Saman S Razavi

List of Publications by Citations

64 papers	2,158 citations	24 h-index	46 g-index
88 ext. papers	2,753 ext. citations	5.6 avg, IF	5.86 L-index

#	Paper	IF	Citations
64	Review of surrogate modeling in water resources. *Water Resources Research*, **2012**, 48,	5.4	447
63	What do we mean by sensitivity analysis? The need for comprehensive characterization of ⸮global⸮ sensitivity in Earth and Environmental systems models. *Water Resources Research*, **2015**, 51, 3070-3092	5.4	168
62	Numerical assessment of metamodelling strategies in computationally intensive optimization. *Environmental Modelling and Software*, **2012**, 34, 67-86	5.2	104
61	Progressive Latin Hypercube Sampling: An efficient approach for robust sampling-based analysis of environmental models. *Environmental Modelling and Software*, **2017**, 93, 109-126	5.2	83
60	A new framework for comprehensive, robust, and efficient global sensitivity analysis: 1. Theory. *Water Resources Research*, **2016**, 52, 423-439	5.4	83
59	Introductory overview: Optimization using evolutionary algorithms and other metaheuristics. *Environmental Modelling and Software*, **2019**, 114, 195-213	5.2	83
58	A new formulation for feedforward neural networks. *IEEE Transactions on Neural Networks*, **2011**, 22, 1588-98		79
57	The Future of Sensitivity Analysis: An essential discipline for systems modeling and policy support. *Environmental Modelling and Software*, **2021**, 137, 104954	5.2	75
56	A new framework for comprehensive, robust, and efficient global sensitivity analysis: 2. Application. *Water Resources Research*, **2016**, 52, 440-455	5.4	71
55	Evaluation of Integrated Multisatellite Retrievals for GPM (IMERG) over Southern Canada against Ground Precipitation Observations: A Preliminary Assessment. *Journal of Hydrometeorology*, **2017**, 18, 1033-1050	3.7	70
54	Inter-comparison of daily precipitation products for large-scale hydro-climatic applications over Canada. *Hydrology and Earth System Sciences*, **2017**, 21, 2163-2185	5.5	51
53	Toward understanding nonstationarity in climate and hydrology through tree ring proxy records. *Water Resources Research*, **2015**, 51, 1813-1830	5.4	51
52	Introductory overview of identifiability analysis: A guide to evaluating whether you have the right type of data for your modeling purpose. *Environmental Modelling and Software*, **2019**, 119, 418-432	5.2	45
51	Representation and improved parameterization of reservoir operation in hydrological and land-surface models. *Hydrology and Earth System Sciences*, **2019**, 23, 3735-3764	5.5	42
50	Historical drought patterns over Canada and their teleconnections with large-scale climate signals. *Hydrology and Earth System Sciences*, **2018**, 22, 3105-3124	5.5	42
49	Enhanced identification of a hydrologic model using streamflow and satellite water storage data: A multicriteria sensitivity analysis and optimization approach. *Hydrological Processes*, **2017**, 31, 3320-3333	3.3	41
48	VARS-TOOL: A toolbox for comprehensive, efficient, and robust sensitivity and uncertainty analysis. *Environmental Modelling and Software*, **2019**, 112, 95-107	5.2	41

47	Revisiting the Basis of Sensitivity Analysis for Dynamical Earth System Models. *Water Resources Research*, **2018**, 54, 8692-8717	5.4	40
46	Global sensitivity analysis for high-dimensional problems: How to objectively group factors and measure robustness and convergence while reducing computational cost. *Environmental Modelling and Software*, **2019**, 111, 282-299	5.2	37
45	An efficient framework for hydrologic model calibration on long data periods. *Water Resources Research*, **2013**, 49, 8418-8431	5.4	36
44	Multicriteria sensitivity analysis as a diagnostic tool for understanding model behaviour and characterizing model uncertainty. *Hydrological Processes*, **2017**, 31, 4462-4476	3.3	32
43	Reducing the computational cost of automatic calibration through model preemption. *Water Resources Research*, **2010**, 46,	5.4	31
42	Long-lead seasonal rainfall forecasting using time-delay recurrent neural networks: a case study. *Hydrological Processes*, **2008**, 22, 229-241	3.3	29
41	An Integrated Modelling System to Predict Hydrological Processes under Climate and Land-Use/Cover Change Scenarios. *Water (Switzerland)*, **2017**, 9, 767	3	26
40	Socio-technical scales in socio-environmental modeling: Managing a system-of-systems modeling approach. *Environmental Modelling and Software*, **2021**, 135, 104885	5.2	24
39	Prewhitening of hydroclimatic time series? Implications for inferred change and variability across time scales. *Journal of Hydrology*, **2018**, 557, 109-115	6	24
38	Insights into sensitivity analysis of Earth and environmental systems models: On the impact of parameter perturbation scale. *Environmental Modelling and Software*, **2017**, 95, 115-131	5.2	22
37	Anthropocene flooding: Challenges for science and society. *Hydrological Processes*, **2020**, 34, 1996-2000	3.3	21
36	Pre-emption strategies for efficient multi-objective optimization: Application to the development of Lake Superior regulation plan. *Environmental Modelling and Software*, **2014**, 54, 128-141	5.2	19
35	Reservoir Inflow Modeling Using Temporal Neural Networks with Forgetting Factor Approach. *Water Resources Management*, **2009**, 23, 39-55	3.7	18
34	Improved Understanding of River Ice Processes Using Global Sensitivity Analysis Approaches. *Journal of Hydrologic Engineering - ASCE*, **2017**, 22, 04017048	1.8	17
33	The economic impacts of water supply restrictions due to climate and policy change: A transboundary river basin supply-side input-output analysis. *Ecological Economics*, **2020**, 172, 106532	5.6	15
32	A review and synthesis of hysteresis in hydrology and hydrological modeling: Memory, path-dependency, or missing physics?. *Journal of Hydrology*, **2018**, 566, 500-519	6	15
31	Correlation Effects? A Major but Often Neglected Component in Sensitivity and Uncertainty Analysis. *Water Resources Research*, **2020**, 56, e2019WR025436	5.4	14
30	Adaptive Neural Networks for Flood Routing in River Systems. *Water International*, **2007**, 32, 360-375	2.4	14

29	Assessment of Extremes in Global Precipitation Products: How Reliable Are They?. *Journal of Hydrometeorology*, **2020**, 21, 2855-2873	3.7	14
28	A multi-method Generalized Global Sensitivity Matrix approach to accounting for the dynamical nature of earth and environmental systems models. *Environmental Modelling and Software*, **2019**, 114, 1-11	5.2	13
27	On the appropriate definition of soil profile configuration and initial conditions for land surface hydrology models in cold regions. *Hydrology and Earth System Sciences*, **2018**, 22, 3295-3309	5.5	13
26	Time scale effect and uncertainty in reconstruction of paleo-hydrology. *Hydrological Processes*, **2016**, 30, 1985-1999	3.3	11
25	Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada Part 2: Future change in cryosphere, vegetation, and hydrology. *Hydrology and Earth System Sciences*, **2021**, 25, 1849-1882	5.5	10
24	Deep learning, explained: Fundamentals, explainability, and bridgeability to process-based modelling. *Environmental Modelling and Software*, **2021**, 144, 105159	5.2	10
23	Correlation and causation in tree-ring-based reconstruction of paleohydrology in cold semiarid regions. *Water Resources Research*, **2016**, 52, 7053-7069	5.4	9
22	On the configuration and initialization of a large-scale hydrological land surface model to represent permafrost. *Hydrology and Earth System Sciences*, **2020**, 24, 349-379	5.5	6
21	Challenges and Future Outlook of Sensitivity Analysis **2017**, 397-415		5
20	Evaluation of New Control Structures for Regulating the Great Lakes System: Multiscenario, Multireservoir Optimization Approach. *Journal of Water Resources Planning and Management - ASCE*, **2014**, 140, 04014018	2.8	5
19	Data assimilation of satellite-based terrestrial water storage changes into a hydrology land-surface model. *Journal of Hydrology*, **2021**, 597, 125744	6	5
18	Automatic clustering-based surrogate-assisted genetic algorithm for groundwater remediation system design. *Journal of Hydrology*, **2021**, 598, 125752	6	5
17	Understanding human adaptation to drought: agent-based agricultural water demand modeling in the Bow River Basin, Canada. *Hydrological Sciences Journal*, **2021**, 66, 389-407	3.5	5
16	Great Lakes Runoff Intercomparison Project Phase 3: Lake Erie (GRIP-E). *Journal of Hydrologic Engineering - ASCE*, **2021**, 26,	1.8	5
15	Analysis and prediction of land cover changes using the land change modeler (LCM) in a semiarid river basin, Iran. *Land Degradation and Development*, **2021**, 32, 3092-3105	4.4	4
14	What should we do when a model crashes? Recommendations for global sensitivity analysis of Earth and environmental systems models. *Geoscientific Model Development*, **2019**, 12, 4275-4296	6.3	3
13	Hydrologic-Land Surface Modelling of a Complex System under Precipitation Uncertainty: A Case Study of the Saskatchewan River Basin, Canada		3
12	A Fresh Look at Variography: Measuring Dependence and Possible Sensitivities Across Geophysical Systems From Any Given Data. *Geophysical Research Letters*, **2020**, 47, e2020GL089829	4.9	3

List of Publications

11	Multi-criteria, time dependent sensitivity analysis of an event-oriented, physically-based, distributed sediment and runoff model. *Journal of Hydrology*, **2021**, 598, 126268	6	3
10	Peering into agricultural rebound phenomenon using a global sensitivity analysis approach. *Journal of Hydrology*, **2021**, 602, 126739	6	3
9	Hydrologic-land surface modelling of the Canadian sporadic-discontinuous permafrost: initialization and uncertainty propagation. *Hydrological Processes*,	3.3	2
8	Paleo-hydrologic reconstruction of 400 years of past flows at a weekly time step for major rivers of Western Canada. *Earth System Science Data*, **2020**, 12, 231-243	10.5	2
7	Sensitivity analysis: A discipline coming of age. *Environmental Modelling and Software*, **2021**, 146, 105226	5.2	2
6	Advances in modelling large river basins in cold regions with Modélisation Environnementale CommunautaireSurface and Hydrology (MESH), the Canadian hydrological land surface scheme. *Hydrological Processes*, **2022**, 36,	3.3	2
5	Application of Temporal Neural Networks in Long-Lead Rainfall Forecasting **2005**, 1		1
4	Assessment of the cascade of uncertainty in future snow depth projections across watersheds of mountainous, foothill, and plain areas in northern latitudes. *Journal of Hydrology*, **2021**, 598, 125735	6	0
3	Integrated modelling to assess the impacts of water stress in a transboundary river basin: Bridging local-scale water resource operations to a river basin economy. *Science of the Total Environment*, **2021**, 800, 149543	10.2	0
2	Breaking through language barriers. *Science*, **2021**, 371, 206	33.3	
1	Comparing the applicability of hydro-economic modelling approaches for large-scale decision-making in multi-sectoral and multi-regional river basins. *Environmental Modelling and Software*, **2022**, 152, 105385	5.2	