Richard Wan

List of Publications by Year
in descending order

77 papers	1,155 citations	471509 17 h-index	454955 30 g-index
80 all docs	80 docs citations	80 times ranked	666 citing authors

#	Article	IF	Citations
1	A simple constitutive model for granular soils: Modified stress-dilatancy approach. Computers and Geotechnics, 1998, 22, 109-133.	4.7	175
2	Stress Dilatancy and Fabric Dependencies on Sand Behavior. Journal of Engineering Mechanics - ASCE, 2004, 130, 635-645.	2.9	98
3	Drained Cyclic Behavior of Sand with Fabric Dependence. Journal of Engineering Mechanics - ASCE, 2001, 127, 1106-1116.	2.9	57
4	Contact angle mechanical influence in wet granular soils. Acta Geotechnica, 2017, 12, 67-83.	5.7	40
5	A Finite Element Model for Ice Ball Evolution in a Multi-probe Cryosurgery. Computer Methods in Biomechanics and Biomedical Engineering, 2003, 6, 197-208.	1.6	36
6	Prediction of Stimulated Reservoir Volume and Optimization of Fracturing in Tight Gas and Shale With a Fully Elasto-Plastic Coupled Geomechanical Model. SPE Journal, 2014, 19, 771-785.	3.1	36
7	Inertia effects as a possible missing link between micro and macro second-order work in granular media. International Journal of Solids and Structures, 2012, 49, 1252-1258.	2.7	35
8	Non-dissipative structural evolutions in granular materials within the small strain range. International Journal of Solids and Structures, 2017, 110-111, 94-105.	2.7	34
9	Diffuse instabilities with transition to localization in loose granular materials. International Journal for Numerical and Analytical Methods in Geomechanics, 2013, 37, 1292-1311.	3.3	31
10	On the validity of the flow rule postulate for geomaterials. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 863-880.	3.3	24
11	Onset of structural evolution in granular materials as a redundancy problem. Granular Matter, 2016, 18, 1.	2.2	24
12	Numerical study of interâ€particle bond failure by 3D discrete element method. International Journal for Numerical and Analytical Methods in Geomechanics, 2016, 40, 523-545.	3.3	23
13	Elastoplastic modelling of diffuse instability response of geomaterials. International Journal for Numerical and Analytical Methods in Geomechanics, 2011, 35, 140-160.	3.3	22
14	Micromechanical Analysis of Force Transport in Wet Granular Soils. Vadose Zone Journal, 2014, 13, 1-12.	2.2	21
15	A finite element model for cryosurgery with coupled phase change and thermal stress aspects. Finite Elements in Analysis and Design, 2008, 44, 288-297.	3.2	20
16	Stress in Wet Granular Media with Interfaces via Homogenization and Discrete Element Approaches. Journal of Engineering Mechanics - ASCE, 2016, 142, .	2.9	19
17	Joint Stiffness and Deformation Behaviour of Discontinuous Rock. Journal of Canadian Petroleum Technology, 2010, 49, 78-86.	2.3	18
18	Micromechanical Formulation of Stress Dilatancy as a Flow Rule in Plasticity of Granular Materials. Journal of Engineering Mechanics - ASCE, 2010, 136, 589-598.	2.9	18

#	Article	IF	Citations
19	The micromechanical nature of stresses in triphasic granular media with interfaces. Journal of the Mechanics and Physics of Solids, 2017, 99, 495-511.	4.8	18
20	Implicit integration algorithm for Hoek-Brown elastic-plastic model. Computers and Geotechnics, 1992, 14, 149-177.	4.7	17
21	Computation of sand fluidization phenomena using stabilized finite elements. Finite Elements in Analysis and Design, 2004, 40, 1681-1699.	3.2	17
22	A finite element method for the analysis of shear bands in geomaterials. Finite Elements in Analysis and Design, 1990, 7, 129-143.	3.2	16
23	BEHAVIOUR OF GRANULAR MATERIALS IN RELATION TO THEIR FABRIC DEPENDENCIES. Soils and Foundations, 2005, 45, 77-86.	0.7	16
24	Fabric and connectivity as field descriptors for deformations in granular media. Continuum Mechanics and Thermodynamics, 2015, 27, 243-259.	2.2	16
25	Subtleties in discrete-element modelling of wet granular soils. Geotechnique, 2017, 67, 365-370.	4.0	16
26	Revisiting the existence of an effective stress for wet granular soils with micromechanics. International Journal for Numerical and Analytical Methods in Geomechanics, 2018, 42, 959-978.	3.3	16
27	Prediction And Optimization Of Fracturing In Tight Gas And Shale Using A Coupled Geomechanical Model Of Combined Tensile And Shear Fracturing. , 2012, , .		14
28	Microstructural self-organization in granular materials during failure. Comptes Rendus - Mecanique, 2015, 343, 143-154.	2.1	14
29	On elastic deformations and decomposition of strain in granular media. International Journal of Solids and Structures, 2018, 138, 97-108.	2.7	14
30	A tensorial description of stresses in triphasic granular materials with interfaces. Geomechanics for Energy and the Environment, 2015, 4, 73-87.	2.5	13
31	Failure in granular media from an energy viewpoint. Granular Matter, 2016, 18, 1.	2.2	13
32	Strain in Granular Media: Probabilistic Approach to Dirichlet Tessellation. Journal of Engineering Mechanics - ASCE, 2017, 143, .	2.9	13
33	The possible influence of osmotic poration on cell membrane water permeability. Cryobiology, 2009, 58, 62-68.	0.7	12
34	Micromechanical approach to swelling behavior of capillaryâ€porous media with coupled physics. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 353-380.	3.3	12
35	A level set variational formulation for coupled phase change/mass transfer problems: application to freezing of biological systems. Finite Elements in Analysis and Design, 2004, 40, 1641-1663.	3.2	11
36	Hydro-mechanical description of fractured porous media based on microporomechanics. International Journal of Solids and Structures, 2016, 96, 274-287.	2.7	11

#	Article	IF	Citations
37	Statistical analysis of stress transmission in wet granular materials. International Journal for Numerical and Analytical Methods in Geomechanics, 2018, 42, 1935-1956.	3.3	10
38	Critical plane analysis for interpreting experimental results on anisotropic rocks. Acta Geotechnica, 2019, 14, 1215-1225.	5.7	10
39	Î¼-GM: A purely micromechanical constitutive model for granular materials. Mechanics of Materials, 2018, 126, 57-74.	3.2	9
40	Preferential growth of force network in granular media. Granular Matter, 2019, 21, 1.	2.2	9
41	A probabilistic approach for computing water retention of particulate systems from statistics of grain size and tessellated pore network. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 956-973.	3.3	9
42	Tensile and shear failure behaviour of compacted clay â€“ hybrid failure mode. International Journal of Geotechnical Engineering, 2020, 14, 231-241.	2.0	9
43	Micromechanical correlation between elasticity and strength characteristics of anisotropic rocks. International Journal of Rock Mechanics and Minings Sciences, 2020, 125, 104154.	5.8	9
44	Numerical modeling of fracturing in permeable rocks via a micromechanical continuum model. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 1885-1915.	3.3	8
45	Hydraulic variations in permafrost due to open-pit mining and climate change: a case study in the Canadian Arctic. Acta Geotechnica, 2020, 15, 883-905.	5.7	7
46	Non-coaxial plastic flow of granular materials through stress probing analysis. International Journal of Solids and Structures, 2021, 222-223, 111015.	2.7	7
47	Fabric response to strain probing in granular materials: Two-dimensional, isotropic systems. International Journal of Solids and Structures, 2019, 156-157, 251-262.	2.7	6
48	Quasistatic kinetic avalanches and self-organized criticality in deviatorically loaded granular media. Physical Review E, 2021, 104, 024901.	2.1	6
49	Computing sand production under foamy oil flow in porous media via least-squares finite elements. Finite Elements in Analysis and Design, 2006, 42, 592-601.	3.2	5
50	A micromechanical<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="mml42" display="inline" overflow="scroll" altimg="si13.gif"><mml:mi>Î¼</mml:mi></mml:math>UNSAT effective stress expression for stress-strain behaviour of wet granular materials. Geomechanics for Energy and the Environment, 2018, 15, 10-18.	2.5	5
51	An elastoplastic description of frictional destructuration in natural clays and shales. Acta Geotechnica, 2018, 13, 911-924.	5.7	5
52	A threeâ€dimensional multiscale damageâ€poroelasticity model for fractured porous media. International Journal for Numerical and Analytical Methods in Geomechanics, 2021, 45, 585-630.	3.3	5
53	Microstructural formulation of stress dilatancy. Comptes Rendus - Mecanique, 2014, 342, 198-207.	2.1	4
54	Micromechanical analysis of cyclic and asymptotic behaviors of a granular backfill. Acta Geotechnica, 2020, 15, 715-734.	5.7	4

#	Article	IF	Citations
55	Micromechanical description of adsorptive-capillary stress in wet fine-grained media. Computers and Geotechnics, 2021, 137, 104047.	4.7	4
56	MULTISCALE MODEL FOR DAMAGE-FLUID FLOW IN FRACTURED POROUS MEDIA. International Journal for Multiscale Computational Engineering, 2016, 14, 367-387.	1.2	4
57	Granular material response with respect to loading direction and material instability. European Journal of Environmental and Civil Engineering, 2009, 13, 219-233.	2.1	3
58	Derivation of soil water retention curve incorporating electrochemical effects. Acta Geotechnica, 2021, 16, 1147-1160.	5.7	3
59	Fabric response to stress probing in granular materials: Two-dimensional, anisotropic systems. Computers and Geotechnics, 2022, 146, 104695.	4.7	3
60	Finite element analysis of diffuse instability using an implicitly integrated pressureâ€“density dependent elastoplastic model. Finite Elements in Analysis and Design, 2010, 46, 487-495.	3.2	2
61	Multiscale Approach to Micro-Poro-Mechanical Modelling of Unsaturated Shales. Springer Series in Geomechanics and Geoengineering, 2017, , 57-66.	0.1	2
62	Strain Localization as a Function of Topological Changes in Mesoscopic Granular Structures. Springer Series in Geomechanics and Geoengineering, 2017, , 459-465.	0.1	2
63	Non-Dissipative Structural Evolutions in Granular Materials. EPJ Web of Conferences, 2017, 140, 02014.	0.3	2
64	Effects of sample disturbance and heterogeneity on the triaxial behaviour of a Canadian oil sand at ambient and high temperatures. Acta Geotechnica, 2018, 13, 457.	5.7	2
65	Partially Saturated Granular Materials: Insights from Micro-Mechanical Modelling. , 2017, , .		2
66	Thermal Disturbances in Permafrost Due to Open Pit Mining and Tailings Impoundment. Minerals (Basel, Switzerland), 2020, 10, 35.	2.0	2
67	Experimental Investigation of Instabilities of Granular Materials in Relation to Dilatancy and Fabric Issues. , 2007, , 71-93.		2
68	Instabilities and bifurcations in geomechanics. International Journal for Numerical and Analytical Methods in Geomechanics, 2011, 35, 111-111.	3.3	1
69	Fabric Evolution in Granular Materials Under Strain Probing. Springer Series in Geomechanics and Geoengineering, 2019, , 151-161.	0.1	1
70	Anisotropic nature of the capillary stress tensor. EPJ Web of Conferences, 2021, 249, 11010.	0.3	1
71	Hierarchy of Failure Indicators in the Failure Analysis of Geomaterials. Springer Series in Geomechanics and Geoengineering, 2015, , 189-197.	0.1	0
72	Instability Analysis of Granular Media via a Purely Micromechanical Constitutive Model. Springer Series in Geomechanics and Geoengineering, 2017, , 507-513.	0.1	0

#	Article	IF	Citations
73	Finite Element Modelling of Material Instability via an Enriched Elastoplastic Model. Springer Series in Geomechanics and Geoengineering, 2011, , 235-241.	0.1	0
74	Failure Mechanics of Geomaterials. , 2013, , 1-29.		0
75	Failure Mechanics of Geomaterials. , 2015, , 137-169.		0
76	Multiscale Investigation of Microcrack-Induced Instability in Rocks. Springer Series in Geomechanics and Geoengineering, 2017, , 299-305.	0.1	0
77	Failure Mechanics of Geomaterials. , 2022, , 1077-1109.		0