

# Davide WÃ¼thrich

## List of Publications by Year in descending order

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Version: 2024-02-01

124  
papers

2,391  
citations

218381

26  
h-index

264894

42  
g-index

126  
all docs

126  
docs citations

126  
times ranked

2173  
citing authors

#	ARTICLE	IF	CITATIONS
1	Performance and Design of a Stepped Spillway Aerator. <i>Water (Switzerland)</i> , 2022, 14, 153.	1.2	4
2	Flow Patterns, Roller Characteristics and Air Entrainment in Weak Hydraulic Jumps: Does Size Matter?. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2022, , .	0.8	0
3	Friction effects on quasi-steady dam-break wave propagation on horizontal beds. <i>Journal of Fluid Mechanics</i> , 2022, 939, .	1.4	3
4	Hydraulic jumps with low inflow Froude numbers: airâ€“water surface patterns and transverse distributions of two-phase flow properties. <i>Environmental Fluid Mechanics</i> , 2022, 22, 789-818.	0.7	6
5	Ensemble-statistical approach in the measurement of airâ€“water flow properties in highly unsteady breaking bores. <i>Review of Scientific Instruments</i> , 2022, 93, 054502.	0.6	1
6	Design of sediment detention basins: Scaled model experiments and application. <i>International Journal of Sediment Research</i> , 2021, 36, 136-150.	1.8	8
7	Effect of 30-Degree Sloping Smooth and Stepped Chute Approach Flow on the Performance of a Classical Stilling Basin. <i>Journal of Hydraulic Engineering</i> , 2021, 147, .	0.7	20
8	A case-study evaluating river rehabilitation alternatives and habitat heterogeneity using the hydromorphological index of diversity. <i>Journal of Ecohydraulics</i> , 2021, 6, 1-16.	1.6	5
9	Measurements of bed shear stresses near the tip of dam-break waves on a rough bed. <i>Experiments in Fluids</i> , 2021, 62, 1.	1.1	4
10	Parameterization and Results of SWE for Gravity Currents Are Sensitive to the Definition of Depth. <i>Journal of Hydraulic Engineering</i> , 2021, 147, 04021016.	0.7	1
11	Experimental and Numerical Study on Scour-Protection Methods in a Stilling Basin: Case Study of Chancy-Pougny Dam. <i>Journal of Hydraulic Engineering</i> , 2021, 147, .	0.7	2
12	Blockage Probability Modeling of Large Wood at Reservoir Spillways With Piers. <i>Water Resources Research</i> , 2021, 57, e2021WR029722.	1.7	9
13	Assessing the energy potential of modernizing the European hydropower fleet. <i>Energy Conversion and Management</i> , 2021, 246, 114655.	4.4	48
14	INTRUSIVE AND NON-INTRUSIVE TWO-PHASE AIR-WATER MEASUREMENTS ON STEPPED SPILLWAYS: A PHYSICAL STUDY. <i>Experimental Thermal and Fluid Science</i> , 2021, 131, 110545.	1.5	5
15	Effect of building overtopping on induced loads during extreme hydrodynamic events. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 289-304.	0.7	13
16	Statistical accuracy for estimations of large wood blockage in a reservoir environment. <i>Environmental Fluid Mechanics</i> , 2020, 20, 579-592.	0.7	4
17	The performance of collars on scour reduction at tandem piers aligned with different skew angles. <i>Marine Georesources and Geotechnology</i> , 2020, 38, 911-922.	1.2	2
18	Effect of Debris Damming on Wave-Induced Hydrodynamic Loads against Free-Standing Buildings with Openings. <i>Journal of Waterway, Port, Coastal and Ocean Engineering</i> , 2020, 146, .	0.5	6

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19	A risk-based multi-level stress test methodology: application to six critical non-nuclear infrastructures in Europe. <i>Natural Hazards</i> , 2020, 100, 595-633.	1.6	17
20	Physical study of the 3-dimensional characteristics and free-surface properties of a breaking roller in bores and surges. <i>Experimental Thermal and Fluid Science</i> , 2020, 112, 109980.	1.5	9
21	Influence of collars on reduction in scour depth at two piers in a tandem configuration. <i>Acta Geophysica</i> , 2020, 68, 229-242.	1.0	13
22	Erosion, transport and deposition of a sediment replenishment under flood conditions. <i>Earth Surface Processes and Landforms</i> , 2020, 45, 3354-3367.	1.2	18
23	Forces on buildings with openings and orientation in a steady post-tsunami free-surface flow. <i>Coastal Engineering</i> , 2020, 161, 103753.	1.7	14
24	Physical properties of a hydraulic jump with low Froude numbers and relatively high Reynolds numbers. , 2020, , .		7
25	Air-water flows on stepped spillways with inclined steps. , 2020, , .		1
26	Image-based measurements of air-water flow properties in plunging air-water jets. , 2020, , .		0
27	Introducing a single bubble event detection technique for air-water interfacial velocity measurements in unsteady turbulent bore. , 2020, , .		1
28	Applications of optical flow technique in air-water flows. , 2020, , .		1
29	Unsteady surge characteristics in semi-circular channels. , 2020, , .		0
30	Air-water flow properties in breaking bores and stationary jumps with the same Froude number - analogies and dissimilarities. , 2020, , .		0
31	Sensitivity analysis in air-water measurements under highly unsteady flow conditions: the breaking bore. , 2020, , .		0
32	Impact hydrodynamique des vagues contre les btiments. <i>Houille Blanche</i> , 2020, 106, 34-41.	0.3	2
33	Influence of geometrical parameters of chamfered or rounded orifices on head losses. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 263-271.	0.7	5
34	Bottom slope influence on flow and bedload transfer through contractions. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 197-210.	0.7	5
35	Experimental repetitions and blockage of large stems at ogee crested spillways with piers. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 250-262.	0.7	25
36	Floodplain Land Cover and Flow Hydrodynamic Control of Overbank Sedimentation in Compound Channel Flows. <i>Water Resources Research</i> , 2019, 55, 9072-9091.	1.7	30

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37	Potential erosion capacity of gravity currents created by changing initial conditions. <i>Earth Surface Dynamics</i> , 2019, 7, 377-391.	1.0	5
38	Effect of bed roughness on tsunami-like waves and induced loads on buildings. <i>Coastal Engineering</i> , 2019, 152, 103508.	1.7	14
39	Effect of a second layer on the time to failure of compressed riprap as mountain riverbank protection. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 573-578.	0.7	1
40	Experimental and Numerical Study on Wave-Impact on Buildings. , 2019, , .		1
41	Synergies entre la production hydroélectrique et la protection contre les crues: cas d'étude de la Sihl en Suisse. <i>Houille Blanche</i> , 2019, 105, 102-115.	0.3	0
42	Swiss Rainfall Mass Curves and their Influence on Extreme Flood Simulation. <i>Water Resources Management</i> , 2018, 32, 2625-2638.	1.9	8
43	Structure of a dense release produced by varying initial conditions. <i>Environmental Fluid Mechanics</i> , 2018, 18, 1101-1119.	0.7	14
44	Morphological resilience to flow fluctuations of fine sediment deposits in bank lateral cavities. <i>Advances in Water Resources</i> , 2018, 115, 44-59.	1.7	20
45	Entrainment, transport and deposition of sediment by saline gravity currents. <i>Advances in Water Resources</i> , 2018, 115, 17-32.	1.7	39
46	Towards Safer Data-Driven Forecasting of Extreme Streamflows. <i>Water Resources Management</i> , 2018, 32, 701-720.	1.9	5
47	Experimental Study of Tsunami-Like Waves Generated with a Vertical Release Technique on Dry and Wet Beds. <i>Journal of Waterway, Port, Coastal and Ocean Engineering</i> , 2018, 144, .	0.5	51
48	Venting of turbidity currents approaching a rectangular opening on a horizontal bed. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2018, 56, 44-58.	0.7	11
49	Transport of suspended sediments under the influence of bank macro-roughness. <i>Earth Surface Processes and Landforms</i> , 2018, 43, 271-284.	1.2	27
50	Flow field in a reservoir subject to pumped-storage operation "in situ" measurement and numerical modeling. <i>Journal of Applied Water Engineering and Research</i> , 2018, 6, 109-124.	1.0	15
51	Sampling sufficiency for determining hydraulic habitat diversity. <i>Journal of Ecohydraulics</i> , 2018, 3, 130-144.	1.6	5
52	Multidecadal Sediment Balance Modelling of a Cascade of Alpine Reservoirs and Perspectives Based on Climate Warming. <i>Water (Switzerland)</i> , 2018, 10, 1759.	1.2	12
53	One-Dimensional Fluid-Structure Interaction Models in Pressurized Fluid-Filled Pipes: A Review. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 1844.	1.3	25
54	Experimental study on the hydrodynamic impact of tsunami-like waves against impervious free-standing buildings. <i>Coastal Engineering Journal</i> , 2018, 60, 180-199.	0.7	50

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55	Sediment traps with guiding channel and hybrid check dams improve controlled sediment retention. <i>Natural Hazards and Earth System Sciences</i> , 2018, 18, 647-668.	1.5	20
56	Experimental study on forces exerted on buildings with openings due to extreme hydrodynamic events. <i>Coastal Engineering</i> , 2018, 140, 72-86.	1.7	35
57	Re-establishment of a uniform discharge on the Olympic fountain in Lausanne. <i>Journal of Applied Water Engineering and Research</i> , 2017, 5, 78-89.	1.0	0
58	Probabilistic failure analysis of riprap as riverbank protection under flood uncertainties. <i>Stochastic Environmental Research and Risk Assessment</i> , 2017, 31, 1839-1851.	1.9	9
59	Experiments on the effect of inflow and outflow sequences on suspended sediment exchange rates. <i>International Journal of Sediment Research</i> , 2017, 32, 155-170.	1.8	6
60	Fluid-structure interaction in straight pipelines with different anchoring conditions. <i>Journal of Sound and Vibration</i> , 2017, 394, 348-365.	2.1	38
61	Fluid-structure interaction in pipe coils during hydraulic transients. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 491-505.	0.7	9
62	Gravel bar inundation frequency: an important parameter for understanding riparian corridor dynamics. <i>Aquatic Sciences</i> , 2017, 79, 825-839.	0.6	8
63	Stress intensity factors for axial semi-elliptical surface cracks and embedded elliptical cracks at longitudinal butt welded joints of steel-lined pressure tunnels and shafts considering weld shape. <i>Engineering Fracture Mechanics</i> , 2017, 179, 93-119.	2.0	18
64	Assessment of hydropower potential in wastewater systems and application to Switzerland. <i>Renewable Energy</i> , 2017, 113, 64-73.	4.3	55
65	Relevance of the correlation between precipitation and the 0 Å°C isothermal altitude for extreme flood estimation. <i>Journal of Hydrology</i> , 2017, 551, 177-187.	2.3	5
66	Hydromorphodynamic effects of the width ratio and local tributary widening on discordant confluences. <i>Geomorphology</i> , 2017, 293, 289-304.	1.1	37
67	Effect of an abrupt slope change on air entrainment and flow depths at stepped spillways. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 362-375.	0.7	6
68	Analysis of mechanical-hydraulic bedload deposition control measures. <i>Geomorphology</i> , 2017, 295, 467-479.	1.1	15
69	Time-based failure analysis of compressed riverbank riprap. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 224-235.	0.7	8
70	New parametric equations to estimate notch stress concentration factors at butt welded joints modeling the weld profile with splines. <i>Engineering Failure Analysis</i> , 2017, 72, 11-24.	1.8	24
71	Energy Recovery Using Micro-Hydropower Technology in Water Supply Systems: The Case Study of the City of Fribourg. <i>Water (Switzerland)</i> , 2016, 8, 344.	1.2	68
72	Experimental study on the flow characteristics of unstructured block ramps. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2016, 54, 242-243.	0.7	1

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73	Local tributary widening for river rehabilitation. <i>Ecohydrology</i> , 2016, 9, 204-217.	1.1	7
74	Assessment of the performance of numerical modeling in reproducing a replenishment of sediments in a water-worked channel. <i>Advances in Water Resources</i> , 2016, 92, 10-22.	1.7	21
75	Dynamic response of an embedded block impacted by aerated high-velocity jets. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2016, 54, 399-409.	0.7	6
76	Experimental characterization of a five blade tubular propeller turbine for pipe inline installation. <i>Renewable Energy</i> , 2016, 95, 356-366.	4.3	78
77	Experimental distinction of damping mechanisms during hydraulic transients in pipe flow. <i>Journal of Fluids and Structures</i> , 2016, 66, 424-446.	1.5	18
78	Fluid-structure interaction in straight pipelines: Friction coupling mechanisms. <i>Computers and Structures</i> , 2016, 175, 74-90.	2.4	23
79	New lakes in deglaciating high-mountain regions – opportunities and risks. <i>Climatic Change</i> , 2016, 139, 201-214.	1.7	88
80	Signal analysis of an actively generated cavitation bubble in pressurized pipes for detection of wall stiffness drops. <i>Journal of Fluids and Structures</i> , 2016, 65, 60-75.	1.5	10
81	Reservoir sedimentation. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2016, 54, 595-614.	0.7	289
82	Foreword: Better dams for a better world. <i>Dams and Reservoirs</i> , 2016, 26, 52-52.	0.1	0
83	The Interplay of In Situ Stress Ratio and Transverse Isotropy in the Rock Mass on Prestressed Concrete-Lined Pressure Tunnels. <i>Rock Mechanics and Rock Engineering</i> , 2016, 49, 4371-4392.	2.6	14
84	Sediment replenishment: Influence of the geometrical configuration on the morphological evolution of channel-bed. <i>Water Resources Research</i> , 2016, 52, 8879-8894.	1.7	26
85	Energy production with a tubular propeller turbine. <i>IOP Conference Series: Earth and Environmental Science</i> , 2016, 49, 102001.	0.2	2
86	Stresses and Displacements in Steel-Lined Pressure Tunnels and Shafts in Anisotropic Rock Under Quasi-Static Internal Water Pressure. <i>Rock Mechanics and Rock Engineering</i> , 2016, 49, 1263-1287.	2.6	20
87	A parametrical study on secondary flow in sharp open-channel bends: experiments and theoretical modelling. <i>Journal of Hydro-Environment Research</i> , 2016, 13, 1-13.	1.0	32
88	Managing reservoir sedimentation by venting turbidity currents: A review. <i>International Journal of Sediment Research</i> , 2016, 31, 195-204.	1.8	44
89	Release of suspension particles from a prismatic tank by multiple jet arrangements. <i>Chemical Engineering Science</i> , 2016, 144, 153-164.	1.9	2
90	Effect of pool confinement on pressures around a block impacted by plunging aerated jets. <i>Canadian Journal of Civil Engineering</i> , 2016, 43, 201-210.	0.7	5

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91	Simulated Annealing in Optimization of Energy Production in a Water Supply Network. <i>Water Resources Management</i> , 2016, 30, 1533-1547.	1.9	68
92	Evolution of the hydromorphodynamics of mountain river confluences for varying discharge ratios and junction angles. <i>Geomorphology</i> , 2016, 255, 1-15.	1.1	84
93	Hydro-morphodynamic evolution in a 90° movable bed discordant confluence with low discharge ratio. <i>Earth Surface Processes and Landforms</i> , 2015, 40, 1927-1938.	1.2	57
94	Aeration performances of a gabion stepped weir with and without capping. <i>Environmental Fluid Mechanics</i> , 2015, 15, 711-730.	0.7	16
95	Influence of Hydropower Development on Flow Regime in the Zambezi River Basin for Different Scenarios of Environmental Flows. <i>Water Resources Management</i> , 2015, 29, 731-747.	1.9	31
96	Influence of jet aeration on pressures around a block embedded in a plunge pool bottom. <i>Environmental Fluid Mechanics</i> , 2015, 15, 673-693.	0.7	22
97	Bed load fluctuations in a steep channel. <i>Water Resources Research</i> , 2014, 50, 6557-6576.	1.7	27
98	Hydrological modelling of the Zambezi River Basin taking into account floodplain behaviour by a modified reservoir approach. <i>International Journal of River Basin Management</i> , 2014, 12, 29-41.	1.5	15
99	Period and amplitude of bedload pulses in a macro-rough channel. <i>Geomorphology</i> , 2014, 221, 95-103.	1.1	16
100	Discussion on a CFD analysis of the effect of nozzle stand-off distance on turbulent impinging jets. <i>Canadian Journal of Civil Engineering</i> , 2014, 41, 270-271.	0.7	3
101	Guided Evolutionary Approaches for Redesigning Water Distribution Networks. <i>Procedia Engineering</i> , 2014, 89, 87-94.	1.2	4
102	Hydraulic-hydrologic model for water resources management of the Zambezi basin. <i>Journal of Applied Water Engineering and Research</i> , 2014, 2, 105-117.	1.0	5
103	Stress-strain analysis of a toric pipe for inner pressure loads. <i>Journal of Fluids and Structures</i> , 2014, 51, 68-84.	1.5	10
104	Pattern-oriented memory interpolation of sparse historical rainfall records. <i>Journal of Hydrology</i> , 2014, 510, 493-503.	2.3	4
105	Attractiveness of a lateral shelter in a channel as a refuge for juvenile brown trout during hydropeaking. <i>Aquatic Sciences</i> , 2014, 76, 527-541.	0.6	28
106	Pressure tunnels in non-uniform in situ stress conditions. <i>Tunnelling and Underground Space Technology</i> , 2014, 42, 227-236.	3.0	29
107	Hydraulics, Air Entrainment, and Energy Dissipation on a Gabion Stepped Weir. <i>Journal of Hydraulic Engineering</i> , 2014, 140, .	0.7	43
108	The terms of turbulent kinetic energy budget within random arrays of emergent cylinders. <i>Water Resources Research</i> , 2014, 50, 4131-4148.	1.7	41

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109	Mitigation measures for fish habitat improvement in Alpine rivers affected by hydropower operations. <i>Ecohydrology</i> , 2014, 7, 580-599.	1.1	65
110	Air entrainment and energy dissipation on Gabion stepped weirs. , 2014, , .		1
111	Investigation of turbulence flow and sediment entrainment around a bridge pier. <i>Stochastic Environmental Research and Risk Assessment</i> , 2013, 27, 1303-1314.	1.9	35
112	Coupling between flow and sediment deposition in rectangular shallow reservoirs. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2013, 51, 535-547.	0.7	28
113	Reduction of bend scour with an air-bubble screen â€“ morphology and flow patterns. <i>International Journal of Sediment Research</i> , 2013, 28, 15-23.	1.8	22
114	Energy recovery in SUDS towards smart water grids: A case study. <i>Energy Policy</i> , 2013, 62, 463-472.	4.2	16
115	Can satellite based pattern-oriented memory improve the interpolation of sparse historical rainfall records?. <i>Journal of Hydrology</i> , 2013, 492, 102-116.	2.3	8
116	Propagation of surge waves in channels with large-scale bank roughness. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2013, 51, 195-202.	0.7	5
117	A case study on spatial and temporal hydraulic variability in an alpine gravelâ€bed stream based on the hydromorphological index of diversity. <i>Ecohydrology</i> , 2013, 6, 652-667.	1.1	24
118	Competitive pumped-storage projects with vertical pressure shafts without steel linings / KonkurrenzfÄhige Pumpspeicherwerkprojekte dank ungepanzelter, vertikaler DruckschÄchte. <i>Geomechanik Und Tunnelbau</i> , 2013, 6, 456-463.	0.2	5
119	Analysis of floodâ€reduction capacity of hydropower schemes in an <scp>A</scp>lpine catchment area by semidistributed conceptual modelling. <i>Journal of Flood Risk Management</i> , 2013, 6, 169-185.	1.6	8
120	Optimization of the flood protection effect of a hydropower multi-reservoir system. <i>International Journal of River Basin Management</i> , 2012, 10, 65-72.	1.5	13
121	Discharge coefficient for free and submerged flow over Piano Key weirs. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2012, 50, 642-643.	0.7	17
122	Compression waves in semi-circular channel. <i>Water Management</i> , 0, , 1-25.	0.4	0
123	SynthÃse du colloque HydroES 2021 : lâ™hydroÃlectricitÃ©, un catalyseur de la transition ÃnergÃotique en Europe. <i>LHB Hydrosience Journal</i> , 0, , .	0.2	0
124	Hydropower, a catalyst for energy transition in Europe. <i>LHB Hydrosience Journal</i> , 0, , .	0.2	1