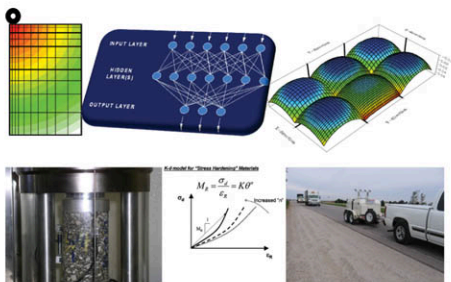


Performance Modeling and Evaluation of Pavement Systems and Materials



*Edited
by*

Halil Ceylan
Kasthurirangan Gopalakrishnan
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- 80 *Grouts and Grouting: A Potpourri of Projects*
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- 84 *Effects of Construction on Structures*
- 85 *Application of Geotechnical Principles in Pavement Engineering*
- 86 *Big Digs Around the World*
- 87 *Jacked Tunnel Design and Construction*
- 88 *Analysis, Design, Construction, and Testing of Deep Foundations*
- 89 *Recent Advances in the Characterization of Transportation Geo-Materials*
- 90 *Geo-Engineering for Underground Facilities*
- 91 *Special Geotechnical Testing: Central Artery/Tunnel Project in Boston, Massachusetts*
- 94 *Performance Confirmation of Constructed Geotechnical Facilities*
- 95 *Soil-Cement and Other Construction Practices in Geotechnical Engineering*
- 96 *Numerical Methods in Geotechnical Engineering: Recent Developments*
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- 128 *Soil Constitutive Models: Evaluation, Selection, and Calibration*
- 129 *Advances in Designing and Testing Deep Foundations*
- 130 *Advances in Pavement Engineering*
- 131 *Contemporary Issues in Foundation Engineering*
- 132 *Advances in Deep Foundations: In Memory of Michael W. O'Neill*
- 133 *Earthquake Engineering and Soil Dynamics*
- 134 *Soil Dynamics Symposium in Honor of Professor Richard D. Woods*
- 135 *Erosion of Soils and Scour of Foundations*

- 136 *Innovations in Grouting and Soil Improvement*
- 137 *Legal and Liability Issues in Geotechnical Engineering*
- 138 *Site Characterization and Modeling*
- 139 *Calibration of Constitutive Models*
- 140 *Slopes and Retaining Structures under Seismic and Static Conditions*
- 141 *International Perspectives on Soil Reinforcement Applications*
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- 143 *Geomechanics: Testing, Modeling, and Simulation*
- 144 *Sinkholes and the Engineering and Environmental Impacts of Karst*
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- 152 *Ground Modification and Seismic Mitigation*
- 153 *Foundation Analysis and Design: Innovative Methods*
- 154 *Pavement Mechanics and Performance*
- 155 *Underground Construction and Ground Movement*
- 156 *Geomechanics II: Testing, Modeling, and Simulation*
- 157 *Computer Applications in Geotechnical Engineering*
- 158 *Contemporary Issues in Deep Foundations*
- 159 *Case Studies in Earth Retaining Structures*
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- 166 *Educational Activities in Geotechnical Engineering*
- 167 *Geotechnics of Soil Erosion*
- 168 *Grouting for Ground Improvement: Innovative Concepts and Applications*
- 169 *Soil and Material Inputs for Mechanistic-Empirical Pavement Design*
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- 189 *Characterization, Modeling, and Performance of Geomaterials*
- 190 *Asphalt Material Characterization, Accelerated Testing, and Highway Management*
- 191 *Road Pavement Material Characterization and Rehabilitation*
- 192 *Recent Advancement in Soil Behavior, In Situ Test Methods, Pile Foundations, and Tunneling*
- 193 *Material, Design, Construction, Maintenance, and Testing of Pavement*
- 194 *Soils and Rock Instrumentation, Behavior, and Modeling*

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Preface

The papers contained in this Geotechnical Special Publication (GSP) entitled, Performance Modeling and Evaluation of Pavement Systems and Materials, cover research topics in the areas of hot-mix asphalt constitutive modeling, pavement responses under dynamic loading, moisture damage and permanent deformation in asphalt concrete, asphalt and Portland cement concrete evaluation, and pavement performance assessment. Analysis approaches include three-dimensional finite element modeling techniques, matter element modeling, Fuzzy complex matter element modeling, neural networks, Grey theory, and similarity analysis. Relationship between the loading surface and conductivity of smart asphalt concrete, analysis of crack resisting mechanism in asphalt macadam base, cohesive crack model based on bounding surface concept for asphalt concrete, mix design of pervious recycled concrete, development of a large algebraic solver for structural mechanics, etc. are also discussed. Infrastructure engineers working within transportation and geotechnical facilities with special interest in pavement constitutive modeling, performance and evaluation will find this publication of particular interest.

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Contents

Pavement Performance Modeling and Evaluation

Review of the Back-Propagation Neural Network Method as a Basis for Pavement Performance Assessment.....	1
Ming Li, Chao Lan, Hai-rui Mu, and Jun-min Song	
Evaluation of PCCP Performance Based on Fuzzy Complex Matter Element Method	9
Xiaoge Tian, Du Lin, and Wenbiao Wu	
Asphalt Pavement Evaluation Based on Matter Element Model.....	18
Kezhen Yan, Jinzhao Zhang, JianLiang Wu, and Luo Cheng Wu	
Correlations among Pavement Surface Roughness, Moving Dynamic Vehicle Loads, and Concrete Pavement Performance.....	25
Seong-Min Kim, Suk-Keun Rhee, Hee Beom Park, and Dong Ju Yun	
Weights Comparison of Pavement Surface Distress Index in China and the US	32
Ziping Chiang, Chine-Ta Chen, Po-Hsun Sung, and Jyh-Dong Lin	
Studies on Risk Management of the Urban Infrastructure Projects Based on the BOT Financing Model.....	39
Hanli Chen and Tao Qin	
Analyzing the Cause of Asphalt Pavement Rut Damage of Heng-Zao Freeway	47
Renjie Qin, Yuzhi Li, and Zhenke Li	
Study on the Method to Calculate Rutting of Asphalt Pavement Based on the Dynamic Load Coupled between the Road and Vehicle.....	55
Zhaoyi He, Zhaofeng Lu, and Hongxing Chen	
Calibration of Roughness Measuring Instrument for Adopting the Performance Warranty System.....	62
Deok-Soon An, Jeong-Hee Nam, and Soo-Ahn Kwon	

Pavement Systems Modeling

Similarity Analysis of Rutting Test for Asphalt Pavement Based on Similarity Theory	68
Zejiao Dong, Xiaoliang Cheng, Hao Zheng, and Yiqiu Tan	
Three Integral Constant Determination Methods and Their Applications to Subgrade Settlement Grey Prediction Model.....	74
Jian-san Zhao, Li-min Tang, Deng-pan Zhang, and Ping-ying Tang	
Temperature Prediction Model for Flexible Pavements in Taiwan.....	82
Chi-Chou Liao, Bo-Ruei Chen, Shun-Hsing Chen, and Wei-Hsing Huang	
Parallel Direct Solver for Linear Systems Resulting from Constitutive Modeling of Pavement.....	90
T. B. Jönsthövel, X. Liu, A. Scarpas, and C. Vuik	