

Preface

On the successful basis of GBMCE 2011, 2012 the Second International Conference on Green Building, Materials and Civil Engineering (GBMCE) will be held in SanYa during August 22-23, 2011, The conference aims mainly at promoting the development of Green Building, Materials and Civil Engineering, strengthening the international academic cooperation and communications, and exchanging research ideas.

In this conference, we received more than 1000 submission from email and electronic submission system, which were reviewed by international experts, and about 300 papers have been selected for presentation, representing 13 national and international organizations. I think GBMCE 2012 will be the most comprehensive Conference focused on the Building, Materials and Civil Engineering. We believe the proceedings will provide the readers a broad overview of the latest advances in the field of Building, Materials and Civil Engineering.

On behalf of the guest editors for this conference proceeding, We would like to thank the National 863 Program of China, National Science Fund of China. We also thank the conference organization staff, and the members of International Technological Committees for their hard work. Dr. Thomas Wohlbier, Managing Editor of Journal of Advanced Materials Research, is greatly acknowledged.

We hope that GBMCE 2012 will be successful and enjoyable to all participants. We look forward to seeing all of you next year at the GBMCE 2013.

June, 2012

Wen-Pei Sung

National Chin-Yi University of Technology

GBMCE 2012 Committee

Honor Chairs

Prof. Hsien-Te Lin, National Cheng Kung University, Taiwan

Conference Chairman

Prof. Wen-Pei Sung, National Chin-Yi University of Technology, Taiwan

Prof. Jimmy (C.M.) Kao, National Sun Tat-Sen University, Taiwan

Publication Chair

Dr. Chen Ran, International Frontiers of science and technology Research Association

International Technological Committees

Yu-Kuang Zhao, National Chin-Yi University of Technology

Hong Chen, Zhengzhou University

Endong Wang, Ocean University of China

Lin Qing, Hainan Medical College

Moacir Kripka, University of Passo Fundo, Brazil

Guozhong Zheng, North China Electric Power University

Huang Fengyuan, Eastern Liaoning University

S. Gopalakannan, Adhiparasakthi Engineerong College, India

Mohd Mustafa Al Bakri Abdullah, University Malaysia Perlis (UniMAP), Malaysia

Peyman Ghatee, Islamic Azad University, Iran

S. Farhad Nabavi, University of Technology Sydney

Jianwei Huang, Structure Design and Rehabilitaion, Florida, USA

zhao jing, Tianjin University

Cristina, Elena Lascu, Politehnica University, Bucharest, Romania

Peng Zhan, Central South University of Forestry and Technology

Hessam Azari Jafari, Civil faculty of Tabari Institute of Higher Education

Wen-Sheng Ou, National Chin-Yi University of Technology, Taiwan

Ming-Hsiang Shih National Chi Nan University, Taiwan

Viranjay M.Srivastava, Jaypee University of Information Technology, Solan, H.P. India

Liu Yunan, University of Michigan, USA

Mir Mahdi Zalloi, Iron

Hsien-Jung Wang, Rong sheng Engineering Design Co.,Ltd

Wang Liying, Institute of Water Conservancy and Hydroelectric Power, P. R. China

Zhou Liang, Donghua University, China

Chenggui Zhao, Yunnan University of Finance and Economics, P. R. China

Ting-Yu Chen, National Chin-Yi Universiyt of Technology, Taiwan

Tzai-Tang Tsai, National Chin-Yi Universiyt of Technology, Taiwan

Li-Xin GUO, Northeastern University, P. R. China

Hsiang-Chuan Liu, Asia University

Mostafa Shokshok, National University of Malaysia, Malaysia

Ramezan ali Mahdavinejad, University of Tehran, Iran

Wei Fu, Chongqing University, C P. R. China

Anita Kovač Kralj, University of Maribor, Slovenia

Tjamme Wiegers, Delft University of Technology, Netherlands

Gang Shi, Inha University, South Korea

Zengtao Chen, University of New Brunswick, Canada

Bhagavathi Tarigoppula, Bradley University, USA

Co-Sponsored by

Control Engineering and Information Science Research Association

International Frontiers of science and technology Research Association

Trans Tech Publications

Chongqing Xueya Conferences Co.,Ltd