

# D Nicolas Espinoza

## List of Publications by Year in descending order

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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	CO2 plume and pressure monitoring through pressure sensors above the caprock. International Journal of Greenhouse Gas Control, 2022, 117, 103660.	4.6	4
2	Two-Phase Fluid Flow Properties of Rough Fractures With Heterogeneous Wettability: Analysis With Lattice Boltzmann Simulations. Water Resources Research, 2021, 57, .	4.2	8
3	Multiphase CO2-brine transport properties of synthetic fault gouge. Marine and Petroleum Geology, 2021, 129, 105054.	3.3	9
4	A Probability-Based Pore Network Model of Particle Jamming in Porous Media. Transport in Porous Media, 2021, 139, 419-445.	2.6	9
5	Measurement of Unloading Pore Volume Compressibility of Frio Sand Under Uniaxial Strain Stress Path and Implications on Reservoir Pressure Management. Rock Mechanics and Rock Engineering, 2021, 54, 5745-5760.	5.4	3
6	Fluid-driven fracture mechanisms in granular media: insights from grain-scale numerical modeling. Granular Matter, 2021, 23, 1.	2.2	5
7	Optimization of subsurface CO2 injection based on neural network surrogate modeling. Computational Geosciences, 2021, 25, 1887-1898.	2.4	10
8	Geochemically induced shear slip in artificially fractured dolomite- and clay-cemented sandstone. International Journal of Greenhouse Gas Control, 2021, 111, 103448.	4.6	2
9	Wellbore injectivity response to step-rate CO2 injection: Coupled thermo-poro-elastic analysis in a vertically heterogeneous formation. International Journal of Greenhouse Gas Control, 2020, 102, 103156.	4.6	10
10	Anisotropic and Nonlinear Properties of Rock Samples in the Vaca Muerta Formation: Experimental Measurements and Implications on Reservoir Geomechanics. , 2020, , .		3
11	Grain- to Reservoir-Scale Modeling of Depletion-Induced Compaction and Implications on Production Rate. SPE Journal, 2020, 25, 1543-1556.	3.1	5
12	Impacts on mechanical strength of chemical reactions induced by hydrous supercritical CO2 in Boise Sandstone. International Journal of Greenhouse Gas Control, 2020, 95, 102982.	4.6	5
13	Fluid-driven fractures in granular media: Insights from numerical investigations. Physical Review E, 2020, 101, 042903.	2.1	9
14	Pore-scale evidence of ion exclusion during methane hydrate growth and evolution of hydrate pore-habit in sandy sediments. Marine and Petroleum Geology, 2020, 117, 104340.	3.3	25
15	SERVICIOS DE PROMOCIÓN DEL EMPLEO E INSERCIÓN LABORAL DE LAS ORGANIZACIONES JUVENILES, EN EL MARCO DEL PROYECTO IMPULSO JOVEN, REGIÓN SAN MARTÍN. Tzhoeoen, 2020, 12, 382-389.	0.1	0
16	Geomechanical properties of the Vaca Muerta Formation. E3S Web of Conferences, 2020, 205, 03013.	0.5	1
17	Fracture Propagation in Heterogeneous Porous Media: Pore-Scale Implications of Mineral Dissolution. Rock Mechanics and Rock Engineering, 2019, 52, 3197-3211.	5.4	12
18	Coupled Chemical-Mechanical Processes Associated With the Injection of CO2 into Subsurface. , 2019, , 337-359.		6

#	ARTICLE	IF	CITATIONS
19	Carbon Geological Storage. , 2019, , 383-407.		3
20	Microstructural controls on elastic anisotropy of finely laminated Mancos Shale. Geophysical Journal International, 2019, 216, 991-1004.	2.4	16
21	Quantifying static and dynamic stiffness anisotropy and nonlinearity in finely laminated shales: Experimental measurement and modeling. Geophysics, 2019, 84, MR25-MR36.	2.6	9
22	CO2 charged brines changed rock strength and stiffness at Crystal Geysir, Utah: Implications for leaking subsurface CO2 storage reservoirs. International Journal of Greenhouse Gas Control, 2018, 73, 16-28.	4.6	42
23	Ostwald ripening changes the pore habit and spatial variability of clathrate hydrate. Fuel, 2018, 214, 614-622.	6.4	84
24	Poreâ€Scale Determination of Gas Relative Permeability in Hydrateâ€Bearing Sediments Using Xâ€Ray Computed Microâ€Tomography and Lattice Boltzmann Method. Water Resources Research, 2018, 54, 600-608.	4.2	114
25	Quantification of a maximum injection volume of CO2 to avert geomechanical perturbations using a compositional fluid flow reservoir simulator. Advances in Water Resources, 2018, 112, 160-169.	3.8	11
26	Reservoir rock chemo-mechanical alteration quantified by triaxial tests and implications to fracture reactivation. International Journal of Rock Mechanics and Minings Sciences, 2018, 106, 250-258.	5.8	25
27	CO <sub>2</sub> -induced chemoâ€mechanical alteration in reservoir rocks assessed via batch reaction experiments and scratch testing. , 2018, 8, 133-149.		24
28	Geomechanical implications of dissolution of mineralized natural fractures in shale formations. Journal of Petroleum Science and Engineering, 2018, 160, 555-564.	4.2	12
29	Pore-to Reservoir-Scale Modeling of Depletion-Induced Compaction and Implications on Production Rate. , 2018, , .		4
30	Surface area controls gas hydrate dissociation kinetics in porous media. Fuel, 2018, 234, 358-363.	6.4	40
31	Discrete element modeling of grain crushing and implications on reservoir compaction. Journal of Petroleum Science and Engineering, 2018, 171, 431-439.	4.2	24
32	Coupled fluid flow-geomechanics simulation in stress-sensitive coal and shale reservoirs: Impact of desorption-induced stresses, shear failure, and fines migration. Fuel, 2017, 195, 260-272.	6.4	56
33	Use of S-wave anisotropy to quantify the onset of stress-induced microfracturing. Geophysics, 2017, 82, MR201-MR212.	2.6	5
34	Analyzing a suitable elastic geomechanical model for Vaca Muerta Formation. Journal of South American Earth Sciences, 2017, 79, 472-488.	1.4	13
35	The effect of organic matter and thermal maturity on the wettability of supercritical CO2 on organic shales. International Journal of Greenhouse Gas Control, 2017, 65, 15-22.	4.6	53
36	Discrete Element Modeling of Micro-scratch Tests: Investigation of Mechanisms of CO2 Alteration in Reservoir Rocks. Rock Mechanics and Rock Engineering, 2017, 50, 3337-3348.	5.4	32

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37	Depletion-Induced Permeability Changes in Naturally-Fractured Gas-Sorbing Formations: A Double-Porosity Fluid Flow and Poromechanical Model. , 2017, , .		0
38	Assessment of Mudrock Brittleness with Micro-scratch Testing. Rock Mechanics and Rock Engineering, 2017, 50, 2849-2860.	5.4	10
39	Shale Acid Fracturing: Geomechanical Effects and Fracture Propagation. , 2017, , .		5
40	CO <sub>2</sub> breakthroughâ€™ Caprock sealing efficiency and integrity for carbon geological storage. International Journal of Greenhouse Gas Control, 2017, 66, 218-229.	4.6	111
41	An Integrated Case Study of the Frio CO <sub>2</sub> Sequestration Pilot Test for Safe and Effective Carbon Storage Including Compositional Flow and Geomechanics. , 2017, , .		7
42	Discrete element modeling of indentation tests to investigate mechanisms of CO <sub>2</sub> -related chemomechanical rock alteration. Journal of Geophysical Research: Solid Earth, 2016, 121, 7867-7881.	3.4	29
43	Adsorptive-mechanical properties of reconstituted granular coal: Experimental characterization and poromechanical modeling. International Journal of Coal Geology, 2016, 162, 158-168.	5.0	32
44	Natural and induced fractures in coal cores imaged through X-ray computed microtomography â€™ Impact on desorption time. International Journal of Coal Geology, 2016, 154-155, 165-175.	5.0	42
45	Assessment of mechanical rock alteration caused by CO <sub>2</sub> -water mixtures using indentation and scratch experiments. International Journal of Greenhouse Gas Control, 2016, 45, 9-17.	4.6	27
46	Desorption-induced shear failure of coal bed seams during gas depletion. International Journal of Coal Geology, 2015, 137, 142-151.	5.0	85
47	Measurement and modeling of adsorptiveâ€™ poromechanical properties of bituminous coal cores exposed to CO <sub>2</sub> : Adsorption, swelling strains, swelling stresses and impact on fracture permeability. International Journal of Coal Geology, 2014, 134-135, 80-95.	5.0	96
48	A transverse isotropic model for microporous solids: Application to coal matrix adsorption and swelling. Journal of Geophysical Research: Solid Earth, 2013, 118, 6113-6123.	3.4	64
49	Measurement of Adsorptive-Mechanical Properties of Fractured Coal Cores. , 2013, , .		0
50	Clay interaction with liquid and supercritical CO <sub>2</sub> : The relevance of electrical and capillary forces. International Journal of Greenhouse Gas Control, 2012, 10, 351-362.	4.6	62
51	P-wave monitoring of hydrate-bearing sand during CH <sub>4</sub> -CO <sub>2</sub> replacement. International Journal of Greenhouse Gas Control, 2011, 5, 1031-1038.	4.6	83
52	CO <sub>2</sub> geological storage â€™ Geotechnical implications. KSCE Journal of Civil Engineering, 2011, 15, 707-719.	1.9	91
53	Sustainable development and energy geotechnology â€™ Potential roles for geotechnical engineering. KSCE Journal of Civil Engineering, 2011, 15, 611-621.	1.9	41
54	Ant tunnelingâ€™ a granular media perspective. Granular Matter, 2010, 12, 607-616.	2.2	44

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55	Properties and phenomena relevant to CH <sub>4</sub> –CO <sub>2</sub> replacement in hydrate-bearing sediments. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	116
56	Water–CO <sub>2</sub> –mineral systems: Interfacial tension, contact angle, and diffusion—Implications to CO <sub>2</sub> geological storage. <i>Water Resources Research</i> , 2010, 46, .	4.2	370
57	Physical properties of hydrate-bearing sediments. <i>Reviews of Geophysics</i> , 2009, 47, .	23.0	746