Behzad Ghanbarian

List of Publications by Year
in descending order

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70 papers	2,142 citations	236925 25 h-index	233421 45 g-index
76 all docs	76 docs citations	76 times ranked	1974 citing authors

#	Article	IF	Citations
1	Tortuosity in Porous Media: A Critical Review. Soil Science Society of America Journal, 2013, 77, 1461-1477.	2.2	569
2	Percolation Theory for Flow in Porous Media. Lecture Notes in Physics, 2014, , .	0.7	150
3	Thermal conductivity in porous media: Percolationâ€based effectiveâ€medium approximation. Water Resources Research, 2016, 52, 295-314.	4.2	99
4	Percolation Theory Generates a Physically Based Description of Tortuosity in Saturated and Unsaturated Porous Media. Soil Science Society of America Journal, 2013, 77, 1920-1929.	2.2	87
5	Universal scaling of the formation factor in porous media derived by combining percolation and effective medium theories. Geophysical Research Letters, 2014, 41, 3884-3890.	4.0	68
6	Upscaling pore pressureâ€dependent gas permeability in shales. Journal of Geophysical Research: Solid Earth, 2017, 122, 2541-2552.	3.4	60
7	Fluid flow in porous media with rough poreâ€solid interface. Water Resources Research, 2016, 52, 2045-2058.	4.2	53
8	Unsaturated hydraulic conductivity modeling for porous media with two fractal regimes. Geoderma, 2013, 207-208, 268-278.	5.1	51
9	Sample dimensions effect on prediction of soil water retention curve and saturated hydraulic conductivity. Journal of Hydrology, 2015, 528, 127-137.	5.4	51
10	SATURATION DEPENDENCE OF TRANSPORT IN POROUS MEDIA PREDICTED BY PERCOLATION AND EFFECTIVE MEDIUM THEORIES. Fractals, 2015, 23, 1540004.	3.7	47
11	Percolation theory for solute transport in porous media: Geochemistry, geomorphology, and carbon cycling. Water Resources Research, 2016, 52, 7444-7459.	4.2	44
12	A new methodology for grouping and averaging capillary pressure curves for reservoir models. Energy Geoscience, 2021, 2, 52-62.	2.9	43
13	Universal scaling of gas diffusion in porous media. Water Resources Research, 2014, 50, 2242-2256.	4.2	39
14	Derivation of an Explicit Form of the Percolationâ€Based Effectiveâ€Medium Approximation for Thermal Conductivity of Partially Saturated Soils. Water Resources Research, 2018, 54, 1389-1399.	4.2	36
15	Gas and solute diffusion in partially saturated porous media: Percolation theory and Effective Medium Approximation compared with lattice Boltzmann simulations. Journal of Geophysical Research: Solid Earth, 2015, 120, 182-190.	3.4	34
16	Modeling relative permeability of water in soil: Application of effectiveâ€medium approximation and percolation theory. Water Resources Research, 2016, 52, 5025-5040.	4.2	34
17	Quantifying tight-gas sandstone permeability via critical path analysis. Advances in Water Resources, 2016, 92, 316-322.	3.8	33
18	Three-Dimensional Lattice Boltzmann Simulations of Single-Phase Permeability in Random Fractal Porous Media with Rough Poreâ€“Solid Interface. Transport in Porous Media, 2018, 122, 527-546.	2.6	33

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19	Upscaling soil saturated hydraulic conductivity from pore throat characteristics. Advances in Water Resources, 2017, 104, 105-113.	3.8	32
20	Scaling of geochemical reaction rates via advective solute transport. Chaos, 2015, 25, 075403.	2.5	31
21	Accuracy of sample dimension-dependent pedotransfer functions in estimation of soil saturated hydraulic conductivity. Catena, 2017, 149, 374-380.	5.0	31
22	Improving unsaturated hydraulic conductivity estimation in soils via percolation theory. Geoderma, 2017, 303, 9-18.	5.1	29
23	Electrical Conductivity of Partially Saturated Packings of Particles. Transport in Porous Media, 2017, 118, 1-16.	2.6	27
24	A Simple Model of the Variability of Soil Depths. Water (Switzerland), 2017, 9, 460.	2.7	27
25	Insights Into Rock Typing: A Critical Study. SPE Journal, 2019, 24, 230-242.	3.1	27
26	Fractal dimension of soil fragment mass-size distribution: A critical analysis. Geoderma, 2015, 245-246, 98-103.	5.1	26
27	Modeling gas relative permeability in shales and tight porous rocks. Fuel, 2020, 272, 117686.	6.4	25
28	Gas permeability in unconventional tight sandstones: Scaling up from pore to core. Journal of Petroleum Science and Engineering, 2019, 173, 1163-1172.	4.2	21
29	Theoretical Insight Into the Empirical Tortuosityâ€Connectivity Factor in the Burdineâ€Brooksâ€Corey Water Relative Permeability Model. Water Resources Research, 2017, 53, 10395-10410.	4.2	20
30	Scale-dependent permeability and formation factor in porous media: Applications of percolation theory. Fuel, 2021, 301, 121090.	6.4	20
31	A GEOMETRICAL APERTUREâ€“WIDTH RELATIONSHIP FOR ROCK FRACTURES. Fractals, 2019, 27, 1940002.	3.7	18
32	A note on dynamic rock typing and TEM-function for grouping, averaging and assigning relative permeability data to reservoir simulation models. Journal of Natural Gas Science and Engineering, 2021, 87, 103789.	4.4	18
33	Universal scaling of the formation factor in clays: Example from the Nankai Trough. Journal of Geophysical Research: Solid Earth, 2015, 120, 7361-7375.	3.4	16
34	Clarifying pore diameter, pore width, and their relationship through pressure measurements: A critical study. Marine and Petroleum Geology, 2019, 107, 142-148.	3.3	16
35	Saturation Dependence of Solute Diffusion in Porous Media: Universal Scaling Compared with Experiments. Vadose Zone Journal, 2014, 13, 1-6.	2.2	15
36	Geogenic and anthropogenic sources identification and ecological risk assessment of heavy metals in the urban soil of Yazd, central Iran. PLoS ONE, 2021, 16, e0260418.	2.5	15

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37	Estimating the scale dependence of permeability at pore and core scales: Incorporating effects of porosity and finite size. Advances in Water Resources, 2022, 161, 104123.	3.8	14
38	Permeability in Twoâ€Component Porous Media: Effectiveâ€Medium Approximation Compared with Latticeâ€Boltzmann Simulations. Vadose Zone Journal, 2016, 15, 1-10.	2.2	12
39	Formation factor in Bentheimer and Fontainebleau sandstones: Theory compared with pore-scale numerical simulations. Advances in Water Resources, 2017, 107, 139-146.	3.8	11
40	Applications of critical path analysis to uniform grain packings with narrow conductance distributions: II. Water relative permeability. Advances in Water Resources, 2020, 137, 103524.	3.8	11
41	A Percolationâ€Based Approach to Scaling Infiltration and Evapotranspiration. Water (Switzerland), 2017, 9, 104.	2.7	10
42	Predicting Water Cycle Characteristics from Percolation Theory and Observational Data. International Journal of Environmental Research and Public Health, 2020, 17, 734.	2.6	10
43	Application of continuum percolation theory for modeling single- and two-phase characteristics of anisotropic carbon paper gas diffusion layers. Journal of Power Sources, 2016, 307, 613-623.	7.8	9
44	Applications of critical path analysis to uniform grain packings with narrow conductance distributions: I. Single-phase permeability. Advances in Water Resources, 2020, 137, 103529.	3.8	9
45	Theoretical power-law relationship between permeability and formation factor. Journal of Petroleum Science and Engineering, 2021, 198, 108249.	4.2	9
46	Theoretical Relationship between Saturated Hydraulic Conductivity and Air Permeability under Dry Conditions: Continuum Percolation Theory. Vadose Zone Journal, 2014, 13, 1-6.	2.2	8
47	Saturation-dependent gas transport in sand packs: Experiments and theoretical applications. Advances in Water Resources, 2018, 122, 139-147.	3.8	8
48	Modeling water imbibition into coated and uncoated papers. Chemical Engineering Science, 2018, 189, 33-42.	3.8	8
49	Unsaturated hydraulic conductivity in dual-porosity soils: Percolation theory. Soil and Tillage Research, 2021, 212, 105061.	5.6	7
50	Effect of poreâ€scale heterogeneity on scaleâ€dependent permeability: Poreâ€network simulation and finiteâ€size scaling analysis. Water Resources Research, 0, , e2021WR030664.	4.2	7
51	Machine learning in vadose zone hydrology: A flashback. Vadose Zone Journal, 2022, 21, .	2.2	7
52	Estimating specific surface area: Incorporating the effect of surface roughness and probing molecule size. Soil Science Society of America Journal, 2021, 85, 534-545.	2.2	5
53	Predicting Characteristics of the Water Cycle From Scaling Relationships. Water Resources Research, 2021, 57, e2021WR030808.	4.2	5
54	Scale dependence of tortuosity and diffusion: Finite-size scaling analysis. Journal of Contaminant Hydrology, 2022, 245, 103953.	3.3	5

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55	Wettability of Carbonate Reservoir Rocks: A Comparative Analysis. Applied Sciences (Switzerland), 2022, 12, 131.	2.5	5
56	Non-linear hydrologic organization. Nonlinear Processes in Geophysics, 2021, 28, 599-614.	1.3	4
57	Experimental study of hydraulic properties in grain packs: Effects of particle shape and size distribution. Journal of Contaminant Hydrology, 2021, 243, 103918.	3.3	4
58	Soil water retention curve inflection point: Insight into soil structure from percolation theory. Soil Science Society of America Journal, 2022, 86, 338-344.	2.2	4
59	Gradients and Assumptions Affect Interpretation of Laboratory-Measured Gas-Phase Transport. Soil Science Society of America Journal, 2015, 79, 1018-1029.	2.2	3
60	Estimating Gas Relative Permeability of Shales from Pore Size Distribution. , 2018, , .		3
61	Determining effective permeability at reservoir scale: Application of critical path analysis. Advances in Water Resources, 2022, 159, 104096.	3.8	3
62	Theoretical bounds for the exponent in the empirical power-law advance-time curve for surface flow. Agricultural Water Management, 2018, 210, 208-216.	5.6	2
63	Soil Classification: A New Approach for Grouping Soils Using Unsaturated Hydraulic Conductivity Data. Water Resources Research, 2021, 57, e2021WR030095.	4.2	2
64	Optimizing cropping pattern to improve the performance of irrigation network using system dynamicsâ€"Powell algorithm. Environmental Science and Pollution Research, 2022, , 1.	5.3	2
65	Predicting Single-Phase Permeability of Porous Media Using Critical-Path Analysis. , 2021, , 273-288.		1
66	Simulation of real-time variations of saline drainage water: comparing system dynamics with DRAINMOD-S. Water Practice and Technology, 0, , .	2.0	1
67	Application of Percolation Theory to Reaction and Flow in Geochemical Systems in Soil and Rock. , 2021, , 289-321.		0
68	Modelling flow and transport in variably saturated porous media: Applications from percolation theory and effective-medium approximation. , 2021, , 79-117.		0
69	Estimating Single-Phase Permeability of Porous Media Using Critical-Path Analysis. , 2021, , 1-16.		0
70	Percolation Theory to Reaction and Flow in Geochemical Systems in Soil and Rock. , 2020, , 1-34.		0