Jan Fleckenstein

List of Publications by Year
in descending order

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90 papers	4,411 citations	81900 39 h-index	114465 63 g-index
153 all docs	153 docs citations	153 times ranked	3975 citing authors

#	Article	IF	Citations
1	Interâ€disciplinary perspectives on processes in the hyporheic zone. Ecohydrology, 2011, 4, 481-499.	2.4	245
2	Groundwater-surface water interactions: New methods and models to improve understanding of processes and dynamics. Advances in Water Resources, 2010, 33, 1291-1295.	3.8	236
3	River-Aquifer Interactions, Geologic Heterogeneity, and Low-Flow Management. Ground Water, 2006, 44, 837-852.	1.3	229
4	Catchment controls on solute export. Advances in Water Resources, 2015, 86, 133-146.	3.8	219
5	Ecohydrological interfaces as hot spots of ecosystem processes. Water Resources Research, 2017, 53, 6359-6376.	4.2	155
6	Effects of micro-topography on surfaceâ€“subsurface exchange and runoff generation in a virtual riparian wetland â€" A modeling study. Advances in Water Resources, 2010, 33, 1388-1401.	3.8	129
7	Transient or steadyâ€state? Using vertical temperature profiles to quantify groundwaterâ€“surface water exchange. Hydrological Processes, 2009, 23, 2165-2177.	2.6	120
8	Emergent archetype patterns of coupled hydrologic and biogeochemical responses in catchments. Geophysical Research Letters, 2017, 44, 4143-4151.	4.0	117
9	Concentrations and fluxes of dissolved organic carbon in runoff from a forested catchment: insights from high frequency measurements. Biogeosciences, 2013, 10, 905-916.	3.3	115
10	Coupled 3-D stream flow and hyporheic flow model under varying stream and ambient groundwater flow conditions in a pool-riffle system. Water Resources Research, 2013, 49, 5834-5850.	4.2	110
11	Upscaling Nitrogen Removal Capacity from Local Hotspots to Low Stream Ordersâ€™ Drainage Basins. Ecosystems, 2015, 18, 1101-1120.	3.4	104
12	Patterns and dynamics of riverâ€“aquifer exchange with variably-saturated flow using a fully-coupled model. Journal of Hydrology, 2009, 375, 383-393.	5.4	97
13	Surface microâ€topography causes hot spots of biogeochemical activity in wetland systems: A virtual modeling experiment. Journal of Geophysical Research, 2012, 117, .	3.3	97
14	The Bode hydrological observatory: a platform for integrated, interdisciplinary hydro-ecological research within the TERENO Harz/Central German Lowland Observatory. Environmental Earth Sciences, 2017, 76, 1.	2.7	93
15	Differential storm responses of dissolved and particulate organic carbon in a mountainous headwater stream, investigated by highâ€frequency, in situ optical measurements. Journal of Geophysical Research, 2012, 117, .	3.3	85
16	Hyporheic transport and biogeochemical reactions in poolâ€riffle systems under varying ambient groundwater flow conditions. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 910-928.	3.0	83
17	Stratification of reactivity determines nitrate removal in groundwater. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2494-2499.	7.1	77
18	Hydraulic controls of inâ€stream gravel bar hyporheic exchange and reactions. Water Resources Research, 2015, 51, 2243-2263.	4.2	76

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19	Simulating the effects of geologic heterogeneity and transient boundary conditions on streambed temperatures â€" Implications for temperature-based water flux calculations. Advances in Water Resources, 2010, 33, 1309-1319.	3.8	75
20	Catchments as reactors: a comprehensive approach for water fluxes and solute turnover. Environmental Earth Sciences, 2013, 69, 317-333.	2.7	71
21	Exploring the Dynamics of Transit Times and Subsurface Mixing in a Small Agricultural Catchment. Water Resources Research, 2018, 54, 2317-2335.	4.2	68
22	River water infiltration enhances denitrification efficiency in riparian groundwater. Water Research, 2018, 130, 185-199.	11.3	67
23	Single discharge events increase reactive efficiency of the hyporheic zone. Water Resources Research, 2017, 53, 779-798.	4.2	64
24	Carbon and nutrient export regimes from headwater catchments to downstream reaches. Biogeosciences, 2017, 14, 4391-4407.	3.3	63
25	A heat pulse technique for the determination of smallâ€scale flow directions and flow velocities in the streambed of sandâ€bed streams. Hydrological Processes, 2011, 25, 3244-3255.	2.6	62
26	Hyporheic hydrology: interactions at the groundwaterâ€surface water interface. Hydrological Processes, 2009, 23, 2103-2107.	2.6	58
27	Simulating bioclogging effects on dynamic riverbed permeability and infiltration. Water Resources Research, 2016, 52, 2883-2900.	4.2	57
28	Interpreting streamflow generation mechanisms from integrated surface-subsurface flow models of a riparian wetland and catchment. Water Resources Research, 2013, 49, 5501-5519.	4.2	56
29	Influence of Hydrological Perturbations and Riverbed Sediment Characteristics on Hyporheic Zone Respiration of CO₂ and N₂. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 902-922.	3.0	56
30	Representing effects of micro-topography on runoff generation and sub-surface flow patterns by using superficial rill/depression storage height variations. Environmental Modelling and Software, 2014, 52, 5-18.	4.5	54
31	Understanding process dynamics at aquifer-surface water interfaces: An introduction to the special section on new modeling approaches and novel experimental technologies. Water Resources Research, 2014, 50, 1847-1855.	4.2	52
32	The effect of losing and gaining flow conditions on hyporheic exchange in heterogeneous streambeds. Water Resources Research, 2016, 52, 7460-7477.	4.2	52
33	Managing Surface Water-Groundwater to Restore Fall Flows in the Cosumnes River. Journal of Water Resources Planning and Management - ASCE, 2004, 130, 301-310.	2.6	51
34	How Important is Denitrification in Riparian Zones? Combining Endâ€Member Mixing and Isotope Modeling to Quantify Nitrate Removal from Riparian Groundwater. Water Resources Research, 2020, 56, e2019WR025528.	4.2	49
35	Sobre-escalado eficiente de la conductividad hidrÃ¡ulica en acuÃferos aluviales heterogÃ©neos. Hydrogeology Journal, 2008, 16, 1239-1250.	2.1	47
36	Trajectories of nitrate input and output in three nested catchments along a land use gradient. Hydrology and Earth System Sciences, 2019, 23, 3503-3524.	4.9	44

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37	Groundwater head controls nitrate export from an agricultural lowland catchment. Advances in Water Resources, 2016, 96, 95-107.	3.8	42
38	Archetypes and Controls of Riverine Nutrient Export Across German Catchments. Water Resources Research, 2021, 57, e2020WR028134.	4.2	41
39	Strong hydroclimatic controls on vulnerability to subsurface nitrate contamination across Europe. Nature Communications, 2020, 11, 6302.	12.8	40
40	A New Fully Distributed Model of Nitrate Transport and Removal at Catchment Scale. Water Resources Research, 2018, 54, 5856-5877.	4.2	39
41	Stream solute tracer timescales changing with discharge and reach length confound process interpretation. Water Resources Research, 2016, 52, 3227-3245.	4.2	37
42	Spatio-temporal controls of dissolved organic carbon stream water concentrations. Journal of Hydrology, 2018, 566, 205-215.	5.4	37
43	A parallelization scheme to simulate reactive transport in the subsurface environment with OGS#IPhreeqc 5.5.7-3.1.2. Geoscientific Model Development, 2015, 8, 3333-3348.	3.6	36
44	A 3D analysis algorithm to improve interpretation of heat pulse sensor results for the determination of small-scale flow directions and velocities in the hyporheic zone. Journal of Hydrology, 2012, 475, 1-11.	5.4	34
45	River-aquifer exchange fluxes under monsoonal climate conditions. Journal of Hydrology, 2014, 509, 601-614.	5.4	34
46	Transient analysis of fluctuations of electrical conductivity as tracer in the stream bed. Hydrology and Earth System Sciences, 2012, 16, 3689-3697.	4.9	29
47	Spatial and Temporal Variability in Concentrationâ€Discharge Relationships at the Event Scale. Water Resources Research, 2021, 57, e2020WR029442.	4.2	29
48	Organizational Principles of Hyporheic Exchange Flow and Biogeochemical Cycling in River Networks Across Scales. Water Resources Research, 2022, 58, .	4.2	26
49	Measurement of microplastic settling velocities and implications for residence times in thermally stratified lakes. Limnology and Oceanography, 2022, 67, 934-945.	3.1	26
50	Spatial and temporal variation in river corridor exchange across a 5th-order mountain stream network. Hydrology and Earth System Sciences, 2019, 23, 5199-5225.	4.9	23
51	Disentangling the Impact of Catchment Heterogeneity on Nitrate Export Dynamics From Event to Longâ€Term Time Scales. Water Resources Research, 2021, 57, e2020WR027992.	4.2	23
52	Impacts of water level on metabolism and transient storage in vegetated lowland rivers: Insights from a mesocosm study. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 628-644.	3.0	22
53	High-frequency measurements explain quantity and quality of dissolved organic carbon mobilization in a headwater catchment. Biogeosciences, 2019, 16, 4497-4516.	3.3	22
54	Nighttime and daytime respiration in a headwater stream. Ecohydrology, 2016, 9, 93-100.	2.4	21

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55	An exploration of coupled surfaceâ€“subsurface solute transport in a fully integrated catchment model. Journal of Hydrology, 2015, 529, 969-979.	5.4	19
56	Estimating timeâ€variable aerobic respiration in the streambed by combining electrical conductivity and dissolved oxygen time series. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 2199-2215.	3.0	19
57	Modeling Nitrate Export From a Mesoscale Catchment Using StorAge Selection Functions. Water Resources Research, 2021, 57, e2020WR028490.	4.2	19
58	Low hydrological connectivity after summer drought inhibits DOC export in a forested headwater catchment. Hydrology and Earth System Sciences, 2021, 25, 5133-5151.	4.9	19
59	Robust Optode-Based Method for Measuring in Situ Oxygen Profiles in Gravelly Streambeds. Environmental Science & Technology, 2013, 47, 9858-9865.	10.0	18
60	The systematic effect of streambed conductivity heterogeneity on hyporheic flux and residence time. Advances in Water Resources, 2018, 122, 60-69.	3.8	18
61	Nitrate Transport and Retention in Western European Catchments Are Shaped by Hydroclimate and Subsurface Properties. Water Resources Research, 2021, 57, e2020WR029469.	4.2	18
62	A weighted, multi-method approach for accurate basin-wide streamflow estimation in an ungauged watershed. Journal of Hydrology, 2013, 494, 72-82.	5.4	17
63	Monsoonal-type climate or land-use management: Understanding their role in the mobilization of nitrate and DOC in a mountainous catchment. Journal of Hydrology, 2013, 507, 149-162.	5.4	16
64	A method for automated, daily, temperature-based vertical streambed water-fluxes. Fundamental and Applied Limnology, 2014, 184, 173-181.	0.7	15
65	Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th-order mountain stream network, Oregon, USA. Earth System Science Data, 2019, 11, 1567-1581.	9.9	14
66	Explaining the Variability in Highâ€Frequency Nitrate Export Patterns Using Longâ€Term Hydrological Event Classification. Water Resources Research, 2022, 58, .	4.2	14
67	Spatial patterns of groundwaterâ€lake exchange â€“ implications for acid neutralization processes in an acid mine lake. Hydrological Processes, 2013, 27, 3240-3253.	2.6	12
68	On the shape of forward transit time distributions in low-order catchments. Hydrology and Earth System Sciences, 2020, 24, 2895-2920.	4.9	12
69	Seasonal and shortâ€term controls of riparian oxygen dynamics and the implications for redox processes. Hydrological Processes, 2021, 35, e14055.	2.6	12
70	Impact of long-term drainage on summer groundwater flow patterns in the Mer Bleue peatland, Ontario, Canada. Hydrology and Earth System Sciences, 2013, 17, 3485-3498.	4.9	10
71	Longâ€Term Nitrate Trajectories Vary by Season in Western European Catchments. Global Biogeochemical Cycles, 2021, 35, e2021GB007050.	4.9	10
72	Transitâ€Time and Temperature Control the Spatial Patterns of Aerobic Respiration and Denitrification in the Riparian Zone. Water Resources Research, 2021, 57, e2021WR030117.	4.2	10

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73	Automated in Situ Oxygen Profiling at Aquaticâ€“Terrestrial Interfaces. Environmental Science & Technology, 2017, 51, 9970-9978.	10.0	9
74	Controls on iron(II) fluxes into waterways impacted by acid mine drainage: A DamkÃ¶hler analysis of groundwater seepage and iron kinetics. Water Research, 2019, 153, 11-20.	11.3	9
75	Event-Driven Hyporheic Exchange during Single and Seasonal Rainfall in a Gaining Stream. Water Resources Management, 2020, 34, 4617-4631.	3.9	8
76	Disparate Seasonal Nitrate Export From Nested Heterogeneous Subcatchments Revealed With StorAge Selection Functions. Water Resources Research, 2022, 58, .	4.2	8
77	Effects of Heterogeneous Streamâ€Groundwater Exchange on the Source Composition of Stream Discharge and Solute Load. Water Resources Research, 2021, 57, e2020WR029079.	4.2	7
78	Small-scale topography explains patterns and dynamics of dissolved organic carbon exports from the riparian zone of a temperate, forested catchment. Hydrology and Earth System Sciences, 2021, 25, 6067-6086.	4.9	7
79	Delineating Source Contributions to Stream Dissolved Organic Matter Composition Under Baseflow Conditions in Forested Headwater Catchments. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2021JG006425.	3.0	6
80	Using nitrate as a tracer to constrain age selection preferences in catchments with strong seasonality. Journal of Hydrology, 2021, 603, 126889.	5.4	6
81	A systematic model-based evaluation of the influence of hydraulic conductivity, heterogeneity and domain depth on hyporheic nutrient transformation. Advances in Water Resources, 2022, 159, 104087.	3.8	6
82	Streambed microbial communities in the transition zone between groundwater and a first-order stream as impacted by bidirectional water exchange. Water Research, 2022, 217, 118334.	11.3	6
83	Bending of the concentration discharge relationship can inform about in-stream nitrate removal. Hydrology and Earth System Sciences, 2021, 25, 6437-6463.	4.9	6
84	Modeling the Impact of Stream Discharge Events on Riparian Solute Dynamics. Ground Water, 2019, 57, 140-152.	1.3	5
85	Does iron reduction control the release of dissolved organic carbon and phosphate at catchment scales? Need for a joint research effort. Global Change Biology, 2017, 23, e5-e6.	9.5	4
86	Groundwaterâ€surface water exchange as key control for instream and groundwater nitrate concentrations along a firstâ€order agricultural stream. Hydrological Processes, 0, , .	2.6	4
87	Upscaling Heat Flow in Porous Media With Periodic Surface Temperature Fluctuation Using a Oneâ€Dimensional Subordinated Heat Transfer Equation. Water Resources Research, 2021, 57, e2020WR027266.	4.2	3
88	Spatiotemporal variations in water sources and mixing spots in a riparian zone. Hydrology and Earth System Sciences, 2022, 26, 1883-1905.	4.9	3
89	Hydrologic turnover matters â€“ gross gains and losses of six firstâ€order streams across contrasting landscapes and flow regimes. Water Resources Research, 0, , .	4.2	1
90	Themenheft: Grundwasser-OberflÃchenwasser-Interaktionen. Grundwasser, 2009, 14, 161-162.	1.4	0