Dawei Wang

List of Publications by Year
in descending order

128	3,692	117453	182168
papers	citations	34 h-index	51 g-index

132	132	132	1698
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Effect of WMA-RAP technology on pavement performance of asphalt mixture: A state-of-the-art review. Journal of Cleaner Production, 2020, 266, 121704.	4.6	120
2	Study on the effect of aging on physical properties of asphalt binder from a microscale perspective. Construction and Building Materials, 2018, 187, 718-729.	3.2	119
3	Performance enhancement of porous asphalt pavement using red mud as alternative filler. Construction and Building Materials, 2018, 160, 707-713.	3.2	101
4	Modelling and evaluation of aggregate morphology on asphalt compression behavior. Construction and Building Materials, 2017, 133, 196-208.	3.2	92
5	Development of a sustainable pervious pavement material using recycled ceramic aggregate and bio-based polyurethane binder. Journal of Cleaner Production, 2019, 220, 1052-1060.	4.6	91
6	Experimental study on the polyurethane-bound pervious mixtures in the application of permeable pavements. Construction and Building Materials, 2019, 202, 838-850.	3.2	86
7	Suitability of PoroElastic Road Surface (PERS) for urban roads in cold regions: Mechanical and functional performance assessment. Journal of Cleaner Production, 2017, 165, 1340-1350.	4.6	82
8	Investigation on fatigue damage of asphalt mixture with different air-voids using microstructural analysis. Construction and Building Materials, 2016, 125, 936-945.	3.2	81
9	Effects of material composition on mechanical and acoustic performance of poroelastic road surface (PERS). Construction and Building Materials, 2017, 135, 352-360.	3.2	78
10	Prediction of dynamic modulus of asphalt mixture using micromechanical method with radial distribution functions. Materials and Structures/Materiaux Et Constructions, 2019, 52, 1.	1.3	76
11	Influence of different polishing conditions on the skid resistance development of asphalt surface. Wear, 2013, 308, 71-78.	1.5	73
12	Influence of aggregate particles on mastic and air-voids in asphalt concrete. Construction and Building Materials, 2015, 93, 1-9.	3.2	71
13	Study of micro-texture and skid resistance change of granite slabs during the polishing with the Aachen Polishing Machine. Wear, 2014, 318, 1-11.	1.5	65
14	Characterization of Bitumen Micro-Mechanical Behaviors Using AFM, Phase Dynamics Theory and MD Simulation. Materials, 2017, 10, 208.	1.3	64
15	New innovations in pavement materials and engineering: A review on pavement engineering research 2021. Journal of Traffic and Transportation Engineering (English Edition), 2021, 8, 815-999.	2.0	59
16	Development in Stacked-Array-Type Piezoelectric Energy Harvester in Asphalt Pavement. Journal of Materials in Civil Engineering, 2017, 29, .	1.3	58
17	Evaluation of aggregate resistance to wear with Micro-Deval test in combination with aggregate imaging techniques. Wear, 2015, 338-339, 288-296.	1.5	57
18	Rheological and micro-structural characterization of bitumen modified with carbon nanomaterials. Construction and Building Materials, 2019, 201, 580-589.	3.2	57

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19	Performance evaluation of bitumen with a homogeneous dispersion of carbon nanotubes. Carbon, 2020, 158, 465-471.	5.4	57
20	Exploiting the synergetic effects of graphene and carbon nanotubes on the mechanical properties of bitumen composites. Carbon, 2021, 172, 402-413.	5.4	55
21	Investigation of design alternatives for hydronic snow melting pavement systems in China. Journal of Cleaner Production, 2018, 170, 1413-1422.	4.6	55
22	Calculation of skid resistance from texture measurements. Journal of Traffic and Transportation Engineering (English Edition), 2015, 2, 3-16.	2.0	54
23	A sustainable solution to plastics pollution: An eco-friendly bioplastic film production from high-salt contained Spirulina sp. residues. Journal of Hazardous Materials, 2020, 388, 121773.	6.5	45
24	Evaluation of morphological characteristics of fine aggregate in asphalt pavement. Construction and Building Materials, 2017, 139, 1-8.	3.2	42
25	Primary investigation on the relationship between microstructural characteristics and the mechanical performance of asphalt mixtures with different compaction degrees. Construction and Building Materials, 2019, 223, 784-793.	3.2	42
26	Effect of Co-Production of Renewable Biomaterials on the Performance of Asphalt Binder in Macro and Micro Perspectives. Materials, 2018, 11, 244.	1.3	41
27	Thermal oxidative and ultraviolet ageing behaviour of nano-montmorillonite modified bitumen. Road Materials and Pavement Design, 2021, 22, 121-139.	2.0	41
28	A study of the laboratory polishing behavior of granite as road surfacing aggregate. Construction and Building Materials, 2015, 89, 25-35.	3.2	40
29	Influence of aggregatesâ€™ spatial characteristics on air-voids in asphalt mixture. Road Materials and Pavement Design, 2018, 19, 837-855.	2.0	40
30	A contribution to non-contact skid resistance measurement. International Journal of Pavement Engineering, 2015, 16, 646-659.	2.2	37
31	Measurement and evaluation on deterioration of asphalt pavements by geophones. Measurement: Journal of the International Measurement Confederation, 2017, 109, 223-232.	2.5	37
32	Study of alkali activated slag as alternative pavement binder. Construction and Building Materials, 2018, 186, 626-634.	3.2	37
33	Development of morphological properties of road surfacing aggregates during the polishing process. International Journal of Pavement Engineering, 2017, 18, 367-380.	2.2	36
34	Modeling and testing of road surface aggregate wearing behaviour. Construction and Building Materials, 2017, 131, 129-137.	3.2	36
35	Comparison of mechanical responses of asphalt mixtures manufactured by different compaction methods. Construction and Building Materials, 2018, 162, 765-780.	3.2	36
36	Study on the reinforcement effect and the underlying mechanisms of a bitumen reinforced with recycled glass fiber chips. Journal of Cleaner Production, 2020, 251, 119768.	4.6	36

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37	Influence of Temperature on the Mechanical Response of Asphalt Mixtures Using Microstructural Analysis and Finite-Element Simulations. Journal of Materials in Civil Engineering, 2018, 30, .	1.3	35
38	Investigation on the permeability of porous asphalt concrete based on microstructure analysis. International Journal of Pavement Engineering, 2020, 21, 1683-1693.	2.2	35
39	Evaluation of the polishing resistance characteristics of fine and coarse aggregate for asphalt pavement using Wehner/Schulze test. Construction and Building Materials, 2018, 163, 742-750.	3.2	34
40	Application of semi-analytical finite element method to evaluate asphalt pavement bearing capacity. International Journal of Pavement Engineering, 2018, 19, 479-488.	2.2	34
41	Numerical analysis for the influence of saturation on the base course of permeable pavement with a novel polyurethane binder. Construction and Building Materials, 2020, 240, 117930.	3.2	34
42	Investigation on the factors influencing the performance of piezoelectric energy harvester. Road Materials and Pavement Design, 2017, 18, 180-189.	2.0	33
43	Parameter optimisation of a 2D finite element model to investigate the microstructural fracture behaviour of asphalt mixtures. Theoretical and Applied Fracture Mechanics, 2019, 103, 102319.	2.1	33
44	Improving the polishing resistance of cement mortar by using recycled ceramic. Resources, Conservation and Recycling, 2020, 158, 104796.	5.3	33
45	The State of the Art: Application of Green Technology in Sustainable Pavement. Advances in Materials Science and Engineering, 2018, 2018, 1-19.	1.0	32
46	Influence of soiling phenomena on air-void microstructure and acoustic performance of porous asphalt pavement. Construction and Building Materials, 2018, 158, 938-948.	3.2	31
47	Investigation of the microstructural fracture behaviour of asphalt mixtures using the finite element method. Construction and Building Materials, 2019, 227, 117078.	3.2	31
48	Green tunnel pavement: Polyurethane ultra-thin friction course and its performance characterization. Journal of Cleaner Production, 2021, 289, 125131.	4.6	31
49	Feasibility study on measurement of a physiological index value with an electrocardiogram tester to evaluate the pavement evenness and driving comfort. Measurement: Journal of the International Measurement Confederation, 2018, 117, 1-7.	2.5	30
50	Numerical Simulation of Crack Propagation in Flexible Asphalt Pavements Based on Cohesive Zone Model Developed from Asphalt Mixtures. Materials, 2019, 12, 1278.	1.3	29
51	Using a Molecular Dynamics Simulation to Investigate Asphalt Nano-Cracking under External Loading Conditions. Applied Sciences (Switzerland), 2017, 7, 770.	1.3	28
52	Asphalt Fume Exposures by Pavement Construction Workers: Current Status and Project Cases. Journal of Construction Engineering and Management - ASCE, 2018, 144, .	2.0	27
53	Influence of filler properties on the rheological, cryogenic, fatigue and rutting performance of mastics. Construction and Building Materials, 2019, 227, 116974.	3.2	27
54	Numerical Study on Influence of Piezoelectric Energy Harvester on Asphalt Pavement Structural Responses. Journal of Materials in Civil Engineering, 2019, 31, .	1.3	27

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55	Application of Dynamic Analysis in Semi-Analytical Finite Element Method. Materials, 2017, 10, 1010.	1.3	26
56	Development of aggregate micro-texture during polishing and correlation with skid resistance. International Journal of Pavement Engineering, 2020, 21, 629-641.	2.2	25
57	Application of semi-analytical finite element method coupled with infinite element for analysis of asphalt pavement structural response. Journal of Traffic and Transportation Engineering (English) Tj ETQq1 1 0.784314 rgBT /Overloc	2.0	24
58	The environmental impact evaluation on the application of permeable pavement based on life cycle analysis. International Journal of Transportation Science and Technology, 2019, 8, 351-357.	2.0	24
59	Changes of asphalt fumes in hot-mix asphalt pavement recycling. Journal of Cleaner Production, 2020, 258, 120586.	4.6	24
60	Multiscale understanding of interfacial behavior between bitumen and aggregate: From the aggregate mineralogical genome aspect. Construction and Building Materials, 2021, 271, 121607.	3.2	24
61	MobileCrack: Object Classification in Asphalt Pavements Using an Adaptive Lightweight Deep Learning. Journal of Transportation Engineering Part B: Pavements, 2021, 147, 04020092.	0.8	24
62	Sustainable Green Pavement Using Bio-Based Polyurethane Binder in Tunnel. Materials, 2019, 12, 1990.	1.3	23
63	The hydro-mechanical interaction in novel polyurethane-bound pervious pavement by considering the saturation states in unbound granular base course. International Journal of Pavement Engineering, 2022, 23, 3677-3690.	2.2	23
64	Multiobjective optimization of asphalt pavement design and maintenance decisions based on sustainability principles and mechanistic-empirical pavement analysis. International Journal of Sustainable Transportation, 2018, 12, 461-472.	2.1	22
65	Investigation of the Hydraulic Properties of Pervious Pavement Mixtures: Characterization of Darcy and Non-Darcy Flow Based on Pore Microstructures. Journal of Transportation Engineering Part B: Pavements, 2020, 146, 04020012.	0.8	21
66	Using recycled waste glass fiber reinforced polymer (GFRP) as filler to improve the performance of asphalt mastics. Journal of Cleaner Production, 2022, 336, 130357.	4.6	21
67	Application of semi-analytical finite element method to analyze asphalt pavement response under heavy traffic loads. Journal of Traffic and Transportation Engineering (English Edition), 2017, 4, 206-214.	2.0	20
68	Investigation of anisotropic flow in asphalt mixtures using the X-ray image technique: pore structure effect. Road Materials and Pavement Design, 2019, 20, 491-508.	2.0	20
69	Multi-scale study of the polishing behaviour of quartz and feldspar on road surfacing aggregate. International Journal of Pavement Engineering, 2019, 20, 79-88.	2.2	20
70	Experimental investigation on the development of pore clogging in novel porous pavement based on polyurethane. Construction and Building Materials, 2020, 258, 120378.	3.2	20
71	Chemical and physical effects of polyurethane-precursor-based reactive modifier on the low-temperature performance of bitumen. Construction and Building Materials, 2022, 328, 127055.	3.2	20
72	Effect of Mixing Time and Temperature on the Homogeneity of Asphalt Mixtures Containing Reclaimed Asphalt Pavement Material. Transportation Research Record, 2018, 2672, 167-177.	1.0	19

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73	Influence of Paraffin on the Microproperties of Asphalt Binder Using MD Simulation. Journal of Materials in Civil Engineering, 2018, 30, .	1.3	19
74	Investigation on interface stripping damage at high-temperature using microstructural analysis. International Journal of Pavement Engineering, 2019, 20, 544-556.	2.2	19
75	Dynamic Response of Fully Permeable Pavements: Development of Pore Pressures under Different Modes of Loading. Journal of Materials in Civil Engineering, 2020, 32, .	1.3	19
76	Microstructural analysis of the effects of compaction on fatigue properties of asphalt mixtures. International Journal of Pavement Engineering, 2022, 23, 9-20.	2.2	19
77	Evaluation of polyurethane dense graded concrete prepared using the vacuum assisted resin transfer molding technology. Construction and Building Materials, 2021, 269, 121340.	3.2	19
78	Study on interfacial debonding between bitumen and aggregate based on micromechanical damage model. International Journal of Pavement Engineering, 2022, 23, 340-348.	2.2	18
79	Virtual mix design: Prediction of compressive strength of concrete with industrial wastes using deep data augmentation. Construction and Building Materials, 2022, 323, 126580.	3.2	18
80	A Preliminary Study on the IoT-Based Pavement Monitoring Platform Based on the Piezoelectric-Cantilever-Beam Powered Sensor. Advances in Materials Science and Engineering, 2017, 2017, 1-6.	1.0	17
81	Application of Finite Layer Method in Pavement Structural Analysis. Applied Sciences (Switzerland), 2017, 7, 611.	1.3	17
82	Influence of temperature on polishing behaviour of asphalt road surfaces. Wear, 2018, 402-403, 49-56.	1.5	17
83	Study on the effects of reversible aging on the low temperature performance of asphalt binders. Construction and Building Materials, 2021, 295, 123604.	3.2	17
84	Investigation on Self-Healing Behavior of Asphalt Binder Using a Six-Fraction Molecular Model. Journal of Materials in Civil Engineering, 2019, 31, .	1.3	16
85	Strain field distribution of asphalt mortar using digital image processing. Construction and Building Materials, 2020, 238, 117624.	3.2	16
86	Experimental investigations and quantumÂchemical calculations of methylene diphenyl diisocyanate (MDI)-based chemically modified bitumen and its crosslinking behaviours. Fuel, 2022, 321, 124084.	3.4	16
87	Influence of temperature on the cracking behavior of asphalt base courses with structural weaknesses. International Journal of Transportation Science and Technology, 2018, 7, 208-216.	2.0	15
88	Feasibility study of waste ceramic powder as a filler alternative for asphalt mastics using the DSR. Road Materials and Pavement Design, 2020, , 1-13.	2.0	15
89	Gene-editable materials for future transportation infrastructure: a review for polyurethane-based pavement. Journal of Infrastructure Preservation and Resilience, 2021, 2, .	1.5	15
90	Application of semi-analytical finite element method to analyze the bearing capacity of asphalt pavements under moving loads. Frontiers of Structural and Civil Engineering, 2018, 12, 215-221.	1.2	14

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91	Study of the influence of pavement unevenness on the mechanical response of asphalt pavement by means of the finite element method. Journal of Traffic and Transportation Engineering (English) Tj ETQq1 1 0.784314 rgBT /Overlock 10	2.0	14
92	In-situ and numerical investigation on the dynamic response of unbounded granular material in permeable pavement. Transportation Geotechnics, 2020, 25, 100396.	2.0	14
93	Particle distribution around the damage area of asphalt mixture based on digital image correlation. Powder Technology, 2020, 375, 11-19.	2.1	14
94	Predicting the low-temperature performance of asphalt binder based on rheological model. Construction and Building Materials, 2021, 302, 124401.	3.2	14
95	Evaluation of Polishing Behavior of Fine Aggregates Using an Accelerated Polishing Machine with Real Tires. Journal of Transportation Engineering Part B: Pavements, 2019, 145, 04019015.	0.8	11
96	The State-of-the-Art Review on Molecular Dynamics Simulation of Asphalt Binder. Advances in Civil Engineering, 2018, 2018, 1-14.	0.4	9
97	The Difference in Molecular Orientation and Interphase Structure of SiO2/Shape Memory Polyurethane in Original, Programmed and Recovered States during Shape Memory Process. Polymers, 2020, 12, 1994.	2.0	9
98	Understanding the Wetting and Water-Induced Dewetting Behaviors of Bitumen on Rough Aggregate Surfaces. Langmuir, 2021, 37, 3420-3427.	1.6	9
99	Coupled Thermomechanical Damage Behavior Analysis of Asphalt Pavements Using a 2D Mesostructure-Based Finite-Element Method. Journal of Transportation Engineering Part B: Pavements, 2021, 147, 04021012.	0.8	9
100	Study on the Aging Resistance of Polyurethane Precursor Modified Bitumen and its Mechanism. Sustainability, 2021, 13, 9520.	1.6	9
101	Use of Polyurethane Precursorâ€“Based Modifier as an Eco-Friendly Approach to Improve Performance of Asphalt. Journal of Transportation Engineering Part B: Pavements, 2021, 147, .	0.8	9
102	Volatile organic compounds (VOCs) inhibition and energy consumption reduction mechanisms of using isocyanate additive in bitumen chemical modification. Journal of Cleaner Production, 2022, 368, 133070.	4.6	9
103	Development of an FEM-DEM Model to Investigate Preliminary Compaction of Asphalt Pavements. Buildings, 2022, 12, 932.	1.4	9
104	Molecular Insights into the Adsorption Configuration of Bitumen Colloidal on Aggregate Surface. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	8
105	Machbarkeitsstudie fÃ¼r die innovative Bauweise â€œVorgefertigte und aufrollbare StraÃŸeâ€• Bautechnik, 2013, 90, 614-621.	0.2	7
106	Influence of the gritting material applied during the winter services on the asphalt surface performance. Cold Regions Science and Technology, 2015, 112, 39-44.	1.6	7
107	Interface treatment of longitudinal joints for porous asphalt pavement. International Journal of Pavement Engineering, 2016, 17, 741-752.	2.2	7
108	Effect of filler on performance of porous asphalt pavement using multiscale finite element method. International Journal of Pavement Engineering, 2022, 23, 3244-3254.	2.2	7

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109	Application of Linear Viscoelastic Properties in Semianalytical Finite Element Method with Recursive Time Integration to Analyze Asphalt Pavement Structure. Advances in Civil Engineering, 2018, 2018, 1-15.	0.4	6
110	Design of Thin Surfaced Asphalt Pavements. Procedia Engineering, 2016, 143, 844-853.	1.2	5
111	Analyzing the effects of clogging of PA internal structure with artificial soiling experiments. International Journal of Transportation Science and Technology, 2019, 8, 383-393.	2.0	5
112	Study on the Water Stability of Polyurethane Concrete from Perspective of Polyurethane-Aggregate Interface. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	5
113	Understanding of asphalt chemistry based on the six-fraction method. Construction and Building Materials, 2021, 311, 125241.	3.2	4
114	Comparison of the Polishing Resistances of Concrete Pavement Surface Textures Prepared with Different Technologies Using the Aachen Polishing Machine. Journal of Materials in Civil Engineering, 2021, 33, .	1.3	3
115	Study on the Skid Resistance Deterioration Behavior of the SMA Pavement. Sustainability, 2022, 14, 2864.	1.6	3
116	Performance Evaluation of Pervious Pavement Using Accelerated Pavement Testing System. , 2019, , .		2
117	Extraction of polycyclic aromatic compounds (PAC) and the influence on the mechanical and chemical properties of asphalt binder. Construction and Building Materials, 2019, 228, 116739.	3.2	2
118	Study on the Mechanical Properties of Waste Cooking Oil Modified Asphalt Binder. RILEM Bookseries, 2019, , 215-219.	0.2	2
119	Microstructure Evolution Mechanism of Geopolymers with Exposure to High-Temperature Environment. Crystals, 2021, 11, 1062.	1.0	2
120	Intelligent analysis of subbase strain based on a long-term comprehensive monitoring. Transportation Geotechnics, 2022, 33, 100720.	2.0	2
121	Study on the skid resistance of asphalt pavement covered with spreading chips. , 2011, , .		1
122	Wear behavior analysis and study on skid resistance on SMA pavement. , 2011, , .		1
123	Investigation of the Formation Mechanism and Environmental Risk of Tireâ€"Pavement Wearing Waste (TPWW). Sustainability, 2021, 13, 8172.	1.6	1
124	Optimization of long-term skid resistance on asphalt concrete pavement. , 2011, , .		0
125	ÂÂÂ. Computer-Aided Civil and Infrastructure Engineering, 2020, 35, 1177-1177.	6.3	0
126	Outstanding journal leading the future development of civil and infrastructure engineering. Computer-Aided Civil and Infrastructure Engineering, 2020, 35, 905-906.	6.3	0

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127	Multi-scale Computational Approaches for Asphalt Pavements Under Rolling Tire Load. Lecture Notes in Applied and Computational Mechanics, 2021, , 247-266.	2.0	0
128	Characterization and Evaluation of Different Asphalt Properties Using Microstructural Analysis. Lecture Notes in Applied and Computational Mechanics, 2021, , 207-225.	2.0	0