

Geo-China 2016

Innovative and Sustainable Use of Geomaterials and Geosystems

Selected Papers from the Fourth Geo-China International Conference

Geotechnical Special Publication Number 263

**Shandong, China
25 – 27 July 2016**

Editors:

**Wen-chieh Cheng
Jason Y. Wu**

ISBN: 978-1-5108-2973-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2016) by American Society of Civil Engineers
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact American Society of Civil Engineers
at the address below.

American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, VA 20191
USA

Phone: (800) 548-2723
Fax: (703) 295-6333

www.asce.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Contents

Application of Coal Fly Ash to Replace Lime in the Management of Reactive Mine Tailings	1
Julie Q. Shang	
Comparative Performance of Soil Thermal Conductivity Prediction Models for Geothermal Applications.....	9
Nan Zhang and HongTao He	
Dynamic Reissner-Sagoci Problem for a Transversely-Isotropic Bi-Material Half-Space	17
Reza Yaghmaie and Hamidreza Asgari	
Effect of Fiber Reinforcement on the Hydraulic Conductivity Behavior of Lime-Treated Expansive Soil—Reliability-Based Optimization Perspective	25
Arif Ali Baig Moghal, B. Munwar Basha, Bhaskar Chittoori, and Mosleh Ali Al-Shamrani	
Experimental Study on the Deformation Characteristics of Cement Soil Mixed with Waste Steel Slag Based on a Unidirectional Compression Test.....	35
Hanmiao Liu, Liyan Wang, Shangkun Chen, and Zhongyuan Wang	
Influence Factors for Microbial-Induced Calcite Precipitation in Sands	44
Naga Venkata P. Velpuri, Xinbao Yu, Hae-In Lee, and Woo-Suk Chang	
Influence of Pore Size Distribution on the Properties of a Stabilized Soil Cement System.....	53
B. Bhattacharjee	
Laboratory Investigation of Sugarcane Bagasse as Soil Reinforcement Material	61
Vincent Oderah and Denis Kalumba	
Limiting Factors for the Applicability of Specific Types of Energetic By-Products in Roadbed Structures	69
Václav Mráz, Lenka Honetschlägerová, Jan Suda, Jan Valentin, František Kresta, and František Luxemburk	

Multi-Scale Experimental and Numerical Study of Microbially-Induced Calcite Precipitation in Sandy Soils: Preliminary Evidence and Observations77
Rosa Mystica Akimana, Hemanta Bista, Youngwoo Seo, Lin Li, Lucas J. Howard, Mandar M. Dewoolkar, and Liang-Bo Hu

Streamlining of Bridge Piers as Scour Countermeasures: Insights from DES Modeling85
Junhong Li, Yan Liu, and Junliang Tao

Influence of Traffic Loads on the Crack Widths of Full Jointless Bridges93
Xuefang Zhan and Xiaoheyu

Seismic Soil Liquefaction Potential Assessment Using the Multi Gene Entropy Analysis.....101
S. R. Pathak and A. N. Dalvi