Susan A Bernal

List of Publications by Year
in descending order

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111 papers	13,146 citations	23565 58 h-index	25787 108 g-index
116 all docs	116 docs citations	116 times ranked	4876 citing authors

#	Article	IF	Citations
1	Geopolymers and Related Alkali-Activated Materials. Annual Review of Materials Research, 2014, 44, 299-327.	9.3	908
2	Modification of phase evolution in alkali-activated blast furnace slag by the incorporation of fly ash. Cement and Concrete Composites, 2014, 45, 125-135.	10.7	806
3	Gel nanostructure in alkali-activated binders based on slag and fly ash, and effects of accelerated carbonation. Cement and Concrete Research, 2013, 53, 127-144.	11.0	593
4	Supplementary cementitious materials: New sources, characterization, and performance insights. Cement and Concrete Research, 2019, 122, 257-273.	11.0	521
5	Evolution of binder structure in sodium silicate-activated slag-metakaolin blends. Cement and Concrete Composites, 2011, 33, 46-54.	10.7	513
6	Influence of fly ash on the water and chloride permeability of alkali-activated slag mortars and concretes. Construction and Building Materials, 2013, 48, 1187-1201.	7.2	390
7	Generalized Structural Description of Calciumâ€“Sodium Aluminosilicate Hydrate Gels: The Cross-Linked Substituted Tobermorite Model. Langmuir, 2013, 29, 5294-5306.	3.5	383
8	Effect of binder content on the performance of alkali-activated slag concretes. Cement and Concrete Research, 2011, 41, 1-8.	11.0	370
9	Effect of silicate modulus and metakaolin incorporation on the carbonation of alkali silicate-activated slags. Cement and Concrete Research, 2010, 40, 898-907.	11.0	341
10	MgO content of slag controls phase evolution and structural changes induced by accelerated carbonation in alkali-activated binders. Cement and Concrete Research, 2014, 57, 33-43.	11.0	334
11	Durability of Alkaliâ€Activated Materials: Progress and Perspectives. Journal of the American Ceramic Society, 2014, 97, 997-1008.	3.8	320
12	Mechanical and thermal characterisation of geopolymers based on silicate-activated metakaolin/slag blends. Journal of Materials Science, 2011, 46, 5477-5486.	3.7	306
13	Engineering and durability properties of concretes based on alkali-activated granulated blast furnace slag/metakaolin blends. Construction and Building Materials, 2012, 33, 99-108.	7.2	304
14	Microstructural changes in alkali activated fly ash/slag geopolymers with sulfate exposure. Materials and Structures/Materiaux Et Constructions, 2013, 46, 361-373.	3.1	270
15	Accelerated carbonation testing of alkali-activated binders significantly underestimates service life: The role of pore solution chemistry. Cement and Concrete Research, 2012, 42, 1317-1326.	11.0	247
16	Characterisation of magnesium potassium phosphate cements blended with fly ash and ground granulated blast furnace slag. Cement and Concrete Research, 2015, 74, 78-87.	11.0	234
17	Uptake of chloride and carbonate by Mg-Al and Ca-Al layered double hydroxides in simulated pore solutions of alkali-activated slag cement. Cement and Concrete Research, 2017, 100, 1-13.	11.0	224
18	Controlling the reaction kinetics of sodium carbonate-activated slag cements using calcined layered double hydroxides. Cement and Concrete Research, 2016, 81, 24-37.	11.0	213

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19	Advances in alkali-activation of clay minerals. Cement and Concrete Research, 2020, 132, 106050.	11.0	201
20	A thermodynamic model for C-(N-)A-S-H gel: CNASH_ss. Derivation and validation. Cement and Concrete Research, 2014, 66, 27-47.	11.0	186
21	Role of carbonates in the chemical evolution of sodium carbonate-activated slag binders. Materials and Structures/Materiaux Et Constructions, 2015, 48, 517-529.	3.1	186
22	Oneâ€Part Geopolymers Based on Thermally Treated Red Mud/NaOH Blends. Journal of the American Ceramic Society, 2015, 98, 5-11.	3.8	184
23	The Role of Al in Crossâ€Linking of Alkaliâ€Activated Slag Cements. Journal of the American Ceramic Society, 2015, 98, 996-1004.	3.8	181
24	Activation of Metakaolin/Slag Blends Using Alkaline Solutions Based on Chemically Modified Silica Fume and Rice Husk Ash. Waste and Biomass Valorization, 2012, 3, 99-108.	3.4	168
25	Thermodynamic modelling of alkali-activated slag cements. Applied Geochemistry, 2015, 61, 233-247.	3.0	160
26	Phase diagrams for alkali-activated slag binders. Cement and Concrete Research, 2017, 95, 30-38.	11.0	155
27	Drying-induced changes in the structure of alkali-activated pastes. Journal of Materials Science, 2013, 48, 3566-3577.	3.7	150
28	Corrosion of steel bars induced by accelerated carbonation in low and high calcium fly ash geopolymer concretes. Construction and Building Materials, 2014, 61, 79-89.	7.2	148
29	Chloride-induced corrosion of steel rebars in simulated pore solutions of alkali-activated concretes. Cement and Concrete Research, 2017, 100, 385-397.	11.0	148
30	Effect of nanosilica-based activators on the performance of an alkali-activated fly ash binder. Cement and Concrete Composites, 2013, 35, 1-11.	10.7	142
31	Evaluation of the potential improvement in the environmental footprint of geopolymers using waste-derived activators. Journal of Cleaner Production, 2017, 166, 680-689.	9.3	132
32	Understanding the carbonation of concrete with supplementary cementitious materials: a critical review by RILEM TC 281-CCC. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	123
33	Management and valorisation of wastes through use in producing alkaliâ€activated cement materials. Journal of Chemical Technology and Biotechnology, 2016, 91, 2365-2388.	3.2	121
34	Structural evolution of an alkali sulfate activated slag cement. Journal of Nuclear Materials, 2016, 468, 97-104.	2.7	118
35	Natural carbonation of aged alkali-activated slag concretes. Materials and Structures/Materiaux Et Constructions, 2014, 47, 693-707.	3.1	114
36	Performance of refractory aluminosilicate particle/fiber-reinforced geopolymer composites. Composites Part B: Engineering, 2012, 43, 1919-1928.	12.0	111

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37	Structure and properties of binder gels formed in the system Mg(OH)₂â€“SiO₂â€“H₂O for immobilisation of Magnox sludge. Dalton Transactions, 2015, 44, 8126-8137.	3.3	102
38	Outcomes of the RILEM round robin on degree of reaction of slag and fly ash in blended cements. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	101
39	Determination of particle size, surface area, and shape of supplementary cementitious materials by different techniques. Materials and Structures/Materiaux Et Constructions, 2015, 48, 3687-3701.	3.1	95
40	Effect of the activator dose on the compressive strength and accelerated carbonation resistance of alkali silicate-activated slag/metakaolin blended materials. Construction and Building Materials, 2015, 98, 217-226.	7.2	92
41	Production and hydration of calcium sulfoaluminate-belite cements derived from aluminium anodising sludge. Construction and Building Materials, 2016, 122, 373-383.	7.2	91
42	Performance of alkali-activated slag mortars exposed to acids. Journal of Sustainable Cement-Based Materials, 2012, 1, 138-151.	3.1	90
43	Reproducible mini-slump test procedure for measuring the yield stress of cementitious pastes. Materials and Structures/Materiaux Et Constructions, 2017, 50, 235.	3.1	88
44	Mechanical performance of steel fibre reinforced rubberised concrete for flexible concrete pavements. Construction and Building Materials, 2018, 172, 533-543.	7.2	84
45	Distinctive microstructural features of aged sodium silicate-activated slag concretes. Cement and Concrete Research, 2014, 65, 41-51.	11.0	80
46	Accelerated carbonation testing of alkali-activated slag/metakaolin blended concretes: effect of exposure conditions. Materials and Structures/Materiaux Et Constructions, 2015, 48, 653-669.	3.1	79
47	Highâ€Resolution <scp>X</scp>â€ray Diffraction and Fluorescence Microscopy Characterization of Alkaliâ€Activated Slagâ€Metakaolin Binders. Journal of the American Ceramic Society, 2013, 96, 1951-1957.	3.8	79
48	Alkali-activated slag cements produced with a blended sodium carbonate/sodium silicate activator. Advances in Cement Research, 2016, 28, 262-273.	1.6	78
49	Valorisation of a kaolin mining waste for the production of geopolymers. Journal of Cleaner Production, 2016, 115, 265-272.	9.3	75
50	Structural evolution of synthetic alkali-activated CaO-MgO-Na 2 O-Al 2 O 3 -SiO 2 materials is influenced by Mg content. Cement and Concrete Research, 2017, 99, 155-171.	11.0	73
51	Durability of steel fibre reinforced rubberised concrete exposed to chlorides. Construction and Building Materials, 2018, 188, 130-142.	7.2	71
52	Incorporation of strontium and calcium in geopolymer gels. Journal of Hazardous Materials, 2020, 382, 121015.	12.4	71
53	Clay calcination technology: state-of-the-art review by the RILEM TC 282-CCL. Materials and Structures/Materiaux Et Constructions, 2022, 55, 1.	3.1	71
54	High-Resolution Nanoprobe X-ray Fluorescence Characterization of Heterogeneous Calcium and Heavy Metal Distributions in Alkali-Activated Fly Ash. Langmuir, 2009, 25, 11897-11904.	3.5	66

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55	Geopolymers based on spent catalyst residue from a fluid catalytic cracking (FCC) process. Fuel, 2013, 109, 493-502.	6.4	66
56	Freeze-thaw resistance of steel fibre reinforced rubberised concrete. Construction and Building Materials, 2019, 195, 450-458.	7.2	65
57	Characterization of supplementary cementitious materials by thermal analysis. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	3.1	64
58	Dilatometry of geopolymers as a means of selecting desirable fly ash sources. Journal of Non-Crystalline Solids, 2012, 358, 1930-1937.	3.1	63
59	Performance at high temperature of alkali-activated slag pastes produced with silica fume and rice husk ash based activators. Materiales De Construccion, 2015, 65, e049.	0.7	60
60	Microstructure and durability of alkali-activated materials as key parameters for standardization. Journal of Sustainable Cement-Based Materials, 2015, 4, 116-128.	3.1	59
61	Thermodynamic modelling of phase evolution in alkali-activated slag cements exposed to carbon dioxide. Cement and Concrete Research, 2020, 136, 106158.	11.0	56
62	Circular Economy strategies for concrete: implementation and integration. Journal of Cleaner Production, 2022, 362, 132486.	9.3	54
63	RILEM TC 247-DTA round robin test: mix design and reproducibility of compressive strength of alkali-activated concretes. Materials and Structures/Materiaux Et Constructions, 2019, 52, 1.	3.1	53
64	Chloride binding and mobility in sodium carbonate-activated slag pastes and mortars. Materials and Structures/Materiaux Et Constructions, 2017, 50, 252.	3.1	52
65	RILEM TC 247-DTA round robin test: carbonation and chloride penetration testing of alkali-activated concretes. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	51
66	Slag and Activator Chemistry Control the Reaction Kinetics of Sodium Metasilicate-Activated Slag Cements. Sustainability, 2018, 10, 4709.	3.2	47
67	Alkali-activation potential of biomass-coal co-fired fly ash. Cement and Concrete Composites, 2016, 73, 62-74.	10.7	46
68	Influence of slag composition on the stability of steel in alkali-activated cementitious materials. Journal of Materials Science, 2018, 53, 5016-5035.	3.7	45
69	Steel corrosion in reinforced alkali-activated materials. RILEM Technical Letters, 0, 2, 33-39.	0.0	42
70	Binder Chemistry â€“ High-Calcium Alkali-Activated Materials. RILEM State-of-the-Art Reports, 2014, , 59-91.	0.7	41
71	Physical characterization methods for supplementary cementitious materials. Materials and Structures/Materiaux Et Constructions, 2015, 48, 3675-3686.	3.1	40
72	Identification of the hydrate gel phases present in phosphate-modified calcium aluminate binders. Cement and Concrete Research, 2015, 70, 21-28.	11.0	39

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73	Slag-Based Cements That Resist Damage Induced by Carbon Dioxide. ACS Sustainable Chemistry and Engineering, 2018, 6, 5067-5075.	6.7	39
74	Characterisation of Ba(OH)2â€“Na2SO4â€“blast furnace slag cement-like composites for the immobilisation of sulfate bearing nuclear wastes. Cement and Concrete Research, 2014, 66, 64-74.	11.0	38
75	Blast furnace slag-Mg(OH)₂ cements activated by sodium carbonate. RSC Advances, 2018, 8, 23101-23118.	3.6	38
76	The fate of iron in blast furnace slag particles during alkali-activation. Materials Chemistry and Physics, 2014, 146, 1-5.	4.0	36
77	DesempeÃ±o a temperaturas altas de morteros y hormigones basados en mezclas de escoria/metacaolÃn activadas alcalinamente. Materiales De Construccion, 2012, 62, 471-488.	0.7	35
78	Nanostructural characterization of geopolymers by advanced beamline techniques. Cement and Concrete Composites, 2013, 36, 56-64.	10.7	33
79	RILEM TC 247-DTA round robin test: sulfate resistance, alkali-silica reaction and freezeâ€“thaw resistance of alkali-activated concretes. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	3.1	30
80	Characterization of and Structural Insight into Struvite-K, MgKPO₄Â·6H₂O, an Analogue of Struvite. Inorganic Chemistry, 2021, 60, 195-205.	4.0	29
81	Report of RILEM TC 267-TRM phase 2: optimization and testing of the robustness of the R3 reactivity tests for supplementary cementitious materials. Materials and Structures/Materiaux Et Constructions, 2022, 55, 1.	3.1	29
82	Gamma irradiation resistance of an early age slag-blended cement matrix for nuclear waste encapsulation. Journal of Materials Research, 2015, 30, 1563-1571.	2.6	26
83	Binder Chemistry â€“ Blended Systems and Intermediate Ca Content. RILEM State-of-the-Art Reports, 2014, , 125-144.	0.7	26
84	Structure of Portland Cement Pastes Blended with Sonicated Silica Fume. Journal of Materials in Civil Engineering, 2012, 24, 1295-1304.	2.9	25
85	Alkali aluminosilicate geopolymers as binders to encapsulate strontium-selective titanate ion-exchangers. Dalton Transactions, 2019, 48, 12116-12126.	3.3	25
86	Exploiting in-situ solid-state NMR spectroscopy to probe the early stages of hydration of calcium aluminate cement. Solid State Nuclear Magnetic Resonance, 2019, 99, 1-6.	2.3	25
87	Temperature transformation of blended magnesium potassium phosphate cement binders. Cement and Concrete Research, 2021, 141, 106332.	11.0	25
88	Activator Anion Influences the Nanostructure of Alkali-Activated Slag Cements. Journal of Physical Chemistry C, 2021, 125, 20727-20739.	3.1	23
89	Modelling chloride transport in alkali-activated slags. Cement and Concrete Research, 2020, 130, 106011.	11.0	20
90	Microstructural Changes Induced by CO2 Exposure in Alkali-Activated Slag/Metakaolin Pastes. Frontiers in Materials, 2016, 3, .	2.4	18

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91	Response to the discussion by Hongyan Ma and Ying Li of the paper â€œCharacterization of magnesium potassium phosphate cement blended with fly ash and ground granulated blast furnace slagâ€• Cement and Concrete Research, 2018, 103, 249-253.	11.0	18
92	Thermodynamic modelling of BFS-PC cements under temperature conditions relevant to the geological disposal of nuclear wastes. Cement and Concrete Research, 2019, 119, 21-35.	11.0	17
93	Milestones in the analysis of alkali-activated binders. Journal of Sustainable Cement-Based Materials, 2015, 4, 74-84.	3.1	15
94	Alternative inorganic binders based on alkali-activated metallurgical slags. , 2017, , 185-220.		15
95	Gamma irradiation resistance of early age Ba(OH)2-Na2SO4-slag cementitious grouts. Journal of Nuclear Materials, 2016, 482, 266-277.	2.7	13
96	Phase evolution of slag-rich cementitious grouts for immobilisation of nuclear wastes. Advances in Cement Research, 2018, 30, 345-360.	1.6	13
97	Phase Formation and Evolution in Mg(OH)₂â€“Zeolite Cements. Industrial & Engineering Chemistry Research, 2018, 57, 2105-2113.	3.7	12
98	Durability and Testing â€“ Degradation via Mass Transport. RILEM State-of-the-Art Reports, 2014, , 223-276.	0.7	12
99	Other Potential Applications for Alkali-Activated Materials. RILEM State-of-the-Art Reports, 2014, , 339-379.	0.7	11
100	Development, Standardization, and Applications of Alkali-activated Concretes. , 2013, , 196-212.		9
101	Layered double hydroxides modify the reaction of sodium silicate-activated slag cements. Green Materials, 2019, 7, 52-60.	2.1	8
102	Applicability discussion for multi-peak Gaussian model of corrosion layer at steel/concrete interfaces. Materials and Structures/Materiaux Et Constructions, 2021, 54, 1.	3.1	6
103	Durability and Testing â€“ Chemical Matrix Degradation Processes. RILEM State-of-the-Art Reports, 2014, , 177-221.	0.7	6
104	What Happens to 5 Year Old Metakaolin Geopolymersâ€™ the Effect of Alkali Cation. RILEM Bookseries, 2015, , 315-321.	0.4	5
105	Advances in near-neutral salts activation of blast furnace slags. RILEM Technical Letters, 0, 1, 39.	0.0	5
106	Bubble stabilisation improves strength of lightweight mortars. Proceedings of Institution of Civil Engineers: Construction Materials, 2017, 170, 134-140.	1.1	4
107	Binary alkali-activated systems obtained by the valorisation of calcined kaolin sludge and bottom ash. Advances in Cement Research, 2022, 34, 67-79.	1.6	4
108	Time-resolved 3D characterisation of early-age microstructural development of Portland cement. Journal of Materials Science, 2022, 57, 4952-4969.	3.7	4

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109	Structural Ordering of Aged and Hydrothermally Cured Metakaolin Based Potassium Geopolymers. RILEM Bookseries, 2018, , 232-237.	0.4	2
110	Comment on E. Prud'Homme et al., â€œStructural characterization of geomaterial foams â€" Thermal behaviorâ€, J. Non-Cryst. Solids, 2011. Journal of Non-Crystalline Solids, 2012, 358, 715-716.	3.1	1
111	Editorial introduction â€“ Journal of Sustainable Cement-Based Materials special issue on chemically activated materials. Journal of Sustainable Cement-Based Materials, 2015, 4, 73-73.	3.1	0