

D Nicolas Espinoza

List of Publications by Year in descending order

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Version: 2024-02-01

57
papers

2,754
citations

257450

24
h-index

214800

47
g-index

59
all docs

59
docs citations

59
times ranked

2156
citing authors

#	ARTICLE	IF	CITATIONS
1	Physical properties of hydrate-bearing sediments. <i>Reviews of Geophysics</i> , 2009, 47, .	23.0	746
2	Water-CO ₂ -mineral systems: Interfacial tension, contact angle, and diffusion—Implications to CO ₂ geological storage. <i>Water Resources Research</i> , 2010, 46, .	4.2	370
3	Properties and phenomena relevant to CH ₄ -CO ₂ replacement in hydrate-bearing sediments. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	116
4	Pore-Scale Determination of Gas Relative Permeability in Hydrate-Bearing Sediments Using X-Ray Computed Microtomography and Lattice Boltzmann Method. <i>Water Resources Research</i> , 2018, 54, 600-608.	4.2	114
5	CO ₂ breakthrough—Caprock sealing efficiency and integrity for carbon geological storage. <i>International Journal of Greenhouse Gas Control</i> , 2017, 66, 218-229.	4.6	111
6	Measurement and modeling of adsorptive-poromechanical properties of bituminous coal cores exposed to CO ₂ : Adsorption, swelling strains, swelling stresses and impact on fracture permeability. <i>International Journal of Coal Geology</i> , 2014, 134-135, 80-95.	5.0	96
7	CO ₂ geological storage — Geotechnical implications. <i>KSCE Journal of Civil Engineering</i> , 2011, 15, 707-719.	1.9	91
8	Desorption-induced shear failure of coal bed seams during gas depletion. <i>International Journal of Coal Geology</i> , 2015, 137, 142-151.	5.0	85
9	Ostwald ripening changes the pore habit and spatial variability of clathrate hydrate. <i>Fuel</i> , 2018, 214, 614-622.	6.4	84
10	P-wave monitoring of hydrate-bearing sand during CH ₄ -CO ₂ replacement. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 1031-1038.	4.6	83
11	A transverse isotropic model for microporous solids: Application to coal matrix adsorption and swelling. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 6113-6123.	3.4	64
12	Clay interaction with liquid and supercritical CO ₂ : The relevance of electrical and capillary forces. <i>International Journal of Greenhouse Gas Control</i> , 2012, 10, 351-362.	4.6	62
13	Coupled fluid flow-geomechanics simulation in stress-sensitive coal and shale reservoirs: Impact of desorption-induced stresses, shear failure, and fines migration. <i>Fuel</i> , 2017, 195, 260-272.	6.4	56
14	The effect of organic matter and thermal maturity on the wettability of supercritical CO ₂ on organic shales. <i>International Journal of Greenhouse Gas Control</i> , 2017, 65, 15-22.	4.6	53
15	Ant tunneling—a granular media perspective. <i>Granular Matter</i> , 2010, 12, 607-616.	2.2	44
16	Natural and induced fractures in coal cores imaged through X-ray computed microtomography — Impact on desorption time. <i>International Journal of Coal Geology</i> , 2016, 154-155, 165-175.	5.0	42
17	CO ₂ charged brines changed rock strength and stiffness at Crystal Geyser, Utah: Implications for leaking subsurface CO ₂ storage reservoirs. <i>International Journal of Greenhouse Gas Control</i> , 2018, 73, 16-28.	4.6	42
18	Sustainable development and energy geotechnology — Potential roles for geotechnical engineering. <i>KSCE Journal of Civil Engineering</i> , 2011, 15, 611-621.	1.9	41

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19	Surface area controls gas hydrate dissociation kinetics in porous media. <i>Fuel</i> , 2018, 234, 358-363.	6.4	40
20	Adsorptive-mechanical properties of reconstituted granular coal: Experimental characterization and poromechanical modeling. <i>International Journal of Coal Geology</i> , 2016, 162, 158-168.	5.0	32
21	Discrete Element Modeling of Micro-scratch Tests: Investigation of Mechanisms of CO ₂ Alteration in Reservoir Rocks. <i>Rock Mechanics and Rock Engineering</i> , 2017, 50, 3337-3348.	5.4	32
22	Discrete element modeling of indentation tests to investigate mechanisms of CO ₂ -related chemomechanical rock alteration. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 7867-7881.	3.4	29
23	Assessment of mechanical rock alteration caused by CO ₂ -water mixtures using indentation and scratch experiments. <i>International Journal of Greenhouse Gas Control</i> , 2016, 45, 9-17.	4.6	27
24	Reservoir rock chemo-mechanical alteration quantified by triaxial tests and implications to fracture reactivation. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 106, 250-258.	5.8	25
25	Pore-scale evidence of ion exclusion during methane hydrate growth and evolution of hydrate pore-habit in sandy sediments. <i>Marine and Petroleum Geology</i> , 2020, 117, 104340.	3.3	25
26	CO ₂ -induced chemo-mechanical alteration in reservoir rocks assessed via batch reaction experiments and scratch testing. , 2018, 8, 133-149.		24
27	Discrete element modeling of grain crushing and implications on reservoir compaction. <i>Journal of Petroleum Science and Engineering</i> , 2018, 171, 431-439.	4.2	24
28	Microstructural controls on elastic anisotropy of finely laminated Mancos Shale. <i>Geophysical Journal International</i> , 2019, 216, 991-1004.	2.4	16
29	Analyzing a suitable elastic geomechanical model for Vaca Muerta Formation. <i>Journal of South American Earth Sciences</i> , 2017, 79, 472-488.	1.4	13
30	Geomechanical implications of dissolution of mineralized natural fractures in shale formations. <i>Journal of Petroleum Science and Engineering</i> , 2018, 160, 555-564.	4.2	12
31	Fracture Propagation in Heterogeneous Porous Media: Pore-Scale Implications of Mineral Dissolution. <i>Rock Mechanics and Rock Engineering</i> , 2019, 52, 3197-3211.	5.4	12
32	Quantification of a maximum injection volume of CO ₂ to avert geomechanical perturbations using a compositional fluid flow reservoir simulator. <i>Advances in Water Resources</i> , 2018, 112, 160-169.	3.8	11
33	Assessment of Mudrock Brittleness with Micro-scratch Testing. <i>Rock Mechanics and Rock Engineering</i> , 2017, 50, 2849-2860.	5.4	10
34	Wellbore injectivity response to step-rate CO ₂ injection: Coupled thermo-poro-elastic analysis in a vertically heterogeneous formation. <i>International Journal of Greenhouse Gas Control</i> , 2020, 102, 103156.	4.6	10
35	Optimization of subsurface CO ₂ injection based on neural network surrogate modeling. <i>Computational Geosciences</i> , 2021, 25, 1887-1898.	2.4	10
36	Quantifying static and dynamic stiffness anisotropy and nonlinearity in finely laminated shales: Experimental measurement and modeling. <i>Geophysics</i> , 2019, 84, MR25-MR36.	2.6	9

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37	Fluid-driven fractures in granular media: Insights from numerical investigations. <i>Physical Review E</i> , 2020, 101, 042903.	2.1	9
38	Multiphase CO ₂ -brine transport properties of synthetic fault gouge. <i>Marine and Petroleum Geology</i> , 2021, 129, 105054.	3.3	9
39	A Probability-Based Pore Network Model of Particle Jamming in Porous Media. <i>Transport in Porous Media</i> , 2021, 139, 419-445.	2.6	9
40	Two-Phase Fluid Flow Properties of Rough Fractures With Heterogeneous Wettability: Analysis With Lattice Boltzmann Simulations. <i>Water Resources Research</i> , 2021, 57, .	4.2	8
41	An Integrated Case Study of the Frio CO ₂ Sequestration Pilot Test for Safe and Effective Carbon Storage Including Compositional Flow and Geomechanics. , 2017, , .		7
42	Coupled Chemical-Mechanical Processes Associated With the Injection of CO ₂ into Subsurface. , 2019, , 337-359.		6
43	Use of S-wave anisotropy to quantify the onset of stress-induced microfracturing. <i>Geophysics</i> , 2017, 82, MR201-MR212.	2.6	5
44	Shale Acid Fracturing: Geomechanical Effects and Fracture Propagation. , 2017, , .		5
45	Grain- to Reservoir-Scale Modeling of Depletion-Induced Compaction and Implications on Production Rate. <i>SPE Journal</i> , 2020, 25, 1543-1556.	3.1	5
46	Impacts on mechanical strength of chemical reactions induced by hydrous supercritical CO ₂ in Boise Sandstone. <i>International Journal of Greenhouse Gas Control</i> , 2020, 95, 102982.	4.6	5
47	Fluid-driven fracture mechanisms in granular media: insights from grain-scale numerical modeling. <i>Granular Matter</i> , 2021, 23, 1.	2.2	5
48	Pore-to Reservoir-Scale Modeling of Depletion-Induced Compaction and Implications on Production Rate. , 2018, , .		4
49	CO ₂ plume and pressure monitoring through pressure sensors above the caprock. <i>International Journal of Greenhouse Gas Control</i> , 2022, 117, 103660.	4.6	4
50	Carbon Geological Storage. , 2019, , 383-407.		3
51	Anisotropic and Nonlinear Properties of Rock Samples in the Vaca Muerta Formation: Experimental Measurements and Implications on Reservoir Geomechanics. , 2020, , .		3
52	Measurement of Unloading Pore Volume Compressibility of Frio Sand Under Uniaxial Strain Stress Path and Implications on Reservoir Pressure Management. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 5745-5760.	5.4	3
53	Geochemically induced shear slip in artificially fractured dolomite- and clay-cemented sandstone. <i>International Journal of Greenhouse Gas Control</i> , 2021, 111, 103448.	4.6	2
54	Geomechanical properties of the Vaca Muerta Formation. <i>E3S Web of Conferences</i> , 2020, 205, 03013.	0.5	1

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55	Measurement of Adsorptive-Mechanical Properties of Fractured Coal Cores. , 2013, , .		0
56	Depletion-Induced Permeability Changes in Naturally-Fractured Gas-Sorbing Formations: A Double-Porosity Fluid Flow and Poromechanical Model. , 2017, , .		0
57	SERVICIOS DE PROMOCIÃ“N DEL EMPLEO E INSERCIÃ“N LABORAL DE LAS ORGANIZACIONES JUVENILES, EN EL MARCO DEL PROYECTO IMPULSO JOVEN, REGIÃ“N SAN MARTÃ“N. Tzhoeoen, 2020, 12, 382-389.	0.1	0