Bruno Chareyre

List of Publications by Year
in descending order

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66 papers	1,837 citations	236912 25 h-index	265191 42 g-index
67 all docs	67 docs citations	67 times ranked	1429 citing authors

#	Article	IF	Citations
1	Comprehensive comparison of pore-scale models for multiphase flow in porous media. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13799-13806.	7.1	162
2	On the capillary stress tensor in wet granular materials. International Journal for Numerical and Analytical Methods in Geomechanics, 2009, 33, 1289-1313.	3.3	114
3	Poreâ€scale modeling of fluidâ€particles interaction and emerging poromechanical effects. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 51-71.	3.3	106
4	Micromechanics of granular materials with capillary effects. International Journal of Engineering Science, 2009, 47, 64-75.	5.0	100
5	Discrete modeling of granular soils reinforcement by plant roots. Ecological Engineering, 2013, 61, 646-657.	3.6	96
6	Pore-Scale Modeling of Viscous Flow and Induced Forces in Dense Sphere Packings. Transport in Porous Media, 2012, 94, 595-615.	2.6	81
7	Study of cold powder compaction by using the discrete element method. Powder Technology, 2011, 208, 537-541.	4.2	71
8	DEM Modeling of a Flexible Barrier Impacted by a Dry Granular Flow. Rock Mechanics and Rock Engineering, 2017, 50, 3029-3048.	5.4	59
9	Dynamic Spar Elements and Discrete Element Methods in Two Dimensions for the Modeling of Soil-Inclusion Problems. Journal of Engineering Mechanics - ASCE, 2005, 131, 689-698.	2.9	57
10	Relation between microstructure and loading applied by a granular flow to a rigid wall using DEM modeling. Granular Matter, 2015, 17, 603-616.	2.2	57
11	Contact impingement in packings of elasticâ€“plastic spheres, application to powder compaction. International Journal of Mechanical Sciences, 2012, 61, 32-43.	6.7	54
12	Pore-scale simulations of drainage in granular materials: Finite size effects and the representative elementary volume. Advances in Water Resources, 2016, 95, 109-124.	3.8	54
13	A minimal coupled fluid-discrete element model for bedload transport. Physics of Fluids, 2015, 27, .	4.0	46
14	Discrete numerical modeling of loose soil with spherical particles and interparticle rolling friction. Granular Matter, 2017, 19, 1.	2.2	46
15	A discrete numerical model involving partial fluid-solid coupling to describe suffusion effects in soils. Computers and Geotechnics, 2018, 95, 30-39.	4.7	46
16	The Effects of Swelling and Porosity Change on Capillarity: DEM Coupled with a Pore-Unit Assembly Method. Transport in Porous Media, 2016, 113, 207-226.	2.6	41
17	Modelling of deformable structures in the general framework of the discrete element method. Geotextiles and Geomembranes, 2016, 44, 143-156.	4.6	40
18	Theoretical Versus Experimental Modeling of the Anchorage Capacity of Geotextiles in Trenches. Geosynthetics International, 2002, 9, 97-123.	2.9	39

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19	Pore-Scale Modeling of Viscous Flow and Induced Forces in Dense Sphere Packings. Transport in Porous Media, 2012, 92, 473-493.	2.6	38
20	From bifurcation to failure in a granular material: a DEM analysis. Acta Geotechnica, 2008, 3, 15-24.	5.7	31
21	Grain-scale modelling of swelling granular materials; application to super absorbent polymers. Powder Technology, 2017, 318, 411-422.	4.2	31
22	A pore-scale method for hydromechanical coupling in deformable granular media. Computer Methods in Applied Mechanics and Engineering, 2017, 318, 1066-1079.	6.6	30
23	Intensity and volumetric characterizations of hydraulically driven fractures by hydro-mechanical simulations. International Journal of Rock Mechanics and Minings Sciences, 2017, 93, 163-178.	5.8	30
24	DEM Analysis of Geomechanical Properties of Cemented Methane Hydrateâ€"Bearing Soils at Different Temperatures and Pressures. International Journal of Geomechanics, 2016, 16, .	2.7	29
25	Micromechanical modelling of rainsplash erosion in unsaturated soils by Discrete Element Method. Catena, 2016, 147, 146-152.	5.0	28
26	Pore-Scale Flow Simulations: Model Predictions Compared with Experiments on Bi-Dispersed Granular Assemblies. Oil and Gas Science and Technology, 2012, 67, 743-752.	1.4	27
27	Modeling wave-induced pore pressure and effective stress in a granular seabed. Continuum Mechanics and Thermodynamics, 2015, 27, 305-323.	2.2	25
28	Numerical modeling of high aspect ratio flexible fibers in inertial flows. Physics of Fluids, 2017, 29, .	4.0	25
29	Quantitative study of the rheology of frictional suspensions: Influence of friction coefficient in a large range of viscous numbers. Physical Review Fluids, 2019, 4, .	2.5	25
30	Design methods for geosynthetic anchor trenches on the basis of true scale experiments and discrete element modelling. Canadian Geotechnical Journal, 2004, 41, 1193-1205.	2.8	24
31	Localized fluidization in granular materials: Theoretical and numerical study. Physical Review E, 2016, 94, 052905.	2.1	20
32	Microscopic origins of shear stress in dense fluidâ€"grain mixtures. Granular Matter, 2015, 17, 297-309.	2.2	19
33	A pore-scale thermoâ€"hydro-mechanical model for particulate systems. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113292.	6.6	16
34	Evaluating Force Distributions within Virtual Uncemented Mine Backfill Using Discrete Element Method. International Journal of Geomechanics, 2017, 17, .	2.7	13
35	Dynamic Poreâ€Scale Model of Drainage in Granular Porous Media: The Poreâ€Unit Assembly Method. Water Resources Research, 2018, 54, 4193-4213.	4.2	13
36	Modeling the Impact of Granular Flow against an Obstacle. Springer Series in Geomechanics and Geoengineering, 2015, , 95-105.	0.1	12

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37	Partially saturated media: from DEM simulation to thermodynamic interpretation. European Journal of Environmental and Civil Engineering, 2017, 21, 798-820.	2.1	11
38	Deformation and stresses upon drainage of an idealized granular material. Acta Geotechnica, 2018, 13, 961-972.	5.7	11
39	Numerical simulation of wetting-induced collapse in partially saturated granular soils. Granular Matter, 2019, 21, 1.	2.2	10
40	Hybrid multi-scale model for partially saturated media based on a pore network approach and lattice Boltzmann method. Advances in Water Resources, 2020, 144, 103709.	3.8	9
41	Role of blockages in particle transport through homogeneous granular assemblies. Europhysics Letters, 2016, 115, 54005.	2.0	8
42	A two-fluid model for immersed granular avalanches with dilatancy effects. Journal of Fluid Mechanics, 2021, 925, .	3.4	8
43	Unsaturated flow in a packing of swelling particles; a grain-scale model. Advances in Water Resources, 2020, 142, 103642.	3.8	7
44	Transitioning from the funicular to the pendular regime in granular soils. Geotechnique, 0, , 1-7.	4.0	7
45	Fabric rates applied to kinematic models: evaluating elliptical granular materials under simple shear tests via discrete element method. Granular Matter, 2016, 18, 1.	2.2	6
46	Micro-statics and micro-kinematics of capillary phenomena in dense granular materials. , 2009, , .		5
47	Effects of Suffusion on the Soilâ€™s Mechanical Behavior: Experimental Investigations. Lecture Notes in Civil Engineering, 2019, , 3-15.	0.4	5
48	Accelerating Yadeâ€™s poromechanical coupling with matrix factorization reuse, parallel task management, and GPU computing. Computer Physics Communications, 2020, 248, 106991.	7.5	5
49	Lubricated contact model for numerical simulations of suspensions. Powder Technology, 2020, 372, 600-610.	4.2	5
50	Comment on â€œFlow of wet granular materials: A numerical studyâ€• Physical Review E, 2017, 96, 016901.	2.1	4
51	Benchmark cases for a multi-component Latticeâ€“Boltzmann method in hydrostatic conditions. MethodsX, 2020, 7, 101090.	1.6	3
52	Pore network modeling of phase distribution and capillary force evolution during slow drying of particle aggregates. Powder Technology, 2022, 407, 117627.	4.2	3
53	DEM-PFV analysis of solid-fluid transition in granular sediments under the action of waves. , 2013, , .		1
54	A discrete numerical description of the mechanical response of soils subjected to degradation by suffusion. , 2016, , .		1

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55	Discrete Modelling of Soil-Inclusion Problems. Applied Mechanics and Materials, 0, 846, 397-402.	0.2	1
56	Multiscale modeling of transport of grains through granular assemblies. EPJ Web of Conferences, 2017, 140, 15019.	0.3	1
57	Coupled flow and deformations in granular systems beyond the pendular regime. EPJ Web of Conferences, 2017, 140, 09017.	0.3	1
58	Toward multiscale modelings of grain-fluid systems. EPJ Web of Conferences, 2017, 140, 09027.	0.3	1
59	From continuum analytical description to discrete numerical modelling of localized fluidization in granular media. EPJ Web of Conferences, 2017, 140, 09019.	0.3	1
60	Modeling multiphase flow with a hybrid model based on the Pore-network and the lattice Boltzmann method. E3S Web of Conferences, 2020, 195, 02009.	0.5	1
61	Can we reduce debris flow to an equivalent one-phase flow?. IOP Conference Series: Earth and Environmental Science, 2015, 26, 012009.	0.3	0
62	Microscale Analysis of the Effect of Suffusion on Soil Mechanical Properties. Springer Series in Geomechanics and Geoengineering, 2017, , 117-124.	0.1	0
63	Micromechanical Insights into the Effective Stresses. , 2017, , .		0
64	Statistical distributions of the elastic moduli of particle aggregates at the mesoscale. International Journal of Impact Engineering, 2020, 139, 103481.	5.0	0
65	Instabilities in granular media, an overall picture from micro to macro scale. , 2007, , .		0
66	Statistical Distributions of the Elastic Moduli of Particle Aggregates at the Mesoscale. , 2019, , .		0