

## PREFACE

Dear Distinguished Delegates and Guests,

The Organizing Committee warmly welcomes our distinguished delegates and guests to 2012 3rd International Conference on Mechanical, Industrial, and Manufacturing Technologies (MIMT 2012) held during March 24-25, 2012 in Shenzhen, China.

MIMT 2012 is sponsored by International Association of Computer Science and Information Technology (IACSIT) and Guizhou University. The conferences together report the results of research efforts in a broad range of Mechanical, Industrial, and Manufacturing Technologies. These conferences are aimed at discussing with all of you the wide range of problems encountered in present and future high technologies. The MIMT 2012 is organized to gather members of our international community scientists so that researchers around the world can present their leading-edge work, expanding our community's knowledge and insight into the significant challenges currently being addressed in that research. The conference Program Committee is itself quite diverse and truly international, with membership from the Americas, Europe, Asia, Africa and Oceania.

This proceeding records the fully refereed papers presented at the conference. The main conference themes and tracks are Mechanical, Industrial, and Manufacturing Technologies. The main goal of these events is to provide international scientific forums for exchange of new ideas in a number of fields that interact in-depth through discussions with their peers from around the world. Both inward research; core areas of Mechanical, Industrial, and Manufacturing Technologies and outward research; multi-disciplinary, inter-disciplinary, and applications will be covered during these events.

The conference has solicited and gathered technical research submissions related to all aspects of major conference themes and tracks. All the submitted papers in the proceeding have been peer reviewed by the reviewers drawn from the scientific committee, external reviewers and editorial board depending on the subject matter of the paper. Reviewing and initial selection were undertaken electronically. After the rigorous 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 presentations.

The high quality of the program – guaranteed by the presence of an unparalleled number of internationally recognized top experts – can be assessed when reading the contents of the program. The conference will therefore be a unique event, where attendees will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other fields. The program has been structured to favor interactions among attendees coming from many diverse horizons, scientifically, geographically, from academia and from industry. Included in this will to favor interactions are social events at prestigious sites.

We would like to thank the program chairs, organization staff, and the members of the program committee for their work. Thanks also go to Editors from TTP Press, for their wonderful editorial service to this proceeding. We are grateful to all those who have contributed to the success of MIMT 2012. We hope that all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process. Finally, we would like to wish you success in your technical presentations and social networking.

We hope you have a unique, rewarding and enjoyable week at MIMT 2012 in Shenzhen of China.  
With our warmest regards,

MIMT 2012 Organizing Committees  
March 24-25, 2012

Shenzhen, China

# Committees

## **Honorary Chair**

IEEE Fellow, Prof. Wang Jun, The Chinese University of Hong Kong, Hong Kong (2011 Keynote)

IEEE Fellow, Prof. Ning Xi, City University of Hong Kong, Hong Kong (2011 Keynote)

ASME Fellow, Prof. Wei-Hsin Liao, Chinese University of Hong Kong, Hong Kong (2011 Keynote)

IEEE Fellow, Prof. Chin-Chen Chang, Feng Chia University, Taiwan

## **Conference Chairs**

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Senior Member, Prof. Promod K. Jain, Indian Institute of Technology, India

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Senior Member, Prof. Jun Guo, East China Normal University, China

Senior Member, Prof. M. Sreekumar, Indian Institute of Information Technology, India