Vittorio Di Federico

List of Publications by Year
in descending order

105 papers	1,848 citations	236925 25 h-index	315739 38 g-index
113 all docs	113 docs citations	113 times ranked	1202 citing authors

#	Article	IF	Citations
1	Multifaceted nature of hydrogeologic scaling and its interpretation. Reviews of Geophysics, 2003, 41, .	23.0	205
2	Scaling of random fields by means of truncated power variograms and associated spectra. Water Resources Research, 1997, 33, 1075-1085.	4.2	120
3	Polynomial chaos expansion for global sensitivity analysis applied to a model of radionuclide migration in a randomly heterogeneous aquifer. Stochastic Environmental Research and Risk Assessment, 2013, 27, 945-954.	4.0	74
4	Anisotropy, lacunarity, and upscaled conductivity and its autocovariance in multiscale random fields with truncated power variograms. Water Resources Research, 1999, 35, 2891-2908.	4.2	58
5	Transport in multiscale log conductivity fields with truncated power variograms. Water Resources Research, 1998, 34, 963-973.	4.2	56
6	Theoretical interpretation of a pronounced permeability scale effect in unsaturated fractured tuff. Water Resources Research, 2002, 38, 28-1-28-8.	4.2	49
7	Flow in multiscale log conductivity fields with truncated power variograms. Water Resources Research, 1998, 34, 975-987.	4.2	46
8	Radial gravity currents in vertically graded porous media: Theory and experiments for Newtonian and power-law fluids. Advances in Water Resources, 2014, 70, 65-76.	3.8	43
9	Gravity-driven flow of Herschel–Bulkley fluid in a fracture and in a 2D porous medium. Journal of Fluid Mechanics, 2017, 821, 59-84.	3.4	43
10	Asset Management for Urban Wastewater Pipeline Networks. Journal of Infrastructure Systems, 2010, 16, 112-121.	1.8	39
11	On the axisymmetric spreading of non-Newtonian power-law gravity currents of time-dependent volume: An experimental and theoretical investigation focused on the inference of rheological parameters. Journal of Non-Newtonian Fluid Mechanics, 2013, 201, 69-79.	2.4	37
12	Experimental verification of power-law non-Newtonian axisymmetric porous gravity currents. Journal of Fluid Mechanics, 2013, 731, .	3.4	35
13	Estimates of equivalent aperture for non-Newtonian flow in a rough-walled fracture. International Journal of Rock Mechanics and Minings Sciences, 1997, 34, 1133-1137.	5.8	34
14	Saltwater Intrusion in Coastal Aquifers: A Primary Case Study along the Adriatic Coast Investigated within a Probabilistic Framework. Water (Switzerland), 2013, 5, 1830-1847.	2.7	34
15	Porous gravity currents: A survey to determine the joint influence of fluid rheology and variations of medium properties. Advances in Water Resources, 2016, 92, 105-115.	3.8	34
16	A dipole solution for power-law gravity currents in porous formations. Journal of Fluid Mechanics, 2015, 778, 534-551.	3.4	33
17	Estimates of effective permeability for non-Newtonian fluid flow in randomly heterogeneous porous media. Stochastic Environmental Research and Risk Assessment, 2010, 24, 1067-1076.	4.0	32
18	Calibration of a 2-D morphodynamic model using water–sediment flux maps derived from an ADCP recording. Journal of Hydroinformatics, 2013, 15, 813-828.	2.4	31

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19	Spreading of axisymmetric non-Newtonian power-law gravity currents in porous media. Journal of Non-Newtonian Fluid Mechanics, 2012, 189-190, 31-39.	2.4	29
20	Comparative analysis of formulations for conservative transport in porous media through sensitivity-based parameter calibration. Water Resources Research, 2013, 49, 5206-5220.	4.2	29
21	Unsteady Flow of Shear-Thinning Fluids in Porous Media with Pressure-Dependent Properties. Transport in Porous Media, 2015, 110, 429-447.	2.6	29
22	Similarity solutions for flow of non-Newtonian fluids in porous media revisited under parameter uncertainty. Advances in Water Resources, 2012, 43, 38-51.	3.8	28
23	Non-Newtonian power-law gravity currents propagating in confining boundaries. Environmental Fluid Mechanics, 2015, 15, 515-535.	1.6	27
24	Non-Newtonian Flow in a Variable Aperture Fracture. Transport in Porous Media, 1998, 30, 75-86.	2.6	26
25	Combined effect of rheology and confining boundaries on spreading of gravity currents in porous media. Advances in Water Resources, 2015, 79, 140-152.	3.8	26
26	Statistical analysis and definition of blockages-prediction formulae for the wastewater network of Oslo by evolutionary computing. Water Science and Technology, 2009, 59, 1457-1470.	2.5	25
27	Similarity solutions for spreading of a two-dimensional non-Newtonian gravity current in a porous layer. Journal of Non-Newtonian Fluid Mechanics, 2012, 177-178, 46-53.	2.4	25
28	Viscous Spreading of Non-Newtonian Gravity Currents on a Plane. Meccanica, 2006, 41, 207-217.	2.0	23
29	Evaluation of Reliability Indicators for WDNs with Demand-Driven and Pressure-Driven Models. Water Resources Management, 2014, 28, 1201-1217.	3.9	22
30	Impact of Hydrogeological Uncertainty on Estimation of Environmental Risks Posed by Hydrocarbon Transportation Networks. Water Resources Research, 2017, 53, 8686-8697.	4.2	21
31	Optimal Scheduling of Replacement and Rehabilitation in Wastewater Pipeline Networks. Journal of Water Resources Planning and Management - ASCE, 2010, 136, 348-356.	2.6	19
32	Historical analysis of blockages in wastewater pipelines in Oslo and diagnosis of causative pipeline characteristics. Urban Water Journal, 2010, 7, 335-343.	2.1	18
33	Suspended sediment assessment by combining sound attenuation and backscatter measurements â€" analytical method and experimental validation. Advances in Water Resources, 2018, 113, 167-179.	3.8	18
34	Flow of truncated power-law fluid in fracture channels of variable aperture. Advances in Water Resources, 2018, 122, 317-327.	3.8	18
35	Solute transport in three-dimensional heterogeneous media with a Gaussian covariance of log hydraulic conductivity. Water Resources Research, 1998, 34, 1929-1934.	4.2	17
36	On shear thinning fluid flow induced by continuous mass injection in porous media with variable conductivity. Mechanics Research Communications, 2013, 52, 101-107.	1.8	17

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37	The propagation of gravity currents in a circular cross-section channel: experiments and theory. Journal of Fluid Mechanics, 2015, 764, 513-537.	3.4	17
38	Temperature fields induced by geothermal devices. Energy, 2015, 93, 1896-1903.	8.8	16
39	Green Smart Technology for Water (GST4Water): Life Cycle Analysis of Urban Water Consumption. Water (Switzerland), 2019, 11, 389.	2.7	16
40	Effect of variable permeability on the propagation of thin gravity currents in porous media. International Journal of Non-Linear Mechanics, 2013, 57, 168-175.	2.6	15
41	Gravity currents in a linearly stratified ambient fluid created by lock release and influx in semi-circular and rectangular channels. Physics of Fluids, 2016, 28, .	4.0	15
42	Nonâ€Newtonian Backflow in an Elastic Fracture. Water Resources Research, 2019, 55, 10144-10158.	4.2	15
43	On non-Newtonian fluid flow in rough fractures. Water Resources Research, 2001, 37, 2425-2430.	4.2	13
44	Generating and scaling fractional Brownian motion on finite domains. Geophysical Research Letters, 2005, 32, .	4.0	13
45	Numerical comparison between two advanced HGHEs. International Journal of Low-Carbon Technologies, 2012, 7, 75-81.	2.6	13
46	Gravity currents produced by constant and time varying inflow in a circular cross-section channel: Experiments and theory. Advances in Water Resources, 2016, 90, 10-23.	3.8	13
47	Propagation of viscous gravity currents inside confining boundaries: the effects of fluid rheology and channel geometry. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150070.	2.1	12
48	Thermal Instability of a Power-Law Fluid Flowing in a Horizontal Porous Layer with an Open Boundary: A Two-Dimensional Analysis. Transport in Porous Media, 2017, 118, 449-471.	2.6	12
49	Gravity currents produced by lock-release: Theory and experiments concerning the effect of a free top in non-Boussinesq systems. Advances in Water Resources, 2018, 121, 456-471.	3.8	12
50	An Analytical Solution for Contaminant Transport in nonuniform Flow. Transport in Porous Media, 1997, 27, 85-97.	2.6	11
51	Onset of Darcyâ€"BÃ©nard convection under throughflow of a shear-thinning fluid. Journal of Fluid Mechanics, 2020, 889, .	3.4	11
52	Effective Forchheimer Coefficient for Layered Porous Media. Transport in Porous Media, 2022, 144, 459-480.	2.6	11
53	Permanent Waves in Slow Free-Surface Flow of a Herschelâ€"Bulkley fluid. Meccanica, 1998, 33, 127-137.	2.0	10
54	Solute transport in heterogeneous porous media with long-range correlations. Water Resources Research, 1999, 35, 3185-3191.	4.2	10

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55	Generalized Solution for 1-D Non-Newtonian Flow in a Porous Domain due to an Instantaneous Mass Injection. Transport in Porous Media, 2012, 93, 63-77.	2.6	10
56	On the propagation of viscous gravity currents of non-Newtonian fluids in channels with varying cross section and inclination. Journal of Non-Newtonian Fluid Mechanics, 2016, 235, 95-108.	2.4	10
57	Relaxation-induced flow in a smooth fracture for Ellis rheology. Advances in Water Resources, 2021, 152, 103914.	3.8	10
58	Axisymmetric gravity currents within porous media: First order solution and experimental validation. Journal of Hydrology, 2014, 519, 238-247.	5.4	9
59	A Multi-disciplinary Modelling Approach for Discharge Reconstruction in Irrigation Canals: The Canale Emiliano Romagnolo (Northern Italy) Case Study. Water (Switzerland), 2018, 10, 1017.	2.7	9
60	Porous gravity currents: Axisymmetric propagation in horizontally graded medium and a review of similarity solutions. Advances in Water Resources, 2018, 115, 136-150.	3.8	9
61	Experimental investigation on backflow of power-law fluids in planar fractures. Physics of Fluids, 2021, 33, .	4.0	9
62	Correlation, Flow, and Transport in Multiscale Permeability Fields. , 1998, , 354-397.		8
63	On the propagation of particulate gravity currents in circular and semi-circular channels partially filled with homogeneous or stratified ambient fluid. Physics of Fluids, 2017, 29, 106605.	4.0	8
64	Data-driven models of groundwater salinization in coastal plains. Journal of Hydrology, 2015, 531, 187-197.	5.4	7
65	A Lubrication‐Based Solver for Shear‐Thinning Flow in Rough Fractures. Water Resources Research, 2022, 58, .	4.2	7
66	A Channel Model for Bi-viscous Fluid Flow in Fractures. Transport in Porous Media, 2020, 134, 97-116.	2.6	6
67	Dispersion induced by non-Newtonian gravity flow in a layered fracture or formation. Journal of Fluid Mechanics, 2020, 903, .	3.4	6
68	Transition from supercritical to subcritical regime in free surface flow of yield stress fluids. Geophysical Research Letters, 2007, 34, .	4.0	5
69	Analysis of a benchmark solution for non-Newtonian radial displacement in porous media. International Journal of Non-Linear Mechanics, 2013, 52, 46-57.	2.6	5
70	Critical regime of gravity currents flowing in non-rectangular channels with densityÂstratification. Journal of Fluid Mechanics, 2018, 840, 579-612.	3.4	5
71	Impact of uncertainty in soil texture parameters on estimation of soil moisture through radio waves transmission. Advances in Water Resources, 2018, 122, 131-138.	3.8	5
72	Non-Boussinesq gravity currents and surface waves generated by lock release in a circular-section channel: theoretical and experimental investigation. Journal of Fluid Mechanics, 2019, 869, 610-633.	3.4	5

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73	Converging gravity currents of power-law fluid. Journal of Fluid Mechanics, 2021, 918, .	3.4	5
74	Combined Management of Groundwater Resources and Water Supply Systems at Basin Scale Under Climate Change. Water Resources Management, 2022, 36, 915-930.	3.9	5
75	The hydraulic capacity of deteriorating sewer systems. Water Science and Technology, 2005, 52, 207-214.	2.5	4
76	Stability Analysis of Gravity Currents of a Power-Law Fluid in a Porous Medium. Mathematical Problems in Engineering, 2015, 2015, 1-11.	1.1	4
77	Uncertainty-based Analysis of Variations in Subsurface Thermal Field Due to Horizontal Flat-panel Heat Exchangers. Procedia Environmental Sciences, 2015, 25, 50-57.	1.4	4
78	WASTEWATER NETWORK CHALLENGES AND SOLUTIONS. , 2006, , 147-158.		4
79	Viscous spreading of non-Newtonian gravity currents in radial geometry. WIT Transactions on Engineering Sciences, 2006, , .	0.0	4
80	Drainage of power-law fluids from fractured or porous finite domains. Journal of Non-Newtonian Fluid Mechanics, 2022, 305, 104832.	2.4	4
81	Free-surface flow of hyperconcentrations. Fluid Dynamics Research, 1999, 24, 23-36.	1.3	3
82	Shear-Thinning Fluid Flow in Variable-Aperture Channels. Water (Switzerland), 2020, 12, 1152.	2.7	3
83	Nonergodic solution transport in heterogeneous porous media: Influence of multiscale structure. , 2000, , .		3
84	Computer-aided rehabilitation of water networks (CARE-W). Water Science and Technology: Water Supply, 2003, 3, 19-27.	2.1	3
85	Porous Gravity Currents of Non-Newtonian Fluids within Confining Boundaries. Procedia Environmental Sciences, 2015, 25, 58-65.	1.4	2
86	Metabolism-based modelling for performance assessment of a water supply system: a case study of Reggio Emilia, Italy. Water Science and Technology: Water Supply, 2016, 16, 1221-1230.	2.1	2
87	Metabolic Modelling: A Strategic Planning Tool for Water Supply Systems Management. Proceedings (mdpi), 2018, 2, .	0.2	2
88	Sustainability Analysis of Alternative Long-Term Management Strategies for Water Supply Systems: A Case Study in Reggio Emilia (Italy). Water (Switzerland), 2019, 11, 450.	2.7	2
89	Effective hydraulic conductivity in multiscale random fields with truncated power variograms. , 2000, , .		1
90	Comment on 'Yamada H, Nakamura F, Watanabe Y, Murakami M and Nogami T. 2005. Measuring hydraulic permeability in a streambed using the packer test. <i>Hydrological Processes</i> 19: 2507â€"2524â€™. Hydrological Processes, 2008, 22, 3543-3544.	2.6	1

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91	Sustainability Assessment of Urban Water Use from Building to Urban Scale in the GST4Water Project. Proceedings (mdpi), 2018, 2, .	0.2	1
92	The hydraulic capacity of deteriorating sewer systems. Water Science and Technology, 2005, 52, 207-14.	2.5	1
93	An exact solution for one-dimensional unsteady nonlinear groundwater flow. Meccanica, 1991, 26, 129-133.	2.0	0
94	Reply [to â€œComment on â€˜Scaling of random fields by means of truncated power variograms and associated spectraâ€™ by Vittorio Di Federico and Shlomo P. Neumanâ€]. Water Resources Research, 1998, 34, 3209-3210.	4.2	0
95	Title is missing!. Transport in Porous Media, 2003, 52, 111-115.	2.6	0
96	Scaling Effects on Finite-Domain Fractional Brownian Motion. , 2005, , 75-86.		0
97	Letter to the Editor: Comments on the Paper â€œInertia Effects in High-Rate Flow Through Heterogeneous Porous Mediaâ€•by M. Fourar, R. Lenormand, M. Karimi-Fard, and R. Horne, Transport in Porous Media, DOI 10.1007/s11242-004-6800-6, 2005. Transport in Porous Media, 2010, 85, 269-271.	2.6	0
98	Shear-Thinning Fluid Flow in Variable-Aperture Channels. Proceedings (mdpi), 2020, 48, 28.	0.2	0
99	Multiple manifestations of hydrogeologic scaling and their joint theoretical interpretation. , 2003, , .		0
100	Displacement of non-Newtonian compressible fluids in plane porous media flow. , 2008, , .		0
101	Analytical modeling of spherical displacement for power-law fluids in porous media. Applied Mathematical Sciences, 0, 7, 2993-3005.	0.1	0
102	Performance of a Drainage Trench Employed as Ground Heat Exchanger. , 2014, , .		0
103	Multiscale Permeability and Dispersion in Randomly Heterogeneous Geologic Media. , 1998, , 419-453.		0
104	GROUND HEAT TRANSFER FROM A DRAINAGE TRENCH. Special Topics and Reviews in Porous Media, 2015, 6, 185-195.	1.1	0
105	Estimates of equivalent aperture for non-Newtonian flow in a rough-walled fracture. International Journal of Rock Mechanics and Mining Sciences, 1997, 34, 1133-1137.	0.0	0