Prof. Pedro Larrañaga

A. General Information

Personal Information

Name:	Pedro Larrañaga
Birthdate:	June 6, 1958
Nationality:	Spanish
Address:	Department of Artificial Intelligence Technical University of Madrid Campus de Montegancedo, s/n 28660 Boadilla del Monte, Madrid, Spain
Telephone:	(+34) 91 336 74 43
Fax:	(+34) 91 352 48 19
E-mail:	pedro.larranaga@fi.upm.es
Url:	http://cig.fi.upm.es

Academic Positions

- Head of the Computational Intelligence Group since its foundation in 2010
- Professor at the Department of Artificial Intelligence, Technical University of Madrid, Spain (since 2007)
- Professor at the Department of Computer Science and Artificial Intelligence, University of the Basque Country, Spain (2004-2007)
- Associate Professor at the Department of Computer Science and Artificial Intelligence, University of the Basque Country, Spain (1998-2004)
- Head of the Intelligent Systems Group since its foundation in 1996
- Assistant Professor at the Department of Computer Science and Artificial Intelligence, University of the Basque Country, Spain (1987-1998)
- Lecture at the Department of Computer Science and Artificial Intelligence, University of the Basque Country, Spain (1985-1987)

Qualifications

- Habilitation for full Professor in Computer Science, Madrid, Spain, 2003
- Ph.D. in Computer Science, *Structural Learning and Triangulation of Bayesian Networks by Genetic Algorithms*, University of the Basque Country, Spain, 1995. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country
- M.Sc. in Mathematics, *Comparison Between Hierarchical Classification and by Factorial Analysis*, University of Valladolid, Spain, 1985
- Degree on Mathematics, specialization in Statistics, University of Valladolid, Spain, 1981

Research Interest

My main interest areas are: *Bayesian networks* (learning from data, supervised and unsupervised classification, triangulation), *evolutionary computation* (genetic algorithms, estimation of distribution algorithms, mathematical modelling, applications in optimization), *bioinformatics* (analysis of microarrays of DNA, protein folding, prediction of the secondary structure of proteins, multiple alignment of sequences) and *neuroscience* (supervised and unsupervised classification of neurons, early diagnostics methods in Parkinson and Alzheimer diseases, spatial distributions of synapsis, brain computer interface)

The CV in numbers

- Books: 1
- Edited Books: 3
- Journal Papers (ISI Web of Knowledge): 121
- Journal Papers (Non in ISI Web of Knowledge): 29
- Book Chapters: 27
- Lecture Notes: 31
- Conferences Publications: 55
- Technical Reports: 28
- Awards: 6
- Public Research Projects: 54
- Private Research Projects: 31
- Supervised Ph. D. Theses: 21
- Supervised Master Theses: 6
- Supervised Graduate Projects: 19
- Editor of Proceedings: 1
- Editor of Journal Special Issues: 5
- Journal Referee: in 50 different journals
- Plenary Talks in Conferences: 11
- Organizer of Congress and Scientific Events: 8
- Program Committee Member: 138
- Session Chair of Conferences: 12
- Tutorials: 12
- Patents: 2

Citations and h-index

- ISI Web of Knowledge
  Citations: 2346
  h-index: 23

- Google Scholar
  Citations: 8734
  h-index: 38
  Citations (since 2008): 5897
  h-index (since 2008): 29

B. Publication Record

Books

1. A. Ibañez, C. Bielza, P. Larrañaga (2011). *Productividad y Visibilidad Científica de los Profesores Funcionarios de las Universidades Públicas Españolas en el Área de Tecnologías Informáticas*. Fundación General de la U.P.M.

Edited Books

1. J. A. Lozano, P. Larrañaga, I. Inza, and E. Bengoetxea (2005). *Towards a New Evolutionary Computation. Advances in Estimation of Distribution Algorithms*. Springer Verlag

2. P. Larrañaga, J. A. Lozano, J. M. Peña, I. Inza (2003). *Probabilistic Graphical Models for Classification*. Ruder Bošković Institute

3. P. Larrañaga, and J. A. Lozano (2002). *Estimation of Distribution Algorithms. A New Tool for Evolutionary Computation*. Kluwer Academic Publishers

Journal Papers (ISI Web of Knowledge)

1. C. Bielza, P. Larrañaga (2013. Discrete Bayesian network classifiers: A survey. *ACM Computing Surveys*, in press

2. J. Read, C. Bielza, P. Larrañaga (2013). Multi-dimensional classification with super-classes. *IEEE Transactions on Knowledge and Data Engineering*, in press

3. J.L. Flores, I. Inza, P. Larrañaga, B. Calvo (2013). A new measure for gene expression biclustering based on non-parametric correlation. *Computer Methods and Programs in Biomedicine*, 112 (3), 367-397

4. A. Ibáñez, C. Bielza, P. Larrañaga (2013). Cost-sensitive selective naive Bayes classifiers for predicting the increase of the h-index for scientific journals. *Neurocomputing*, in press

5. R. Armañanzas, L. Alonso-Nanclares, J. DeFelipe-Oroquieta, A. Kastanauskaite, R.G. de Sola, J. DeFelipe, C. Bielza, P. Larrañaga, P. (2013). Machine learning approach for the outcome prediction of temporal lobe epilepsy surgery. *PLoS ONE*, 8(4), e62819

6. R. Armañanzas, C. Bielza, K.R. Chaudhuri, P. Martńez-Martín, P. Larrañaga (2013). Unveiling relevant non-motor Parkinson's disease severity symptoms using a machine learning approach. *Artificial Intelligence in Medicine*, 58(3), 195-202

7. H. Borchani, C. Bielza, C. Toro, P. Larrañaga (2013). Predicting the EQ-5D from the Parkinson's disease questionnaire PDQ-8 using multi-dimensional Bayesian network classifiers. *Biomedical Engineering: Applications, Basis and Communications*, in press

8. C. Bielza, J.A. Fernández del Pozo, P. Larrañaga, P. (2013). Parameter control of genetic algorithms by learning and simulation of Bayesian Networks. A case study for the optimal ordering of tables. *Journal of Computer Science and Technology*, 28 (4), 720-731

9. J. DeFelipe, P. L. López-Cruz, R. Benavides-Piccione, C. Bielza, P. Larrañaga, S. Anderson, A. Burkhalter, B. Cauli, A. Fairén, D. Feldmeyer, G. Fishell, D. Fitzpatrick, T. F. Freund, G. González-Burgos, S. Hestrin, S. Hill, P. R. Hof, J. Huang, E. G. Jones, Y. Kawaguchi, Z. Kisvárday, Y. Kubota, D. A. Lewis, O. Marín, H. Markram, C. J. McBain, H. S. Meyer, H. Monyer, S. B. Nelson, K. Rockland, J. Rossier, J. L.R. Rubenstein, B. Rudy, M. Scanziani, G. M. Shepherd, C. C. Sherwood, J. F. Staiger, G. Tamás, A. Thomson, Y. Wang, R. Yuste, G. A. Ascoli (2013). New insights in the classification and nomenclature of cortical GABAergic interneurons. *Nature Review Neuroscience*, 14(3), 202-216

10. R. Santana, R. Armañanzas, C. Bielza, P. Larrañaga (2013). Network measures for information extraction in evolutionary algorithms. *International Journal of Computational Intelligence Systems*, in press

11. L. Guerra, C. Bielza, V. Robles, P. Larrañaga, P. (2013). Semi-supervised projected model-based clustering. *Data Mining and Knowledge Discovery*, in press

12. H. Karshenas, R. Santana, C. Bielza, P. Larrañaga, (2013). Multi-objective estimation of distribution algorithms based on joint modeling of objectives and variables. *IEEE Transactions on Evolutionary Computation*, in press

13. A. Ibañez, P. Larrañaga, C. Bielza (2013). Cluster methods for assessing research performance: exploring Spanish computer science. *Scientometrics*, in press

14. D. Vidaurre, C. Bielza, P. Larrañaga (2013). A survey of L_1 regression. *International Statistical Review*, in press

15. D. Vidaurre, C. Bielza, P. Larrañaga (2013). Sparse regularized local regression. *Computational Statistics and Data Analysis*, 62, 122-135

16. A. Merchan-Perez, R. Rodrigo, S. Gonzalez, V. Robles, J. DeFelipe, P. P. Larrañaga, C. Bielza (2013). Three-dimensional spatial distribution of synapses in the neocortex: a dual-beam electron microscopy study. *Cerebral Cortex*, in press

17. P. Larrañaga, H. Karshenas, C. Bielza, R. Santana (2013). A review on evolutionary algorithms in Bayesian network learning and inference tasks. *Information Sciences*, 233, 109-125

18. D. Vidaurre, C. Bielza, P. Larrañaga (2013). Classification of neural signals from sparse autoregressive features. *Neurocomputing*, 111, 21-26

19. D. Vidaurre, C. Bielza, P. Larrañaga (2013). An L1-regularized naive Bayes-inspired classifier for discarding redundant predictors. *International Journal on Artificial Intelligence Tools*, in press

20. H. Borchani, C. Bielza, C. Toro, P. Larrañaga (2013). Learning multi-dimensional Bayesian network classifiers using Markov blankets: A case study in the prediction of HIV-1 reverse transcriptase and protease inhibitors. *Artificial Intelligence in Medicine*, in press

21. H. Borchani, C. Bielza, P. Martínez-Martín, P. Larrañaga, P. (2013). Predicting EQ-5D from the Parkinson's disease questionnaire using multi-dimensional Bayesian network classifiers. *Biomedical Engineering: Applications, Basis and Communications*, in press

22. A. Ibáñez, C. Bielza, P. Larrañaga (2013). Relationship among research collaboration, number of documents and number of citations. A case study in Spanish computer science production in 2000-2009. *Scientometrics*, in press

23. M. García-Torres, R. Armañanzas, C. Bielza, P. Larrañaga (2013). Comparison of metaheuristic strategies for peakbin selection in proteomic mass spectrometry data. *Information Sciences*, 222, 229-246

24. J.L. Flores, I. Inza, P. Larrañaga, B. Calvo (2013). A new measure for gene expression biclustering based on non-parametric correlation. *Computer Methods and Programs in Biomedicine*, in press.

25. P.L. López-Cruz, C. Bielza, P. Larrañaga (2013). Directional naive Bayes classifiers. *Pattern Analysis and Applications*, in press

26. P.L. López-Cruz, P. Larrañaga, J. DeFelipe, C. Bielza, (2013). Bayesian network modeling of the consensus between experts: An application to neuron classification. *International Journal of Approximate Reasoning*, in press

27. P.L. López-Cruz, C. Bielza, P. Larrañaga (2013). Learning mixtures of polynomials of multidimensional probability densities from data using B-spline interpolation. *International Journal of Approximate Reasoning*, in press

28. P.L. López-Cruz, P. Larrañaga, J. DeFelipe, C. Bielza (2013). Bayesian network modeling of the consensus between experts: An application to neuron classification. *International Journal of Approximate Reasoning*, in press

29. H. Karshenas, R. Santana, C. Bielza, P. Larrañaga (2013). Regularized continuous estimation of distribution algorithms. *Applied Soft Computing*, in press

30. D. Vidaurre, M. van Gerven, C. Bielza, P. Larrañaga, T. Heskes (2013). Bayesian partial least squares. *Neural Computation*, in press

31. B. Calvo, I. Inza, P. Larrañaga, J.A. Lozano (2012). Wrapper positive Bayesian network classifiers. *Knowledge and Information Systems*, 33(3), 631-654

32. R. Santana, C. Bielza, P. Larrañaga (2012). Conductance interaction identification by means of Boltzmann distribution and mutual information analysis in conductance-based neuron models. *BMC Neuroscience*, 13(Suppl 1):P100

33. P. Larrañaga, H. Karshenas, C. Bielza, R. Santana (2012). A review on probabilistic graphical models in evolutionary computation. *Journal of Heuristics*, 18, 5, 795–819

34. D. Vidaurre, E.E. Rodríguez, C. Bielza, P. Larrañaga, P. Rudomin (2012). A new feature extraction method for signal classification applied to cord dorsum potential detection. *Journal of Neural Engineering*, 9, 5

35. M. Dueñas, M. Santos, J.F. Aranda, C. Bielza, A.B. Martínez-Cruz, C. Lorz, M. Taron, E.M. Ciruelos, J.L. Rodríguez-Peralto, M. Martín, P. Larrañaga, J. Dahabreh, G.P. Stathopoulos, R. Rosell, J.M. Paramio, R. García-Escudero (2012). Mouse p53-deficient cancer models as platforms for obtaining genomic predictors of human cancer clinical outcomes. *PLoS ONE*, 7, 8: e42494

36. H. Borchani, C. Bielza, P. Martínez-Martín, P. Larrañaga (2012). Markov blanket-based approach for learning multi-dimensional Bayesian network classifiers: An application to predict the European quality of life-5Dimensions (EQ-5D) from the 39-item Parkinson's disease questionnaire (PDQ-39).*Journal of Biomedical Informatics*, in press

37. D.A. Morales, Y. Vives-Gilabert, B. Gómez-Ansón, E. Bengoetxea, P. Larrañaga, C. Bielza, J. Pagonabarraga, J. Kulisevsky, I. Corcuera-Solano, M. Delfino (2012). Predicting dementia development in Parkinson's disease using Bayesian network classifiers. *Psychiatry Research: NeuroImaging*, 213, 92-98

38. R. Santana, C. Bielza, P. Larrañaga (2012). Regularized logistic regression and multi-objective variable selection for classifying MEG data. *Biological Cybernetics*, 106, 6-7, 389–405

39. D. Vidaurre, C. Bielza, P. Larrañaga (2012). Lazy lasso for local regression. *Computational Statistics*, 27, 3, 531–550

40. A. Ibáñez, C. Bielza, P. Larrañaga (2012). Análisis de la actividad científica de las universidades públicas españolas en el área de las tecnologías informáticas. *Revista Española de Documentación Científica*, in press

41. A. Garcia-Bilbao, R. Armañanzas, Z. Ispizua, B. Calvo, A. Alonso-Varona, I. Inza, P. Larrañaga, G. López-Vivanco, B. Suarez-Merino, M. Betanzos (2012). Identification of a biomarker panel for colorectal cancer diagnosis. *BMC Cancer*, 12, 43

42. R. Armañanzas, P. Larrañaga, C. Bielza (2012). Ensemble transcript interaction networks: A case study on Alzheimer's disease. *Computer Methods and Programs in Biomedicine*, 108, 1, 442–450

43. L. Guerra, V. Robles, C. Bielza, P. Larrañaga (2012). A comparison of cluster quality indices using outliers and noise. *Intelligent Data Analysis*, 16, 4, 703–715

44. D. Vidaurre, C. Bielza, P. Larrañaga (2011). On nonlinearity in neural encoding models applied to the primary visual cortex. *Network: Computation in Neural Systems*, 22, 1-4, 97–125

45. A. Ibáñez, P. Larrañaga, C. Bielza (2011). Using Bayesian networks to discover relationships between bibliometric indices. A case study of Computer Science and Artificial Intelligence journals. *Scientometrics*, 89, 2, 523–551

46. C. Bielza, G. Li, P. Larrañaga (2011). Multi-Dimensional classification with Bayesian networks. *International Journal of Approximate Reasoning*, 52, 705–727

47. P. López-Cruz, C. Bielza, P. Larrañaga, R. Benavides-Piccione, J. DeFelipe (2011). Models and simulation of 3D neuronal dendritic trees using Bayesian networks. *Neuroinformatics*, 9, 347–369

48. C. Bielza, V. Robles, P. Larrañaga (2011). Regularized logistic regression without a penalty term: An application to cancer classification with microarray data. *Expert Systems with Applications*, 38, 5110–5118

49. R. Santana, C. Bielza, P. Larrañaga (2011). Optimizing brain networks topologies using multi-objective evolutionary computation. *Neurinformatics*, 9, 3–19

50. H. Borchani, P. Larrañaga, C. Bielza (2011). Classifying evolving data streams with partially labelled data. *Intelligent Data Analysis*, 15, 655-670

51. L. Guerra, L. McGarry, V. Robles, C. Bielza, P. Larrañaga, R. Yuste (2011). Comparison between supervised and unsupervised classification of neuronal cell types: A case study. *Developmental Neurobiology*, 71, 1, 71–82

52. E. Bengoetxea, P. Larrañaga, C. Bielza, J.A. Fernández del Pozo (2011). Optimal row and column ordering to improve table interpretation using estimation of distribution algorithms. *Journal of Heuristics*, 17(5), 567-588

53. R. Armañanzas, Y. Saeys, I. Inza, M. García-Torres, C. Bielza, Y. van de Peer, P. Larrañaga (2011). Peakbin selection in mass spectrometry data using a consensus approach with estimation of distribution algorithms. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 8(3), 760-774

54. P. Larrañaga, S. Moral (2011). Probabilistic graphical models in artificial intelligence. *Applied Soft Computing* **17**, 3, 326-339

55. I. Cuesta, C. Bielza, M. Cuenca-Estrella, P. Larrañaga, J. L. Rodríguez-Tudela (2010). Evaluation by data mining techniques of fluconazole breakpoints established by the clinical and laboratory standards institute (CLSI) and comparison with those of the European committee on antimicrobial susceptibility testing (EUCAST). *Antimicrobial Agents and Chemotherapy*, 54, 4, 1541–1546

56. R. Santana, C. Bielza, P. Larrañaga, J. A. Lozano, C. Echegoyen, A. Mendiburu, R. Armañanzas, S. Shakya (2010). MATEDA 2.0: Estimation of distribution algorithms in MATLAB *Journal of Statistical Software* **35**, 7, 1-30

57. D. Vidaurre, C. Bielza, P. Larrañaga (2010). Learning an L1-regularized Gaussian Bayesian network in the equivalence class space. *IEEE Transactions on Systems, Man and Cybernetics, Part B,* **40**, 5, 1231-1242

58. R. Santana, P. Larrañaga, J. A. Lozano (2010). Learning factorizations in estimation of distribution algorithms using affinity propagation. *Evolutionary Computation* **18**, 4, 515–546

59. C. Bielza, J. A. Fernández del Pozo, P. Larrañaga, E. Bengoetxea (2010). Multidimensional statistical analysis of the parameterization of a genetic algorithm for the optimal ordering of tables. *Expert Systems with Applications* **(37)**, 804-815

60. J. A. Lozano, Q. Zhang, P. Larrañaga (2009). Special issue in Evolutionary Algorithms based on Probabilistic Models. *IEEE Transactions on Evolutionary Computation*, Vol. 13, No. 6

61. A. Ibañez, P. Larrañaga, C. Bielza (2009). Predicting citation count of Bioinformatics papers within four years of publication. *Bioinformatics* **25**, 24, 3303-3309

62. I. Cuesta, C. Bielza, P. Larrañaga, M. Cuenca-Estrella, F. Laguna, D. Rodriguez-Pardo, B. Almirante, A. Pahissa, J. Rodriguez-Tudela (2009). Data mining validation of fluconazole breakpoints established by the European committee on antimicrobial susceptibility testing. *Antomicrobial Agents and Chemotherapy* **53 (7)**, 2949-2954

63. B. Calvo, P. Larrañaga, J.A. Lozano (2009). Feature subset selection from positive and unlabelled examples. *Pattern Recognition Letters* **30**, 1027-1036

64. R. Armañanzas, B. Calvo, I. Inza, M. López-Hoyos, V. Martínez-Taboada, E. Ucar, I. Bernales, A. Fullaondo, P. Larrañaga, A. M. Zubiaga (2009). Microarray analysis of autoimmune diseases by machine learning procedures. *IEEE Transactions on Information Technology in Biomedicine* **13 (3)**, 341-350

65. A. Pérez, P. Larrañaga, I. Inza (2009). Bayesian classifiers based on kernel estimation: Flexible classifiers. *International Journal of Approximate Reasoning* **50 (2)**, 341-362

66. T. Romero, P. Larrañaga (2009). Triangulation of Bayesian networks with recursive estimation of distribution algorithms. *International Journal of Approximate Reasoning* **50 (3)**, 472-484

67. C. Bielza, V. Robles, P. Larrañaga (2009). Estimation of distribution algorithms as logistic regression regularizers of microarray classifiers. *Methods of Information in Medicine* **48 (3)**, 236-241

68. V. Robles, C. Bielza, P. Larrañaga, S. González, L. Ohno-Machado (2008). Optimizing logistic regression coefficients for discrimination and calibration using estimation of distribution algorithms. *TOP* **16 (2)** 345-366

69. D. Morales, E. Bengoetxea, P. Larrañaga (2008). Selection of human embryos for transfer by Bayesian classifiers. *Computer in Biology and Medicine* **38**, 1177-1186

70. S. Furney, B. Calvo, P. Larrañaga, J. A. Lozano, N. López-Bigas (2008). Prioritization of candidate cancer genes. An aid to oncogenomic studies. *Nucleic Acids Research*, 1-9

71. R. Armañanzas, I. Inza, P. Larrañaga (2008). Detecting reliable gene interactions by a hierarchy of Bayesian networks classifiers. *Computer Methods and Programs in Biomedicine* **91**, 110-121

72. G. Santafé, J. A. Lozano, P. Larrañaga (2008). Inference of population structure using genetic markers and a Bayesian model averaging approach for clustering. *Journal of Computational Biology*, **15 (2)**, 207-220

73. R. Santana, J. A. Lozano, P. Larrañaga (2008). Protein folding in simplified models with estimation of distribution algorithms. *IEEE Transactions on Evolutionary Computation*, **12 (4)**, 418-438

74. R. Santana, P. Larrañaga, J. A. Lozano (2008). Combining variable neighborhood search and estimation of distribution algorithms. *Journal of Heuristics*, **14**, 519-547

75. D. Morales, E. Bengoetxea, P. Larrañaga, M. García, Y. Franco-Iriarte, M. Fresnada, M. Merino (2008). Bayesian classification for the selection of in-vitro human embryos using morphological and clinical data. *Computer Methods and Programs in Biomedicine* **(90)**, 104-116

76. I. Zipritia, J. Elorriaga, A. Arruarte, P. Larrañaga, R. Armañanzas (2008). What is behind a summary evaluation decision? *Behavior Research Methods* **(40)**, 2, 597-612

77. B. Calvo, J. A. Lozano, P. Larrañaga (2007). Learning Bayesian classifiers from positive and unlabeled examples. *Pattern Recognition Letters* **28(16)**, 2375-2384

78. Y. Saeys, I. Inza, P. Larrañaga (2007). A review of feature selection techniques in bioinformatics. *Bioinformatics* **23 (19)**, 2507-2517

79. T. Miquelez, E. Bengoetxea, A. Mendiburu, P. Larrañaga (2007). Combining Bayesian classifiers and estimation of distribution algorithms for optimization in continuous domains. *Connection Science* **19 (4)**, 297-319

80. J. L. Flores, I. Inza, P. Larrañaga (2007). Wrapper discretization by means of estimation of distribution algorithms. *Intelligent Data Analysis Journal* **11 (5)**, 525-546

81. B. Calvo, N. López-Bigas, S. J. Furney, P. Larrañaga, J. A. Lozano (2007). A partially supervised approach to dominant and recessive human disease gene prediction. *Computer Methods and Programs in Biomedicine*, **85 (3)**, 229-237

82. R. Santana, P. Larrañaga, J. A. Lozano (2007). Side chain placement using estimation of distribution algorithms. *Artificial Intelligence in Medicine* **39 (1)**, 49-63

83. G. Santafé, J. A. Lozano, P. Larrañaga (2006). Bayesian model averaging of naive Bayes for clustering. *IEEE Transactions on Systems, Man, and Cybernetics* **36**, 5, 1149-1161

84. A. Pérez, P. Larrañaga, I. Inza (2006). Supervised classification with conditional Gaussian networks: Increasing the structure complexity from naive Bayes. *International Journal of Approximate Reasoning* **43**, 1-25

85. P. Larrañaga, B. Calvo, R. Santana, Y. Galdiano, C. Bielza, I. Inza, R. Armañanzas, G. Santafé, A. Pérez, V. Robles (2006). Machine learning in bioinformatics. *Briefings in Bioinformatics* **7**, No. 1, 86–112

86. C. Roberto, E. Bengoetxea, I. Bloch, P. Larrañaga (2005). Inexact graph matching for model-based recognition: Evaluation and comparison of optimization algorithms. *Pattern Recognition* **38**, 2099–2113

87. R. Blanco, I.Inza, M. Merino, J. Quiroga, and P. Larrañaga (2005). Feature selection in Bayesian classifiers for the prognosis of survival of cirrhotic patients treated with TIPS. *Journal of Biomedical Informatics*, **38**, 376–388

88. P. Larrañaga, J. A. Lozano, J. M. Peña, I. Inza (2005). Special issue on Probabilistic Graphical Models in Classification. *Machine Learning*, 59, 211–212

89. J. M. Peña, J. A. Lozano, and P. Larrañaga (2005). Globally multimodal problem optimization via an estimation of distribution algorithm based on unsupervised learning of Bayesian networks. *Evolutionary Computation*, 43–66

90. P. Larrañaga, J. A. Lozano (2005). Special issue on estimation of distribution algorithms. *Evolutionary Computation*, v–vi

91. T. Romero, P. Larrañaga, and B. Sierra (2004). Learning Bayesian networks in the space of orderings with estimation of distribution algorithms. *International Journal of Pattern Recognition and Artificial Intelligence*, 18 (4), 607–625

92. R. Blanco, P. Larrañaga, I. Inza, and B. Sierra (2004). Gene selection for cancer classification using wrapper approaches. *International Journal of Pattern Recognition and Artificial Intelligence*, 18 (8), 1373–1390

93. V. Robles, P. Larrañaga, J. M. Peña, E. Menasalvas, M. S. Pérez, and V. Herves (2004). Bayesian networks as consensed voting system in the construction of a multi–classifier for protein secondary structure prediction. *Artificial Intelligence in Medicine*, 31, 117-136

94. I. Inza, P. Larrañaga, R. Blanco, and A. J. Cerrolaza (2004). Filter versus wrapper gene selection approaches in DNA microarray domains. *Artificial Intelligence in Medicine*, 31, 91-103

95. T. Miquelez, E. Bengoetxea, and P. Larrañaga (2004). Evolutionary computation based on Bayesian classifiers. *International Journal of Applied Mathematics and Computer Science*, 14 (3), 101-115

96. P. Larrañaga, E. Menasalvas, J. M. Peña, and V. Robles (2004). Special issue in data mining in genomics and proteomics. *Artificial Intelligence in Medicine*, 31, iii-iv

97. J. M. Peña, J. A. Lozano, and P. Larrañaga (2004). Unsupersived learning of Bayesian networks via estimation of distribution algorithms: an application to gene expression data clustering. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 12, 63-82

98. C. González, J.A. Lozano, and P. Larrañaga (2002). Mathematical modelling of UMDAc algorithm with tournament selection. Behaviour on linear and quadratic functions. *International Journal of Approximate Reasoning*, 31, 313–340

99. P. Larrañaga, and J.A. Lozano (2002). Synergies between evolutionary computation and probabilistic graphical models. *International Journal of Approximate Reasoning*, 31, 155-156

100. E. Bengoetxea, P. Larrañaga, I. Bloch, A. Perchant, and C. Boeres (2002). Inexact graph matching by means of estimation of distribution algorithms. *Pattern Recognition*, 35 (12), 2867-2880

101. J. M. Peña, J. A. Lozano, and P. Larrañaga (2002). Learning recursive Bayesian multinets for clustering by means of constructive induction. *Machine Learning*, 47, 63-89

102. J. M. Peña, J. A. Lozano, P. Larrañaga, and I. Inza (2001). Dimensionality reduction in unsupervised learning of conditional Gaussian networks. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 23 (6), 590-603

103. I. Inza, M. Merino, P. Larrañaga, J. Quiroga, B. Sierra, and M. Girala (2001). Feature subset selection by genetic algorithms and estimation of distribution algorithms. A case study in the survival of cirrhotic patients treated with TIPS. *Artificial Intelligence in Medicine*, 23 (2), 187–205

104. J. M. Peña, J. A. Lozano, and P. Larrañaga (2001). Performance evaluation of compromise conditional Gaussian networks for data clustering. *International Journal of Approximate Reasoning*, 28, 23-50

105. I. Inza, P. Larrañaga, and B. Sierra (2001). Feature subset selection by Bayesian networks: A comparison with genetic and sequential algorithms. *International Journal of Approximate Reasoning*, 27, 143-164

106. B. Sierra, N. Serrano, P. Larrañaga, E. J. Plasencia, I. Inza, J. J. Jiménez, P. Revuelta, M. L. Mora (2001). Using Bayesian networks in the construction of a bi-level multi-classifier. A case study using intensive care unit patients data. *Artificial Intelligence in Medicine*, 22, 233-248

107. I. Inza, P. Larrañaga, R. Etxeberria, and B. Sierra (2000). Feature subset selection by Bayesian network–based optimization. *Artificial Intelligence*, 123, 157-184

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29. Elvira Consortium (2002). Elvira: An environment for probabilistic graphical models. *First European Workshop in Probabilistic Graphical Models*, 222-230

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36. E. Bengoetxea, P. Larrañaga, I. Bloch, A. Perchant (2001). Image recognition with graph matching using estimation of distribution algorithms. *Proceedings of Medical Image Understanding and Analysis 2001*, 89-92

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Technical Reports

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2. H. Karshenas, C. Bielza, Q. Zhang and P. Larrañaga (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

3. R. Armañanzas, C. Bielza, P. Larrañaga, P. Martínez-Martín (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

4. H. Karshenas, R. Santana, C. Bielza, P. Larrañaga (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

5. R. Santana, C. Bielza, P. Larrañaga (2010). *Network measures for re-using problem information in EDAs*. Technical Report TR:UPM-FI/DIA/2010-3, Universidad Politécnica de Madrid (2010)

6. P. López-Cruz, C. Bielza, P. Larrañaga, R. Benavides-Piccione, J. DeFelipe (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 (2010)

7. C. Bielza, G. Li, P. Larrañaga (2010). *Multi-Dimensional classification with Bayesian networks*. Technical Report TR:UPM-FI/DIA/2010-1, Universidad Politécnica de Madrid (2010)

8. D. Vidaurre, C. Bielza, P. Larrañaga (2009). *Learning a L1-regularized Gaussian Bayesian network in the equivalence class space*. Technical Report. UPM.FI/DIA/2009-2 (2009)

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10. R. Santana, C. Echegoyen, A. Mendiburu, C. Bielza, J. A. Lozano, P. Larrañaga, R. Armañanzas and S. Shakya (2009). *MATEDA: A suite of EDA programs in Matlab*. Technical Report EHU-KZAA-IK-2/09 (2009)

11. R. Santana, P. Larrañaga, J. A. Lozano (2009). *Learning factorizations in estimation of distribution algorithms using affinity propagation*. Technical Report EHU-KZAA-IK-1/08 (2009)

12. R. Santana, P. Larrañaga, J. A. Lozano (2005). *Properties of Kikuchi approximations constructed from clique based decompositions*. Technical Report EHU-KZAA-IK-2/05

13. G. Santafé, J. A. Lozano, P. Larrañaga (2004). *Full Bayesian model averaging of naive Bayes for clustering*. Technical Report EHU-KZAA-IK-3/04

14. G. Santafé, J. A. Lozano, P. Larrañaga (2004). *El algoritmo TM para clasificadores Bayesianos*. Technical Report EHU-KZAA-IK-2/04

15. T. Miquelez, E. Bengoetxea, and P. Larrañaga (2004). *Applying Bayesian classifiers to evolutionary computation*. Technical Report KAT-IK-04-01. Department of Architecture and Technology of Computers. University of the Basque Country

16. R. Blanco, I. Inza, and P. Larrañaga (2001). *Learning Bayesian networks structures by estimation of distribution algorithms. An empirical comparison among four initializations*. Technical Report EHU-KZAA-IK-2-01. Department of Computer Science and Artificial Intelligence. University of the Basque Country

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19. J. A. Lozano, C. González, P. Larrañaga, and I. Inza (2000). *Analyzing the PBIL algorithm by means of discrete dynamical systems*. Technical Report EHU-KZAA-IK-2-00. Department of Computer Science and Artificial Intelligence. University of the Basque Country

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21. P. Larrañaga, R. Etxeberria, J. A. Lozano, and J. M. Peña (1999). *Optimization by learning and simulation of Bayesian and Gaussian networks*. Technical Report EHU-KZAA-IK-4-99. Department of Computer Science and Artificial Intelligence. University of the Basque Country

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23. I. Inza, P. Larrañaga, R. Etxeberria, and B. Sierra (1999). *Feature subset selection by Bayesian networks based optimization*. Technical Report EHU-KZAA-IK-2-99. Department of Computer Science and Artificial Intelligence. University of the Basque Country

24. I. Inza, M. Merino, P. Larrañaga, J. Quiroga, B. Sierra, and M. Girala (1999). *Feature subset selection by population–based incremental learning. A case study in the survival of cirrhotic patients treated with TIPS*. Technical Report EHU-KZAA-IK-1-99. Department of Computer Science and Artificial Intelligence. University of the Basque Country

25. I. Inza, P. Larrañaga, B. Sierra, M. Niño (1998). *Combination of classifiers. A case study in oncology*. Technical Report EHU-KZAA-IK-1-98. Technical Report EHU-KZAA-IK-1-99. Department of Computer Science and Artificial Intelligence. University of the Basque Country

26. P. Larrañaga, M. Poza, J. A. Diego, and E. Arnaez (1994). *Ayuda al diagnóstico de la respuesta a un programa de rehabilitación de toxicómanos, a través de redes causales probabilísticas y árboles de clasificación inducidos por algoritmos genéticos*. Technical Report EHU-KZAA-IK-4-94. Department of Computer Science and Artificial Intelligence. University of the Basque Country

27. P. Larrañaga, C. M. H. Kuijpers, M. Poza, and R. Murga (1994). *Optimal decomposition of Bayesian networks by genetic algorithms*. Technical Report EHU-KZAA-IK-3-94. Department of Computer Science and Artificial Intelligence. University of the Basque Country

28. P. Larrañaga, C. M. H. Kuijpers, and R. Murga (1994). *Tackling the travelling salesman problem with evolutionary algorithms: representations and operators*. Technical Report EHU-KZAA-IK-2-94. Department of Computer Science and Artificial Intelligence. University of the Basque Country

Awards

1. Fellowship of the European Coordinating Committee for Artificial Intelligence (ECAI-Fellow), Montpellier (2012)

2. Second position on the competition "MEG Mind Reading" on *PASCAL2 and the International Conference on Artificial Neural Networks*, Espoo (2011)

3. Best paper of the *International Society of Applied Intelligence (ISAI)*, Cordoba (2010)

4. First Position on the competition "Biomag Data Analysis Competition 2010" on *Multivariate Classification of MEG brain data*, Dubrovnik, Croacia (2010)

5. Best paper of the *Mexican International Conference on Artificial Intelligence*, Guanajuato, México (2009)

6. Best paper of the *III International Meeting on Artificial Intelligence in Accounting, Finance and Tax*, Huelva (1997)

C. Research Projects

Public Projects

1. *Spanish Network for the Advancement and Transference of Computational Intelligence*. Ministry of Economy, 2012-2012

2. *Spanish Network on Data Mining and Machine Learning*. Ministry of Science and Innovation, 2010-2012

3. *HBP - Human Brain Project*. FET Flagship Initiative Preparatory Actions, 2011-2011

4. *Data Mining with Probabilistic Graphical Models: New Algorithms and Applications*. Ministry of Science and Innovation, 2011-2013

5. *A Biomedical Virtual Lab for Researching Alzheimer Disease. A Framework based on Computational Intelligence*. Ministry of Science and Innovation, 2010-2011

6. *Multi-Dimensional Classifiers based on Probabilistic Graphical Models. Applications in Computer Vision*. Ministry of Science and Innovation, 2009-2010

7. *Cajal Blue Brain Project*. Ministry of Science and Innovation, 2008-2017

8. *Technologies for the Intelligent Universe of the Future*. Center for the Industrial Technological Development, 2008-2011

9. *Incremental Learning of Bayesian Networks with Data Streams*. Ministry of Foreign Affairs and Cooperation, 2008-2009
10. *Assessing Quality of Individual Predictions in Medical Decision Support Systems*. National Institutes of Health, USA (1-R01-LM009520-01), 2007–2010
11. *CONSOLIDER: Multimodal Interaction in Pattern Recognition and Computer Vision*, Ministry of Education and Science, 2007-2012. Project Leader
12. *Computational Intelligence with Probabilistic Graphical Models: From Methodological Development to Efficient Implementations*, Basque Government, 2007-2012
13. *Assessing Quality of Individuals Prediction in Medical Decision Support Systems*. National Institutes of Health, 2007-2010
14. *Spanish Network on Computational Biomedicine*. Carlos III Institute of Health, 2007-2010
15. *Spanish Network on Data Mining and Machine Learning*. Ministry of Science and Technology, 2007-2007
16. *Application of Genomic and Proteomic to the Identification of Therapeutical Targets for Human Autoimmune Systematic Diseases*. Basque Government, 2005-2007
17. *Biomedical Informatics*. University of the Basque Country, 2005-2006. Project Leader
18. *Coordination and Articulation of Research, Development and Innovation based on Soft Computing*. Ministry of Education and Science, 2005-2006
19. *Computational Intelligence with Bayesian Networks, Gaussian Networks and Kikuchi Approximations*. Ministry of Education and Science, 2006-2008
20. *Spanish Network on Probabilistic Graphical Models and Applications*. Ministry of Education and Science, 2005-2006
21. *Methodological Advances and Applications of Estimation of Distribution Algorithms*. Basque Government, 2004–2005
22. *Spanish Net on Data Mining and Machine Learning*. Ministry of Science and Technology, 2005–2005
23. *Spanish Net on Pattern Recognition and Applications*. Ministry of Science and Technology, 2004–2005
24. *Scores for the Selection of Relevant Genes in DNA Microarrays*. Diputación Foral de Gipuzkoa, 2004–2004
25. *Grant for Research Groups*. University of the Basque Country, 2003–2005. Project leader
26. *Knowledge Discovery and Analysis in Genomic and Proteomic for the Development of Products and Services in Health and Life Quality*. Basque Government, 2003–2005
27. *Spanish Net on Data Mining and Machine Learning*. Ministry of Science and Technology, 2003–2004
28. *Spanish Net on Metaheuristics on Optimization*. Ministry of Science and Technology, 2003–2004
29. *Genetic Networks: Modelling the Interaction Between Genes by Means of Bayesian and Gaussian Networks*. Diputación Foral de Gipuzkoa, 2003–2003
30. *Application of Genomic and Proteomic to the Identification of Therapeutic Dianas in Human Autoimun Diseases*. Basque Government, 2002–2004
31. *Modelling Gene Interaction by Means of Bayesian and Gaussian Networks*. Ministry of Health and Consum, 2002–2004. Project leader
32. *Learning of Probabilistic Graphical Models. Application to the Clustering of Data from Microarrays*. Ministry of Science and Technology, 2002-2004. Project leader

33. *Grant to Research Groups*. University of the Basque Country. 2001-2003. Project leader

34. *Recognizing Internal Structures of the Brain by Means of Methods Based on Fuzzy Logic, Bayesian Networks, Genetic Algorithms and Estimation of Distribution Algorithms*. Basque Government, 2001-2003. Project leader

35. *Automatic Generation of Cases for the Validation and Verification of Software by Means of Advanced Optimization Techniques*. Basque Government, 2001-2002

36. *Development of a System for the Meteorological Prediction*. Basque Government, 2001-2001

37. *Recognition of Internal Structures of the Brain with the Help of and Anatomical Atlas and Methodology Based on Graphs and Bayesian Networks*. Ministry of Education and Science, 2000-2001. Project leader

38. *Estimation of Distribution Algorithms in Combinatorial Optimization Problems*. University of the Basque Country, 2000-2000. Project leader

39. *A Parallel Approach to Combinatorial Optimization*. Basque Government, 1999-2000

40. *Automatic Updating of Postal Codes Using Heuristics Applied to Machine Learning and Pattern Recognition*. Diputación Foral of Guipuzcoa, Spain, 1998-1998

41. *Development of Software for Probabilistic Graphical Models*. Ministry of Education and Science, 1997-2000. Project leader

42. *Genetic Algorithms for the Induction of Intelligent Systems with Applications to Oncological Records in the Basque Country*. Basque Government, 1997-1999

43. *Solving the Vehicle Routing Problem with Combinatorial Optimization Heuristics*. Diputación Foral of Guipuzcoa, Spain, 1997-1997

44. *Predicting Enterprise Bakcrupt Using Statistical and Artificial Intelligence Based Classification Techniques*. Diputación Foral of Guipuzcoa, Spain, 1997-1997. Project leader

45. *Structural Learning of Bayesian Networks for Classification*. University of the Basque Country, 1997-1997

46. *Cluster Analysis Applied to Market Segmentation*. Diputación Foral of Guipuzcoa, Spain, 1996-1996

47. *Comparison Between Statistical and Artificial Intelligence Methods for the Prediction of the Surviavl in Breast Cancer*. Diputación Foral of Guipuzcoa, Spain, 1996-1996. Project leader

48. *A Decision Systems based on Graphics, Hypertext and Probabilistic Causal Networks for the Acquisition, Updating of the Knowledge and Decision Making*. Diputación Foral of Guipuzcoa, Spain, 1996-1996

49. *Stocastical Methods and Models for Controling Autonomous Systems: Stocastical Neural Networks, Bayesian Networks and Evolutionary Algorithms*. Basque Government, 1995-1996

50. *High Order Boltzman Machines for the Recognition of Optical Characters*. University of the Basque Country, 1995–1995

51. *Development, Implementation, and Validation of an Algorithm for Learning Bayesian Networks from Data*. Spanish Ministry of Health, 1994-1994

52. *Simulation and Structural Learning of Probabilistic Causal Networks. Application to Pediatrics*. Diputación Foral of Guipuzcoa, Spain, 1994-1994. Project leader

53. *Probabilistic Causal Networks and Sampling Methods Applied to Medical Domains*. Diputación Foral of Guipuzcoa, Spain, 1994-1994. Project leader

54. *Stochastic Methods for Classificacion and Learning: Neural Networks, Bayesian Networks and Classification Trees*. Basque Government, 1993-1994

Private Projects

1. Abbott Products Operations AG. *Probabilistic Mapping PDQ-39/PDQ-8 to EQ-5D* (2011)
2. Atos Origin (P10-1015-100). *Modelos Gráficos Probabilistas Dinámicos y sus Aplicaciones* (2009–2011)
3. Produban (Banco Santander). *Minería de Datos y Geomarketing sobre Datos Financiero/Bancarios* (2009–2010)
4. Panda Security. *Adaptación de Classificadores en Detección de Software Malicioso* (2008)
5. Fundación Gaiker Centro Tecnológico. *Análisis Bioinformático de Microarrays* (2006)
6. Progenika Biopharma, S.A. *Creación de Modelos Estadísticos a Partir de Datos. Clínicos y Genéticos Provenientes de una Muestra de Enfermos con Colitis y Enfermedad de Crohn* (2006)
7. Panda Software S. L. *Asesoría Técnica en Minería de Datos y Reconocimiento de Patrones* (2005)
8. Panda Software S. L. *Análisis Estadístico* (2004)
9. Arvin Meritor. *Clustering Individuals on Tribologic and CAE Data* (2003)
10. MINORPLANET SYSTEMS S.A. *EVAOPTIM* (2001)
11. Vda. de Loinaz y Sobrinos de Mercader. *Desarrollo de Software para la Optimización de la Distribución de Combustibles* (1997)
12. Inguru Consultores. *Seguimiento de la Red de Vigilancia de la Calidad de las Aguas y del Estado Ambiental de los Ríos de la Comunidad Autónoma de Euskadi* (1997)
13. Prospektiker Erakundea. *Proyecto Habitat* (1994)
14. Asociación Proyecto Hombre. *Encuesta al Residente: Tipologías, Redes Bayesianas, Árboles de Clasificación* (1994)
15. Prospektiker Erakundea. *Vivienda. Iberdrola. Valencia* (1993)
16. Sociedad Cultural de Investigación Submarina. *Campaña Estival de Medición de Variables Biológicas en dos Zonas de la Costa de Guipuzcoa Próximas a Hondarriabia y Zumaia* (1993)
17. Prospektiker Erakundea. *Estudio Prospectivo y Estratégico del Consumo de Energía Eléctrica en la C.A.E. en la Perspectiva del Año 2005* (1992)
18. Asociación Proyecto Hombre. *Encuesta al Residente. Aplicación de Técnicas Multivariantes: Tipologías* (1992)
19. Siadeco. *Encuesta Dirigida a los Alumnos de 2^0, 5^0 y 8^0 de E.G.B. del Modelo D* (1992)
20. Ikertalde. *Actualización del Censo de Establecimientos Comerciales en la C.A.P.V. y Elaboración del Informe sobre los Nuevos Comercios del País Vasco Correspondiente al Periodo 1984-1991* (1992)
21. Asociación Vasca de Enfermería. *Actitud de la Mujer ante la Autoexploración de Mamas y Genitales* (1991)
22. Siadeco. *Encuesta Realizada en Iparralde sobre el Euskara y el Francés* (1991)
23. Laboratorio de Sociología Jurídica. *Relación Administración de Justicia - Ciudadano* (1990)
24. Laboratorio de Sociología Jurídica. *El Cuidadano como Justiciable* (1990)
25. Laboratorio de Sociología Jurídica. *Encuesta de Personas con Experiencias en Juicios Civiles o Laborales* (1990)
26. Prospektiker Erakundea. *Estructura y Evolución de las Ocupaciones* (1989)

27. Prospektiker Erakundea. *Alumnos de Formación Profesional en Alternancia* (1989)
28. Siadeco. *La Problemática de la Mujer en Donostia* (1988)
29. Siadeco. *Irakaskuntza eta Berorren Etorkizuna Lea-Artibaiko Bailaran: Hizkuntz–plangintzarako Oinarriak* (1988)
30. Prospektiker Erakundea. *Estudio de las Necesidades de Formación Ocupacional a los Años 1989, 1990, 1991* (1988)
31. Siadeco. *El Euskara y el Mundo del Niño en Eibar* (1987)

D. Teaching and Supervision

Undergraduate Courses

Machine Learning, Information Systems, Mathematical Methods in Computer Sciences, Probabilistic Methods in Artificial Intelligence, Statistical Inference, Operational Research, Probability and Statistics, and Statistics

Master Courses

Data Mining: Methods and Techniques, Bayesian Networks, Bayesian Reasoning with Graphical Models, Machine Learning

Doctorate Courses

Bayesian Reasoning, Probabilistic Graphical Models in Bioinformatics, Learning of Bayesian Networks from Data, Introduction to Research, From Data to Knowledge, Probabilistic Graphical Models, Intelligent Systems Induced by Genetic Algorithms, Intelligent Systems in Molecular Biology, Intelligent Systems in Finances, Applications of Bayesian Networks, Stochastical Methods in Optimization, and Bayesian Networks

Supervised Ph. D. Theses

1. P.L. López-Cruz (2013). *Contributions to Bayesian networks learning with applications to neuroscience* . Ph.D. in Computer Science. Technical University of Madrid
2. H. Karshenas (2013). *Regularized model learning in EDA-s for continuous and multi-objective optimization*. Ph.D. in Computer Science. Technical University of Madrid
3. H. Borchani (2013). *Multi-dimensional classification using Bayesian networks for stationary and evolving streaming data*. Ph.D. in Computer Science. Technical University of Madrid
4. D. Vidaurre (2012). *Regularization for Sparsity in Statistical Analysis and Machine Learning*. Ph.D. in Computer Science. Technical University of Madrid
5. A. Pérez (2010). *Supervised Classification in Continuous Domains with Bayesian Networks*. Ph.D. in Computer Science. University of the Basque Country
6. T. Miquélez (2010). *Avances en Algoritmos de Estimación de Distribuciones. Alternativas en el Aprendizaje y Representación de Problemas*. Ph.D. in Computer Science. University of the Basque Country
7. R. Armañanzas (2009). *Consensus Policies to Solve Bioinformatic Problems Through Bayesian Network Classifiers and Estimation of Distribution Algorithms*. Ph.D. in Computer Science. University of the Basque Country. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country

8. D. Morales (2008). *Modelos Gráficos Probabilísticos Aplicados a la Fecundación en Vitro*. Ph.D. in Computer Science. University of the Basque Country
9. B. Calvo (2008). *Positive Unlabelled Learning with Applications in Computational Biology*. Ph.D. in Computer Science. University of the Basque Country
10. G. Santafé (2008). *Advances on Supervised and Unsupervised Learning of Bayesian Networks Models. Applications to Population Genetics*. Ph.D. in Computer Science. University of the Basque Country
11. T. Romero (2007). *Algoritmos de Estimación de Distribuciones Aplicados a Problemas Combinatorios en Modelos Gráficos Probabilísticos*. Ph.D. in Computer Science. University of the Basque Country
12. C. González (2006). *Contributions on Theoretical Aspects of Estimation of Distribution Algorithms*. Ph.D. in Computer Science. University of the Basque Country
13. R. Santana (2006).*Advances in Probabilistic Graphical Models for Optimization and Learning. Applications in Protein Modelling*. Ph.D. in Computer Science. University of the Basque Country. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country
14. R. Blanco (2005). *Learning Bayesian Networks from Data with Factorization and Classification Purposes. Applications in Biomedicine*. Ph.D. in Computer Science. University of the Basque Country. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country
15. M. Merino (2004). *Predicción de Mortalidad Precoz tras Implantación Percutánea Intrahepátic en Pacientes Cirróticos. Aplicación de Métodos de Clasificación Supervisada*. Ph.D. in Medicine. University of Navarra
16. V. Robles (2003). *Clasificación Supervisada basada en Redes Bayesianas. Aplicación en Biología Computacional*. Ph.D. in Computer Science. Polytechnical University of Madrid
17. E. Bengoetxea (2002). *Inexact Graph Matching Using Estimation of Distribution Algorithms*. Ph.D. in Computer Science. Ecole Nationale Supérieure de Télécomunications of Paris
18. I. Inza (2002). *Advances in Supervised Classification Based on Probabilistic Graphical Models*. Ph.D. in Computer Science. University of the Basque Country. 2002. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country
19. J. M. Peña (2001). *On Unsupervised Learning of Bayesian Networks and Conditional Gaussian Networks*. Ph.D. in Computer Science. University of the Basque Country
20. B. Sierra (2000). *Aportaciones Metodológicas a la Clasificación Supervisada*. Ph.D. in Computer Science. University of the Basque Country. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country
21. J. A. Lozano (1998). *Algoritmos Genéticos Aplicados a la Clasificación no Supervisada*. Ph.D. in Computer Science. University of the Basque Country. Awarded with the best Ph.D. thesis in Engineering in the University of the Basque Country

Supervised Master Theses

1. P. López-Adeva (2013). *Markov Models for the Multivariate von Mises Distribution*. Technical University of Madrid
2. B. Mihaljevic (2013). BAYESCLASS. *An* R *Package for Learning Bayesian Network Classifiers. Applications to Neuroscience*. Technical University of Madrid
3. J. Pérez (2012). *Replicated Spatial Point Processes for Statistical Neuroscience*. Technical University of Madrid
4. M.F. Baguear (2011). *Morphological Study of Dendritic Spines*. Technical University of Madrid
5. P. López-Cruz (2010). *Simulación de Morfologías Dendríticas mediante Redes Bayesianas*. Technical University of Madrid

6. A. Ibáñez (2009). *Técnicas de Aprendizaje Automático Aplicadas a la Bibliometría*. Technical University of Madrid

Supervised Graduate Projects

1. M. Ratón (2008). *Optimización continua basada en algoritmos de estimación de regresión*. Technical University of Madrid
2. Y. Galdiano (2006). *Redes de coexpresión génica a partir de modelos gráficos probabilísticos*. University of the Basque Country
3. A. Diez (2006). *Multiclasificadores en el diagnóstico de cáncer a partir de datos de expresión génica*. University of the Basque Country
4. A. de Antonio (2006). *Alineamiento múltiple de secuencias por medio de algoritmos de estimación de distribuciones*. University of the Basque Country
5. A. Fernández (2005). *Clasificadores Bayesianos en la predicción del Alzheimer a partir de perfiles de expresión génica*. University of the Basque Country
6. F. Vincent (2004). *Analyse de signaux physiologiques*. École Nationale Supérieure des Télécommunications. Paris
7. B. Gil (2004). *Rellenando Quinielas con Clasificadores Bayesianos*. University of the Basque Country
8. I. Ezcurdia (2004). *Detección de Genes Asociados a Diferentes Tipos de Cáncer a Partir del Análisis de Datos de Microchips por Medio de Redes Bayesianas* . University of the Basque Country
9. A. Baranguán (2003). *Optimización de Clasificadores Bayesianos*. University of the Basque Country
10. O. Pérez (2003). *El Algoritmo LEM con Clasificadores Bayesianos*. University of the Basque Country
11. A. Gómez (2003). *Predicción de la Estructura Secundaria de las Proteínas. Combinación de Clasificadores*. University of the Basque Country
12. A. Cerroloza (2002). *Algoritmos Indirectos Discretos para la Selección de Variables en Clasificación Supervisada sobre Microarrays de ADN*. University of the Basque Country
13. E. de la Horra (2001). *www.campusdeportivo.com: Herramientas para Técnicos e Informes de Jugadores*. University of the Basque Country
14. E. Jiménez (2000). *Comparación Empírica entre Simulated Annealing, Algoritmos Genéticos y Algoritmos de Estimación de Distribuciones de Probabilidad en Problemas de Optimización Combinatorial*. University of the Basque Country
15. J. L. Cardoso (2000). *Comparación Empírica entre Algoritmos Genéticos y Algoritmos de Estimación de Distribuciones de Probabilidad en la Búsqueda de Teclados Óptimos*. University of the Basque Country
16. A. Martín (2000). *Algoritmos de Distribuciones de Probabilidad en Cryptografía*. University of the Basque Country
17. I. Garate (1999). *Ikasketa Automatiko Bidezko Kinielen Betetzea*. University of the Basque Country
18. M. Niño (1998). *Nuevo Método de Combinación de Clasificadores de Aprendizaje Automático. Un Caso de Estudio en la Predicción de Bancarrota*. University of the Basque Country
19. S. Dizdarevic (1997). *Statistical and Machine Learning Methods in the Prediction of Corporate Failure*. University of the Basque Country

E. Service to the Academic Community

Editor of Proceedings

1. P. Larrañaga, J. A. Lozano, J. M. Peña, and I. Inza (2003). *Proceedings of the ECML/PKDD - 2003 Workshop on Probabilistic Graphical Models for Classification*. Ruder Bošković Institute

Editor of Journal Special Issues

1. J. A. Lozano, Q. Zhang, P. Larrañaga (2009). Special issue in Evolutionary Algorithms based on Probabilistic Models. *IEEE Transactions on Evolutionary Computation*, Vol. 13, No. 6
2. P. Larrañaga, J. A. Lozano, J. M. Peña, and I. Inza (2005). Special issue in Probabilistic Graphical Models for Classification. *Machine Learning*, 59
3. J. A. Lozano, and P. Larrañaga (2005). Special issue in Estimation of Distribution Algorithms. *Evolutionary Computation*, 13(1)
4. P. Larrañaga, E. Menasalvas, J. M. Peña, and V. Robles (2003). Special issue in Data Mining in Genomics and Proteomics. *Artificial Intelligence in Medicine*, 31
5. P. Larrañaga, and J. A. Lozano (2002). Special issue in Synergies Between Probabilistic Graphical Models and Evolutionary Computation. *International Journal of Approximate Reasoning*, 31

Dissertation Committees

- L. Guerra, Universidad Politécnica de Madrid (2012)
- C. Echegoyen, Universidad del Pais Vasco (2012)
- I. Rodríguez, Universidad Autónoma de Madrid (2012)
- M. J. Cobo, Universidad de Granada (2011)
- M. Correa, Universidad Politécnica de Madrid (2010)
- I. Gurrutxaga, Universidad del Pais Vasco (2010)
- B. Arrieta, Universidad del Pais Vasco (2010)
- J. M. Maudes, Universidad de Burgos (2010)
- M. Vázquez, Universidad Complutense de Madrid (2010)
- K. Pichara, Pontificia Universidad Católica de Chile (2010)
- E.R.C. Morales, Universidad del Pais Vasco (2010)
- F. J. García, Universidad de Granada (2009)
- M. A. Antón, Universidad de Navarra (2009)
- M. Arias, UNED (2009)
- C. Garcia, Universidad de Granada (2008)
- A. Ibarguren, Universidad del País Vasco (2008)
- D. Salas, Universidad de Granada (2008)
- I. Flesch, Radboud University Nijmegen (2008)
- J. M. Martínez, Universidad del País Vasco (2008)
- A. Peñalver, Universidad de Alicante (2007)
- C. Rubio, Universidad de Granada (2007)
- L. de la Ossa, Universidad de Castilla-La Mancha (2007)
- M. García, Universidad de La Laguna (2007)

- R. Sagarna, Universidad del País Vasco (2007)
- V. Segura, Universidad de Navarra (2007)
- Marcel van Gerven, Radboud University Nijmegen (2007)
- J.A. Fernández del Pozo, Universidad Politécnica de Madrid (2006)
- F. Boto, Universidad del País Vasco (2006)
- G. Castillo, Universidad de Aveiro (2006)
- A. Mendiburu, Universidad del País Vasco (2006)
- J. M. Pérez, Universidad del País Vasco (2006)
- J. Rodríguez, Universidad del País Vasco (2006)
- G. Martínez, Universidad Autónoma de Madrid (2006)
- M. J. Flores, Universidad de Castilla La Mancha (2005)
- R. C. Romero, Universidad de Granada (2005)
- J. Bacardit, Universitat Ramon Llull (2005)
- J. L. Sevilla, Universidad de Navarra (2005)
- D. Monett, Humboldt University Berlin (2004)
- J. R. Cano, Universidad de Granada (2004)
- J. J. Rodriguez, Universidad de Valladolid (2004)
- J. Roure, Universitat Politėnica de Catalunya (2004)
- Ana M. González, Universidad Autónoma de Madrid (2004)
- J. Cerquides, Universitat Politėnica de Catalunya (2003)
- R. Rumí, Universidad de Almería (2003)
- J. T. Fernández, Universidad de Murcia (2003)
- P. Bosman, University of Utrecht (2003)
- J. Díez, Universidad de Oviedo (2003)
- E. Bengoetxea, Ecole Nationale Supérieure de Télécomunications, Paris (2002)
- A. D. Pascual, Universidad Autónoma de Madrid (2001)
- E. Bernadó, Universitat Ramon Llull (2001)
- J. M. Puerta, Universidad de Granada (2001)
- I. Rodríguez, Universidad de La Laguna (2000)
- S. Acid, Universidad de Granada (1999)
- J. A. Gámez, Universidad de Granada (1998)
- A. Muñoz, Universidad Politécnica de Valencia (1997)
- M. Lozano, Universidad de Granada (1996)
- A. Lekuona, Universidad de Zaragoza (1996)

Invited Speaker in Universities

- Chile: Pontificia Universidad Católica de Chile
- Czech Republic: University of Economics
- Denmark: University of Aalborg
- Germany: Fraunhofer Institute
- India: Indian Institute of Science
- Portugal: Aveiro University
- Spain: University of Valladolid, University of La Laguna, University of Rey Juan Carlos, University of Carlos III of Madrid, Polytechnical University of Madrid, University of Málaga, Autonomous University of Madrid, Spanish Biotechnology National Center, University of Granada, University of Castilla La Mancha
- South Korea: Seoul National University
- The Netherlands: University of Utrech, Nijmegen University
- Tunisia: Tunis University
- United States of America: Harvard University, Massachusetts Institute of Technology, Pittsburgh University
- United Kingdom: Essex University

Journal Referee:

- ACM Computing Surveys
- Applied Artificial Intelligence
- Artificial Intelligence in Medicine
- Bioinformatics
- BMC Bioinformatics
- Cerebral Cortex
- Complexity
- Computación y Sistemas
- Computational Statistics
- Computational Statistics and Data Analysis
- Computers in Biology and Medicine
- Data Mining and Knowledge Discovery
- Discrete Applied Mathematics
- Electronic Transactions on Artificial Intelligence
- Engineering Applications of Artificial Intelligence
- Engineering Computations: International Journal for Computer–Aided Engineering and Software
- European Journal of Operational Research
- Evolutionary Computation
- Genetic Programming and Evolvable Machines

- Journal of Artificial Intelligence Research
- Journal of Biomedical Informatics
- Journal of Heuristics
- Journal of Machine Learning Research
- Journal of Mathematical Modelling
- Journal of Parallel and Distributed Computing
- IEEE/ACM Transactions on Computational Biology and Bioinformatics
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Information Technology in Biomedicine
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Systems, Man, and Cybernetics
- Information Processing and Management
- Information Sciences
- Inteligencia Artificial. Revista Iberoamericana de Inteligencia Artificial
- International Journal of Approximate Reasoning
- International Journal of Computer Mathematics
- International Journal of Electronic Power and Energy Systems
- International Journal of Intelligent Systems
- International Journal of Hybrid Intelligent Systems
- International Journal of Uncertainty, Fuzziness and Knowledge–Based Systems
- International Journal on Artificial Intelligence Tools
- Medical, Biological Engineering and Computing
- Neurocomputing
- Pattern Analysis and Applications
- Pattern Recognition
- Pattern Recognition Letters
- PLOS One
- Proceedings of the National Academy of Science
- Soft Computing
- Zentralblatt MATH

Plenary Talks in Conferences

- International Symposium on Computer-Based Medical Systems (CBMS), Porto (2013)
- Probabilistic Graphical Models in Europe (PGM), Granada (2012)

- A Bridge Between Probability, Set Oriented Numerics and Evolutionary Computation, (EVOLVE), Mexico (2012)
- IEEE World Congress on Computational Intelligence (WCCI), Barcelona (2010)
- Simposio Argentino de Inteligencia Artificial (ASAI), Buenos Aires (2010)
- Tercer Congreso Internacional de Computación Evolutiva, Aguascalientes (2007)
- Mini Euro Conference on Variable Neighborhood Search, Tenerife (2005)
- X Conference of the Spanish Artificial Intelligence Association, Gijón (2003)
- International Summer School on Metaheuristics, Tenerife (2003)
- Mexican Conference on Artificial Intelligence, Merida (2002)
- Intelligent Data Analysis in Medicine and Pharmacology in the European Conference on Artificial Intelligence (ECAI2002), Lyon (2002)

Organizer of Congress and Scientific Events

1. *Co-Chair of the Special Session on Evolutionary Algorithms with Statistical and Machine Learning Techniques at the Congress on Evolutionary Conference, CEC2013*, Cancun, (2013)
2. *Co-Chair of the Congress on Evolutionary Conference, CEC2010*, Barcelona, (2010)
3. *IX Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Madrid (2010)
4. *VIII Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Madrid (2009)
5. *VII Jornada de Seguimiento de Proyectos en Tecnologías Informáticas*, Zaragoza (2007)
6. *Intelligent Data Analysis 2005*, Madrid (2005)
7. *14^{th} European Conference on Machine Learning – 7^{th} European Conference on Principles and Practice of Knowledge Discovery. Workshop on Probabilistic Graphical Models for Classification*, Cavtat–Dubrovnik (2003)
8. *International Symposium on Adaptive Systems: Evolutionary Computation and Probabilistic Graphical Models*, La Habana (2001)

Program Committee Member

1. International Joint Conference on Artificial Intelligence, IJCAI2013, Beijing, 2013
2. 14th Conference on Artificial Intelligence in Medicine (AIME2013), Murcia, 2013
3. Internationa Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO2013, Granada
4. XV Conferencia de la Asociación Española para Inteligencia Artificial (CAEPIA'13), Madrid, 2013
5. 27th Conference on Uncertainty in Artificial Intelligence (UAI-2011), Catalina Island, 2012
6. Prestigiuos Applications of Intelligent Systems in the European Conference on Artificial Intelligence (ECAI2012), Montpellier, 2012
7. IEEE Word Congress on Computational Intelligence (WCCI2012), Brisbane, 2012
8. Genetic and Evolutionary Conference (GECCO2012), Atlanta, 2012
9. First International Conference on Pattern Recognition Applications and Methods (ICPRAM2012), Algarve, 2012
10. Sixth European Workshop on Probabilistic Graphical Models (PGM'12), Granada, 2012

11. Conferencia de la Asociación Española de Inteligencia Artificial, CAEPIA2011, San Cristóbal de La Laguna, 2011
12. Probabilistic Problem Solving in Biomedicine in the 13th Conference on Artificial Intelligence in Medicine (AIME2011), Bled, 2011
13. Genetic and Evolutionary Conference (GECCO2011), Dublin, 2011
14. 26th Conference on Uncertainty in Artificial Intelligence (UAI-2011), Barcelona, 2011
15. Intelligent Data Analysis Conference, IDA2011, Porto, 2011
16. International Joint Conference on Artificial Intelligence, IJCAI2011, Barcelona, 2011
17. 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
18. 26th Conference on Uncertainty in Artificial Intelligence (UAI-2010), Catalina Island (California, EEUU), 2010
19. Fifth European Workshop on Probabilistic Graphical Models (PGM'10), Helsinki (Finlandia), 2010
20. 13th International Conference on Discovery Science (DS-2010), Canberra (Australia), 2010
21. ASAI 2010 Simposio Argentino de Inteligencia Artificial, Buenos Aires, 2010
22. 27th International Conference on Machine Learning, ICML2010, Haifa, 2010 Intelligent Data Analysis, IDA2010, Tucson (Arizona), 2010
23. 13th International Conference on Information Processing and management of Uncertainty in Knowledge-Based Systems, Dortmund, 2010
24. European Conference on Machine Learning, ECML2010, Barcelona, 2010
25. 20th Brazilian Symposium on Artificial Intelligence, SBIA2010, Sao Bernardo do Campo, 2010
26. Congreso Español sobre Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, MAEB2010, Valencia, 2010
27. 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD2010, Hyderabad, 2010
28. Congress on Evolutionary Computation, CEC2010, Barcelona, 2010
29. 12th Conference on Artificial Intelligence in Medicine, AIME2009, Verona, 2009
30. Congress on Evolutionary Computation, CEC2009, Trondheim, 2009
31. 22nd International Florida Artificial Intelligence Research Society Conference, FLAIRS-22, Sanibel Island, 2009
32. Genetic and Evolutionary Computation Conference, GECCO2009, Montreal, 2009
33. Conferencia de la Asociación Española de Inteligencia Artificial, CAEPIA2009, Sevilla, 2009
34. Discovery Science, DS2009, Porto, 2009
35. Mexican International Conference on Artificial Intelligence, MICAI2009, Guanajuato, 2009
36. International Conference on Adaptive and Natural Computing Algorithms, ICANNGA2009, Kuopio, 2009
37. Intelligent Data Analysis, IDA2009, Lyon, 2009
38. European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty, ECSQARU2009, Verona, 2009

39. FLAIRS Conference, FLAIRS2009, Sanibel Island, 2009
40. Congreso Español sobre Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, MAEB2009, Malaga, 2009
41. Asian Conference on Machine Learning, ACML2009, Nanjing, 2009
42. International Joint Conference on Artificial Intelligence, IJCAI2009, Pasadena, 2009
43. Genetic and Evolutionary Computation Conference, GECCO2008, Atlanta, 2008
44. IEEE World Congress on Computational Intelligence, WCCI2008, Hong Kong, 2008
45. IV International Symposium on Applications of Modelling as an Innovative Technology in the Agri-Food Chain, MODEL-IT2008, Madrid, 2008
46. 8th International Conference on Hybrid Intelligent Systems, HIS2008, Barcelona, 2008
47. International Conference on Machine Learning, ICML2008, Helsinki, 2008
48. European Conference on Artificial Intelligence, ECAI2008, Patras, 2008
49. Parallel Problem Solving from Nature, PPSN2008, Dortmund, 2008
50. International Conference on Adaptive and Natural Computing Algorithms, ICANNGA2009, Kuopio, 2009
51. Intelligent Data Analysis in Medicine and Pharmacology, IDAMAP2008, Washington, 2008
52. Feature Selection in Data Mining and Knowledge Discovery, FSDM2008, Antwerp, 2008
53. Artificial Intelligence in Medicine, AIME2007, Amsterdam, 2007
54. International Conference on Artificial Intelligence and Applications, AIA 2007, Innsbruck, 2007
55. International Conference on Adaptive and Natural Computing Algorithms, ICANNGA 2007, Warsaw, 2007
56. European Conference on Symbolic and Quantitative Approaches to Reasoning and Uncertainty, ECSQARU2007, Hammamet, 2007
57. International Conference on Natural Computation, ICNC2007, Haikon, 2007
58. Conferencia de la Asociación Española para la Inteligencia Artificial, Salamanca, 2007
59. European Conference on Machine Learning (Area Chair), ECML-PKDD2007, Warsaw, 2007
60. Intelligent Data Analysis in bioMedicine and Pharmacology, Amsterdam, 2007
61. Genetic Algorithms and Evolutionary Computation, GECCO2007, Londres, 2007
62. Data Warehousing and OLAP, DAWAK2007, Regensburg, 2007
63. Uncertainty in Artificial Intelligence, UAI2007, Vancouver, 2007
64. Intelligent Data Analysis, IDA2007, Ljubljana, 2007
65. IEEE Congress on Evolutionary Computation, CEC2007, Singapore, 2007
66. Jornadas de Algoritmos Evolutivos y Metaheurísticas, JAEM2007, Zaragoza, 2007
67. Intelligent Data Analyisis in Biomedicine and Pharmacology, IDAMAP2006, Verona, 2006
68. Genetic and Evolutionary Computation Conference, GECCO2006, Seattle, 2006
69. Congress on Evolutionary Computation, CEC2006, Vancouver, 2006
70. European Conference on Artificial Intelligence, ECAI2006, Italia, 2006

71. Data Warehousing and Knowledge Discovery, DaWaK2006, Krakow, 2006
72. European Conference on Machine Learning, ECML-PKDD2006, Berlin, 2006
73. Probabilistic Graphical Models, PGM2006, Praga, 2006
74. 7th International Symposium on Biological and Medical Data Analysis, Thessaloniki, 2006
75. Non-Darwinian Evolutionary Computation Special Track at the 18th International Conference on Tools with Artificial Intelligence, ICTAI 2006, Washington, 2006
76. Mini Euro Conference on Variable Neighborhood Search, Tenerife, 2005
77. International Symposium on Biological and Medical Data Analysis, ISBMDA2005, Aveiro, 2005
78. Cuarto Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, Granada, 2005
79. ICMI 2005, Tunez, 2005
80. Conference on Evolutionary Computation, CEC2005, Edinburgh,2005
81. Genetic and Evolutionary Computation, GECC02005, Washington, 2005
82. International Conference on Machine Learning. Workshop on Ontology Learning, ICML2005, Bonn, 2005
83. Mexican International Conference on Artificial Intelligence, MICAI2005, Monterrey, 2005
84. 7th International Conference on Adaptive and Natural Computing Algorithms, ICANNGA2005, Coimbra, 2005
85. Segundo Congreso Mexicano de Computación Evolutiva, COMCEV2005, AguasCalientes, 2005
86. Intelligent Data Analysis, Madrid, 2005
87. International Symposium on Biological and Medical Data Analysis, ISBMDA2005, Aveiro, 2005
88. Cuarto Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, MAEB2005, Granada, 2005
89. ICMI 2005, Tunez, 2005
90. Conference on Evolutionary Computation, CEC2005, Edinburgh, 2005
91. Genetic and Evolutionary Computation, GECC02005, Washington, 2005
92. International Conference on Machine Learning. Workshop on Ontology Learning, ICML2005, Bonn, 2005
93. Mexican International Conference on Artificial Intelligence, MICAI2005, Monterrey, 2005
94. 7th International Conference on Adaptive and Natural Computing Algorithms, ICANNGA2005, Coimbra, 2005
95. Segundo Congreso Mexicano de Computación Evolutiva, AguasCalientes, 2005
96. Mini Euro Conference on Variable Neighborhood Search, Tenerife, 2005
97. European Conference on Symbolic and Quantitative Approach to Reasoning and Uncertainty, ECSQARU2005, Barcelona, 2005
98. European Conference on Computational Biology, ECCB2005, Madrid, 2005
99. Fifth International Conference on Artificial Neural Nets and Genetic Algorithms, ICANNGA2005, Coimbra, 2005
100. V Annual Spanish Bioinformatics Conference, Barcelona, 2004

101. Uncertainty in Artificial Intelligence, UAI2004, Banff, 2004
102. First Iberoamerican Workshop on Machine Learning for Scientific Data Analysis, Puebla, 2004
103. Iberoamerican Conference on Artificial Intelligence, IBEARMIA2004, Puebla, 2004
104. Information Processing and Management Uncertainty, IPMU2004, Perugia, 2004
105. PPSNVIII Parallel Problem Solving From Nature, Birmingham, 2004
106. European Conference on Artificial Intelligence, ECAI2004, Valencia, 2004
107. Tercer Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, Cordoba, 2004
108. Genetic and Evolutionary Conference, GECCO2004, Seatle, 2004
109. Second European Workshop on Probabilistic Graphical Models, PGM2004, Leiden, 2004
110. Mexican International Conference on Artificial Intelligence, MICAI2004, Morelia, 2004
111. International Symposium on Medical Data Analysis, ISMDA2003, Berlin, 2003
112. International Joint Conference on Artificial Intelligence, IJCAI2003, Acapulco, 2003
113. Genetic and Evolutionary Conference, GECCO2003, Chicago, 2003
114. Ninth European Conference on Artificial Intelligence in Medicine 2003. Joint Workshop Intelligent Data Analysis in Medicine and Pharmacology 2003 and Knowledge–Based Information Management in Anaesthesia and Intensive Care 2003, Cyprus, 2003
115. Segundo Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, Gijón, 2003
116. Primer Congreso Mexicano de Computación Evolutiva, COMCEV2003, Guanajuato, 2003
117. Fifth International Conference on Artificial Neural Nets and Genetic Algorithms, ICANNGA2003, Rhoen, 2003
118. First European Workshop on Probabilistic Graphical Models, PGM2002, Cuenca, 2002
119. PPSNVII Parallel Problem Solving From Nature, Granada, 2002
120. 15th European Conference on Artificial Intelligence. Workshop of Intelligent Data Analysis in Medicine and Pharmacology, IDAMAP2002, Lyon, 2002
121. Mexican International Conference on Artificial Intelligence, MICAI2002, Mérida, 2002
122. Congreso Español de Algoritmos Evolutivos y Bioinspirados, Mérida, 2002
123. Optimization by Building and Using Probabilistic Models, GECCO2001, San Francisco, 2001
124. Fourteenth European Conference on Artificial Intelligence in Medicine. Workshop on Bayesian Models in Medicine, Cascais, 2001
125. International Symposium on Medical Data Analysis, ISMDA2001, Madrid, 2001
126. International Symposium on Adaptive Systems, La Habana, 2001
127. International Conference in Machine Learning, ICML2001, Seatle, 2001
128. IX Conferencia de la Asociación Española de Inteligencia Artificial, CAEPIA2001, Gijón, 2001
129. IX Symposium Nacional de Reconocimiento de Formas y Análisis de Imágenes, Castellón de la Plana, 2001
130. International Conference on Artificial Neural Nets and Genetic Algorithms, ICANNGA2001, Praga, 2001

131. Optimization by Building and Using Probabilistic Models, GECCO2000, Las Vegas, 2000
132. International Symposium on Medical Data Analysis, ISMDA2000, Frankfurt, 2000
133. Fourteenth European Conference on Artificial Intelligence, ECAI2000, Berlin, 2000
134. 8th International Conference on Information Processing and Management of Uncertainty in Knowledge Based Systems, Madrid, 2000
135. VIII Conferencia de la Asociación Española para la Inteligencia Artificial, Murcia, 1999
136. Fourth International Conference on Artificial Neural Nets and Genetic Algorithms, Portorož, 1999
137. IV Jornadas de Informática, Las Palmas de Gran Canaria, 1998
138. Third International Conference on Artificial Neural Nets and Genetic Algorithms, Norwich, 1997

Session Chair of Conferences

1. Memetic, Multimeme, and Hybrid Algorithms in *Congress on Evolutionaty Computation*, Barcelona (2010)
2. Applications in the *Fifth European Workshop on Probabilistic Graphical Models*, Helsinki (2010)
3. Soft Computing in the *Indo-Spain Workshop on Information and Communication Technology*, Bangalore (2010)
4. Evolutionary Algorithms Based on Probabilistic Models in the *Congress on Evolutionary Computation*, Seatle (2006)
5. Algoritmos Evolutivos: Fundamentos II in the *MAEB*, Granada (2005)
6. Bayesian Statistics in the *European Conference on Machine Learning*, Porto (2005)
7. Algorithms in the *4th European Conference on Computational Biology*, Madrid (2005)
8. Computación Evolutiva in the *X Conferencia de la Asociación Española de Inteligencia Artificial*, San Sebastián (2003)
9. Machine Learning II in the *VIII Iberoamerican Conference on Artificial Intelligence*, Seville (2002)
10. Learning in Graphical Models in the *First European Workshop in Probabilistic Graphical Models*, Cuenca (2002)
11. Machine Learning in the *Second International Symposium on Medical Data Analysis*, Madrid (2001)
12. Computación Evolutiva in the *IX Conferencia de la Asociación Española para la Inteligencia Artificial*, Gijón (2001)

Tutorials

- 14th Conference on Artificial Intelligence in Medicine, Murcia (2013)
- XIV Conference of the Spanish Artificial Intelligence Association, Tenerife (2011)
- Discovery Science, Porto (2010)
- Conferencia Espaõla de Informática, Valencia (2010)
- Congress on Evolutionary Computation, Edinburgh 2005
- Congress on Evolutionary Computation, Canberra 2003
- VIII Iberoamerican Conference on Artificial Intelligence, Seville 2002
- Parallel Problem Solving from Nature VII, Granada (2002)

- Mexican International Conference on Artificial Intelligence, Merida (2002)
- IX Conference of the Spanish Artificial Intelligence Association, Gijón (2001)
- International Symposium on Adaptive Systems. Evolutionary Computation and Probabilistic Graphical Models, Havana (2001)
- Parallel Problem Solving from Nature VI, Paris (2000)

Member of Evaluating Committees

1. *The Israel Science Foundation*, Jerusalem
2. *Swiss National Science Foundation*, Berna
3. *Fonds de la Recherche Scientifique*, Paris
4. *Fonds de la Recherche Scientifique - FNRS, agence de financement de la recherche pour la Belgique francophone*, Bruselas
5. *ICREA Academia*, Barcelona
6. *Junta de Andalucia*, Córdoba
7. *Gobierno de Castilla y León*, Valladolid
8. *Gobierno de Aragón*, Zaragoza
9. *Generalitat Valenciana*, Valencia
10. *Ruder Bošković*, Zagreb
11. *Austrian Science Fund*, Viena
12. *Comité de Evaluadores de Proyectos en Tecnologías de la Información*, Spanish Ministry of Science and Technology, Madrid
13. *European Coordinating Committee for Artificial Intelligence*, European Conference on Artificial Intelligence, Edimburgh
14. *Fundación Séneca*, Murcia
15. *Agencia Nacional de Evaluación y Prospectiva*, Madrid
16. *Council of Physical Sciences of NWO (Computer Science)*, Netherlands Organization for Scientific Research, La Haya

Managing

- Academic Secretary of the Computer Science School of the University of the Basque Country (1988–1991)
- Expert Manager of Computer Technology area, Deputy Directorate of research projects, of the Spanish Ministry of Science and Innovation (2007–2010)
- Member of the Committee for the Evaluation of the Research Activities of the University Professors, Spanish Ministry of Education (2010–2011)

Patents

- *Methods and Kits for the Diagnosis and the Staging of Colorectal Cancer*. A. García, B. Suarez, M. Betanzos, G. López, R. Armañanzas, I. Inza, P. Larrañaga. WO-2010-034794
- *Test Predictor de Supervivencia Global de Adenocarcinoma de Pulmón*. R. García, J. M. Paramio, P. Larrañaga, C. Bielza. P-2010-31626