Esteban Rougier

List of Publications by Year
in descending order

62 papers	1,959 citations	236833 25 h-index	276775 41 g-index
96 all docs	96 docs citations	96 times ranked	1333 citing authors

#	Article	IF	Citations
1	Evolution of Permeability in Sandstone During Confined Brazilian Testing. Rock Mechanics and Rock Engineering, 2022, 55, 2651-2664.	2.6	4
2	From force chains to nonclassical nonlinear dynamics in cemented granular materials. Physical Review E, 2022, 105, L022901.	0.8	1
3	Impact Fracture and Fragmentation of Glass via the 3D Combined Finite-Discrete Element Method. Applied Sciences (Switzerland), 2021, 11, 2484.	1.3	17
4	Benchmarking Numerical Methods for Impact and Cratering Applications. Applied Sciences (Switzerland), 2021, 11, 2504.	1.3	8
5	Assimilation of Dynamic Combined Finite Discrete Element Methods Using the Ensemble Kalman Filter. Applied Sciences (Switzerland), 2021, 11, 2898.	1.3	1
6	Failure in Confined Brazilian Tests on Sandstone. Applied Sciences (Switzerland), 2021, 11, 2285.	1.3	5
7	Injection Parameters That Promote Branching of Hydraulic Cracks. Geophysical Research Letters, 2021, 48, e2021GL093321.	1.5	4
8	Fracture Mechanics—Theory, Modeling and Applications. Applied Sciences (Switzerland), 2021, 11, 7371.	1.3	0
9	Signature of transition to supershear rupture speed in the coseismic off-fault damage zone. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210364.	1.0	6
10	The combined plastic and discrete fracture deformation framework for finite–discrete element methods. International Journal for Numerical Methods in Engineering, 2020, 121, 1020-1035.	1.5	29
11	Numerical analysis of flyer plate experiments in granite via the combined finite–discrete element method. Computational Particle Mechanics, 2020, 7, 1005-1016.	1.5	14
12	Special issue titled "combined finite discrete element method and virtual experimentation". Computational Particle Mechanics, 2020, 7, 763-763.	1.5	5
13	HOSS: an implementation of the combined finite-discrete element method. Computational Particle Mechanics, 2020, 7, 765-787.	1.5	77
14	Plate motion in sheared granular fault system. Earth and Planetary Science Letters, 2020, 548, 116481.	1.8	6
15	Distributed intelligence and the equivalence of matter and information. Computational Particle Mechanics, 2020, 7, 1073-1080.	1.5	8
16	Lagrangian–based Simulations of Hypervelocity Impact Experiments on Mars Regolith Proxy. Geophysical Research Letters, 2020, 47, e2020GL087393.	1.5	7
17	Simulation of mixed-mode fracture using the combined finite–discrete element method. Computational Particle Mechanics, 2020, 7, 1047-1055.	1.5	10
18	A smooth contact algorithm for the combined finite discrete element method. Computational Particle Mechanics, 2020, 7, 807-821.	1.5	40

#	Article	IF	Citations
19	A novel framework for elastoplastic behaviour of anisotropic solids. Computational Particle Mechanics, 2020, 7, 823-838.	1.5	16
20	Scale bridging damage model for quasi-brittle metals informed with crack evolution statistics. Journal of the Mechanics and Physics of Solids, 2020, 138, 103921.	2.3	7
21	FSIS: a novel fluid–solid interaction solver for fracturing and fragmenting solids. Computational Particle Mechanics, 2020, 7, 789-805.	1.5	44
22	Modeling earthquakes with off-fault damage using the combined finite-discrete element method. Computational Particle Mechanics, 2020, 7, 1057-1072.	1.5	19
23	Discrete Element and Particle Methods. , 2020, , 659-671.		2
24	Dynamics, Radiation, and Overall Energy Budget of Earthquake Rupture With Coseismic Off‐Fault Damage. Journal of Geophysical Research: Solid Earth, 2019, 124, 11771-11801.	1.4	93
25	From Stress Chains to Acoustic Emission. Physical Review Letters, 2019, 123, 048003.	2.9	32
26	Surrogate Models for Estimating Failure in Brittle and Quasi-Brittle Materials. Applied Sciences (Switzerland), 2019, 9, 2706.	1.3	11
27	Simulation of crack induced nonlinear elasticity using the combined finite-discrete element method. Ultrasonics, 2019, 98, 51-61.	2.1	18
28	Statistically informed upscaling of damage evolution in brittle materials. Theoretical and Applied Fracture Mechanics, 2019, 102, 210-221.	2.1	9
29	Simulation of Fracture Coalescence in Granite via the Combined Finite–Discrete Element Method. Rock Mechanics and Rock Engineering, 2019, 52, 3213-3227.	2.6	53
30	Learning to fail: Predicting fracture evolution in brittle material models using recurrent graph convolutional neural networks. Computational Materials Science, 2019, 162, 322-332.	1.4	58
31	Simulation of discrete cracks driven by nearly incompressible fluid via 2D combined finite€discrete element method. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 1724-1743.	1.7	36
32	Fourier amplitude sensitivity test applied to dynamic combined finite€discrete element methods€based simulations. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 30-44.	1.7	12
33	Reduced-order modeling through machine learning and graph-theoretic approaches for brittle fracture applications. Computational Materials Science, 2019, 157, 87-98.	1.4	33
34	Branching of hydraulic cracks enabling permeability of gas or oil shale with closed natural fractures. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 1532-1537.	3.3	49
35	Predictive modeling of dynamic fracture growth in brittle materials with machine learning. Computational Materials Science, 2018, 148, 46-53.	1.4	66
36	Discontinuities in effective permeability due to fracture percolation. Mechanics of Materials, 2018, 119, 25-33.	1.7	11

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37	Discrete Element and Particle Methods. , 2018, , 1-14.		1
38	Earthquake Damage Patterns Resolve Complex Rupture Processes. Geophysical Research Letters, 2018, 45, 10,279.	1.5	74
39	Calibrating the stress-time curve of a combined finite-discrete element method to a Split Hopkinson Pressure Bar experiment. International Journal of Rock Mechanics and Minings Sciences, 2018, 106, 278-288.	2.6	27
40	Quantifying Topological Uncertainty in Fractured Systems using Graph Theory and Machine Learning. Scientific Reports, 2018, 8, 11665.	1.6	38
41	Modeling of Stick–Slip Behavior in Sheared Granular Fault Gouge Using the Combined Finite–Discrete Element Method. Journal of Geophysical Research: Solid Earth, 2018, 123, 5774-5792.	1.4	56
42	Apparent Explosion Moments from Rg Waves Recorded on SPE. Bulletin of the Seismological Society of America, 2017, 107, 43-50.	1.1	6
43	Understanding hydraulic fracturing: a multi-scale problem. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150426.	1.6	92
44	A non-locking composite tetrahedron element for the combined finite discrete element method. Engineering Computations, 2016, 33, 1929-1956.	0.7	24
45	High–stress triaxial direct–shear fracturing of Utica shale and in situ X–ray microtomography with permeability measurement. Journal of Geophysical Research: Solid Earth, 2016, 121, 5493-5508.	1.4	51
46	Phenomenology and Modeling of Explosion–Generated Shear Energy for the Source Physics Experiments. Bulletin of the Seismological Society of America, 2016, 106, 42-53.	1.1	12
47	A generalized anisotropic deformation formulation for geomaterials. Computational Particle Mechanics, 2016, 3, 215-228.	1.5	43
48	Radionuclide Gas Transport through Nuclear Explosion-Generated Fracture Networks. Scientific Reports, 2015, 5, 18383.	1.6	32
49	Seismic source functions from free–field ground motions recorded on SPE: Implications for source models of small, shallow explosions. Journal of Geophysical Research: Solid Earth, 2015, 120, 3459-3478.	1.4	26
50	Using Discovery Science To Increase Efficiency of Hydraulic Fracturing While Reducing Water Usage. ACS Symposium Series, 2015, , 71-88.	0.5	0
51	Fracture-permeability behavior of shale. Journal of Unconventional Oil and Gas Resources, 2015, 11, 27-43.	3.5	117
52	A mechanisms-based model for dynamic behavior and fracture of geomaterials. International Journal of Rock Mechanics and Minings Sciences, 2014, 72, 277-282.	2.6	21
53	A framework for grand scale parallelization of the combined finite discrete element method in 2d. Computational Particle Mechanics, 2014, 1, 307-319.	1.5	64
54	Validation of a three-dimensional Finite-Discrete Element Method using experimental results of the Split Hopkinson Pressure Bar test. International Journal of Rock Mechanics and Minings Sciences, 2014, 70, 101-108.	2.6	132

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55	HOSS. , 2013, , 97-104.		6
56	Constraints on burial depth and yield of the 25 May 2009 North Korean test from hydrodynamic simulations in a granite medium. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	28
57	Granular temperature as an energy dissipation mechanism in bodies of the Solar System. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 2485-2493.	1.0	1
58	DISCRETE ELEMENT METHOD FOR MOLECULAR SCALE VISUALIZATION OF MICRO-FLOWS. Journal of Flow Visualization and Image Processing, 2007, 14, 17-34.	0.3	2
59	MR linear contact detection algorithm. International Journal for Numerical Methods in Engineering, 2006, 66, 46-71.	1.5	64
60	Numerical comparison of some explicit time integration schemes used in DEM, FEM/DEM and molecular dynamics. International Journal for Numerical Methods in Engineering, 2004, 61, 856-879.	1.5	110
61	Shape selection menu for grand scale discontinua systems. Engineering Computations, 2004, 21, 343-359.	0.7	13
62	Experimental study correlating damage and permeability in concrete using confined, flattened Brazilian disks. International Journal of Damage Mechanics, 0, , 105678952199872.	2.4	6