

Frederic Collin

List of Publications by Year in descending order

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84
papers

1,802
citations

218592

26
h-index

289141

40
g-index

92
all docs

92
docs citations

92
times ranked

1175
citing authors

#	ARTICLE	IF	CITATIONS
1	Cyclic and Fatigue Behaviour of Rock Materials: Review, Interpretation and Research Perspectives. <i>Rock Mechanics and Rock Engineering</i> , 2018, 51, 391-414.	2.6	231
2	Thermo-hydro-mechanical coupling in clay barriers. <i>Engineering Geology</i> , 2002, 64, 179-193.	2.9	113
3	A finite element method for poro mechanical modelling of geotechnical problems using local second gradient models. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 65, 1749-1772.	1.5	91
4	Mechanical behaviour of Lixhe chalk partly saturated by oil and water: experiment and modelling. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2002, 26, 897-924.	1.7	64
5	Hydro-mechanical modelling of the excavation damaged zone around an underground excavation at Mont Terri Rock Laboratory. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2010, 47, 414-425.	2.6	64
6	A thermo-hydro-mechanical constitutive model and its numerical modelling for unsaturated soils. <i>Computers and Geotechnics</i> , 2004, 31, 155-167.	2.3	51
7	Modelling of localised gas preferential pathways in claystone. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2014, 67, 104-114.	2.6	50
8	3D zero-thickness coupled interface finite element: Formulation and application. <i>Computers and Geotechnics</i> , 2015, 69, 124-140.	2.3	49
9	A fully coupled hydro-mechanical model for the modeling of coalbed methane recovery. <i>Journal of Natural Gas Science and Engineering</i> , 2017, 46, 307-325.	2.1	47
10	Competing effects of volume change and water uptake on the water retention behaviour of a compacted MX-80 bentonite/sand mixture. <i>Applied Clay Science</i> , 2016, 121-122, 57-62.	2.6	45
11	Modelling the influence of strain localisation and viscosity on the behaviour of underground drifts drilled in claystone. <i>Computers and Geotechnics</i> , 2017, 85, 351-367.	2.3	44
12	An unsaturated hydro-mechanical modelling of two in-situ experiments in Callovo-Oxfordian argillite. <i>Engineering Geology</i> , 2013, 165, 46-63.	2.9	42
13	Numerical modeling of the long term behavior of Municipal Solid Waste in a bioreactor landfill. <i>Computers and Geotechnics</i> , 2016, 72, 152-170.	2.3	42
14	Using Local Second Gradient Model and Shear Strain Localisation to Model the Excavation Damaged Zone in Unsaturated Claystone. <i>Rock Mechanics and Rock Engineering</i> , 2015, 48, 691-714.	2.6	40
15	Permeability evolution and water transfer in the excavation damaged zone of a ventilated gallery. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2016, 85, 192-208.	2.6	38
16	Validation of a New Elastoplastic Constitutive Model Dedicated to the Cyclic Behaviour of Brittle Rock Materials. <i>Rock Mechanics and Rock Engineering</i> , 2017, 50, 2677-2694.	2.6	38
17	On the collapse behaviour of oil reservoir chalk. <i>Geotechnique</i> , 2004, 54, 415-420.	2.2	37
18	Switching deformation modes in post-localization solutions with a quasibrittle material. <i>Journal of Mechanics of Materials and Structures</i> , 2006, 1, 1115-1134.	0.4	36

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19	Shear banding modelling in cross-anisotropic rocks. International Journal of Solids and Structures, 2015, 72, 63-87.	1.3	35
20	Analytical solutions for the thick-walled cylinder problem modeled with an isotropic elastic second gradient constitutive equation. International Journal of Solids and Structures, 2009, 46, 3927-3937.	1.3	34
21	Hollow Cylinder Tests on Boom Clay: Modelling of Strain Localization in the Anisotropic Excavation Damaged Zone. Rock Mechanics and Rock Engineering, 2014, 47, 71-86.	2.6	34
22	A FE2 modelling approach to hydromechanical coupling in cracking-induced localization problems. International Journal of Solids and Structures, 2016, 97-98, 475-488.	1.3	33
23	Modelling chemo-hydro-mechanical behaviour of unsaturated clays: a feasibility study. International Journal for Numerical and Analytical Methods in Geomechanics, 2005, 29, 919-940.	1.7	31
24	Coupled modeling of Excavation Damaged Zone in Boom clay: Strain localization in rock and distribution of contact pressure on the gallery's lining. Computers and Geotechnics, 2015, 69, 396-410.	2.3	30
25	Influence of evaporation and seepage on the convergence of a ventilated cavity. Water Resources Research, 2008, 44, .	1.7	29
26	Modeling the strain localization around an underground gallery with a hydro-mechanical double scale model; effect of anisotropy. Computers and Geotechnics, 2017, 85, 384-400.	2.3	28
27	Numerical modelling of coupled transient phenomena. Revue Européenne De Génie Civil, 2001, 5, 719-741.	0.0	23
28	A micro-macro approach of permeability evolution in rocks excavation damaged zones. Computers and Geotechnics, 2013, 49, 245-252.	2.3	23
29	Study of the soil-atmosphere moisture exchanges through convective drying tests in non-isothermal conditions. International Journal for Numerical and Analytical Methods in Geomechanics, 2010, 34, 1297-1320.	1.7	22
30	Numerical modelling of transient cyclic vertical loading of suction caissons in sand. Geotechnique, 2016, 66, 121-136.	2.2	21
31	Numerical modeling of coupled thermal-hydro-mechanical behavior of GMZ bentonite in the China-Mock-up test. Engineering Geology, 2016, 214, 116-126.	2.9	21
32	Using a second gradient model to simulate the behaviour of concrete structural elements. Finite Elements in Analysis and Design, 2014, 90, 50-60.	1.7	18
33	Cleat-scale modelling of the coal permeability evolution due to sorption-induced strain. International Journal of Coal Geology, 2019, 216, 103320.	1.9	18
34	Modeling of granular solids with computational homogenization: Comparison with Biot's theory. Finite Elements in Analysis and Design, 2016, 119, 45-62.	1.7	17
35	The influence of clay composition and lithology on the industrial potential of earthenware. Construction and Building Materials, 2018, 172, 650-659.	3.2	17
36	An elastoplastic model with combined isotropic-kinematic hardening to predict the cyclic behavior of stiff clays. Computers and Geotechnics, 2014, 62, 193-202.	2.3	16

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37	A two scale anisotropic damage model accounting for initial stresses in microcracked materials. Engineering Fracture Mechanics, 2011, 78, 1945-1956.	2.0	14
38	On micromechanical damage modeling in geomechanics: Influence of numerical integration scheme. Journal of Computational and Applied Mathematics, 2013, 246, 215-224.	1.1	14
39	Hydro-mechanical modelling of multiphase flow in naturally fractured coalbed using a multiscale approach. Journal of Natural Gas Science and Engineering, 2020, 78, 103303.	2.1	13
40	Heat Transfer in Soils. Geotechnical, Geological and Earthquake Engineering, 2009, , 69-79.	0.1	13
41	Suitability of soils and river deposits from Marrakech for the manufacturing of earthenware. Applied Clay Science, 2016, 129, 108-115.	2.6	12
42	Anisotropic modelling of Opalinus Clay behaviour: From triaxial tests to gallery excavation application. Journal of Rock Mechanics and Geotechnical Engineering, 2017, 9, 435-448.	3.7	12
43	Numerical post failure methods in multiphysical problems. European Journal of Environmental and Civil Engineering, 2009, 13, 983-1004.	1.0	11
44	Hydromechanical modelling of shaft sealing for CO2 storage. Engineering Geology, 2015, 193, 97-105.	2.9	11
45	Improvement of lifetime of compressed earth blocks by adding limestone, sandstone and porphyry aggregates. Journal of Building Engineering, 2020, 29, 101155.	1.6	10
46	Numerical study of shear band instability and effect of cavitation on the response of a specimen under undrained biaxial loading. International Journal of Solids and Structures, 2014, 51, 1686-1696.	1.3	9
47	Drying-induced shrinkage of Boom clay: an experimental investigation. Canadian Geotechnical Journal, 2016, 53, 396-409.	1.4	9
48	On the Variable Dilatancy Angle in Rocks Around Underground Galleries. Rock Mechanics and Rock Engineering, 2017, 50, 587-601.	2.6	9
49	Modelling of Short-Term Interactions Between Concrete Support and the Excavated Damage Zone Around Galleries Drilled in Callovo-Oxfordian Claystone. International Journal of Civil Engineering, 2019, 17, 1-18.	0.9	9
50	Gas injection test in the Callovo-Oxfordian claystone: data analysis and numerical modelling. Geological Society Special Publication, 2014, 400, 427-441.	0.8	8
51	On a class of micromechanical damage models with initial stresses for geomaterials. Mechanics Research Communications, 2010, 37, 38-41.	1.0	7
52	Formulation of a 1D finite element of heat exchanger for accurate modelling of the grouting behaviour: Application to cyclic thermal loading. Renewable Energy, 2016, 96, 65-79.	4.3	6
53	Coupled hydro-mechanical analysis of expansive soils: Parametric identification and calibration. Journal of Rock Mechanics and Geotechnical Engineering, 2020, 12, 620-629.	3.7	6
54	Water retention behaviour of compacted bentonites: experimental observations and constitutive model. E3S Web of Conferences, 2016, 9, 11012.	0.2	5

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55	Evaluation of Belgian clays for manufacturing compressed earth blocks. <i>Geologica Belgica</i> , 2019, 22, 139-148.	0.9	5
56	Transfer properties in recycled aggregates concrete: Experimental and numerical approaches. <i>Construction and Building Materials</i> , 2022, 326, 126778.	3.2	5
57	Comprehensive study of the drying behavior of Boom clay: Experimental investigation and numerical modeling. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2018, 42, 211-230.	1.7	4
58	Using Shear Strain Localisation to Model the Fracturing Around Gallery in Unsaturated Callovo-Oxfordian Claystone. <i>Springer Series in Geomechanics and Geoengineering</i> , 2015, , 285-291.	0.0	4
59	Hydro-mechanical behaviour of a pellets based bentonite seal: Numerical modelling of lab scale experiments. <i>E3S Web of Conferences</i> , 2020, 195, 04009.	0.2	4
60	Using a penalty term to deal with spurious oscillations in second gradient finite elements. <i>International Journal of Damage Mechanics</i> , 2019, 28, 346-366.	2.4	3
61	A deterministic/stochastic model to predict the variation in bulk modulus of chalk. <i>Geotechnique</i> , 2005, 55, 135-141.	2.2	2
62	Numerical modelling of coupled poromechanics processes. <i>Revue Européenne De Génie Civil</i> , 2006, 10, 669-701.	0.0	2
63	Excavation Damaged Zone Modelling in Claystone with Coupled Second Gradient Model. <i>Springer Series in Geomechanics and Geoengineering</i> , 2013, , 313-317.	0.0	2
64	Gas Migration through Clay Barriers in the Context of Radioactive Waste Disposal: Numerical Modeling of an <i>In Situ</i> Gas Injection Test. , 0, , 21-42.		2
65	Modelling the multiscale behaviour of claystone: deformation, rupture, and hydro-mechanical phenomena around underground galleries. <i>E3S Web of Conferences</i> , 2020, 205, 10003.	0.2	2
66	Numerical post failure methods in multiphysical problems. <i>Revue Européenne De Génie Civil</i> , 2009, 13, 983-1004.	0.0	2
67	Unified approach of coupled constitutive laws. <i>Revue Européenne De Génie Civil</i> , 2005, 9, 713-723.	0.0	2
68	A second gradient cohesive element for mode I crack propagation. <i>Finite Elements in Analysis and Design</i> , 2022, 204, 103732.	1.7	2
69	Multi-physical processes in geomechanics. <i>European Journal of Environmental and Civil Engineering</i> , 2009, 13, 803-830.	1.0	1
70	Thermo-Hydro-Mechanical Simulation of a Heating and Hydration Experimental Study (the) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142 Td		0
71	Characterization of Gas Transport in Low-Permeability Media: Two-Phase Flow Analysis of an In-Situ Experiment. , 2013, , .		0
72	Modelling an in-situ ventilation test in the Andra Underground Research Facilities. <i>E3S Web of Conferences</i> , 2016, 9, 04003.	0.2	0

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73	Microstructural Effects on Strain Localization in a Multiscale Model for Hydro-Mechanical Coupling. Springer Series in Geomechanics and Geoengineering, 2017, , 219-224.	0.0	0
74	Numerical simulation of a water infiltration test on a proposed backfill material in nuclear waste repositories. E3S Web of Conferences, 2020, 195, 04001.	0.2	0
75	Hydro-Mechanical Modelling of Multiphase Flow in Coalbed by Computational Homogenization. Lecture Notes in Civil Engineering, 2021, , 600-607.	0.3	0
76	Multi-physical processes in geomechanics An introduction to constitutive modelling and coupling aspects. Revue Européenne De Génie Civil, 2009, 13, 803-830.	0.0	0
77	Analytical Evidence of Shear Band Bifurcations for Softening Materials. Springer Series in Geomechanics and Geoengineering, 2011, , 277-283.	0.0	0
78	Tunnel Excavation Modeling with Micromechanical Approaches. Springer Series in Geomechanics and Geoengineering, 2011, , 185-191.	0.0	0
79	APPLICATIONS TO GEOTECHNICAL PROBLEMS OF A MICROMECHANICAL MODELING OF DAMAGE. Springer Series in Geomechanics and Geoengineering, 2011, , 185-188.	0.0	0
80	Hydro and Hydro-Mechanical Modelling of Ventilation Test in Clayey Rocks. , 2012, , 325-332.		0
81	Detailed characterization of the Late Pleistocene loess sequence stratigraphy of Remicourt (Hesbaye) Tj ETQq1 1 0,784314 rgBT /Over	0.9	0
82	Second Gradient Models and Concrete Structures. Springer Series in Geomechanics and Geoengineering, 2017, , 185-191.	0.0	0
83	Study of the Drying Behavior of Resorcinol Formaldehyde Hydrogels: Experimental Investigation and Numerical Framework. , 2017, , .		0
84	Evaluation des Sols de Fondation de lâ€™Ã©vacuateur de Crue du Petit Barrage de Youmban (TillabÃ©ry-Niger). European Scientific Journal, 2019, 15, .	0.0	0