

Ronaldo I Borja

List of Publications by Citations

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116
papers

5,693
citations

48
h-index

72
g-index

120
ext. papers

6,516
ext. citations

4.3
avg, IF

6.46
L-index

#	Paper	IF	Citations
116	Geological and mathematical framework for failure modes in granular rock. <i>Journal of Structural Geology</i> , 2006 , 28, 83-98	3	256
115	Cam-Clay plasticity. Part V: A mathematical framework for three-phase deformation and strain localization analyses of partially saturated porous media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004 , 193, 5301-5338	5.7	196
114	Cam-Clay plasticity, Part 1: Implicit integration of elasto-plastic constitutive relations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1990 , 78, 49-72	5.7	192
113	Stabilized low-order finite elements for coupled solid-deformation/fluid-diffusion and their application to fault zone transients. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008 , 197, 4353-4366	5.7	188
112	On the mechanical energy and effective stress in saturated and unsaturated porous continua. <i>International Journal of Solids and Structures</i> , 2006 , 43, 1764-1786	3.1	159
111	A finite element model for strain localization analysis of strongly discontinuous fields based on standard Galerkin approximation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2000 , 190, 1529-1549	5.7	147
110	Instrumented nanoindentation and 3D mechanistic modeling of a shale at multiple scales. <i>Acta Geotechnica</i> , 2015 , 10, 1-14	4.9	140
109	Estimating the impact force generated by granular flow on a rigid obstruction. <i>Acta Geotechnica</i> , 2009 , 4, 57-71	4.9	132
108	Cam-Clay plasticity part III: Extension of the infinitesimal model to include finite strains. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1998 , 155, 73-95	5.7	126
107	Cam-Clay plasticity, Part II: Implicit integration of constitutive equation based on a nonlinear elastic stress predictor. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1991 , 88, 225-240	5.7	125
106	On the numerical integration of three-invariant elastoplastic constitutive models. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2003 , 192, 1227-1258	5.7	124
105	Strain localization in frictional materials exhibiting displacement jumps. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2001 , 190, 2555-2580	5.7	108
104	A contact algorithm for frictional crack propagation with the extended finite element method. <i>International Journal for Numerical Methods in Engineering</i> , 2008 , 76, 1489-1512	2.4	107
103	Computational modeling of deformation bands in granular media. I. Geological and mathematical framework. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004 , 193, 2667-2698	5.7	107
102	Continuum deformation and stability analyses of a steep hillside slope under rainfall infiltration. <i>Acta Geotechnica</i> , 2010 , 5, 1-14	4.9	106
101	Dynamics of porous media at finite strain. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004 , 193, 3837-3870	5.7	102
100	Nonlinear Ground Response at Lotung LSST Site. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 1999 , 125, 187-197	3.4	91

99	Coupling Plasticity and Energy-Conserving Elasticity Models for Clays. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 1997 , 123, 948-957	3.4	90
98	A mathematical framework for finite strain elastoplastic consolidation Part 1: Balance laws, variational formulation, and linearization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1995 , 122, 145-171	5.7	90
97	Mathematical framework for unsaturated flow in the finite deformation range. <i>International Journal for Numerical Methods in Engineering</i> , 2014 , 97, 658-682	2.4	86
96	Bifurcation of elastoplastic solids to shear band mode at finite strain. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002 , 191, 5287-5314	5.7	83
95	Plane strain finite element analysis of pressure sensitive plasticity with strong discontinuity. <i>International Journal of Solids and Structures</i> , 2001 , 38, 3647-3672	3.1	83
94	Capturing strain localization in dense sands with random density. <i>International Journal for Numerical Methods in Engineering</i> , 2006 , 67, 1531-1564	2.4	82
93	Thermoplasticity and strain localization in transversely isotropic materials based on anisotropic critical state plasticity. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2016 , 40, 2423-2449	4	77
92	On the effective stress in unsaturated porous continua with double porosity. <i>Journal of the Mechanics and Physics of Solids</i> , 2009 , 57, 1182-1193	5	75
91	Block-preconditioned Newton-Krylov solvers for fully coupled flow and geomechanics. <i>Computational Geosciences</i> , 2011 , 15, 647-659	2.7	74
90	Hydromechanical Modeling of Unsaturated Flow in Double Porosity Media. <i>International Journal of Geomechanics</i> , 2016 , 16,	3.1	73
89	Stabilized low-order finite elements for frictional contact with the extended finite element method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010 , 199, 2456-2471	5.7	72
88	Critical state plasticity. Part VI: Meso-scale finite element simulation of strain localization in discrete granular materials. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006 , 195, 5115-5140	5.7	72
87	Dynamics of unsaturated poroelastic solids at finite strain. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2012 , 36, 1535-1573	4	71
86	Assumed enhanced strain and the extended finite element methods: A unification of concepts. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008 , 197, 2789-2803	5.7	70
85	Stabilized mixed finite elements for deformable porous media with double porosity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015 , 293, 131-154	5.7	66
84	Plasticity 2013 ,		66
83	Shear band in sand with spatially varying density. <i>Journal of the Mechanics and Physics of Solids</i> , 2013 , 61, 219-234	5	65
82	Multiaxial Cyclic Plasticity Model for Clays. <i>Journal of Geotechnical Engineering</i> , 1994 , 120, 1051-1070		63

81	Condition for liquefaction instability in fluid-saturated granular soils. <i>Acta Geotechnica</i> , 2006 , 1, 211-224.	4.9	61
80	Calculating the effective permeability of sandstone with multiscale lattice Boltzmann/finite element simulations. <i>Acta Geotechnica</i> , 2006 , 1, 195-209	4.9	61
79	Discrete micromechanics of elastoplastic crystals. <i>International Journal for Numerical Methods in Engineering</i> , 1993 , 36, 3815-3840	2.4	60
78	Modeling deformation banding in dense and loose fluid-saturated sands. <i>Finite Elements in Analysis and Design</i> , 2007 , 43, 361-383	2.2	59
77	A finite element model of localized deformation in frictional materials taking a strong discontinuity approach. <i>Finite Elements in Analysis and Design</i> , 1999 , 33, 283-315	2.2	59
76	Multiphysics hillslope processes triggering landslides. <i>Acta Geotechnica</i> , 2012 , 7, 261-269	4.9	58
75	Mechanical models of fracture reactivation and slip on bedding surfaces during folding of the asymmetric anticline at Sheep Mountain, Wyoming. <i>Journal of Structural Geology</i> , 2008 , 30, 1177-1191	3	57
74	Cam-Clay plasticity, Part IV: Implicit integration of anisotropic bounding surface model with nonlinear hyperelasticity and ellipsoidal loading function. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2001 , 190, 3293-3323	5.7	55
73	Cam-Clay plasticity, Part VIII: A constitutive framework for porous materials with evolving internal structure. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016 , 309, 653-679	5.7	55
72	Critical state plasticity. Part VII: Triggering a shear band in variably saturated porous media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2013 , 261-262, 66-82	5.7	53
71	Factor of safety in a partially saturated slope inferred from hydro-mechanical continuum modeling. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2012 , 36, 236-248	4	52
70	Computational modeling of deformation bands in granular media. II. Numerical simulations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004 , 193, 2699-2718	5.7	52
69	Elastoplastic consolidation at finite strain part 2: finite element implementation and numerical examples. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1998 , 159, 103-122	5.7	49
68	The impacts of hysteresis on variably saturated hydrologic response and slope failure. <i>Environmental Earth Sciences</i> , 2010 , 61, 1215-1225	2.9	48
67	Finite element simulation of strain localization with large deformation: capturing strong discontinuity using a Petrov-Galerkin multiscale formulation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002 , 191, 2949-2978	5.7	45
66	Cam-Clay plasticity. Part IX: On the anisotropy, heterogeneity, and viscoplasticity of shale. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020 , 360, 112695	5.7	44
65	On the strength of transversely isotropic rocks. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2018 , 42, 1917-1934	4	43
64	Finite Deformation and Fluid Flow in Unsaturated Soils with Random Heterogeneity. <i>Vadose Zone Journal</i> , 2014 , 13, 1-11	2.7	40

63	Liquefaction potential of coastal slopes induced by solitary waves. <i>Acta Geotechnica</i> , 2009 , 4, 17-34	4.9	39
62	On the preferential flow patterns induced by transverse isotropy and non-Darcy flow in double porosity media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019 , 353, 570-592	5.7	38
61	Micropolar hypoplasticity for persistent shear band in heterogeneous granular materials. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015 , 289, 24-43	5.7	34
60	On the pore-scale mechanisms leading to brittle and ductile deformation behavior of crystalline rocks. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2015 , 39, 1165-1187	4	34
59	Conditions for instabilities in collapsible solids including volume implosion and compaction banding. <i>Acta Geotechnica</i> , 2006 , 1, 107-122	4.9	34
58	Generalized Creep and Stress Relaxation Model for Clays. <i>Journal of Geotechnical Engineering</i> , 1992 , 118, 1765-1786		33
57	Continuum hydrodynamics of dry granular flows employing multiplicative elastoplasticity. <i>Acta Geotechnica</i> , 2018 , 13, 1027-1040	4.9	32
56	Quantifying the heterogeneity of shale through statistical combination of imaging across scales. <i>Acta Geotechnica</i> , 2017 , 12, 1193-1205	4.9	32
55	Pore-scale modeling of deformation and shear band bifurcation in porous crystalline rocks. <i>International Journal for Numerical Methods in Engineering</i> , 2016 , 108, 183-212	2.4	30
54	An extended finite element framework for slow-rate frictional faulting with bulk plasticity and variable friction. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2009 , 33, 1535-1560	4	30
53	Dynamic FE analysis of South Memnon Colossus including 3D soil-foundation-structure interaction. <i>Computers and Structures</i> , 2004 , 82, 1719-1736	4.5	30
52	FE Modeling of Strain Localization in Soft Rock. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2000 , 126, 335-343	3.4	30
51	Composite Newton-PCG and quasi-Newton iterations for nonlinear consolidation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1991 , 86, 27-60	5.7	28
50	Mechanical aspects of thrust faulting driven by far-field compression and their implications for fold geometry. <i>Acta Geotechnica</i> , 2007 , 2, 17-31	4.9	27
49	Modelling non-linear ground response of non-liquefiable soils. <i>Earthquake Engineering and Structural Dynamics</i> , 2000 , 29, 63-83	4	27
48	Numerical simulation of excavation in elastoplastic soils. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 1989 , 13, 231-249	4	27
47	A continuum framework for coupled solid deformation-fluid flow through anisotropic elastoplastic porous media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020 , 369, 113225	5.7	26
46	Extended finite element framework for fault rupture dynamics including bulk plasticity. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2013 , 37, 3087-3111	4	26

45	Nonlinear Lateral, Rocking, and Torsional Vibration of Rigid Foundations. <i>Journal of Geotechnical Engineering</i> , 1994 , 120, 491-513		25
44	Quantifying sensitivity of local site response models to statistical variations in soil properties. <i>Acta Geotechnica</i> , 2006 , 1, 3-14	4.9	24
43	Finite deformation formulation for embedded frictional crack with the extended finite element method. <i>International Journal for Numerical Methods in Engineering</i> , 2010 , 82, 773-804	2.4	22
42	Structural control considering soil-structure interaction effects. <i>Earthquake Engineering and Structural Dynamics</i> , 1994 , 23, 609-626	4	22
41	Analysis of Incremental Excavation Based on Critical State Theory. <i>Journal of Geotechnical Engineering</i> , 1990 , 116, 964-985		22
40	Ground Response in Lotung: Total Stress Analyses and Parametric Studies. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2002 , 128, 54-63	3.4	21
39	Implicit J2-bounding surface plasticity using Prager's translation rule. <i>International Journal for Numerical Methods in Engineering</i> , 2002 , 55, 1129-1166	2.4	19
38	SSI Effects on Ground Motion at Lotung LSST Site. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 1999 , 125, 760-770	3.4	19
37	Nonlinear Response of Vertically Oscillating Rigid Foundations. <i>Journal of Geotechnical Engineering</i> , 1993 , 119, 893-911		18
36	One-step and linear multistep methods for nonlinear consolidation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1991 , 85, 239-272	5.7	18
35	Propagation of Localization Instability Under Active and Passive Loading. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2002 , 128, 64-75	3.4	17
34	Simulation of debris flow on an instrumented test slope using an updated Lagrangian continuum particle method. <i>Acta Geotechnica</i> , 2020 , 15, 2757-2777	4.9	15
33	Discrete micromechanics of elastoplastic crystals in the finite deformation range. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014 , 275, 234-263	5.7	14
32	Continuum mathematical modeling of slip weakening in geological systems. <i>Journal of Geophysical Research</i> , 2007 , 112,		14
31	Vibration of Foundations on Incompressible Soils with No Elastic Region. <i>Journal of Geotechnical Engineering</i> , 1994 , 120, 1570-1592		14
30	Free Boundary, Fluid Flow, and Seepage Forces in Excavations. <i>Journal of Geotechnical Engineering</i> , 1992 , 118, 125-146		14
29	Computational Aspects of Elasto-Plastic Deformation in Polycrystalline Solids. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012 , 79,	2.7	13
28	Estimating inelastic sediment deformation from local site response simulations. <i>Acta Geotechnica</i> , 2007 , 2, 183-195	4.9	11

27	Capturing strain localization behind a geosynthetic-reinforced soil wall. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2003 , 27, 425-451	4	10
26	Analytical solution of soil deformation and fluid pressure change for a two-layer system with an upper unsaturated soil and a lower saturated soil under external loading. <i>Journal of Hydrology</i> , 2020 , 588, 124997	6	10
25	A macroelement stabilization for mixed finite element/finite volume discretizations of multiphase poromechanics. <i>Computational Geosciences</i> , 2021 , 25, 775-792	2.7	10
24	Finite Element Simulation of Strain Localization in Unsaturated Soils 2012 , 189-195		7
23	Poroelastic coefficients for anisotropic single and double porosity media. <i>Acta Geotechnica</i> , 2021 , 16, 3013-3025	4.9	7
22	Anisotropic elastoplastic response of double-porosity media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021 , 380, 113797	5.7	7
21	Triggering a Shear Band in Variably Saturated Porous Materials 2013 ,		6
20	Fault propagation and surface rupture in geologic materials with a meshfree continuum method. <i>Acta Geotechnica</i> , 2021 , 16, 2463-2486	4.9	6
19	The analysis of consolidation by a quasi-Newton technique. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 1988 , 12, 221-229	4	5
18	Mechanisms of creep in shale from nanoscale to specimen scale. <i>Computers and Geotechnics</i> , 2021 , 136, 104138	4.4	4
17	Conservation laws for three-phase partially saturated granular media 2005 , 3-14		3
16	A continuum meshfree method for sandbox-style numerical modeling of accretionary and doubly vergent wedges. <i>Journal of Structural Geology</i> , 2021 , 153, 104466	3	3
15	Preconditioners for multiphase poromechanics with strong capillarity. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2021 , 45, 1141-1168	4	3
14	Impacts of saturation-dependent anisotropy on the shrinkage behavior of clay rocks. <i>Acta Geotechnica</i> , 2021 , 16, 3381	4.9	3
13	Deformation and Strength of Transversely Isotropic Rocks. <i>Springer Series in Geomechanics and Geoengineering</i> , 2019 , 237-241	0.1	2
12	Coseismic sediment deformation during the 1989 Loma Prieta earthquake. <i>Journal of Geophysical Research</i> , 2008 , 113,		2
11	Evolution of anisotropy with saturation and its implications for the elastoplastic responses of clay rocks. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> ,	4	2
10	Poroelastic theory of consolidation for a two-layer system with an upper unsaturated soil and a lower saturated soil under fully permeable boundary conditions. <i>Journal of Hydrology</i> , 2021 , 596, 125700 ⁶		2

9	Conservation Laws for Coupled Hydro-Mechanical Processes in Unsaturated Porous Media	185-208	2
8	Localized and Diffuse Bifurcations in Porous Rocks Undergoing Shear Localization and Cataclastic Flow. <i>Computational Methods in Applied Sciences (Springer)</i> , 2007 , 37-53		0.4 2
7	A Framework for Analysis of Diffuse Instability in Partially Saturated Granular Soils	2007 , 19-28	1
6	Rock Moisture Dynamics, Preferential Flow, and the Stability of Hillside Slopes	2016 , 443-464	1
5	Mathematical modeling of consolidation in unsaturated poroelastic soils under fluid flux boundary conditions. <i>Journal of Hydrology</i> , 2021 , 595, 125671		6 1
4	Ductile Folding of Sedimentary Rocks	2006 , 1	
3	Capturing Slip Weakening and Variable Frictional Response in Localizing Geomaterials Using an Enhanced Strain Finite Element	2006 , 396-396	
2	Mechanisms of Deformation in Porous Rocks at the Grain Scale. <i>Springer Series in Geomechanics and Geoengineering</i> , 2015 , 107-112		0.1
1	SCALABLE PRECONDITIONING TECHNIQUES FOR FULLY-COUPLED HYDROMECHANICAL MODELS. <i>Springer Series in Geomechanics and Geoengineering</i> , 2011 , 129-132		0.1