

# 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	Coupled moisture-carbon dioxide-calcium transfer model for carbonation of concrete. Cement and Concrete Research, 2004, 34, 1859-1872.	4.6	199
2	Sulfate ingress in Portland cement. Cement and Concrete Research, 2010, 40, 1211-1225.	4.6	147
3	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
4	Simplified coupled chemo-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
5	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
6	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
7	Thermal properties of cement-based materials: Multiscale estimations at early-age. Cement and Concrete Composites, 2018, 87, 205-219.	4.6	60
8	Modelling and simulations of the chemo-mechanical behaviour of leached cement-based materials. Cement and Concrete Research, 2009, 39, 763-772.	4.6	59
9	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
10	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
11	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
12	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
13	Poro-Damage Approach Applied to Hydro-Fracture Analysis of Concrete. Journal of Engineering Mechanics - ASCE, 2000, 126, 937-943.	1.6	44
14	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
15	Influence of aggregate shapes on drying and carbonation phenomena in 3D concrete numerical samples. Computational Materials Science, 2013, 72, 1-14.	1.4	38
16	On Estimating the Effective Diffusive Properties of Hardened Cement Pastes. Transport in Porous Media, 2008, 73, 279-295.	1.2	32
17	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
18	Numerical and analytical effective elastic properties of degraded cement pastes. Cement and Concrete Research, 2009, 39, 902-912.	4.6	29

#	ARTICLE	IF	CITATIONS
19	Effect of aggregate shapes on local fields in 3D mesoscale simulations of the concrete creep behavior. <i>Finite Elements in Analysis and Design</i> , 2019, 156, 13-23.	1.7	29
20	Estimation of poromechanical and thermal conductivity properties of unsaturated isotropically microcracked cement pastes. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2011, 35, 1560-1586.	1.7	28
21	Coupled damage tensors and weakest link theory for the description of crack induced anisotropy in concrete. <i>Engineering Fracture Mechanics</i> , 2002, 69, 1925-1939.	2.0	27
22	Modelling and simulations of the chemo-mechanical behaviour of leached cement-based materials: Interactions between damage and leaching. <i>Cement and Concrete Research</i> , 2010, 40, 1226-1236.	4.6	25
23	Evaluation of the contribution of boundary and initial conditions in the chemo-thermal analysis of a massive concrete structure. <i>Engineering Structures</i> , 2014, 80, 173-188.	2.6	21
24	A homogenization-enriched viscodamage model for cement-based material creep. <i>Engineering Fracture Mechanics</i> , 2014, 126, 54-72.	2.0	19
25	An efficient and robust staggered algorithm applied to the quasi-static description of brittle fracture by a phase-field approach. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 370, 113218.	3.4	19
26	Effective properties of n-coated composite spheres assemblage in an ageing linear viscoelastic framework. <i>International Journal of Solids and Structures</i> , 2017, 124, 1-13.	1.3	18
27	Analytical and 3D numerical analysis of the thermoviscoelastic behavior of concrete-like materials including interfaces. <i>Advances in Engineering Software</i> , 2017, 112, 16-30.	1.8	18
28	Simplified modelling and numerical simulations of concrete carbonation in unsaturated conditions. <i>Revue Européenne De Génie Civil</i> , 2006, 10, 1049-1072.	0.0	17
29	Factors affecting the thermo-chemo-mechanical behaviour of massive concrete structures at early-age. <i>Materials and Structures/Matériaux Et Constructions</i> , 2016, 49, 3055-3073.	1.3	15
30	A mixed composite spheres assemblage model for the transport properties of random heterogeneous materials with high contrasts. <i>Journal of Applied Physics</i> , 2006, 100, 084910.	1.1	14
31	A polydispersed particle system representation of the porosity for non-saturated cementitious materials. <i>Cement and Concrete Research</i> , 2006, 36, 2061-2073.	4.6	13
32	Comparative Analysis of Coupled Thermo-Hydro-Mechanical Models for Concrete Exposed to Moderate Temperatures. <i>Numerical Heat Transfer; Part A: Applications</i> , 2009, 55, 654-682.	1.2	13
33	A k-means clustering machine learning-based multiscale method for anelastic heterogeneous structures with internal variables. <i>International Journal for Numerical Methods in Engineering</i> , 2022, 123, 2012-2041.	1.5	13
34	Effect of leaching on the composition of hydration phases during chloride exposure of mortar. <i>Cement and Concrete Research</i> , 2022, 153, 106691.	4.6	13
35	Simulations of the thermo-hydro-mechanical behaviour of an annular reinforced concrete structure heated up to 200 Å°C. <i>Engineering Structures</i> , 2012, 36, 302-315.	2.6	11
36	Experimental investigation of the time-dependent dry frictional behaviour of glass and aluminium. <i>Wear</i> , 2004, 257, 271-278.	1.5	10

#	ARTICLE	IF	CITATIONS
37	Statistical variability of mechanical fields in thermo-poro-elasticity: Multiscale analytical estimations applied to cement-based materials at early-age. <i>Cement and Concrete Research</i> , 2018, 110, 24-41.	4.6	10
38	On the identification of cohesive zone model for curved crack in mortar. <i>Strain</i> , 2020, 56, e12364.	1.4	10
39	Damage Quantification via Digital Volume Correlation with Heterogeneous Mechanical Regularization: Application to an In situ Meso-Flexural Test on Mortar. <i>Experimental Mechanics</i> , 2022, 62, 333-349.	1.1	10
40	A coupled experimental and numerical approach to the integrity of friction-grip connections in glass structures. <i>Engineering Failure Analysis</i> , 2007, 14, 23-35.	1.8	9
41	Experimental and modeling studies of the link between microstructure and effective diffusivity of cement pastes. <i>Revue Européenne De Génie Civil</i> , 2006, 10, 1073-1106.	0.0	7
42	Multiscale poro-creep model for cement-based materials. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2012, 36, 1932-1953.	1.7	6
43	Swelling behavior of ion exchange resins incorporated in tri-calcium silicate cement matrix: II. Mechanical analysis. <i>Journal of Nuclear Materials</i> , 2015, 467, 863-875.	1.3	5
44	Swelling behavior of ion exchange resins incorporated in tri-calcium silicate cement matrix: I. Chemical analysis. <i>Journal of Nuclear Materials</i> , 2015, 467, 544-556.	1.3	5
45	Analysis of water transport in unsaturated conditions: Comparison between labcrete and fieldcrete. <i>Construction and Building Materials</i> , 2019, 205, 443-455.	3.2	5
46	Closure of parallel cracks: Micromechanical estimates versus finite element computations. <i>European Journal of Mechanics, A/Solids</i> , 2020, 81, 103952.	2.1	4
47	Multi-scale strategy to estimate the mechanical and diffusive properties of cementitious materials prepared with CEM II/C-M. <i>Cement and Concrete Composites</i> , 2022, 131, 104537.	4.6	4
48	Concrete long-term behaviour in the context of nuclear waste management: Experimental and modelling research strategy. <i>European Physical Journal Special Topics</i> , 2006, 136, 25-38.	0.2	3
49	Upscaling concrete properties: a rational approach to account for the material complexity and variability. <i>International Journal of Materials and Structural Integrity</i> , 2009, 3, 227.	0.1	3
50	Numerical analysis of linear viscoelastic 3D concrete specimens. , 2014, , 373-381.		3
51	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. <i>International Journal of Solids and Structures</i> , 2021, 216, 108-122.	1.3	3
52	Micromechanical modeling of the Compression of the Damaged Zone experiment in the Callovo-Oxfordian formation. <i>Advances in Geosciences</i> , 0, 45, 25-33.	12.0	3
53	Experimental Carbonation Study for a Durability Assessment of Novel Cementitious Materials. <i>Materials</i> , 2021, 14, 6253.	1.3	3
54	Combs: open source python library for RVE generation. Application to microscale diffusion simulations in cementitious materials. , 2014, , .		3

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55	Coupled Damage and Multiscale Creep Model Applied to Cementitious Materials. , 2013, , .		2
56	Numerical Analysis of Concrete Creep on Mesoscopic 3D Specimens. , 2015, , .		2
57	Multiscale Estimation of the Viscoelastic Properties of Cementitious Materials at an Early Age: A Combined Analytical and Numerical Approach. , 2015, , .		2
58	Data-Based Modeling of Early-Age Concrete Mechanical Behavior for Structural Calculation. Journal of Materials in Civil Engineering, 2020, 32, 04019370.	1.3	2
59	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
60	Modélisation des anisotropies mécaniques induites par la fissuration du béton. Revue Européenne De Génie Civil, 2001, 5, 1197-1224.	0.0	1
61	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
62	Contribution to the French program dedicated to cementitious and clayey materials behavior in the context of Intermediate Level Waste management – Hydrogen transfer and materials durability. EPJ Web of Conferences, 2013, 56, 05001.	0.1	1
63	Thermoviscoelastic Analysis of Concrete Creep at Mesoscale. Key Engineering Materials, 0, 711, 652-658.	0.4	1
64	Porous Materials Undergoing Time-Dependent Phase Transformations: Effective Ageing Viscoelasticity. , 2017, , .		1
65	Double Scale Model of the Aging Creep of Low Density Hydrates of Cement Paste. , 2017, , .		1
66	In-situ X-CT Test on Mortar Micro-specimen Coupled with Mesoscale Numerical Simulations of Fracture. RILEM Bookseries, 2021, , 239-251.	0.2	1
67	Experimental and modeling studies of the link between microstructure and effective diffusivity of cement pastes. Revue Européenne De Génie Civil, 2006, 10, 1073-1106.	0.0	1
68	Endommagement anisotrope du béton. Revue Européenne De Génie Civil, 2003, 7, 607-620.	0.0	0
69	Simplified modelling and numerical simulations of concrete carbonation in unsaturated conditions. Revue Européenne De Génie Civil, 2006, 10, 1049-1072.	0.0	0
70	Coupled Creep and Damage Model for Concrete at Moderate Temperatures. , 2013, , 357-368.		0
71	Simulations of the Thermo-Hydro-Mechanical Behavior of an Annular Reinforced Concrete Structure Heated up to 200°C. , 0, , 409-417.		0
72	A coupled carbonation-rust formation-mechanical damage model for steel corrosion in reinforced concrete. , 2014, , 649-658.		0