

# **Advanced Construction Technologies**

## **Part 2**

Edited by  
Husain Abbas and TAN Kiang Hwee



**TRANS TECH PUBLICATIONS**

# Advanced Construction Technologies

## PART 2

Selected, peer reviewed papers from the  
2014 4<sup>th</sup> International Conference on  
Structures and Building Materials  
(ICSBM 2014),  
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*Edited by*

**Husain Abbas and TAN Kiang Hwee**



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# Preface

The International Conference on Structures and Building Materials (ICSBM) is the premier forum for the presentation of new advances and research results in the fields of civil engineering and materials. This conference series bring together international scientific community, academics and practitioners, researchers and students and provide an opportunity to discuss and share recent advances in both research and practice about all aspects of building materials and diagnostics of civil engineering, building, structures and geotechnics. After the very successful previous issues ICSBM'2011 (Guangzhou, China), ICSBM'2012 (Hangzhou, China) and ICSBM'2013 (Guiyang, China), the ICSBM'2014: 4th International Conference on Structures and Building Materials was held successfully in Guangzhou, China, from March 15 to 16, 2014.

This book is a collection of accepted papers. All these accepted papers were subjected to strict peer-reviewing by 2-4 expert referees. The book is divided into 24 chapters, including Structural Engineering, Monitoring and Control of Structures, Structural Rehabilitation, Retrofitting and Strengthening, Reliability and Durability of Structures, Disaster Prevention and Mitigation, Bridge Engineering, Geotechnical and Geological Engineering, Tunnel, Subway and Underground Facilities, Seismic Engineering, Roads, Railway Engineering and Traffic Engineering, Hydrology, Coastal and Hydraulic Engineering, Computational Mechanics and Mathematical Modeling, Construction Technology, Project Management and Engineering Management, Architectural Design and Its Theory, Urban Planning and Design, Landscape Planning and Design, Architectural Environment, Eco-Building and Green Building, Building Energy Saving Technology, Construction Materials Research, Materials Science, Data and Signal Processing, Environmental Engineering and Wastewater Treatment, etc. This book will not only provide the readers a broad overview of the latest advances but also provide the researchers a valuable summary and reference in this field.

We would like to express our sincere appreciations to all the authors for their contributions to this volume. We are indebted to all the referees for their constructive comments on the papers. Thanks are also given to Trans Tech Publications for producing this volume.

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