GSP 243 Table of Contents

Behavior of Biotreated Geomaterials and Foundations

1 Behavior of Bio-Mediated Soil in $k_0$ Loading
K. Feng and B. M. Montoya

11 Microbial Induced Calcite Precipitation for Geotechnical and Environmental Applications
O. Dawoud, C. Y. Chen, and K. Soga

19 Hydraulic Conductivity of a Biopolymer Treated Sand
Mateusz Wiszniewski and Ali Firat Cabalar

28 Effects of Biopolymer on Some Geotechnical Properties of a Sand
Nurullah Akbulut and Ali Firat Cabalar

38 A Simplified Nonlinear Method for Pile Group Analysis Considering Pile Cap Flexibility
Yongzhi Jiu and Maosong Huang

47 Effect of Microbially Induced Calcite Precipitation on the Strength of Cemented Sand
Sung-Sik Park, Sun-Gyu Choi, Wha-Jung Kim, and Jun-Cheol Lee

57 Effect of Soil Type on Contact Stress
Hany Farouk and Mohammed Farouk

67 Effect of Soil Model on Contact Stress under Strip Footing
Hany Farouk and Mohammed Farouk

Energy-Related Geotechnics

78 Wind-Induced Fatigue Loading and Its Effect on the Stability of Wind Power Foundations
Chi Li, Geriletu Bao, Yusheng Cao, Jianfei Zhou, and Meng Liu

88 Geothermal Well Seals Subjected to Cyclic Heating and Cooling
J. C. Evans and A. Sicwebu

98 Dewatering Performance of Fiber Reinforced Fly Ash Slurry
Dogan Cetin, Tayfun Sengul, Mahmoud M. Khachan, Shobha K. Bhatia, and Sheryl O. Owen
108 Reliability Analysis of Monopile for Offshore Wind Foundations Using the Response Surface Method  
G. L. Yoon, S. B. Kim, and H. Y. Kim

118 Assessment of Hydro Project-Related Geohazards Supported by RIMS-Like Systems  
Peng He, Eric Cowgill, Chen Wang, Peter Gold, and Adam Forte

129 Thermal and Hydraulic Properties of Sandy Soils during Drying and Wetting Cycles  
Alexis Ali, Mostafa Mohamed, Mohamed Abdel Aal, Alma Schellart, and Simon Tait

**Sustainability, Geoinformatics, and Case Studies**

139 Elastic Moduli Prediction of Synthetic Lightweight Aggregates  
Na Jin and Christopher W. Swan

150 Study on the Temperature Field Reconstruction for Mass Concrete Based on DTS-GS Method  
Bing Fei, Bin Shi, Honghu Zhu, and Zhanpu Song

160 Influence of Parameters on Support Vector Machine for Landslide Displacement Prediction in Three Gorges Reservoir  
Haifeng Huang, Wu Yi, and Kun Song

169 Virtual Laboratory System for Road Engineering  
Hongduo Zhao, Yi Zheng, and Yanna Sun

179 Study on the System of Geological Disaster Risk Assessment of Sea-Filling in Beibu Gulf Based on GIS  
L. Liao, Y. Z. Xu, S. R. Pei, and Y. S. Li

187 Evaluation of Urban Underground Space Based on the Geological Conditions: A Feasibility Study  
Yang Wang and Fang-Le Peng

198 Numerical Analysis and Field Monitoring on the Deformation of the Semi-Top-Down Excavation in Shanghai  
Zhong-hui Huang, Xiang-shan Zhao, Jin-jian Chen, and Jian-hua Wang

208 Study of the Features and Influential Factors of Land Subsidence in the Eastern Part of Beijing, China  
Wenlin Luo, Xiaoke Shen, Honglei Zhou, Xuan Han, and Xiuli Du