

## Preface

The 4<sup>th</sup> Chinese Symposium on Magnetic Bearings (CSMB-4) is an academic conference to be held by China Maglev and Gas Suspension Technical Association whose members teach or research is in the field of Magnetic Suspension Technologies. A primary goal of the CSMB-4 is to communicate the latest progress and research results of new theory, new technology, method, equipment and so on in magnetic suspension technology field, and to grasp the updated technological and research trends in international and interior, which will drive international and interior communication and cooperation of production, education and research in this field. The CSMB-1 was established in 2005, which is held once every two years, and the attendants, including university teachers and graduate students, researchers from different institutions, technologists and managers from enterprises, come to discuss about academic development and cooperation of industry, academe and research institutes actively.

According to the schedule of academy CSMB-4 is held from 20th to 22th, in August 2011 in Shanghai, P.R. China, and organized and co-organized by China Maglev and Gas Suspension Technical Association, Shanghai University, Nantong University, Changzhou Institute of Technology, Jiangsu University.

The major topics include Innovation and Experience in Magnetic Suspension System and New Structures of Magnetic Bearings, Any Type of Magnetic Actuators, Passive Suspension, New Measuring Method and Sensing Technology, Magnetic Field Experiences and Case Studies, Safety and Reliability Aspects Studies, Key Components and Materials, Modeling and Identification, Self-Bearing (Bearingless) Motors, Self Sensing (Sensor less) Techniques, Low Loss Magnetic Bearings, Superconductor Magnetic Bearings, Micro Bearings and Other Novel Areas.

In order to improve the development of the academy and its international and interior influence, some excellent papers were selected to publish in the international periodical. All the papers submitted were refereed by the academic committee of CSMB-4, and well-known professors and experts. Based on the referees' comments, about 67 papers are finally selected for the conference presentation and inclusion in the proceedings, and all the papers are edited by the secretariat of academic committee, 43 papers are embodied by EI.

As Chairman of CSMB-4, I would like to take this opportunity to express my appreciation of the kind support and high quality contributions by all contributors and delegates. Equally, my thanks are extended to all conference organizers, supporters, and co-sponsors for their generous contribution. Thanks are also given to Prof. Gang Zhang, Prof. Guoqing Wu, Prof. Jiansheng Zhang, Prof. Huangqiu Zhu and Ph.D Hun Guo at Changzhou Institute of Technology for their editing work as the members of academic committee secretariat of CSMB-4, and to Trans Tech publications for publishing the volume.

*Professor Xiping Wang  
Chairman, the 4<sup>th</sup> Chinese Symposium on Magnetic Bearings*

### Conference organizers

China Maglev and Gas Suspension Technical Association  
Shanghai University  
Nantong University  
Changzhou Institute of Technology  
Jiangsu University