

# Esperanza Garcia-Gonzalo

## List of Publications by Citations

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74  
papers

1,568  
citations

20  
h-index

38  
g-index

79  
ext. papers

1,929  
ext. citations

3.4  
avg, IF

5.06  
L-index

#	Paper	IF	Citations
74	Support Vector Machines Used to Estimate the Battery State of Charge. <i>IEEE Transactions on Power Electronics</i> , <b>2013</b> , 28, 5919-5926	7.2	214
73	Hybrid PSO-SVM-based method for forecasting of the remaining useful life for aircraft engines and evaluation of its reliability. <i>Reliability Engineering and System Safety</i> , <b>2015</b> , 138, 219-231	6.3	159
72	PSO: A powerful algorithm to solve geophysical inverse problems. <i>Journal of Applied Geophysics</i> , <b>2010</b> , 71, 13-25	1.7	129
71	PM concentration forecasting in the metropolitan area of Oviedo (Northern Spain) using models based on SVM, MLP, VARMA and ARIMA: A case study. <i>Science of the Total Environment</i> , <b>2018</b> , 621, 753-761	10.2	91
70	Stochastic Stability Analysis of the Linear Continuous and Discrete PSO Models. <i>IEEE Transactions on Evolutionary Computation</i> , <b>2011</b> , 15, 405-423	15.6	90
69	The PSO family: deduction, stochastic analysis and comparison. <i>Swarm Intelligence</i> , <b>2009</b> , 3, 245	3	70
68	Battery State-of-Charge Estimator Using the MARS Technique. <i>IEEE Transactions on Power Electronics</i> , <b>2013</b> , 28, 3798-3805	7.2	62
67	Particle swarm optimization applied to solving and appraising the streaming-potential inverse problem. <i>Geophysics</i> , <b>2010</b> , 75, WA3-WA15	3.1	57
66	The Generalized PSO: A New Door to PSO Evolution. <i>Journal of Artificial Evolution and Applications</i> , <b>2008</b> , 2008, 1-15		49
65	Theoretical analysis of particle swarm trajectories through a mechanical analogy. <i>International Journal of Computational Intelligence Research</i> , <b>2008</b> , 4,	0	39
64	Reservoir characterization and inversion uncertainty via a family of particle swarm optimizers. <i>Geophysics</i> , <b>2012</b> , 77, M1-M16	3.1	36
63	A hybrid PSO optimized SVM-based model for predicting a successful growth cycle of the <i>Spirulina platensis</i> from raceway experiments data. <i>Journal of Computational and Applied Mathematics</i> , <b>2016</b> , 291, 293-303	2.4	33
62	Hybrid PSO-SVM-based method for long-term forecasting of turbidity in the Nalā river basin: A case study in Northern Spain. <i>Ecological Engineering</i> , <b>2014</b> , 73, 192-200	3.9	32
61	A hybrid PCA-CART-MARS-based prognostic approach of the remaining useful life for aircraft engines. <i>Sensors</i> , <b>2015</b> , 15, 7062-83	3.8	29
60	A comparison of several machine learning techniques for the centerline segregation prediction in continuous cast steel slabs and evaluation of its performance. <i>Journal of Computational and Applied Mathematics</i> , <b>2018</b> , 330, 877-895	2.4	28
59	Forecast of the higher heating value in biomass torrefaction by means of machine learning techniques. <i>Journal of Computational and Applied Mathematics</i> , <b>2019</b> , 357, 284-301	2.4	26
58	Convergence and stochastic stability analysis of particle swarm optimization variants with generic parameter distributions. <i>Applied Mathematics and Computation</i> , <b>2014</b> , 249, 286-302	2.7	23

57	STOCHASTIC STABILITY AND NUMERICAL ANALYSIS OF TWO NOVEL ALGORITHMS OF THE PSO FAMILY: PP-GPSO AND RR-GPSO. <i>International Journal on Artificial Intelligence Tools</i> , <b>2012</b> , 21, 1240011	0.9	23
56	Water eutrophication assessment relied on various machine learning techniques: A case study in the Englishmen Lake (Northern Spain). <i>Ecological Modelling</i> , <b>2019</b> , 404, 91-102	3	22
55	Uncertainty assessment for inverse problems in high dimensional spaces using particle swarm optimization and model reduction techniques. <i>Mathematical and Computer Modelling</i> , <b>2011</b> , 54, 2889-2899		21
54	A new predictive model based on the PSO-optimized support vector machine approach for predicting the milling tool wear from milling runs experimental data. <i>International Journal of Advanced Manufacturing Technology</i> , <b>2016</b> , 86, 769-780	3.2	20
53	Predictive modelling of the higher heating value in biomass torrefaction for the energy treatment process using machine-learning techniques. <i>Neural Computing and Applications</i> , <b>2019</b> , 31, 8823-8836	4.8	20
52	A hybrid PSO optimized SVM-based method for predicting of the cyanotoxin content from experimental cyanobacteria concentrations in the Trasona reservoir: A case study in Northern Spain. <i>Applied Mathematics and Computation</i> , <b>2015</b> , 260, 170-187	2.7	17
51	Pressure drop modelling in sand filters in micro-irrigation using gradient boosted regression trees. <i>Biosystems Engineering</i> , <b>2018</b> , 171, 41-51	4.8	16
50	A hybrid wavelet kernel SVM-based method using artificial bee colony algorithm for predicting the cyanotoxin content from experimental cyanobacteria concentrations in the Trasona reservoir (Northern Spain). <i>Journal of Computational and Applied Mathematics</i> , <b>2017</b> , 309, 587-602	2.4	15
49	Air Quality Modeling Using the PSO-SVM-Based Approach, MLP Neural Network, and M5 Model Tree in the Metropolitan Area of Oviedo (Northern Spain). <i>Environmental Modeling and Assessment</i> , <b>2018</b> , 23, 229-247	2	14
48	A New Predictive Model for the State-of-Charge of a High-Power Lithium-Ion Cell Based on a PSO-Optimized Multivariate Adaptive Regression Spline Approach. <i>IEEE Transactions on Vehicular Technology</i> , <b>2016</b> , 65, 4197-4208	6.8	14
47	Particle Swarm Optimization (PSO): a simple and powerful algorithm family for geophysical inversion <b>2008</b> ,		14
46	Hard-Rock Stability Analysis for Span Design in Entry-Type Excavations with Learning Classifiers. <i>Materials</i> , <b>2016</b> , 9,	3.5	13
45	A new predictive model for the filtered volume and outlet parameters in micro-irrigation sand filters fed with effluents using the hybrid PSOSVM-based approach. <i>Computers and Electronics in Agriculture</i> , <b>2016</b> , 125, 74-80	6.5	13
44	How to design a powerful family of particle swarm optimizers for inverse modelling. <i>Transactions of the Institute of Measurement and Control</i> , <b>2012</b> , 34, 705-719	1.8	12
43	A hybrid DE optimized wavelet kernel SVR-based technique for algal atypical proliferation forecast in La Barca reservoir: A case study. <i>Journal of Computational and Applied Mathematics</i> , <b>2020</b> , 366, 112417	7.4	12
42	Estimation of PM10 concentration from air quality data in the vicinity of a major steelworks site in the metropolitan area of Avilá (Northern Spain) using machine learning techniques. <i>Stochastic Environmental Research and Risk Assessment</i> , <b>2018</b> , 32, 3287-3298	3.5	11
41	Modeling pressure drop produced by different filtering media in microirrigation sand filters using the hybrid ABC-MARS-based approach, MLP neural network and M5 model tree. <i>Computers and Electronics in Agriculture</i> , <b>2017</b> , 139, 65-74	6.5	10
40	Hybrid PSOMARS-based model for forecasting a successful growth cycle of the <i>Spirulina platensis</i> from experimental data in open raceway ponds. <i>Ecological Engineering</i> , <b>2015</b> , 81, 534-542	3.9	10

39	Using evolutionary multivariate adaptive regression splines approach to evaluate the eutrophication in the Pozo de la Dolores lake (Northern Spain). <i>Ecological Engineering</i> , <b>2016</b> , 94, 136-151	3.9	10
38	Air quality modeling in the Oviedo urban area (NW Spain) by using multivariate adaptive regression splines. <i>Environmental Science and Pollution Research</i> , <b>2015</b> , 22, 6642-59	5.1	9
37	Prediction of outlet dissolved oxygen in micro-irrigation sand media filters using a Gaussian process regression. <i>Biosystems Engineering</i> , <b>2020</b> , 195, 198-207	4.8	9
36	Estimation of water table from self-potential data using particle swarm optimization (PSO) <b>2008</b> ,		9
35	Modeling algal atypical proliferation using the hybrid DEMARSBased approach and M5 model tree in La Barca reservoir: A case study in northern Spain. <i>Ecological Engineering</i> , <b>2019</b> , 130, 198-212	3.9	6
34	Particle swarm optimisation: time for uniformisation. <i>International Journal of Computing Science and Mathematics</i> , <b>2013</b> , 4, 16	0.8	6
33	What Makes Particle Swarm Optimization a Very Interesting and Powerful Algorithm?. <i>Adaptation, Learning, and Optimization</i> , <b>2011</b> , 37-65	0.7	6
32	A New Predictive Model Based on the ABC Optimized Multivariate Adaptive Regression Splines Approach for Predicting the Remaining Useful Life in Aircraft Engines. <i>Energies</i> , <b>2016</b> , 9, 409	3.1	6
31	Cyanotoxin level prediction in a reservoir using gradient boosted regression trees: a case study. <i>Environmental Science and Pollution Research</i> , <b>2018</b> , 25, 22658-22671	5.1	6
30	Modeling of the algal atypical increase in La Barca reservoir using the DE optimized least square support vector machine approach with feature selection. <i>Mathematics and Computers in Simulation</i> , <b>2019</b> , 166, 461-480	3.3	5
29	Evolution and forecasting of PM10 concentration at the Port of Gijon (Spain). <i>Scientific Reports</i> , <b>2020</b> , 10, 11716	4.9	5
28	Predictive modelling of eutrophication in the Pozo de la Dolores lake (Northern Spain) by using an evolutionary support vector machines approach. <i>Journal of Mathematical Biology</i> , <b>2018</b> , 76, 817-840	2	5
27	Using Apparent Density of Paper from Hardwood Kraft Pulps to Predict Sheet Properties, based on Unsupervised Classification and Multivariable Regression Techniques. <i>BioResources</i> , <b>2015</b> , 10,	1.3	4
26	Particle Swarm Optimization in High Dimensional Spaces. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 496-503		4
25	Particle Swarm Optimization: A Powerful Family of Stochastic Optimizers. Analysis, Design and Application to Inverse Modelling. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 1-8	0.9	4
24	Hybrid ABC Optimized MARS-Based Modeling of the Milling Tool Wear from Milling Run Experimental Data. <i>Materials</i> , <b>2016</b> , 9,	3.5	4
23	A new predictive model for the outlet turbidity in micro-irrigation sand filters fed with effluents using Gaussian process regression. <i>Computers and Electronics in Agriculture</i> , <b>2020</b> , 170, 105292	6.5	3
22	Prediction of Five Softwood Paper Properties from its Density using Support Vector Machine Regression Techniques. <i>BioResources</i> , <b>2015</b> , 11,	1.3	3

21	Predicting Benzene Concentration Using Machine Learning and Time Series Algorithms. <i>Mathematics</i> , <b>2020</b> , 8, 2205	2.3	3
20	A new hybrid model to foretell thermal power efficiency from energy performance certificates at residential dwellings applying a Gaussian process regression. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 6627-6640	4.8	3
19	A new predictive model for the cyanotoxin content from experimental cyanobacteria concentrations in a reservoir based on the ABC optimized support vector machine approach: A case study in Northern Spain. <i>Ecological Informatics</i> , <b>2015</b> , 30, 49-59	4.2	2
18	A New Predictive Model for Evaluating Chlorophyll-a Concentration in Tanes Reservoir by Using a Gaussian Process Regression. <i>Water Resources Management</i> , <b>2020</b> , 34, 4921-4941	3.7	2
17	AMTCLAB: A MATLAB <sup>®</sup> -based program for traveltime analysis and velocity tuning in 2D elliptical anisotropic media. <i>Computers and Geosciences</i> , <b>2009</b> , 35, 2057-2064	4.5	2
16	Predictive model of gas consumption and air emissions of a lime kiln in a kraft process using the ABC/MARS-based technique. <i>International Journal of Advanced Manufacturing Technology</i> , <b>2019</b> , 100, 1549-1562	3.2	2
15	Detection of outliers in pollutant emissions from the Soto de Ribera coal-fired power plant using functional data analysis: a case study in northern Spain. <i>Environmental Science and Pollution Research</i> , <b>2020</b> , 27, 8-20	5.1	2
14	A Hybrid Predictive Approach for Chromium Layer Thickness in the Hard Chromium Plating Process Based on the Differential Evolution/Gradient Boosted Regression Tree Methodology. <i>Mathematics</i> , <b>2020</b> , 8, 959	2.3	1
13	PSO Advances and Application to Inverse Problems. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 147-154	0.9	1
12	Detection of Outliers in Pollutant Emissions from the Soto de Ribera Coal-Fired Plant Using Functional Data Analysis: A Case Study in Northern Spain. <i>Proceedings (mdpi)</i> , <b>2018</b> , 2, 1473	0.3	1
11	Prediction of the critical temperature of a superconductor by using the WOA/MARS, Ridge, Lasso and Elastic-net machine learning techniques. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 17131	4.8	1
10	A Multivariate Approach to Time Series Forecasting of Copper Prices with the Help of Multiple Imputation by Chained Equations and Multivariate Adaptive Regression Splines. <i>Advances in Intelligent Systems and Computing</i> , <b>2021</b> , 691-701	0.4	0
9	Modeling algal atypical proliferation in La Barca reservoir using L-SHADE optimized gradient boosted regression trees: a case study. <i>Neural Computing and Applications</i> , <b>2021</b> , 33, 7821-7838	4.8	0
8	Modeling eutrophication risks in Tanes reservoir by using a hybrid WOA optimized SVR-relied technique along with feature selection based on the MARS approximation. <i>Stochastic Environmental Research and Risk Assessment</i> , 1	3.5	
7	Missing Data Imputation for Continuous Variables Based on Multivariate Adaptive Regression Splines. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 73-85	0.9	
6	Time Series Analysis for the COMEX Copper Spot Price by Using Support Vector Regression. <i>Advances in Intelligent Systems and Computing</i> , <b>2021</b> , 702-708	0.4	
5	Particle Swarm Optimization and Inverse Problems. <i>Advances in Intelligent and Soft Computing</i> , <b>2010</b> , 289-296		
4	Aligned PSO for Optimization of Image Processing Methods Applied to the Face Recognition Problem. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 642-651	0.9	

- 3 Modelling energy performance using a new hybrid DE/MARS-based approach for fossil-fuel thermal power stations. *Environmental Science and Pollution Research*, **2021**, 28, 4417-4429 5.1
- 2 Time Series Analysis for the COMEX Gold Spot Price Forecasting by Using NARX DE/SVR and DE/GPR Techniques. *Advances in Intelligent Systems and Computing*, **2022**, 145-154 0.4
- 1 Time Series Forecasting of Gold Prices with the Help of Its Decomposition and Multivariate Adaptive Regression Splines. *Advances in Intelligent Systems and Computing*, **2022**, 135-144 0.4