

Michel Jj Pirotton

List of Publications by Year in descending order

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128
papers

1,958
citations

236925

25
h-index

315739

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130
docs citations

130
times ranked

1120
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental Assessment of the Influence of Fish Passage Geometry Parameters on Downstream Migrating Atlantic Salmon (<i>Salmo salar</i>) Smolts Behavior. <i>Water (Switzerland)</i> , 2022, 14, 616.	2.7	1
2	Discharge Redistribution as a Key Process for Heuristic Optimization of Energy Production with Pumps as Turbines in a Water Distribution Network. <i>Water Resources Management</i> , 2022, 36, 1237-1250.	3.9	8
3	Laboratory modelling of urban flooding. <i>Scientific Data</i> , 2022, 9, 159.	5.3	5
4	Apparent cohesion effects on overtopping-induced fluvial dike breaching. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2021, 59, 75-87.	1.7	7
5	Occurrence and Characteristic Frequencies of Nappe Oscillations at Free-Overfall Structures. <i>Journal of Hydraulic Engineering</i> , 2021, 147, .	1.5	3
6	Porosity Models for Large-Scale Urban Flood Modelling: A Review. <i>Water (Switzerland)</i> , 2021, 13, 960.	2.7	12
7	Overtopping-Induced Failure of Non-Cohesive Homogeneous Fluvial Dikes: Effect of Dike Geometry on Breach Discharge and Widening. <i>Water Resources Research</i> , 2021, 57, e2021WR029660.	4.2	11
8	Experimental and Numerical Study of the Effect of Model Geometric Distortion on Laboratory Modeling of Urban Flooding. <i>Water Resources Research</i> , 2021, 57, e2021WR029666.	4.2	11
9	Trying to choose the less bad route: Individual migratory behaviour of Atlantic salmon smolts (<i>Salmo</i>) <i>Journal of Hydraulic Engineering</i> , 2021, 169, 106304.	3.6	6
10	Exchange between drainage systems and surface flows during urban flooding: Quasi-steady and dynamic modelling in unsteady flow conditions. <i>Journal of Hydrology</i> , 2021, 602, 126628.	5.4	16
11	Influence of urban forms on long-duration urban flooding: Laboratory experiments and computational analysis. <i>Journal of Hydrology</i> , 2021, 603, 127034.	5.4	24
12	Procedural generation of flood-sensitive urban layouts. <i>Environment and Planning B: Urban Analytics and City Science</i> , 2020, 47, 889-911.	2.0	16
13	Influence of urban forms on surface flow in urban pluvial flooding. <i>Journal of Hydrology</i> , 2020, 582, 124493.	5.4	39
14	Nappe oscillations on free-overfall structures, data from laboratory experiments. <i>Scientific Data</i> , 2020, 7, 180.	5.3	6
15	An Optimized and Scalable Algorithm for the Fast Convergence of Steady 1-D Open-Channel Flows. <i>Water (Switzerland)</i> , 2020, 12, 3218.	2.7	1
16	Underground Pumped-Storage Hydropower (UPSH) at the Martelange Mine (Belgium): Underground Reservoir Hydraulics. <i>Energies</i> , 2020, 13, 3512.	3.1	28
17	Discrepancies in Flood Modelling Approaches in Transboundary River Systems: Legacy of the Past or Well-grounded Choices?. <i>Water Resources Management</i> , 2020, 34, 3465-3478.	3.9	4
18	Continuous Monitoring of Fluvial Dike Breaching by a Laser Profilometry Technique. <i>Water Resources Research</i> , 2020, 56, e2019WR026941.	4.2	3

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19	Age of Water Particles as a Diagnosis of Steady-State Flows in Shallow Rectangular Reservoirs. Water (Switzerland), 2020, 12, 2819.	2.7	3
20	Discussion of "Modeling and Prototype Testing of Flows over Flip-Bucket Aerators" by Penghua Teng and James Yang. Journal of Hydraulic Engineering, 2020, 146, .	1.5	1
21	Numerical Insights Into the Effects of Model Geometric Distortion in Laboratory Experiments of Urban Flooding. Water Resources Research, 2020, 56, e2019WR026774.	4.2	7
22	Technical note: Laboratory modelling of urban flooding: strengths and challenges of distorted scale models. Hydrology and Earth System Sciences, 2019, 23, 1567-1580.	4.9	11
23	Flow and detailed 3D morphodynamic data from laboratory experiments of fluvial dike breaching. Scientific Data, 2019, 6, 53.	5.3	9
24	Nappe Oscillations on Free-Overfall Structures: Size Scale Effects. Journal of Hydraulic Engineering, 2019, 145, 04019022.	1.5	6
25	Performance of a shallow-water model for simulating flow over trapezoidal broad-crested weirs. Journal of Hydrology and Hydromechanics, 2019, 67, 322-328.	2.0	7
26	Quels scénarios de débordement de l'Ourthe (Belgique) en réponse à une variabilité climatique long terme?. Physio-Géo, 2019, , 25-51.	0.4	0
27	Comparison of perturbation methods for rainfall and temperature data: case of a Belgian catchment. International Journal of Hydrology Science and Technology, 2019, 9, 266.	0.3	0
28	Flow field in shallow reservoir with varying inlet and outlet position. Journal of Hydraulic Research/De Recherches Hydrauliques, 2018, 56, 689-696.	1.7	4
29	Hydraulic Determination of Dam Releases to Generate Warning Waves in a Mountain Stream: Performance of an Analytical Kinematic Wave Model. Journal of Hydraulic Engineering, 2018, 144, 05017006.	1.5	6
30	Nappe Oscillations on Free-Overfall Structures: Experimental Analysis. Journal of Hydraulic Engineering, 2018, 144, .	1.5	14
31	Pressure and velocity on an ogee spillway crest operating at high head ratio: Experimental measurements and validation. Journal of Hydro-Environment Research, 2018, 19, 128-136.	2.2	17
32	Development trajectory of an integrated framework for the mitigation of future flood risk: results from the FloodLand project. Transportation Letters, 2018, 10, 243-256.	3.1	5
33	Maximum energy dissipation to explain velocity fields in shallow reservoirs. Journal of Hydraulic Research/De Recherches Hydrauliques, 2018, 56, 221-230.	1.7	4
34	Influence of urban pattern on inundation flow in floodplains of lowland rivers. Science of the Total Environment, 2018, 622-623, 446-458.	8.0	43
35	Improvement of anisotropic porosity models with a merging technique. E3S Web of Conferences, 2018, 40, 06023.	0.5	0
36	Technical Note: An Operational Implementation of Recursive Digital Filter for Base Flow Separation. Water Resources Research, 2018, 54, 8528-8540.	4.2	12

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37	Floodplain Backwater Effect on Overtopping Induced Fluvial Dike Failure. Water Resources Research, 2018, 54, 9060-9073.	4.2	14
38	Effects of spatial planning on future flood risks in urban environments. Journal of Environmental Management, 2018, 225, 193-204.	7.8	97
39	15 Years of Composite Modelling to Enhance Hydraulic Structures Studies. Springer Water, 2018, , 751-766.	0.3	0
40	Overtopping induced failure of noncohesive, homogeneous fluvial dikes. Water Resources Research, 2017, 53, 3373-3386.	4.2	32
41	Shallow-water models with anisotropic porosity and merging for flood modelling on Cartesian grids. Journal of Hydrology, 2017, 554, 693-709.	5.4	41
42	Computing flooding of crossroads with obstacles using a 2D numerical model. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 737-741.	1.7	6
43	Discussion of "Laboratory Study on 3D Flow Structures Induced by Zero-Height Side Weir and Implications for 1D Modeling" by Giovanni Michelazzo, Hocine Oumeraci, and Enio Paris. Journal of Hydraulic Engineering, 2017, 143, .	1.5	1
44	Hydraulics of Piano Key Weirs: A review. , 2017, , 27-36.		9
45	Peut-on estimer lâ€™effet du changement climatique sur lâ€™écoulement à lâ€™exutoire dâ€™un bassin sans modâ€™le pluie-dâ€™bit ? un test de la mâ€™thode de transfert climat-â€™coulement par râ€™gression dans le bassin transnational de la meuse. Climatologie, 2017, 14, 48-81.	0.2	1
46	A Piano Key Weir to improve the discharge capacity of the Oule Dam spillway (France). , 2017, , 195-204.		0
47	Hydrodynamics of long-duration urban floods: experiments and numerical modelling. Natural Hazards and Earth System Sciences, 2016, 16, 1413-1429.	3.6	37
48	Discretization of the divergence formulation of the bed slope term in the shallow-water equations and consequences in terms of energy balance. Applied Mathematical Modelling, 2016, 40, 7532-7544.	4.2	7
49	Energy conservation properties of Ritter solution for idealized dam break flow. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 581-585.	1.7	2
50	Scale effects in physical piano key weirs models. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 692-698.	1.7	60
51	Impacts of urban expansion on future flood damage: A case study in the River Meuse basin, Belgium. , 2016, , 856-862.		1
52	Monitoring topography of laboratory fluvial dike models subjected to breaching based on a laser profilometry technique. , 2016, , 380-386.		5
53	Sensitivity of the breaching process in the case of overtopping induced fluvial dike failure. , 2016, , .		4
54	Hydrodynamic instabilities in shallow reservoirs: Implications for sediment management. , 2016, , 1066-1066.		0

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55	Assessing the operation rules of a reservoir system based on a detailed modelling chain. <i>Natural Hazards and Earth System Sciences</i> , 2015, 15, 365-379.	3.6	19
56	Can Meandering Flows in Shallow Rectangular Reservoirs Be Modeled with the 2D Shallow Water Equations?. <i>Journal of Hydraulic Engineering</i> , 2015, 141, .	1.5	8
57	Impacts of climate change on future flood damage on the river Meuse, with a distributed uncertainty analysis. <i>Natural Hazards</i> , 2015, 77, 1533-1549.	3.4	19
58	Stochastic Modelling of Reservoir Sedimentation in a Semi-Arid Watershed. <i>Water Resources Management</i> , 2015, 29, 785-800.	3.9	9
59	Closure to "Parapet Wall Effect on Piano Key Weir Efficiency" by O. Machiels, S. Erpicum, P. Archambeau, B. Dewals, and M. Pirotton. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 2015, 141, 07014033.	1.0	0
60	Can the collapse of a fly ash heap develop into an air-fluidized flow? " Reanalysis of the Jupille accident (1961). <i>Geomorphology</i> , 2015, 228, 746-755.	2.6	5
61	Modélisation hydraulique détaillée d'inondations extrêmes sur un tronçon transnational de la Meuse. <i>Houille Blanche</i> , 2015, 101, 75-81.	0.3	0
62	Prediction of Mean and Turbulent Kinetic Energy In Rectangular Shallow Reservoirs. <i>Engineering Applications of Computational Fluid Mechanics</i> , 2014, 8, 586-597.	3.1	6
63	Experimental investigation of meandering jets in shallow reservoirs. <i>Environmental Fluid Mechanics</i> , 2014, 14, 699-710.	1.6	12
64	Meandering jets in shallow rectangular reservoirs: POD analysis and identification of coherent structures. <i>Experiments in Fluids</i> , 2014, 55, 1.	2.4	16
65	Experimental parametric study and design of Piano Key Weirs. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2014, 52, 326-335.	1.7	64
66	Two-dimensional depth-averaged finite volume model for unsteady turbulent flows. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2014, 52, 148-150.	1.7	5
67	Geometric parameters influence on Piano Key Weir hydraulic performances. , 2014, , .		7
68	Dam Break Flow Modelling with Uncertainty Analysis. , 2014, , 107-116.		2
69	Innovative modelling of 3D unsaturated flow in porous media by coupling independent models for vertical and lateral flows. <i>Journal of Computational and Applied Mathematics</i> , 2013, 246, 38-51.	2.0	15
70	Coupling between flow and sediment deposition in rectangular shallow reservoirs. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2013, 51, 535-547.	1.7	28
71	Dike-break induced flows: a simplified model. <i>Environmental Fluid Mechanics</i> , 2013, 13, 89-100.	1.6	6
72	Discussion of "Sensitivity Analysis of Nonequilibrium Adaptation Parameters for Modeling Mining-Pit Migration" by Dong Chen, Kumud Acharya, and Mark Stone. <i>Journal of Hydraulic Engineering</i> , 2013, 139, 799-801.	1.5	1

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73	Local Head-Loss Coefficient at the Rectangular Transition from a Free-Surface Channel to a Conduit. Journal of Hydraulic Engineering, 2013, 139, 1318-1323.	1.5	3
74	Parapet Wall Effect on Piano Key Weir Efficiency. Journal of Irrigation and Drainage Engineering - ASCE, 2013, 139, 506-511.	1.0	30
75	Contribution of land use changes to future flood damage along the river Meuse in the Walloon region. Natural Hazards and Earth System Sciences, 2013, 13, 2301-2318.	3.6	68
76	Impact of climate change on inundation hazard along the river Meuse. , 2013, , 19-27.		3
77	Three-phase bi-layer model for simulating mixed flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 312-319.	1.7	9
78	Discharge coefficient for free and submerged flow over Piano Key weirs. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 642-643.	1.7	17
79	Semi-Explicit Modelling of Watersheds with Urban Drainage Systems. Engineering Applications of Computational Fluid Mechanics, 2012, 6, 46-57.	3.1	6
80	Long-Term Sediment Management for Sustainable Hydropower. , 2012, , 355-376.		6
81	Experimental study of velocity fields in rectangular shallow reservoirs. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 435-436.	1.7	10
82	Method for the preliminary design of Piano Key Weirs. Houille Blanche, 2012, 98, 14-18.	0.3	6
83	Modelling sediment transport over partially non-erodible bottoms. International Journal for Numerical Methods in Fluids, 2012, 70, 186-199.	1.6	11
84	Flow patterns and sediment deposition in rectangular shallow reservoirs. Water and Environment Journal, 2012, 26, 504-510.	2.2	15
85	Composite modeling to enhance hydraulic structures studies. Houille Blanche, 2012, 98, 34-40.	0.3	2
86	Experimental observation of flow characteristics over a Piano Key Weir. Journal of Hydraulic Research/De Recherches Hydrauliques, 2011, 49, 359-366.	1.7	74
87	Theoretical and numerical analysis of the influence of the bottom friction formulation in free surface flow modelling. Water S A, 2011, 37, .	0.4	7
88	Numerical Investigation of Flow Patterns in Rectangular Shallow Reservoirs. Engineering Applications of Computational Fluid Mechanics, 2011, 5, 247-258.	3.1	26
89	1D numerical modeling of the flow over a Piano KeyWeir. , 2011, , 151-158.		15
90	Failure of dams arranged in series or in complex. Natural Hazards, 2011, 56, 917-939.	3.4	31

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91	A fast universal solver for 1D continuous and discontinuous steady flows in rivers and pipes. International Journal for Numerical Methods in Fluids, 2011, 66, 38-48.	1.6	27
92	An exact Riemann solver and a Godunov scheme for simulating highly transient mixed flows. Journal of Computational and Applied Mathematics, 2011, 235, 2030-2040.	2.0	53
93	1D unified mathematical model for environmental flow applied to steady aerated mixed flows. Advances in Engineering Software, 2011, 42, 660-670.	3.8	11
94	Caractérisation micro-échelle du risque d'inondation : modélisation hydraulique détaillée et quantification des impacts socio-économiques. Houille Blanche, 2011, 97, 28-34.	0.3	4
95	Efficient hydraulic numerical modeling with multiblock grids and linked models. Houille Blanche, 2011, 97, 56-62.	0.3	2
96	A naming convention for the Piano Key Weirs geometrical parameters. , 2011, , 271-278.		54
97	Incorporating climate change scenarios into new operating rules for large reservoirs. , 2011, , 469-477.		0
98	Micro-scale flood risk analysis based on detailed 2D hydraulic modelling and high resolution geographic data. Natural Hazards, 2010, 55, 181-209.	3.4	121
99	Dam break flow computation based on an efficient flux vector splitting. Journal of Computational and Applied Mathematics, 2010, 234, 2143-2151.	2.0	69
100	Modeling the Vertical Spincasting of Large Bimetallic Rolling Mill Rolls. Key Engineering Materials, 2010, 443, 15-20.	0.4	0
101	River modelling and flood mitigation in a Belgian catchment. Water Management, 2010, 163, 417-423.	1.2	15
102	Classification of flow patterns in rectangular shallow reservoirs. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 197-204.	1.7	31
103	Detailed Inundation Modelling Using High Resolution DEMs. Engineering Applications of Computational Fluid Mechanics, 2010, 4, 196-208.	3.1	42
104	Experimental investigation of flow pattern and sediment deposition in rectangular shallow reservoirs. International Journal of Sediment Research, 2010, 25, 258-270.	3.5	32
105	Analyse expérimentale de l'influence des largeurs avalées sur la débitance des déversoirs en touches de piano. Houille Blanche, 2010, 96, 22-28.	0.3	7
106	Piano Key Weirs: the experimental study of an efficient solution for rehabilitation. WIT Transactions on Ecology and the Environment, 2010, , .	0.0	7
107	Blood Flow under External Strains: Phenomenological Approach, Theoretical Developments and Numerical Analysis. International Journal of Design and Nature and Ecodynamics, 2010, 5, 317-334.	0.5	0
108	Modélisation numérique 2D unifiée des écoulements sur des évacuateurs de crue avec déversoir. Houille Blanche, 2010, 96, 102-108.	0.3	0

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109	Experimental and numerical investigations of dike-break induced flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2009, 47, 349-359.	1.7	50
110	2D numerical flow modeling in a macro-rough channel. International Journal for Numerical Methods in Fluids, 2009, 61, 1227-1246.	1.6	45
111	Simulation numérique des écoulements mixtes hautement transitoires dans les conduites d'évacuation des eaux. Houille Blanche, 2009, 95, 159-166.	0.3	6
112	Experimental and numerical investigation of mixed flow in a gallery. WIT Transactions on Engineering Sciences, 2009, , .	0.0	4
113	Numerical simulation of one-dimensional mixed flow with air/water interaction. , 2009, , .		2
114	Computational hemodynamics coupled with mechanical behaviour of the surrounded materials, in the specific case of the brachial artery. WIT Transactions on Biomedicine and Health, 2009, , .	0.0	0
115	Hydrodynamic forces acting on vertically translating bodies in free surface water. WIT Transactions on the Built Environment, 2009, , .	0.0	0
116	Continuous formulation for bottom friction in free surface flows modelling. , 2009, , .		0
117	Modélisation hydrologique à grande échelle des zones imperméables drainées. Houille Blanche, 2009, 95, 167-173.	0.3	0
118	Experimental investigation of flow and deposit patterns in rectangular shallow reservoirs. , 2009, , 169-172.		0
119	Experimental and numerical analysis of flow instabilities in rectangular shallow basins. Environmental Fluid Mechanics, 2008, 8, 31-54.	1.6	78
120	Hiérarchisation spatiale des échelles spatio-temporelles d'écoulements hydrodynamiques et modélisation numérique. Houille Blanche, 2008, 94, 109-114.	0.3	8
121	Detailed 2D flow simulations as an onset for evaluating socio-economic impacts of floods. , 2008, , 125-135.		3
122	Integration of accurate 2D inundation modelling, vector land use database and economic damage evaluation. , 2008, , 1643-1653.		6
123	Integrated assessment of flood protection measures in the context of climate change: hydraulic modelling and economic approach. WIT Transactions on Ecology and the Environment, 2008, , .	0.0	7
124	An efficient global methodology for hazard analysis of dam complexes and cascades. WIT Transactions on Information and Communication Technologies, 2008, , .	0.0	1
125	Considering bottom curvature in depth-averaged open-channel flow modelling, based on curvilinear coordinates. WIT Transactions on Engineering Sciences, 2008, , .	0.0	0
126	Numerical modelling of transient flows with high sediment concentrations. WIT Transactions on Engineering Sciences, 2008, , .	0.0	0

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127	Depth-integrated flow modelling taking into account bottom curvature. Journal of Hydraulic Research/De Recherches Hydrauliques, 2006, 44, 785-795.	1.7	45
128	Integrated Flood Risk Analysis for Assessing Flood Protection Strategies. , 0, , 244-263.		0