Thomas WÃ¶hling

List of Publications by Year
in descending order

51 papers	2,038 citations	304743 22 h-index	243625 44 g-index
76 all docs	76 docs citations	76 times ranked	2659 citing authors

#	Article	IF	Citations
1	Modeling Soil Processes: Review, Key Challenges, and New Perspectives. Vadose Zone Journal, 2016, 15, 1-57.	2.2	445
2	Inverse Modeling of Subsurface Flow and Transport Properties: A Review with New Developments. Vadose Zone Journal, 2008, 7, 843-864.	2.2	188
3	Model selection on solid ground: Rigorous comparison of nine ways to evaluate <scp>B</scp>ayesian model evidence. Water Resources Research, 2014, 50, 9484-9513.	4.2	107
4	Comparison of Three Multiobjective Optimization Algorithms for Inverse Modeling of Vadose Zone Hydraulic Properties. Soil Science Society of America Journal, 2008, 72, 305-319.	2.2	105
5	Multiresponse multilayer vadose zone model calibration using Markov chain Monte Carlo simulation and field water retention data. Water Resources Research, 2011, 47, .	4.2	87
6	Catchments as reactors: a comprehensive approach for water fluxes and solute turnover. Environmental Earth Sciences, 2013, 69, 317-333.	2.7	71
7	A Primer for Model Selection: The Decisive Role of Model Complexity. Water Resources Research, 2018, 54, 1688-1715.	4.2	71
8	Combining multiobjective optimization and Bayesian model averaging to calibrate forecast ensembles of soil hydraulic models. Water Resources Research, 2008, 44, .	4.2	57
9	Evaluating multiple performance criteria to calibrate the distributed hydrological model of the upper Neckar catchment. Environmental Earth Sciences, 2013, 69, 453-468.	2.7	49
10	Incorporating dynamic root growth enhances the performance of Noah-MP at two contrasting winter wheat field sites. Water Resources Research, 2014, 50, 1337-1356.	4.2	47
11	Bayesian model averaging to explore the worth of data for soilâ€plant model selection and prediction. Water Resources Research, 2015, 51, 2825-2846.	4.2	43
12	Concurrent conservative and reactive tracer tests in a stream undergoing hyporheic exchange. Water Resources Research, 2013, 49, 3024-3037.	4.2	41
13	Finding the right balance between groundwater model complexity and experimental effort via Bayesian model selection. Journal of Hydrology, 2015, 531, 96-110.	5.4	41
14	Multiresponse, multiobjective calibration as a diagnostic tool to compare accuracy and structural limitations of five coupled soil-plant models and CLM3.5. Water Resources Research, 2013, 49, 8200-8221.	4.2	40
15	Efficient regularization and uncertainty analysis using a global optimization methodology. Water Resources Research, 2010, 46, .	4.2	36
16	Assessing the relevance of subsurface processes for the simulation of evapotranspiration and soil moisture dynamics with CLM3.5: comparison with field data and crop model simulations. Environmental Earth Sciences, 2013, 69, 415-427.	2.7	36
17	Coupled simulation of surface runoff and soil water flow using multi-objective parameter estimation. Journal of Hydrology, 2011, 403, 141-156.	5.4	33
18	Karst modelling challenge 1: Results of hydrological modelling. Journal of Hydrology, 2021, 600, 126508.	5.4	31

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19	The chaos in calibrating crop models: Lessons learned from a multi-model calibration exercise. Environmental Modelling and Software, 2021, 145, 105206.	4.5	31
20	A statistical concept to assess the uncertainty in Bayesian model weights and its impact on model ranking. Water Resources Research, 2015, 51, 7524-7546.	4.2	30
21	How well do crop modeling groups predict wheat phenology, given calibration data from the target population?. European Journal of Agronomy, 2021, 124, 126195.	4.1	27
22	Automated Equilibrium Tension Lysimeters for Measuring Water Fluxes through a Layered, Volcanic Vadose Profile in New Zealand. Vadose Zone Journal, 2011, 10, 747-759.	2.2	25
23	Threeâ€Dimensional Modeling of Multiple Automated Equilibrium Tension Lysimeters to Measure Vadose Zone Fluxes. Vadose Zone Journal, 2009, 8, 1051-1063.	2.2	24
24	Simplification error analysis for groundwater predictions with reduced order models. Advances in Water Resources, 2019, 125, 41-56.	3.8	24
25	Percolation losses in paddy fields with a dynamic soil structure: model development and applications. Hydrological Processes, 2010, 24, 813-824.	2.6	23
26	Uncertainty in the modelling of spatial and temporal patterns of shallow groundwater flow paths: The role of geological and hydrological site information. Journal of Hydrology, 2016, 534, 680-694.	5.4	22
27	Optimal Design of Multitype Groundwater Monitoring Networks Using Easily Accessible Tools. Ground Water, 2016, 54, 861-870.	1.3	21
28	Cumulative relative reactivity: A concept for modeling aquifer-scale reactive transport. Water Resources Research, 2016, 52, 8117-8137.	4.2	21
29	Sorption and transformation of the reactive tracers resazurin and resorufin in natural river sediments. Hydrology and Earth System Sciences, 2014, 18, 3151-3163.	4.9	20
30	Revisiting hydraulic hysteresis based on longâ€term monitoring of hydraulic states in lysimeters. Water Resources Research, 2016, 52, 3847-3865.	4.2	20
31	Quantifying Riverâ€Groundwater Interactions of New Zealand's Gravelâ€Bed Rivers: The Wairau Plain. Ground Water, 2018, 56, 647-666.	1.3	19
32	Dual-tracer, non-equilibrium mixing cell modelling and uncertainty analysis for unsaturated bromide and chloride transport. Journal of Contaminant Hydrology, 2012, 140-141, 150-163.	3.3	18
33	Explicit treatment for Dirichlet, Neumann and Cauchy boundary conditions in POD-based reduction of groundwater models. Advances in Water Resources, 2018, 115, 160-171.	3.8	18
34	Assessing hyporheic exchange and associated travel times by hydraulic, chemical, and isotopic monitoring at the Steinlach Test Site, Germany. Environmental Earth Sciences, 2013, 69, 359-372.	2.7	17
35	Multi-model evaluation of phenology prediction for wheat in Australia. Agricultural and Forest Meteorology, 2021, 298-299, 108289.	4.8	17
36	Accounting for the Decreasing Reaction Potential of Heterogeneous Aquifers in a Stochastic Framework of Aquiferâ€Scale Reactive Transport. Water Resources Research, 2018, 54, 442-463.	4.2	14

#	ARTICLE	IF	CITATIONS
37	Sensitivity of Simulated Hyporheic Exchange to River Bathymetry: The Steinlach River Test Site. Ground Water, 2019, 57, 378-391.	1.3	14
38	Characterizing Disturbed Desert Soils Using Multiobjective Parameter Optimization. Vadose Zone Journal, 2013, 12, 1-23.	2.2	13
39	Modeling of Nonequilibrium Bromide Transport through Alluvial Gravel Vadose Zones. Vadose Zone Journal, 2010, 9, 731-746.	2.2	13
40	Predicting nitrate discharge dynamics in mesoscale catchments using the lumped StreamGEM model and Bayesian parameter inference. Journal of Hydrology, 2017, 552, 684-703.	5.4	12
41	Towards Optimizing Experiments for Maximum-confidence Model Selection between Different Soil-plant Models. Procedia Environmental Sciences, 2013, 19, 514-523.	1.4	8
42	Detecting the cause of change using uncertain data: Natural and anthropogenic factors contributing to declining groundwater levels and flows of the Wairau Plain aquifer, New Zealand. Journal of Hydrology: Regional Studies, 2020, 31, 100715.	2.4	7
43	Eigenmodels to forecast groundwater levels in unconfined river-fed aquifers during flow recession. Science of the Total Environment, 2020, 747, 141220.	8.0	7
44	Diagnosis of Model Errors With a Sliding Timeâ€Window Bayesian Analysis. Water Resources Research, 2022, 58, .	4.2	7
45	Using an integrated hydrological model to estimate the usefulness of meteorological drought indices in a changing climate. Hydrology and Earth System Sciences, 2016, 20, 4159-4175.	4.9	5
46	Evaluating Subsurface Parameterization to Simulate Hyporheic Exchange: The Steinlach River Test Site. Ground Water, 2020, 58, 93-109.	1.3	5
47	Lumped geohydrological modelling for long-term predictions of groundwater storage and depletion. Journal of Hydrology, 2022, 606, 127347.	5.4	5
48	An Electronâ€Balance Based Approach to Predict the Decreasing Denitrification Potential of an Aquifer. Ground Water, 2019, 57, 925-939.	1.3	4
49	Robust Data Worth Analysis with Surrogate Models. Ground Water, 2021, 59, 728-744.	1.3	4
50	Analytical Model of Surface Flow on Hillslopes Based on the Zero Inertia Equations. Journal of Hydraulic Engineering, 2012, 138, 391-399.	1.5	3
51	Tracing lateral subsurface flow in layered soils by undisturbed monolith sampling, targeted laboratory experiments, and modelâ€based analysis. Vadose Zone Journal, 2022, 21, .	2.2	2