

PREFACE

This volume contains some selected papers from the 2012 International Conference on Vibration, Structural Engineering and Measurement (ICVSEM2012) which is to be held in Shanghai, China, during October 19-21, 2012, and is co-organized by Guangzhou University, Cleveland State University, Xi'an Jiaotong University, Tongji University, The Hong Kong Polytechnic University, Shanghai Jiaotong University, Ritsumeikan University and University of Victoria. The conference aims to provide a high-level international forum for scientists, engineers, and students to present their new advances and research results in the field of Vibration, Structural Engineering and Measurement.

This volume covered all aspects of vibration, structural engineering and measurement, particularly of vibration engineering, structural engineering, building materials, and measurement. All of the papers have been reviewed by more than two expert referees in their relevant topic disciplines. The papers selected for this volume depended on their quality and their relevancy to the conference.

The editors hope that this volume will provide the reader a broad overview of the latest advances in the field of vibration, structural engineering and measurement, and that it will be a valuable reference source for further research.

The editors would like to express their sincere appreciations and thanks to all the members of the ICVSEM2012 Conference Organizing Committee and the Technical Program Committee for their tremendous efforts. They are indebted to the referees for their constructive comments on the papers. Without their dedication, it was impossible to have a successful ICVSEM2012 and a high quality volume of the conference proceedings. Thanks are also given to Trans Tech Publications for producing this volume. Finally, the editors would like to thank all the authors for their contributions to this valuable volume.

Chunliang Zhang

Guangzhou University, Guangzhou, 510006, China

Paul P. Lin

Cleveland State University, Cleveland, OH 44115-2214, USA

July 12, 2012

The 2012 International Conference on
Vibration, Structural Engineering and Measurement (ICVSEM2012)

Sponsored by

Guangzhou University, China
Cleveland State University, USA
Xi'an Jiaotong University, China
Tongji University, China
The Hong Kong Polytechnic University, Hong Kong
Shanghai Jiaotong University, China
Ritsumeikan University, Japan
University of Victoria, Canada

Conference Organization

Conference Chairman

Paul P. Lin, Cleveland State University, USA

Conference Co-Chairmen

Zuomin Dong, University of Victoria, Canada
Taiman Yue, The Hong Kong Polytechnic University
Kazuyoshi Tateyama, Ritsumeikan University, Japan
Yanyun Luo, Tongji University, China
Xieqing Huang, Xi'an Jiaotong University, China
Chunliang Zhang, Guangzhou University, China

Technical Program Committee

Chunguang Wang, Inner Mongolia Agricultural University, China
Conggui Chen, Guangzhou University, China
Deqing Mei, Zhejiang University, China
Eryu Zhu, Beijing Jiaotong University, China
Fenghua Lu, Taiyuan University of Technology, China
Hualin Chen, Xi'an Jiaotong University, China
Jeng-Haur Horng, National Formosa University, Taiwan
Jian Gao, Guangdong University of Technology, China

Jianping Tan, Central South University, China
Jinwu Xiang, Beijing University of Aeronautics and Astronautics, China
Jiwang Yan, Tohoku University, Japan
Jong Kook Lee, Chosun University, Korea
Kailin Pan, Guilin University of Electronic Technology, China
Lihong zhao, University of South China, China
Ming Dong, Shanghai Jiaotong University, China
Mingxia Fang, Tongji University, China
Pingyu Zhu, Hunan University of Science and Technology, China
Qing Zhang, Hohai University, China
Rongming Lin, Nanyang Technological University, Singapore
Sagar Kamarthi, Northeastern University, USA
Shahrum Abdullah, University Kebangsaan Malaysia, Malaysia
Shaowei Hu, Nanjing Hydraulic Research Institute, China
Shuibo Xie, University of South China, China
Tielin Shi, Huazhong University of Science and Technology, China
Toshio Haga, Osaka Institute of Technology, Japan
Weifeng Wang, South China University of Technology, China
Weihua Liu, Nanjing University of Aeronautics and Astronautics, China
Wen He, Zhejiang University, China
Xiangji He, China National Electric Apparatus Research Institute, China
Xiangjun Zou, South China Agricultural University, China
Xianmin Zhang, South China University of Technology, China
Xiaoli Xu, Equipment Monitoring and Diagnosis Academy, China
Xiaoping Wang, Wuhan University of Technology, China
Xiaoqing Zhou, Guangzhou University, China
Yasheng Luo, Northwest A & F University, China
Yanming Quan, South China University of Technology, China
Yongsheng Zhao, Yanshan University, China
Yuantong Gu, Queensland University of Technology, Australia
Yuxian Zhong, Tsinghua University, China
Yun-Hae Kim, Korea Maritime University, Korea
Zhaohui Deng, Hunan University, China
Zhengyi Jiang, University of Wollongong, Australia
Zhiping Kuang, Tongji University, China