Ran Hu

List of Publications by Year
in descending order

63	2,014	236833	254106
papers	citations	25 h-index	43 g-index

64	64	64	1273
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Evaluation of Forchheimer equation coefficients for non-Darcy flow in deformable rough-walled fractures. Journal of Hydrology, 2015, 529, 993-1006.	2.3	238
2	Estimating hydraulic conductivity of fractured rocks from highâ€pressure packer tests with an Izbash's lawâ€based empirical model. Water Resources Research, 2015, 51, 2096-2118.	1.7	109
3	Visualizing and quantifying the crossover from capillary fingering to viscous fingering in a rough fracture. Water Resources Research, 2017, 53, 7756-7772.	1.7	108
4	Wettability and Flow Rate Impacts on Immiscible Displacement: A Theoretical Model. Geophysical Research Letters, 2018, 45, 3077-3086.	1.5	97
5	Wettability impact on supercritical CO₂ capillary trapping: Poreâ€scale visualization and quantification. Water Resources Research, 2017, 53, 6377-6394.	1.7	74
6	Experimental study on two-phase flow in rough fracture: Phase diagram and localized flow channel. International Journal of Heat and Mass Transfer, 2018, 122, 1298-1307.	2.5	69
7	Neighbouring plants modify maize root foraging for phosphorus: coupling nutrients and neighbours for improved nutrientâ€use efficiency. New Phytologist, 2020, 226, 244-253.	3.5	66
8	Wettability effects on supercritical CO2â€“brine immiscible displacement during drainage: Pore-scale observation and 3D simulation. International Journal of Greenhouse Gas Control, 2017, 60, 129-139.	2.3	65
9	Evaluation of Groundwater Leakage into a Drainage Tunnel in Jinping-I Arch Dam Foundation in Southwestern China: A Case Study. Rock Mechanics and Rock Engineering, 2016, 49, 961-979.	2.6	62
10	Experimental Characterization and Micromechanical Modelling of Anisotropic Slates. Rock Mechanics and Rock Engineering, 2016, 49, 3541-3557.	2.6	61
11	Inverse modeling of leakage through a rockfill dam foundation during its construction stage using transient flow model, neural network and genetic algorithm. Engineering Geology, 2015, 187, 183-195.	2.9	58
12	Phase diagram of quasi-static immiscible displacement in disordered porous media. Journal of Fluid Mechanics, 2019, 875, 448-475.	1.4	58
13	A new parabolic variational inequality formulation of Signorini's condition for nonâ€steady seepage problems with complex seepage control systems. International Journal for Numerical and Analytical Methods in Geomechanics, 2011, 35, 1034-1058.	1.7	57
14	Modeling of coupled deformation, water flow and gas transport in soil slopes subjected to rain infiltration. Science China Technological Sciences, 2011, 54, 2561-2575.	2.0	56
15	A constitutive model for unsaturated soils with consideration of inter-particle bonding. Computers and Geotechnics, 2014, 59, 127-144.	2.3	44
16	Statistical distribution of hydraulic conductivity of rocks in deep-incised valleys, Southwest China. Journal of Hydrology, 2018, 566, 216-226.	2.3	41
17	Inverse modeling of saturated-unsaturated flow in site-scale fractured rocks using the continuum approach: A case study at Baihetan dam site, Southwest China. Journal of Hydrology, 2020, 584, 124693.	2.3	40
18	Transitions of Fluid Invasion Patterns in Porous Media. Geophysical Research Letters, 2020, 47, e2020GL089682.	1.5	39

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19	Performance assessment and optimization of seepage control system: A numerical case study for Kala underground powerhouse. Computers and Geotechnics, 2014, 55, 306-315.	2.3	38
20	Energy Conversion Reveals Regime Transition of Imbibition in a Rough Fracture. Geophysical Research Letters, 2018, 45, 8993-9002.	1.5	36
21	Roughness Control on Multiphase Flow in Rock Fractures. Geophysical Research Letters, 2019, 46, 12002-12011.	1.5	34
22	A new classification of seepage control mechanisms in geotechnical engineering. Journal of Rock Mechanics and Geotechnical Engineering, 2010, 2, 209-222.	3.7	33
23	Non-Darcian flow effect on discharge into a tunnel in karst aquifers. International Journal of Rock Mechanics and Minings Sciences, 2020, 130, 104319.	2.6	33
24	Estimating effective thermal conductivity of unsaturated bentonites with consideration of coupled thermo-hydro-mechanical effects. International Journal of Heat and Mass Transfer, 2014, 72, 656-667.	2.5	30
25	Modeling Immiscible Twoâ€Phase Flow in Rough Fractures From Capillary to Viscous Fingering. Water Resources Research, 2019, 55, 2033-2056.	1.7	28
26	Role of Poreâ€Scale Disorder in Fluid Displacement: Experiments and Theoretical Model. Water Resources Research, 2021, 57, .	1.7	25
27	Variation in hydraulic conductivity of fractured rocks at a dam foundation during operation. Journal of Rock Mechanics and Geotechnical Engineering, 2021, 13, 351-367.	3.7	25
28	Numerical investigation on immiscible displacement in 3D rough fracture: Comparison with experiments and the role of viscous and capillary forces. Advances in Water Resources, 2018, 118, 39-48.	1.7	21
29	Effect of Solidâ€“Liquid Interactions on Substrate Wettability and Dynamic Spreading of Nanodroplets: A Molecular Dynamics Study. Journal of Physical Chemistry C, 2020, 124, 23260-23269.	1.5	21
30	Evaluation of hydrogeological impact of tunnel engineering in a karst aquifer by coupled discrete-continuum numerical simulations. Journal of Hydrology, 2021, 597, 125765.	2.3	21
31	A homogenization-based model for the effective thermal conductivity of bentoniteâ€“sand-based buffer material. International Communications in Heat and Mass Transfer, 2015, 68, 43-49.	2.9	20
32	Film entrainment and microplastic particles retention during gas invasion in suspension-filled microchannels. Water Research, 2021, 194, 116919.	5.3	20
33	Coupled hydro-mechanical analysis of a dam foundation with thick fluvial deposits: a case study of the Danba Hydropower Project, Southwestern China. European Journal of Environmental and Civil Engineering, 2016, 20, 19-44.	1.0	19
34	Dissolution Hotspots in Fractures. Geophysical Research Letters, 2021, 48, e2021GL094118.	1.5	18
35	A coupled stressâ€“strain and hydraulic hysteresis model for unsaturated soils: Thermodynamic analysis and model evaluation. Computers and Geotechnics, 2015, 63, 159-170.	2.3	17
36	A coupled twoâ€phase fluid flow and elastoplastic deformation model for unsaturated soils: theory, implementation, and application. International Journal for Numerical and Analytical Methods in Geomechanics, 2016, 40, 1023-1058.	1.7	17

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37	Towards an optimization design of seepage control: A case study in dam engineering. Science China Technological Sciences, 2017, 60, 1903-1916.	2.0	17
38	Aquatic hypoxia disturbs oriental river prawn (Macrobrachium nipponense) testicular development: A cross-generational study. Environmental Pollution, 2020, 266, 115093.	3.7	17
39	Hydraulic hysteresis effects on the coupled flowâ€“deformation processes in unsaturated soils: Numerical formulation and slope stability analysis. Applied Mathematical Modelling, 2018, 54, 221-245.	2.2	16
40	Effect of aperture field anisotropy on two-phase flow in rough fractures. Advances in Water Resources, 2019, 132, 103390.	1.7	16
41	Transitions of Dissolution Patterns in Rough Fractures. Water Resources Research, 2022, 58, e2021WR030456.	1.7	16
42	Effect of seepage control on stability of a tailings dam during its staged construction with a stepwise-coupled hydro-mechanical model. International Journal of Mining, Reclamation and Environment, 2015, 29, 125-140.	1.2	12
43	A numerical formulation with unified unilateral boundary condition for unsaturated flow problems in porous media. Acta Geotechnica, 2017, 12, 277-291.	2.9	12
44	A homogenization-based model for estimating effective thermal conductivity of unsaturated compacted bentonites. International Journal of Heat and Mass Transfer, 2015, 83, 731-740.	2.5	11
45	A two-step homogenization-based permeability model for deformable fractured rocks with consideration of coupled damage and friction effects. International Journal of Rock Mechanics and Minings Sciences, 2016, 89, 212-226.	2.6	11
46	A generalized Forchheimer radial flow model for constant-rate tests. Advances in Water Resources, 2017, 107, 317-325.	1.7	11
47	Splitting Dynamics of Liquid Slugs at a Tâ€Junction. Water Resources Research, 2020, 56, e2020WR027730.	1.7	11
48	Modeling unsaturated flow in fractured rocks with scaling relationships between hydraulic parameters. Journal of Rock Mechanics and Geotechnical Engineering, 2022, 14, 1697-1709.	3.7	11
49	A Forchheimer's law-based analytical model for constant-rate tests with linear flow pattern. Advances in Water Resources, 2019, 128, 1-12.	1.7	8
50	Morphological patterns and interface instability during withdrawal of liquid-particle mixtures. Journal of Colloid and Interface Science, 2022, 608, 1598-1607.	5.0	8
51	A relative permeability model for deformable soils and its impact on coupled unsaturated flow and elasto-plastic deformation processes. Science China Technological Sciences, 2015, 58, 1971-1982.	2.0	7
52	Roles of energy dissipation and asymmetric wettability in spontaneous imbibition dynamics in a nanochannel. Journal of Colloid and Interface Science, 2022, 607, 1023-1035.	5.0	7
53	An effective thermal conductivity model for unsaturated compacted bentonites with consideration of bimodal shape of pore size distribution. Science China Technological Sciences, 2015, 58, 369-380.	2.0	6
54	Direct Prediction of Fluidâ€Fluid Displacement Efficiency in Ordered Porous Media Using the Pore Structure. Water Resources Research, 2022, 58, .	1.7	5

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55	A generalized non-Darcian model for packer tests considering groundwater level and borehole inclination. Engineering Geology, 2021, 286, 106091.	2.9	4
56	A threshold stresses-based permeability variation model for microcracked porous rocks. European Journal of Environmental and Civil Engineering, 2020, 24, 787-813.	1.0	3
57	Experimental Observation of Two Distinct Finger Regimes During Miscible Displacement in Fracture. Transport in Porous Media, 2022, 144, 175-188.	1.2	3
58	Liquid Breakthrough Time in an Unsaturated Fracture Network. Water Resources Research, 2022, 58, .	1.7	3
59	Optimization design of a large-scale seepage control system at a high arch dam site. IOP Conference Series: Earth and Environmental Science, 2021, 861, 072093.	0.2	1
60	Modelling transient discharge into deep-buried tunnels in karst area based on a coupled discrete-continuum model. IOP Conference Series: Earth and Environmental Science, 2021, 861, 072079.	0.2	0
61	Numerical analysis of groundwater flow behaviour at a dam site in Karst area during its reservoir impoundment. IOP Conference Series: Earth and Environmental Science, 2021, 861, 072091.	0.2	0
62	Comprehensive Evaluation of Hydrogeological Impact of Tunnel Construction in Karst Aquifers by 3D Numerical Simulations and Water Balance Models. IOP Conference Series: Earth and Environmental Science, 2021, 861, 032011.	0.2	0
63	Scaling Relationships between van Genuchten Model Parameters and Hydraulic Conductivity. IOP Conference Series: Earth and Environmental Science, 2021, 861, 072076.	0.2	0