and Methodological Statistics. Invited session organizer. Pisa, Italy. December, 2018
- *On robust nonparametric techniques for dealing with the analysis of high dimensional data* (with Francesca Ieva, Anna Paganoni and Nicholas Tarabelloni). 11th International Conference on Computational and Methodological Statistics. Invited session. Pisa, Italy. December, 2018.
- *Recent advances in complex data analysis*. 4th Conference of the International Society for Nonparametric Statistics. Invited session organizer. Salerno, Italy. June, 2018.
- *A bootstrap approach to the inference on dependence in a multivariate functional setting* (with Francesca Ieva and Francesco Palma). 10th International Conference on Computational and Methodological Statistics. Invited session. London, United Kingdom. December, 2017.
- *Recent developments for complex data*. 10th International Conference on Computational and Methodological Statistics. Invited session organizer. London, United Kingdom. December, 2017.
- *High-Dimensional Functional Data* (with Ana Arribas-Gil and Antonio Elías). Joint Statistical Meetings (JSM 2017). Invited session. Baltimore, EEUU. August, 2017.
- *Censored functional data* (with Ewa Strzalkowska-Kominiak). European Meeting of Statisticians. Helsinki, Finland. July, 2017.
- *Analyzing high-dimensional functional data* (with Ana Arribas-Gil and Antonio Elías). ISI Marrakech 2017. Invited session. Marrakech, Morocco. July, 2017.
- *High-dimensional functional data* (with Ana Arribas-Gil and Antonio Elías). Workshop Peter Rousseeuw- Robust Statistics 2017. Invited session. Lovaina, Belgium. June, 2017.

- *Analyzing dependence for multivariate functional data*. 9<sup>th</sup> International Conference on Computational and Methodological Statistics. Invited special session. Sevilla, Spain. December, 2016.
- *Recent advances in robust statistics*. 9<sup>th</sup> International Conference on Computational and Methodological Statistics. Organizador de sesión especial invitada. Sevilla, Spain. Diciembre, 2016.
- *Statistical techniques for the analysis of complex biomedical signals*. XIII Biannual Congress of the Italian Society of Industrial and Applied Mathematics (SIMAI). Invited session. Milán, Italy. November, 2016.
- *Analyzing high-dimensional functional data* (with Ana Arribas-Gil). COMPSTAT 2016. Invited session organizer. Oviedo, Spain. August, 2016.
- *Robust functional data analysis*. III International Society for Nonparametric Statistics Conference. Invited session organizer. Avignon, France. June, 2016.
- *Robust analysis of high-dimensional functional data* (with Ana Arribas-Gil). 8<sup>th</sup> International Conference on Computational and Methodological Statistics and 9<sup>th</sup> International Conference on Computational and Financial Econometrics (CMStatistics 2015). Invited special session. London, United Kingdom. December, 2015.
- *Depth and functional data analysis*. 8<sup>th</sup> International Conference on Computational and Methodological Statistics and 9<sup>th</sup> International Conference on Computational and Financial Econometrics (CMStatistics 2015). Invited session organizer. London, United Kingdom. December, 2015.
- *Distances between functional samples based on depth measures* (with Rosa Lillo and Ramón Flores). German Statistical Week 2015. Invited session. Hamburgo, Germany. September, 2015
- *High-dimensional outliers and depth: the outliergram* (with Ana Arribas-Gil). Joint Statistical Meetings (JSM 2015). Invited session. Seattle, USA. August, 2015
- *Methodological advances in statistics related to big data*. Castro Urdiales-Cantabria, Spain. June, 2015.

- *Random walk test for functional autoregressive processes of order one* (with Rosa Lillo and Nicola Mingotti). XXXV Congreso Nacional de Estadística e Investigación Operativa (SEIO 2015). Pamplona, Spain. May, 2015.
- *High-dimensional data analysis*. 7<sup>th</sup> International Conference on Computational and Methodological Statistics (ERCIM 2013). Invited session organizer. Pisa, Italy. December, 2014.
- *Random walk testing for time series of functions* (with Rosa Lillo and Nicola Mingotti). COMPSTAT 2014. Invited talk. Geneva, Switzerland. August, 2014.
- *A random walk test for functional time series* (with Rosa Lillo and Nicola Mingotti). ASA Joint Statistical Meetings, 2014. Boston, EEUU. July, 2014.
- *Spearman coefficient for functions* (with Dalia Valencia and Rosa Lillo). Third IWFOs, Stresa, Italy. June, 2014.
- *Advances in functional data analysis II* Conference of the International Society on Nonparametric Statistics. Organizador de sesión invitada. Cádiz, Spain. Junio, 2014.
- *Visualization of shape outliers in functional data samples* (with Ana Arribas). II Conference of the International Society on Nonparametric Statistics. Invited talk. Cádiz, Spain. June, 2014.
- *Homogeneity test for functional data based on depth measures* (with Ramón Flores and Rosa Lillo). II Conference of the International Society on Nonparametric Statistics. Invited session. Cádiz, Spain. June, 2014.
- *Lasso in functional regression* (with Rosa Lillo and Nicola Mingotti). 6<sup>th</sup>. International Conference on Computational and Methodological Statistics (ERCIM 2013). Invited talk. London, United Kingdom. December, 2013.
- *Robust analysis of high-dimensional data*. 6<sup>th</sup> International Conference on Computational and Methodological Statistics (ERCIM 2013). Invited session organizer. London, United Kingdom. December, 2013.

- *Correlation median for functions* (with Rosa Lillo and Dalia Valencia). Congreso Nacional de Estadística e Investigación Operativa. SEIO. Castellón, Spain. September, 2013.
- *Directional depth and extremality for multivariate observations* (with Henry Laniado and Rosa Lillo). Invited talk. International Workshop on Multivariate Analysis and Random Matrices. New tendencies. Guanajuato, México. September 2013.
- *Bootstrap random walk tests for functional time series* (with Rosa Lillo and Nicola Mingotti). Invited talk. Recent Developments for Bootstrap Methods in Time Series Data. Copenhagen, Denmark. September 2013.
- *Robust unit root tests with autoregressive innovations* (with Marta Moreno) ICORS 2013. International Conference on Robust Statistics. Saint Petersburg, Russia. July 2013.
- *Boxplots for functions based on half-region orders* (with Belén Martín-Barragán and Rosa Lillo). ERCIM 2012. Oviedo, Spain. December, 2012.
- *Portfolio selection through an extremality order* (with Henry Laniado and Rosa Lillo). International Conference on Computational Statistics (COMPSTAT). Limassol, Cyprus. August, 2012.
- *Dependence measures for functional observations* (with Rosa Lillo and Dalia Valencia). ASA Joint Statistical Meetings, 2012. San Diego, EEUU. July, 2012.
- *Portfolio selection for elliptically distributed assets* (with Henry Laniado, Rosa Lillo and Franco Pellerey). 8th. World Congress in Probability and Statistics. Estambul, Turkey. July 2012
- *Measuring the extremality of a curve* (with Rosa Lillo and Alba M. Franco). 8th. World Congress in Probability and Statistics. Estambul, Turkey. July 2012
- *Extremality stochastic order and its applications* (with Henry Laniado, Rosa Lillo and Franco Pellerey). International Workshop on Applied Probability (IWAP). Jerusalem, Israel. June, 2012.

- *Ordering functions: a functional boxplot* (with Belén Martín-Barragán and Rosa Lillo). I International Session on Nonparametric Statistics. Invited session. Chalkidiki, Greece. June, 2012.
- *Interpretabilidad de los clasificadores SVM para datos funcionales* (with Belén Martín-Barragán and Rosa Lillo). XXXIII Congreso Nacional de Estadística e Investigación Operativa (SEIO). Madrid, Spain. April 2012
- *Independence test for functional data* (with Rosa Lillo and Dalia Valencia). XXXIII Congreso Nacional de Estadística e Investigación Operativa (SEIO). Madrid, Spain. April, 2012.
- *Optimal portfolio selection through rotations* (with Henry Laniado, Rosa Lillo and Franco Pellerey). XXXIII Congreso Nacional de Estadística e Investigación Operativa (SEIO). Madrid, Spain. April, 2012.
- *Multivariate extremes: a directional approach* (with Henry Laniado and Rosa Lillo). Invited Conference. 5<sup>th</sup> CSDA International Conference on Computational and Financial Econometrics (CFE'10). London, United Kingdom . December, 2011.
- *Interpretable support vector machines for functional data* (with Belén Martín- Barragán and Rosa Lillo). 5<sup>th</sup> CSDA International Conference on Computational and Financial Econometrics (CFE'10). London, United Kingdom. December, 2011.
- *Robust functional classification for time series* (with Andrés Alonso, David Casado and Sara López-Pintado). 5<sup>th</sup> CSDA International Conference on Computational and Financial Econometrics (CFE'10). London, United Kingdom. December, 2011.
- *Analysis and classification of non standard data* (with Andrés Alonso, David Casado and Sara López). Invited session. CLADAG. Pavia, Italy. September, 2011.
- *Dependence for functional data* (with Rosa Lillo y D. Valencia, Spain.). ICCORS. Valladolid, Spain. June, 2011.
- *Inference for the differences of two percentile residual life functions* (with Alba Franco and Rosa Lillo). IWAP 2010. Universidad Carlos III de Madrid. Colmenarejo, Spain. July, 2010.

- *Extremality for Functional Data* (with Alba Franco y Rosa Lillo). IWFOs, Cantabria, Spain. June, 2011.
- *Robust analysis of functional data* (with Sara López). 4<sup>th</sup>. CSDA International Conference on Computational and Financial Econometrics (CFE'10). London, United Kingdom. December, 2010.
- *Sobre el coeficiente tau-Kendall para datos funcionales* (with Dalia Valencia and Rosa Lillo). XXXII Congreso Nacional de Estadística e Investigación Operativa. SEIO 2010, La Coruña, Spain. September, 2010.
- *Multivariate data order based on extremality*. Invited talk. (with Henry Laniado and Rosa Lillo). XXXII Congreso Nacional de Estadística e Investigación Operativa. SEIO 2010, La Coruña, Spain. September, 2010.
- *Characterization of bathtub distributions via percentile residual life functions*. Invited talk. (with Alba Franco and Rosa Lillo). XXXII Congreso Nacional de Estadística e Investigación Operativa. SEIO 2010, La Coruña, Spain. September, 2010.
- *Clasificación de series temporales mediante análisis de datos funcionales: una aplicación en Geología*. Invited talk. (with Andrés Alonso, David Casado and Sara López-Pintado). XXXII Congreso Nacional de Estadística e Investigación Operativa. SEIO 2010, La Coruña, Spain. September, 2010.
- *Inference for the differences of two percentile residual life functions* (with Alba Franco and Rosa Lillo). COMPSTAT 2010. Paris, France. August, 2010.
- *Multivariate Value at Risk Based on Extremality Notion* (with Henry Laniado and Rosa Lillo). COMPSTAT 2010. Paris, France. August, 2010.
- *Inference for the differences of two percentile residual life functions* (with Alba Franco and Rosa Lillo). IWAP 2010. Universidad Carlos III de Madrid, Colmenarejo, Spain. July, 2010.
- *Multivariate order based on extremality notion* (with Henry Laniado and Rosa Lillo). IWAP 2010. Universidad Carlos III de Madrid, Colmenarejo, Spain. July, 2010.

- *Confidence bands for comparing percentile residual life functions* (with Alba Franco and Rosa Lillo). SMTDA 2010. Creta, Greece. June, 2010.
- *Classification of functional data: a weighted distance approach* (with Andrés Alonso and David Casado). AISTATS 2010, Sardinia. May, 2010.
- *Modelling intra-daily volatility by functional data analysis: an empirical application to the Spanish stock market* (with Kenedy Alva and Esther Ruiz). Computational and Financial Econometrics, CFE'09, Limassol, Cyprus. October, 2009.
- Invited organizer of the session *Analysis of functional data*. SIS meeting: Statistical Methods for the Analysis of Large Data Sets. Pescara, Italy. September, 2009.
- *Bandas de confianza bootstrap para la diferencia de funciones de vida cuantílica residual* (with Alba Franco and Rosa Lillo). Conferencia Biometría 2009. Cádiz, Spain. September, 2009.
- *Refinamientos robustos de k-medias mediante profundidad* (with Aurora Torrente). Conferencia Biometría 2009. Cádiz, Spain. September, 2009.
- *Análisis estadístico robusto para datos de microarrays* (with Sara López and Aurora Torrente). Conferencia Biometría 2009. Cádiz, Spain. September, 2009.
- *Robust depth-based curve registration* (with Ana Arribas). EMS'09. Toulouse, France. July, 2009.
- *Robust depth-based curve registration* (with Ana Arribas). ICORS'09. Parma, Italy. June 2009.
- *Comparing percentile residual life functions* (with Alba Franco and Rosa Lillo). Mathematical Methods in Reliability. Moscow, Russia. June, 2009.
- *Stochastic orders based on the percentile residual life function* (with Alba Franco, Rosa Lillo and Moshe Shaked). COMPSTAT'08. Oporto, Portugal. August 2008.

- *A functional data approach for discrimination of time series* (with Andrés Alonso, David Casado and Sara López) COMPSTAT'08. Oporto, Portugal. August 2008.
- *Percentile residual life stochastic orders* (with Alba Franco, Rosa Lillo and Moshe Shaked). International Workshop on Applied Probability. IWAP'08. Compiègne, Paris, France. July, 2008.
- *Ordenaciones Estocásticas basadas en la función cuantílica de vida residual* (with Alba Franco and Rosa Lillo). XXX Congreso Nacional de Estadística e Investigación Operativa. Valladolid, Spain. September, 2007.
- *Funciones de similitud basadas en la idea de profundidad* (with Angel López). XXX Congreso Nacional de Estadística e Investigación Operativa. Valladolid, Spain. September, 2007.
- *Robust tools for analyzing curves: A depth-based approach* (with Sara López-Pintado). ICORS07 (International Conference on Robust Statistics). Buenos Aires, Argentina. September, 2007.
- Session Chairman. International Workshop on Statistical Modelling. Barcelona, Spain. July 2007.
- *Time series classification based on functional data* (with Andrés Alonso, David Casado and Sara López). International Workshop on Statistical Modelling. Barcelona, Spain. July 2007.
- *Classification for time series based on functional data* (with Andrés Alonso, David Casado and Sara López). The 27 International Symposium on Forecasting. New York, EEUU. June 2007.
- *Estimating the number of groups using clustering comparisons and data depth* (with Aurora Torrente). XI Conferencia Española y Primer Encuentro Internacional de Biometría. Salamanca, Spain. May, 2007.
- *Classifying functional observations* (with Sara López-Pintado). XII Applied Stochastic Models and Data Analysis. Crete, Greece. May, 2007.
- *Frontiers of Statistics in honor of Peter Bickel*. Princeton University. Princeton, EEUU. May, 2006.

- *Refining k-means with data depth and bootstrap* (with Aurora Torrente). XXIX Congreso Nacional de Estadística e Investigación Operativa. Tenerife, Spain. May, 2006.
- *Clasificación de series temporales mediante profundidad para datos funcionales* (with Andrés Alonso, David Casado and Sara López). XXIX Congreso Nacional de Estadística e Investigación Operativa. Tenerife, Spain. May, 2006.
- *Un contraste de bondad de ajuste basado en profundidad* (with Angel López). XXIX Congreso Nacional de Estadística e Investigación Operativa. Tenerife, Spain. May, 2006.
- *Financial Statistics for a Global Economy*. BCE, Frankfurt, Germany. May, 2006.
- *A depth based inference for functional data* (with Sara López). 3<sup>rd</sup> World Conference on Computational Statistics and Data Analysis. Limassol, Cyprus. October, 2005.
- *Functional data: a depth based inference* (with Sara López). XXV European Meeting of Statisticians. Oslo, Norway. July, 2005.
- *Clasificación mediante profundidad para datos de microarrays* (with Sara López and Aurora Torrente). X Conferencia Española de Biometría. Oviedo, Spain. May, 2005.
- *Un contraste de bondad de ajuste basado en el concepto de profundidad* (with Angel López). X Conferencia Española de Biometría. Oviedo, Spain. May, 2005.
- *Construcción de umbrales de alerta epidemiológica mediante métodos bootstrap* (with Andrés Alonso). X Conferencia Española de Biometría. Oviedo, Spain. May, 2005.
- Invited Organizer of Session on *Técnicas Estadísticas no Paramétricas en Epidemiología y Genética*. Oviedo, Spain. May, 2005.
- *Datos funcionales: la idea de profundidad*. Primer Congreso Conjunto de Matemáticas. Mat.es 2005. Valencia, Spain. February, 2005.

- *Nuevas herramientas para la inferencia con datos funcionales* (with Sara López). XXVIII Congreso Nacional de Estadística e Investigación Operativa. Cádiz, Spain. October, 2004.
- *Functional observations and depth* (with Sara López). VI World Congress of the Bernoulli Society for Mathematical Statistics and Probability and 67 Annual Meeting of the Institute of Mathematical Statistics. Barcelona, Spain. July, 2004.
- *Depth clustering for microarray data* (with Sara López and Aurora Torrente). Functional Genomics. Ascona, Switzerland. June, 2004.
- *Depth based classification for microarray data* (with Sara López and Aurora Torrente). Conference on Analysis of Genomic Data. Boston Chapter of ASA. Boston, EEUU. May, 2004.
- *Depth based inference for functional observations* (with Sara López). ASA and IMS Joint Statistical Meetings. San Francisco, EEUU. August, 2003.
- *A functional depth analysis for environmental data* (with Sara López). ISI International Conference on Environmental Statistics and Health. Santiago de Compostela, Spain. July, 2003.
- *A new definition of depth for functional data* (with Sara López). DIMACS, Rutgers University. New Jersey, EEUU. May, 2003.
- *Estadísticos de orden para datos funcionales* (with Sara López). XXVII Congreso Nacional de Estadística e Investigación Operativa. Lleida, Spain. April, 2003.
- *Exploring depth for functional data* (with Sara López). IMS Meeting on Functional Data Analysis. University of Florida. Gainesville, Florida, EEUU. January, 2003.
- *On the concept of depth for functional data* (with Sara López). ASA and IMS Joint Statistical Meetings. New York, EEUU. August, 2002.
- *Bootstrap prediction intervals for GARCH models* (with Lorenzo Pascual and Esther Ruiz). International Symposium of Forecasting. Dublin, Ireland. June, 2002.

- *Predictive resampling in GARCH models* (with Lorenzo Pascual and Esther Ruiz). International Conference on Modelling Volatility. Perth, Australia. September, 2001.
- *Bootstrap prediction for GARCH models* (with Lorenzo Pascual and Esther Ruiz). 5th Workshop of Arrabida. Arrabida, Portugal. July, 2001.
- *Sieve bootstrap prediction intervals* (with Andrés Alonso and Daniel Peña). Proceedings in Computational Statistics 2000, eds. J. G. Bethlehem and P. G. M. van der Heijden. August, 2000.
- *Missing values resampling in time series* (with Andrés Alonso and Daniel Peña). V World Meeting of the Bernoulli Society. Guanajuato, Mexico. April, 2000.
- *Técnicas de remuestreo y datos omitidos* (with Andrés Alonso and Daniel Peña). XXV Congreso Nacional de Estadística e Investigación Operativa. Vigo, Spain. April, 2000.
- *Intervalos de predicción bootstrap en modelos ARIMA* (with Lorenzo Pascual and Esther Ruiz). XXV Congreso Nacional de Estadística e Investigación Operativa. Vigo, Spain. April, 2000.
- *On bootstrap predictive inference for ARIMA processes*. ASA and IMS Joint Statistical Meetings. Baltimore, EEUU. August, 1999.
- *Bootstrap prediction intervals for ARI models* (with Lorenzo Pascual and Esther Ruiz). EC2 Meeting. Stockholm, Sweden. December, 1998.
- *Contrastes bootstrap para raíces unidad bajo varianza infinita* (with Marta Moreno). XXIV Congreso Nacional de Estadística e I. O. Almería, Spain. October, 1998.
- Session Chairman. XXIV Congreso Nacional de Estadística e I. O. Almería, Spain. October, 1998.
- *Bootstrap tests of stationarity based on robust estimators*. ASA and IMS Joint Statistical Meetings. Anaheim, Los Angeles, EEUU. August, 1997.
- *Contrastes bootstrap para raíces unidad basados en mínimas desviaciones absolutas* (with Marta Moreno). XXIII Congreso Nacional de Estadística e I. O. Valencia, Spain. March, 1997.

- *Estimadores robustos de regresión basados en diferencias de residuos* (with José Ramón Berrendero). XXIII Congreso Nacional de Estadística e I. O. Valencia, Spain. March, 1997.
- *Smoothed bootstrap and statistical functionals* (with Antonio Cuevas). ASA and IMS Joint Statistical Meetings. Chicago, EEUU. August, 1996.
- Session Chairman. XXII Congreso Nacional de Estadística e I. O. Sevilla, Spain. November, 1995.
- *La tasa de ruptura de la función de sesgo máximo para estimadores de escala y localización* (with José Ramón Berrendero and Rubén Zamar). XXII Congreso Nacional de Estadística e I. O. Sevilla, Spain. November, 1995.
- *Regresión con coeficientes aleatorios: contraste de bondad de ajuste paramétrico* (with Pedro Delicado). XXII Congreso Nacional de Estadística e I. O. Sevilla, Spain. November, 1995.
- *Differentiable functionals and smoothed bootstrap* (with Antonio Cuevas). 21st European Meeting of Statisticians. Aarhus, Denmark. August, 1995.
- *Continuity and differentiability of statistical functionals: some applications to the bootstrap* (with Antonio Cuevas). III World Meeting of the Bernoulli Society, Chapel Hill, North Carolina, EEUU. June, 1994.
- Session Chairman. XXI Congreso Nacional de Estadística e I. O. Calella, Barcelona, Spain. April, 1994.
- *Contrastes de bondad de ajuste para modelos de regresión con coeficientes aleatorios* (with Pedro Delicado). XXI Congreso Nacional de Estadística e I. O. Calella, Barcelona, Spain. April, 1994.
- *Bootstrap tests for unit roots*. International Seminar on Bootstrap Methods. Invited Conference. Santiago de Compostela, Spain. September, 1993.
- *Bootstrap inference for unit root AR (1) models* (with Nélide Ferretti). 56th IMS Annual Meeting. San Francisco, EEUU. August, 1993.
- *Sobre la estimación de la curva de influencia* (with Antonio Cuevas). Primer Congreso Iberoamericano and XX Reunión Nacional de Estadística e Investigación Operativa. Cáceres, Spain. 1992.

- Session Chairman. 7th European Young Statisticians Meeting. Oberwolfach, Germany. 1991.
- *Stable convergence of empirical processes on Vapnik- Cervonenkis classes of functions.* 19th European Meeting of Statisticians. Barcelona, Spain. 1991.
- *Bootstrapping k- means.* 7th European Young Statisticians Meeting. Oberwolfach , Germany. 1991.
- *Bootstrap para M- estimadores.* XIX Congreso Nacional de Estadística, Investigación Operativa e Informática. Segovia, Spain. 1991.
- *Bootstrapping maximization estimates under nonstandard conditions.* II World Congress of the Bernoulli Society and LEI Annual Meeting of the Institute of Mathematical Statistics. Upsala, Sweden. 1990.
- *Stable convergence of empirical processes on Vapnik- Cervonenkis classes of functions.* Mathematical Sciences Institute Workshop on Stable Processes and Related Topics. Cornell University, 1990.
- *A rate of convergence in clustering analysis.* VI European Young Statisticians Meeting. Praga, Czech Republic.1989. (Published in the Meeting Proceedings, pp. 225232).
- *Algunos resultados sobre convergencia estable de procesos empíricos* (with Víctor Hernández). XIV Jornadas HispanoLusas de Matemáticas. Puerto de la Cruz, Tenerife, Spain.1989.
- *El teorema de Hanson y Russo para B-variables aleatorias* (with Víctor Hernández). III Meeting on Statistics and Operations Research. Lagos, Portugal. 1984.
- *Tasas de convergencia para sumas normalizadas de B- variables aleatorias I.I.D.* (with Víctor Hernández). III Meeting on Statistics and Operations Research. Lagos, Portugal.1984.
- *Tasas de convergencia para sumas ponderadas de B- variables aleatorias* (with Víctor Hernández). XIV Congreso Nacional de Estadística, I.O. e Informática. Granada, Spain. 1984. (Published in the Meeting Proceedings, pp. 885 a 862).

## TALKS AND COURSES

- *Robust tools for high-dimensional functional data*. Departamento de Matemáticas. Universidad Autónoma de Madrid. (22/1/2016).
- *Detecting functional outliers: the outliergram*. Department of Mathematics. Politécnico di Milano (23/6/2015).
- *El bootstrap: una visita guiada*. 56 edition of Cursos de Verano de Cádiz. Universidad de Cádiz (18/7/2005).
- *Datos funcionales: inferencia basada en profundidad*. Department of Statistics and O. R. Universidad de La Coruña, Spain. (7/06/2005).
- *Profundidad para datos funcionales*. Department of Statistics and O. R. Universidad Complutense (28/04/2004).
- *El bootstrap y sus aplicaciones*. Department of Statistics. Universidad Pública de Navarra (9/2002).
- *Bootstrap in time series*. Department of Economics. Universidad de Alicante (30/4/1999).
- *Métodos de remuestreo*. Universidad Nacional de Educación a Distancia. Ávila (17/4/1999).
- *Bootstrap inference for unit roots*. Department of Economics and Business. Universitat Pompeu Fabra (8/5/1998).
- *Inferencia bootstrap para raíces unidad*. Department of Statistics. Universidad de Santiago de Compostela, Spain. (5/6/1997).
- *Metodología bootstrap y aplicaciones*. Department of Statistics. Universidad de Sevilla, Spain. (19/5/1995).
- *Contrastes bootstrap para raíces unidad*. Department of Economic Analysis. Universidad Complutense (9/3/1993).
- *Inferencia bootstrap en procesos no estacionarios*. Department of Econometrics. Universidad del País Vasco (26/2/1993).

- *Técnicas bootstrap*. Department of Economics. Universidad Carlos III de Madrid (5/3/1991).
- *Bootstrapping*. Department of Mathematics. Universidad Autónoma de Madrid (25/4/1990).
- *Bootstrapping kmeans*. Department of Mathematics. City University of New York (5/2/1990).
- *Bootstrapping in clustering analysis*. Department of Mathematics. City University of New York (19/12/1989).

## MASTER THESIS ADVISING

- *Las redes neuronales como aproximadores universales*, by Marta Moreno. Ph. D. in Economics. Universidad Carlos III de Madrid. September, 1993.
- *Wavelets*, by Cristina Martínez. Ph. D. in Economics. Universidad Carlos III de Madrid. September, 1993.
- *Caos: técnicas estadísticas y aplicaciones económicas*, by José Ramón Berrendero. Ph. D. in Economics. Universidad Carlos III de Madrid. September, 1992.

## RESEARCH STAYS

- Department of Statistics. University of British Columbia. August, 1996.
- Department of Statistics. Stanford University. June- August, 1994.
- Department of Statistics. Stanford University. July- August, 1993.
- Mathematical Sciences Research Institute. University of California, Berkeley. April, 1992.
- Department of Mathematics. City University of New York (New York, U.S.A.). From September, 1989 to February, 1990.
- Department of Mathematics. Texas A&M University (Texas, U. S. A.). From January, 1985 to September, 1987.

## OTHER MERITS

- Premio Extraordinario de Licenciatura.
- Third National Prize in Mathematical Sciences Studies. Ministerio de Educación y Ciencia.
- Scholarship. Departamento de Estadística e I. O. de la Universidad Complutense. Ministerio de Educación y Ciencia. Year 1980/81.
- Scholarship to Texas A&M University (From 1/1985 to 7/1985). Universidad Complutense de Madrid.
- Scholarship to Texas A&M University (From 9/1986 to 1/1987 and 7/1987 to 9/1987). Fulbright Commission.
- Scholarship from Plan General de Promoción del Conocimiento. City University of New York (From 9/1989 to 2/1990). Secretaría de Estado de Universidades e Investigación.
- Referee for: JASA, Biometrika, Annals of Statistics, Computational Statistics and Data Analysis, Journal of Business and Economics Statistics, Journal of Time Series, Journal of Statistical Planning and Inference, TEST, Statistics and Probability Letters, International Journal of forecasting, Management Science, Econometric Theory, Journal of Econometrics, Estadística Española, Trabajos de Estadística, Investigaciones Económicas, Questió.
- Referee for Agencia Nacional de Evaluación y Prospectiva.
- Member of: American Statistical Association, Institute of Mathematical Statistics, International Statistical Institute, Sociedad de Estadística e Investigación Operativa.
- Member of the European Regional Committee of the Bernoulli Society, International Statistical Institute (ISI) (2006-2010).
- Chairperson. International Workshop for Applied Probability (IWAP 2010). Universidad Carlos III de Madrid. July, 2010.

- Cochair. II Conference of the International Society for Nonparametrical Statistics. Cádiz, Spain. June, 2014.
- Member of the International Society for Nonparametric Statistics Council (2016- 2019).
- Co-editor. *Nonparametric Statistics*. Proceedings de la II Conference of the International Society for Nonparametric Statistics. *Springer*, 2016. Completar datos.
- Invited Editor of *Special issue on Robust analysis of complex data*. Computational Statistics and Data Analysis.
- Member of the Compstat 2016 Scientific Committee. Oviedo, Spain, 2016.
- Member of the Fourth IWFOS Conference Scientific Committee. La Coruña, Spain, 2017.
- Member of the Scientific Committee of CMStatistics Conference. Pisa, Italy, 2018.
- Associate Editor. *Annals of Statistical Data Science*. Since December, 2019.
- Miembro del Scientific Committee del Compstat 2020. Bolonia, Italia, 2020.

## TEACHING

- Seventeen Licenciatura courses at Facultades de Ciencias Biológicas, de Ciencias Geológicas and Ciencias Matemáticas in Universidad Complutense de Madrid.
- Twenty- seven Licenciatura courses at Facultad de Ciencias Sociales y Jurídicas in Universidad Carlos III de Madrid.

- Thirty Ph. D. courses in: Universidad Complutense, Universidad Carlos III de Madrid, Universidad del País Vasco, Universidad Pública de Navarra and Universidad de Valladolid.
- Teaching Prize. Universidad Carlos III de Madrid. June, 1997.

## **BOOKS**

- CUEVAS, A., ROMO, J., DELICADO, P. and BERRENDERO, J. R. (2001). *Matemáticas Aplicadas a las Ciencias Sociales II*. Ediciones S. M.
- ROMO, J., CUEVAS, A. and DELICADO, P. (2000). *Matemáticas Aplicadas a las Ciencias Sociales I*. Ediciones S. M.
- PEÑA, D. and ROMO, J. (1997). *Introducción a la Estadística para las Ciencias Sociales*. McGraw Hill.
- HERNÁNDEZ, V., ROMO, J. and VÉLEZ, R. (1989). *Problemas y Ejercicios de Teoría de la Probabilidad*. UNED.

## **UNIVERSITY MANAGEMENT**

- Vicehead of the Department of Statistics and Econometrics. Universidad Carlos III de Madrid. From December, 1992 to December, 1995.
- Director of the Ph. D. in Economics. Universidad Carlos III de Madrid. From February, 1995 to November, 1999.
- General Coordinator of C. O. U. and Acces Exam to Universidad Carlos III de Madrid. From October, 1995 to October, 1999.
- Vicerrector for Graduate Studies. Universidad Carlos III de Madrid. From October, 1999 to January, 2004.
- Vicerrector for Faculty, Graduate Studies and Departments. Universidad Carlos III de Madrid. From February, 2004 to May, 2007.
- Vicerrector for Faculty and Departments. Universidad Carlos III de Madrid. From May, 2007 to March, 2015.

- Vicepresident. Fundación Carlos III. From June, 2007 to March, 2015.
- Rector. Universidad Carlos III de Madrid. Since April, 2015. (Reelected in March 2019).
- President. Fundación Carlos III. Since April, 2015.
- President. 4U Alliance (A4U). From April, 2015 to March, 2016.
- President. Young European Research Universities Network (YERUN). Since September, 2015 (reelected September, 2017).
- Fundación Gadea. Member of the Scientific Advisory Board. Since January, 2018.
- President. Conferencia de Rectores de las Universidades Públicas Madrileñas (CRUMA). From January, 2018 to December, 2018.
- Member of the Permanent Commission of “Conferencia de Rectores de las Universidades Españolas” (CRUE)”. Since July, 2018.
- Vicepresident of Consejo de Universidades. Since September, 2018.
- Member of Universia Board of Directors. Since December, 2018.

## **OTHER CONFERENCES**

- Speaker in the session *La empleabilidad de los egresados universitarios: un objetivo al servicio de la competitividad de las economías y del desarrollo social*. IV Encuentro Internacional de Rectores Universia 2018. Salamanca, May, 21-25, 2018.
- *Presentation of Europe’s Young European Research Universities (YERUN)*. The Young Universities Summit 2018. Tampa, Florida, USA. June, 5-7, 2018
- Invited to the Panel *Las nuevas tendencias de la educación superior en el siglo XXI*, Casa de México in Madrid Opening Ceremony. October, 1, 2018.
- Invited to the Panel *Universities in the Digital Era*, EnlightED. Madrid, October, 4, 2018.