Michael D Lepech

List of Publications by Year
in descending order

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51	2,621	218381	223531
papers	citations	26 h-index	46 g-index

51	51	51	2221
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Autogenous healing of engineered cementitious composites under wetâ€“dry cycles. Cement and Concrete Research, 2009, 39, 382-390.	4.6	512
2	Water permeability of engineered cementitious composites. Cement and Concrete Composites, 2009, 31, 744-753.	4.6	259
3	Application of ECC for bridge deck link slabs. Materials and Structures/Materiaux Et Constructions, 2009, 42, 1185-1195.	1.3	221
4	Life Cycle Modeling of Concrete Bridge Design: Comparison of Engineered Cementitious Composite Link Slabs and Conventional Steel Expansion Joints. Journal of Infrastructure Systems, 2005, 11, 51-60.	1.0	164
5	Techno-Ecological Synergy: A Framework for Sustainable Engineering. Environmental Science & Technology, 2015, 49, 1752-1760.	4.6	110
6	Dynamic Life-Cycle Modeling of Pavement Overlay Systems: Capturing the Impacts of Users, Construction, and Roadway Deterioration. Journal of Infrastructure Systems, 2010, 16, 299-309.	1.0	106
7	Cradle-to-Gate Life Cycle Assessment for a Cradle-to-Cradle Cycle: Biogas-to-Bioplastic (and Back). Environmental Science & Technology, 2012, 46, 9822-9829.	4.6	104
8	Sustainable target value design: integrating life cycle assessment and target value design to improve building energy and environmental performance. Journal of Cleaner Production, 2015, 88, 43-51.	4.6	98
9	Durability of strain-hardening cement-based composites (SHCC). Materials and Structures/Materiaux Et Constructions, 2012, 45, 1447-1463.	1.3	96
10	Life-Cycle Optimization of Pavement Overlay Systems. Journal of Infrastructure Systems, 2010, 16, 310-322.	1.0	82
11	Network-Level Pavement Asset Management System Integrated with Life-Cycle Analysis and Life-Cycle Optimization. Journal of Infrastructure Systems, 2013, 19, 99-107.	1.0	71
12	Modeling and optimization of building mix and energy supply technology for urban districts. Applied Energy, 2015, 159, 161-177.	5.1	66
13	Bond behavior and interface modeling of reinforced high-performance fiber-reinforced cementitious composites. Cement and Concrete Composites, 2017, 83, 188-201.	4.6	56
14	Cradle-to-gate sustainable target value design: integrating life cycle assessment and construction management for buildings. Journal of Cleaner Production, 2015, 100, 107-115.	4.6	53
15	USING LIFE CYCLE ASSESSMENT METHODS TO GUIDE ARCHITECTURAL DECISION-MAKING FOR SUSTAINABLE PREFABRICATED MODULAR BUILDINGS. Journal of Green Building, 2012, 7, 151-170.	0.4	48
16	Simplified structural deterioration model for reinforced concrete bridge piers under cyclic loading1. Structure and Infrastructure Engineering, 2017, 13, 55-66.	2.0	47
17	Integrating durability-based service-life predictions with environmental impact assessments of natural fiberâ€“reinforced composite materials. Resources, Conservation and Recycling, 2015, 99, 72-83.	5.3	42
18	Materials design for sustainability through life cycle modeling of engineered cementitious composites. Materials and Structures/Materiaux Et Constructions, 2008, 41, 1117-1131.	1.3	37

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19	A multi-objective feedback approach for evaluating sequential conceptual building design decisions. Automation in Construction, 2014, 45, 136-150.	4.8	36
20	Probabilistic design and management of environmentally sustainable repair and rehabilitation of reinforced concrete structures. Cement and Concrete Composites, 2014, 47, 19-31.	4.6	34
21	Limit states for sustainable reinforced concrete structures. Cement and Concrete Research, 2019, 122, 189-195.	4.6	32
22	Firm-level ecosystem service valuation using mechanistic biogeochemical modeling and functional substitutability. Ecological Economics, 2014, 100, 63-73.	2.9	31
23	Behavior of Concrete and ECC Structures under Simulated Earthquake Motion. Journal of Structural Engineering, 2013, 139, 389-399.	1.7	30
24	Incorporating multi-physics deterioration analysis in building information modeling for life-cycle management of durability performance. Automation in Construction, 2020, 110, 103004.	4.8	29
25	A novel approach to district heating and cooling network design based on life cycle cost optimization. Energy, 2020, 194, 116837.	4.5	29
26	Development of time-dependent fragility functions for deteriorating reinforced concrete bridge piers¹. Structure and Infrastructure Engineering, 2017, 13, 67-83.	2.0	27
27	Measuring the impact of dynamic life cycle performance feedback on conceptual building design. Journal of Cleaner Production, 2017, 164, 726-735.	4.6	22
28	Experimental Testing of Reinforced ECC Beams Subjected to Various Cyclic Deformation Histories. Journal of Structural Engineering, 2018, 144, .	1.7	18
29	Project-Level Assessment of Environmental Impact: Ecosystem Services Approach to Sustainable Management and Development. Journal of Management in Engineering - ASCE, 2012, 28, 5-12.	2.6	17
30	Incorporating pavement deterioration uncertainty into pavement management optimization. International Journal of Pavement Engineering, 2022, 23, 2062-2073.	2.2	15
31	Incorporating spatiotemporal effects and moisture diffusivity into a multi-criteria materials selection methodology for woodâ€“polymer composites. Construction and Building Materials, 2014, 71, 589-601.	3.2	14
32	Prediction of micrometeoroid damage to lunar construction materials using numerical modeling of hypervelocity impact events. International Journal of Impact Engineering, 2020, 138, 103499.	2.4	14
33	Micromechanics modeling and homogenization of glass fiber reinforced polymer composites subject to synergistic deterioration. Composites Science and Technology, 2021, 203, 108629.	3.8	13
34	Sustainability Assessment of Protein-Soil Composite Materials for Limited Resource Environments. Journal of Renewable Materials, 2015, 3, 183-194.	1.1	12
35	Hypervelocity Impact Performance of Biopolymer-Bound Soil Composites for Space Construction. Journal of Aerospace Engineering, 2020, 33, .	0.8	10
36	On Designing Biopolymer-Bound Soil Composites (BSC) for Peak Compressive Strength. Journal of Renewable Materials, 2020, 8, 845-861.	1.1	10

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37	Influence of carbon feedstock on potentially net beneficial environmental impacts of bio-based composites. Journal of Cleaner Production, 2016, 132, 266-278.	4.6	8
38	Prediction of ultimate compressive strength for biopolymer-bound soil composites (BSC) using sliding wingtip crack analysis. Engineering Fracture Mechanics, 2019, 218, 106570.	2.0	7
39	Development of a multiphysics model of synergistic effects between environmental exposure and damage in woven glass fiber reinforced polymeric composites. Composite Structures, 2021, 258, 113230.	3.1	7
40	Static versus Time-Dependent Material Selection Charts and Application in Wood Flour Composites. Journal of Biobased Materials and Bioenergy, 2015, 9, 273-283.	0.1	7
41	Human Health Impact as a Boundary Selection Criterion in the Life Cycle Assessment of Pultruded Fiber Reinforced Polymer Composite Materials. Journal of Industrial Ecology, 2012, 16, 266-275.	2.8	6
42	How â€œBelt and Roadâ€•initiative implementation has influenced R&D outcomes of Chinese enterprises: assetâ€exploitation or knowledge transfer?. R and D Management, 2021, 51, 273-292.	3.0	5
43	Determining the yield stress of a Biopolymer-bound Soil Composite for extrusion-based 3D printing applications. Construction and Building Materials, 2021, 305, 124730.	3.2	5
44	Creation of Statistically Equivalent Periodic Unit Cells for Protein-Bound Soils. , 2015, , .		4
45	Scaling Impact Crater Dimensions to Predict Micrometeorite Damage of Biopolymer-Stabilized Regolith. , 2018, , .		3
46	A shape stability model for 3D printable biopolymer-bound soil composite. Construction and Building Materials, 2022, 321, 126337.	3.2	2
47	Performance-Based Engineering Framework to Quantify Micrometeoroid Damage to Lunar Surface Structures. Journal of Aerospace Engineering, 2021, 34, .	0.8	1
48	The Role of Concrete Industry Standards as Institutional Barriers to More Sustainable Concrete Bridge Infrastructure. Advances in Civil Engineering Materials, 2014, 3, 338-354.	0.2	1
49	A framework for multiphysics modeling of natural environments for valuation of privately owned ecosystem services. , 2011, , .		0
50	Probabilistic Design of Sustainable Reinforced Concrete Infrastructure Repairs Using SIPmath. , 2019, , .		0
51	Prediction of Micrometeoroid Damage to Lunar Construction Materials using Numerical Modeling of Hypervelocity Impact Events. , 2019, , .		0