Edward AndÃ²

List of Publications by Year
in descending order

111 papers	5,528 citations	136950 32 h-index	82547 72 g-index
126 all docs	126 docs citations	126 times ranked	2754 citing authors

#	Article	IF	Citations
1	A constitutive model for partially saturated soils. Geotechnique, 1990, 40, 405-430.	4.0	1,995
2	Grain-scale experimental investigation of localised deformation in sand: a discrete particle tracking approach. Acta Geotechnica, 2012, 7, 1-13.	5.7	276
3	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
4	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
5	An approach to enhance efficiency of DEM modelling of soils with crushable grains. Geotechnique, 2015, 65, 91-110.	4.0	147
6	Cone penetration tests in a virtual calibration chamber. Geotechnique, 2011, 61, 525-531.	4.0	126
7	Experimental micro-mechanics of granular media studied by x-ray tomography: recent results and challenges. Geotechnique Letters, 2013, 3, 142-146.	1.2	125
8	Strain localisation and grain breakage in sand under shearing at high mean stress: insights from in situ X-ray tomography. Acta Geotechnica, 2015, 10, 15-30.	5.7	110
9	spam: Software for Practical Analysis of Materials. Journal of Open Source Software, 2020, 5, 2286.	4.6	97
10	Grading evolution and critical state in a discrete numerical model of Fontainebleau sand. Geotechnique, 2019, 69, 1-15.	4.0	85
11	On the metrology of interparticle contacts in sand from x-ray tomography images. Measurement Science and Technology, 2017, 28, 124007.	2.6	80
12	NeXT-Grenoble, the Neutron and X-ray tomograph in Grenoble. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 968, 163939.	1.6	78
13	Towards a more accurate characterization of granular media: extracting quantitative descriptors from tomographic images. Granular Matter, 2014, 16, 9-21.	2.2	77
14	TomoWarp2: A local digital volume correlation code. SoftwareX, 2017, 6, 267-270.	2.6	76
15	Experimental micromechanics: grain-scale observation of sand deformation. Geotechnique Letters, 2012, 2, 107-112.	1.2	75
16	Observing strain localisation processes in bio-cemented sand using x-ray imaging. Granular Matter, 2011, 13, 247-250.	2.2	69
17	Experimental investigation of microstructural changes in soils eroded by suffusion using X-ray tomography. Acta Geotechnica, 2019, 14, 749-765.	5.7	69
18	Strain localisation in granular media. Comptes Rendus Physique, 2015, 16, 26-36.	0.9	62

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19	Effect of particle morphology and contacts on particle breakage in a granular assembly studied using X-ray tomography. Granular Matter, 2019, 21, 1.	2.2	61
20	Evolution of deformation and breakage in sand studied using X-ray tomography. Geotechnique, 2018, 68, 107-117.	4.0	58
21	Measuring the evolution of contact fabric in shear bands with X-ray tomography. Acta Geotechnica, 2020, 15, 79-93.	5.7	56
22	Can intergranular force transmission be identified in sand?. Granular Matter, 2011, 13, 251-254.	2.2	51
23	Sphericity measures of sand grains. Engineering Geology, 2019, 254, 43-53.	6.3	50
24	Investigation of particle breakage under one-dimensional compression of sand using X-ray microtomography. Canadian Geotechnical Journal, 2020, 57, 754-762.	2.8	50
25	Neutron imaging for geomechanics: A review. Geomechanics for Energy and the Environment, 2021, 27, 100206.	2.5	46
26	Can friction replace roughness in the numerical simulation of granular materials?. Granular Matter, 2020, 22, 1.	2.2	45
27	Determination of the critical state of granular materials with triaxial tests. Soils and Foundations, 2017, 57, 733-744.	3.1	38
28	Soil deformation around a penetrating cone in silt. Geotechnique Letters, 2013, 3, 185-191.	1.2	37
29	Image-based calibration of rolling resistance in discrete element models of sand. Computers and Geotechnics, 2021, 131, 103929.	4.7	36
30	Laboratory X-ray Tomography: A Valuable Experimental Tool for Revealing Processes in Soils. Geotechnical Testing Journal, 2014, 38, 20140060.	1.0	36
31	From computed tomography to mechanics of granular materials via level set bridge. Acta Geotechnica, 2017, 12, 85-95.	5.7	35
32	DIC Challenge 2.0: Developing Images and Guidelines for Evaluating Accuracy and Resolution of 2D Analyses. Experimental Mechanics, 2022, 62, 639-654.	2.0	34
33	Revisiting localized deformation in sand with complex systems. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120606.	2.1	33
34	Phase segmentation of concrete x-ray tomographic images at meso-scale: Validation with neutron tomography. Cement and Concrete Composites, 2018, 88, 8-16.	10.7	32
35	Liquid water uptake in unconfined Callovo Oxfordian clay-rock studied with neutron and X-ray imaging. Acta Geotechnica, 2019, 14, 19-33.	5.7	31
36	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

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37	3D fibre architecture of fibre-reinforced sand. Granular Matter, 2017, 19, 75.	2.2	29
38	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
39	Dynamics of Water Absorption in Callovo-Oxfordian Claystone Revealed With Multimodal X-Ray and Neutron Tomography. Frontiers in Earth Science, 2020, 8, .	1.8	26
40	Breakage mechanisms of highly porous particles in 1D compression revealed by X-ray tomography. Geotechnique Letters, 2018, 8, 155-160.	1.2	25
41	The colours of concrete as seen by X-rays and neutrons. Cement and Concrete Composites, 2019, 104, 103336.	10.7	25
42	Evolution of fabric anisotropy of granular soils: x-ray tomography measurements and theoretical modelling. Computers and Geotechnics, 2021, 133, 104046.	4.7	25
43	Experimental characterisation of (localised) Deformation Phenomena in Granular Geomaterials from Sample Down to Inter-and Intra-grain Scales. Procedia IUTAM, 2012, 4, 54-65.	1.2	24
44	How does strain localise in standard triaxial tests on sand: Revisiting the mechanism 20 years on. Mechanics Research Communications, 2018, 92, 142-146.	1.8	24
45	An extension of digital volume correlation for multimodality image registration. Measurement Science and Technology, 2017, 28, 095401.	2.6	23
46	Grain-scale characterization of water retention behaviour of sand using X-ray CT. Acta Geotechnica, 2018, 13, 497-512.	5.7	23
47	Shear bands as bottlenecks in force transmission. Europhysics Letters, 2015, 110, 58005.	2.0	22
48	A benchmark strategy for the experimental measurement of contact fabric. Granular Matter, 2019, 21, 1.	2.2	22
49	Tensile failure of micro-concrete: from mechanical tests to FE meso-model with the help of X-ray tomography. Meccanica, 2019, 54, 707-722.	2.0	21
50	Kalisphera: an analytical tool to reproduce the partial volume effect of spheres imaged in 3D. Measurement Science and Technology, 2015, 26, 095606.	2.6	20
51	A peek into the origin of creep in sand. Granular Matter, 2019, 21, 11.	2.2	20
52	Strain localization in sandstone and its implications for CO2 storage. First Break, 2015, 33, .	0.4	19
53	Fracturing process of micro-concrete under uniaxial and triaxial compression: Insights from in-situ X-ray mechanical tests. Cement and Concrete Research, 2021, 149, 106578.	11.0	18
54	Modelling and performance of a small siphonic hydropower system. Renewable Energy, 2011, 36, 2451-2464.	8.9	17

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55	Fluid-flow measurements in low permeability media with high pressure gradients using neutron imaging: Application to concrete. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 890, 35-42.	1.6	14
56	Motion of dust particles in dry snow under temperature gradient metamorphism. Cryosphere, 2019, 13, 2345-2359.	3.9	14
57	Application of microtomography and image analysis to the quantification of fragmentation in ceramics after impact loading. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160166.	3.4	13
58	Micromechanical Study of Cyclically Loaded Sands with x-ray Microtomography and Digital Image Correlation. Procedia Engineering, 2016, 158, 92-97.	1.2	12
59	Neutron imaging: a new possibility for laboratory observation of hydraulic fractures in shale?. Geotechnique Letters, 2018, 8, 316-323.	1.2	12
60	Water Retention Behaviour Explored by X-Ray CT Analysis. , 2012, , 81-88.		12
61	Identifying and following particle-to-particle contacts in real granular media: An experimental challenge. AIP Conference Proceedings, 2013, , .	0.4	11
62	4D porosity evolution during pressure-solution of NaCl in the presence of phyllosilicates. Earth and Planetary Science Letters, 2018, 502, 115-125.	4.4	11
63	Characterisation of the multi-scale fabric features of high plasticity clays. Geotechnique Letters, 2019, 9, 361-368.	1.2	11
64	A micro finite-element model for soil behaviour: experimental evaluation for sand under triaxial compression. Geotechnique, 2020, 70, 931-936.	4.0	11
65	Linking shape and rotation of grains during triaxial compression of sand. Granular Matter, 2020, 22, 1.	2.2	11
66	Experimental and model-based investigation of the links between snow bidirectional reflectance and snow microstructure. Cryosphere, 2021, 15, 3921-3948.	3.9	11
67	Experimental measurement of granular fabric and its evolution under shearing. EPJ Web of Conferences, 2017, 140, 02020.	0.3	10
68	Evolution of particle breakage studied using x-ray tomography and the discrete element method. EPJ Web of Conferences, 2017, 140, 07013.	0.3	10
69	Micro-scale investigation of unsaturated sand in mini-triaxial shearing using X-ray CT. Geotechnique Letters, 2019, 9, 269-277.	1.2	10
70	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
71	Modeling Combined Fabric Evolution in an Anisometric Granular Material Driven by Particle-Scale X-Ray Measurements. Journal of Engineering Mechanics - ASCE, 2022, 148, .	2.9	10
72	Three-dimensional visualization and quantification of the fracture mechanisms in sparse fibre networks using multiscale X-ray microtomography. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180175.	2.1	9

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73	The shape of hanging elastic cylinders. Soft Matter, 2019, 15, 5464-5473.	2.7	9
74	Dual modality neutron and x-ray tomography for enhanced image analysis of the bone-metal interface. Physics in Medicine and Biology, 2021, 66, 135016.	3.0	9
75	Quantitative 3D imaging of partially saturated granular materials under uniaxial compression. Acta Geotechnica, 2021, 16, 3573-3600.	5.7	9
76	Localisation Precursors in Geomaterials?. Springer Series in Geomechanics and Geoengineering, 2017, , 3-10.	0.1	8
77	A glimpse into rapid freezing processes in clay with x-ray tomography. Acta Geotechnica, 2022, 17, 327-338.	5.7	8
78	Freezingâ€induced stiffness and strength anisotropy in freezing clayey soil: Theory, numerical modeling, and experimental validation. International Journal for Numerical and Analytical Methods in Geomechanics, 2022, 46, 2087-2114.	3.3	8
79	Particle Shape Distribution Effects on the Triaxial Response of Sands: A DEM Study. Trends in Mathematics, 2018, , 277-286.	0.1	7
80	Geostatistical analysis of strain localization in triaxial tests on sand. Geotechnique Letters, 2019, 9, 334-339.	1.2	7
81	Estimation of Separating Planes between Touching 3D Objects Using Power Watershed. Lecture Notes in Computer Science, 2013, , 452-463.	1.3	7
82	Imaging local soil kinematics during the first days of maize root growth in sand. Scientific Reports, 2021, 11, 22262.	3.3	7
83	Structural templates of disordered granular media. International Journal of Solids and Structures, 2015, 54, 20-30.	2.7	6
84	Experimental Study of Cone Penetration in Snow Using X-Ray Tomography. Frontiers in Earth Science, 2020, 8, .	1.8	6
85	Single-projection reconstruction technique for positioning monodisperse spheres in 3D with a divergent x-ray beam. Measurement Science and Technology, 2021, 32, 095405.	2.6	6
86	Experimental quantification of 3D deformations in sensitive clay during stress-probing. Geotechnique, 2023, 73, 655-666.	4.0	5
87	From 3D Tomography to Physics-Based Mechanics of Geomaterials. , 2013, , .		4
88	The effect of high relative humidity on a network of water-sensitive particles (couscous) as revealed by in situ X-ray tomography. Soft Matter, 2022, 18, 4747-4755.	2.7	4
89	The contribution of swelling to self-sealing of claystone studied through x-ray tomography. Physics and Chemistry of the Earth, 2022, 127, 103191.	2.9	4
90	Root-reinforced sand: kinematic response of the soil. E3S Web of Conferences, 2019, 92, 12011.	0.5	3

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91	3D microstructure controls on mineral carbonation. Journal of CO2 Utilization, 2021, 47, 101494.	6.8	3
92	Micromechanically inspired investigation of cemented granular materials: part Iâ€"from X-ray micro tomography to measurable model variables. Acta Geotechnica, 2023, 18, 35-55.	5.7	3
93	Influence of depositional fabric on mechanical properties of naturally deposited sands. Geotechnique, 2024, 74, 250-264.	4.0	3
94	Investigation of Spalling Damage in Ultra-High Performance Concrete Through X-ray Computed Tomography. EPJ Web of Conferences, 2018, 183, 03024.	0.3	2
95	Grain kinematics during stress relaxation in sand: not a problem for X-ray imaging. E3S Web of Conferences, 2019, 92, 01001.	0.5	2
96	Soil microstructural changes induced by suffusion: x-ray computed tomography characterization. E3S Web of Conferences, 2019, 92, 01010.	0.5	2
97	Deformation and failure mechanisms of granular soil around pressurised shallow cavities. Geotechnique, 2023, 73, 265-280.	4.0	2
98	Investigation of Uncertainty in Strength Parameter Identification. Lecture Notes in Civil Engineering, 2021, , 277-284.	0.4	2
99	X-Ray Tomography Experiments on Sand at Different Scales. Advances in Mechanics and Mathematics, 2020, , 1-20.	0.7	2
100	Biotite supports long-range diffusive transport in dissolutionâ€"precipitation creep in halite through small porosity fluctuations. Solid Earth, 2022, 13, 41-64.	2.8	2
101	The Effects of Strain Localization on the Determination of Critical State Seen with Experimental and Numerical Models. Trends in Mathematics, 2018, , 295-307.	0.1	1
102	Validation of Synthetic Images forÂContact Fabric Generated by DEM. Springer Series in Geomechanics and Geoengineering, 2018, , 252-255.	0.1	1
103	Measuring the fabric evolution of particulate media during load reversals in triaxial tests. E3S Web of Conferences, 2019, 92, 03001.	0.5	1
104	Contact evolution in granular materials with inherently anisotropic fabric. EPJ Web of Conferences, 2021, 249, 06015.	0.3	1
105	Analyzing the evolution of grains and contacts in sand under load. , 2010, , 375-379.		0
106	Contact Based Hierarchical Segmentation for Granular Materials. Lecture Notes in Computer Science, 2019, , 428-440.	1.3	0
107	X-ray tomographies of a water-sensitive granular material (couscous) exposed to high relative humidity: an experimental study. EPJ Web of Conferences, 2021, 249, 08012.	0.3	0
108	Tensile Damage Mechanisms of Concrete Using X-Ray: In Situ Experiments and Mesoscopic Modeling. , 2021, , 1-36.		0

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109	Compaction and shear localization in porous sandstone and sand. , 2014, , 1213-1217.		0
110	Fabric Investigation of Natural Sensitive Clay from 3D Nano- and Microtomography Data. Journal of Engineering Mechanics - ASCE, 2022, 148, .	2.9	0
111	Tensile Damage Mechanisms of Concrete Using X-Ray: In Situ Experiments and Mesoscopic Modeling. , 2022, , 453-488.		0