Benoit Bary

List of Publications by Year
in descending order

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72 papers	1,639 citations	304602 22 h-index	302012 39 g-index
77 all docs	77 docs citations	77 times ranked	1070 citing authors

#	Article	IF	Citations
1	Damage Quantification via Digital Volume Correlation with Heterogeneous Mechanical Regularization: Application to an In situ Meso-Flexural Test on Mortar. Experimental Mechanics, 2022, 62, 333-349.	1.1	10
2	A kâ€means clustering machine learningâ€based multiscale method for anelastic heterogeneous structures with internal variables. International Journal for Numerical Methods in Engineering, 2022, 123, 2012-2041.	1.5	13
3	Effect of leaching on the composition of hydration phases during chloride exposure of mortar. Cement and Concrete Research, 2022, 153, 106691.	4.6	13
4	Multi-scale strategy to estimate the mechanical and diffusive properties of cementitious materials prepared with CEM II/C-M. Cement and Concrete Composites, 2022, 131, 104537.	4.6	4
5	In-situ X-CT Test on Mortar Micro-specimen Coupled with Mesoscale Numerical Simulations of Fracture. RILEM Bookseries, 2021, , 239-251.	0.2	1
6	Contribution of FE and FFT-based methods to the determination of the effective elastic and conduction properties of composite media with flat inclusions and infinite contrast. International Journal of Solids and Structures, 2021, 216, 108-122.	1.3	3
7	Experimental Carbonation Study for a Durability Assessment of Novel Cementitious Materials. Materials, 2021, 14, 6253.	1.3	3
8	Data-Based Modeling of Early-Age Concrete Mechanical Behavior for Structural Calculation. Journal of Materials in Civil Engineering, 2020, 32, 04019370.	1.3	2
9	Analytical and numerical prediction of mechanical properties of heterogeneous materials with expansive inclusions: Application to waste cementation. International Journal of Mechanical Sciences, 2020, 169, 105318.	3.6	2
10	On the identification of cohesive zone model for curved crack in mortar. Strain, 2020, 56, e12364.	1.4	10
11	An efficient and robust staggered algorithm applied to the quasi-static description of brittle fracture by a phase-field approach. Computer Methods in Applied Mechanics and Engineering, 2020, 370, 113218.	3.4	19
12	Closure of parallel cracks: Micromechanical estimates versus finite element computations. European Journal of Mechanics, A/Solids, 2020, 81, 103952.	2.1	4
13	Effect of aggregate shapes on local fields in 3D mesoscale simulations of the concrete creep behavior. Finite Elements in Analysis and Design, 2019, 156, 13-23.	1.7	29
14	Analysis of water transport in unsaturated conditions: Comparison between labcrete and fieldcrete. Construction and Building Materials, 2019, 205, 443-455.	3.2	5
15	Thermal properties of cement-based materials: Multiscale estimations at early-age. Cement and Concrete Composites, 2018, 87, 205-219.	4.6	60
16	Statistical variability of mechanical fields in thermo-poro-elasticity: Multiscale analytical estimations applied to cement-based materials at early-age. Cement and Concrete Research, 2018, 110, 24-41.	4.6	10
17	Effective properties of n-coated composite spheres assemblage in an ageing linear viscoelastic framework. International Journal of Solids and Structures, 2017, 124, 1-13.	1.3	18
18	Analytical and 3D numerical analysis of the thermoviscoelastic behavior of concrete-like materials including interfaces. Advances in Engineering Software, 2017, 112, 16-30.	1.8	18

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19	Porous Materials Undergoing Time-Dependent Phase Transformations: Effective Ageing Viscoelasticity. , 2017, , .		1
20	Double Scale Model of the Aging Creep of Low Density Hydrates of Cement Paste. , 2017, , .		1
21	Multiscale estimation of ageing viscoelastic properties of cement-based materials: A combined analytical and numerical approach to estimate the behaviour at early age. Cement and Concrete Research, 2016, 85, 137-155.	4.6	57
22	Modeling hydration kinetics based on boundary nucleation and space-filling growth in a fixed confined zone. Cement and Concrete Research, 2016, 83, 31-44.	4.6	30
23	Factors affecting the thermo-chemo-mechanical behaviour of massive concrete structures at early-age. Materials and Structures/Materiaux Et Constructions, 2016, 49, 3055-3073.	1.3	15
24	Swelling behavior of ion exchange resins incorporated in tri-calcium silicate cement matrix: II. Mechanical analysis. Journal of Nuclear Materials, 2015, 467, 863-875.	1.3	5
25	Swelling behavior of ion exchange resins incorporated in tri-calcium silicate cement matrix: I. Chemical analysis. Journal of Nuclear Materials, 2015, 467, 544-556.	1.3	5
26	Coupled carbonation-rust formation-damage modeling and simulation of steel corrosion in 3D mesoscale reinforced concrete. Cement and Concrete Research, 2015, 74, 95-107.	4.6	39
27	Numerical Analysis of Concrete Creep on Mesoscopic 3D Specimens. , 2015, , .		2
28	Multiscale Estimation of the Viscoelastic Properties of Cementitious Materials at an Early Age: A Combined Analytical and Numerical Approach. , 2015, , .		2
29	Evaluation of the contribution of boundary and initial conditions in the chemo-thermal analysis of a massive concrete structure. Engineering Structures, 2014, 80, 173-188.	2.6	21
30	Coupled chemo-transport-mechanical modelling and numerical simulation of external sulfate attack in mortar. Cement and Concrete Composites, 2014, 49, 70-83.	4.6	77
31	A homogenization-enriched viscodamage model for cement-based material creep. Engineering Fracture Mechanics, 2014, 126, 54-72.	2.0	19
32	Numerical analysis of linear viscoelastic 3D concrete specimens. , 2014, , 373-381.		3
33	Combs: open source python library for RVE generation. Application to microscale diffusion simulations in cementitious materials. , 2014, , .		3
34	A coupled carbonation-rust formation-mechanical damage model for steel corrosion in reinforced concrete. , 2014, , 649-658.		0
35	Influence of aggregate shapes on drying and carbonation phenomena in 3D concrete numerical samples. Computational Materials Science, 2013, 72, 1-14.	1.4	38
36	A critical comparison of several numerical methods for computing effective properties of highly heterogeneous materials. Advances in Engineering Software, 2013, 58, 1-12.	1.8	47

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37	Coupled Damage and Multiscale Creep Model Applied to Cementitious Materials. , 2013, , .		2
38	Modelling of the interaction between chemical and mechanical behaviour of ion exchange resins incorporated into a cement-based matrix. EPJ Web of Conferences, 2013, 56, 02004.	0.1	1
39	Contribution to the French program dedicated to cementitious and clayey materials behavior in the context of Intermediate Level Waste management â€“ Hydrogen transfer and materials durability. EPJ Web of Conferences, 2013, 56, 05001.	0.1	1
40	Coupled Creep and Damage Model for Concrete at Moderate Temperatures. , 2013, , 357-368.		0
41	Simulations of the thermo-hydro-mechanical behaviour of an annular reinforced concrete structure heated up to 200 Â°C. Engineering Structures, 2012, 36, 302-315.	2.6	11
42	Multiscale poroâ€•creep model for cementâ€•based materials. International Journal for Numerical and Analytical Methods in Geomechanics, 2012, 36, 1932-1953.	1.7	6
43	Estimation of poromechanical and thermal conductivity properties of unsaturated isotropically microcracked cement pastes. International Journal for Numerical and Analytical Methods in Geomechanics, 2011, 35, 1560-1586.	1.7	28
44	Modelling and simulations of the chemo-mechanical behaviour of leached cement-based materials: Interactions between damage and leaching. Cement and Concrete Research, 2010, 40, 1226-1236.	4.6	25
45	Sulfate ingress in Portland cement. Cement and Concrete Research, 2010, 40, 1211-1225.	4.6	147
46	Modelling and simulations of the chemoâ€“mechanical behaviour of leached cement-based materials. Cement and Concrete Research, 2009, 39, 763-772.	4.6	59
47	Numerical and analytical effective elastic properties of degraded cement pastes. Cement and Concrete Research, 2009, 39, 902-912.	4.6	29
48	Comparative Analysis of Coupled Thermo-Hydro-Mechanical Models for Concrete Exposed to Moderate Temperatures. Numerical Heat Transfer; Part A: Applications, 2009, 55, 654-682.	1.2	13
49	Upscaling concrete properties: a rational approach to account for the material complexity and variability. International Journal of Materials and Structural Integrity, 2009, 3, 227.	0.1	3
50	On Estimating the Effective Diffusive Properties of Hardened Cement Pastes. Transport in Porous Media, 2008, 73, 279-295.	1.2	32
51	Simplified coupled chemoâ€•mechanical modeling of cement pastes behavior subjected to combined leaching and external sulfate attack. International Journal for Numerical and Analytical Methods in Geomechanics, 2008, 32, 1791-1816.	1.7	78
52	A coupled thermo-hydro-mechanical-damage model for concrete subjected to moderate temperatures. International Journal of Heat and Mass Transfer, 2008, 51, 2847-2862.	2.5	46
53	A coupled experimental and numerical approach to the integrity of friction-grip connections in glass structures. Engineering Failure Analysis, 2007, 14, 23-35.	1.8	9
54	Modeling of the link between microstructure and effective diffusivity of cement pastes using a simplified composite model. Cement and Concrete Research, 2007, 37, 469-480.	4.6	91

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55	Experimental and modeling studies of the link between microstructure and effective diffusivity of cement pastes. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 1073-1106.	0.0	7
56	A mixed composite spheres assemblage model for the transport properties of random heterogeneous materials with high contrasts. Journal of Applied Physics, 2006, 100, 084910.	1.1	14
57	Concrete long-term behaviour in the context of nuclear waste management: Experimental and modelling research strategy. European Physical Journal Special Topics, 2006, 136, 25-38.	0.2	3
58	Assessment of diffusive and mechanical properties of hardened cement pastes using a multi-coated sphere assemblage model. Cement and Concrete Research, 2006, 36, 245-258.	4.6	69
59	Influence of inclusion shapes on the effective linear elastic properties of hardened cement pastes. Cement and Concrete Research, 2006, 36, 1330-1344.	4.6	58
60	A polydispersed particle system representation of the porosity for non-saturated cementitious materials. Cement and Concrete Research, 2006, 36, 2061-2073.	4.6	13
61	Simplified modelling and numerical simulations of concrete carbonation in unsaturated conditions. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 1049-1072.	0.0	17
62	Simplified modelling and numerical simulations of concrete carbonation in unsaturated conditions. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 1049-1072.	0.0	0
63	Experimental and modeling studies of the link between microstructure and effective diffusivity of cement pastes. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 1073-1106.	0.0	1
64	Experimental investigation of the time-dependent dry frictional behaviour of glass and aluminium. Wear, 2004, 257, 271-278.	1.5	10
65	Coupled moistureâ€"carbon dioxideâ€"calcium transfer model for carbonation of concrete. Cement and Concrete Research, 2004, 34, 1859-1872.	4.6	199
66	Endommagement anisotrope du bÃ©ton. Revue EuropÃ©enne De GÃ©nie Civil, 2003, 7, 607-620.	0.0	0
67	Coupled damage tensors and weakest link theory for the description of crack induced anisotropy in concrete. Engineering Fracture Mechanics, 2002, 69, 1925-1939.	2.0	27
68	ModÃ©lisation des anisotropies mÃ©caniques induites par la fissuration du bÃ©ton. Revue EuropÃ©enne De GÃ©nie Civil, 2001, 5, 1197-1224.	0.0	1
69	Poro-Damage Approach Applied to Hydro-Fracture Analysis of Concrete. Journal of Engineering Mechanics - ASCE, 2000, 126, 937-943.	1.6	44
70	Thermoviscoelastic Analysis of Concrete Creep at Mesoscale. Key Engineering Materials, 0, 711, 652-658.	0.4	1
71	Micromechanical modeling of the Compression of the Damaged Zone experiment in the Callovo-Oxfordian formation. Advances in Geosciences, 0, 45, 25-33.	12.0	3
72	Simulations of the Thermo-Hydro-Mechanical Behavior of an Annular Reinforced Concrete Structure Heated up to 200Â°C. , 0, , 409-417.		0