

PROF. CONCHA BIELZA



A. GENERAL INFORMATION

PERSONAL INFORMATION

Name:	M ^a Concepción (Concha) Bielza
Birthdate:	April 16, 1966
Nationality:	Spanish
Address:	Department of Artificial Intelligence Universidad Politécnica de Madrid Campus de Montegancedo, s/n 28660 Boadilla del Monte, Madrid, Spain
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ACADEMIC POSITIONS

- Co-leader of the Computational Intelligence Group since its foundation in 2009
- Co-director and founder of the ELLIS Unit Madrid, the recently recognized Unit within the European Lab for Learning and Intelligent Systems (ELLIS) Society; a Unit that brings together the top machine learning researchers of the six public universities in Madrid (2022-2024)
- Full Professor in the Department of Artificial Intelligence, Universidad Politécnica de Madrid, Spain (since 2010)
- Associate Professor in the Department of Artificial Intelligence, Universidad Politécnica de Madrid, Spain (1997-2010)
- Assistant Professor in the Department of Artificial Intelligence, Universidad Politécnica de Madrid, Spain (1991-1997)
- Part-time Lecturer in the Universidad Complutense de Madrid - St. Thomas Univ. (1989-1992)

QUALIFICATIONS

- Habilitation for full Professor in Engineering, Madrid, Spain, 2009
- PhD in Computer Science, *Contributions to the Analysis of Decision-Making Supercomplex Problems*, Universidad Politécnica de Madrid, Spain, 1996. Awarded the best PhD thesis at Universidad Politécnica de Madrid
- BSc/MSc (graduated) in Mathematics, specialization in Statistics and Operation Research, Universidad Complutense de Madrid, Spain, 1989

OTHER

- Five research periods (*sexenios*) awarded by the Ministry of Education/Universities: 1995-2000, 2001-2006, 2007-2012, 2013-2018, 2019-2024
- Six teaching periods (*quinquenios*) awarded by the Technical University of Madrid: 1992-1996, 1997-2001, 2002-2006, 2007-2011, 2012-2016, 2017-2021
- (Unique) Knowledge transfer and innovation period (*sexenio de transferencia*) awarded by the Ministry of Science, Innovation and Universities: 2011-2018

RESEARCH INTERESTS

- Bayesian networks (learning from data, supervised classification, clustering), machine learning, explainable/interpretable machine learning, regression, evolutionary computation (genetic algorithms, estimation of distribution algorithms, multi-objective optimization), regularization, multivariate time series, data streams and temporal data, anomaly detection, probabilistic graphical models (decision analysis under uncertainty specially with influence diagrams, partial information on probabilities and utilities, approximate solutions, explanation of results).
- Application domains: medicine, bioinformatics, neuroscience, industry 4.0, reservoir management, auctions, project selection, astrophysics, agriculture, bibliometry, sports, mycology, animal behaviour, real state portfolio, customer management.

THE CV IN NUMBERS (August, 13, 2025)

PUBLICATION RECORD

- Books: 6
- Edited Books: 3
- Journal Papers (JCR, Web of Science): 165
- Journal Papers (Not in JCR): 16
- Book Chapters: 45
- Conference Publications: 77
- Conference Contributions: 185 (25 invited + 160 accepted)
- Technical Reports: 29
- Awards: 16 (personal) + 26 (jointly granted)

RESEARCH PROJECTS

- Public Research Projects: 65
- Private Research Projects: 41

TEACHING AND SUPERVISION

- Supervised Ph.D. Theses: 24
- Supervised Master Theses: 76
- Supervised Graduate Projects: 29

SERVICE TO THE ACADEMIC COMMUNITY

- Editorial Board of Journals: 2
 - Editor of Journal Special Issues: 6
 - Invited Talks at Universities/Institutions: 44
 - Plenary Talks at Conferences: 13
 - Organizer of Congress and Scientific Events: 19
 - Program Committee Member: 95
 - Session Chair of Conferences: 21
 - Round Tables: 4
 - Tutorials: 4
 - PhD committees: 21
 - Journal Referee: 86 manuscripts in 55 journals
 - Committees Evaluating Scientific Projects: 23
 - Committees Evaluating Grants and Research Careers: 28
 - Patents: 1 (+1)
 - Registered Software: 3
 - Managerial Positions: 9
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CITATIONS AND *h*-INDEX

- Included in the list of the World Top 2% Most Cited Scientists in 2022 and 2023, a prestigious ranking done by the Stanford University
 - Web of Science (March 15, 2026)
Citations: 7198
h-index: 37
Two Highly Cited Papers at Essential Science Indicators (top 1% of articles): papers #39, #74
 - Google Scholar (March 15, 2026)
Citations: 14873
h-index: 48
i10-index: 165
Citations (since 2021): 5708
h-index (since 2021): 33
i10-index (since 2021): 92
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B. PUBLICATION RECORD

BOOKS

1. Bielza, C., Larrañaga, P. (2021). *Data-Driven Computational Neuroscience. Machine Learning and Statistical Models*. Cambridge University Press. 689 pages
2. Larrañaga, P., Atienza, D., Diaz-Rozo, J., Ogbechie, A., Puerto-Santana, C., Bielza, C. (2019). *Industrial Applications of Machine Learning*. CRC Press. 336 pages (Chinese version also available since 2023, ISBN 978-7-5693-2481-5)
3. Ibáñez, A., Bielza, C., Larrañaga, P. (2011). *Scientific Productivity and Visibility of Public Spanish Universities Academic Staff in the Area of Computer Sciences*. Fundación General de la U.P.M. (in Spanish). 280 pages
4. Ríos-Insua, S., Mateos, A., Bielza, C., Jiménez, A. (2004). *Operation Research. Deterministic and Stochastic Models*. Centro de Estudios Ramón Areces (in Spanish). 552 pages. Awarded with the Best Textbook Prize (UPM Foundation)
5. Ríos-Insua, S., Bielza, C., Mateos, A. (2002). *Fundamentals of Decision Support Systems*. Ra-Ma (in Spanish). 416 pages
6. Ballesteros, E., Bielza, C., Gómez, M., Maldonado, J.A., Ballbé, P. (1999). *Health Economy, Statistics for Medical Doctors, Computer-Based Clinical Training*. Dossat 2000 (in Spanish). 317 pages

EDITED BOOKS

1. Juarez, J.M., Fernandez-Llatas, C., Bielza, C., Johnson, O., Kocbek, P., Larrañaga, P., Martin, N., Munoz-Gama, J., Štiglic, G., Sepulveda, M. Vellido, A. (2024). *Explainable Artificial Intelligence and Process Mining Applications for Healthcare, Vol. 2020*, Springer. 131 pages
2. Bielza, C., Salmerón, A., Alonso-Betanzos, A., Hidalgo, J.I., Martínez, L., Troncoso, A., Corchado, E., Corchado, J.M. (2013). *Advances in Artificial Intelligence, Lecture Notes in Artificial Intelligence, Vol. 8109*. Springer. 404 pages
3. Bielza, C., Salmerón, A. (2013). *Proceedings of the XV Conference of the Spanish Association for Artificial Intelligence (CAEPIA 2013)*. CEDI (in Spanish). 158 pages

JOURNAL PAPERS (JCR - WEB OF SCIENCE, WITH QUARTILE)

1. Alejandro, V., Bielza, C., Larrañaga, P. (2026). Bandwidth selectors on semiparametric Bayesian networks. *Information Sciences*, 740, 2026, 123198, Q1
2. Soloviev, V.P., Larrañaga, P., Bielza, C. (2025). A multi-objective framework based on estimation of distribution algorithms for data-driven fuel experimental design. *Journal of Industrial and Management Optimization*, 22, 1, 256-281, Q2
3. Lozano-Paredes, D., Bote-Curiel, L., Sabater-Molina, M., Bielza, C., Gimeno-Blanes, J.R., Muñoz-Romero, S., Gimeno-Blanes, F.J., Larrañaga, P., Rojo-Álvarez, J.L. (2025). Discovering genetic variants in hypertrophic cardiomyopathy with multiple machine learning techniques. *IEEE-ACM Transactions on Computational Biology and Bioinformatics* 22, 4, 1822-1835, Q1
4. Quesada, D., Larrañaga, P., Bielza, C. (2025). dbnR: Gaussian dynamic Bayesian network learning and inference in R. *Journal of Statistical Software*, 115, 6, Q1
5. Soloviev, V.P., Bielza, C., Larrañaga, P., Dunjko, V., Wang, H. (2024). Trainability maximization using estimation of distribution algorithms assisted by surrogate modelling for quantum architecture search. *EPJ Quantum Technology* 11, 69, Q1
6. Soloviev, V.P., Larrañaga, P., Bielza, C. (2024). EDAspy: An extensible python package for estimation of distribution algorithms. *Neurocomputing*, 558, 128043, Q1

7. Blasco, T., Balzerani, F., Valcárcel, L., Larrañaga, P., Bielza C., Francino, M.P., Rufián-Henares, J., Planes, F.J., Pérez-Burillo, S. (2024). BN-BacArena: Bayesian network extension of BacArena for the dynamic simulation of microbial communities. *Bioinformatics*, 40, 5, btae266, Q1
8. Puerto-Santana, C.E., Larrañaga, P., Bielza, C. (2024). Feature saliencies in asymmetric hidden Markov models. *IEEE Transactions on Neural Networks and Learning Systems*, 35, 3, 3586-3600, Q1
9. Larrañaga, P., Bielza, C. (2024). Estimation of distribution algorithms in machine learning: A survey. *IEEE Transactions on Evolutionary Computation*, 28, 5, 1301-1321, Q1
10. Soloviev, V.P., Bielza, C., Larrañaga, P. (2024). Semiparametric estimation of distribution algorithms for continuous optimization. *IEEE Transactions on Evolutionary Computation*, 28, 4, 1069-1083, Q1
11. Bernaola, N., Michiels, M., Larrañaga, P., Bielza, C.(2023). Learning massive interpretable gene regulatory networks of the human brain by merging Bayesian networks. *PLOS Computational Biology*, 19, 12, e1011443, Q1
12. Puerto-Santana, C., Larrañaga, P., Bielza, C. (2023). Feature subset selection in data-stream environments using asymmetric hidden Markov models and novelty detection. *Neurocomputing*, 554, 126641, Q1
13. Villa-Blanco, C., Bielza, C., Larrañaga, P. (2023). Feature subset selection for data and feature streams: A review. *Artificial Intelligence Review*, 56, Suppl 1, 1011-1062, Q1
14. Valverde, G., Quesada, D., Larrañaga, P., Bielza, C. (2023). Causal reinforcement learning based on Bayesian networks applied to industrial settings. *Engineering Applications of Artificial Intelligence*, 125, 106657, Q1
15. Valero-Leal, E., Bielza, C., Larrañaga, P., Renooij, S. (2023). Efficient search for relevance explanations using MAP-independence in Bayesian networks. *International Journal of Approximate Reasoning*, 160, 108965, Q2
16. Villa-Blanco, C., Bregoli, A., Bielza, C., Larrañaga, P., Stella, F. (2023). Constraint-based and hybrid structure learning of multidimensional continuous-time Bayesian network classifiers. *International Journal of Approximate Reasoning*, 159, 108945, Q2
17. Soloviev, V.P., Bielza, C., Larrañaga, P. (2023). Quantum approximate optimization algorithm for Bayesian network structure learning. *Quantum Information Processing*, 22:19, 1-28, Q1
18. Quesada, D., Bielza, C., Fontán, P., Larrañaga, P. (2022). Piecewise forecasting of nonlinear time series with model tree dynamic Bayesian networks. *International Journal of Intelligent Systems*, 37, 9108-9137, Q1
19. Atienza, D., Bielza, C., Larrañaga, P. (2022). PyBNesian: An extensible Python package for Bayesian networks. *Neurocomputing*, 504, 204-209, Q2
20. Soloviev, V.P., Larrañaga, P., Bielza, C. (2022). Estimation of distribution algorithms using Gaussian Bayesian networks to solve industrial optimization problems constrained by environment variables. *Journal of Combinatorial Optimization*, 44, 1077-1098, Q3
21. Puerto-Santana, C., Bielza, C., Diaz-Rozo, J., Ramirez-Gargallo, G., Mantovani, F., Virumbrales, G., Labarta, J., Larrañaga, P. (2022). Asymmetric HMMs for online ball-bearing health assessments. *IEEE Internet of Things Journal*, 9, 20 20160-20177, Q1
22. Laccourreye, P., Bielza, C., Larrañaga, P. (2022). Explainable machine learning for longitudinal multi-omic microbiome. *Mathematics*, 10, 1994, Q1
23. Atienza, D., Larrañaga, P., Bielza, C. (2022). Rejoinder on: Hybrid semiparametric Bayesian networks. *TEST*, 31, 344-347, Q3
24. Atienza, D., Larrañaga, P., Bielza, C. (2022). Hybrid semiparametric Bayesian networks. *TEST*, 31, 299-327, Q3

25. Puerto-Santana, C., Larrañaga, P., Bielza, C. (2022). Autoregressive asymmetric linear Gaussian hidden Markov models. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 44, 9, 4642-4658, Q1
26. Atienza, D., Bielza, C., Larrañaga, P. (2022). Semiparametric Bayesian networks. *Information Sciences*, 584, 564-582, Q1
27. Rodriguez-Sanchez, F., Bielza, C., Larrañaga, P. (2022). Multipartition clustering of mixed data with Bayesian networks. *International Journal of Intelligent Systems*, 37, 2188-2218, Q1
28. Rodriguez-Sanchez, F., Rodriguez-Blazquez, C., Bielza, C., Larrañaga, P., Weintraub, D., Martinez-Martin, P., Rizo, A., Schrag, A., Chaudhuri, K. (2021). Identifying Parkinson's disease subtypes with motor and non-motor symptoms via model-based multi-partition clustering. *Scientific Reports*, 11, Article 23645, Q1
29. Villa-Blanco, C., Larrañaga, P., Bielza, C. (2021). Multi-dimensional continuous time Bayesian network classifiers. *International Journal of Intelligent Systems*, 36, 12, 7839-7866, Q1
30. Benjumeda, M., Tan, Y.-L., González-Otárula, K.A., Chandramohan, D., Chang, E.F., Hall, J.A., Bielza, C., Larrañaga, P., Kobayashi, E., Knowlton, R.C. (2021). Patient specific prediction of temporal lobe epilepsy surgical outcomes. *Epilepsia*, 62, 2113-2122, Q1
31. Quesada, D., Valverde, G., Larrañaga, P., Bielza, C. (2021). Long-term forecasting of multivariate time series in industrial furnaces with dynamic Gaussian Bayesian networks. *Engineering Applications of Artificial Intelligence*, 103, Article 104301, Q1
32. Mihaljević, B., Bielza, C., Larrañaga, P. (2021). Bayesian networks for interpretable machine learning and optimization. *Neurocomputing*, 456, 648-665, Q2
33. Mihaljević, B., Larrañaga, P., Bielza, C. (2021). Comparing the electrophysiology and morphology of human and mouse layer 2/3 pyramidal neurons with Bayesian networks. *Frontiers in Neuroinformatics*, 15, Article 580873, Q2
34. Atienza, D., Bielza, C., Diaz-Rozo, J., Larrañaga, P. (2021). Efficient anomaly detection in a laser surface heat treatment process via laser-spot tracking. *IEEE/ASME Transactions on Mechatronics*, 26, 1, 405-415, Q1
35. Gil-Begue, S., Bielza, C., Larrañaga, P. (2021). Multi-dimensional Bayesian network classifiers: A survey. *Artificial Intelligence Review*, 54, 519-559, Q1
36. Michiels, M., Larrañaga, P., Bielza, C. (2021). BayeSuites: An open web framework for massive Bayesian networks focused on neuroscience. *Neurocomputing*, 428, 166-181, Q2
37. Rodriguez-Sanchez, F., Larrañaga, P., Bielza, C. (2020). Incremental learning of latent forests. *IEEE Access*, 8, 224420-224432, Q2
38. Mihaljević, B., Larrañaga, P., Benavides-Piccione, R., DeFelipe, J., Bielza, C. (2020). Comparing basal dendrite branches in human and mouse hippocampal CA1 pyramidal neurons with Bayesian networks. *Scientific Reports*, 10, Article 18592, Q1
39. Yuste, R., Hawrylycz, M., Aalling, N., Aguilar-Valles, A., Arendt, D., Armañanzas, R., Ascoli, G.A., Bielza, C., et al. (Copenhagen Convention Group) (2020). A community-based transcriptomics classification and nomenclature of neocortical cell types. *Nature Neuroscience*, 23, 1456-1468, Q1
→ Highly Cited Paper at Essential Science Indicators (top 1% of articles by total citations)
40. Córdoba-Sánchez, I., Varando, G., Bielza, C., Larrañaga, P. (2020). On generating random Gaussian graphical models. *International Journal of Approximate Reasoning*, 125, 240-250, Q2
41. Córdoba-Sánchez, I., Bielza, C., Larrañaga, P., Varando, G. (2020). Sparse Cholesky covariance parametrization for recovering latent structure in ordered data. *IEEE Access*, 8, 154614-154624, Q2

42. Diaz-Rozo, J., Bielza, C., Larrañaga, P. (2020). Machine-tool condition monitoring with Gaussian mixture models-based dynamic probabilistic clustering. *Engineering Applications of Artificial Intelligence*, 89, Article 103434, Q1
43. Córdoba-Sánchez, I., Bielza, C., Larrañaga, P. (2020). A review of Gaussian Markov models for conditional independence. *Journal of Statistical Planning and Inference*, 206, 127-144, Q3
44. Mihaljević, B., Benavides-Piccione, R., Bielza, C., Larrañaga, P., DeFelipe, J. (2019). Classification of GABAergic interneurons by leading neuroscientists. *Scientific Data*, 6, Article 221, Q1
45. Fernández-González, P., Bielza, C., Larrañaga, P. (2019). Random forests for regression as a weighted sum of k-potential nearest neighbors. *IEEE Access*, 7, 1, 25660-25672, Q1
46. Benjumbeda, M., Luengo-Sanchez, S., Larrañaga, P., Bielza, C. (2019). Tractable learning of Bayesian networks from partially observed data. *Pattern Recognition*, 91, 190-199, Q1
47. Luengo-Sanchez, S., Larrañaga, P., Bielza, C. (2019). A directional-linear Bayesian network and its application for clustering and simulation of neural somas. *IEEE Access*, 7, 1, 69907-69921, Q1
48. Leguey, I., Larrañaga, P., Bielza, C., Kato, S. (2019). A circular-linear dependence measure under Johnson-Wehrly distributions and its application in Bayesian networks. *Information Sciences*, 486, 240-253, Q1
49. Leguey, I., Bielza, C., Larrañaga, P. (2019). Circular Bayesian classifiers using wrapped Cauchy distributions. *Data & Knowledge Engineering*, 122, 101-115, Q3
50. Benjumbeda, M., Bielza, C., Larrañaga, P. (2019). Learning tractable Bayesian networks in the space of elimination orders. *Artificial Intelligence*, 274, 66-90, Q1
51. Mihaljević, B., Bielza, C., Larrañaga, P. (2018). `bnclassify`: Learning Bayesian network classifiers. *The R Journal*, 10, 2, 455-468, Q1
52. Anton-Sanchez, L., Effenberger, F., Bielza, C., Larrañaga, P., Cuntz, H. (2018). A regularity index for dendrites - local statistics of a neuron's input space. *PLOS Computational Biology*, 14, 11, e1006593, Q1
53. Mihaljević, B., Larrañaga, P., Benavides-Piccione, R., Hill, S., DeFelipe, J., Bielza, C. (2018). Towards a supervised classification of neocortical interneuron morphologies, *BMC Bioinformatics*, 19, 511, Q1
54. Luengo-Sanchez, S., Fernaud-Espinosa, I., Bielza, C., Benavides-Piccione, R., Larrañaga, P., DeFelipe, J. (2018). 3D morphology-based clustering and simulation of human pyramidal cell dendritic spines. *PLOS Computational Biology*, 14, 6, e1006221, Q1
55. Diaz-Rozo, J., Bielza, C., Larrañaga, P. (2018). Clustering of data streams with dynamic Gaussian mixture models: An IoT application in industrial processes. *IEEE Internet of Things Journal*, 5, 5, 3533-3547, Q1
56. Varando, G., Benavides-Piccione, R., Muñoz, A., Kastanauskaite, A., Bielza, C., Larrañaga, P., DeFelipe, J. (2018). MultiMap: A tool to automatically extract and analyze spatial microscopic data from large stacks of confocal microscopy images. *Frontiers in Neuroanatomy*, 12, Article 37, Q1
57. Benjumbeda, M., Bielza, C., Larrañaga, P. (2018). Tractability of most probable explanations in multidimensional Bayesian network classifiers. *International Journal of Approximate Reasoning*, 93, 74-87, Q3
58. Mu, J., Chaudhuri, K.R., Bielza, C., de Pedro-Cuesta, J., Larrañaga, P., Martinez-Martin, P. (2017). Parkinson's disease subtypes from cluster analysis of motor and non-motor symptoms. *Frontiers in Aging Neuroscience*, 9, Article 301, Q2
59. Anton-Sanchez, L., Larrañaga, P., Benavides-Piccione, R., Fernaud-Espinosa, I., DeFelipe, J., Bielza, C. (2017). Three-dimensional spatial modeling of spines along dendritic networks in human cortical pyramidal neurons. *PLoS ONE*, 12, 6, e0180400, Q2

60. Anton-Sanchez, L., Bielza, C., Larrañaga, P. (2017). Network design through forests with degree- and role-constrained minimum spanning trees. *Journal of Heuristics*, 23 (1), 31-51, Q2
61. Rodriguez-Lujan, L., Larrañaga, P., Bielza, C. (2017). Frobenius norm regularization for the multivariate von Mises distribution. *International Journal of Intelligent Systems*, 32, 2, 153-176, Q1
62. Fernandez-Gonzalez, P., Benavides-Piccione, R., Leguey, I., Bielza, C., Larrañaga, P., DeFelipe, J. (2017). Dendritic branching angles of pyramidal neurons of the human cerebral cortex. *Brain Structure & Function*, 222, 4, 1847-1859, Q1
63. Anton-Sanchez, L., Bielza, C., Larrañaga, P., DeFelipe, J. (2016). Wiring economy of pyramidal cells in the juvenile rat somatosensory cortex. *PLoS ONE*, 11, 11, e0165915, Q2
64. Anton-Sanchez, L., Bielza, C., Benavides-Piccione, R., DeFelipe, J., Larrañaga, P. (2016). Dendritic and axonal wiring optimization of cortical GABAergic interneurons. *Neuroinformatics*, 14, 4, 453-464, Q1
65. Leguey, I., Bielza, C., Larrañaga, P., Kastanauskaite, A., Rojo, C., Benavides-Piccione, R., DeFelipe, J. (2016). Dendritic branching angles of pyramidal cells across layers of the juvenile rat somatosensory cortex. *Journal of Comparative Neurology*, 524, 13, 2567-2576, Q1
66. Leitner, F., Bielza, C., Hill, S.L., Larrañaga, P. (2016). Data publications correlate with citation impact. *Frontiers in Neuroscience*, 10, Article 419, Q2
67. Varando, G., Bielza, C., Larrañaga, P. (2016). Decision functions for chain classifiers based on Bayesian networks for multi-label classification. *International Journal of Approximate Reasoning*, 68, 164-178, Q1
68. Borchani, H., Larrañaga, P., Gama, J., Bielza, C. (2016). Mining multi-dimensional concept-drifting data streams using Bayesian network classifiers. *Intelligent Data Analysis*, 20, 2, 257-280, Q4
69. Rojo, C., Leguey, I., Kastanauskaite, A., Bielza, C., Larrañaga, P., DeFelipe, J., Benavides-Piccione, R. (2016). Laminar differences in dendritic structure of pyramidal neurons in juvenile rat somatosensory cortex. *Cerebral Cortex*, 26, 6, 2811-2822, Q1
70. Varando, G., Bielza, C., Larrañaga, P. (2015). Decision boundary for discrete Bayesian network classifiers. *Journal of Machine Learning Research*, 16, 2725-2749, Q1
71. Bielza, C., Gama, J., Jorge, A., Žliobaitė, I. (2015). Guest editors introduction: special issue of the ECMLPKDD 2015 journal track. *Data Mining and Knowledge Discovery*, 29, 1113-1115, Q1
72. Bielza, C., Gama, J., Jorge, A., Žliobaitė, I. (2015). Guest editors introduction: special issue of the ECMLPKDD 2015 journal track. *Machine Learning*, 100, 157-159, Q2
73. Luengo-Sanchez, S., Bielza, C., Benavides-Piccione, R., Fernaud-Espinosa, I., DeFelipe, J., Larrañaga, P. (2015). A univocal definition of the neuronal soma morphology using Gaussian mixture models. *Frontiers in Neuroanatomy*, 9, Article 137, Q1
74. Borchani, H., Varando, G., Bielza, C., Larrañaga, P. (2015). A survey on multi-output regression. *Wiley Interdisciplinary Reviews—Data Mining and Knowledge Discovery*, 5, 216-233, Q1
→ Highly Cited Paper at Essential Science Indicators (top 1 % of articles by total citations)
75. Olazarán, J., Valentí, M., Frades, B., Zea-Sevilla, M.A., Ávila-Villanueva, M., Fernández-Blázquez, M.A., Calero, M., Dobato, J.L., Hernández-Tamames, J.A., León-Salas, B., Agüera-Ortiz, L., López-Álvarez, J., Larrañaga, P., Bielza, C., Álvarez-Linera, J., Martínez-Martin, P. (2015). The Vallecas Project: a cohort to identify early markers and mechanisms of Alzheimer's disease. *Frontiers in Aging Neuroscience*, 7, Article 181, Q1
76. Larrañaga, A., Bielza, C., Pongrácz, P., Faragó, T., Bálint, A., Larrañaga, P. (2015). Comparing supervised learning methods for classifying sex, age, context and individual Mudi dogs from barking. *Animal Cognition*, 18, 2, 405-421, Q1

77. Bielza, C., Moral, S., Salmerón, A. (2015). Recent advances in probabilistic graphical models. Editorial. *International Journal of Intelligent Systems*, 30, 3, 207-208, Q2
78. Varando, G., López-Cruz, P.L., Nielsen, T., Larrañaga, P., Bielza, C. (2015). Conditional density approximations with mixtures of polynomials. *International Journal of Intelligent Systems*, 30, 3, 236-264, Q2
79. Mihaljević, B., Benavides-Piccione, R., Guerra, L., DeFelipe, J., Larrañaga, P., Bielza, C. (2015). Classifying GABAergic interneurons with semi-supervised projected model-based clustering. *Artificial Intelligence in Medicine*, 65, 49-59, Q2
80. Masegosa, A.R., Armañanzas, R., Abad-Grau, M.M., Potenciano, V., Moral, S., Larrañaga, P., Bielza, C., Matesanz, F. (2015). Discretization of expression quantitative trait loci in association analysis between genotypes and expression data. *Current Bioinformatics*, 10, 2, 144-164, Q4
81. López-Cruz, P.L., Bielza, C., Larrañaga, P. (2015). Directional naive Bayes classifiers. *Pattern Analysis and Applications*, 18, 225-246, Q3
82. Mihaljević, B., Benavides-Piccione, R., Bielza, C., DeFelipe, J., Larrañaga, P. (2015). Bayesian network classifiers for categorizing cortical GABAergic interneurons. *Neuroinformatics*, 13, 2, 193-208, Q1
83. Karshenas, H., Bielza, C., Larrañaga, P. (2015). Interval-based ranking in noisy evolutionary multi-objective optimization. *Computational Optimization and Applications*, 61, 2, 517-555, Q1
84. Mihaljević, B., Bielza, C., Benavides-Piccione, R., DeFelipe, J., Larrañaga, P. (2014). Multi-dimensional classification of GABAergic interneurons with Bayesian network-modeled label uncertainty. *Frontiers in Computational Neuroscience*, 8, Article 150, Q2
85. Bielza, C., Larrañaga, P. (2014). Bayesian networks in neuroscience: A survey. *Frontiers in Computational Neuroscience*, 8, Article 131, Q2
86. Anton-Sanchez, L., Bielza, C., Merchán-Pérez, A., Rodríguez, J.-R., DeFelipe, J., Larrañaga, P. (2014). Three-dimensional distribution of cortical synapses: A replicated point pattern-based analysis. *Frontiers in Neuroanatomy*, 8, Article 85, Q1
87. Bielza, C., Benavides-Piccione, R., López-Cruz, P.L., Larrañaga, P., DeFelipe, J. (2014). Branching angles of pyramidal cell dendrites follow common geometrical design principles in different cortical areas. *Scientific Reports*, 4, Article 5909, Q1
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13. R. Santana, Bielza, C., Larrañaga, P. (2013). *Changing conduction delays to maximize the number of polychronous groups with an estimation of distribution algorithm*. Technical Report TR:UPM-FI/DIA/2013-1, Universidad Politécnica de Madrid (13 pp)
14. Karshenas, H., Santana, R., Bielza, C., Larrañaga, P. (2012). *Multi-objective estimation of distribution algorithm based on joint modeling of objectives and variables*. Technical Report TR:UPM-FI/DIA/2012-2, Universidad Politécnica de Madrid (16 pp)
15. Karshenas, H., Bielza, C., Zhang, Q., Larrañaga, P. (2012). *An Interval-based multi-objective approach to feature subset selection using joint modeling of objectives and variables*. Technical Report TR:UPM-FI/DIA/2012-1, Universidad Politécnica de Madrid (18 pp)
16. Armañanzas, R., Bielza, C., Larrañaga, P., Martínez-Martín, P. (2011). *Restating Parkinson's disease severity indices by means of non-motor criteria*. Technical Report TR:UPM-FI/DIA/2011-2, Universidad Politécnica de Madrid (40 pp)
17. Karshenas, H., Santana, R., Bielza, C., Larrañaga, P. (2011). *Regularized model learning in estimation of distribution algorithms for continuous optimization problems*. Technical Report TR:UPM-FI/DIA/2011-1, Universidad Politécnica de Madrid (29 pp)
18. Santana, R., Bielza, C., Larrañaga, P. (2010). *Network measures for re-using problem information in EDAs*. Technical Report TR:UPM-FI/DIA/2010-3, Universidad Politécnica de Madrid (11 pp)
19. López-Cruz, P., Bielza, C., Larrañaga, P., Benavides-Piccione, R., DeFelipe, J. (2010). *Bayesian networks applied to the simulation and modelling of 3D basal dendritic trees from pyramidal neurons*. Technical Report TR:UPM-FI/DIA/2010-2, Universidad Politécnica de Madrid (29 pp)
20. Bielza, C., Li, G., Larrañaga, P. (2010). *Multi-dimensional classification with Bayesian networks*. Technical Report TR:UPM-FI/DIA/2010-1, Universidad Politécnica de Madrid (34 pp)
21. Vidaurre, D., Bielza, C., Larrañaga, P. (2009). *Learning a L1-regularized Gaussian Bayesian network in the equivalence class space*. Technical Report. UPM.FI/DIA/2009-2, Universidad Politécnica de Madrid (22 pp)
22. Bielza, C., Fernández del Pozo, J.A., Larrañaga, P., Bengoetxea, E. (2009). *Multidimensional statistical analysis of the parameterization of a genetic algorithm for the optimal ordering of tables*. Technical Report. UPM.FI/DIA/2009-1, Universidad Politécnica de Madrid (25 pp)
23. Correa, M., Bielza, C. (2009). *Explanation of a Bayesian network classifier by means of decision trees*. Technical Report UPM-FI-DIA/2009-3, Universidad Politécnica de Madrid (22 pp)
24. Bielza, C., Gómez, M., Shenoy, P. (2009). *Modelling challenges with influence diagrams: Representation issues*, Working Paper No.319, School of Business, University of Kansas (42 pp)
25. Bielza, C., Gómez, M., Shenoy, P. (2009). *Modelling challenges with influence diagrams: Constructing probability and utility models*, Working Paper No.320, School of Business, University of Kansas (26 pp)
26. Bielza, C., Shenoy, P. (1998). *A comparison of graphical techniques for asymmetric decision problems: Supplement to management science paper*, Working Paper No.282, School of Business, University of Kansas (36 pp)
27. Bielza, C., Ríos Insua, D. (1998). *Modelos gráficos para la toma de decisiones*, Technical Report 98-07 on Informatics and Applied Mathematics, Universidad Rey Juan Carlos (23 pp)
28. Bielza, C., Vidakovic, B. (1996). *Time adaptive wavelet denoising*, Discussion Paper 1996-24, ISDS, Duke University (14 pp)

29. Ríos Insua, D., Salewicz, K.A., Müller, P., Bielza, C. (1996). *Bayesian methods in reservoir operations: The Zambezi river case*, Discussion Paper 1996-30, ISDS, Duke University (49 pp)

PERSONAL AWARDS/HONORS

1. Spanish National Award in Statistics, National Statistics Institute, 2024 YouTube link
2. Fellow of Asia-Pacific Artificial Intelligence Association, Hong Kong, since 2024
3. ELLIS Fellow (European Laboratory for Learning and Intelligent Systems), Tübingen, since 2023
4. Sigma Xi Membership (The Scientific Research Honor Society), North Carolina, since 2023
5. IEEE Senior Membership (to those who have made significant contributions to the profession), New Jersey, since 2022
6. Finalist in Ada Byron Award (among 154 applicants) awarded by Deusto University, Bilbao (2022)
7. Finalist in Ada Byron Award (among 137 applicants) awarded by Deusto University, Bilbao (2021)
8. Finalist in Ada Byron Award (among 156 applicants) awarded by Deusto University, Bilbao (2020)
9. Amity Researchers Award for Significant Contribution in the field of Machine Learning, New Delhi (2020)
10. Recognized as a Member of the European Lab for Learning and Intelligent Systems (ELLIS) (2020)
11. Finalist in Ada Byron Award (among 112 applicants) awarded by Deusto University, Bilbao (2019)
12. 2014 Universidad Politécnica de Madrid Research Prize
13. Best referee in the *XIII Conference of the Spanish Association for the Artificial Intelligence* (CAEPIA 2009), Sevilla (2009)
14. Finalist in IV Annual Awards “Decision Analysis Society Practice Award Competition”, awarded by the *Decision Analysis Society of the Institute For Operations Research and Management Science (INFORMS)*, San José, California, USA (2002)
15. Best PhD thesis in Engineering in the *Universidad Politécnica de Madrid*, Madrid (1997)
16. Award Student Paper Competition in Decision Analysis, awarded by the *Decision Analysis Society of the Institute For Operations Research and Management Science (INFORMS)*, Atlanta, USA (1996)

JOINTLY GRANTED AWARDS

1. Best PhD thesis of C. Villa (under my supervision) awarded by the Technical University of Madrid, Madrid (2025)
2. Second Best Master Thesis of J. Fernández del Pozo (under my supervision) awarded by the Spanish Association for Artificial Intelligence, Gijón (2025)
3. Best Master Thesis of R. Sojo (under my supervision) awarded by the Technical University of Madrid, Madrid (2023)
4. Best PhD thesis of D. Atienza (under my supervision) awarded by the Technical University of Madrid, Madrid (2023)
5. 2021 Most Cited Scientific Paper Prize awarded by the Technical University of Madrid (2021)
6. Best Paper of the *II Workshop of Spanish Research Groups on Artificial Intelligence in Biomedicine (IABiomed-2021)*, Málaga (2021)
7. Best Master Thesis of M.A. Riaño (under my supervision) awarded by the Technical University of Madrid, Madrid (2021)

8. Best Master Thesis of S. Gil-Begué (under my supervision) awarded by the Technical University of Madrid, Madrid (2018)
9. Best PhD thesis of L. Anton-Sanchez (under my supervision) awarded by the Technical University of Madrid, Madrid (2018)
10. Second Prize in the *Frances Allen Award of the XVIII Conferencia de la Asociación Española de Inteligencia Artificial (CAEPIA-2018)* to PhD thesis of L. Anton-Sanchez (under my supervision), Granada (2018)
11. BayesFusion Best Student Paper Award of the *9th International Conference on Probabilistic Graphical Models*, Prague (2018)
12. Second Prize in the *Poster Competition of the Second Triennial International Workshop on Advances in Directional Statistics (ADISTA-2017)*, Rome (2017)
13. Best *PhD Project on Artificial Intelligence –Doctoral Consortium–* of G. Varando (under my supervision), given by the Spanish Association for Artificial Intelligence to “Theoretical Studies and New Approaches to Bayesian Network Classifiers”, CAEPIA-2015, Albacete (2015)
14. Best paper of the *1st Machine Learning for Cyber Physical Systems Conference (ML4CPS-2015)* awarded by Fraunhofer IOSB, Lemgo, Germany (2015)
15. Best PhD thesis of P.L. López-Cruz (under my supervision) awarded by the Technical University of Madrid, Madrid (2015)
16. Best student paper in the *15th Annual Genetic and Evolutionary Computation Conference (GECCO-2013)*, Amsterdam (2013)
17. “Marco Ramoni” best paper award of the *European Society for Artificial Intelligence in MEDicine (AIME)*, Murcia (2013)
18. Second position in the “MEG Mind Reading” competition in *PASCAL2 and the International Conference on Artificial Neural Networks*, Espoo, Finland (2011)
19. Best PhD thesis of M. Correa (under my supervision) awarded by the *Spanish Mathematics Society*, Santiago de Compostela, 2011
20. Best paper of the *International Society of Applied Intelligence in IEA-AIE 2010*, Córdoba (2010)
21. First Position in “Biomag Data Analysis Competition 2010” in *Multivariate Classification of MEG Brain Data* in the International Conference on Biomagnetism (Biomag 2010), Dubrovnik, Croacia (2010)
22. Best paper award of the *Mexican International Conference on Artificial Intelligence*, Guanajuato, México (2009)
23. Best graduate project of D. Soto (under my supervision) awarded by *Cátedra Mercamadrid* from Universidad Politécnica de Madrid, Madrid (2009)
24. Best textbook *Operation Research. Deterministic and Stochastic Models* awarded by *Fundación of Universidad Politécnica de Madrid*, Madrid (2004)
25. Best work to spread the health informatics applications of the *Spanish Society of Health Informatics*, Madrid (2004)
26. Best PhD thesis of M. Gómez (under my supervision) awarded by the *Spanish Royal Academy of Doctors*, Madrid (2002)

C. RESEARCH PROJECTS

1. *Inteligencia Artificial para la Industria 4.0: Generación de Datos, Modelado Avanzado, Optimización e Interpretabilidad (IDEA-CM)*. Madrid Autonomous Region, 2025-2028
2. *New Solutions Based on Artificial Intelligence for Industrial Production Efficiency and Flexibility*. Ministry of Science and Innovation, Transmissions Program, 2024-2027
3. *Estimation of Distribution Algorithms in Machine Learning and Optimization*. Ministry of Science and Innovation, 2023-2026. Project Leader
4. *Community for Neuroscience and Neurotechnology*, Universidad Politécnica de Madrid. 2022-2024
5. *Convenio entre la Comunidad de Madrid y la Universidad Politécnica de Madrid para la concesión directa de una subvención para el apoyo al desarrollo del Nodo ELLIS mediante la implantación de una Unidad ELLIS en la Comunidad de Madrid*. Madrid Autonomous Region. 2022-2023. Project CoLeader
6. *Bayesian Networks for Interpretable Machine Learning and Optimization (BAYES-INTERPRET)*. Ministry of Science and Innovation, 2022-2024. Project CoLeader
7. *MAIAR (MAterials InformatiCS & Advanced Robotics Lab) – Desarrollo de una solución flexible de self-driving lab basada en la integración de Materials Informatics y Robótica Avanzada para el diseño de nuevos productos con baja huella de carbono*. PI: REPSOL. Ministry of Economic Affairs and Digital Transformation, 2022-2024
8. *Plataforma Científico-Tecnológica para Alerta, Diagnóstico, Pronóstico, Terapia y Seguimiento de la Enfermedad COVID19 y Futuras Pandemias (COVIDTECH-CM)*. Madrid Autonomous Region, 2020-2023
9. *Investigación y Desarrollo de Metodología de la Inteligencia Artificial (ML) Orientado a Casos Industriales de Uso de Datos Continuos de Ultra-Alta Velocidad (DSTREAMS)*. Ministry of Science, Innovation and Universities, 2020-2024. Project CoLeader
10. *Bayesian Networks for Data Streams*. Ministry of Science, Innovation and Universities, 2020-2022. Project Leader
11. *IT Basket*. Madrid Autonomous Region, 2019-2020. Project CoLeader
12. *HBP - Human Brain Project. SGA3 Phase*. Horizon 2020, FET Flagship Initiative, VII Framework Program, European Commission, 2020-2023. Task leader
13. *Research Spanish Network “Therapeutic Applications of Systems Neuroscience to Central Nervous System Diseases” (Clisyne)*. Ministry of Science, Innovation and Universities, 2019-2021
14. *Research Spanish Network “Artificial Intelligence in Biomedicine”*. Ministry of Science, Innovation and Universities, 2019-2021
15. *Clasificadores Bayesianos Multidimensionales para la Interpretación de Emociones en Texto y Vídeo*, National Commission of Scientific and Technological Research (CONICYT), Chile, 2018-2019
16. *HBP - Human Brain Project. SGA2 Phase*. Horizon 2020, FET Flagship Initiative, VII Framework Program, European Commission, 2018-2020. Task leader
17. *Supercomputación para la Inteligencia Artificial*. Ministry of Economy, Industry and Competitiveness, 2018-2020
18. *Excellence Spanish Network “Big Data and Scalable Data Analysis”*. Ministry of Economy, Industry and Competitiveness, 2017-2019
19. *HBP - Human Brain Project. SGA1 Phase*. Horizon 2020, FET Flagship Initiative, European Commission, 2016-2018. Task leader
20. *Advances in Multidimensional Classification and Anomaly Detection with Bayesian Networks*. Ministry of Economy and Competitiveness, 2017-2019. Project Leader

21. *Excellence Spanish Network “Multimodal Interaction in Pattern Recognition and Computer Vision”*. Ministry of Economy and Competitiveness, 2015-2016
22. *Excellence Spanish Network “Big Data and Scalable Data Analysis”*. Ministry of Economy and Competitiveness, 2015-2017
23. *Bayesian Network Learning with non-Directional and Directional Variables for Association Discovery, Multi-Target Prediction and Clustering*. Ministry of Economy and Competitiveness, 2014-2016. Project Leader
24. *Concepts and Applications of Intelligent Systems*. Madrid Autonomous Region, 2014-2016
25. *HBP - Human Brain Project. Rump Up Phase*. FET Flagship Initiative, European Commission, 2013-2016
26. *Spanish Network for the Advancement and Transference of Computational Intelligence*. Ministry of Economy and Competitiveness, 2012-2012
27. *Spanish Network on Data Mining and Machine Learning*. Ministry of Science and Innovation, 2010-2012
28. *HBP - Human Brain Project. FET Flagship Initiative Preparatory Actions*, European Commission, 2011-2011
29. *Data Mining with Probabilistic Graphical Models: New Algorithms and Applications*. Ministry of Science and Innovation, 2011-2013. Project Leader
30. *Follow-up Congress for Computer Technology Projects*, Ministry of Science and Innovation, 2010-2011. Project Leader
31. *Follow-up Congress for Computer Technology Projects*, Ministry of Science and Innovation, 2009-2010. Project Leader
32. *Intelligent Probabilistic System to Model Scientific Productivity in the Computer Science Area*, Ministry of Science and Innovation, 2009-2011. Project Leader
33. *Cajal Blue Brain Project*. Ministry of Science and Innovation, 2009-2019. Group Leader
34. *CENIT: Technologies for Rendering Services in Mobility in the Intelligent Future Universe*, Ministry of Science and Innovation, Center for the Industrial Technological Development, 2008-2012
35. *Incremental Learning of Bayesian Networks with Data Streams from Data Coming from Time-Varying Distributions with Applications to Spam Detection*. Ministry of Foreign Affairs and Cooperation, 2008-2009. Project Leader
36. *Assessing Quality of Individual Predictions in Medical Decision Support Systems*. National Institutes of Health, USA (1-R01-LM009520-01), 2007-2010
37. *CONSOLIDER: Multimodal Interaction in Pattern Recognition and Computer Vision*, Ministry of Education and Science, 2007-2012
38. *Follow-up Congress for Computer Technology Projects*, Ministry of Education and Science, 2008-2009. Project Leader
39. *New Approaches for Multiobjective Learning of Supervised Classification Models and for Knowledge Synthesis in Decision Analysis Models*, Ministry of Education and Science, 2007-2010. Project Leader
40. *Concepts and Support Systems to Electronic Democracy*, Madrid Autonomous Region, 2006-2009
41. *Spanish Network on Probabilistic Graphical Models and Applications (Renewal)*, Ministry of Education and Science, 2007-2008
42. *Spanish Network on Multicriteria Decisions (Renewal 2)*, Ministry of Education and Science, 2006-2007

43. *E-Democracy: Internet-Based Support to Complex Decisions*, Ministry of Education and Science, 2005-2007
44. *Spanish Network on Multicriteria Decisions (Renewal 1)*, Ministry of Education and Science, 2005-2006
45. *Research, Development, Validation and Implementation of a Real State Valuation System Based on Artificial Intelligence Techniques*, Ministry of Economy and Treasury, 2005-2006
46. *Spanish Network on Probabilistic Graphical Models and Applications*, Ministry of Education and Science, 2005-2006
47. *Spanish Network on Pattern Recognition and Applications*, Ministry of Science and Technology, 2004-2006
48. *Spanish Network on Multicriteria Decisions*, Ministry of Science and Technology, 2003-2004
49. *Towards Electronic Democracy: Internet-Based Complex Decision Support*, European Science Foundation, 2002-2006
50. *Spanish Network on Research on Health Results and Public Health Services*, Ministry of Health and Consumption, 2003-2006
51. *Monitoring System of the Post-Harvest Evolution of Fruits and Vegetables, Using Sensor Matrices Based on Different Detection Principles*, Ministry of Science and Technology, 2004-2006
52. *A Multiobjective Decision Support System in Time and with Imprecision*, Ministry of Science and Technology, 2002-2004
53. *Simulation of Movement, Diffusion and Accumulation of Gases in Fruit and Vegetable Cold Storage Chambers Using Cellular Automata*, Universidad Politécnica de Madrid, 2001-2002. Project Leader
54. *Contributions to Intelligent Decision Support System Development*, Madrid Autonomous Region, 2001-2002
55. *New Approaches for the Development of the IctNeo System for Neonatal Jaundice Decision Support*, Universidad Politécnica de Madrid, 1999-2000. Project Leader
56. *COMETES: Implementing Computerised Methodologies to Evaluate the Effectiveness of Countermeasures for Restoring Radionuclide Contaminated Fresh Water Ecosystems*, IV Framework Program, European Commission, 1999-2001
57. *Development of a Simulator of Damage Occurrence on a Fruit Grading Line*, Universidad Politécnica de Madrid, 1999-2000. Project Leader
58. *New Approaches to Influence Diagrams-Based Intelligent Decision Systems: Applications to Neonatal Jaundice and Extracorporeal Life Support*, Ministry of Science, Culture and Sports, 1998-1999
59. *An Intelligent System for Reservoir Management*, Ministry of Education and Science, 1998-2000
60. *Complex Decision Problems*, Madrid Autonomous Region, 1997-1999
61. *A Knowledge-Based System for Neonatal Jaundice Treatment*, Ministry of Health and Consumption, 1997-1998
62. *A Model-Based Computerised System for Management Support to Identify Optimal Remedial Strategies for Restoring Radionuclide Contaminated Aquatic Ecosystems and Drainage Areas. The MOIRA Project*, IV Framework Program, European Commission, 1996-1999
63. *Bayesian Analysis of Stochastic Processes (I y II)*, NATO, 1995-1998
64. *Robust Decision Analysis Implementation*, Ministry of Education and Science, 1995-1998
65. *A Knowledge Based System for Bayesian Reliability Predictions in Repairable Equipments*, Ministry of Education and Science, 1995-1996

PRIVATE PROJECTS

1. Aingura IIoT. *Scientific Consultancy in Industrial Investigation*. 2025-2028
2. Titanium Industrial Security. *Scientific Consultancy in AI in Cybersecurity*. 2025-2025. Project Co-Leader
3. Etxe-Tar S.A. *Investigación fundamental en la interacción ultrarrápida láser/materia prima para la obtención de altas prestaciones en componentes críticos de alto valor añadido con tecnología aditiva 360° DED-LMD (UMATERIAL)*, 2025-2027. Project CoLeader
4. REPSOL S.A. *Specific Collaboration Agreement Number 8: Multiobjective Experimental Design*, February-December 2024. Project Leader
5. REPSOL S.A. *Specific Collaboration Agreement Number 7: USET Unconventional Fields*, February-December 2024. Project Leader
6. ArcelorMittal. *Induce draft fans anomaly detection*, February-July 2024
7. Etxe-Tar S.A. *Investigación del proceso de mecanizado y corte láser de piezas esbeltas de Aluminio para el sector de la movilidad sostenible y desarrollo de la nueva solución de manufactura híbrida y digital del futuro (AI2Future)*, 2023-2025
8. REPSOL S.A. *Specific Collaboration Agreement Number 5: Induced Seismicity*, 2022-2023. Project Leader
9. Titanium Industrial Security. *Network SLIcing SEcurity for next generation communications (SLI-SE)*. 2021-2024. Project CoLeader
10. REPSOL S.A. *Specific Collaboration Agreement Number 4: Bayesian Approach for AI*, 2021-2022. Project Leader
11. Aingura IIoT. *Desarrollo de un sistema diagnóstico basado en Machine Learning para la detección en tiempo real de degradación temprana en el proceso de fabricación de medicamentos (MLpharma)*. 2021-2022
12. Idealista. *Herramienta de optimización de carteras en mercados inmobiliarios*, 2021-2022. Project CoLeader
13. Aingura IIoT. *MANtenimiento Predictivo FEDerado e Inteligente de CRUZamientos (MANFECRUZ)*, 2021-2023. Project CoLeader
14. Adif (Competitive public tender). *Federated Artificial Intelligence for Comprehensive Infrastructure Maintenance (FAI4CIM)*, 2021-2023. Project CoLeader
15. Aingura IIoT. *Investigación y desarrollo de un sistema basado en Machine Learning para la caracterización y monitorización de puentes en tiempo real (ML4bridges)*, 2021-2023
16. IkerGune AIE. *Nueva sonda de ciberseguridad para la detección, gestión y respuesta de brechas de seguridad, ataques o anomalías en redes industriales (INMAP-R2)*, 2021-2021
17. REPSOL S.A. *Specific Collaboration Agreement Number 3: Batch Reinforcement Learning*, 2020-2021. Project Leader
18. (Competitive: ratio 4/150) Grant of Fundación BBVA to Research Groups on the topic of Big Data and Artificial Intelligence with project *Outcome prediction and treatment efficiency in patients hospitalized with COVID-19 in Madrid: A Bayesian network approach*, 2020-2022. Project Leader
19. (Competitive: ratio 5/93) Grant of Fundación BBVA to Research Groups on the topic of Big Data with project *Score-based nonstationary temporal Bayesian networks. Applications in climate and neuroscience (BAYES-CLIMA-NEURO)*, 2020-2022
20. REPSOL S.A. *Specific Collaboration Agreement Number 2: Artificial intelligence and data science to analyze complex problems*, 2019-2020. Project Leader

21. REPSOL S.A. *Specific Collaboration Agreement Number 1*, 2018-2019. Project Leader
22. OLOCIP 11 S.L. *Probabilistic models for football predictions*, 2018. Project CoLeader
23. Etxe-Tar S.A. and Aingura IIoT S.L.U. Subcontracting within project *Nueva infraestructura IoT industrial para la fábrica que aprende (LEARNIIoT)*, granted by Centro para el Desarrollo Tecnológico Industrial (CDTI) of the Ministry of Economy and Competitiveness within Proyectos de Investigación y Desarrollo Individuales Program, 2018-2020. Project CoLeader
24. Etxe-Tar S.A. *Gestión energética avanzada para máquina herramienta de nueva generación (EMON)*, 2017-2017. Project CoLeader
25. Etxe-Tar S.A. Subcontracting within project *Investigación en sistemas ciber-físicos para la detección de anomalías mediante modelos probabilísticos dinámicos en nuevos procesos de tratamiento térmico medioambientalmente sostenibles (TERMPROB)*, granted by Centro para el Desarrollo Tecnológico Industrial (CDTI) of the Ministry of Economy and Competitiveness within Proyectos de Investigación y Desarrollo Individuales Program, 2016–2018. Project CoLeader
26. (Competitive) Grant of Fundación BBVA to Research Groups on the topic of Big Data with project *Multi-view clustering with Bayesian networks*, 2016-2018
27. OLOCIP 11 S.L. *Development of a computer program for prediction and analysis in sports using artificial intelligence*, 2016-2017. Project CoLeader
28. Etxe-Tar S.A. Subcontracting within project *Desarrollo de bienes de equipo avanzados para la cadena de valor manufacturera basados en nuevos conceptos para la ayuda a la toma de decisiones orientada a la generación de servicios de alto valor añadido para la recuperación de la competitividad de la industria española (CARES)*, TIC-20150093, granted by Centro para el Desarrollo Tecnológico Industrial (CDTI) of the Ministry of Economy and Competitiveness within Programa Estratégico de Consorcios de Investigación Empresarial Nacional (CIEN), 2015-2019. Project CoLeader
29. Gaindu S.L. Subcontracting within project *Desarrollo de bienes de equipo avanzados para la cadena de valor manufacturera basados en nuevos conceptos para la ayuda a la toma de decisiones orientada a la generación de servicios de alto valor añadido para la recuperación de la competitividad de la industria española (CARES)*, TIC-20150093, granted by Centro para el Desarrollo Tecnológico Industrial (CDTI) of the Ministry of Economy and Competitiveness within Programa Estratégico de Consorcios de Investigación Empresarial Nacional (CIEN), 2015-2019. Project CoLeader
30. Abbott Products Operations AG. *Probabilistic Mapping of PDQ-39 (or PDQ-8) to the EQ-5D Utility Index Based on Multi-Dimensional Bayesian Network Classifiers*, 2011. Project Leader
31. Atos Origin (P10-1015-100). *Dynamic Probabilistic Graphical Models and their Applications*, 2009-2011. Project Leader
32. Produban (Banco Santander). *Minería de Datos y Geomarketing sobre Datos Financiero/Bancarios*, 2009-2010
33. Panda Security. *Adaptación Dinámica del Cambio en Sistemas de Aprendizaje. Problemática Drift*, 2009. Project Leader
34. Fundación Gil Gayarre. *Implantación y Explotación de una Medida de la Calidad de los Servicios en la Fundación Gil Gayarre*, 2005-2006
35. European Computing Consultants. *Modelos Dinámicos Lineales Bayesianos para la Previsión de la Demanda*, 2004. Project Co-leader
36. Telefónica, Publicidad e Información (TPI). *Predicción de Ventas por Anuncios en Páginas Amarillas*, Sept2002-Feb2003. Project Co-leader
37. Fundación Gil Gayarre. *Definición, Construcción, Implantación y Explotación de una Medida de la Calidad de los Servicios en la Fundación Gil Gayarre*, 2001-2002

38. Arthur Andersen. *Modelo de Predicción de Precios del Mercado Eléctrico*, 2001-2003. Project Co-leader
39. Airtel Móvil. *Optimización de Costes a Través de la Calidad y Fidelización: Un Enfoque Estadístico*, 1999
40. Coopers & Lybrand. *Una Metodología de Evaluación de la Calidad*, 1996-1997
41. Iberdrola. *Una Metodología para la Gestión de Embalses Hidroeléctricos*, 1995-1997

D. TEACHING AND SUPERVISION

UNDERGRADUATE COURSES

Machine Learning, Data Mining, Decision Support Systems, Information Systems, Models and Simulation, Simulation Methods, Stochastic Processes and Networks, Probability and Statistics, Statistical Inference, Mathematics for the Financial and Social Sciences

MASTER COURSES

Decision Support Systems, Machine Learning, Bayesian Networks, Data Mining, Intelligent Data Analysis, Bayesian Reasoning with Graphical Models

DOCTORATE COURSES

Bayesian Reasoning with Graphical Models, Probabilistic Graphical Models in Medicine, Fundamentals of Probabilistic Graphical Models, Decision Support Systems, Bayesian Methods in Artificial Intelligence, Randomized Computation, Simulation and Artificial Intelligence

SUMMER SCHOOLS

Madrid UPM Advanced Statistics and Data Mining Summer School (a worldwide top ten Maths and Stats summer school according to INOMICS, with 17 editions since 2006), named as Madrid UPM Machine Learning and Advanced Statistics summer school since 2023. Director and Instructor

SUPERVISED PH.D. THESES –All at Universidad Politécnica de Madrid

1. V.P. Soloviev (2025). *New Advances in Estimation of Distribution Algorithms for Quantum Machine Learning and Industrial Scenarios*
2. C. Villa (2024). *Feature Subset Selection and Multi-dimensional Continuous-Time Bayesian Network Classifiers for Streaming Data*
3. D. Quesada (2023). *Multivariate Time-Series Modelling and Forecasting with High-Order Dynamic Bayesian Networks Applied in Industrial Settings*
4. C.E. Puerto-Santana (2023). *Asymmetric Hidden Markov Models and Extensions Applied to Industry*. International Mention
5. D. Atienza (2021). *Nonparametric Models and Bayesian Networks. Applications to Anomaly Detection*
6. F. Rodríguez-Sánchez (2021). *Multidimensional Clustering with Bayesian Networks*. International Mention
7. I. Córdoba (2020). *Unifying Methodologies for Graphical Models with Gaussian Parametrization*
8. P. Fernández-González (2019). *Developments in Probabilistic Graphical Models, Circular Distributions and Theory of Random Forests with Applications in Neuroscience*

9. S. Luengo (2019). *Clustering Based on Bayesian Networks with Gaussian and Angular Predictors. Applications in Neuroscience*. International Mention
10. J. Díaz-Rozo (2019). *Clustering Probabilístico Dinámico para la Búsqueda de Patrones de Degradación de Elementos de Máquina en el Ámbito del Industrie 4.0*
11. M. Benjumbeda (2019). *Learning Tractable Bayesian Networks*. International Mention
12. B. Mihaljević (2018). *Contributions to Bayesian Network Classifiers and Interneuron Classification*. International Mention
13. G. Varando (2018). *Theoretical Studies on Bayesian Network Classifiers*. International Mention
14. I. Leguey (2018). *Directional-linear Bayesian Networks and Applications in Neuroscience*. International Mention
15. L. Anton-Sanchez (2017). *Statistical and Optimization Methods for Spatial Data Analysis Applied to Neuroscience*. International Mention
16. A. Ibañez (2015). *Machine Learning in Scientometrics*
17. P.L. López-Cruz (2013). *Contributions to Bayesian Networks Learning with Applications to Neuroscience*. International Mention
18. H. Karshenas (2013). *Regularized Model Learning in EDAs for Continuous and Multi-Objective Optimization*. International Mention
19. H. Borchani (2013). *Multi-Dimensional Classification using Bayesian Networks for Stationary and Evolving Streaming Data*. International Mention
20. L. Guerra (2012). *Semi-supervised Subspace Clustering and Applications to Neuroscience*. International Mention
21. D. Vidaurre (2012). *Regularization for Sparsity in Statistical Analysis and Machine Learning*. International Mention
22. M. Correa (2010). *Inteligencia Artificial para Predicción y Control del Acabado Superficial en Procesos de Fresado a Alta Velocidad*. European Mention
23. J.A. Fernández del Pozo (2006). *Listas KBM2L para la Síntesis de Conocimiento en Sistemas de Ayuda a la Decisión*
24. M. Gómez (2002). *IctNeo: Un Sistema de Ayuda a la Decisión para el Tratamiento de la Ictericia en Recién Nacidos*

SUPERVISED MASTER THESES –All at Universidad Politécnica de Madrid

1. I. Boukaich (2025). *Clasificación Supervisada Aplicada a la Identificación de los Ascensores del Aeropuerto de Bilbao*
2. R. López (2025). *Agentic Retrieval Augmented Generation for Estimation of Distribution Algorithms*
3. F.J. Márquez (2025). *Estimation of Distribution Algorithms for Visualization Problems in Statistics*
4. I. Domínguez (2025). *Hidden Markov Models with Latent Operational Regimes for Industrial Machinery Failure Prognostics*
5. J.L. Cantarero (2025). *Descubrimiento Causal para Análisis de Anomalías en Mantenimiento Predictivo Industrial*
6. J. Arteaga (2025). *Algoritmos de Estimaciones de Distribuciones Aplicados al Algoritmo Iterative Proportional Fitting*
7. F. Castejón (2025). *SoroIA: Diseño e Implementación de un Sistema Conversacional Basado en Modelos Grandes de Lenguaje para el Museo Sorolla*

8. F. Madrigal (2025). *Museion: Desarrollo de una Aplicación Basada en IA Generativa para la Interacción Personalizada en Entornos Culturales (Museo Nacional Thyssen-Bornemisza)*
9. D. García-Sanz (2025). *La IA Generativa Llega al Museo Arqueológico Nacional*
10. J. Fernández del Pozo (2024). *Explainable Anomaly Detection in Induced Draft Fans with Dynamic Bayesian Networks*
11. L. Ortiz (2024). *Novel Approaches for Concept Drift Detection in ADIF Infrastructures*
12. J. Jiménez (2024). *Monitorización y Predicción de la Vida Útil Remanente de Herramientas de Maquinaria de Mecanizado*
13. P. Mejías (2024). *Most Relevant Explanations in Semiparametric Bayesian Networks Applied to Proactive Maintenance of Water Pumps in Large Desalination Plants*
14. C. García-Quince (2024). *Modelo de Red Bayesiana con Distribución Gamma-Gaussiana para la Mejora Computacional en la Detección de Anomalías*
15. V. Salvador (2024). *Algoritmos de Estimación de Distribuciones para la Modelización de Redes Neuronales Profundas*
16. J. Amesti (2024). *Estimation of Distribution Algorithms for Generative Adversarial and Convolutional Neural Network Hyper-Parameter Optimization*
17. M. Rubio (2024). *Algoritmos de Estimación de Distribuciones para el Clustering Ascendente Jerárquico*
18. D. Zaragoza (2024). *Probabilistic Reasoning Interpretability in Bayesian Networks with Estimation of Distribution Algorithms*
19. V. Alejandro (2023). *Interpreting Bayesian Network-Based Clustering*
20. N. Amigo (2023). *Explainable Cascading System for Network Intrusion Detection in Industry*
21. R. Sojo (2023). *Improving Machine Learning-Based Bridge Health Monitoring Systems Scalability with Transfer Learning*
22. M. Alonso (2023). *Facilitating the Inference Interpretation in Bayesian Networks*
23. I. Tello (2023). *Interactive Structure Learning for Discrete Bayesian Network Classifiers*
24. J. Angulo (2023). *Predicción de Capacidad de Difusión de Monóxido de Carbono a Largo Plazo en Pacientes de COVID-19 con Redes Bayesianas*
25. I. López (2022). *Redes Bayesianas Semiparamétricas para la Monitorización y Detección de Anomalías con Aplicaciones al Deterioro de los Puentes de la Red de Carreteras*
26. A. González (2022). *Redes Bayesianas de Consenso para la Inicialización de Sistemas de Monitorización y Detección de Anomalías*
27. J. Fernández Hernández (2022). *Monitorización de Puentes y Detección de Cambios de Concepto con Redes Bayesianas Dinámicas*
28. J. Casajús (2022). *Autocodificador Evolutivo de Red Bayesiana para Detección de Anomalías Aplicado a Ciberseguridad*
29. P. Cordero (2022). *Anomaly-based Network Intrusion Detection System Using Semi-supervised Models*
30. R. Uttamchandani (2022). *Hidden Structure- Continuous Time Bayesian Networks*
31. J. Jiménez López de Castro (2022). *Análisis Post-Covid19 con Herramientas de Aprendizaje Automático*

32. J. Gallego (2022). *A Genetic Atlasing Toolbox with a Standalone Web Interface and Basic Functionality Plugin in the EBRAINS Interactive Atlas Viewer*
33. E. Valero (2022). *Explanations for Dynamic Bayesian Networks: A Case Study in Climate Science*
34. C. Li (2021). *Network Intrusion Detection for Industrial Devices Using Continuous Time Bayesian Networks*
35. P. Laccourreye (2021). *Explainable Machine Learning for Longitudinal Multi-omic Microbiome*
36. J. Díez García-Victoria (2021). *Score-Based Bayesian Networks for the Discovery of Effective Connectivity in fMRI Data with the Use of the Balloon Model*
37. M.A. Riaño (2021). *Avances en Árboles de Decisión y su Aplicación para Clasificar Enfermos Críticos de COVID-19*
38. S. González-Carvajal (2021). *Cadena de Clasificadores Bayesianos en Tiempo Continuo*
39. I. Maiza (2021). *Detección de Anomalías en Fundiciones Industriales de Hornos de Arco Eléctrico Desarrollando una Técnica de Clustering de Series Temporales Multivariantes*
40. I. Múgica (2021). *Bridge Online Condition Monitoring with Linear Gaussian Bayesian Networks-Based Dynamic Clustering*
41. H. Nugra (2020). *Machine Learning Implementations on NeuroSuites Software*
42. S. Alderisi (2020). *Machine Learning Applied to COVID-19*
43. L.E. Angulo (2020). *Redes Bayesianas en R: Análisis de los Paquetes Disponibles*
44. V. Pérez-Soloviev (2020). *Optimización de un Proceso de una Refinería Usando Algoritmos Evolutivos Basados en Redes Bayesianas Gaussianas*
45. J. Zapatero (2019). *Continuous Data Imputation Applied to Massive Instances*
46. C. Fernández (2019). *Estudio y Aplicación de Métodos Basados en Interacciones para el Aprendizaje Automático sobre Conjuntos de Elementos*
47. J. Ramos (2019). *Aprendizaje Automático para Flujos de Datos*
48. J. Arlandis (2019). *Generative Modeling and Calcium Imaging*
49. F. Parrales (2019). *Estudio de Metodologías de Preprocesamiento y Clasificación Multietiqueta para Datos Clínicos de Pacientes con Migraña*
50. S. Paniego (2019). *Visualization and Interpretation in Large Bayesian Networks*
51. N. Bernaola (2019). *Learning Interpretable Gene Regulatory Networks via Merging Bayesian Networks*
52. A. Rodríguez-González (2018). *Aprendizaje Automático Aplicado al Scouting Futbolístico*
53. A. Alcón (2018). *Modelos de Aprendizaje Automático sobre el Juego del Club Movistar Estudiantes*
54. D. Valero (2018). *Nuevo Algoritmo de Clasificación Multietiqueta con Redes Bayesianas. Aplicación a un Problema Industrial*
55. S. Gil-Begué (2018). *Nuevos Clasificadores Bayesianos Multi-Dimensionales. Aplicaciones a la Eficiencia Energética en la Industria 4.0*
56. C. Villa (2018). *Estudio de la Deriva Térmica sobre una Máquina de Medición de Alta Precisión mediante Análisis de Regresión Multi-Respuesta*
57. C.E. Puerto-Santana (2018). *Asymmetric Linear Gaussian Hidden Markov Models with an Application to Determine Bearings Health State*

58. M. Llera (2017). *A Novel Multi-dimensional Regression Model based on Gaussian Networks*
59. S. Vakarak (2017). *Redes Bayesianas Clasificadoras Multidimensionales en Tiempo Continuo*
60. F.J. Mesonero (2017). *Arquitectura para Detección de Anomalías en un Proceso de Templado Laser*
61. A. Ogbachie (2017). *Using Dynamic Bayesian Networks for the Automated Visual Inspection and Analysis of an Industrial Laser Process*
62. D. Atienza (2016). *Detección de Anomalías durante un Proceso de Templado Láser con un Seguimiento Espacio-Temporal*
63. F. Rodríguez Sánchez (2016). *Multi-view Clustering with Bayesian Networks*
64. I. Córdoba-Sánchez (2015). *Fusión de Redes Bayesianas Gaussianas*
65. L. Antón-Sánchez (2015). *Computación Evolutiva de Bosques de Expansión Mínimos con Restricciones de Grado y de Rol*
66. L. Rodríguez-Luján (2015). *Caracterización y Simulación de Arborizaciones Dendríticas con Redes Bayesianas Incluyendo Variables Angulares*
67. Patricia Maraver (2015). *Clasificación Supervisada de las Neuronas de la Base de Datos NeuroMorpho*
68. M. Benjumeda (2014). *Learning Bayesian Networks from Data by the Incremental Compilation of New Network Polynomials*
69. S. Luengo (2014). *Clustering Basado en Redes Bayesianas con Predictoras Continuas. Aplicaciones en Neurociencia*
70. P. Fernández-González (2014). *Contributions to the truncated von Mises distribution for the univariate and bivariate case*
71. P. López-Adeva (2013). *Markov models for the multivariate von Mises distribution*
72. B. Mihaljević (2013). *BAYESCLASS. An R package for learning Bayesian network classifiers. Applications to neuroscience*
73. J. Pérez (2012). *Replicated spatial point processes for statistical neuroscience*
74. P. López-Cruz (2010). *Simulación de morfologías dendríticas mediante redes Bayesianas*
75. A. Ibáñez (2009). *Técnicas de aprendizaje automático aplicadas a la bibliometría*
76. M.A. Abad (2009). *Minería de datos dependiente del contexto en dispositivos ubicuos*

SUPERVISED GRADUATE PROJECTS –All at Universidad Politécnica de Madrid

1. J.M. de Miguel (2025). *Causal Discovery with Bayesian Networks*
2. L. Ameneiro (2017). *Diseño de un Entorno en R para Redes Bayesianas*
3. N. de Lucas (2017). *Desarrollo en R de Algoritmos de Aprendizaje de Clasificadores Bayesianos para Variables Continuas*
4. A. Canales (2009). *Estudio Bibliométrico de la Producción Científica del Departamento de Inteligencia Artificial, UPM, 2004-2008*
5. M. Vaquero (2009). *Heurísticos de Optimización para Regresión Logística Regularizada*
6. F. Andrés (2009). *Clasificadores Bayesianos para la Detección de Correo Basura*
7. M. Fernández (2008). *Interfaz Gráfico en Vendimiadora para Viticultura de Precisión*
8. R. Gómez (2008). *Construcción de un Filtro Anti-spam con Distintos Clasificadores*

9. D. Soto (2008). *Diseño y Desarrollo de un Interfaz Gráfico con LabVIEW para un Equipo Espectrofotométrico de Campo en la Evaluación de Frutos Intactos*
10. I. Barrilero (2008). *Identificación de Variables Relevantes en Modelos de Toma de Decisiones con Diagramas de Influencia*
11. A. Pérez (2007). *Detección de Movimiento Robusta a Cambios de Iluminación*
12. V. Oliva (2004). *Ajuste y Generación de Distribuciones para Simular Líneas de Clasificación de Fruta. SimLin 3.0*
13. D. Quero (2003). *Técnicas de Seguimiento en Visión Computacional*
14. S. Galán (2003). *Simulación Distribuida mediante la Arquitectura HLA*
15. M. Calles (2002). *Simulador del Movimiento, Difusión y Acumulación de Gases en Cámaras de Frigoconservación de Frutas y Hortalizas mediante Autómatas Celulares. Versión 2.0*
16. V. Canseco (2002). *Distribución Selectiva de la Información*
17. E. Córcoles (2002). *Algoritmo Genético para la Búsqueda de Secuencias de Borrado de Nodos en Diagramas de Influencia*
18. M. Ramos (2001). *Aspectos Computacionales Relacionados con la Evaluación de Diagramas de Influencia*
19. S. Bielza (2001). *Simulador del Movimiento, Difusión y Acumulación de Gases en Cámaras de Frigoconservación de Frutas y Hortalizas mediante Autómatas Celulares*
20. R. Heradio (2000). *Regresión Logística para la Predicción de Daño y Simulación de Líneas de Clasificación de Fruta*
21. M. Gersol (1999). *Gestión y Control de la Calidad en el Servicio y su Aplicación en Entidades Bancarias*
22. M. Cruz (1999). *Programa BAYES para Inferencia Estadística Bayesiana*
23. O. Pacios (1999). *Simulador de Líneas de Clasificación*
24. J.A. Fernández del Pozo (1998). *Sistema de Ayuda a la Decisión para el Tratamiento de la Ictericia Neonatal: IctNeo*
25. J. Rey (1997). *Optimización Discreta con Computación Local*
26. E. Pérez (1997). *BayRes: Un Sistema de Gestión de Embalses. Módulo de Optimización*
27. J. Fuertes (1997). *BayRes: Un Sistema de Gestión de Embalses. Módulo de Preferencias*
28. M. Farache (1996). *BayRes: Un Sistema de Gestión de Embalses. Módulo de Predicción*
29. A. Alberite (1995). *Redes de Evaluación: Una Herramienta para Representar y Resolver Problemas de Análisis de Decisión*

E. SERVICE TO THE ACADEMIC COMMUNITY

EDITORIAL BOARD OF JOURNALS

1. Associate Editor of *Frontiers in Computational Neuroscience*
2. Editorial Board of *Neuroinformatics*

EDITOR OF JOURNAL SPECIAL ISSUES

1. Bielza, C., Lorena, A.C., Almeida, T. (2025). Special ECML PKDD issue. *Machine Learning*

2. Bielza, C., Lorena, A.C., Almeida, T. (2025). Special ECML PKDD issue. *Data Mining and Knowledge Discovery*
3. Bielza, C., Gama, J., Jorge, A., Žliobaitė, I. (2015). Special ECML PKDD issue. *Machine Learning*
4. Bielza, C., Gama, J., Jorge, A., Žliobaitė, I. (2015). Special ECML PKDD issue. *Data Mining and Knowledge Discovery*
5. Bielza, C., Salmerón, A., Moral, S. (2015). Special issue on Recent Advances in Probabilistic Graphical Models. *International Journal of Intelligent Systems*
6. Bielza, C., Larrañaga, P. (2014). Special issue on Bayesian Networks in Neuroscience. *Frontiers in Computational Neuroscience*

INVITED SPEAKER AT UNIVERSITIES/INSTITUTIONS

INTERNATIONAL

- Chile: Universidad Católica del Norte (2019)
- Denmark:
 - Aalborg University (2009)
 - Copenhagen Business School (2022) YouTube link
- Italy: Consiglio Nazionale delle Ricerche (1997)
- Germany:
 - Cervantes Institute, Berlin (2006)
 - Spanish Embassy in Germany, Berlin (2008)
- Greece: University of Patras (2010)
- Portugal: University of Aveiro (2009)
- South Korea: Seoul National University (2010)
- The Netherlands: Radboud University Nijmegen (2009, 2012)
- Tunisia: Institut Supérieur de Gestion de Tunis, Université de Tunis (2008)
- United Kingdom: University of Essex (2009)
- United States of America:
 - Institute of Statistics and Decision Sciences, Duke University (1996)
 - University of Kansas (1997, 2000)
 - Harvard Medical School (2005)

NATIONAL

- UNED (1998)
- Universidad de Castilla - La Mancha (1998, 2010, 2011)
- Universidad Rey Juan Carlos (2002, 2004, 2006, 2006)
- Universidad del País Vasco (2002, 2004)
- Universidad de Sevilla (2004, 2007)
- Instituto de Estudios Fiscales–Dirección General del Catastro (2005, 2006, 2006)
- Instituto de Salud Carlos III (2009)

- Universidad de Málaga (2012)
- Barcelona Digital Centre Tecnològic (2014)
- Real Academia de Ingeniería (2015)
- Universidad Pablo de Olavide (2016)
- Asociación Española para la Inteligencia Artificial (2016, 2024 on its 40th anniversary YouTube link)
- Real Sociedad Matemática Española (2021) YouTube link
- Instituto de Ciencias Matemáticas (2021)
- Universidad de Santiago de Compostela (2022)
- AXPE Consulting (2023)
- Digital Innovation Hub AIR4S (2023)

PLENARY TALKS AT CONFERENCES/EVENTS

1. 18th Sensometrics Conference 2026, Valencia (2026)
2. Inaugural Keynote Lecture at the Opening Ceremony of the Academic Year 2025–2026, Paraninfo (Assembly Hall) – Universidad Politécnica de Madrid (*invited by the Rector*), Madrid (2025) Link
3. 10th International Conference on Optimization and Applications (ICOA-2024), Almería (2024)
4. Joint Workshops on XAI Methods, Challenges and Applications (XAI3) at ECAI 2023, Krakow (2023)
5. Artificial Intelligence for the Fight against COVID-19, Basque Center for Applied Mathematics (BCAM) and AXA, Bilbao (2022)
6. 19th Annual Meeting of the Spanish Society of Neuroscience (SENC-2021), Lleida (2021)
7. International Joint Conferences 16th HAIS - 16th SOCO - 14th CISIS - 12th ICEUTE, Bilbao (2021)
8. 10th International Conference on Cloud Computing, Data Science and Engineering (CONFLUENCE-2020), Noida (India) (2020)
9. Global Innovation Day (Past, Present and Future of Artificial Intelligence), XIX Science Week, Euskalduna Palace, Bilbao (2019)
10. Women in Data Science (WiDS-2017), Madrid (2017)
11. 8th European Conference on Data Mining 2014 (ECDM-2014) / 8th International Conference on Intelligent Systems and Agents 2014 (ISA-2014), Lisbon (2014)
12. 26th IEEE International Symposium on Computer-Based Medical Systems (CBMS), Porto (2013)
13. Sixth European Workshop on Probabilistic Graphical Models (PGM), Granada (2012)

ORGANIZER OF CONFERENCES AND SCIENTIFIC EVENTS

1. *Co-Chair of the Journal Track* (journals: Machine Learning, Data Mining and Knowledge Discovery), within The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD-2025), Porto, 2025
2. Workshop *30 years of EDAs*, within the 18th International Conference on Parallel Problem Solving from Nature (PPSN-2024), Hagenberg (Austria), 2024
3. Session *Advances in Machine Learning and Data-Driven System Identification Techniques for Structural Health Monitoring* within 12th International Conference on Bridge Maintenance, Safety and Management (IABMAS-2024), Copenhagen, 2024

4. *3rd International Workshop on eXplainable Artificial Intelligence in Healthcare (XAI-Healthcare)*, Portoroz (Slovenia), 2023
5. Minisymposium *High-dimensional Bayesian networks* within “New Bridges between Mathematics and Data Science”, Valladolid, 2021
6. Panel *Current Trends and Controversies: The AI Act, is it moving Europe in the right direction?* within 8th IEEE International Conference on Data Science and Advanced Analytics (IEEE-DSAA-2021), Porto (online), 2021
7. *Co-Chair of the Journal Track* (journals: Machine Learning, Data Mining and Knowledge Discovery), within The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD-2015), Porto, 2015
8. *Jornadas Científico-Técnicas y Seminario Doctoral de la Red ATICA (SEMÁTICA-2013)*, Madrid, 2013
9. Program Chair of the *XV Conference of the Spanish Association for the Artificial Intelligence (CAEPIA-2013)*, Madrid, 2013
10. Session *Optimization and Data Mining* within XXV European Conference on Operational Research (EURO XXV - 2012), Vilnius, 2012
11. *IX Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Madrid, 2010
12. Session *Optimization and Data Mining* within XXIV European Conference on Operational Research (EURO XXIV - 2010), Lisbon, 2010
13. *VIII Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Madrid, 2009
14. *VII Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Zaragoza, 2007
15. *Doctorado Interuniversitario “Modelos Probabilísticos para la Inteligencia Artificial y la Minería de Datos”*, San Lorenzo de El Escorial (Madrid), 2006
16. *Primera Reunión de la Red Temática sobre Modelos Gráficos Probabilísticos y Aplicaciones*, San Lorenzo de El Escorial (Madrid), 2006
17. *Workshop on Graphical Modelling of Dependent Uncertainties for Decision Support in Public Policy*, Gartmore (UK), 2004
18. Sessions *Graphical Models in Decision Analysis: Complex Applications* and *Graphical Models in Decision Analysis: Novel Representations and Algorithms* within EURO XV-INFORMS XXXIV, Barcelona, 1997

PROGRAM COMMITTEE MEMBER

1. 32nd European Conference on Artificial Intelligence (ECAI-2029), Porto, 2029
2. XXI Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2026), Jaén, 2026
3. 13th International Conference on Probabilistic Graphical Models (PGM-2026), Valencia, 2026
4. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD-2026), Area Chair, Naples (Italy), 2026
5. 27th European Conference on Artificial Intelligence (ECAI-2024), Santiago de Compostela, 2024
6. XX Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2024), A Coruña, 2024
7. 12th International Conference on Probabilistic Graphical Models (PGM-2024), Nijmegen, 2024
8. 22nd International Conference on Machine Learning and Applications (ICMLA-2023), Florida, 2023

9. 2nd AIxIA Workshop on Artificial Intelligence for Healthcare (HC@AIxIA-2023), Rome, 2023
10. 10th IEEE International Conference on Data Science and Advanced Analytics (IEEE-DSAA-2023), Thessaloniki (Greece), 2023
11. 26th International Conference on Discovery Science (DS-2023), Porto, 2023
12. 32nd International Joint Conference on Artificial Intelligence (IJCAI-2023), Macao (China), 2023
13. 39th Conference on Uncertainty in Artificial Intelligence (UAI-2023), Pittsburgh, 2023
14. 3rd International Workshop on eXplainable Artificial Intelligence in Healthcare (XAI-Healthcare), Portoroz (Slovenia), 2023
15. 11th International Conference on Probabilistic Graphical Models (PGM-2022), Almería, 2022
16. 31st International Joint Conference on Artificial Intelligence and 25th European Conference on Artificial Intelligence (IJCAI-ECAI-2022), Vienna, 2022
17. XIX Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2020/21), Málaga, 2021
18. 16th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU-2021), Prague, 2021
19. 30th International Joint Conference on Artificial Intelligence (IJCAI-2021): Senior Program Committee Member, Montreal (Canada), 2021
20. 29th International Joint Conference on Artificial Intelligence and 17th Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI-2020), Yokohama (Japan), 2021
21. 23rd International Conference on Discovery Science (DS-2020), Thessaloniki (Greece), 2020
22. 10th International Conference on Probabilistic Graphical Models (PGM-2020), Aalborg (Denmark), 2020
23. 24th European Conference on Artificial Intelligence (ECAI-2020), Santiago de Compostela, 2020
24. 22nd International Conference on Discovery Science (DS-2019), Split (Croatia), 2019
25. 15th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU-2019), Belgrade, 2019
26. X Congreso Internacional de Computación e Informática del Norte de Chile (INFONOR-2019), Antofagasta (Chile), 2019
27. XVIII Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2018), Granada, 2018
28. II Workshop en Big Data y Análisis de Datos Escalable (II BigDADE), Granada, 2018
29. 9th International Conference on Probabilistic Graphical Models (PGM-2018), Prague, 2018
30. IX Congreso Internacional de Computación e Informática del Norte de Chile (INFONOR-2018), Iquique (Chile), 2018
31. International Workshop on Automatic Machine Learning (AutoML-2018) within the International Conference in Machine Learning, Stockholm (2018)
32. 4th IEEE International Conference on Data Science and Advanced Analytics (IEEE-DSAA-2017), Tokyo, 2017
33. 14th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU-2017), Lugano, 2017

34. 30th International Conference on Industrial, Engineering, Other Applications of Applied Intelligent Systems (IEA-AIE 2017). Special Track on “Graphical Models: from Theory to Applications”, Arras (France), 2017
35. 15th Ibero-American Conference on Artificial Intelligence (IBERAMIA 2016), San José (Costa Rica), 2016
36. Workshop on Data Science for Social Good (SoGood 2016), within ECML-PKDD 2016, Riva del Garda (Italy), 2016
37. XVII Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2016), Salamanca, 2016
38. International Conference on Probabilistic Graphical Models (PGM-2016), Lugano, 2016
39. 22nd European Conference on Artificial Intelligence (ECAI-2016), The Hague, 2016
40. 25th International Joint Conference on Artificial Intelligence (IJCAI-16), New York, 2016
41. I Workshop “BigData y Análisis de Datos Escalable” (BigDADE-2015), Albacete, 2015
42. XVI Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2015), Albacete, 2015
43. Workshop on Adaptive Treatments and Therapies (WATT-2015), Istanbul, 2015
44. 2015 Genetic and Evolutionary Computation Conference (GECCO-2015), Madrid, 2015
45. 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO-2015), Granada, 2015
46. Seventh European Workshop on Probabilistic Graphical Models (PGM-2014), Utrecht, 2014
47. 21st European Conference on Artificial Intelligence (ECAI-2014), Prague, 2014
48. 2014 Genetic and Evolutionary Computation Conference (GECCO-2014), Vancouver, 2014
49. 15th Biennial European Conference of the Society for Medical Decision Making (ESMDM-2014), Antwerp, 2014
50. 2nd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO-2014), Granada, 2014
51. 23rd International Joint Conference on Artificial Intelligence (IJCAI-13), Beijing, 2013
52. 12th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU-2013), Utrecht, 2013
53. 2013 Genetic and Evolutionary Computation Conference (GECCO-2013), Amsterdam, 2013
54. IEEE Congress on Evolutionary Computation (IEEE CEC-2013), Cancún, 2013
55. International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO-2013), Granada, 2013
56. Sixth European Workshop on Probabilistic Graphical Models (PGM-2012), Granada, 2012
57. 7th Conference on Prestigious Applications of Intelligent Systems (PAIS-2012), within ECAI-2012, Montpellier, 2012
58. 9th Bayesian Modelling Applications Workshop (within UAI-2012), Catalina Island, 2012
59. 28th Conference on Uncertainty in Artificial Intelligence (UAI-2012), Catalina Island, 2012
60. 2012 Genetic and Evolutionary Computation Conference (GECCO-2012), Philadelphia, 2012

61. IEEE Congress on Evolutionary Computation (IEEE CEC-2012), Brisbane, 2012
62. 4th Biennial European Conference of the Society for Medical Decision Making (ESMDM-2012), Oslo, 2012
63. International Conference on Pattern Recognition Applications and Methods (ICPRAM-2012), Algarve, 2012
64. XIV Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA'11), Tenerife, 2011
65. 22th International Joint Conference on Artificial Intelligence (IJCAI-11), Barcelona, 2011
66. 27th Conference on Uncertainty in Artificial Intelligence (UAI-2011), Barcelona, 2011
67. 2011 Genetic and Evolutionary Computation Conference (GECCO-2011), Dublin, 2011
68. Probabilistic Problem Solving in Biomedicine (ProBioMed'11), within 13th Conference on Artificial Intelligence in Medicine (AIME-2011), Bled, 2011
69. 13th International Conference on Discovery Science (DS-2010), Canberra, 2010
70. Fifth European Workshop on Probabilistic Graphical Models (PGM-2010), Helsinki, 2010
71. 26th Conference on Uncertainty in Artificial Intelligence (UAI-2010), Catalina Island, 2010
72. 23rd International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA-AIE 2010), Special Session on "New Frontiers in Data Analysis, Optimization and Visualization for Bioinformatics and Neuroscience", Córdoba, 2010
73. 13th European Meeting of the Society for Medical Decision Making (ESMDM-2010), Tyrol, 2010
74. XIII Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-TTIA 2009), Sevilla, 2009
75. 12th International Conference on Discovery Science (DS-2009), Porto, 2009
76. European Conference on Machine Learning – Conference on Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2009), Bled, 2009
77. 21th International Joint Conference on Artificial Intelligence (IJCAI-09), Pasadena, 2009
78. 25th Conference on Uncertainty in Artificial Intelligence (UAI-2009), Montreal, 2009
79. 11th Ibero-American Conference on Artificial Intelligence (IBERAMIA 2008), Lisbon, 2008
80. Fourth European Workshop on Probabilistic Graphical Models (PGM-2008), Hirtshals, 2008
81. IV International Symposium on Applications of Modelling as an Innovative Technology in the Agri-Food Chain (Model-IT 2008), Madrid, 2008
82. IFAC Conference on Cost Effective Automation in Networked Product Development and Manufacturing (IFAC-CEA-2007), Monterrey, 2007
83. 18th European Conference on Machine Learning (ECML) – 11th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), Varsovia, 2007
84. 23th Conference on Uncertainty in Artificial Intelligence (UAI-2007), Vancouver, 2007
85. IADIS International Conference Intelligent Systems and Agents (ISA-2007), Lisbon, 2007
86. Third European Workshop on Probabilistic Graphical Models (PGM-2006), Prague, 2006
87. 16th European Conference on Machine Learning (ECML) – 9th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), Porto, 2005

88. Second European Workshop on Probabilistic Graphical Models (PGM-2004), Leiden, 2004
89. 20th Conference on Uncertainty in Artificial Intelligence (UAI-2004), Banff, 2004
90. 14th European Conference on Machine Learning – 7th European Conference on Principles and Practice of Knowledge Discovery. Workshop on Probabilistic Graphical Models for Classification, Cavtat-Dubrovnik, 2003
91. 19th Conference on Uncertainty in Artificial Intelligence (UAI-2003), Acapulco, 2003
92. First European Workshop on Probabilistic Graphical Models (PGM-2002), Cuenca, 2002
93. 17th Conference on Uncertainty in Artificial Intelligence (UAI-2001), Seattle, 2001
94. International Symposium on Adaptive Systems. Evolutionary Computation and Probabilistic Graphical Models (ISAS2001), La Habana, 2001
95. 16th Conference on Uncertainty in Artificial Intelligence (UAI-2000), Stanford, 2000

SESSION CHAIR OF CONFERENCES

1. Causality II in *International Conference on Probabilistic Graphical Models (PGM-2024)*. Nijmegen, 2024
2. Keynote Mihaela van der Schaar in *3rd International Workshop on eXplainable Artificial Intelligence in Healthcare (XAI-Healthcare)*. Portoroz, 2023
3. Learning II in *International Conference on Probabilistic Graphical Models (PGM-2022)*, Almería, 2022
4. High-dimensional Bayesian networks in *New Bridges between Mathematics and Data Science*, Valladolid, 2021
5. Learning in *International Conference on Probabilistic Graphical Models (PGM-2020)*, Aalborg (virtual), 2020
6. Machine Learning: Multi-Instance/Multi-Label/Multi-View Learning in *24th European Conference on Artificial Intelligence (ECAI-2020)*, Santiago de Compostela, 2020
7. Inference in *International Conference on Probabilistic Graphical Models (PGM-2018)*, Prague, 2018
8. Dynamic Models in *International Conference on Probabilistic Graphical Models (PGM-2016)*, Lugano, 2016
9. Learning in *22nd European Conference on Artificial Intelligence (ECAI-2016)*, The Hague, 2016
10. Probabilistic Graphical Models in *XVI Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2015)*, Albacete, 2015
11. Classification and Clustering in *Sixth European Workshop on Probabilistic Graphical Models (PGM-2012)*, Granada, 2012
12. Optimization and Data Mining in *EURO XXV*, Vilnius, 2012
13. Machine Learning in *XIV Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-2011)*, Tenerife, 2011
14. Influence Diagrams in *Fifth European Workshop on Probabilistic Graphical Models (PGM-2010)*, Helsinki, 2010
15. Optimization and Data Mining in *EURO XXIV*, Lisbon, 2010
16. Redes Bayesianas in *XIII Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA-TTIA 2009)*, Sevilla, 2009

17. Statistical Data Analysis in *6th International Symposium on Intelligent Data Analysis (IDA'05)*, Madrid, 2005
18. Influence Diagrams and Decision Networks in *Second European Workshop on Probabilistic Graphical Models (PGM-2004)*, Leiden, 2004
19. Influence Diagrams in *First European Workshop on Probabilistic Graphical Models (PGM-2002)*, Cuenca, 2002
20. Computational Methods in Bayesian Statistics in *EURO XV-INFORMS XXXIV*, Barcelona, 1997
21. Graphical Models in Decision Analysis: Novel Representations and Algorithms, in *EURO XV-INFORMS XXXIV*, Barcelona, 1997

ROUND TABLES

1. “Welcome to the Future: Social and Human Impact of Artificial Intelligence” (50th anniversary of Universidad Autónoma de Madrid), CentroCentro Gallery at Cibeles, Madrid, 2018
2. “Collaborative Research in Computational Neuroscience USA-Spain”, organized by NSF, NIH and MINECO, Madrid, 2018
3. “Probabilistic Graphical Models and Neuroscience”, at 9th International Conference on Probabilistic Graphical Models (PGM-2018), Prague, 2018
4. “Women, Research and Artificial Intelligence”, at XVI Conference of the Spanish Association for Artificial Intelligence (CAEPIA-2015), Albacete, 2015

TUTORIALS

1. 19th Mexican International Conference on Artificial Intelligence, Mexico City, Mexico, 2020 (virtual)
2. 14th Conference on Artificial Intelligence in Medicine, Murcia, 2013
3. XIV Conference of the Spanish Association for Artificial Intelligence, Tenerife, 2011
4. 12th International Conference on Discovery Science, Porto, 2009

PHD COMMITTEES

1. Miguel López, Universidad de Granada (2022)
2. Carlos Villacampa, Universidad Autónoma de Madrid (2022)
3. Ridho Rahmadi, Radboud University Nijmegen (2019)
4. Dag Sonntag, Linköping University (2016)
5. Marina Segura, Universidad Politécnica de Valencia (2015)
6. Jerónimo Hernández, Universidad del País Vasco (2015)
7. Iñigo Bermejo, Universidad Nacional de Educación a Distancia (2015)
8. Ekhiñe Irurozqui, Universidad del País Vasco (2014)
9. Angela Fernández Pascual, Universidad Autónoma de Madrid (2014)
10. Nicolaj Søndberg-Jeppesen, Aalborg University (2009)
11. Manuel Luque, Universidad Nacional de Educación a Distancia (2009)
12. Dinora Morales, Universidad del País Vasco (2009)
13. Constantino Malagón, Universidad Nebrija (2008)

14. Domingo Romero, Universidad del País Vasco (2007)
15. Roberto Santana, Universidad del País Vasco (2006)
16. María Jesús Rufo, Universidad de Extremadura (2005)
17. Rafael Rumí, Universidad de Almería (2003)
18. Carmen Lacave, Universidad Nacional de Educación a Distancia (2003)
19. Antonio Jiménez, Universidad Politécnica de Madrid (2002)
20. Miguel Ángel Virto, Universidad Politécnica de Madrid (2002)
21. Arminda Moreno, Universidad Politécnica de Madrid (2001)

JOURNAL REFEREE

1. Aging
2. Annals of Operations Research
3. Artificial Intelligence in Medicine
4. Artificial Intelligence Review
5. Bioinformatics
6. BMC Bioinformatics
7. BMC Medical Informatics and Decision Making
8. Communications in Statistics - Simulation and Computation
9. Computational Intelligence
10. Computational Statistics and Data Analysis
11. Computers in Biology and Medicine
12. Computer Methods and Programs in Biomedicine
13. Decision Analysis
14. Decision Support Systems
15. Entropy
16. European Journal of Operational Research
17. Evolutionary Computation
18. Frontiers in Neuroanatomy
19. Frontiers in Psychology
20. IEEE Access
21. IEEE Transactions on Artificial Intelligence
22. IEEE Transactions on Automation Science and Engineering
23. IEEE Transactions on Evolutionary Computation
24. IEEE Transactions on Industrial Informatics
25. IEEE Transactions on Knowledge and Data Engineering
26. IEEE Transactions on Neural Networks and Learning Systems

27. IEEE Transactions on Pattern Analysis and Machine Intelligence
28. Information Sciences
29. International Journal of Aerospace Engineering
30. International Journal of Approximate Reasoning
31. International Journal of Data Science and Analytics
32. International Journal of Intelligent Systems
33. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems
34. Journal of Applied Statistics
35. Journal of Biomedical Informatics
36. Journal of Artificial Intelligence Research
37. Journal of Computational and Graphical Statistics
38. Journal of Computer Science and Technology
39. Journal of Neuroscience Methods
40. Journal of the Neurological Sciences
41. Knowledge-Based Systems
42. Machine Learning
43. Management Science
44. Medical Decision Making
45. Networks and Heterogeneous Media
46. Neurocomputing
47. Neuroinformatics
48. Pattern Recognition
49. PLOS Computational Biology
50. QÜESTIÓ (Quaderns d'Estadística i Investigació Operativa)
51. Statistics in Medicine
52. Shock and Vibration
53. Swarm and Evolutionary Computation
54. The Scientific World Journal
55. TOP

BOOK PROPOSAL REVIEWER:

1. *Chapman & Hall/CRC Press*, 2013 and 2018
2. *Cambridge University Press*, 2020

MEMBER OF COMMITTEES EVALUATING SCIENTIFIC PROJECTS

1. *Committee Member for Data Science, "Collaborative Research Programme"*, Novo Nordisk Foundation (Denmark) (2026 and 2027)

2. *Projects within “The NNF Grand AI Challenge”*, Novo Nordisk Foundation, Copenhagen (2024-2025)
3. *Project Proposal for the Dutch Research Council (NWO)*, The Netherlands (2022)
4. *European Network of AI Excellence Centers (ELISE) Evaluation Committee* of the best AI and Machine Learning SME projects in Europe (2021)
5. *Project Proposal of the State R&D Plan in the Mathematical Sciences Area*, for the State Research Agency of the Spanish Ministry of Economy and Competitiveness, Madrid (2021, 2022)
6. *Project Proposals for the European Research Council: ERC-Consolidator Grants*, ERC (2020)
7. *Member of the Committee of Experts of the Test of Time Award 2020 at ECML/PKDD-2010* (2020)
8. *Project Proposals for The Education University of Hong Kong*, Hong Kong (2018)
9. *Project Proposal within the International PostDoc Initiative (IPODI) Fellowship Program*, Technische Universität Berlin (2017)
10. *Evaluating Committee of 2016 R+D Projects of Young Researchers*, Spanish Ministry of Economy and Competitiveness, Madrid (2016)
11. *Committee for the Evaluation of Fundamental Research Projects of the National Plan in the Computer Technology (TIN) area*, Spanish Ministry of Economy and Competitiveness, Madrid (2015, 2016)
12. *Project Proposals for Czech Science Foundation*, Czech Republic (2015)
13. *Follow-up Committee of Fundamental Research Projects of the National Plan in the Computer Technology (TIN) area*, Spanish Ministry of Economy and Competitiveness, Madrid (2014)
14. *Project Proposals for Junta de Andalucía*, Córdoba (2013)
15. *Project Proposals for Agence Nationale de la Recherche*, France (2012)
16. *Evaluating Committee to Certify R+D Industrial Projects*, Agencia de Acreditación de Proyectos de Investigación, Desarrollo e Innovación Tecnológica (AIDIT), Madrid (2012)
17. *Follow-up Commission for Computer Technology Projects*, Spanish Ministry of Science and Innovation, Madrid (2011)
18. *Evaluating Committee of Computer Technology Projects*, Spanish Ministry of Science and Innovation, Madrid (2009, 2009, 2011)
19. *Project Proposals for Agencia Nacional de Evaluación y Prospectiva*, Madrid (2000, 2004, 2005 (2), 2006, 2007, 2008 (2), 2012 (2), 2014, 2015 (5), 2016 (2), 2017 (1))

MEMBER OF COMMITTEES EVALUATING GRANTS AND RESEARCH CAREERS

1. *Committee Member for Data Science, “Investigator Grants”*: Emerging – Ascending – Distinguished, Novo Nordisk Foundation (Denmark) (2026 and 2027)
2. *Evaluating Committee of 2025 Ramón y Cajal Contracts*, Spanish Agency of Research, Madrid (2026)
3. *Evaluation process of nominations for ELLIS Fellows/Scholars 2024*, ELLIS Society (2024)
4. *Expert Evaluator - 2024 Postgraduate Fellowships Abroad (Physical Sciences, Mathematics and Engineering)*, 25 applicants, “La Caixa” Foundation, Barcelona (2024)
5. *Assessment of Competences for an Associate Professor*, Agència per a la Qualitat del Sistema Universitari de Catalunya, AQU Catalunya (2022)
6. *Assistant Professors (with the possibility of Tenure-Track)*, 31 applicants, Aalborg University, Denmark (2022)
7. *Expert Evaluator - 2021 Postgraduate Fellowships Abroad (Physical Sciences, Mathematics and Engineering)*, 25 applicants, “La Caixa” Foundation, Barcelona (2021)

8. *Professor Positions at National Universities*: Universidade de Santiago de Compostela (2025), Universidad Carlos III de Madrid (2021, 4 applicants; and 2025, 1 applicant), Universidad Politécnica de Madrid (2021), Universidad de Extremadura (2019), UNED (2018), CSIC (2016)
9. *Associate Positions at National Universities*: UNED (2021), Universidad del País Vasco (2020)
10. *Evaluating Committee of Researchers*, Portuguese Public Funding Agency for R&D (FCT), Portugal (2019, 2020)
11. *Professor Position*, 4 applicants, Aalborg University, Denmark (2020)
12. *External Preselection Committee of 2019 Program of Postgraduate Scholarships for Studies in Europe, and in North America and the Asia-Pacific region*, 39 applicants, Obra Social “la Caixa”, Barcelona (2019)
13. *Associate Professor Position*, 2 applicants, Linköping University (2018)
14. *Assessment of Competences for a Full Professor*, Utrecht University (2016)
15. *Selection Committee of 2016 Program of PhD Scholarships*, 12 applicants, Obra Social “la Caixa”, Barcelona (2016)
16. *Evaluating Committee of 2014 Juan de la Cierva Postdoctoral Contracts*, Spanish Ministry of Economy and Competitiveness, Madrid (2015)
17. *ICREA (Catalan Institution for Research and Advanced Studies)–Peer Evaluation for Promotion of Research Professors*, Barcelona (2015, 2016, 2017)
18. *Associate Professor Position*, Aalborg University, Denmark (2010)

SCIENCE DISSEMINATION

- *NEUROTEC Interview Series #7. Concha Bielza*, UPM, 4-2024, [Link](#)
- *Datos Inteligentes, Descarga la Tormenta Perfecta*, El Mundo - El Cultural, pp. 58-62, 18-12-20
- *Interview about COVID-19 Project Funded by FBBVA*, Radio RNE-News-Madrid, 4-11-20
- *La Matemática que Trata de Acabar con el Caos de Datos de la Covid en España y Salvar Vidas*, El Español, 18-10-20
- *Lessons from Sport to Compete with Artificial Intelligence*, IESE Business School Insight 156, pp. 68–74 (2020)
- *Inteligencia Artificial por Todos Lados*, El Correo Español-El Pueblo Vasco (2019)
- *Quality Control Process to Detect the Anomalies during Laser Surface Heat Treatment*, LIA TODAY Newsletter, 27, 1, p. 10 (2019)
- *Redes Bayesianas y Clasificación Neuronal*, Investigación y Ciencia, Blog de Neurociencia Computacional (2019)
- *La Máquina que Descifra el Cerebro de Maradona*, El País–Retina 1, pp. 86–91 (2017)
- *Podrá Gestionarse el Riesgo de Ciertas Enfermedades*. El Mundo–YoDona p. 30 (2017)
- *Data Science es una Tecnología Clave para la Investigación del Siglo XXI*, ABC and El Economista (2017)
- *Los Ladridos Caracterizan a los Perros Igual que la Voz a las Personas*. Madri+d News, Platform SINC (FECYT), AlphaGalileo, ABC (2015)
- *La Mente Artificial Aprende a Inventar*. El Correo Innova+, pp. 1–3 (2014)
- *Desarrollan un Kit que Predice la Supervivencia al Cáncer de Pulmón*. Madri+d News, Platform SINC (FECYT), AlphaGalileo, EuropaPress, 20minutos (2013)

- *Avances en el Pronóstico de la Cirugía de la Epilepsia*. Madri+d News, Física Hoy (2013)
- *La Inteligencia Computacional Abre Nuevas Vías en la Investigación del Alzheimer*. EuropaPress, Alzheimer Universal, AlphaGalileo, MathsNews, Fundación MonteMadrid (2012)
- *Alan Turing y la Estadística Bayesiana*. Blog El País newspaper (2012)
- *Inteligencia Artificial. Proyecto Cajal Blue Brain*. Interview in Radio3 of RNE (2011)
- *Predicen el Número de Citas que Tendrán los Artículos Científicos*. Madri+d News, Platform SINC (FECYT) (2010)

PATENTS

1. *Test Predictor de Supervivencia Global de Adenocarcinoma de Pulmón*. R. García, J.M. Paramio, P. Larrañaga, C. Bielza. ES2381729B1. Grant date: 26-4-2013
2. *European Patent application: A Computer Implemented Method and System for Health Monitoring of Structures*. J. Díaz-Rozo, C. Puerto-Santana, C. Ocampo-Martínez, C. Bielza, P. Larrañaga. European Patent EP 24382271.5. Grant application date: 13-3-2024

REGISTERED SOFTWARE

1. *Fidelización de Clientes a través de Internet*. Ríos-Insua, S., Bielza, C., Mateos, A., Martín, J. 103787, Registration date: 5-4-2001
2. *Computer Program: SimLin “Simulador del Comportamiento de una Línea de Clasificación de Fruta en Relación con la Aparición de Daños Mecánicos”*. Ruiz-Altisent, M., Barreiro, P., Bielza, C., García, F., García, F.J., Heradio, R., Pacios, O., Martín, J., Ríos-Insua, S., M-5928-02, Registration date: 6-30-2000
3. *Análisis de la Calidad en el Servicio*. Ríos-Insua, S., Bielza, C., Mateos, A., Martín, J., M-72228, Registration date: 3-26-1998, With effect from: 12-1-2003

ENTREPRENEURSHIP

- Technological Partner of company Olocip 11 S.L. (10 % stake) since March 2018 until August 2021

MANAGING

- External Expert for the selection process of the new Max Planck School in Artificial Intelligence, Max Planck Society, Berlin, 2025
- Chair of the Challenge Programme 2025 – The NNF Grand AI Challenge, Novo Nordisk Foundation, September 2024- August 2025
- Member of the Joint Committee for Secondment of Qualified Members to the Institute of Mathematical Sciences (ICMAT), 2023-2026
- Member of the Academic Council of ValgrAI (Valencian Graduate School and Research Network of Artificial Intelligence), since November 2021
- Member of the Transfer Committee of the Spanish Royal Society of Mathematics, since June 2021
- Member of the Scientific Advisory Board of NorwAI (Norwegian Research Center for AI Innovation), since 2021
- Member of Curriculum Itinerary Commission of Computer Science Degree (Technical University of Madrid), June 2009 - February 2017
- Academic Secretary of the Artificial Intelligence Department (Technical University of Madrid), May 2007 - December 2008
- Member of the Academic Planning Commission of Computer Science Degree (Technical University of Madrid), 2006-2008

MEMBERSHIP OF SOCIETIES

- SEIO, AEPIA, IEEE, ACM, Spanish Royal Society of Mathematics, Spanish Society of Artificial Intelligence in Biomedicine, The Sensometric Society