Joaquin Izquierdo

List of Publications by Year
in descending order

121	3,094	136950	182427
papers	citations	32 h-index	51 g-index

126	126	126	2608
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	District metered area design through multicriteria and multiobjective optimization. Mathematical Methods in the Applied Sciences, 2022, 45, 3254-3271.	2.3	19
2	Multi-criteria risk classification to enhance complex supply networks performance. Opsearch, 2022, 59, 769-785.	1.8	2
3	Rehabilitation in Intermittent Water Distribution Networks for Optimal Operation. Water (Switzerland), 2022, 14, 88.	2.7	6
4	A Digital Twin of a Water Distribution System by Using Graph Convolutional Networks for Pump Speed-Based State Estimation. Water (Switzerland), 2022, 14, 514.	2.7	18
5	Preference-Based Assessment ofÂOrganisational Risk inÂComplex Environments. Lecture Notes in Computer Science, 2022, , 40-52.	1.3	2
6	A decision support system to assure high-performance maintenance service. Journal of Quality in Maintenance Engineering, 2021, 27, 651-670.	1.7	8
7	A risk evaluation framework for the best maintenance strategy: The case of a marine salt manufacture firm. Reliability Engineering and System Safety, 2021, 205, 107265.	8.9	25
8	Water Quality Sensor Placement: A Multi-Objective and Multi-Criteria Approach. Water Resources Management, 2021, 35, 225-241.	3.9	28
9	Kilimanjaro and CACAIE. Computer-Aided Civil and Infrastructure Engineering, 2021, 36, 247-247.	9.8	0
10	Cyber-Attack Detection in Water Distribution Systems Based on Blind Sources Separation Technique. Water (Switzerland), 2021, 13, 795.	2.7	10
11	Control and Optimization of Multi-Agent Systems and Complex Networks for Systems Engineering. Processes, 2021, 9, 2070.	2.8	0
12	Managing expert knowledge in water network expansion project implementation. IFAC-PapersOnLine, 2021, 54, 36-40.	0.9	4
13	Grand Tour Algorithm: Novel Swarm-Based Optimization for High-Dimensional Problems. Processes, 2020, 8, 980.	2.8	7
14	Assessing Supply Chain Risks in the Automotive Industry through a Modified MCDM-Based FMECA. Processes, 2020, 8, 579.	2.8	41
15	Decision-Making Tools to Manage the Microbiology of Drinking Water Distribution Systems. Water (Switzerland), 2020, 12, 1247.	2.7	4
16	Optimal Placement of Pressure Sensors Using Fuzzy DEMATEL-Based Sensor Influence. Water (Switzerland), 2020, 12, 493.	2.7	19
17	Layout Optimization Process to Minimize the Cost of Energy of an Offshore Floating Hybrid Windâ€“Wave Farm. Processes, 2020, 8, 139.	2.8	15
18	Constrained consistency enforcement in AHP. Applied Mathematics and Computation, 2020, 380, 125273.	2.2	8

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19	Multi-Agent Systems and Complex Networks: Review and Applications in Systems Engineering. Processes, 2020, 8, 312.	2.8	68
20	Multi-criteria analysis applied to multi-objective optimal pump scheduling in water systems. Water Science and Technology: Water Supply, 2019, 19, 2338-2346.	2.1	14
21	Committee Machines for Hourly Water Demand Forecasting in Water Supply Systems. Mathematical Problems in Engineering, 2019, 2019, 1-11.	1.1	27
22	Enhanced Water Demand Analysis via Symbolic Approximation within an Epidemiology-Based Forecasting Framework. Water (Switzerland), 2019, 11, 246.	2.7	3
23	Management of uncertain pairwise comparisons in AHP through probabilistic concepts. Applied Soft Computing Journal, 2019, 78, 274-285.	7.2	9
24	Pattern Recognition and Clustering of Transient Pressure Signals for Burst Location. Water (Switzerland), 2019, 11, 2279.	2.7	6
25	Characterization of the consistent completion of analytic hierarchy process comparison matrices using graph theory. Journal of Multi-Criteria Decision Analysis, 2019, 26, 3-15.	1.9	11
26	LoRaWan for Smarter Management of Water Network: From metering to data analysis. Technologien Fuì˜r Die Intelligente Automation, 2019, , 133-136.	0.5	0
27	Hybrid SOM+k-Means clustering to improve planning, operation and management in water distribution systems. Environmental Modelling and Software, 2018, 106, 77-88.	4.5	35
28	Social Network Community Detection and Hybrid Optimization for Dividing Water Supply into District Metered Areas. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	26
29	Consistent clustering of entries in large pairwise comparison matrices. Journal of Computational and Applied Mathematics, 2018, 343, 98-112.	2.0	11
30	GPR image analysis to locate water leaks from buried pipes by applying variance filters. Journal of Applied Geophysics, 2018, 152, 236-247.	2.1	17
31	Gradual transition from intermittent to continuous water supply based on multi-criteria optimization for network sector selection. Journal of Computational and Applied Mathematics, 2018, 330, 1016-1029.	2.0	14
32	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si4.gif" display="inline" overflow="scroll"><mml:mi>k</mml:mi></mml:math>-out-of-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si5.gif" display="inline" overflow="scroll"><mml:mi>n</mml:mi></mml:math> systems: An exact formula for the stationary availability and multi-objective configuration design based on mathematical programming and TOPSIS. Journal of Computational and Applied Mathematics, 2018, 330, 1007-1015.	2.0	15
33	A combined multi-criteria approach to support FMECA analyses: A real-world case. Reliability Engineering and System Safety, 2018, 169, 394-402.	8.9	153
34	Managing Human Factors to Reduce Organisational Risk in Industry. Mathematical and Computational Applications, 2018, 23, 67.	1.3	7
35	A hybrid multi-criteria approach to GPR image mining applied to water supply system maintenance. Journal of Applied Geophysics, 2018, 159, 754-764.	2.1	10
36	Food safety risk analysis from the producers' perspective: prioritisation of production process stages by HACCP and TOPSIS. International Journal of Management and Decision Making, 2018, 17, 396.	0.1	7

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37	Which method to use? An assessment of data mining methods in Environmental Data Science. Environmental Modelling and Software, 2018, 110, 3-27.	4.5	48
38	Joint Operation of Pressure-Reducing Valves and Pumps for Improving the Efficiency of Water Distribution Systems. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	27
39	Advanced Hydroinformatic Techniques for the Simulation and Analysis of Water Supply and Distribution Systems. Water (Switzerland), 2018, 10, 440.	2.7	2
40	Trunk Network Rehabilitation for Resilience Improvement and Energy Recovery in Water Distribution Networks. Water (Switzerland), 2018, 10, 693.	2.7	14
41	Battle of the Attack Detection Algorithms: Disclosing Cyber Attacks on Water Distribution Networks. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	127
42	Hybrid regression model for near real-time urban water demand forecasting. Journal of Computational and Applied Mathematics, 2017, 309, 532-541.	2.0	134
43	Multi-criteria optimization of supply schedules in intermittent water supply systems. Journal of Computational and Applied Mathematics, 2017, 309, 695-703.	2.0	24
44	On-Line Cyber Attack Detection in Water Networks through State Forecasting and Control by Pattern Recognition. , 2017, , .		13
45	Hybrid Optimization Proposal for the Design of Collective On-rotation Operating Irrigation Networks. Procedia Engineering, 2017, 186, 530-536.	1.2	3
46	Near Real Time Pump Optimization and Pressure Management. Procedia Engineering, 2017, 186, 666-675.	1.2	13
47	Implementation of DMAs in Intermittent Water Supply Networks Based on Equity Criteria. Water (Switzerland), 2017, 9, 851.	2.7	23
48	Social Network Community Detection for DMA Creation: Criteria Analysis through Multilevel Optimization. Mathematical Problems in Engineering, 2017, 2017, 1-12.	1.1	28
49	Correlation Analysis of Water Demand and Predictive Variables for Short-Term Forecasting Models. Mathematical Problems in Engineering, 2017, 2017, 1-10.	1.1	13
50	Network Capacity Assessment and Increase in Systems with Intermittent Water Supply. Water (Switzerland), 2016, 8, 126.	2.7	14
51	A Novel Water Supply Network Sectorization Methodology Based on a Complete Economic Analysis, Including Uncertainties. Water (Switzerland), 2016, 8, 179.	2.7	43
52	I decide, therefore I am (relevant!): A projectâ€based learning experience in linear algebra. Computer Applications in Engineering Education, 2016, 24, 481-492.	3.4	8
53	A survey on pre-processing techniques: Relevant issues in the context of environmental data mining. AI Communications, 2016, 29, 627-663.	1.2	43
54	A flexible methodology to sectorize water supply networks based on social network theory concepts and multi-objective optimization. Journal of Hydroinformatics, 2016, 18, 62-76.	2.4	45

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55	Multi-Agent Simulation of Hydraulic Transient Equations in Pressurized Systems. Journal of Computing in Civil Engineering, 2016, 30, 04015071.	4.7	3
56	A hybrid, auto-adaptive and rule-based multi-agent approach using evolutionary algorithms for improved searching. Engineering Optimization, 2016, 48, 1365-1377.	2.6	3
57	Injecting problem-dependent knowledge to improve evolutionary optimization search ability. Journal of Computational and Applied Mathematics, 2016, 291, 281-292.	2.0	5
58	3D model evolution of a leak based on GPR image interpretation. Water Science and Technology: Water Supply, 2015, 15, 1312-1319.	2.1	2
59	Consistent completion of incomplete judgments in decision making using AHP. Journal of Computational and Applied Mathematics, 2015, 290, 412-422.	2.0	28
60	Graph constrained label propagation on water supply networks. AI Communications, 2015, 28, 47-53.	1.2	1
61	Water Leakage Evolution Based on GPR Interpretations. Procedia Engineering, 2014, 89, 304-310.	1.2	16
62	Characterization of Consistent Completion of Reciprocal Comparison Matrices. Abstract and Applied Analysis, 2014, 2014, 1-12.	0.7	4
63	Water Supply Network Sectorization Based on Social Networks Community Detection Algorithms. Procedia Engineering, 2014, 89, 1208-1215.	1.2	17
64	Identification of Buried Pipes Using Thermal Images and Data Mining. Procedia Engineering, 2014, 89, 1445-1451.	1.2	9
65	Cloud-based Decision Making in Water Distribution Systems. Procedia Engineering, 2014, 89, 488-494.	1.2	9
66	On-line Learning of Predictive Kernel Models for Urban Water Demand in a Smart City. Procedia Engineering, 2014, 70, 791-799.	1.2	13
67	A simple formula to find the closest consistent matrix to a reciprocal matrix. Applied Mathematical Modelling, 2014, 38, 3968-3974.	4.2	38
68	Mining Solution Spaces for Decision Making in Water Distribution Systems. Procedia Engineering, 2014, 70, 864-871.	1.2	1
69	Joint stakeholder decision-making on the management of the Silaoâ€“Romita aquifer using AHP. Environmental Modelling and Software, 2014, 51, 310-322.	4.5	36
70	Ensemble of naÃ¯ve Bayesian approaches for the study of biofilm development in drinking water distribution systems. International Journal of Computer Mathematics, 2014, 91, 135-146.	1.8	6
71	GPR data analysis using multi-agent and clustering approaches: A tool for technical management of water supply systems. , 2014, 27, 140-149.		8
72	Water Distribution System Computerâ€Aided Design by Agent Swarm Optimization. Computer-Aided Civil and Infrastructure Engineering, 2014, 29, 433-448.	9.8	56

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73	Rehabilitation Actions in Water Supply Systems: Effects on Biofilm Susceptibility. Procedia Engineering, 2014, 89, 225-231.	1.2	1
74	Normal goniometric values to guide decision-making in lower-extremity rotational problems using support vector machine techniques. Mathematical and Computer Modelling, 2013, 57, 1780-1787.	2.0	0
75	Water supply system component evaluation from GPR radargrams using a multi-agent approach. Mathematical and Computer Modelling, 2013, 57, 1927-1932.	2.0	9
76	Error Analysis of Some Demand Simplifications in Hydraulic Models of Water Supply Networks. Abstract and Applied Analysis, 2013, 2013, 1-13.	0.7	2
77	GPR-Based Water Leak Models in Water Distribution Systems. Sensors, 2013, 13, 15912-15936.	3.8	40
78	On the Complexities of the Design of Water Distribution Networks. Mathematical Problems in Engineering, 2012, 2012, 1-25.	1.1	11
79	Multi-agent adaptive boosting on semi-supervised water supply clusters. Advances in Engineering Software, 2012, 50, 131-136.	3.8	40
80	An approach to AHP decision in a dynamic context. Decision Support Systems, 2012, 53, 499-506.	5.9	42
81	Improving consistency in AHP decision-making processes. Applied Mathematics and Computation, 2012, 219, 2432-2441.	2.2	50
82	Particle swarm optimisation. WIT Transactions on State-of-the-art in Science and Engineering, 2012, , 75-99.	0.0	1
83	Agent swarm optimisation, a novel approach in swarm intelligence. , 2012, , .		0
84	Accreditation and dedication in Coloproctology is associated with good perioperative care. CirugÃa EspaÃ±ola (English Edition), 2011, 89, 94-100.	0.1	0
85	Location of buried plastic pipes using multi-agent support based on GPR images. Journal of Applied Geophysics, 2011, 75, 679-686.	2.1	49
86	Hydraulic Transient Simulation in Networks Using a Multi-Agent Based Approach. , 2011, , .		2
87	Reliability and Tolerance Comparison in Water Supply Networks. Water Resources Management, 2011, 25, 1437-1448.	3.9	25
88	Achieving matrix consistency in AHP through linearization. Applied Mathematical Modelling, 2011, 35, 4449-4457.	4.2	72
89	Balancing consistency and expert judgment in AHP. Mathematical and Computer Modelling, 2011, 54, 1785-1790.	2.0	58
90	Water Supply Clusters by Multi-Agent Based Approach. , 2011, , .		5

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91	Municipal Water Demand Forecasting: Tools for Intervention Time Series. Stochastic Analysis and Applications, 2011, 29, 998-1007.	1.5	10
92	Predictive models for forecasting hourly urban water demand. Journal of Hydrology, 2010, 387, 141-150.	5.4	311
93	Multi-objective particle swarm optimization applied to water distribution systems design: An approach with human interaction. Mathematical and Computer Modelling, 2010, 52, 1219-1227.	2.0	48
94	An analytic hierarchy process for assessing externalities in water leakage management. Mathematical and Computer Modelling, 2010, 52, 1194-1202.	2.0	38
95	Improved performance of PSO with self-adaptive parameters for computing the optimal design of Water Supply Systems. Engineering Applications of Artificial Intelligence, 2010, 23, 727-735.	8.1	63
96	Distributed Particle Swarm Intelligence for Optimization in the Water Industry. Mathematics in Industry, 2010, , 893-898.	0.3	1
97	Computational fluid dynamics (CFD) models in the learning process of Hydraulic Engineering. Computer Applications in Engineering Education, 2009, 18, n/a-n/a.	3.4	7
98	Forecasting pedestrian evacuation times by using swarm intelligence. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 1213-1220.	2.6	67
99	Identification of surgical practice patterns using evolutionary cluster analysis. Mathematical and Computer Modelling, 2009, 50, 705-712.	2.0	12
100	Robust Design of Water Supply Systems through Evolutionary Optimization. Lecture Notes in Control and Information Sciences, 2009, , 321-330.	1.0	2
101	Scrutinizing Changes in the Water Demand Behavior. Lecture Notes in Control and Information Sciences, 2009, , 305-313.	1.0	1
102	Sensitivity analysis to assess the relative importance of pipes in water distribution networks. Mathematical and Computer Modelling, 2008, 48, 268-278.	2.0	16
103	Particle Swarm Optimization applied to the design of water supply systems. Computers and Mathematics With Applications, 2008, 56, 769-776.	2.7	152
104	Design optimization of wastewater collection networks by PSO. Computers and Mathematics With Applications, 2008, 56, 777-784.	2.7	78
105	A diversity-enriched variant of discrete PSO applied to the design of water distribution networks. Engineering Optimization, 2008, 40, 655-668.	2.6	43
106	Fault detection in water supply systems using hybrid (theory and data-driven) modelling. Mathematical and Computer Modelling, 2007, 46, 341-350.	2.0	42
107	Encapsulation of air vessel design in a neural network. Applied Mathematical Modelling, 2006, 30, 395-405.	4.2	14
108	Mathematical modelling of hydraulic transients in complex systems. Mathematical and Computer Modelling, 2004, 39, 529-540.	2.0	22

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109	Mathematical models and methods in the water industry. Mathematical and Computer Modelling, 2004, 39, 1353-1374.	2.0	31
110	Mathematical modelling of hydraulic transients in simple systems. Mathematical and Computer Modelling, 2002, 35, 801-812.	2.0	46
111	Pipeline start-up with entrapped air. Journal of Hydraulic Research/De Recherches Hydrauliques, 1999, 37, 579-590.	1.7	90
112	Flow Modeling in Pressurized Systems Revisited. Journal of Hydraulic Engineering, 1999, 125, 1154-1169.	1.5	32
113	Discussions and Closure: Filling of Pipelines with Undulating Elevation Profiles. Journal of Hydraulic Engineering, 1997, 123, 1170-1174.	1.5	8
114	Discussion of â€œFilling of Pipelines with Undulating Elevation Profilesâ€•by E. Cabrera, J. Izquierdo, J. Abreu, and P. L. Iglesias. Journal of Hydraulic Engineering, 1997, 123, 1170.	1.5	1
115	Simulation of transients in Pressurized Hydraulic Systems with Visual Tools. , 1996, , 759-768.		0
116	Generalization of Pump Station Boundary Condition in Hydraulic Transient Simulation. , 1996, , 720-728.		0
117	Optimum Design and Reliability in Water Distribution Systems. Water Science and Technology Library, 1995, , 303-328.	0.3	1
118	Multiâ€criteria decisionâ€making approach for modular enterprise resource planning sorting problems. Journal of Multi-Criteria Decision Analysis, 0, , .	1.9	5
119	Consistent Matrices and Consistency Improvement in Decision-Making Processes. , 0, , .		1
120	Agent Swarm Optimization: A Platform to Solve Complex Optimization Problems. , 0, , .		0
121	Water Supply Clusters based on a Boosting Semi-Supervised Learning Methodology. , 0, , .		0