

## Preface

Dear Distinguished Authors and Guests,

The Organizing Committee warmly welcomes you to 2013 2<sup>nd</sup> International Conference on Mechanical Design and Power Engineering (ICMDPE 2013), held on 29<sup>th</sup>-30<sup>th</sup>, November, 2013, Beijing, China.

The aim of ICMDPE 2013 is to present the latest research and results of scientists (professors, students, PhD Students, engineers, and post-doc scientist) related to Mechanical Design and Power Engineering topics. This conference provides opportunities for the different areas delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

After the peer-review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose of the conference. The selected papers and additional late-breaking contributions to be presented as lectures will make an exciting technical program. The conference program is extremely rich, featuring high-impact presentation. We hope that the conference results constituted significant contribution to the knowledge in these up to date scientific field.

The proceeding records the fully refereed papers presented at the conference. The main conference themes and tracks are Industrial Design, Engineering and Automation, Advanced Manufacturing Technology, Mechanics and other correlation technique. Hopefully, all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process.

On behalf of the organizing committee, I would like to especially thank Anne, Tanja, Dorthe and all the editors from Trans Tech Publications for their great support to ICMDPE 2013 .Without their excellent editorial work, ICMDPE 2013 will not be published so timely and successfully.

Finally we wish all the authors and attendees of ICMDPE 2013 a unique, rewarding and enjoyable memory at ICMDPE 2013 in Beijing, China. We look forward to your participation in the 3<sup>rd</sup> ICMDPE in 2014.

With our warmest regards,

A. Subash Babu  
Conference Organizing Chair

December 6<sup>th</sup>, 2013

BOSI EDU

# **Committees and Sponsors**

## **Committees**

### **Conference Chairs**

Prof. A. Subash Babu, Department of Mechanical Engineering, Indian Institute of Technology, Bombay

Prof. Giorgio Colombo, Dipartimento Di Meccanica, Politecnico di Milano, Italy

Prof. Mira Mitra, Department of Aerospace Engineering, Indian Institute of Technology, Bombay

Prof. A. Subash Babu, Department of Mechanical Engineering, Indian Institute of Technology, Bombay

Prof. Musa Mailah, Universiti Teknologi Malaysia

Prof. Hishamuddin Jamaluddin, Faculty of Mechanical Engineering, Universiti Teknologi Malaysia

Prof. Alias Bin Mohd Noor, Department of Automotive Engineering, Universiti Teknologi Malaysia

Prof. Chong Wen Tong, Department of Mechanical Engineering, University of Malaysia

Prof. Kwingso Choi, Department of Mechanical, Materials and Manufacturing Engineering, The University of Nottingham

Prof. Miroslaw Wyszynski, School of Mechanical Engineering, University of Birmingham

Prof. Kamran Behinan, Mechanical & Industrial Engineering, University of  
Toronto

Prof. Viliam Makis, Mechanical & Industrial Engineering, University of Toronto

Prof. Chris Zhang, Department of Mechanical Engineering, University of  
Saskatchewan

Prof. Pengsheng Wei, National Sun Yat-sen University, Taiwan

Prof. Zheyu Fang, School of Physics, Peking University, China

Prof. Y.H. Chao, Department of Mechanical Engineering, The Hong Kong  
University of Science and Technology, China

Prof. Baiquan Chen, National Taipei University of Technology, Taiwan