Jose E Andrade

List of Publications by Year
in descending order

71 papers	2,621 citations	186265 28 h-index	189892 50 g-index
72 all docs	72 docs citations	72 times ranked	1670 citing authors

#	Article	IF	Citations
1	All you need is shape: Predicting shear banding in sand with LS-DEM. Journal of the Mechanics and Physics of Solids, 2018, 111, 375-392.	4.8	248
2	Level set discrete element method for three-dimensional computations with triaxial case study. Journal of the Mechanics and Physics of Solids, 2016, 91, 1-13.	4.8	194
3	Characterization and Modeling of Pores and Surfaces in Cement Paste. Journal of Advanced Concrete Technology, 2008, 6, 5-29.	1.8	185
4	Structured fabrics with tunable mechanical properties. Nature, 2021, 596, 238-243.	27.8	155
5	Granular element method for computational particle mechanics. Computer Methods in Applied Mechanics and Engineering, 2012, 241-244, 262-274.	6.6	120
6	Capturing strain localization in dense sands with random density. International Journal for Numerical Methods in Engineering, 2006, 67, 1531-1564.	2.8	95
7	Critical state plasticity. Part VI: Meso-scale finite element simulation of strain localization in discrete granular materials. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5115-5140.	6.6	82
8	Extracting inter-particle forces in opaque granular materials: Beyond photoelasticity. Journal of the Mechanics and Physics of Solids, 2014, 63, 154-166.	4.8	82
9	Towards a more accurate characterization of granular media: extracting quantitative descriptors from tomographic images. Granular Matter, 2014, 16, 9-21.	2.2	77
10	Granular element method for threeâ€dimensional discrete element calculations. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 167-188.	3.3	76
11	Connecting microstructural attributes and permeability from 3D tomographic images of in situ shear-enhanced compaction bands using multiscale computations. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	75
12	Multiscale framework for behavior prediction in granular media. Mechanics of Materials, 2009, 41, 652-669.	3.2	73
13	Effects of grain morphology on critical state: a computational analysis. Acta Geotechnica, 2016, 11, 493-503.	5.7	72
14	On the rheology of dilative granular media: Bridging solid- and fluid-like behavior. Journal of the Mechanics and Physics of Solids, 2012, 60, 1122-1136.	4.8	66
15	Modeling deformation banding in dense and loose fluid-saturated sands. Finite Elements in Analysis and Design, 2007, 43, 361-383.	3.2	64
16	Imageâ€based modeling of granular porous media. Geophysical Research Letters, 2017, 44, 4738-4746.	4.0	59
17	Characterization of random fields and their impact on the mechanics of geosystems at multiple scales. International Journal for Numerical and Analytical Methods in Geomechanics, 2012, 36, 140-165.	3.3	50
18	Criterion for flow liquefaction instability. Acta Geotechnica, 2013, 8, 525-535.	5.7	44

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19	Return mapping for nonsmooth and multiscale elastoplasticity. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 2286-2296.	6.6	43
20	Criteria for static equilibrium in particulate mechanics computations. International Journal for Numerical Methods in Engineering, 2008, 75, 1581-1606.	2.8	40
21	Granular element method (GEM): linking inter-particle forces with macroscopic loading. Granular Matter, 2012, 14, 51-61.	2.2	39
22	Level set splitting in DEM for modeling breakage mechanics. Computer Methods in Applied Mechanics and Engineering, 2020, 365, 112961.	6.6	36
23	From computed tomography to mechanics of granular materials via level set bridge. Acta Geotechnica, 2017, 12, 85-95.	5.7	35
24	Random porosity fields and their influence on the stability of granular media. International Journal for Numerical and Analytical Methods in Geomechanics, 2008, 32, 1147-1172.	3.3	34
25	Friction in inertial granular flows: competition between dilation and grain-scale dissipation rates. Granular Matter, 2015, 17, 287-295.	2.2	32
26	AES for multiscale localization modeling in granular media. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 2473-2482.	6.6	31
27	Quantifying sensitivity of local site response models to statistical variations in soil properties. Acta Geotechnica, 2006, 1, 3-14.	5.7	30
28	Multiscale characterization and modeling of granular materials through a computational mechanics avatar: a case study with experiment. Acta Geotechnica, 2016, 11, 243-253.	5.7	29
29	A contact dynamics approach to the Granular Element Method. Computer Methods in Applied Mechanics and Engineering, 2014, 268, 557-573.	6.6	28
30	Investigating the incremental behavior of granular materials with the level-set discrete element method. Journal of the Mechanics and Physics of Solids, 2020, 144, 104103.	4.8	28
31	On the contact treatment of non-convex particles in the granular element method. Computational Particle Mechanics, 2014, 1, 257-275.	3.0	25
32	Capturing the inter-particle force distribution in granular material using LS-DEM. Granular Matter, 2019, 21, 1.	2.2	25
33	Effect of fabric on shear wave velocity in granular soils. Acta Geotechnica, 2020, 15, 1189-1203.	5.7	24
34	Flow liquefaction instability prediction using finite elements. Acta Geotechnica, 2015, 10, 83-100.	5.7	20
35	Strength criterion for cross-anisotropic sand under general stress conditions. Acta Geotechnica, 2016, 11, 1339-1350.	5.7	19
36	A novel experimental device for investigating the multiscale behavior of granular materials under shear. Granular Matter, 2017, 19, 1.	2.2	19

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37	Failures in sand in reduced gravity environments. Journal of the Mechanics and Physics of Solids, 2018, 113, 1-12.	4.8	19
38	Modeling connected granular media: Particle bonding within the level set discrete element method. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113486.	6.6	18
39	Mechanics of origin of flow liquefaction instability under proportional strain triaxial compression. Acta Geotechnica, 2016, 11, 1015-1025.	5.7	17
40	A geometry-based algorithm for cloning real grains. Granular Matter, 2017, 19, 1.	2.2	16
41	Continuum modeling of rate-dependent granular flows in SPH. Computational Particle Mechanics, 2017, 4, 119-130.	3.0	16
42	Modeling the static liquefaction of unsaturated sand containing gas bubbles. Soils and Foundations, 2018, 58, 122-133.	3.1	16
43	Force chains as the link between particle and bulk friction angles in granular material. Geophysical Research Letters, 2014, 41, 8862-8869.	4.0	15
44	Evaluation of a Predictive Constitutive Model for Sands. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2008, 134, 1825-1828.	3.0	14
45	Reduced Gravity Effects on the Strength of Granular Matter: DEM Simulations versus Experiments. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2020, 146, .	3.0	12
46	Predicting the initiation of static liquefaction of crossâ€anisotropic sands under multiaxial stress conditions. International Journal for Numerical and Analytical Methods in Geomechanics, 2017, 41, 1724-1740.	3.3	11
47	Unearthing real-time 3D ant tunneling mechanics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
48	Liquefaction Mapping in Finite-Element Simulations. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2009, 135, 1693-1701.	3.0	9
49	Granular object morphological generation with genetic algorithms for discrete element simulations. Granular Matter, 2018, 20, 1.	2.2	9
50	Effect of Confinement on Capillary Phase Transition in Granular Aggregates. Physical Review Letters, 2020, 125, 255501.	7.8	9
51	Experimental Investigation of InSight HP3 Mole Interaction with Martian Regolith Simulant. Space Science Reviews, 2017, 211, 239-258.	8.1	8
52	A model for decoding the life cycle of granular avalanches in a rotating drum. Acta Geotechnica, 2018, 13, 549-555.	5.7	8
53	A microâ€mechanical study of peak strength and critical state. International Journal for Numerical and Analytical Methods in Geomechanics, 2016, 40, 1184-1202.	3.3	7
54	Identifying spatial transitions in heterogenous granular flow. Granular Matter, 2020, 22, 1.	2.2	6

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55	Mechanical behaviour of granular media in flexible boundary plane strain conditions: experiment and level-set discrete element modelling. Acta Geotechnica, 2021, 16, 113-132.	5.7	6
56	Bridging length scales in granular materials using convolutional neural networks. Computational Particle Mechanics, 2022, 9, 221-235.	3.0	6
57	Implications of Buckinghamâ€™s Pi Theorem to the Study of Similitude in Discrete Structures: Introduction of the RFN, Î¼N, and SN Dimensionless Numbers and the Concept of Structural Speed. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	6
58	An Experimental Study of the Effect of Particle Shape on Force Transmission and Mobilized Strength of Granular Materials. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	6
59	Tunnel excavation in granular media: the role of force chains. Granular Matter, 2021, 23, 1.	2.2	4
60	Insight into contact forces in crushable sand using experiments and predictive particle-scale modelling. Geotechnique, 2024, 74, 238-249.	4.0	4
61	Flow Liquefaction Instability as a Mechanism for Lower End of Liquefaction Charts. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2017, 143, .	3.0	3
62	Localised failure of geomaterials: how to extract localisation band behaviour from macro test data. Geotechnique, 2022, 72, 596-609.	4.0	3
63	Emerging contact force heterogeneity in ordered soft granular media. Mechanics of Materials, 2021, 162, 104055.	3.2	3
64	Grain-Scale Measurements During Low Velocity Impact in Granular Media. , 2015, , 291-317.		2
65	Strength of Granular Materials in Transient and Steady State Rapid Shear. Procedia Engineering, 2015, 103, 237-245.	1.2	1
66	Multiscale and Multiphysics Modeling of Soils. Springer Series in Geomechanics and Geoengineering, 2019, , 141-168.	0.1	1
67	Undrained instability detection under general stress conditions. Acta Geotechnica, 2021, 16, 3041-3059.	5.7	1
68	A Predictive Model for Static Liquefaction. , 2008, , .		0
69	MULTISCALE MODELING OF GRANULAR MATTER: AÂHIERARCHICAL SCHEME. Springer Series in Geomechanics and Geoengineering, 2011, , 45-48.	0.1	0
70	DIFFUSE BIFURCATIONS OF POROUS MEDIA UNDER PARTIALLY DRAINED CONDITIONS. Springer Series in Geomechanics and Geoengineering, 2011, , 61-64.	0.1	0
71	Low-Gravity Experiments: Shear Testing Takes a Nose Dive. Geo-strata, 2017, 21, 34-40.	0.1	0