

# Preface

The joint conference of 2012 Global Conference on Civil, Structural and Environmental Engineering and the 3rd International Symposium on Multi-field Coupling Theory of Rock and Soil Media and Its Applications was taken place in Yichang, China, in October, 2012. The combined conference is organized by China Three Gorges University, Geoenviornmental Engineering Branch of Chinese Society for Rock Mechanics and Engineering, The Ground Rock Engineering Committee of Chinese Society for Rock mechanics and Engineering, The Fluid Mechanics Committee of the Chinese Society of Mechanics, and Hubei Society for Rock Mechanics & Engineering. The aim of the conference is to create a venue where researchers from around the world can reflect on progress made in the scientific study in civil and environment field.

All papers included in this book have been peer reviewed through processes administered by the scientific committee before accepted for publication. These papers recorded valuable explorations of the authors in relative fields of geological and geotechnical engineering, structural engineering, reliability, durability and rehabilitation of structures, monitoring and control of structures, tunnel, subway and underground facilities, road and railway engineering, bridge engineering, seismic engineering, hydraulic engineering, water supply and drainage engineering, heating, gas supply, ventilation and air conditioning works, natural and technogenic disasters prevention and mitigation, surveying engineering, cartography and geographic information system, multi-field coupling theory and its applications, applied and computational mechanics, noise and vibration control, computer applications in industry and civil engineering, and engineering management.

We are grateful to all the authors, referees and organizations who have made these volumes possible and hope that it becomes an invaluable reference both for the civil and environmental engineering profession.

*The editors*

**The 2012 Global Conference on Civil, Structural and Environmental Engineering**  
**&**  
**The 3rd International Symposium on Multi-field Coupling Theory of Rock and Soil Media and Its Applications**

**Organized by:**

China Three Gorges University

Geoenviornmental Engineering Branch, Chinese Society for Rock Mechanics and Engineering

The Ground Rock Engineering Committee, Chinese Society for Rock mechanics and Engineering

The Fluid Mechanics Committee of the Chinese Society of Mechanics

The Hubei Society for Rock Mechanics & Engineering

**Hosted by:**

China Three Gorges University

Key Laboratory of Geological Hazards on Three Gorges Reservoir Area, Ministry of Education

Hubei Three Gorges Reservoir Area Landslides Observation and Research Station

Southwest Petroleum University

Northeast Petroleum University

Wuhan Polytechnic University

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