Vahid Joekar-Niasar

List of Publications by Year
in descending order

82 papers	3,185 citations	172386 29 h-index	161767 54 g-index
82 all docs	82 docs citations	82 times ranked	2041 citing authors

#	Article	IF	Citations
1	Analysis of Fundamentals of Two-Phase Flow in Porous Media Using Dynamic Pore-Network Models: A Review. Critical Reviews in Environmental Science and Technology, 2012, 42, 1895-1976.	6.6	285
2	Non-equilibrium effects in capillarity and interfacial area in two-phase flow: dynamic pore-network modelling. Journal of Fluid Mechanics, 2010, 655, 38-71.	1.4	226
3	Insights into the Relationships Among Capillary Pressure, Saturation, Interfacial Area and Relative Permeability Using Pore-Network Modeling. Transport in Porous Media, 2008, 74, 201-219.	1.2	210
4	Kinetics of Low-Salinity-Flooding Effect. SPE Journal, 2015, 20, 8-20.	1.7	196
5	Insights into the Impact of Temperature on the Wettability Alteration by Low Salinity in Carbonate Rocks. Energy & Fuels, 2017, 31, 7839-7853.	2.5	141
6	Effect of fluids properties on non-equilibrium capillarity effects: Dynamic pore-network modeling. International Journal of Multiphase Flow, 2011, 37, 198-214.	1.6	106
7	Network model investigation of interfacial area, capillary pressure and saturation relationships in granular porous media. Water Resources Research, 2010, 46, .	1.7	105
8	New insights on the complex dynamics of two-phase flow in porous media under intermediate-wet conditions. Scientific Reports, 2017, 7, 4584.	1.6	80
9	Simulating drainage and imbibition experiments in a highâ€porosity micromodel using an unstructured pore network model. Water Resources Research, 2009, 45, .	1.7	77
10	Trapping and hysteresis in twoâ€phase flow in porous media: A poreâ€network study. Water Resources Research, 2013, 49, 4244-4256.	1.7	77
11	On the fabrication of PDMS micromodels by rapid prototyping, and their use in twoâ€phase flow studies. Water Resources Research, 2013, 49, 2056-2067.	1.7	76
12	Micromodel study of twoâ€phase flow under transient conditions: Quantifying effects of specific interfacial area. Water Resources Research, 2014, 50, 8125-8140.	1.7	74
13	Two-phase flow dynamics in a gas diffusion layer - gas channel - microporous layer system. Journal of Power Sources, 2020, 471, 228427.	4.0	69
14	Critical Role of the Immobile Zone in Non-Fickian Two-Phase Transport: A New Paradigm. Environmental Science & Technology, 2016, 50, 4384-4392.	4.6	67
15	Effects of intermediate wettability on entry capillary pressure in angular pores. Journal of Colloid and Interface Science, 2016, 473, 34-43.	5.0	64
16	Novel insights into pore-scale dynamics of wettability alteration during low salinity waterflooding. Scientific Reports, 2019, 9, 9257.	1.6	62
17	A novel deep reactive ion etched (DRIE) glass micro-model for two-phase flow experiments. Lab on A Chip, 2012, 12, 3413.	3.1	61
18	Uniqueness of Specific Interfacial Areaâ€"Capillary Pressureâ€"Saturation Relationship Under Non-Equilibrium Conditions in Two-Phase Porous Media Flow. Transport in Porous Media, 2012, 94, 465-486.	1.2	56

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19	Direct characterization of solute transport in unsaturated porous media using fast X-ray synchrotron microtomography. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 23443-23449.	3.3	56
20	Specific interfacial area: The missing state variable in twoâ€phase flow equations?. Water Resources Research, 2011, 47, .	1.7	55
21	Pore-scale and continuum simulations of solute transport micromodel benchmark experiments. Computational Geosciences, 2016, 20, 857-879.	1.2	50
22	Nonmonotonic Pressure Field Induced by Ionic Diffusion in Charged Thin Films. Industrial & Engineering Chemistry Research, 2016, 55, 6227-6235.	1.8	47
23	Pore-scale insights into transport and mixing in steady-state two-phase flow in porous media. International Journal of Multiphase Flow, 2018, 109, 51-62.	1.6	41
24	Hydro-dynamic Solute Transport under Two-Phase Flow Conditions. Scientific Reports, 2017, 7, 6624.	1.6	36
25	Saturation Dependence of Nonâ€Fickian Transport in Porous Media. Water Resources Research, 2019, 55, 1153-1166.	1.7	35
26	An empirical equation for shear viscosity of shear thickening fluids. Journal of Molecular Liquids, 2021, 325, 115220.	2.3	34
27	Impact of pore morphology on two-phase flow dynamics under wettability alteration. Fuel, 2020, 268, 117315.	3.4	32
28	Enhancing the Performance of Fuel Cell Gas Diffusion Layers Using Ordered Microstructural Design. Journal of the Electrochemical Society, 2020, 167, 013520.	1.3	31
29	Transition From Viscous Fingering to Capillary Fingering: Application of GPUâ€Based Fully Implicit Dynamic Pore Network Modeling. Water Resources Research, 2020, 56, e2020WR028149.	1.7	31
30	Assessment of nitrate contamination in unsaturated zone of urban areas: The case study of Tehran, Iran. Environmental Geology, 2009, 57, 1785-1798.	1.2	30
31	Pore-Scale Modeling of Multiphase Flow and Transport: Achievements and Perspectives. Transport in Porous Media, 2012, 94, 461-464.	1.2	30
32	Lattice-Boltzmann simulation of dissolution of carbonate rock during CO2-saturated brine injection. Chemical Engineering Journal, 2021, 408, 127235.	6.6	30
33	A transport phase diagram for pore-level correlated porous media. Advances in Water Resources, 2016, 92, 23-29.	1.7	29
34	Detecting pH and Ca2+ increase during low salinity waterflooding in carbonate reservoirs: Implications for wettability alteration process. Journal of Molecular Liquids, 2020, 317, 114003.	2.3	28
35	Non-equilibrium in multiphase multicomponent flow in porous media: An evaporation example. International Journal of Heat and Mass Transfer, 2014, 74, 128-142.	2.5	26
36	Pore-network modelling of non-Darcy flow through heterogeneous porous media. Advances in Water Resources, 2019, 131, 103378.	1.7	26

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37	Impact of Microheterogeneity on Upscaling Reactive Transport in Geothermal Energy. ACS Earth and Space Chemistry, 2019, 3, 2045-2057.	1.2	25
38	Effective viscosity and Reynolds number of non-Newtonian fluids using Meter model. Rheologica Acta, 2021, 60, 11-21.	1.1	25
39	Impact of Oil Polarity on the Mixing Time at the Pore Scale in Low Salinity Waterflooding. Energy & Fuels, 2020, 34, 12247-12259.	2.5	23
40	Experimental study on nonmonotonicity of Capillary Desaturation Curves in a 2â€D pore network. Water Resources Research, 2015, 51, 8517-8528.	1.7	22
41	An efficient coupling of free flow and porous media flow using the pore-network modeling approach. Journal of Computational Physics: X, 2019, 1, 100011.	1.1	22
42	Effects of Poreâ€Scale Heterogeneity on Macroscopic NAPL Dissolution Efficiency: A Twoâ€Scale Numerical Simulation Study. Water Resources Research, 2019, 55, 8779-8799.	1.7	21
43	Unravelling Effects of the Poreâ€Size Correlation Length on the Twoâ€Phase Flow and Solute Transport Properties: GPUâ€based Poreâ€Network Modeling. Water Resources Research, 2020, 56, e2020WR027403.	1.7	21
44	Role of corner interfacial area in uniqueness of capillary pressure-saturation- interfacial area relation under transient conditions. Advances in Water Resources, 2017, 107, 10-21.	1.7	19
45	Effects of flow history on oil entrapment in porous media: An experimental study. AICHE Journal, 2015, 61, 1385-1390.	1.8	18
46	Signature of Geochemistry on Densityâ€Driven CO Mixing in Sandstone Aquifers. Water Resources Research, 2020, 56, e2019WR026060.	1.7	18
47	Dynamics of CO₂ Densityâ€Driven Flow in Carbonate Aquifers: Effects of Dispersion and Geochemistry. Water Resources Research, 2021, 57, e2020WR027829.	1.7	18
48	A greyscale volumetric lattice Boltzmann method for upscaling pore-scale two-phase flow. Advances in Water Resources, 2020, 144, 103711.	1.7	17
49	Nonmonotonic Effects of Salinity on Wettability Alteration and Twoâ€Phase Flow Dynamics in PDMS Micromodels. Water Resources Research, 2019, 55, 9826-9837.	1.7	16
50	Utilization of 3D printed carbon gas diffusion layers in polymer electrolyte membrane fuel cells. International Journal of Hydrogen Energy, 2022, 47, 23393-23410.	3.8	16
51	<i>Operando</i> Liquid Pressure Determination in Polymer Electrolyte Fuel Cells. ACS Applied Materials & Interfaces, 2021, 13, 34003-34011.	4.0	15
52	Effect of divalent ions on the dynamics of disjoining pressure induced by salinity modification. Journal of Molecular Liquids, 2019, 291, 111276.	2.3	14
53	Coupled Processes in Charged Porous Media: From Theory to Applications. Transport in Porous Media, 2019, 130, 183-214.	1.2	14
54	Nonuniqueness of hydrodynamic dispersion revealed using fast 4D synchrotron x-ray imaging. Science Advances, 2021, 7, eabj0960.	4.7	14

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55	Simultaneous pressure and electro-osmosis driven flow in charged porous media: Pore-scale effects on mixing and dispersion. Journal of Colloid and Interface Science, 2020, 561, 162-172.	5.0	12
56	Efficiency of phosphorus resource use in Africa as defined by soil chemistry and the impact on crop production. Energy Procedia, 2017, 123, 97-104.	1.8	10
57	Insights into the nano-structure of oil-brine-kaolinite interfaces: Molecular dynamics and implications for enhanced oil recovery. Applied Clay Science, 2021, 211, 106203.	2.6	10
58	Pore-scale simulation of viscous instability for non-Newtonian two-phase flow in porous media. Journal of Non-Newtonian Fluid Mechanics, 2021, 296, 104628.	1.0	10
59	Soil Chemistry Aspects of Predicting Future Phosphorus Requirements in Subâ€Saharan Africa. Journal of Advances in Modeling Earth Systems, 2019, 11, 327-337.	1.3	9
60	Upscaling non-Newtonian rheological fluid properties from pore-scale to Darcyâ€™s scale. Chemical Engineering Science, 2021, 239, 116638.	1.9	9
61	Enhanced thermal fingering in a shear-thinning fluid flow through porous media: Dynamic pore network modeling. Physics of Fluids, 2022, 34, .	1.6	9
62	Effect of Initial Hydraulic Conditions on Capillary Rise in a Porous Medium: Pore-Network Modeling. Vadose Zone Journal, 2012, 11, vzj2011.0128.	1.3	8
63	Integral effects of initial fluids configuration and wettability alteration on remaining saturation: characterization with X-ray micro-computed tomography. Fuel, 2021, 306, 121717.	3.4	8
64	Process-Dependent Solute Transport in Porous Media. Transport in Porous Media, 2021, 140, 421-435.	1.2	7
65	Fluidâ€“Fluid Interfacial Effects in Multiphase Flow during Carbonated Waterflooding in Sandstone: Application of X-ray Microcomputed Tomography and Molecular Dynamics. ACS Applied Materials & Interfaces, 2021, 13, 5731-5740.	4.0	7
66	Scaling CO2 convection in confined aquifers: Effects of dispersion, permeability anisotropy and geochemistry. Advances in Water Resources, 2022, 164, 104191.	1.7	7
67	Pressure development in charged porous media with heterogeneous pore sizes. Advances in Water Resources, 2019, 128, 193-205.	1.7	6
68	Interplay of biofilm growth, NAPL biodegradation and micro-scale heterogeneity in natural attenuation of aquifers delineated by pore-network modelling. Advances in Water Resources, 2020, 145, 103750.	1.7	6
69	Comparison of modified effective-medium approximation to pore-network theory for relative permeabilities. Journal of Petroleum Science and Engineering, 2020, 184, 106594.	2.1	5
70	Experimental and Modelling Study of Gravity Drainage in a Three-Block System. Transport in Porous Media, 2021, 136, 471-494.	1.2	5
71	Impact of Displacement Direction Relative to Heterogeneity on Averaged Capillary Pressureâ€Saturation Curves. Water Resources Research, 2022, 58, .	1.7	5
72	Analytical Solution for Predicting Salt Precipitation During CO₂ Injection Into Saline Aquifers in Presence of Capillary Pressure. Water Resources Research, 2022, 58, .	1.7	5

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73	Analytical solution of electrohydrodynamic flow and transport in rectangular channels: inclusion of double layer effects. Computational Geosciences, 2013, 17, 497-513.	1.2	4
74	Pore-scale modelling techniques: balancing efficiency, performance, and robustness. Computational Geosciences, 2016, 20, 773-775.	1.2	4
75	Comments on the paper â€œexperimental study and modelling on diffusion coefficient of CO2 in waterâ€• by H. Ahmadi etÂal. (2020). Fluid Phase Equilibria, 2020, 524, 112791.	1.4	4
76	Discrete-Particle Model to Optimize Operational Conditions of Proton-Exchange Membrane Fuel-Cell Gas Channels. ACS Applied Energy Materials, 2021, 4, 10514-10533.	2.5	4
77	Quantifying the impacts of groundwater abstraction on Ganges river water infiltration into shallow aquifers under the rapidly developing city of Patna, India. Journal of Hydrology: Regional Studies, 2022, 42, 101133.	1.0	4
78	Electrostatic Characterization of the â˜'COOHâ€“Brineâ€“Clay System: Implications for Wettability Alteration during Low Salinity Waterflooding in Sandstone Reservoirs. Energy & Fuels, 2021, 35, 16599-16606.	2.5	3
79	Experimental Analysis of Mass Exchange Across a Heterogeneity Interface: Role of Counterâ€Current Transport and Nonâ€Linear Diffusion. Water Resources Research, 2022, 58, .	1.7	3
80	Pore network and Darcy scale modelling of DNAPL remediation using ethanol flushing: Study of physical properties in DNAPL remediation. Journal of Contaminant Hydrology, 2021, 243, 103886.	1.6	2
81	Nanoparticle transport within non-Newtonian fluid flow in porous media. Physical Review E, 2022, 106, .	0.8	2
82	Editorial to the Special Issue: Uncertainty Quantification and Multiple-Scale Methods for Porous Media. Transport in Porous Media, 2019, 126, 1-4.	1.2	0