

Patrick M Reed

List of Publications by Citations

Source: <https://exaly.com/author-pdf/6206416/patrick-m-reed-publications-by-citations.pdf>

Version: 2024-04-27

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

136
papers

7,073
citations

46
h-index

82
g-index

168
ext. papers

8,315
ext. citations

5.5
avg, IF

6.38
L-index

#	Paper	IF	Citations
136	Borg: an auto-adaptive many-objective evolutionary computing framework. <i>Evolutionary Computation</i> , 2013 , 21, 231-59	4.3	412
135	State of the Art for Genetic Algorithms and Beyond in Water Resources Planning and Management. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2010 , 136, 412-432	2.8	410
134	Evolutionary algorithms and other metaheuristics in water resources: Current status, research challenges and future directions. <i>Environmental Modelling and Software</i> , 2014 , 62, 271-299	5.2	391
133	Evolutionary multiobjective optimization in water resources: The past, present, and future. <i>Advances in Water Resources</i> , 2013 , 51, 438-456	4.7	324
132	Many objective robust decision making for complex environmental systems undergoing change. <i>Environmental Modelling and Software</i> , 2013 , 42, 55-71	5.2	270
131	How Should Robustness Be Defined for Water Systems Planning under Change?. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2015 , 141, 04015012	2.8	189
130	The future of water resources systems analysis: Toward a scientific framework for sustainable water management. <i>Water Resources Research</i> , 2015 , 51, 6110-6124	5.4	163
129	Sensitivity-guided reduction of parametric dimensionality for multi-objective calibration of watershed models. <i>Advances in Water Resources</i> , 2009 , 32, 1154-1169	4.7	157
128	Diagnostic assessment of search controls and failure modes in many-objective evolutionary optimization. <i>Evolutionary Computation</i> , 2012 , 20, 423-52	4.3	156
127	Characterization of watershed model behavior across a hydroclimatic gradient. <i>Water Resources Research</i> , 2008 , 44,	5.4	138
126	Striking the Balance: Long-Term Groundwater Monitoring Design for Conflicting Objectives. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2004 , 130, 140-149	2.8	138
125	The food-energy-water nexus: Transforming science for society. <i>Water Resources Research</i> , 2017 , 53, 3550-3556	5.4	135
124	Cost-effective long-term groundwater monitoring design using a genetic algorithm and global mass interpolation. <i>Water Resources Research</i> , 2000 , 36, 3731-3741	5.4	130
123	A framework for Visually Interactive Decision-making and Design using Evolutionary Multi-objective Optimization (VIDEO). <i>Environmental Modelling and Software</i> , 2007 , 22, 1691-1704	5.2	126
122	Curses, Tradeoffs, and Scalable Management: Advancing Evolutionary Multiobjective Direct Policy Search to Improve Water Reservoir Operations. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2016 , 142, 04015050	2.8	124
121	Beyond optimality: Multistakeholder robustness tradeoffs for regional water portfolio planning under deep uncertainty. <i>Water Resources Research</i> , 2014 , 50, 7692-7713	5.4	122
120	Reducing uncertainty in predictions in ungauged basins by combining hydrologic indices regionalization and multiobjective optimization. <i>Water Resources Research</i> , 2008 , 44,	5.4	120

119	Designing a competent simple genetic algorithm for search and optimization. <i>Water Resources Research</i> , 2000 , 36, 3757-3761	5.4	119
118	Managing population and drought risks using many-objective water portfolio planning under uncertainty. <i>Water Resources Research</i> , 2009 , 45,	5.4	114
117	Optimal Design of Water Distribution Systems Using Many-Objective Visual Analytics. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2013 , 139, 624-633	2.8	108
116	Many-objective de Novo water supply portfolio planning under deep uncertainty. <i>Environmental Modelling and Software</i> , 2012 , 34, 87-104	5.2	106
115	When are multiobjective calibration trade-offs in hydrologic models meaningful?. <i>Water Resources Research</i> , 2012 , 48,	5.4	104
114	Developing predictive insight into changing water systems: use-inspired hydrologic science for the Anthropocene. <i>Hydrology and Earth System Sciences</i> , 2013 , 17, 5013-5039	5.5	103
113	Many-objective groundwater monitoring network design using bias-aware ensemble Kalman filtering, evolutionary optimization, and visual analytics. <i>Water Resources Research</i> , 2011 , 47,	5.4	103
112	Technical Note: Method of Morris effectively reduces the computational demands of global sensitivity analysis for distributed watershed models. <i>Hydrology and Earth System Sciences</i> , 2013 , 17, 2893-2903	5.5	102
111	Many-objective reservoir policy identification and refinement to reduce policy inertia and myopia in water management. <i>Water Resources Research</i> , 2014 , 50, 3355-3377	5.4	97
110	Time-varying sensitivity analysis clarifies the effects of watershed model formulation on model behavior. <i>Water Resources Research</i> , 2013 , 49, 1400-1414	5.4	93
109	An open source framework for many-objective robust decision making. <i>Environmental Modelling and Software</i> , 2015 , 74, 114-129	5.2	89
108	Simplifying multiobjective optimization: An automated design methodology for the nondominated sorted genetic algorithm-II. <i>Water Resources Research</i> , 2003 , 39,	5.4	87
107	Many-objective optimization and visual analytics reveal key trade-offs for London's water supply. <i>Journal of Hydrology</i> , 2015 , 531, 1040-1053	6	82
106	A diagnostic assessment of evolutionary algorithms for multi-objective surface water reservoir control. <i>Advances in Water Resources</i> , 2016 , 92, 172-185	4.7	74
105	Reducing the Complexity of Multiobjective Water Distribution System Optimization through Global Sensitivity Analysis. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2012 , 138, 196-207	2.8	71
104	Many objective visual analytics: rethinking the design of complex engineered systems. <i>Structural and Multidisciplinary Optimization</i> , 2013 , 48, 201-219	3.6	70
103	A top-down framework for watershed model evaluation and selection under uncertainty. <i>Environmental Modelling and Software</i> , 2009 , 24, 901-916	5.2	70
102	Battle of the Water Networks II. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2014 , 140, 04014009	2.8	67

101	Navigating financial and supply reliability tradeoffs in regional drought management portfolios. <i>Water Resources Research</i> , 2014 , 50, 4906-4923	5.4	66
100	Water quality trading with asymmetric information, uncertainty and transaction costs: A stochastic agent-based simulation. <i>Resources and Energy Economics</i> , 2013 , 35, 60-90	3.2	64
99	A multiobjective approach to cost effective long-term groundwater monitoring using an elitist nondominated sorted genetic algorithm with historical data. <i>Journal of Hydroinformatics</i> , 2001 , 3, 71-89	2.6	64
98	Cooperative drought adaptation: Integrating infrastructure development, conservation, and water transfers into adaptive policy pathways. <i>Water Resources Research</i> , 2016 , 52, 7327-7346	5.4	62
97	Rival framings: A framework for discovering how problem formulation uncertainties shape risk management trade-offs in water resources systems. <i>Water Resources Research</i> , 2017 , 53, 7208-7233	5.4	54
96	Multiobjective sensitivity analysis to understand the information content in streamflow observations for distributed watershed modeling. <i>Water Resources Research</i> , 2009 , 45,	5.4	53
95	Many-objective robust decision making for managing an ecosystem with a deeply uncertain threshold response. <i>Ecology and Society</i> , 2015 , 20,	4.1	51
94	Identifying parametric controls and dependencies in integrated assessment models using global sensitivity analysis. <i>Environmental Modelling and Software</i> , 2014 , 59, 10-29	5.2	50
93	Water Resources Management: The Myth, the Wicked, and the Future. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2009 , 135, 411-413	2.8	47
92	Exploring How Changing Monsoonal Dynamics and Human Pressures Challenge Multireservoir Management for Flood Protection, Hydropower Production, and Agricultural Water Supply. <i>Water Resources Research</i> , 2018 , 54, 4638-4662	5.4	47
91	From maps to movies: high-resolution time-varying sensitivity analysis for spatially distributed watershed models. <i>Hydrology and Earth System Sciences</i> , 2013 , 17, 5109-5125	5.5	46
90	Synthetic Drought Scenario Generation to Support Bottom-Up Water Supply Vulnerability Assessments. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2016 , 142, 04016050	2.8	45
89	Using interactive archives in evolutionary multiobjective optimization: A case study for long-term groundwater monitoring design. <i>Environmental Modelling and Software</i> , 2007 , 22, 683-692	5.2	45
88	Visual analytics clarify the scalability and effectiveness of massively parallel many-objective optimization: A groundwater monitoring design example. <i>Advances in Water Resources</i> , 2013 , 56, 1-13	4.7	44
87	Rainfall characteristics define the value of streamflow observations for distributed watershed model identification. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	44
86	Spatial interpolation methods for nonstationary plume data. <i>Ground Water</i> , 2004 , 42, 190-202	2.4	44
85	Large-scale parallelization of the Borg multiobjective evolutionary algorithm to enhance the management of complex environmental systems. <i>Environmental Modelling and Software</i> , 2015 , 69, 353-369	5.3	43
84	Scalable Multiobjective Control for Large-Scale Water Resources Systems Under Uncertainty. <i>IEEE Transactions on Control Systems Technology</i> , 2018 , 26, 1492-1499	4.8	42

83	Direct policy search for robust multi-objective management of deeply uncertain socio-ecological tipping points. <i>Environmental Modelling and Software</i> , 2017 , 92, 125-141	5.2	40
82	Reducing regional drought vulnerabilities and multi-city robustness conflicts using many-objective optimization under deep uncertainty. <i>Advances in Water Resources</i> , 2017 , 104, 195-209	4.7	40
81	Balancing Hydropower Development and Ecological Impacts in the Mekong: Tradeoffs for Sambor Mega Dam. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2019 , 145, 05018019	2.8	39
80	Balancing exploration, uncertainty and computational demands in many objective reservoir optimization. <i>Advances in Water Resources</i> , 2017 , 109, 196-210	4.7	37
79	Evaluating the economic impact of water scarcity in a changing world. <i>Nature Communications</i> , 2021 , 12, 1915	17.4	37
78	Comparative analysis of multiobjective evolutionary algorithms for random and correlated instances of multiobjective d-dimensional knapsack problems. <i>European Journal of Operational Research</i> , 2011 , 211, 466-479	5.6	35
77	Save now, pay later? Multi-period many-objective groundwater monitoring design given systematic model errors and uncertainty. <i>Advances in Water Resources</i> , 2012 , 35, 55-68	4.7	34
76	Flood and drought hydrologic monitoring: the role of model parameter uncertainty. <i>Hydrology and Earth System Sciences</i> , 2015 , 19, 3239-3251	5.5	33
75	The Value of Online Adaptive Search: A Performance Comparison of NSGAI, ENSGAI and MOEA. <i>Lecture Notes in Computer Science</i> , 2005 , 386-398	0.9	32
74	Large Ensemble Analytic Framework for Consequence-Driven Discovery of Climate Change Scenarios. <i>Earth's Future</i> , 2018 , 6, 488-504	7.9	30
73	Battling Arrow's Paradox to Discover Robust Water Management Alternatives. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2016 , 142, 04015053	2.8	29
72	Structuring and evaluating decision support processes to enhance the robustness of complex human-natural systems. <i>Environmental Modelling and Software</i> , 2020 , 123, 104551	5.2	29
71	What Is Controlling Our Control Rules? Opening the Black Box of Multi-reservoir Operating Policies Using Time-Varying Sensitivity Analysis. <i>Water Resources Research</i> , 2019 , 55, 5962-5984	5.4	27
70	Robust abatement pathways to tolerable climate futures require immediate global action. <i>Nature Climate Change</i> , 2019 , 9, 290-294	21.4	26
69	Bridging river basin scales and processes to assess human-climate impacts and the terrestrial hydrologic system. <i>Water Resources Research</i> , 2006 , 42,	5.4	26
68	Confronting tipping points: Can multi-objective evolutionary algorithms discover pollution control tradeoffs given environmental thresholds?. <i>Environmental Modelling and Software</i> , 2015 , 73, 27-43	5.2	25
67	Climate risk management requires explicit representation of societal trade-offs. <i>Climatic Change</i> , 2016 , 134, 713-723	4.5	25
66	Deep Uncertainties in Sea-Level Rise and Storm Surge Projections: Implications for Coastal Flood Risk Management. <i>Risk Analysis</i> , 2020 , 40, 153-168	3.9	24

65	Diagnostic assessment of the borg MOEA for many-objective product family design problems 2012 ,		22
64	Evolving many-objective water management to exploit exascale computing. <i>Water Resources Research</i> , 2014 , 50, 8367-8373	5.4	21
63	Multi-Objective Design Optimization for Product Platform and Product Family Design Using Genetic Algorithms 2005 , 999		18
62	Low cost satellite constellations for nearly continuous global coverage. <i>Nature Communications</i> , 2020 , 11, 200	17.4	18
61	Discovering Dependencies, Trade-Offs, and Robustness in Joint Dam Design and Operation: An Ex-Post Assessment of the Kariba Dam. <i>Earth's Future</i> , 2019 , 7, 1367-1390	7.9	17
60	Advances in the identification and evaluation of complex environmental systems models. <i>Journal of Hydroinformatics</i> , 2009 , 11, 266-281	2.6	16
59	Internationally coordinated multi-mission planning is now critical to sustain the space-based rainfall observations needed for managing floods globally. <i>Environmental Research Letters</i> , 2015 , 10, 024010	6.2	15
58	Operational constraints and hydrologic variability limit hydropower in supporting wind integration. <i>Environmental Research Letters</i> , 2013 , 8, 024037	6.2	15
57	Identifying Actionable Compromises: Navigating Multi-City Robustness Conflicts to Discover Cooperative Safe Operating Spaces for Regional Water Supply Portfolios. <i>Water Resources Research</i> , 2019 , 55, 9024-9050	5.4	14
56	Many-objective reconfiguration of operational satellite constellations with the Large-Cluster Epsilon Non-dominated Sorting Genetic Algorithm-II 2009 ,		14
55	Addressing model bias and uncertainty in three dimensional groundwater transport forecasts for a physical aquifer experiment. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	13
54	Parallel Evolutionary Multi-Objective Optimization on Large, Heterogeneous Clusters: An Applications Perspective. <i>Journal of Aerospace Computing, Information, and Communication</i> , 2008 , 5, 460-478		13
53	Can Exploratory Modeling of Water Scarcity Vulnerabilities and Robustness Be Scenario Neutral?. <i>Earth's Future</i> , 2020 , 8, e2020EF001650	7.9	13
52	Defining Robustness, Vulnerabilities, and Consequential Scenarios for Diverse Stakeholder Interests in Institutionally Complex River Basins. <i>Earth's Future</i> , 2020 , 8, e2020EF001503	7.9	12
51	An open source model for quantifying risks in bulk electric power systems from spatially and temporally correlated hydrometeorological processes. <i>Environmental Modelling and Software</i> , 2020 , 126, 104667	5.2	12
50	Inaction and climate stabilization uncertainties lead to severe economic risks. <i>Climatic Change</i> , 2014 , 127, 463-474	4.5	12
49	Accounting for Adaptive Water Supply Management When Quantifying Climate and Land Cover Change Vulnerability. <i>Water Resources Research</i> , 2020 , 56, e2019WR025614	5.4	10
48	Water pathways: An open source stochastic simulation system for integrated water supply portfolio management and infrastructure investment planning. <i>Environmental Modelling and Software</i> , 2020 , 132, 104772	5.2	9

47	Skill (or lack thereof) of data-model fusion techniques to provide an early warning signal for an approaching tipping point. <i>PLoS ONE</i> , 2018 , 13, e0191768	3.7	8
46	Genetic Algorithms (GAs) and Evolutionary Strategy to Optimize Electronic Nose Sensor Selection. <i>Transactions of the ASABE</i> , 2007 , 51, 321-330	0.9	8
45	Rhodium: Python Library for Many-Objective Robust Decision Making and Exploratory Modeling. <i>Journal of Open Research Software</i> , 2020 , 8,	2.3	8
44	Many-Objective Evolutionary Optimisation and Visual Analytics for Product Family Design 2011 , 137-159		8
43	Technical note: Method of Morris effectively reduces the computational demands of global sensitivity analysis for distributed watershed models		7
42	Integrating Raw Water Transfers into an Eastern United States Management Context. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2018 , 144, 05018012	2.8	7
41	GROUNDWATER MONITORING DESIGN: A CASE STUDY COMBINING EPSILON DOMINANCE ARCHIVING AND AUTOMATIC PARAMETERIZATION FOR THE NSGA-II. <i>Advances in Natural Computation</i> , 2004 , 79-100		6
40	A State-of-the-Art Review of Optimal Reservoir Control for Managing Conflicting Demands in a Changing World. <i>Water Resources Research</i> , 2021 , 57, e2021WR029927	5.4	6
39	Water rights shape crop yield and revenue volatility tradeoffs for adaptation in snow dependent systems. <i>Nature Communications</i> , 2020 , 11, 3473	17.4	6
38	Designing With Information Feedbacks: Forecast Informed Reservoir Sizing and Operation. <i>Water Resources Research</i> , 2021 , 57, e2020WR028112	5.4	6
37	Evaluating wind-following and ecosystem services for hydroelectric dams in PJM. <i>Journal of Regulatory Economics</i> , 2012 , 41, 139-154	1.3	5
36	The Mid-Atlantic Watershed Atlas (MAWA): Open access data search & watershed-based community building. <i>Environmental Modelling and Software</i> , 2010 , 25, 808-812	5.2	5
35	Can modern multi-objective evolutionary algorithms discover high-dimensional financial risk portfolio tradeoffs for snow-dominated water-energy systems?. <i>Advances in Water Resources</i> , 2020 , 145, 103718	4.7	5
34	Diagnosing the Time-Varying Value of Forecasts in Multiobjective Reservoir Control. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2021 , 147,	2.8	5
33	Comparison of Multi-Objective Evolutionary Algorithms for Long-Term Monitoring Design 2005 , 1		4
32	Coordination and control limits in standard representations of multi-reservoir operations in hydrological modeling. <i>Hydrology and Earth System Sciences</i> , 2021 , 25, 1365-1388	5.5	4
31	Planned relocation: Pluralistic and integrated science and governance. <i>Science</i> , 2021 , 372, 1276-1279	33.3	4
30	Search Space Representation and Reduction Methods to Enhance Multiobjective Water Supply Monitoring Design. <i>Water Resources Research</i> , 2019 , 55, 2257-2278	5.4	4

29	The effects of air pollution sources / sensor array configurations on the likelihood of obtaining accurate source term estimations. <i>Atmospheric Environment</i> , 2021 , 246, 117754	5.3	4
28	An open source reservoir and sediment simulation framework for identifying and evaluating siting, design, and operation alternatives. <i>Environmental Modelling and Software</i> , 2021 , 136, 104947	5.2	4
27	Navigating Deeply Uncertain Tradeoffs in Harvested Predator-Prey Systems. <i>Complexity</i> , 2020 , 2020, 1-18	1.6	3
26	Pareto-Hypervolumes for the Reconfiguration of Satellite Constellations 2008 ,		3
25	Chapter 17 : Sectoral Interdependencies, Multiple Stressors, and Complex Systems. Impacts, Risks, and Adaptation in the United States: The Fourth National Climate Assessment, Volume II 2018 ,		3
24	Advancing Diagnostic Model Evaluation to Better Understand Water Shortage Mechanisms in Institutionally Complex River Basins. <i>Water Resources Research</i> , 2020 , 56, e2020WR028079	5.4	3
23	Managing Financial Risk Trade-Offs for Hydropower Generation Using Snowpack-Based Index Contracts. <i>Water Resources Research</i> , 2020 , 56, e2020WR027212	5.4	2
22	Efficient and Reliable Evolutionary Multiobjective Optimization Using ϵ -Dominance Archiving and Adaptive Population Sizing. <i>Lecture Notes in Computer Science</i> , 2004 , 390-391	0.9	2
21	A Multiobjective Approach to Long-Term Groundwater Monitoring Design 2000 , 1		2
20	Unintended consequences of climate change mitigation for African river basins. <i>Nature Climate Change</i> , 2022 , 12, 187-192	21.4	2
19	A Framework for the Discovery of Passive-Control, Minimum Energy Satellite Constellations 2014 ,		2
18	Flood and drought hydrologic monitoring: the role of model parameter uncertainty		2
17	Compound hydrometeorological extremes across multiple timescales drive volatility in California electricity market prices and emissions. <i>Applied Energy</i> , 2020 , 276, 115541	10.7	2
16	California's food-energy-water system: An open source simulation model of adaptive surface and groundwater management in the Central Valley. <i>Environmental Modelling and Software</i> , 2021 , 141, 105052	5.2	2
15	Improving the Robustness of Reservoir Operations with Stochastic Dynamic Programming. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2021 , 147,	2.8	2
14	Managing financial risk tradeoffs for hydropower generation using snowpack-based index contracts		2
13	Multisector Dynamics: Advancing the Science of Complex Adaptive Human-Earth Systems. <i>Earth's Future</i> , 2022 , 10,	7.9	2
12	Scalability Analysis of the Asynchronous, Master-Slave Borg Multiobjective Evolutionary Algorithm 2013 ,		1

11	Simplifying the Parameterization of Real-Coded Evolutionary Algorithms 2004 , 1		1
10	Multiobjective Tools and Strategies for Calibrating Integrated Models 2005 , 1		1
9	Adaptive mitigation strategies hedge against extreme climate futures. <i>Climatic Change</i> , 2021 , 166, 1	4.5	1
8	Improving Information-Based Coordinated Operations in Interbasin Water Transfer Megaprojects: Case Study in Southern India. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2021 , 147, 04021075	2.8	1
7	Impacts of irrigation efficiency on water-dependent sectors are heavily controlled by region-specific institutions and infrastructures. <i>Journal of Environmental Management</i> , 2021 , 300, 113731	7.9	1
6	Unveiling uncertainties to enhance sustainability transformations in infrastructure decision-making. <i>Current Opinion in Environmental Sustainability</i> , 2022 , 55, 101172	7.2	1
5	Computational Scaling Analysis of Multiobjective Evolutionary Algorithms in Long-Term Groundwater Monitoring Applications 2006 , 1		0
4	Improving the protection of aquatic ecosystems by dynamically constraining reservoir operation via direct policy conditioning. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 6252-6257		
3	An Evolving Paradigm for Publication in the Water Resources Management Field. <i>Journal of Contemporary Water Research and Education</i> , 2008 , 139, 37-39	1.2	
2	Parallelization Strategies for Evolutionary Multiobjective Optimization 2006 , 1		
1	Multiobjective Long-Term Groundwater Monitoring Design: The Benefits of Biasing Search Towards Key Tradeoffs 2004 , 1		