Matteo Giuliani

List of Publications by Year
in descending order

75 papers	3,352 citations	147566 31 h-index	143772 57 g-index
115 all docs	115 docs citations	115 times ranked	2639 citing authors

#	Article	IF	Citations
1	Evolutionary algorithms and other metaheuristics in water resources: Current status, research challenges and future directions. Environmental Modelling and Software, 2014, 62, 271-299.	1.9	477
2	Benefits and challenges of using smart meters for advancing residential water demand modeling and management: A review. Environmental Modelling and Software, 2015, 72, 198-214.	1.9	194
3	Curses, Tradeoffs, and Scalable Management: Advancing Evolutionary Multiobjective Direct Policy Search to Improve Water Reservoir Operations. Journal of Water Resources Planning and Management - ASCE, 2016, 142, .	1.3	168
4	Robustness Metrics: How Are They Calculated, When Should They Be Used and Why Do They Give Different Results?. Earth's Future, 2018, 6, 169-191.	2.4	142
5	Manyâ€objective reservoir policy identification and refinement to reduce policy inertia and myopia in water management. Water Resources Research, 2014, 50, 3355-3377.	1.7	130
6	A Hybrid Signature-based Iterative Disaggregation algorithm for Non-Intrusive Load Monitoring. Applied Energy, 2017, 185, 331-344.	5.1	122
7	Climate Adaptation as a Control Problem: Review and Perspectives on Dynamic Water Resources Planning Under Uncertainty. Water Resources Research, 2020, 56, e24389.	1.7	110
8	A diagnostic assessment of evolutionary algorithms for multi-objective surface water reservoir control. Advances in Water Resources, 2016, 92, 172-185.	1.7	105
9	Is robustness really robust? How different definitions of robustness impact decision-making under climate change. Climatic Change, 2016, 135, 409-424.	1.7	99
10	Rival framings: A framework for discovering how problem formulation uncertainties shape risk management tradeâ€offs in water resources systems. Water Resources Research, 2017, 53, 7208-7233.	1.7	90
11	A bottomâ€up approach to identifying the maximum operational adaptive capacity of water resource systems to a changing climate. Water Resources Research, 2016, 52, 6751-6768.	1.7	83
12	Exploring How Changing Monsoonal Dynamics and Human Pressures Challenge Multireservoir Management for Flood Protection, Hydropower Production, and Agricultural Water Supply. Water Resources Research, 2018, 54, 4638-4662.	1.7	77
13	Sparse Optimization for Automated Energy End Use Disaggregation. IEEE Transactions on Control Systems Technology, 2016, 24, 1044-1051.	3.2	75
14	Assessing the value of cooperation and information exchange in large water resources systems by agentâ€based optimization. Water Resources Research, 2013, 49, 3912-3926.	1.7	74
15	Integrated intelligent water-energy metering systems and informatics: Visioning a digital multi-utility service provider. Environmental Modelling and Software, 2018, 105, 94-117.	1.9	71
16	Balancing exploration, uncertainty and computational demands in many objective reservoir optimization. Advances in Water Resources, 2017, 109, 196-210.	1.7	65
17	Planning the Optimal Operation of a Multioutlet Water Reservoir with Water Quality and Quantity Targets. Journal of Water Resources Planning and Management - ASCE, 2014, 140, 496-510.	1.3	64
18	Large storage operations under climate change: expanding uncertainties and evolving tradeoffs. Environmental Research Letters, 2016, 11, 035009.	2.2	64

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19	A coupled humanâ€natural systems analysis of irrigated agriculture under changing climate. Water Resources Research, 2016, 52, 6928-6947.	1.7	61
20	Implications of data sampling resolution on water use simulation, end-use disaggregation, and demand management. Environmental Modelling and Software, 2018, 102, 199-212.	1.9	59
21	Segmentation analysis of residential water-electricity demand for customized demand-side management programs. Journal of Cleaner Production, 2018, 172, 1607-1619.	4.6	58
22	Making the most of data: An information selection and assessment framework to improve water systems operations. Water Resources Research, 2015, 51, 9073-9093.	1.7	56
23	Scalable Multiobjective Control for Large-Scale Water Resources Systems Under Uncertainty. IEEE Transactions on Control Systems Technology, 2018, 26, 1492-1499.	3.2	56
24	Data Mining to Uncover Heterogeneous Water Use Behaviors From Smart Meter Data. Water Resources Research, 2019, 55, 9315-9333.	1.7	53
25	Informing the operations of water reservoirs over multiple temporal scales by direct use of hydro-meteorological data. Advances in Water Resources, 2017, 103, 51-63.	1.7	50
26	A Stateâ€ofâ€theâ€Art Review of Optimal Reservoir Control for Managing Conflicting Demands in a Changing World. Water Resources Research, 2021, 57, e2021WR029927.	1.7	49
27	Policy tree optimization for threshold-based water resources management over multiple timescales. Environmental Modelling and Software, 2018, 99, 39-51.	1.9	47
28	A dimensionality reduction approach for many-objective Markov Decision Processes: Application to a water reservoir operation problem. Environmental Modelling and Software, 2014, 57, 101-114.	1.9	43
29	Dynamic, multi-objective optimal design and operation of water-energy systems for small, off-grid islands. Applied Energy, 2019, 250, 605-616.	5.1	43
30	What Is Controlling Our Control Rules? Opening the Black Box of Multireservoir Operating Policies Using Timeâ€Varying Sensitivity Analysis. Water Resources Research, 2019, 55, 5962-5984.	1.7	40
31	Detecting the State of the Climate System via Artificial Intelligence to Improve Seasonal Forecasts and Inform Reservoir Operations. Water Resources Research, 2019, 55, 9133-9147.	1.7	38
32	Discovering Dependencies, Tradeâ€Offs, and Robustness in Joint Dam Design and Operation: An Exâ€Post Assessment of the Kariba Dam. Earth's Future, 2019, 7, 1367-1390.	2.4	30
33	Multiagent Systems and Distributed Constraint Reasoning for Regulatory Mechanism Design in Water Management. Journal of Water Resources Planning and Management - ASCE, 2015, 141, .	1.3	29
34	A Matlab toolbox for designing Multi-Objective Optimal Operations of water reservoir systems. Environmental Modelling and Software, 2016, 85, 293-298.	1.9	29
35	Long-term water conservation is fostered by smart meter-based feedback and digital user engagement. Npj Clean Water, 2021, 4, .	3.1	27
36	From skill to value: isolating the influence of end user behavior on seasonal forecast assessment. Hydrology and Earth System Sciences, 2020, 24, 5891-5902.	1.9	27

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37	An active learning approach for identifying the smallest subset of informative scenarios for robust planning under deep uncertainty. Environmental Modelling and Software, 2020, 127, 104681.	1.9	24
38	Using crowdsourced web content for informing water systems operations in snow-dominated catchments. Hydrology and Earth System Sciences, 2016, 20, 5049-5062.	1.9	22
39	Unintended consequences of climate change mitigation for African river basins. Nature Climate Change, 2022, 12, 187-192.	8.1	19
40	A coupled humanâ€“natural system to assess the operational value of weather and climate services for agriculture. Hydrology and Earth System Sciences, 2017, 21, 4693-4709.	1.9	18
41	Partitioning the Impacts of Streamflow and Evaporation Uncertainty on the Operations of Multipurpose Reservoirs in Arid Regions. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	1.3	18
42	Equity in Water Resources Planning: A Path Forward for Decision Support Modelers. Journal of Water Resources Planning and Management - ASCE, 2022, 148, .	1.3	17
43	Universal approximators for direct policy search in multi-purpose water reservoir management: A comparative analysis. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6234-6239.	0.4	16
44	Fostering cooperation in power asymmetrical water systems by the use of direct release rules and index-based insurance schemes. Advances in Water Resources, 2018, 115, 301-314.	1.7	16
45	Automatic design of basin-specific drought indexes for highly regulated water systems. Hydrology and Earth System Sciences, 2018, 22, 2409-2424.	1.9	16
46	Modeling the behavior of water reservoir operators via eigenbehavior analysis. Advances in Water Resources, 2018, 122, 228-237.	1.7	16
47	A Simplified Water Accounting Procedure to Assess Climate Change Impact on Water Resources for Agriculture across Different European River Basins. Water (Switzerland), 2019, 11, 1976.	1.2	16
48	Strategic basin and delta planning increases the resilience of the Mekong Delta under future uncertainty. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	15
49	When timing mattersâ€”misdesigned dam filling impacts hydropower sustainability. Nature Communications, 2021, 12, 3056.	5.8	13
50	Identifying and Modeling Dynamic Preference Evolution in Multipurpose Water Resources Systems. Water Resources Research, 2018, 54, 3162-3175.	1.7	12
51	Designing With Information Feedbacks: Forecast Informed Reservoir Sizing and Operation. Water Resources Research, 2021, 57, e2020WR028112.	1.7	12
52	Policy Representation Learning for Multiobjective Reservoir Policy Design With Different Objective Dynamics. Water Resources Research, 2021, 57, e2020WR029329.	1.7	8
53	Dealing with multiple experts and non-stationarity in inverse reinforcement learning: an application to real-life problems. Machine Learning, 2021, 110, 2541-2576.	3.4	7
54	Hydroclimatic change challenges the EU planned transition to a carbon neutral electricity system. Environmental Research Letters, 2021, 16, 104011.	2.2	7

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55	Integrated Design of Dam Size and Operations via Reinforcement Learning. Journal of Water Resources Planning and Management - ASCE, 2020, 146, .	1.3	6
56	Insurance Portfolio Diversification Through Bundling for Competing Agents Exposed to Uncorrelated Drought and Flood Risks. Water Resources Research, 2020, 56, e2019WR026443.	1.7	6
57	Neuro-Evolutionary Direct Policy Search for Multiobjective Optimal Control. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 5926-5938.	7.2	6
58	Multimedia on the Mountaintop. , 2016, , .		6
59	Multi-objective optimal control of a simple stochastic climate-economy model. IFAC-PapersOnLine, 2020, 53, 16593-16598.	0.5	5
60	Advancing the representation of reservoir hydropower in energy systems modelling: The case of Zambesi River Basin. PLoS ONE, 2021, 16, e0259876.	1.1	5
61	Many-Objective Direct Policy Search in the Dez and Karoun Multireservoir System, Iran. , 2014, , .		4
62	Dealing with many-objective problems in water resources planning and management. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10547-10552.	0.4	3
63	Data-driven modeling and control of droughts. IFAC-PapersOnLine, 2019, 52, 54-60.	0.5	3
64	Exploring future vulnerabilities of subalpine Italian regulated lakes under different climate scenarios: bottomâ€up vs top-down and CMIP5 vs CMIP6. Journal of Hydrology: Regional Studies, 2021, 38, 100973.	1.0	3
65	Learning-based hierarchical control of water reservoir systems. IFAC Journal of Systems and Control, 2022, 19, 100185.	1.1	3
66	Participatory design of robust and sustainable development pathways in the Omo-Turkana river basin. Journal of Hydrology: Regional Studies, 2022, 41, 101116.	1.0	3
67	Many-Objective Operation of Selective Withdrawal Reservoirs Including Water Quality Targets. , 2013, , .		2
68	Using Multiagent Negotiation to Model Water Resources Systems Operations. Lecture Notes in Computer Science, 2016, , 51-72.	1.0	2
69	Scenario-based fitted Q-iteration for adaptive control of water reservoir systems under uncertainty. IFAC-PapersOnLine, 2017, 50, 3183-3188.	0.5	2
70	Participated Planning of Large Water Infrastructures through Virtual Prototyping Technologies. Technologies, 2018, 6, 68.	3.0	2
71	Data-driven control of water reservoirs using El NiÃ±o Southern Oscillation indexes. , 2019, , .		2
72	What Will the Weather Do? Forecasting Flood Losses Based on Oscillation Indices. Earth's Future, 2020, 8, e2019EF001450.	2.4	2

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73	Improving the protection of aquatic ecosystems by dynamically constraining reservoir operation via direct policy conditioning. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6252-6257.	0.4	1
74	Data-driven control of water reservoirs using an emulator of the climate system. IFAC-PapersOnLine, 2020, 53, 16531-16536.	0.5	0
75	Water Resources Planning and Management in a Changing Climate and Society. UNIPA Springer Series, 2021, , 197-215.	0.1	0