Eyad Masad

List of Publications by Year
in descending order

84 papers	3,528 citations	172207 29 h-index	149479 56 g-index
84 all docs	84 docs citations	84 times ranked	1750 citing authors

#	Article	IF	Citations
1	Internal Structure Characterization of Asphalt Concrete Using Image Analysis. Journal of Computing in Civil Engineering, 1999, 13, 88-95.	2.5	328
2	Moisture susceptibility of asphalt mixtures, Part 1: mechanisms. International Journal of Pavement Engineering, 2008, 9, 81-98.	2.2	297
3	Correlation of Fine Aggregate Imaging Shape Indices with Asphalt Mixture Performance. Transportation Research Record, 2001, 1757, 148-156.	1.0	149
4	Surface Free Energy to Identify Moisture Sensitivity of Materials for Asphalt Mixes. Transportation Research Record, 2007, 2001, 37-45.	1.0	149
5	Micromechanical Modeling of the Viscoelastic Behavior of Asphalt Mixtures Using the Discrete-Element Method. International Journal of Geomechanics, 2007, 7, 131-139.	1.3	142
6	Modeling and Experimental Measurements of Strain Distribution in Asphalt Mixes. Journal of Transportation Engineering, 2001, 127, 477-485.	0.9	140
7	A unified method for the analysis of controlled-strain and controlled-stress fatigue testing. International Journal of Pavement Engineering, 2008, 9, 233-246.	2.2	109
8	Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. Journal of Computing in Civil Engineering, 2004, 18, 75-82.	2.5	94
9	Chemical analysis of surface and bulk of asphalt binders aged with accelerated weathering tester and standard aging methods. Fuel, 2017, 202, 366-379.	3.4	93
10	Moisture susceptibility of asphalt mixtures, Part 2: characterisation and modelling. International Journal of Pavement Engineering, 2008, 9, 99-114.	2.2	80
11	Computational and experimental evaluation of hydraulic conductivity anisotropy in hot-mix asphalt. International Journal of Pavement Engineering, 2007, 8, 29-43.	2.2	79
12	Limits on Adhesive Bond Energy for Improved Resistance of Hot-Mix Asphalt to Moisture Damage. , 0, .		78
13	Microstructural Finite-Element Analysis of Influence of Localized Strain Distribution on Asphalt Mix Properties. Journal of Engineering Mechanics - ASCE, 2002, 128, 1105-1114.	1.6	75
14	Three dimensional simulation of fluid flow in X-ray CT images of porous media. International Journal for Numerical and Analytical Methods in Geomechanics, 2004, 28, 1327-1360.	1.7	70
15	Experimental Measurement and Numerical Simulation of Water Vapor Diffusion through Asphalt Pavement Materials. Journal of Materials in Civil Engineering, 2010, 22, 588-598.	1.3	65
16	Effect of recycling agents in recycled asphalt binders observed with microstructural and rheological tests. Construction and Building Materials, 2018, 158, 61-74.	3.2	65
17	Micromechanical modeling of the influence of material properties on moisture-induced damage in asphalt mixtures. Construction and Building Materials, 2010, 24, 1184-1192.	3.2	62
18	Experimental-based model for predicting the skid resistance of asphalt pavements. International Journal of Pavement Engineering, 2013, 14, 24-35.	2.2	62

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19	Microstructural properties of warm mix asphalt before and after laboratory-simulated long-term ageing. Road Materials and Pavement Design, 2015, 16, 2-20.	2.0	61
20	3D Concrete Printing Sustainability: A Comparative Life Cycle Assessment of Four Construction Method Scenarios. Buildings, 2020, 10, 245.	1.4	60
21	Probabilistic Analysis of Fracture in Asphalt Mixtures Caused by Moisture Damage. Transportation Research Record, 2008, 2057, 28-36.	1.0	59
22	Nonlinearly viscoelastic analysis of asphalt mixes subjected to shear loading. Mechanics of Time-Dependent Materials, 2007, 11, 91-110.	2.3	57
23	Effects of coarse aggregate angularity and asphalt binder on laboratory-measured permanent deformation properties of HMA. International Journal of Pavement Engineering, 2009, 10, 19-28.	2.2	51
24	The heterogeneity and mechanical response of hot mix asphalt laboratory specimens. International Journal of Pavement Engineering, 2010, 11, 107-121.	2.2	49
25	Development of a Model for Asphalt Pavement Skid Resistance Based on Aggregate Characteristics and Gradation. Journal of Transportation Engineering, 2011, 137, 863-873.	0.9	46
26	Studying the effect of microstructural properties on the mechanical degradation of asphalt mixtures. Construction and Building Materials, 2015, 93, 70-83.	3.2	46
27	Measurements of the moisture diffusion coefficient of asphalt mixtures and its relationship to mixture composition. International Journal of Pavement Engineering, 2009, 10, 389-399.	2.2	39
28	Evolution of the microstructure of unmodified and polymer modified asphalt binders with aging in an accelerated weathering tester. Journal of Microscopy, 2016, 263, 341-356.	0.8	39
29	Influence of aggregate morphology on the mechanical performance of asphalt mixtures. Road Materials and Pavement Design, 2018, 19, 972-991.	2.0	39
30	Effects of Environmental Factors on the Chemical Composition of Asphalt Binders. Energy & Fuels, 2019, 33, 2614-2624.	2.5	32
31	Probabilistic analysis of fatigue life for asphalt mixtures using the viscoelastic continuum damage approach. Construction and Building Materials, 2016, 126, 227-244.	3.2	30
32	Relationship between bond energy and total work of fracture for asphalt binder-aggregate systems. Road Materials and Pavement Design, 2012, 13, 281-303.	2.0	28
33	Finite element modelling of field compaction of hot mix asphalt. Part II: Applications. International Journal of Pavement Engineering, 2016, 17, 24-38.	2.2	27
34	Analysis of Aggregate Shape Characteristics and its Relationship to Hot Mix Asphalt Performance. Road Materials and Pavement Design, 2007, 8, 317-350.	2.0	24
35	Application of ground-penetrating radar in measuring the density of asphalt pavements and its relationship to mechanical properties. International Journal of Pavement Engineering, 2016, 17, 503-516.	2.2	24
36	Comparative evaluation of fatigue resistance of warm fine aggregate asphalt mixtures. Construction and Building Materials, 2016, 109, 8-16.	3.2	24

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37	Aging evaluation of asphalt samples with Low Field Nuclear Magnetic Resonance. Materials Characterization, 2017, 128, 165-175.	1.9	24
38	Performance and blending evaluation of asphalt mixtures containing reclaimed asphalt pavement. Road Materials and Pavement Design, 2021, 22, 2441-2457.	2.0	24
39	New Methodology for Shape Classification of Aggregates. , 0, .		24
40	Sensitivity of HMA Performance to Aggregate Shape Measured Using Conventional and Image Analysis Methods. Road Materials and Pavement Design, 2004, 5, 477-498.	2.0	23
41	Polyampholyte polymer as a stabiliser for subgrade soil. International Journal of Pavement Engineering, 2018, 19, 467-478.	2.2	23
42	Quantification of Damage in the Dynamic Complex Modulus and Flow Number Tests Using X-Ray Computed Tomography. Journal of Materials in Civil Engineering, 2011, 23, 1687-1696.	1.3	22
43	Evaluation of ageing in asphalt cores using low-field nuclear magnetic resonance. International Journal of Pavement Engineering, 2016, 17, 847-860.	2.2	22
44	Finite element modelling of field compaction of hot mix asphalt. Part I: Theory. International Journal of Pavement Engineering, 2016, 17, 13-23.	2.2	22
45	Fundamental evaluation of moisture damage in warm-mix asphalts. Road Materials and Pavement Design, 2017, 18, 258-283.	2.0	22
46	The influence of moisture on the evolution of the microstructure of asphalt binders with aging. Road Materials and Pavement Design, 2020, 21, 331-346.	2.0	22
47	Numerical analysis of moisture vapor diffusion in asphalt mixtures using digital images. Materials and Structures/Materiaux Et Constructions, 2010, 43, 897-911.	1.3	20
48	Finite Element Studies of Skid Resistance under Hot Weather Condition. Transportation Research Record, 2018, 2672, 382-394.	1.0	20
49	Microstructural, chemical and thermal analyses of Warm Mix Asphalt. , 2014, , 157-168.		19
50	Stochastic micromechanical model of the deterioration of asphalt mixtures subject to moisture diffusion processes. International Journal for Numerical and Analytical Methods in Geomechanics, 2011, 35, 1079-1097.	1.7	18
51	Modelling moisture-mechanical damage in asphalt mixtures using random microstructures and a continuum damage formulation. Road Materials and Pavement Design, 2017, 18, 1-21.	2.0	18
52	Multiscale Characterization of Aging and Rejuvenation in Asphalt Binder Blends with High RAP Contents. Journal of Materials in Civil Engineering, 2021, 33, .	1.3	18
53	Effect of warm mix additives on the interfacial bonding characteristics of asphalt binders. International Journal of Pavement Engineering, 2018, 19, 1111-1124.	2.2	17
54	Modelling sandâ€“asphalt mixtures within a thermodynamic framework: theory and application to torsion experiments. International Journal of Pavement Engineering, 2009, 10, 115-131.	2.2	16

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55	Incorporating the heterogeneity of asphalt mixtures in flexible pavements subjected to moisture diffusion. International Journal of Pavement Engineering, 2015, 16, 432-444.	2.2	16
56	Effect of treatment temperature on the microstructure of asphalt binders: insights on the development of dispersed domains. Journal of Microscopy, 2016, 262, 12-27.	0.8	16
57	Evolution of the Microstructure of Warm Mix Asphalt Binders with Aging in an Accelerated Weathering Tester. Journal of Materials in Civil Engineering, 2017, 29, .	1.3	15
58	Influence of polymer structure and amount on microstructure and properties of polyethylene-modified asphalt binders. Materials and Structures/Materiaux Et Constructions, 2021, 54, 1.	1.3	15
59	Nano-Mechanical Characterization of Mastic, Aggregate, and Interfacial Zone in Asphalt Composites. Journal of Testing and Evaluation, 2013, 41, 924-932.	0.4	15
60	Linear and nonlinear viscoelastic and viscoplastic analysis of asphalt binders with warm mix asphalt additives. International Journal of Pavement Engineering, 2018, 19, 857-864.	2.2	14
61	Properties and Microstructure Distribution of High-Performance Thermal Insulation Concrete. Materials, 2020, 13, 2091.	1.3	14
62	Evaluation of Asphalt Mix Stability Using Compaction Properties and Aggregate Structure Analysis. International Journal of Pavement Engineering, 2003, 4, 87-103.	2.2	13
63	Influence of different sources of microstructural heterogeneity on the degradation of asphalt mixtures. International Journal of Pavement Engineering, 2018, 19, 9-23.	2.2	13
64	Nanomechanical mapping of rejuvenated asphalt binders. Road Materials and Pavement Design, 2021, 22, 2478-2497.	2.0	13
65	Effects of ageing and recycling agents on the multiscale properties of binders with high RAP contents. International Journal of Pavement Engineering, 2022, 23, 1248-1270.	2.2	12
66	Nanoscale viscoelastic characterization of asphalt binders using the AFM-nDMA test. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	1.3	12
67	Development of predictive models for skid resistance of asphalt pavements and seal coat. International Journal of Pavement Engineering, 2022, 23, 695-707.	2.2	12
68	Anisotropic Viscoplastic Continuum Damage Model for Asphalt Mixes. , 2003, , 111.		10
69	Modelling constant displacement rate experiments of asphalt concrete using a thermodynamic framework. International Journal of Pavement Engineering, 2005, 6, 241-256.	2.2	9
70	Performance Evaluation of Full-Scale Sections of Asphalt Pavements in the State of Qatar. Journal of Performance of Constructed Facilities, 2015, 29, 04014123.	1.0	9
71	Simulation of Mass, Linear Momentum, and Energy Transport in Concrete with Varying Moisture Content during Cooling to Cryogenic Temperatures. Transport in Porous Media, 2016, 112, 139-166.	1.2	9
72	Influence of Chemical Constituents of Asphalt Binders on Their Rheological Properties. Transportation Research Record, 2019, 2673, 458-466.	1.0	9

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73	Rheological, Thermal, and Chemical Evaluation of Asphalt Binders Modified Using Crumb Rubber and Warm-Mix Additive. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	9
74	Thermal, microscopic, and rheological characterization of rejuvenated asphalt binders. Materials and Structures/Materiaux Et Constructions, 2022, 55, 1.	1.3	8
75	A Probabilistic Model for Predicting the Resistance of Aggregates in Asphalt Mixes to Fracture. Road Materials and Pavement Design, 2010, 11, 335-360.	2.0	6
76	Effect of bio-rejuvenator on recycled porous asphalt mixes. Road Materials and Pavement Design, 2023, 24, 340-366.	2.0	6
77	A statistical approach for predicting skid resistance of asphalt pavements. International Journal of Pavement Research and Technology, 2021, 14, 647-654.	1.3	5
78	Nanostructural and Nanomechanical Properties of LDPE-Modified Binders. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	5
79	Analysis of reclaimed asphalt blended binders using linear and nonlinear viscoelasticity frameworks. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	1.3	4
80	Toward a Mechanistic Approach for Analysis and Design of Asphalt Pavements. International Journal of Geomechanics, 2007, 7, 81-82.	1.3	3
81	A two-constituent nonlinear viscoelastic model for asphalt mixtures. Road Materials and Pavement Design, 2021, 22, 910-924.	2.0	3
82	Effect of reactive ethylene terpolymer modification on bitumenâ€™s microstructure, rheology, and porous asphalt mix properties. International Journal of Pavement Engineering, 2023, 24, .	2.2	3
83	A framework for the analysis of damage and recovery characteristics of asphalt mixtures. Road Materials and Pavement Design, 2020, , 1-14.	2.0	2
84	Microstructure of Warm Mix Asphalt Binder Exposed to UV Light and Heat. , 2016, , .		2