

# Dawei Wang

## List of Publications by Year in descending order

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128  
papers

3,692  
citations

117453

34  
h-index

182168

51  
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132  
all docs

132  
docs citations

132  
times ranked

1698  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	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
4	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
5	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
6	Intelligent analysis of subbase strain based on a long-term comprehensive monitoring. Transportation Geotechnics, 2022, 33, 100720.	2.0	2
7	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
8	Molecular Insights into the Adsorption Configuration of Bitumen Colloidal on Aggregate Surface. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	8
9	Study on the Skid Resistance Deterioration Behavior of the SMA Pavement. Sustainability, 2022, 14, 2864.	1.6	3
10	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
11	Experimental investigations and quantum chemical calculations of methylene diphenyl diisocyanate (MDI)-based chemically modified bitumen and its crosslinking behaviours. Fuel, 2022, 321, 124084.	3.4	16
12	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
13	Development of an FEM-DEM Model to Investigate Preliminary Compaction of Asphalt Pavements. Buildings, 2022, 12, 932.	1.4	9
14	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
15	Thermal oxidative and ultraviolet ageing behaviour of nano-montmorillonite modified bitumen. Road Materials and Pavement Design, 2021, 22, 121-139.	2.0	41
16	Exploiting the synergetic effects of graphene and carbon nanotubes on the mechanical properties of bitumen composites. Carbon, 2021, 172, 402-413.	5.4	55
17	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
18	Green tunnel pavement: Polyurethane ultra-thin friction course and its performance characterization. Journal of Cleaner Production, 2021, 289, 125131.	4.6	31

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19	Multiscale understanding of interfacial behavior between bitumen and aggregate: From the aggregate mineralogical genome aspect. <i>Construction and Building Materials</i> , 2021, 271, 121607.	3.2	24
20	MobileCrack: Object Classification in Asphalt Pavements Using an Adaptive Lightweight Deep Learning. <i>Journal of Transportation Engineering Part B: Pavements</i> , 2021, 147, 04020092.	0.8	24
21	Multi-scale Computational Approaches for Asphalt Pavements Under Rolling Tire Load. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2021, , 247-266.	2.0	0
22	Characterization and Evaluation of Different Asphalt Properties Using Microstructural Analysis. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2021, , 207-225.	2.0	0
23	Understanding the Wetting and Water-Induced Dewetting Behaviors of Bitumen on Rough Aggregate Surfaces. <i>Langmuir</i> , 2021, 37, 3420-3427.	1.6	9
24	Coupled Thermomechanical Damage Behavior Analysis of Asphalt Pavements Using a 2D Mesostructure-Based Finite-Element Method. <i>Journal of Transportation Engineering Part B: Pavements</i> , 2021, 147, 04021012.	0.8	9
25	Investigation of the Formation Mechanism and Environmental Risk of Tire-Related Pavement Wearing Waste (TPWW). <i>Sustainability</i> , 2021, 13, 8172.	1.6	1
26	Study on the effects of reversible aging on the low temperature performance of asphalt binders. <i>Construction and Building Materials</i> , 2021, 295, 123604.	3.2	17
27	Study on the Aging Resistance of Polyurethane Precursor Modified Bitumen and its Mechanism. <i>Sustainability</i> , 2021, 13, 9520.	1.6	9
28	Microstructure Evolution Mechanism of Geopolymers with Exposure to High-Temperature Environment. <i>Crystals</i> , 2021, 11, 1062.	1.0	2
29	Comparison of the Polishing Resistances of Concrete Pavement Surface Textures Prepared with Different Technologies Using the Aachen Polishing Machine. <i>Journal of Materials in Civil Engineering</i> , 2021, 33, .	1.3	3
30	Use of Polyurethane Precursor-Based Modifier as an Eco-Friendly Approach to Improve Performance of Asphalt. <i>Journal of Transportation Engineering Part B: Pavements</i> , 2021, 147, .	0.8	9
31	Predicting the low-temperature performance of asphalt binder based on rheological model. <i>Construction and Building Materials</i> , 2021, 302, 124401.	3.2	14
32	Gene-editable materials for future transportation infrastructure: a review for polyurethane-based pavement. <i>Journal of Infrastructure Preservation and Resilience</i> , 2021, 2, .	1.5	15
33	Understanding of asphalt chemistry based on the six-fraction method. <i>Construction and Building Materials</i> , 2021, 311, 125241.	3.2	4
34	New innovations in pavement materials and engineering: A review on pavement engineering research 2021. <i>Journal of Traffic and Transportation Engineering (English Edition)</i> , 2021, 8, 815-999.	2.0	59
35	Investigation on the permeability of porous asphalt concrete based on microstructure analysis. <i>International Journal of Pavement Engineering</i> , 2020, 21, 1683-1693.	2.2	35
36	Development of aggregate micro-texture during polishing and correlation with skid resistance. <i>International Journal of Pavement Engineering</i> , 2020, 21, 629-641.	2.2	25

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37	Performance evaluation of bitumen with a homogeneous dispersion of carbon nanotubes. Carbon, 2020, 158, 465-471.	5.4	57
38	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
39	Strain field distribution of asphalt mortar using digital image processing. Construction and Building Materials, 2020, 238, 117624.	3.2	16
40	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
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	Computer-Aided Civil and Infrastructure Engineering, 2020, 35, 1177-1177.	6.3	0
43	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
44	In-situ and numerical investigation on the dynamic response of unbounded granular material in permeable pavement. Transportation Geotechnics, 2020, 25, 100396.	2.0	14
45	Particle distribution around the damage area of asphalt mixture based on digital image correlation. Powder Technology, 2020, 375, 11-19.	2.1	14
46	Outstanding journal leading the future development of civil and infrastructure engineering. Computer-Aided Civil and Infrastructure Engineering, 2020, 35, 905-906.	6.3	0
47	The Difference in Molecular Orientation and Interphase Structure of SiO <sub>2</sub> /Shape Memory Polyurethane in Original, Programmed and Recovered States during Shape Memory Process. Polymers, 2020, 12, 1994.	2.0	9
48	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
49	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
50	Changes of asphalt fumes in hot-mix asphalt pavement recycling. Journal of Cleaner Production, 2020, 258, 120586.	4.6	24
51	Improving the polishing resistance of cement mortar by using recycled ceramic. Resources, Conservation and Recycling, 2020, 158, 104796.	5.3	33
52	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
53	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
54	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

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55	Primary investigation on the relationship between microstructural characteristics and the mechanical performance of asphalt mixtures with different compaction degrees. <i>Construction and Building Materials</i> , 2019, 223, 784-793.	3.2	42
56	Analyzing the effects of clogging of PA internal structure with artificial soiling experiments. <i>International Journal of Transportation Science and Technology</i> , 2019, 8, 383-393.	2.0	5
57	Sustainable Green Pavement Using Bio-Based Polyurethane Binder in Tunnel. <i>Materials</i> , 2019, 12, 1990.	1.3	23
58	Influence of filler properties on the rheological, cryogenic, fatigue and rutting performance of mastics. <i>Construction and Building Materials</i> , 2019, 227, 116974.	3.2	27
59	Investigation of the microstructural fracture behaviour of asphalt mixtures using the finite element method. <i>Construction and Building Materials</i> , 2019, 227, 117078.	3.2	31
60	Performance Evaluation of Pervious Pavement Using Accelerated Pavement Testing System. , 2019, , .		2
61	Extraction of polycyclic aromatic compounds (PAC) and the influence on the mechanical and chemical properties of asphalt binder. <i>Construction and Building Materials</i> , 2019, 228, 116739.	3.2	2
62	Experimental study on the polyurethane-bound pervious mixtures in the application of permeable pavements. <i>Construction and Building Materials</i> , 2019, 202, 838-850.	3.2	86
63	The environmental impact evaluation on the application of permeable pavement based on life cycle analysis. <i>International Journal of Transportation Science and Technology</i> , 2019, 8, 351-357.	2.0	24
64	Numerical Simulation of Crack Propagation in Flexible Asphalt Pavements Based on Cohesive Zone Model Developed from Asphalt Mixtures. <i>Materials</i> , 2019, 12, 1278.	1.3	29
65	Evaluation of Polishing Behavior of Fine Aggregates Using an Accelerated Polishing Machine with Real Tires. <i>Journal of Transportation Engineering Part B: Pavements</i> , 2019, 145, 04019015.	0.8	11
66	Prediction of dynamic modulus of asphalt mixture using micromechanical method with radial distribution functions. <i>Materials and Structures/Materiaux Et Constructions</i> , 2019, 52, 1.	1.3	76
67	Investigation on Self-Healing Behavior of Asphalt Binder Using a Six-Fraction Molecular Model. <i>Journal of Materials in Civil Engineering</i> , 2019, 31, .	1.3	16
68	Development of a sustainable pervious pavement material using recycled ceramic aggregate and bio-based polyurethane binder. <i>Journal of Cleaner Production</i> , 2019, 220, 1052-1060.	4.6	91
69	Numerical Study on Influence of Piezoelectric Energy Harvester on Asphalt Pavement Structural Responses. <i>Journal of Materials in Civil Engineering</i> , 2019, 31, .	1.3	27
70	Rheological and micro-structural characterization of bitumen modified with carbon nanomaterials. <i>Construction and Building Materials</i> , 2019, 201, 580-589.	3.2	57
71	Study on the Mechanical Properties of Waste Cooking Oil Modified Asphalt Binder. <i>RILEM Bookseries</i> , 2019, , 215-219.	0.2	2
72	Investigation of anisotropic flow in asphalt mixtures using the X-ray image technique: pore structure effect. <i>Road Materials and Pavement Design</i> , 2019, 20, 491-508.	2.0	20

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73	Investigation on interface stripping damage at high-temperature using microstructural analysis. International Journal of Pavement Engineering, 2019, 20, 544-556.	2.2	19
74	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
75	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
76	Influence of temperature on polishing behaviour of asphalt road surfaces. Wear, 2018, 402-403, 49-56.	1.5	17
77	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
78	Asphalt Fume Exposures by Pavement Construction Workers: Current Status and Project Cases. Journal of Construction Engineering and Management - ASCE, 2018, 144, .	2.0	27
79	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
80	Comparison of mechanical responses of asphalt mixtures manufactured by different compaction methods. Construction and Building Materials, 2018, 162, 765-780.	3.2	36
81	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
82	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
83	Influence of aggregates' spatial characteristics on air-voids in asphalt mixture. Road Materials and Pavement Design, 2018, 19, 837-855.	2.0	40
84	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
85	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
86	Performance enhancement of porous asphalt pavement using red mud as alternative filler. Construction and Building Materials, 2018, 160, 707-713.	3.2	101
87	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
88	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
89	The State-of-the-Art Review on Molecular Dynamics Simulation of Asphalt Binder. Advances in Civil Engineering, 2018, 2018, 1-14.	0.4	9
90	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

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91	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
92	Study of alkali activated slag as alternative pavement binder. Construction and Building Materials, 2018, 186, 626-634.	3.2	37
93	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
94	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
95	Influence of Paraffin on the Microproperties of Asphalt Binder Using MD Simulation. Journal of Materials in Civil Engineering, 2018, 30, .	1.3	19
96	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 ETQq0 0 0 rgBT /2overlock 10 Tf 50 53	2.0	10
97	Investigation of design alternatives for hydronic snow melting pavement systems in China. Journal of Cleaner Production, 2018, 170, 1413-1422.	4.6	55
98	Development of morphological properties of road surfacing aggregates during the polishing process. International Journal of Pavement Engineering, 2017, 18, 367-380.	2.2	36
99	Evaluation of morphological characteristics of fine aggregate in asphalt pavement. Construction and Building Materials, 2017, 139, 1-8.	3.2	42
100	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
101	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
102	Measurement and evaluation on deterioration of asphalt pavements by geophones. Measurement: Journal of the International Measurement Confederation, 2017, 109, 223-232.	2.5	37
103	Investigation on the factors influencing the performance of piezoelectric energy harvester. Road Materials and Pavement Design, 2017, 18, 180-189.	2.0	33
104	Modelling and evaluation of aggregate morphology on asphalt compression behavior. Construction and Building Materials, 2017, 133, 196-208.	3.2	92
105	Development in Stacked-Array-Type Piezoelectric Energy Harvester in Asphalt Pavement. Journal of Materials in Civil Engineering, 2017, 29, .	1.3	58
106	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
107	Modeling and testing of road surface aggregate wearing behaviour. Construction and Building Materials, 2017, 131, 129-137.	3.2	36
108	Characterization of Bitumen Micro-Mechanical Behaviors Using AFM, Phase Dynamics Theory and MD Simulation. Materials, 2017, 10, 208.	1.3	64



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109	Application of Dynamic Analysis in Semi-Analytical Finite Element Method. <i>Materials</i> , 2017, 10, 1010.	1.3	26
110	Using a Molecular Dynamics Simulation to Investigate Asphalt Nano-Cracking under External Loading Conditions. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 770.	1.3	28
111	A Preliminary Study on the IoT-Based Pavement Monitoring Platform Based on the Piezoelectric-Cantilever-Beam Powered Sensor. <i>Advances in Materials Science and Engineering</i> , 2017, 2017, 1-6.	1.0	17
112	Application of Finite Layer Method in Pavement Structural Analysis. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 611.	1.3	17
113	Investigation on fatigue damage of asphalt mixture with different air-voids using microstructural analysis. <i>Construction and Building Materials</i> , 2016, 125, 936-945.	3.2	81
114	Design of Thin Surfaced Asphalt Pavements. <i>Procedia Engineering</i> , 2016, 143, 844-853.	1.2	5
115	Interface treatment of longitudinal joints for porous asphalt pavement. <i>International Journal of Pavement Engineering</i> , 2016, 17, 741-752.	2.2	7
116	A contribution to non-contact skid resistance measurement. <i>International Journal of Pavement Engineering</i> , 2015, 16, 646-659.	2.2	37
117	Application of semi-analytical finite element method coupled with infinite element for analysis of asphalt pavement structural response. <i>Journal of Traffic and Transportation Engineering (English)</i> Tj ETQq1 1 0.7842.14 rgBT 4overlo	2.0	54
118	Influence of the gritting material applied during the winter services on the asphalt surface performance. <i>Cold Regions Science and Technology</i> , 2015, 112, 39-44.	1.6	7
119	Calculation of skid resistance from texture measurements. <i>Journal of Traffic and Transportation Engineering (English Edition)</i> , 2015, 2, 3-16.	2.0	54
120	Evaluation of aggregate resistance to wear with Micro-Deval test in combination with aggregate imaging techniques. <i>Wear</i> , 2015, 338-339, 288-296.	1.5	57
121	Influence of aggregate particles on mastic and air-voids in asphalt concrete. <i>Construction and Building Materials</i> , 2015, 93, 1-9.	3.2	71
122	A study of the laboratory polishing behavior of granite as road surfacing aggregate. <i>Construction and Building Materials</i> , 2015, 89, 25-35.	3.2	40
123	Study of micro-texture and skid resistance change of granite slabs during the polishing with the Aachen Polishing Machine. <i>Wear</i> , 2014, 318, 1-11.	1.5	65
124	Influence of different polishing conditions on the skid resistance development of asphalt surface. <i>Wear</i> , 2013, 308, 71-78.	1.5	73
125	Machbarkeitsstudie f¼r die innovative Bauweise "Vorgefertigte und aufrollbare StraÙe", Bautechnik, 2013, 90, 614-621.	0.2	7
126	Study on the skid resistance of asphalt pavement covered with spreading chips. , 2011, , .		1



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127	Wear behavior analysis and study on skid resistance on SMA pavement. , 2011, , .		1
128	Optimization of long-term skid resistance on asphalt concrete pavement. , 2011, , .		0