

Sunghwan Kim

List of Publications by Year in descending order

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Version: 2024-02-01

96
papers

1,669
citations

257450

24
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330143

37
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98
all docs

98
docs citations

98
times ranked

1046
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaluation of Small Uncrewed Aircraft Systems Data in Airfield Pavement Crack Detection and Rating. Transportation Research Record, 2023, 2677, 653-668.	1.9	3
2	ANNFAA: artificial neural network-based tool for the analysis of Federal Aviation Administration's rigid pavement systems. International Journal of Pavement Engineering, 2022, 23, 400-413.	4.4	4
3	A review of electrically conductive concrete heated pavement system technology: From the laboratory to the full-scale implementation. Construction and Building Materials, 2022, 329, 127139.	7.2	35
4	Assessment of satellite-based MERRA climate data in AASHTOWare pavement mechanistic-empirical design. Road Materials and Pavement Design, 2022, 23, 2876-2885.	4.0	2
5	Structural and Fatigue Analysis of Jointed Plain Concrete Pavement Top-Down and Bottom-Up Transverse Cracking Subjected to Superloads. Transportation Research Record, 2022, 2676, 76-93.	1.9	4
6	Pavement curling and warping analysis using wavelet techniques. International Journal of Pavement Engineering, 2021, 22, 1833-1848.	4.4	4
7	Sensitivity Index comparison of pavement mechanistic-empirical design input variables to reflective cracking model for different climatic zones. Road Materials and Pavement Design, 2021, 22, 2232-2247.	4.0	2
8	Experimental and theoretical characterization of electrodes on electrical and thermal performance of electrically conductive concrete. Composites Part B: Engineering, 2021, 222, 109003.	12.0	19
9	Statistics and Artificial Intelligence-Based Pavement Performance and Remaining Service Life Prediction Models for Flexible and Composite Pavement Systems. Transportation Research Record, 2020, 2674, 448-460.	1.9	14
10	Long-term performance evaluation of Iowa concrete overlays. International Journal of Pavement Engineering, 2020, , 1-12.	4.4	1
11	In Situ Evaluation of Using Lignosulfonate for Subgrade Stabilization. , 2020, , .		4
12	Evaluation of bio-based fog seal for low-volume road preservation. International Journal of Pavement Research and Technology, 2020, 13, 303-312.	2.6	6
13	Design and Full-scale Implementation of the Largest Operational Electrically Conductive Concrete Heated Pavement System. Construction and Building Materials, 2020, 255, 119229.	7.2	31
14	Proposed Improvements to the Construction of Electrically Conductive Concrete Pavement System Based on Lessons Learned. , 2020, , .		2
15	Investigation of Longitudinal Cracking in Widened Concrete Pavements. Baltic Journal of Road and Bridge Engineering, 2020, 15, 211-231.	0.8	9
16	Energy-efficient design of a carbon fiber-based self-heating concrete pavement system through finite element analysis. Clean Technologies and Environmental Policy, 2020, 22, 1145-1155.	4.1	8
17	Effects of concrete grinding residue (CGR) on selected sandy loam properties. Journal of Cleaner Production, 2019, 240, 118057.	9.3	6
18	Effect of Carbon-Fiber Properties on Volumetrics and Ohmic Heating of Electrically Conductive Asphalt Concrete. Journal of Materials in Civil Engineering, 2019, 31, .	2.9	37

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19	Numerical analysis of longitudinal cracking in widened jointed plain concrete pavement systems. International Journal of Pavement Research and Technology, 2019, 12, 277-287.	2.6	5
20	Polyurethane-carbon microfiber composite coating for electrical heating of concrete pavement surfaces. Heliyon, 2019, 5, e02359.	3.2	17
21	Laboratory Evaluation of Silty Soils Stabilized with Lignosulfonate. , 2019, , .		8
22	Effect of Temperature Variations on Electrical Resistivity of Conductive Concrete Heated Pavement System. , 2019, , .		0
23	Effect of joint spacing and pavement thickness on concrete overlay performance. International Journal of Pavement Research and Technology, 2019, 12, 64-69.	2.6	4
24	Deterministic and stochastic life-cycle cost analysis for Otta seal surface treatment on low volume roads. International Journal of Pavement Research and Technology, 2019, 12, 101-109.	2.6	5
25	Comparison between cement paste and asphalt mastic modified by carbonaceous materials: Electrical and thermal properties. Construction and Building Materials, 2019, 213, 121-130.	7.2	17
26	Integrated stochastic life cycle benefit cost analysis of hydronically-heated apron pavement system. Journal of Cleaner Production, 2019, 224, 994-1003.	9.3	9
27	Evaluation of Radio Frequency Interference Potential of Electrically Conductive Concrete for Heated Pavement Systems. , 2019, , .		0
28	The Influence of Concrete Grinding Residue on Soil Physical Properties and Plant Growth. Journal of Environmental Quality, 2019, 48, 1842-1848.	2.0	6
29	Multi-objective Bayesian optimization of super hydrophobic coatings on asphalt concrete surfaces. Journal of Computational Design and Engineering, 2019, 6, 693-704.	3.1	15
30	Development of Carbon Fiber-modified Electrically Conductive Concrete for Implementation in Des Moines International Airport. Case Studies in Construction Materials, 2018, 8, 277-291.	1.7	50
31	Neural Network-Based Multiple-Slab Response Models for Top-Down Cracking Mode in Airfield Pavement Design. Journal of Transportation Engineering Part B: Pavements, 2018, 144, 04018009.	1.5	8
32	Characterization of environmental loads related concrete pavement deflection behavior using Light Detection and Ranging technology. International Journal of Pavement Research and Technology, 2018, 11, 470-480.	2.6	10
33	Energy and thermal performance evaluation of an automated snow and ice removal system at airports using numerical modeling and field measurements. Sustainable Cities and Society, 2018, 43, 238-250.	10.4	25
34	Assessment of soils stabilized with lignin-based byproducts. Transportation Geotechnics, 2018, 17, 122-132.	4.5	31
35	Design and Construction of the World's First Full-Scale Electrically Conductive Concrete Heated Airport Pavement System at a U.S. Airport. Transportation Research Record, 2018, 2672, 82-94.	1.9	18
36	Carbon fiber-based electrically conductive concrete for salt-free deicing of pavements. Journal of Cleaner Production, 2018, 203, 799-809.	9.3	121

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37	Towards resilient infrastructure systems for winter weather events: Integrated stochastic economic evaluation of electrically conductive heated airfield pavements. <i>Sustainable Cities and Society</i> , 2018, 41, 195-204.	10.4	27
38	Construction Techniques for Electrically Conductive Heated Pavement Systems. , 2018, , .		1
39	Development of Artificial Neural Networks Based Predictive Models for Dynamic Modulus of Airfield Pavement Asphalt Mixtures. , 2018, , .		5
40	Hydronic Heated Pavement System Using Precast Concrete Pavement for Airport Applications. , 2018, , .		3
41	Investigating the Heat Generation Efficiency of Electrically-Conductive Asphalt Mastic Using Infrared Thermal Imaging. , 2018, , .		2
42	Electrically-conductive asphalt mastic: Temperature dependence and heating efficiency. <i>Materials and Design</i> , 2018, 157, 303-313.	7.0	48
43	Superhydrophobic coatings on Portland cement concrete surfaces. <i>Construction and Building Materials</i> , 2017, 141, 393-401.	7.2	103
44	Evaluation of the Freeze and Thaw Durability of Road Soils Stabilized with a Biofuel Co-Product. , 2017, , .		2
45	Configuration of Electrodes for Electrically Conductive Concrete Heated Pavement Systems. , 2017, , .		7
46	Influence of mix design variables on engineering properties of carbon fiber-modified electrically conductive concrete. <i>Construction and Building Materials</i> , 2017, 152, 168-181.	7.2	94
47	Alternative Approaches to Determining Robust ANN Based Models for Predicting Critical Airport Rigid Pavement Responses. , 2017, , .		0
48	Influence of Deicing Salts on the Water-Repellency of Portland Cement Concrete Coated with Polytetrafluoroethylene and Polyetheretherketone. , 2017, , .		5
49	Superhydrophobic Coatings on Asphalt Concrete Surfaces: Toward Smart Solutions for Winter Pavement Maintenance. <i>Transportation Research Record</i> , 2016, 2551, 10-17.	1.9	70
50	Life cycle assessment of heated apron pavement system operations. <i>Transportation Research, Part D: Transport and Environment</i> , 2016, 48, 316-331.	6.8	14
51	System Requirements for Electrically Conductive Concrete Heated Pavements. <i>Transportation Research Record</i> , 2016, 2569, 70-79.	1.9	35
52	Fabrication of Polytetrafluoroethylene-Coated Asphalt Concrete Biomimetic Surfaces: A Nanomaterials-Based Pavement Winter Maintenance Approach. , 2016, , .		9
53	Integration of a prototype wireless communication system with micro-electromechanical temperature and humidity sensor for concrete pavement health monitoring. <i>Cogent Engineering</i> , 2015, 2, 1014278.	2.2	8
54	Impact of farm equipment loading on low-volume concrete road structural response and performance. <i>Baltic Journal of Road and Bridge Engineering</i> , 2015, 10, 325-332.	0.8	2

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55	I-BACK: Iowa's Intelligent Pavement Backcalculation Software. , 2014, , .		1
56	HIGHWAY INFRASTRUCTURE HEALTH MONITORING USING MICRO-ELECTROMECHANICAL SENSORS AND SYSTEMS (MEMS). Journal of Civil Engineering and Management, 2014, 19, S188-S201.	3.5	24
57	Calibration of Pavement ME Design and Mechanistic-Empirical Pavement Design Guide Performance Prediction Models for Iowa Pavement Systems. Journal of Transportation Engineering, 2014, 140, .	0.9	30
58	Sensitivity analysis frameworks for mechanistic-empirical pavement design of continuously reinforced concrete pavements. Construction and Building Materials, 2014, 73, 498-508.	7.2	14
59	Finite element modeling of environmental effects on rigid pavement deformation. Frontiers of Structural and Civil Engineering, 2014, 8, 101-114.	2.9	8
60	Performance Evaluation of Roadway Subdrain Outlets in Iowa. Transportation Research Record, 2014, 2462, 68-76.	1.9	0
61	Sensitivity quantification of jointed plain concrete pavement mechanistic-empirical performance predictions. Construction and Building Materials, 2013, 43, 545-556.	7.2	11
62	Knowledge discovery and data mining in pavement inverse analysis. Transport, 2013, 28, 1-10.	1.2	35
63	Computational Intelligence in Civil and Hydraulic Engineering. Mathematical Problems in Engineering, 2013, 2013, 1-2.	1.1	1
64	Renewable biomass-derived lignin in transportation infrastructure strengthening applications. International Journal of Sustainable Engineering, 2013, 6, 316-325.	3.5	15
65	Global Sensitivity Analysis of Mechanisticâ€“Empirical Performance Predictions for Flexible Pavements. Transportation Research Record, 2013, 2368, 12-23.	1.9	37
66	Global Sensitivity Analysis of Jointed Plain Concrete Pavement Mechanisticâ€“Empirical Performance Predictions. Transportation Research Record, 2013, 2367, 113-122.	1.9	12
67	Structural Characterization of Iowaâ€™s Rubblized PCC Pavements. Journal of Transportation Engineering, 2012, 138, 406-413.	0.9	2
68	Impact of Bio-Fuel Co-Product Modified Subgrade on Flexible Pavement Performance. , 2012, , .		4
69	Local Sensitivity of Mechanistic-Empirical Flexible Pavement Performance Predictions to Unbound Material Property Inputs. , 2012, , .		11
70	Unbound material characterisation with Nottingham asphalt tester. Proceedings of Institution of Civil Engineers: Construction Materials, 2012, 165, 355-365.	1.1	2
71	Moisture Susceptibility of Subgrade Soils Stabilized by Lignin-Based Renewable Energy Coproduct. Journal of Transportation Engineering, 2012, 138, 1283-1290.	0.9	40
72	A SIMPLIFIED APPROACH FOR PREDICTING EARLY-AGE CONCRETE PAVEMENT DEFORMATION / SUPAPRASTINTAS METODAS, PROGNOZUOJANTIS ANKSTYVOJO BETONO DANGOS DEFORMACIJAS. Journal of Civil Engineering and Management, 2011, 17, 27-35.	3.5	5

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73	Sustainable Use of Lignocellulosic Biorefineries Co-Products in Geotechnical Bulk Applications: Comparative Analysis of Lab Data. , 2011, , .		1
74	Mechanistic-Based Characterization of Non-Linear Pavement Mechanical Properties with Evolving Intelligent Information Processing Systems. , 2011, , .		0
75	Effect of Concrete Strength and Stiffness Characterization on Predictions of Mechanistic“Empirical Performance for Rigid Pavements. Transportation Research Record, 2011, 2226, 41-50.	1.9	6
76	Comparative Performance of Concrete Pavements with Recycled Concrete Aggregate (RCA) and Virgin Aggregate Subbases. , 2011, , .		2
77	Support Vector Machines Approach to HMA Stiffness Prediction. Journal of Engineering Mechanics - ASCE, 2011, 137, 138-146.	2.9	59
78	Use of Pavement Management Information System for Verification of Mechanistic“Empirical Pavement Design Guide Performance Predictions. Transportation Research Record, 2010, 2153, 30-39.	1.9	11
79	Soil Stabilization with Bioenergy Coproduct. Transportation Research Record, 2010, 2186, 130-137.	1.9	47
80	Lignin Recovery and Utilization. , 2010, , 247-274.		8
81	NON-DESTRUCTIVE EVALUATION OF IN-PLACE REHABILITATED CONCRETE PAVEMENTS. Journal of Civil Engineering and Management, 2010, 16, 552-560.	3.5	5
82	Early-Age Response of Concrete Pavements to Temperature and Moisture Variations. Baltic Journal of Road and Bridge Engineering, 2010, 5, 132-138.	0.8	2
83	Sustainable Rehabilitation of Deteriorated Concrete Highways: Condition Assessment Using Shuffled Complex Evolution (SCE) Global Optimization Approach. , 2010, , 249-265.		1
84	Sensitivity Analysis of Rigid Pavement Systems Using the Mechanistic-Empirical Design Guide Software. Journal of Transportation Engineering, 2009, 135, 555-562.	0.9	28
85	Accuracy of Predictive Models for Dynamic Modulus of Hot-Mix Asphalt. Journal of Materials in Civil Engineering, 2009, 21, 286-293.	2.9	115
86	Looking to the future: the next-generation hot mix asphalt dynamic modulus prediction models. International Journal of Pavement Engineering, 2009, 10, 341-352.	4.4	53
87	Neural Networks Application in Pavement Infrastructure Materials. Studies in Computational Intelligence, 2009, , 47-66.	0.9	10
88	Smoothness variations in early-age jointed plain concrete pavements. Canadian Journal of Civil Engineering, 2008, 35, 1388-1398.	1.3	2
89	Advanced approaches to hot-mix asphalt dynamic modulus prediction. Canadian Journal of Civil Engineering, 2008, 35, 699-707.	1.3	53
90	Effect of M-E Design Guide Inputs on Flexible Pavement Performance Predictions. Road Materials and Pavement Design, 2007, 8, 375-397.	4.0	23

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91	Effect of M-E Design Guide Inputs on Flexible Pavement Performance Predictions. Road Materials and Pavement Design, 2007, 8, 375-397.	4.0	1
92	Innovative Nano-engineered Asphalt Concrete for Ice and Snow Controls in Pavement Systems. , 0, , .		6
93	Critical Responses of Flexible Pavements Under Superheavy Loads and Data-Driven Surrogate Model. International Journal of Pavement Research and Technology, 0, , 1.	2.6	3
94	Iowa Experience on Local Calibration of AASHTOWare Pavement ME Design (PMED) for Jointed Plain Concrete Pavements. , 0, , .		0
95	System Design Improvements of Heated Pavements: Recommendations for Future Projects. , 0, , .		0
96	Accuracy assessment of light detection and ranging system measurements for jointed concrete pavement surface geometry. Road Materials and Pavement Design, 0, , 1-17.	4.0	0