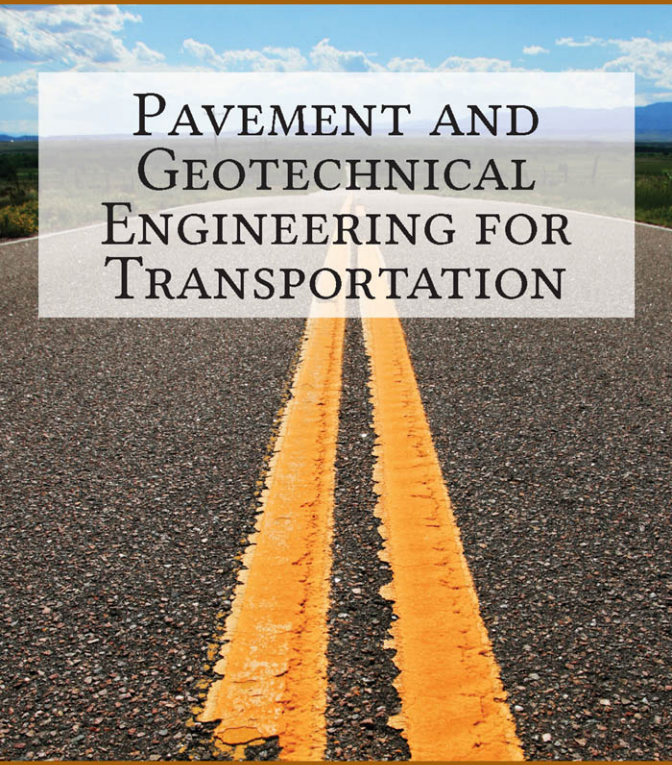
GEOTECHNICAL PRACTICE PUBLICATION NO. 8

Pavement and Geotechnical Engineering for Transportation



Edited by
Baoshan Huang, Ph.D., P.E.,
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Guo-Xiong Mei, Ph.D., Si-Hai Luo, Ph.D.,
and Zhongjie Zhang, Ph.D.

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June 5–7, 2011
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Preface

Pavement and Geotechnical Engineering for Transportation selects 20 papers that represent the latest developments in the application of soil, rock, and paving materials to the study and application of geomechanics and transportation geotechnology.

Many of the selected papers were presented at the 1st International Symposium on Pavement and Geotechnical Engineering for Transportation Infrastructure sponsored by the Nanchang Hangkong University and the International Association of Chinese Infrastructure Professionals (IACIP) in co-operation with ASCE, which occurred from June 5–7, 2011 in Nanchang, Jiangxi Province, China. The papers were selected based on their relevance to the geotechnical and transportation geotechnology.

Presented within the *Pavement and Geotechnical Engineering for Transportation* Geotechnical Practice Publication (GPP) are papers that examine the use of waste in pavement structures, thus attracting one of the many sustainable elements of pavement design. Studies of the pavement structure beginning with the inclusion of chemical additives in soil subgrade, the use of geogrid reinforcement in unpaved and paved roads, to the surface roughness of asphalt mixtures and the freeze-thaw performance of concrete are reported. Also showcased herein are mathematical models that simulate various geotechnical problems. Various soil types are evaluated and discussed for common problems and design inputs used in practice such as slope failure, consolidation, and embankment behavior. An early warning system for subway construction is also exhibited.

One or more reviewers along with the editors evaluated each paper published in this ASCE Geotechnical Practice Publication. All published papers are eligible for discussion in the *Journal of Geotechnical and Geoenvironmental Engineering* and the *Journal of Materials in Civil Engineering*, and are eligible for ASCE awards.

The editors would like to thank Mr. Ken Fishman and the Geo-Institute for their vast assistance with this publication. Due thanks is also given to Ms. Donna Dickert from ASCE publications. Appreciation is given to those who helped assist in the editing duties of this publication. Without their assistance this publication would not be possible.

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Sheng Zhao, University of Tennessee, USA
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