

# Erol Tutumluer

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

232  
papers

3,534  
citations

29  
h-index

48  
g-index

256  
ext. papers

4,122  
ext. citations

2.4  
avg, IF

5.76  
L-index

#	Paper	IF	Citations
232	Bender Element Field Sensors for Base Course Stiffness Measurements in Airport Pavements. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 861-876	0.3	1
231	Near Geogrid Stiffness Quantification in Airport Pavement Base Layers Using Bender Element Field Sensor. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 703-715	0.3	3
230	Riprap Stockpile Size and Shape Analyses Using Computer Vision. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 903-913	0.3	
229	Experimental Investigation of the Stabilization Performance of Geogrids for Unpaved Roads with Low Bearing Capacity Subgrade. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 717-728	0.3	
228	Dynamic Behavior Modeling of Full-Scale High-Speed Ballasted Track Using Discrete Element Method. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 435-447	0.3	
227	Durability of Stabilized Quarry By-Products in Base and Subbase Applications. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 659-671	0.3	
226	Finite Element Analysis of Nonlinear Elastic Behavior of Unbound Aggregate Materials Under Repeated Loading. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 253-264	0.3	
225	Modeling cyclic behavior of unbound aggregates using two-surface plasticity theory. <i>Construction and Building Materials</i> , <b>2022</b> , 325, 126774	6.7	0
224	Triaxial testing of new and degraded ballast under dry and wet conditions. <i>Transportation Geotechnics</i> , <b>2022</b> , 34, 100744	4	1
223	Monitoring Particle Movement under Compaction using SmartRock Sensor: A Case Study of Granular Base Layer Compaction. <i>Transportation Geotechnics</i> , <b>2022</b> , 34, 100764	4	0
222	Bender Element Field Sensor for the Measurement of Pavement Base and Subbase Stiffness Characteristics. <i>Transportation Research Record</i> , <b>2021</b> , 2675, 394-407	1.7	7
221	A Validated Train-Track-Bridge Model with Nonlinear Support Conditions at Bridge Approaches. <i>Infrastructures</i> , <b>2021</b> , 6, 59	2.6	2
220	Automated crack severity level detection and classification for ballastless track slab using deep convolutional neural network. <i>Automation in Construction</i> , <b>2021</b> , 124, 103484	9.6	15
219	Evaluation of lateral stability of railway tracks due to ballast degradation. <i>Construction and Building Materials</i> , <b>2021</b> , 278, 122342	6.7	12
218	Advanced full-scale laboratory dynamic load testing of a ballasted high-speed railway track. <i>Transportation Geotechnics</i> , <b>2021</b> , 29, 100559	4	2
217	Properties of aggregate fines influencing modulus and deformation behaviour of unbound aggregates. <i>International Journal of Pavement Engineering</i> , <b>2021</b> , 22, 498-513	2.6	3
216	Quantification of Railway Ballast Degradation by Abrasion Testing and Computer-Aided Morphology Analysis. <i>Journal of Materials in Civil Engineering</i> , <b>2021</b> , 33, 04020411	3	4

215	A Roadmap for Sustainable Smart Track Wireless Continuous Monitoring of Railway Track Condition. <i>Sustainability</i> , <b>2021</b> , 13, 7456	3.6	1
214	Use of a 3D Structured-Light Scanner to Determine Volume, Surface Area, and Shape of Aggregates. <i>Journal of Materials in Civil Engineering</i> , <b>2021</b> , 33, 04021240	3	0
213	Fines content, plasticity index and dust ratio influencing the modulus and permanent deformation behavior of aggregates. <i>Transportation Geotechnics</i> , <b>2021</b> , 30, 100630	4	
212	Stiffness evaluation of compacted geo-materials using crosshole-type dynamic cone penetrometer (CDP), rPLT, and LFW. <i>Construction and Building Materials</i> , <b>2021</b> , 303, 124015	6.7	0
211	Durability Aspects of Chemically Stabilized Quarry By-Product Applications in Pavement Base and Subbase. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 339-350	1.7	4
210	Railway ballast anisotropy testing via true triaxial apparatus. <i>Transportation Geotechnics</i> , <b>2020</b> , 23, 100355	5	3
209	Geogrid Stabilization of Unbound Aggregates Evaluated Through Bender Element Shear Wave Measurement in Repeated Load Triaxial Testing. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 113-125	1.7	7
208	Size and Shape Determination of Riprap and Large-sized Aggregates Using Field Imaging <b>2020</b> ,		2
207	Aggregate Properties Affecting Shear Strength and Permanent Deformation Characteristics of Unbound Base Course Materials. <i>Journal of Materials in Civil Engineering</i> , <b>2020</b> , 32, 04019332	3	8
206	Stabilization of a Clayey Soil with Ladle Metallurgy Furnace Slag Fines. <i>Materials</i> , <b>2020</b> , 13,	3.5	7
205	Mechanistic Analyses and Modeling of Pavement Sections Utilizing Sustainable Aggregate Quarry By-Product Applications. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 614-627	1.7	
204	Automated Segmentation and Morphological Analyses of Stockpile Aggregate Images using Deep Convolutional Neural Networks. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 285-298	1.7	5
203	Analysing the effect of principal stress rotation on railway track settlement by discrete element method. <i>Geotechnique</i> , <b>2020</b> , 70, 803-821	3.4	12
202	Bender Element Shear Wave Measurement Based Local Stiffness Characteristics Related to Permanent Deformation Behavior of Geogrid-Stabilized Aggregate Specimens <b>2020</b> ,		1
201	Local stiffness characteristic of geogrid-stabilized aggregate in relation to accumulated permanent deformation behavior. <i>Geotextiles and Geomembranes</i> , <b>2019</b> , 47, 402-407	5.2	5
200	Implications of Field Loading Patterns on Different Tie Support Conditions using Discrete Element Modeling: Dynamic Responses. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 509-520	1.7	12
199	Field Performance Evaluations of Sustainable Aggregate By-product Applications. <i>Lecture Notes in Civil Engineering</i> , <b>2019</b> , 3-23	0.3	1
198	Discrete Element Modeling of Full-Scale Ballasted Track Dynamic Responses from an Innovative High-Speed Rail Testing Facility. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 107-116	1.7	12

197	Field Imaging and Volumetric Reconstruction of Riprap Rock and Large-Sized Aggregates: Algorithms and Application. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 575-589	1.7	4
196	Micromechanical Particle Interactions in Railway Ballast through DEM Simulations of Direct Shear Tests. <i>International Journal of Geomechanics</i> , <b>2019</b> , 19, 04019031	3.1	24
195	Mechanistic Assessment of Layered Pavement Foundation System Using Validated Intelligent Compaction Measurements <b>2019</b> ,		2
194	Simulations of large-scale triaxial shear tests on ballast aggregates using sensing mechanism and real-time (SMART) computing. <i>Computers and Geotechnics</i> , <b>2019</b> , 110, 184-198	4.4	27
193	Stone blowing as a remedial measure to mitigate differential movement problems at railroad bridge approaches. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , <b>2019</b> , 233, 63-72	1.4	4
192	Evaluation of Chemically Stabilized Quarry Byproduct Applications in Base and Subbase Layers through Accelerated Pavement Testing. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 259-270	1.7	8
191	Implementation framework of the UIUC aggregate base rutting model. <i>International Journal of Pavement Engineering</i> , <b>2019</b> , 1-13	2.6	2
190	Durability Aspects of Stabilized Quarry By-product Pavement Base and Subbase Applications <b>2019</b> ,		2
189	Engineering Characteristics and Stabilization Performance of Aggregate Quarry By-Products From Different Sources and Crushing Stages. <i>Frontiers in Built Environment</i> , <b>2019</b> , 5,	2.2	2
188	Laboratory fatigue performance of under-ballast mats under varying loads and support conditions. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , <b>2019</b> , 233, 606-613	1.4	9
187	Application of the UIUC model for predicting ballast settlement to unsaturated ballasts under moving wheel loads. <i>Transportation Geotechnics</i> , <b>2019</b> , 18, 149-162	4	9
186	Horizontal stiffness evaluation of geogrid-stabilized aggregate using shear wave transducers. <i>Geotextiles and Geomembranes</i> , <b>2019</b> , 47, 177-186	5.2	14
185	Strength characteristics of crushed gravel and limestone aggregates with up to 12% plastic fines evaluated for pavement base/subbase applications. <i>Transportation Geotechnics</i> , <b>2019</b> , 18, 25-38	4	10
184	Role of Initial Particle Arrangement in Ballast Mechanical Behavior. <i>International Journal of Geomechanics</i> , <b>2018</b> , 18, 04017158	3.1	17
183	Crushed Limestone Aggregate Strength Influenced by Gradation, Fines Content, and Dust Ratio. <i>Journal of Transportation Engineering Part B: Pavements</i> , <b>2018</b> , 144, 04018002	1.4	9
182	Technical and environmental evaluation of metallurgical slags as aggregate for sustainable pavement layer applications. <i>Transportation Geotechnics</i> , <b>2018</b> , 14, 61-69	4	22
181	Railway Ballast Strength and Permeability Affecting Track Performance Under Dry and Wet Conditions <b>2018</b> ,		2
180	Ballast Support Condition Affecting Crosstie Performance Investigated Through Discrete Element Method <b>2018</b> ,		3

179	Full-Scale Model Testing on Ballasted High-Speed Railway: Dynamic Responses and Accumulated Settlements. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 125-135	1.7	17
178	Spatial Verification of Modulus for Pavement Foundation System. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 333-346	1.7	5
177	Embedded shear wave transducer for estimating stress and modulus of As-constructed unbound aggregate base layer. <i>Construction and Building Materials</i> , <b>2018</b> , 183, 465-471	6.7	6
176	Evaluation of Ballast Behavior under Different Tie Support Conditions using Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 106-115	1.7	16
175	Evaluation of Railway Ballast Permeability Using Machine VisionBased Degradation Analysis. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 62-73	1.7	12
174	Triaxial testing and discrete-element modelling of geogrid-stabilised rail ballast. <i>Proceedings of the Institution of Civil Engineers: Ground Improvement</i> , <b>2018</b> , 171, 223-231	1	12
173	Field Performance Evaluation of Sustainable Aggregate By-product Applications <b>2018</b> ,		8
172	Sustainable Application of Quarry Byproducts Mixed with Large Size Unconventional Aggregates for Improved Performance. <i>Sustainable Civil Infrastructures</i> , <b>2018</b> , 262-273	0.2	1
171	Evaluation of Railroad Ballast Field Degradation Using an Image Analysis Approach. <i>Sustainable Civil Infrastructures</i> , <b>2018</b> , 106-120	0.2	
170	Airfield Pavement Damage Evaluation Due to New-Generation Aircraft Wheel Loading and Wander Patterns. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 82-92	1.7	3
169	Understanding track substructure behavior: Field instrumentation data analysis and development of numerical models. <i>Transportation Geotechnics</i> , <b>2018</b> , 17, 109-121	4	12
168	Support Condition and Traffic Loading Patterns Influencing Laboratory Determination of Under Ballast Mat Bedding Modulus and Insertion Loss. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 74-84	1.7	4
167	Soaking Effects on Strength Characteristics of Crushed Gravel and Limestone Unbound Aggregates. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 34-45	1.7	3
166	Local Stiffness Quantification of Geogrid Stabilized Aggregates in Relation to Deformation Behavior <b>2018</b> , 109-114		1
165	Spatial variability of compacted aggregate bases. <i>Transportation Geotechnics</i> , <b>2018</b> , 17, 56-65	4	6
164	Characterisation of unbound aggregate materials considering physical and morphological properties. <i>International Journal of Pavement Engineering</i> , <b>2017</b> , 18, 303-308	2.6	23
163	Fines inclusion in a crushed limestone unbound aggregate base course material with 25.4-mm maximum particle size. <i>Transportation Geotechnics</i> , <b>2017</b> , 10, 96-108	4	11
162	Influence of Maximum Particle Size, Fines Content, and Dust Ratio on the Behavior of Base and Subbase Coarse Aggregates. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 20-26	1.7	7

161	Deformation and Dynamic Load Amplification Trends at Railroad Bridge Approaches: Effects Caused by High-Speed Passenger Trains. <i>Transportation Research Record</i> , <b>2017</b> , 2607, 43-53	1.7	7
160	Evaluating Constructed Aggregate Layers of Working Platforms and Flexible Pavements: Adequacy of In-Place Quality Control and Quality Assurance Techniques. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 1-12	1.7	3
159	Degradation-Related Changes in Ballast Gradation and Aggregate Particle Morphology. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , <b>2017</b> , 143, 04017032	3.4	26
158	Railway Ballast Permeability and Cleaning Considerations. <i>Transportation Research Record</i> , <b>2017</b> , 2607, 24-32	1.7	18
157	Results of Soaked and Unsoaked California Bearing Rate Tests on Unbound Aggregates with Varying Amounts of Fines and Dust Ratios. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 13-19	1.7	5
156	Field Performance Evaluation of Pavement Construction Platforms Utilizing Unconventional Large Size Aggregates Packed with Quarry Byproducts, and Higher Fines Aggregate Subgrade Layers <b>2017</b> ,		2
155	Dense-graded aggregate base gradation influencing rutting model predictions. <i>Transportation Geotechnics</i> , <b>2017</b> , 13, 43-51	4	15
154	Bender Elements Successfully Quantified Stiffness Enhancement Provided by GeogridAggregate Interlock. <i>Transportation Research Record</i> , <b>2017</b> , 2656, 31-39	1.7	19
153	Evaluating Railroad Ballast Degradation Trends Using Machine Vision and Machine Learning Techniques <b>2017</b> ,		1
152	Gradation and Packing Characteristics Affecting Stability of Granular Materials: Aggregate Imaging-Based Discrete Element Modeling Approach. <i>International Journal of Geomechanics</i> , <b>2017</b> , 17, 04016064	3.1	24
151	Using Accelerated Pavement Testing to Evaluate Reclaimed Asphalt Pavement Materials for Pavement Unbound Granular Layers. <i>Journal of Materials in Civil Engineering</i> , <b>2017</b> , 29, 04016205	3	16
150	Investigation of Deformation Trends Observed in Pavement Test Section Unbound Aggregate Layers Due to Heavy Aircraft Loading with Wander <b>2017</b> ,		1
149	Sustainable field applications of quarry byproducts mixed with large size unconventional aggregates <b>2017</b> , 1127-1134		1
148	A Framework to Utilize Shear Strength Properties for Evaluating Rutting Potentials of Unbound Aggregate Materials. <i>Procedia Engineering</i> , <b>2016</b> , 143, 911-920		5
147	Effect of Dust Ratios on the Strength of Aggregates with Low Plasticity Fines <b>2016</b> ,		3
146	Gradation Effects on the Strength Properties of Cement and Fly Ash Stabilized Quarry By-Products <b>2016</b> ,		6
145	A Smartphone-Based Image Analysis Technique for Ballast Aggregates <b>2016</b> ,		8
144	Use of a Variable Energy Penetrometer and Geo-Endoscopic Imaging in the Performance Assessment of Working Platforms Constructed with Large Size Unconventional Aggregates <b>2016</b> ,		2

143	Elastic wave characterization of controlled low-strength material using embedded piezoelectric transducers. <i>Construction and Building Materials</i> , <b>2016</b> , 127, 210-219	6.7	8
142	Pavement Working Platforms Constructed with Large-Size Unconventional Aggregates. <i>Transportation Research Record</i> , <b>2016</b> , 2578, 1-11	1.7	8
141	Characterization of Cement Treated Base Course Using Reclaimed Asphalt Pavement, Aggregate By-Products, and Macro-Synthetic Fibers <b>2016</b> ,		1
140	Laboratory validation of a gradation design concept for sustainable applications of unbound granular materials in pavement construction. <i>Construction and Building Materials</i> , <b>2016</b> , 129, 125-139	6.7	8
139	Cement-Treated Bases Containing Reclaimed Asphalt Pavement, Quarry By-Products, and Fibers. <i>Transportation Research Record</i> , <b>2016</b> , 2580, 10-17	1.7	4
138	Framework to Improve the Pavement ME Design Unbound Aggregate Rutting Model by Using Field Data. <i>Transportation Research Record</i> , <b>2016</b> , 2591, 57-69	1.7	4
137	Moisture Effects on Degraded Ballast Shear Strength Behavior <b>2016</b> ,		3
136	Critical particle size and ballast gradation studied by Discrete Element Modeling. <i>Transportation Geotechnics</i> , <b>2016</b> , 6, 38-44	4	27
135	Machine vision based characterization of particle shape and asphalt coating in Reclaimed Asphalt Pavement. <i>Transportation Geotechnics</i> , <b>2016</b> , 6, 26-37	4	19
134	Optimizing Stability and Stiffness Through Aggregate Base Gradation. <i>Transportation Research Record</i> , <b>2016</b> , 2578, 12-20	1.7	1
133	Effectiveness of Chemical Grouting and Stone Blowing as Remedial Measures to Mitigate Differential Movement at Railroad Track Transitions <b>2016</b> ,		2
132	Frost depth prediction for seasonal freezing area in Eastern Turkey. <i>Cold Regions Science and Technology</i> , <b>2016</b> , 124, 118-126	3.8	12
131	Morphological Characterization of Railroad Ballast Degradation Trends in the Field and Laboratory. <i>Transportation Research Record</i> , <b>2016</b> , 2545, 89-99	1.7	12
130	Performance Checks for Unbound Aggregate Base Permanent Deformation Prediction Models under Dynamic Stress States Induced by Moving Wheel Loading. <i>Procedia Engineering</i> , <b>2016</b> , 143, 979-990		2
129	Field Performance Evaluations of Large Sized Unconventional and Recycled Aggregates for Subgrade Improvement <b>2016</b> , 877-890		1
128	Nondestructive Deflection Testing based Mechanistic-empirical Overlay Thickness Design Approach for Low Volume Roads: Case Studies. <i>Procedia Engineering</i> , <b>2016</b> , 143, 945-953		1
127	Rutting prediction in airport pavement granular base/subbase: A stress history based approach. <i>Transportation Geotechnics</i> , <b>2016</b> , 9, 139-160	4	6
126	Effect of plasticity index and dust ratio on moisture-density and strength characteristics of aggregates. <i>Transportation Geotechnics</i> , <b>2016</b> , 9, 69-79	4	15

125	Characterization and Stabilization of Quarry Byproducts for Sustainable Pavement Applications. <i>Transportation Research Record</i> , <b>2015</b> , 2509, 1-9	1.7	8
124	Overlay Thickness Design for Low-Volume Roads: Mechanistic-Empirical Approach with Nondestructive Deflection Testing and Pavement Damage Models. <i>Transportation Research Record</i> , <b>2015</b> , 2509, 46-56	1.7	5
123	Ballast Settlement Ramp to Mitigate Differential Settlement in a Bridge Transition Zone. <i>Transportation Research Record</i> , <b>2015</b> , 2476, 45-52	1.7	9
122	Sustainable Alternatives in Low Volume Road Base Course Applications Evaluated through Accelerated Pavement Testing <b>2015</b> ,		2
121	Characterization of geogrid reinforced ballast behavior at different levels of degradation through triaxial shear strength test and discrete element modeling. <i>Geotextiles and Geomembranes</i> , <b>2015</b> , 43, 393-402	5.2	65
120	Performance Evaluations of Unbound Aggregate Permanent Deformation Models for Various Aggregate Physical Properties. <i>Transportation Research Record</i> , <b>2015</b> , 2525, 20-30	1.7	21
119	Performance Evaluations of Pavement Working Platforms Constructed with Large-Sized Unconventional Aggregates <b>2015</b> ,		3
118	Evaluation of Compacted Aggregate Base Course Layers <b>2014</b> ,		1
117	Image-Aided Element Shape Generation Method in Discrete-Element Modeling for Railroad Ballast. <i>Journal of Materials in Civil Engineering</i> , <b>2014</b> , 26, 527-535	3	43
116	Characterizing Ballast Degradation through Los Angeles Abrasion Test and Image Analysis. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 142-151	1.7	32
115	Railroad Track Transitions with Multidepth Deflectometers and Strain Gauges. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 105-114	1.7	24
114	Use of Advanced Aggregate Imaging Systems to Evaluate Aggregate Resistance to Breakage, Abrasion, and Polishing. <i>Transportation Research Record</i> , <b>2014</b> , 2401, 1-10	1.7	24
113	Influence of Size and Shape Properties of Railroad Ballast on Aggregate Packing: Statistical Analysis. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 94-104	1.7	19
112	Influence of Aggregate Base Layer Variability on Pavement Performance. <i>Transportation Research Record</i> , <b>2014</b> , 2457, 58-71	1.7	2
111	Framework for Development of an Improved Unbound Aggregate Base Rutting Model for Mechanistic-Empirical Pavement Design. <i>Transportation Research Record</i> , <b>2014</b> , 2401, 11-21	1.7	30
110	Investigation of Geogrid-Reinforced Railroad Ballast Behavior Using Large-Scale Triaxial Testing and Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2014</b> , 2462, 98-108	1.7	20
109	An integrated approach to dynamic analysis of railroad track transitions behavior. <i>Transportation Geotechnics</i> , <b>2014</b> , 1, 188-200	4	53
108	DEM Approach for Engineering Aggregate Gradation and Shape Properties Influencing Mechanical Behavior of Unbound Aggregate Materials <b>2014</b> ,		2



107	Effects of Ballast Degradation on Permanent Deformation Behavior From Large-Scale Triaxial Tests <b>2014,</b>		11
106	Advanced Testing and Characterization of Shear Modulus and Deformation Characteristics of Oil Sand Materials. <i>Journal of Testing and Evaluation</i> , <b>2014</b> , 42, 20130049	1	
105	Evaluation of Aggregate Imaging Techniques for Quantification of Morphological Characteristics. <i>Transportation Research Record</i> , <b>2013</b> , 2335, 39-49	1.7	38
104	Discrete element modelling of ballasted track deformation behaviour. <i>International Journal of Rail Transportation</i> , <b>2013</b> , 1, 57-73	2.1	83
103	Characterization of Railroad Ballast Behavior under Repeated Loading: Results from New Large Triaxial Test Setup. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 169-179	1.7	18
102	Evaluation of Aggregate Size and Shape by Means of Segmentation Techniques and Aggregate Image Processing Algorithms. <i>Transportation Research Record</i> , <b>2013</b> , 2335, 50-59	1.7	49
101	In-Situ Hydraulic Properties of Unbound Aggregate Layers Measured Using Gas Permeameter Test (GPT) Device <b>2013,</b>		3
100	Investigation of Aggregate Properties Influencing Railroad Ballast Performance. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 180-189	1.7	24
99	Simulating Ballast Shear Strength from Large-Scale Triaxial Tests: Discrete Element Method. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 126-135	1.7	33
98	Practices for Unbound Aggregate Pavement Layers <b>2013,</b>		31
97	Performance Evaluation of Uncrushed Aggregates in Unsurfaced Road Applications through Accelerated Pavement Testing. <i>Transportation Research Record</i> , <b>2012</b> , 2282, 67-78	1.7	7
96	Geogrid-Reinforced Low-Volume Flexible Pavements: Pavement Response and Geogrid Optimal Location. <i>Journal of Transportation Engineering</i> , <b>2012</b> , 138, 1083-1090		27
95	Image Analysis Technique for Aggregate Morphology Analysis with Two-Dimensional Fourier Transform Method. <i>Transportation Research Record</i> , <b>2012</b> , 2267, 3-13	1.7	28
94	Geogrid-Aggregate Interlock Mechanism Investigated through Aggregate Imaging-Based Discrete Element Modeling Approach. <i>International Journal of Geomechanics</i> , <b>2012</b> , 12, 391-398	3.1	76
93	Investigation of differential movement at railroad bridge approaches through geotechnical instrumentation. <i>Journal of Zhejiang University: Science A</i> , <b>2012</b> , 13, 814-824	2.1	25
92	Aggregate Surface Areas Quantified through Laser Measurements for South African Asphalt Mixtures. <i>Journal of Transportation Engineering</i> , <b>2012</b> , 138, 1006-1015		18
91	Gradation Effects Influencing Mechanical Properties of Aggregate Based Granular Subbase Materials in Minnesota. <i>Transportation Research Record</i> , <b>2012</b> , 2267, 14-26	1.7	42
90	Laboratory and Field Measured Moduli of Unsurfaced Pavements on Weak Subgrade <b>2012,</b>		1

89	Aggregate Physical Properties Affecting Modulus and Deformation Characteristics of Unsurfaced Pavements. <i>Journal of Materials in Civil Engineering</i> , <b>2012</b> , 24, 1144-1152	3	41
88	Investigation and Mitigation of Differential Movement at Railway Transitions for US High Speed Passenger Rail and Joint Passenger/Freight Corridors <b>2012</b> ,		8
87	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building. <i>Journal of ASTM International</i> , <b>2012</b> , 9, 103651		1
86	Application of LADAR in the Analysis of Aggregate Characteristics <b>2012</b> ,		9
85	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building <b>2012</b> , 73-94		
84	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building <b>2012</b> , 73-94		
83	Aggregate Base/Granular Subbase Quality Affecting Fatigue Cracking of Conventional Flexible Pavements in Minnesota <b>2012</b> , 707-717		
82	A Validated Discrete Element Modeling Approach for Studying Geogrid-Aggregate Reinforcement Mechanisms <b>2011</b> ,		8
81	Resilient Modulus Behavior Estimated from Aggregate Source Properties <b>2011</b> ,		11
80	Geogrid mechanism in low-volume flexible pavements: accelerated testing of full-scale heavily instrumented pavement sections. <i>International Journal of Pavement Engineering</i> , <b>2011</b> , 12, 121-135	2.6	31
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72	Polyurethane Coating of Railroad Ballast Aggregate for Improved Performance <b>2010</b> ,		14

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70	Validation of a Three-Dimensional Finite Element Model using Airfield Pavement Multiple Wheel Load Responses. <i>Road Materials and Pavement Design</i> , <b>2010</b> , 11, 387-408	2.6	15
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68	Laboratory Validation of Coal Dust Fouled Ballast Discrete Element Model <b>2010</b> ,		2
67	Unbound Aggregate Deformation Behavior due to Traffic Wander: Investigation Using Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2010</b> , 2154, 164-175	1.7	1
66	Quantifying Effects of Particle Shape and Type and Amount of Fines on Unbound Aggregate Performance through Controlled Gradation. <i>Transportation Research Record</i> , <b>2010</b> , 2167, 61-71	1.7	25
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64	Discrete Element Modeling of Aggregate Behavior in Fouled Railroad Ballast <b>2009</b> ,		14
63	Nonlinear Pavement Foundation Modeling for Three-Dimensional Finite-Element Analysis of Flexible Pavements. <i>International Journal of Geomechanics</i> , <b>2009</b> , 9, 195-208	3.1	76
62	Validated Mechanistic Model for Geogrid Base Reinforced Flexible Pavements. <i>Journal of Transportation Engineering</i> , <b>2009</b> , 135, 915-926		16
61	Laboratory Characterization of Fouled Railroad Ballast Behavior. <i>Transportation Research Record</i> , <b>2009</b> , 2117, 93-101	1.7	103
60	Falling Weight Deflectometer Testing to Determine Relative Damage in Asphalt Pavement Unbound Aggregate Layers. <i>Transportation Research Record</i> , <b>2009</b> , 2104, 12-23	1.7	7
59	Sandwich Model to Evaluate Railroad Asphalt Trackbed Performance under Moving Loads. <i>Transportation Research Record</i> , <b>2009</b> , 2117, 57-65	1.7	18
58	Shear strength properties of naturally occurring bituminous sands <b>2009</b> ,		5
57	Aggregate base residual stresses affecting geogrid reinforced flexible pavement response. <i>International Journal of Pavement Engineering</i> , <b>2008</b> , 9, 275-285	2.6	29
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55	Geogrid in Flexible Pavements: Validated Mechanism. <i>Transportation Research Record</i> , <b>2008</b> , 2045, 102-109		53
54	Implications of Complex Axle Loading and Multiple Wheel Load Interaction in Low Volume Roads <b>2008</b> ,		1

53	State of the Art: Anisotropic Characterization of Unbound Aggregate Layers in Flexible Pavements <b>2008,</b>		8
52	Aggregate Morphology Affecting Strength and Permanent Deformation Behavior of Unbound Aggregate Materials. <i>Journal of Materials in Civil Engineering</i> , <b>2008</b> , 20, 617-627	3	81
51	Multiple Wheel Load Interaction in Flexible Pavements. <i>Transportation Research Record</i> , <b>2008</b> , 2068, 49-60	1.7	14
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48	Evaluation of image analysis techniques for quantifying aggregate shape characteristics. <i>Construction and Building Materials</i> , <b>2007</b> , 21, 978-990	6.7	180
47	Effect of Gradation on Nonlinear Stress-Dependent Behavior of a Sandy Flexible Pavement Subgrade. <i>Journal of Transportation Engineering</i> , <b>2007</b> , 133, 582-589		8
46	Geomaterial Characterizations of Full Scale Pavement Test Sections for Mechanistic Analysis and Design <b>2007</b> , 1		
45	Considerations for Nonlinear Analyses of Pavement Foundation Geomaterials in the Finite Element Modeling of Flexible Pavements <b>2007,</b>		2
44	Effect of Coarse Aggregate Morphology on Permanent Deformation Behavior of Hot Mix Asphalt. <i>Journal of Transportation Engineering</i> , <b>2006</b> , 132, 580-589		88
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42	Field Validation of Airport Pavement Granular Layer Rutting Predictions. <i>Transportation Research Record</i> , <b>2006</b> , 1952, 48-57	1.7	14
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40	Evaluation of Visual Based Aggregate Shape Classifications Using the University of Illinois Aggregate Image Analyzer (UIAIA) <b>2006</b> , 203		9
39	Anisotropic Aggregate Base Inputs for Mechanistic Pavement Analysis Considering Effects of Moving Wheel Loads. <i>Journal of Materials in Civil Engineering</i> , <b>2005</b> , 17, 505-512	3	9
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37	Effect of Coarse Aggregate Morphology on the Resilient Modulus of Hot-Mix Asphalt. <i>Transportation Research Record</i> , <b>2005</b> , 1929, 1-9	1.7	24
36	Unbound Aggregate Rutting Models for Stress Rotations and Effects of Moving Wheel Loads. <i>Transportation Research Record</i> , <b>2005</b> , 1913, 41-49	1.7	10

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33	Rutting of Airport Pavement Granular Layers <b>2004</b> , 334		3
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30	Quantification of Coarse Aggregate Angularity Based on Image Analysis. <i>Transportation Research Record</i> , <b>2002</b> , 1787, 117-124	1.7	99
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27	Determination of Volume of Aggregates: New Image-Analysis Approach. <i>Transportation Research Record</i> , <b>2000</b> , 1721, 73-80	1.7	51
26	Analysis of Temperature Effects on Pavement Response at Denver International Airport <b>2000</b> , 125		3
25	Effects of Simultaneous Temperature and Gear Loading on the Response of Concrete Airfield Pavements Serving the Boeing B-777 Aircraft <b>2000</b> , 25		2
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14	Attempt at Resilient Modulus Modeling Using Artificial Neural Networks		9
13	Unbound Aggregate Rutting Models for Stress Rotations and Effects of Moving Wheel Loads		14
12	Effect of Coarse Aggregate Morphology on the Resilient Modulus of Hot-Mix Asphalt		14
11	Aggregate Morphology Affecting Resilient Behavior of Unbound Granular Materials		21
10	Field Validation of Airport Pavement Granular Layer Rutting Predictions		9
9	Validation of a Three-Dimensional Finite Element Model using Airfield Pavement Multiple Wheel Load Responses		1
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