Stanislaus J Schymanski

List of Publications by Year
in descending order

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43 papers	3,335 citations	218592 26 h-index	276775 41 g-index
82 all docs	82 docs citations	82 times ranked	5539 citing authors

#	Article	IF	Citations
1	â€œPanta Rheiâ€”Everything Flowsâ€: Change in hydrology and societyâ€”The IAHS Scientific Decade 2013â€“2022. Hydrological Sciences Journal, 2013, 58, 1256-1275.	1.2	569
2	Correlation and process in species distribution models: bridging a dichotomy. Journal of Biogeography, 2012, 39, 2119-2131.	1.4	526
3	Climate and vegetation controls on the surface water balance: Synthesis of evapotranspiration measured across a global network of flux towers. Water Resources Research, 2012, 48, .	1.7	254
4	Stomatal Control and Leaf Thermal and Hydraulic Capacitances under Rapid Environmental Fluctuations. PLoS ONE, 2013, 8, e54231.	1.1	156
5	Climate controls how ecosystems size the root zone storage capacity at catchment scale. Geophysical Research Letters, 2014, 41, 7916-7923.	1.5	138
6	An optimality-based model of the coupled soil moisture and root dynamics. Hydrology and Earth System Sciences, 2008, 12, 913-932.	1.9	127
7	An optimalityâ€based model of the dynamic feedbacks between natural vegetation and the water balance. Water Resources Research, 2009, 45, .	1.7	127
8	Organizing principles for vegetation dynamics. Nature Plants, 2020, 6, 444-453.	4.7	95
9	Thermodynamics and optimality of the water budget on land: A review. Geophysical Research Letters, 2008, 35, .	1.5	93
10	Advancing catchment hydrology to deal with predictions under change. Hydrology and Earth System Sciences, 2014, 18, 649-671.	1.9	83
11	HESS Opinions: Hydrologic predictions in a changing environment: behavioral modeling. Hydrology and Earth System Sciences, 2011, 15, 635-646.	1.9	82
12	Improving the theoretical underpinnings of processâ€based hydrologic models. Water Resources Research, 2016, 52, 2350-2365.	1.7	80
13	HESS Opinions: From response units to functional units: a thermodynamic reinterpretation of the HRU concept to link spatial organization and functioning of intermediate scale catchments. Hydrology and Earth System Sciences, 2014, 18, 4635-4655.	1.9	78
14	Two sides to every leaf: water and <scp>CO</scp>₂ transport in hypostomatous and amphistomatous leaves. New Phytologist, 2019, 222, 1179-1187.	3.5	76
15	Stomatal optimisation in relation to atmospheric <scp>CO</scp>₂. New Phytologist, 2014, 201, 372-377.	3.5	67
16	Soil Penetration by Earthworms and Plant Rootsâ€”Mechanical Energetics of Bioturbation of Compacted Soils. PLoS ONE, 2015, 10, e0128914.	1.1	67
17	Wind increases leaf water use efficiency. Plant, Cell and Environment, 2016, 39, 1448-1459.	2.8	66
18	Longâ€Term Soil Structure Observatory for Monitoring Postâ€Compaction Evolution of Soil Structure. Vadose Zone Journal, 2017, 16, 1-16.	1.3	63

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19	A test of the optimality approach to modelling canopy properties and CO2uptake by natural vegetation. Plant, Cell and Environment, 2007, 30, 1586-1598.	2.8	60
20	Biotic modifiers, environmental modulation and species distribution models. Journal of Biogeography, 2012, 39, 2179-2190.	1.4	48
21	Challenges and opportunities in land surface modelling of savanna ecosystems. Biogeosciences, 2017, 14, 4711-4732.	1.3	45
22	A canopy-scale test of the optimal water-use hypothesis. Plant, Cell and Environment, 2007, 31, 071030013314002-???.	2.8	42
23	Maximum entropy production allows a simple representation of heterogeneity in semiarid ecosystems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 1449-1455.	1.8	39
24	Quantifying the thermodynamic entropy budget of the land surface: is this useful?. Earth System Dynamics, 2011, 2, 87-103.	2.7	39
25	Dominant controls of transpiration along a hillslope transect inferred from ecohydrological measurements and thermodynamic limits. Hydrology and Earth System Sciences, 2016, 20, 2063-2083.	1.9	33
26	Leaf-scale experiments reveal an important omission in the Penmanâ€“Monteith equation. Hydrology and Earth System Sciences, 2017, 21, 685-706.	1.9	33
27	Entropy production of soil hydrological processes and its maximisation. Earth System Dynamics, 2011, 2, 179-190.	2.7	28
28	A hydrologist's guide to open science. Hydrology and Earth System Sciences, 2022, 26, 647-664.	1.9	21
29	Mechanics and Energetics of Soil Penetration by Earthworms and Plant Roots: Higher Rates Cost More. Vadose Zone Journal, 2017, 16, 1-16.	1.3	20
30	Soil structure recovery following compaction: Shortâ€term evolution of soil physical properties in a loamy soil. Soil Science Society of America Journal, 2021, 85, 1002-1020.	1.2	20
31	Using an optimality model to understand medium and long-term responses of vegetation water use to elevated atmospheric CO2concentrations. AoB PLANTS, 2015, 7, plv060.	1.2	19
32	Importance of temporal variability for hydrological predictions based on the maximum entropy production principle. Geophysical Research Letters, 2014, 41, 67-73.	1.5	18
33	Optimality as a Concept to Understand and Model Vegetation at Different Scales. Geography Compass, 2008, 2, 1580-1598.	1.5	17
34	Experimental Evaluation of Earthworm and Plant Root Soil Penetrationâ€“Cavity Expansion Models Using Cone Penetrometer Analogs. Vadose Zone Journal, 2016, 15, 1-14.	1.3	13
35	Wind effects on leaf transpiration challenge the concept of "potential evaporation". Proceedings of the International Association of Hydrological Sciences, 0, 371, 99-107.	1.0	11
36	Gross primary productivity and water use efficiency are increasing in a high rainfall tropical savanna. Global Change Biology, 2022, 28, 2360-2380.	4.2	11

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37	Modeling the crop transpiration using an optimality-based approach. Science in China Series D: Earth Sciences, 2008, 51, 60-75.	0.9	10
38	Process, correlation and parameter fitting in species distribution models: a response to Kriticos etÂal. Journal of Biogeography, 2013, 40, 612-613.	1.4	8
39	Technical note: An experimental set-up to measure latent and sensible heat fluxes from (artificial) plant leaves. Hydrology and Earth System Sciences, 2017, 21, 3377-3400.	1.9	8
40	Thermodynamics, Irreversibility, and Optimality in Land Surface Hydrology. , 2009, , 107-118.		8
41	Adding our leaves: A communityâ€wide perspective on research directions in ecohydrology. Hydrological Processes, 2020, 34, 1665-1673.	1.1	3
42	Does maximization of net carbon profit enable the prediction of vegetation behaviour in savanna sites along a precipitation gradient?. Hydrology and Earth System Sciences, 2022, 26, 525-550.	1.9	3
43	Influence of modifications (from AoB2015 to v0.5) in the Vegetation Optimality Model. Geoscientific Model Development, 2022, 15, 883-900.	1.3	2