Pietro Lura

List of Publications by Year
in descending order

137 papers	7,249 citations	36303 51 h-index	64796 79 g-index
140 all docs	140 docs citations	140 times ranked	3567 citing authors

#	Article	IF	Citations
1	Autogenous shrinkage in high-performance cement paste: An evaluation of basic mechanisms. Cement and Concrete Research, 2003, 33, 223-232.	11.0	517
2	Internal curing by superabsorbent polymers in ultra-high performance concrete. Cement and Concrete Research, 2015, 76, 82-90.	11.0	380
3	Effect of curing temperature and type of cement on early-age shrinkage of high-performance concrete. Cement and Concrete Research, 2001, 31, 1867-1872.	11.0	185
4	Effect of internal curing by using superabsorbent polymers (SAP) on autogenous shrinkage and other properties of a high-performance fine-grained concrete: results of a RILEM round-robin test. Materials and Structures/Materiaux Et Constructions, 2014, 47, 541-562.	3.1	175
5	Techniques and materials for internal water curing of concrete. Materials and Structures/Materiaux Et Constructions, 2006, 39, 817-825.	3.1	161
6	Influence of superabsorbent polymers on hydration of cement pastes with low water-to-binder ratio. Journal of Thermal Analysis and Calorimetry, 2014, 115, 425-432.	3.6	137
7	Application of neutron imaging to investigate fundamental aspects of durability of cement-based materials: A review. Cement and Concrete Research, 2018, 108, 152-166.	11.0	136
8	An investigation on the use of zeolite aggregates for internal curing of concrete. Construction and Building Materials, 2013, 40, 135-144.	7.2	134
9	Study on the development of the microstructure in cement-based materials by means of numerical simulation and ultrasonic pulse velocity measurement. Cement and Concrete Composites, 2004, 26, 491-497.	10.7	124
10	Properties of early-age concrete relevant to cracking in massive concrete. Cement and Concrete Research, 2019, 123, 105770.	11.0	119
11	Effect of superabsorbent polymers (SAP) on the freezeâ€"thaw resistance of concrete: results of a RILEM interlaboratory study. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	117
12	Testing superabsorbent polymer (SAP) sorption properties prior to implementation in concrete: results of a RILEM Round-Robin Test. Materials and Structures/Materiaux Et Constructions, 2018, 51, 1.	3.1	112
13	Internal curing with lightweight aggregate produced from biomass-derived waste. Cement and Concrete Research, 2014, 59, 24-33.	11.0	111
14	Prediction of self-desiccation in low water-to-cement ratio pastes based on pore structure evolution. Cement and Concrete Research, 2013, 49, 38-47.	11.0	110
15	A critical examination of statistical nanoindentation on model materials and hardened cement pastes based on virtual experiments. Cement and Concrete Composites, 2009, 31, 705-714.	10.7	105
16	Release of internal curing water from lightweight aggregates in cement paste investigated by neutron and X-ray tomography. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 651, 244-249.	1.6	92
17	Ethyl silicate for surface treatment of concrete â€" Part II: Characteristics and performance. Cement and Concrete Composites, 2012, 34, 313-321.	10.7	88
18	A numerical and experimental study of aggregate-induced shrinkage cracking in cementitious composites. Cement and Concrete Research, 2012, 42, 272-281.	11.0	88

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19	Experimental observation of internal water curing of concrete. Materials and Structures/Materiaux Et Constructions, 2007, 40, 211-220.	3.1	85
20	Early-age acoustic emission measurements in hydrating cement paste: Evidence for cavitation during solidification due to self-desiccation. Cement and Concrete Research, 2009, 39, 861-867.	11.0	85
21	Shrinkage and creep of SCC â€“ The influence of paste volume and binder composition. Construction and Building Materials, 2011, 25, 2283-2289.	7.2	85
22	Influence of cement content and environmental humidity on asphalt emulsion and cement composites performance. Materials and Structures/Materiaux Et Constructions, 2013, 46, 1275-1289.	3.1	83
23	Reduction of fire spalling in high-performance concrete by means of superabsorbent polymers and polypropylene fibers. Cement and Concrete Composites, 2014, 49, 36-42.	10.7	83
24	Controlling the coefficient of thermal expansion of cementitious materials â€“ A new application for superabsorbent polymers. Cement and Concrete Composites, 2013, 35, 49-58.	10.7	82
25	Real-time measurements of temperature, pressure and moisture profiles in High-Performance Concrete exposed to high temperatures during neutron radiography imaging. Cement and Concrete Research, 2015, 68, 166-173.	11.0	82
26	Internal curing with superabsorbent polymers of different chemical structures. Cement and Concrete Research, 2019, 123, 105789.	11.0	81
27	E-modulus of the alkaliâ€“silica-reaction product determined by micro-indentation. Construction and Building Materials, 2013, 44, 221-227.	7.2	79
28	Effect of relative humidity decrease due to self-desiccation on the hydration kinetics of cement. Cement and Concrete Research, 2016, 85, 75-81.	11.0	79
29	Internal curing of high performance mortars with bottom ash. Cement and Concrete Composites, 2016, 71, 1-9.	10.7	79
30	Cracking in cement paste induced by autogenous shrinkage. Materials and Structures/Materiaux Et Constructions, 2009, 42, 1089-1099.	3.1	77
31	Modelling of water permeability in cementitious materials. Materials and Structures/Materiaux Et Constructions, 2006, 39, 877-885.	3.1	76
32	Modeling of Water Migration during Internal Curing with Superabsorbent Polymers. Journal of Materials in Civil Engineering, 2012, 24, 1006-1016.	2.9	76
33	Water Redistribution within the Microstructure of Cementitious Materials due to Temperature Changes Studied with ¹H NMR. Journal of Physical Chemistry C, 2017, 121, 27950-27962.	3.1	76
34	Impact of admixtures on the plastic shrinkage cracking of self-compacting concrete. Cement and Concrete Composites, 2014, 46, 1-7.	10.7	74
35	Modeling of internal curing in maturing mortar. Cement and Concrete Research, 2011, 41, 1349-1356.	11.0	71
36	Validity of recent approaches for statistical nanoindentation of cement pastes. Cement and Concrete Composites, 2011, 33, 457-465.	10.7	71

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37	Internal curing by superabsorbent polymers in alkali-activated slag. Cement and Concrete Research, 2020, 135, 106123.	11.0	71
38	Application of super absorbent polymers (SAP) in concrete constructionâ€"update of RILEM state-of-the-art report. Materials and Structures/Materiaux Et Constructions, 2021, 54, 1.	3.1	68
39	Plastic shrinkage of mortars with shrinkage reducing admixture and lightweight aggregates studied by neutron tomography. Cement and Concrete Research, 2015, 73, 238-245.	11.0	66
40	Simultaneous measurements of heat of hydration and chemical shrinkage on hardening cement pastes. Journal of Thermal Analysis and Calorimetry, 2010, 101, 925-932.	3.6	65
41	Impact of rapid-hardening cements on mechanical properties of cement bitumen emulsion asphalt. Materials and Structures/Materiaux Et Constructions, 2016, 49, 487-498.	3.1	65
42	Early development of properties in a cement paste: A numerical and experimental study. Cement and Concrete Research, 2003, 33, 1013-1020.	11.0	64
43	Moisture dependence of thermal expansion in cement-based materials at early ages. Cement and Concrete Research, 2013, 53, 25-35.	11.0	60
44	A volumetric technique for measuring the coefficient of thermal expansion of hardening cement paste and mortar. Cement and Concrete Research, 2010, 40, 1138-1147.	11.0	59
45	Susceptibility of Portland cement and blended cement concretes to plastic shrinkage cracking. Cement and Concrete Composites, 2018, 85, 44-55.	10.7	59
46	Shrinkage and creep of high-performance concrete based on calcium sulfoaluminate cement. Cement and Concrete Composites, 2019, 98, 61-73.	10.7	57
47	Basic creep of cement paste at early age - the role of cement hydration. Cement and Concrete Research, 2019, 116, 191-201.	11.0	56
48	Tensile properties of concrete at very early ages. Construction and Building Materials, 2017, 134, 563-573.	7.2	55
49	On the origin of eigenstresses in lightweight aggregate concrete. Cement and Concrete Composites, 2004, 26, 445-452.	10.7	54
50	Estimation of reaction kinetics of geopolymers at early ages. Cement and Concrete Research, 2020, 129, 105971.	11.0	53
51	Microstructure development and autogenous shrinkage of mortars with C-S-H seeding and internal curing. Cement and Concrete Research, 2020, 129, 105967.	11.0	53
52	The effect of external load on internal relative humidity in concrete. Cement and Concrete Research, 2014, 65, 58-63.	11.0	52
53	Pore structure of mortars with cellulose ether additions â€" Mercury intrusion porosimetry study. Cement and Concrete Composites, 2014, 53, 25-34.	10.7	52
54	Measuring techniques for autogenous strain of cement paste. Materials and Structures/Materiaux Et Constructions, 2007, 40, 431-440.	3.1	51

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55	Measurement of Volume Change in Cementitious Materials at Early Ages: Review of Testing Protocols and Interpretation of Results. Transportation Research Record, 2006, 1979, 21-29.	1.9	51
56	Expansive high-performance concrete for chemical-prestress applications. Cement and Concrete Research, 2018, 107, 275-283.	11.0	49
57	A novel method to predict internal relative humidity in cementitious materials by 1 H NMR. Cement and Concrete Research, 2018, 104, 80-93.	11.0	49
58	On the mechanism of plastic shrinkage cracking in fresh cementitious materials. Cement and Concrete Research, 2019, 115, 251-263.	11.0	48
59	A poromechanics model for plastic shrinkage of fresh cementitious materials. Cement and Concrete Research, 2018, 109, 120-132.	11.0	47
60	Pumice aggregates for internal water curing. , 2004, , .		47
61	Solvent-based ethyl silicate for stone consolidation: influence of the application technique on penetration depth, efficacy and pore occlusion. Materials and Structures/Materiaux Et Constructions, 2015, 48, 3503-3515.	3.1	46
62	Corrugated tube protocol for autogenous shrinkage measurements: review and statistical assessment. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	46
63	Recommendation of RILEM TC 260-RSC: using superabsorbent polymers (SAP) to mitigate autogenous shrinkage. Materials and Structures/Materiaux Et Constructions, 2018, 51, 1.	3.1	45
64	Measurement of Volume Change in Cementitious Materials at Early Ages. Transportation Research Record, 2006, 1979, 21-29.	1.9	44
65	Measurement of water transport from saturated pumice aggregates to hardening cement paste. Materials and Structures/Materiaux Et Constructions, 2006, 39, 861-868.	3.1	44
66	Study of physical properties and microstructure of aerogel-cement mortars for improving the fire safety of high-performance concrete linings in tunnels. Cement and Concrete Composites, 2019, 104, 103414.	10.7	44
67	Mechanisms of internal curing water release from retentive and non-retentive superabsorbent polymers in cement paste. Cement and Concrete Research, 2021, 147, 106494.	11.0	44
68	Evaluation of the ultimate drying shrinkage of cement-based mortars with poroelastic models. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	41
69	Young's modulus and creep of calcium-silicate-hydrate compacts measured by microindentation. Cement and Concrete Research, 2020, 134, 106104.	11.0	41
70	Compressive strength of cement pastes and mortars with superabsorbent polymers. , 2006, , .		39
71	Dark-field X-ray imaging of unsaturated water transport in porous materials. Applied Physics Letters, 2014, 105, .	3.3	38
72	Water Redistributionâ€“Microdiffusion in Cement Paste under Mechanical Loading Evidenced by ¹H NMR. Journal of Physical Chemistry C, 2019, 123, 16153-16163.	3.1	38

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73	An inter lab comparison of gas transport testing procedures: Oxygen permeability and oxygen diffusivity. Cement and Concrete Composites, 2014, 53, 357-366.	10.7	37
74	Temperature-stress testing machine â€“ A state-of-the-art design and its unique applications in concrete research. Cement and Concrete Composites, 2019, 102, 28-38.	10.7	37
75	Intrinsic viscoelasticity of C-S-H assessed from basic creep of cement pastes. Cement and Concrete Research, 2019, 121, 11-20.	11.0	37
76	Autogenous deformation and coefficient of thermal expansion of early-age concrete: Initial outcomes of a study using a newly-developed Temperature Stress Testing Machine. Cement and Concrete Composites, 2021, 119, 103997.	10.7	36
77	Nonlinear elastic response of thermally damaged consolidated granular media. Journal of Applied Physics, 2013, 113, 154902.	2.5	35
78	Overview on cold cement bitumen emulsion asphalt. RILEM Technical Letters, 0, 1, 116-121.	0.0	35
79	The bleeding test: A simple method for obtaining the permeability and bulk modulus of fresh concrete. Cement and Concrete Research, 2016, 89, 249-256.	11.0	32
80	Superabsorbent Polymers â€" An Additive to Increase the Freeze-Thaw Resistance of High Strength Concrete. , 2007, , 351-358.		30
81	Using neutron radiography to assess water absorption in air entrained mortar. Construction and Building Materials, 2016, 110, 98-105.	7.2	30
82	Influence of emulsifier content on cement hydration and mechanical performance of bitumen emulsion mortar. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	29
83	Mechanical behaviour of bitumen emulsion-cement composites across the structural transition of the co-binder system. Construction and Building Materials, 2019, 215, 217-232.	7.2	29
84	Precipitation of anionic emulsifier with ordinary Portland cement. Journal of Colloid and Interface Science, 2016, 479, 98-105.	9.4	27
85	Modelling of Transport Phenomena at Cement Matrixâ€"Aggregate Interfaces. Journal of Materials Science, 2004, 12, 423-431.	1.2	26
86	The effect of superabsorbent polymers on the mitigation of plastic shrinkage cracking of conventional concrete, results of an inter-laboratory test by RILEM TC 260-RSC. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	26
87	Use of TEOS for fired-clay bricks consolidation. Materials and Structures/Materiaux Et Constructions, 2014, 47, 1175-1184.	3.1	25
88	A simple method for determining the total amount of physically and chemically bound water of different cements. Journal of Thermal Analysis and Calorimetry, 2017, 130, 653-660.	3.6	25
89	Autogenous strain of cement pastes with superabsorbent polymers. , 2006, , .		25
90	Focussed ion beam nanotomography reveals the 3D morphology of different solid phases in hardened cement pastes. Journal of Microscopy, 2011, 241, 234-242.	1.8	24

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91	Steady-state O2 and CO2 diffusion in carbonated mortars produced with blended cements. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	24
92	Performance of passive methods in plastic shrinkage cracking mitigation. Cement and Concrete Composites, 2018, 91, 148-155.	10.7	24
93	Early-age elastic properties of cement-based materials as a function of decreasing moisture content. Cement and Concrete Research, 2016, 89, 87-96.	11.0	23
94	Influence of Cement on Rheology and Stability of Rosin Emulsified Anionic Bitumen Emulsion. Journal of Materials in Civil Engineering, 2016, 28, .	2.9	23
95	Autogenous and drying shrinkage of mortars based on Portland and calcium sulfoaluminate cements. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	23
96	Low clinker high performance concretes and their potential in CFRP-prestressed structural elements. Cement and Concrete Composites, 2019, 100, 130-138.	10.7	22
97	Prediction of autogenous shrinkage of cement pastes as poro-visco-elastic deformation. Cement and Concrete Research, 2019, 126, 105917.	11.0	21
98	Visualization of water drying in porous materials by Xâ€ray phase contrast imaging. Journal of Microscopy, 2016, 261, 88-104.	1.8	19
99	Influence of Shrinkage-Reducing Admixtures on Development of Plastic Shrinkage Cracks. ACI Materials Journal, 2007, 104, .	0.2	19
100	Pore structure of mortars with cellulose ether additions â€" Study of the air-void structure. Cement and Concrete Composites, 2015, 62, 117-124.	10.7	18
101	A practical approach for reducing the risk of plastic shrinkage cracking of concrete. RILEM Technical Letters, 0, 2, 40-44.	0.0	18
102	3D finite-element modelling of splitting crack propagation. Magazine of Concrete Research, 2002, 54, 481-493.	2.0	17
103	Application of microstructurally-designed mortars for studying early-age properties: Microstructure and mechanical properties. Cement and Concrete Research, 2015, 78, 234-244.	11.0	15
104	Performance of Shrinkage-Reducing Admixtures at Different Humidities and at Early Ages. ACI Materials Journal, 2008, 105, .	0.2	15
105	Visco-elastic behavior of blended cement pastes at early ages. Cement and Concrete Composites, 2020, 107, 103497.	10.7	14
106	A laboratory investigation of cutting damage to the steel-concrete interface. Cement and Concrete Research, 2020, 138, 106229.	11.0	12
107	Alkali-silica reaction products and cracks: X-ray micro-tomography-based analysis of their spatial-temporal evolution at a mesoscale. Cement and Concrete Research, 2021, 150, 106593.	11.0	12
108	Evaporation, settlement, temperature evolution, and development of plastic shrinkage cracks in mortars with shrinkage-reducing admixtures. , 2006, , .		12

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109	Chemical prestressing of high-performance concrete reinforced with CFRP tendons. Composite Structures, 2020, 239, 112031.	5.8	11
110	Neutron radiography of heated high-performance mortar. MATEC Web of Conferences, 2013, 6, 03004.	0.2	10
111	The bias of the interface thickness and diffusivity of concrete comprising Platonic aggregates induced by areal analysis. Powder Technology, 2020, 376, 209-221.	4.2	10
112	Kinetics of Water Migration in Cement-Based Systems Containing Superabsobent Polymers. , 2012, , 21-37.		10
113	X-ray dark-field contrast imaging of water transport during hydration and drying of early-age cement-based materials. Materials Characterization, 2018, 142, 560-576.	4.4	9
114	Transient Thermal Tensile Behaviour of Novel Pitch-Based Ultra-High Modulus CFRP Tendons. Polymers, 2016, 8, 446.	4.5	8
115	Areal analysis induced bias on interface thickness around ovoidal particles. Construction and Building Materials, 2020, 262, 120583.	7.2	8
116	On the measurement of free deformation of early age cement paste and concrete [BjÃ¸ntegaard Ã˜, Hammer TA, Sellevold EJ. Cement & Concrete Composites 2004;26:427â€"435]. Cement and Concrete Composites, 2005, 27, 854-856.	10.7	7
117	Special Section on Advances in Internally Cured Concrete. Journal of Materials in Civil Engineering, 2012, 24, 959-960.	2.9	7
118	Bond Performance of Sand Coated UHM CFRP Tendons in High Performance Concrete. Polymers, 2017, 9, 78.	4.5	7
119	Creep and Shrinkage of SCC. RILEM State-of-the-Art Reports, 2014, , 73-94.	0.7	7
120	Experimental assessment and modelling of effective tensile elastic modulus in high performance concrete at early age. Construction and Building Materials, 2022, 319, 126125.	7.2	7
121	Early age fracture properties of microstructurally-designed mortars. Cement and Concrete Composites, 2017, 75, 62-73.	10.7	6
122	Prestressing low clinker structural concrete elements by ultra-high modulus carbon fibre reinforced polymer tendons. Materials and Structures/Materiaux Et Constructions, 2021, 54, 1.	3.1	6
123	3D finite-element modelling of splitting crack propagation. Magazine of Concrete Research, 2002, 54, 481-493.	2.0	6
124	Assessing the zero-stress temperature in high performance concrete at early age. Cement and Concrete Composites, 2022, 127, 104384.	10.7	6
125	Assessing the role of the pore solution concentration on horizontal deformations in an unsaturated soil specimen during drying. Geoderma, 2012, 187-188, 31-40.	5.1	5
126	Plastic shrinkage of mortars cured with a paraffin-based compound â€" Bimodal neutron/X-ray tomography study. Cement and Concrete Research, 2021, 140, 106289.	11.0	5

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127	RH Dependence upon Applied Load: Experimental Study on Water Redistribution in the Microstructure at Loading. , 2015, , .		4
128	The â€œTerranovaâ€•render of the Engineering Faculty in Bologna (1931â€“1935): reasons for an outstanding durability. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	4
129	Advancing the visualization of pure water transport in porous materials by fast, talbot interferometry-based multi-contrast x-ray micro-tomography. , 2016, , .		3
130	Local elastic moduli of simple random composites computed at different length scales. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	3
131	Detection and analysis of microcracks in high-performance cementitious materials. , 2007, , 607-614.		2
132	Evolution of Coefficient of Thermal Expansion of Concrete at Early Ages. Lecture Notes in Civil Engineering, 2020, , 295-304.	0.4	2
133	Influence of Aggregate Restraint on Volume Changes: Experiments and Modelling. , 2015, , .		1
134	Elastic and Visco-Elastic Behavior of Cementitious Materials at Early Ages. , 2017, , .		1
135	Thermal Properties. RILEM State-of-the-Art Reports, 2019, , 47-67.	0.7	1
136	Prediction of Drying Shrinkage of Cement-Based Mortars with Poroelastic Approachesâ€"A Critical Review. , 2017, , .		0
137	M&S highlight: Jensen and Hansen (1995), A dilatometer for measuring autogenous deformation in hardening Portland cement paste. Materials and Structures/Materiaux Et Constructions, 2022, 55, 1.	3.1	0