Sheng Dai

List of Publications by Year
in descending order

58 papers	2,446 citations	218592 26 h-index	206029 48 g-index
61 all docs	61 docs citations	61 times ranked	1311 citing authors

#	Article	IF	Citations
1	Hydrate morphology: Physical properties of sands with patchy hydrate saturation. Journal of Geophysical Research, 2012, 117, .	3.3	231
2	Water permeability in hydrateâ€bearing sediments: A poreâ€scale study. Geophysical Research Letters, 2014, 41, 4176-4184.	1.5	196
3	Hydro-bio-geomechanical properties of hydrate-bearing sediments from Nankai Trough. Marine and Petroleum Geology, 2015, 66, 434-450.	1.5	190
4	Impact of hydrate saturation on water permeability in hydrate-bearing sediments. Journal of Petroleum Science and Engineering, 2019, 174, 696-703.	2.1	113
5	Kinetic enhancement of capturing and storing greenhouse gas and volatile organic compound: Micro-mechanism and micro-structure of hydrate growth. Chemical Engineering Journal, 2020, 379, 122357.	6.6	98
6	The water retention curve and relative permeability for gas production from hydrateâ€bearing sediments: poreâ€network model simulation. Geochemistry, Geophysics, Geosystems, 2016, 17, 3099-3110.	1.0	96
7	Strength Estimation for Hydrateâ€Bearing Sediments From Direct Shear Tests of Hydrateâ€Bearing Sand and Silt. Geophysical Research Letters, 2018, 45, 715-723.	1.5	85
8	Permeability anisotropy and relative permeability in sediments from the National Gas Hydrate Program Expedition 02, offshore India. Marine and Petroleum Geology, 2019, 108, 705-713.	1.5	82
9	An international code comparison study on coupled thermal, hydrologic and geomechanical processes of natural gas hydrate-bearing sediments. Marine and Petroleum Geology, 2020, 120, 104566.	1.5	80
10	Multistage Triaxial Tests on Laboratoryâ€Formed Methane Hydrateâ€Bearing Sediments. Journal of Geophysical Research: Solid Earth, 2018, 123, 3347-3357.	1.4	77
11	Bio-inspired geotechnical engineering: principles, current work, opportunities and challenges. Geotechnique, 2022, 72, 687-705.	2.2	74
12	Fractal characteristics of unsaturated sands â€' implications to relative permeability in hydrate-bearing sediments. Journal of Natural Gas Science and Engineering, 2019, 66, 11-17.	2.1	60
13	A fractal model of effective thermal conductivity for porous media with various liquid saturation. International Journal of Heat and Mass Transfer, 2019, 128, 1149-1156.	2.5	60
14	Formation history and physical properties of sediments from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope. Marine and Petroleum Geology, 2011, 28, 427-438.	1.5	57
15	Tetrahydrofuran Hydrate in Clayey Sedimentsâ€"Laboratory Formation, Morphology, and Wave Characterization. Journal of Geophysical Research: Solid Earth, 2019, 124, 3307-3319.	1.4	56
16	Supercritical CO 2 and brine displacement in geological carbon sequestration: Micromodel and pore network simulation studies. International Journal of Greenhouse Gas Control, 2016, 44, 104-114.	2.3	55
17	An Investigation of Hydrate Formation in Unsaturated Sediments Using Xâ€Ray Computed Tomography. Journal of Geophysical Research: Solid Earth, 2019, 124, 3335-3349.	1.4	53
18	Pressure Core Characterization Tools for Hydrate-Bearing Sediments. Scientific Drilling, 0, 14, 44-48.	1.0	53

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19	Laboratory formation of noncementing hydrates in sandy sediments. Geochemistry, Geophysics, Geosystems, 2014, 15, 1648-1656.	1.0	52
20	Formation and development of salt crusts on soil surfaces. Acta Geotechnica, 2016, 11, 1103-1109.	2.9	46
21	Hydrate nucleation in quiescent and dynamic conditions. Fluid Phase Equilibria, 2014, 378, 107-112.	1.4	45
22	Pressure core analysis of geomechanical and fluid flow properties of seals associated with gas hydrate-bearing reservoirs in the Krishna-Godavari Basin, offshore India. Marine and Petroleum Geology, 2019, 108, 537-550.	1.5	44
23	Sustainable development and energy geotechnology â€" Potential roles for geotechnical engineering. KSCE Journal of Civil Engineering, 2011, 15, 611-621.	0.9	41
24	Water retention curve for hydrateâ€bearing sediments. Geophysical Research Letters, 2013, 40, 5637-5641.	1.5	39
25	Sampling disturbance in hydrate-bearing sediment pressure cores: NGHP-01 expedition, Krishnaâ€“Godavari Basin example. Marine and Petroleum Geology, 2014, 58, 178-186.	1.5	38
26	Compressibility and particle crushing of Krishna-Godavari Basin sediments from offshore India: Implications for gas production from deep-water gas hydrate deposits. Marine and Petroleum Geology, 2019, 108, 697-704.	1.5	37
27	Thermal conductivity measurements in unsaturated hydrateâ€bearing sediments. Geophysical Research Letters, 2015, 42, 6295-6305.	1.5	34
28	Characterization and Engineering Properties of Dry and Ponded Class-F Fly Ash. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2019, 145, .	1.5	25
29	Triaxial compression of hydrate-bearing sediments undergoing hydrate dissociation by depressurization. Geomechanics for Energy and the Environment, 2020, 23, 100187.	1.2	25
30	Coda Wave Analysis to Monitor Processes in Soils. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2013, 139, 1504-1511.	1.5	23
31	Effects of depressurization on gas production and water performance from excess-gas and excess-water methane hydrate accumulations. Chemical Engineering Journal, 2022, 431, 133223.	6.6	23
32	Particle crushing in hydrate-bearing sands. Geomechanics for Energy and the Environment, 2020, 23, 100133.	1.2	21
33	Poreâ€Scale Controls on the Gas and Water Transport in Hydrateâ€Bearing Sediments. Geophysical Research Letters, 2020, 47, e2020GL086990.	1.5	17
34	Flow characterization of compressible biomass particles using multiscale experiments and a hypoplastic model. Powder Technology, 2021, 383, 396-409.	2.1	16
35	Multi-property characterization chamber for geophysical-hydrological investigations of hydrate bearing sediments. Review of Scientific Instruments, 2014, 85, 084501.	0.6	15
36	Facilitation of microbially induced calcite precipitation with kaolinite nucleation. Geotechnique, 2021, 71, 728-734.	2.2	15

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37	The electroviscous flow of non-Newtonian fluids in microtubes and implications for nonlinear flow in porous media. Journal of Hydrology, 2020, 590, 125224.	2.3	15
38	An Analytical Model for the Permeability in Hydrateâ€Bearing Sediments Considering the Dynamic Evolution of Hydrate Saturation and Pore Morphology. Geophysical Research Letters, 2021, 48, e2021GL093397.	1.5	15
39	Mineral Weathering and Bedrock Weakening: Modeling Microscale Bedrock Damage Under Biotite Weathering. Journal of Geophysical Research F: Earth Surface, 2019, 124, 2623-2646.	1.0	14
40	The coefficient of earth pressure at rest in hydrate-bearing sediments. Acta Geotechnica, 2021, 16, 2729-2739.	2.9	14
41	The physical nature of thermal conduction in dry granular media. Geotechnique Letters, 2015, 5, 1-5.	0.6	13
42	Stiffness Evolution in Frozen Sands Subjected to Stress Changes. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2017, 143, .	1.5	11
43	Flow and Arching of Biomass Particles in Wedge-Shaped Hoppers. ACS Sustainable Chemistry and Engineering, 2021, 9, 15303-15314.	3.2	10
44	Pore-scale observations of natural hydrate-bearing sediments via pressure core sub-coring and micro-CT scanning. Scientific Reports, 2022, 12, 3471.	1.6	10
45	Characterization of hollow fiber supported Ionic liquid membranes using microfocus X-ray computed tomography. Journal of Membrane Science, 2015, 492, 497-504.	4.1	9
46	Impacts of temperature on the mechanical properties of Longmaxi shale outcrops using instrumented nanoindentation. Geomechanics for Energy and the Environment, 2022, 30, 100348.	1.2	9
47	On the Fidelity of Computational Models for the Flow of Milled Loblolly Pine: A Benchmark Study on Continuum-Mechanics Models and Discrete-Particle Models. Frontiers in Energy Research, 0, 10, .	1.2	6
48	A pore-scale numerical investigation of the effect of pore characteristics on flow properties in soils. Journal of Zhejiang University: Science A, 2019, 20, 961-978.	1.3	5
49	Mainly on the Plane: Deep Subsurface Bacterial Proteins Bind and Alter Clathrate Structure. Crystal Growth and Design, 2020, 20, 6290-6295.	1.4	5
50	Effect of Grain Crushing on the Hydraulic Conductivity of Tailings Sand. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2021, 147, .	1.5	4
51	Smart Ground-Source Borehole Heat Exchanger Backfills: A Numerical Study. Springer Series in Geomechanics and Geoengineering, 2019, , 27-34.	0.0	3
52	Water and Gas Flows in Hydrate-Bearing Sediments. , 2017, , .		2
53	An experimental study of the effect of motile bacteria on the fluid displacement in porous media. E3S Web of Conferences, 2020, 205, 08008.	0.2	2
54	Impacts of motile Escherichia coli on air-water surface tension. E3S Web of Conferences, 2020, 205, 08003.	0.2	2

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55	Experimental and theoretical investigation of transparent sand composing of fused quartz and calcium bromide solution. Heat and Mass Transfer, 2021, 57, 1379-1393.	1.2	1
56	Methane Hydrate Crystallization on Sessile Water Droplets. Journal of Visualized Experiments, 2021, , .	0.2	0
57	Influence of Pore Distribution Characteristics on Relative Hydraulic Conductivity in Soil Coversâ€"A Pore-Scale Numerical Investigation. Environmental Science and Engineering, 2019, , 343-350.	0.1	0
58	Impacts of hydrate on the lateral stress in sediments. E3S Web of Conferences, 2020, 205, 11006.	0.2	0