

## Preface

The International Conference on Civil Engineering, Architecture and Sustainable Infrastructure (ICCEASI2012) was held on September 22-24, 2012 in Zhengzhou, China. As the rising requirement of environmental and natural resources protection to achieve sustainable development, it brings more opportunities to the activities of civil engineering, architecture, hydraulic engineering and sustainable infrastructure. The aim of ICCEASI2012 is to provide a showcase for recent developments and advancements in these areas, and offer a forum for researchers and engineers in the word to discuss and debate future directions.

This book is a collection of the selected, peer-reviewed papers. All these accepted papers were subjected to strict peer-reviewed at least by 2 expert referees. This book aims to collect the latest development and applications of advanced and sustainable materials, the innovation in civil and hydraulic engineering, the innovation in architecture and building construction, and the innovation in bridge and underground engineering.

This issue was the product of the hard work and dedication of the authors. We would like to express our sincere appreciations to all the authors. We are indebted to all the referees for their constructive comments, time and effort. Thanks are also given to Trans Tech Publications for producing this volume.

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# **2012 International Conference on Civil Engineering, Architecture and Sustainable Infrastructure (ICCEASI2012)**

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