

Preface

Dear Distinguished Authors and Guests,

The Organizing Committee warmly welcomes you to 2012 the 2nd International Conference on Mechatronics and Applied Mechanics (ICMAM2012) (TTP Conference ID: 679), held on 6-7 December, 2012 at Hong Kong and on December 8-9, 2012 at Taipei.

The aim of 2nd ICMAM2012 is to present the latest research and results of scientists (professors, students, PhD Students, engineers, and post-doc scientist) related to Mechatronics and Applied Mechanic 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 Mechatronics and Applied Mechanics: Manufacturing Technology and Processing, Mechatronics and Automation, Mechatronics and Embedded System Applications, Applied Mechanics and Other topics. 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 2nd ICMAM2012. Without their excellent editorial work, 2nd ICMAM2012 will not be published so timely and successfully.

Finally we wish all the authors and attendees of 2nd ICMAM2012 a unique, rewarding and enjoyable memory at 2nd ICMAM2012 in Hong Kong and Taipei. We look forward to your participation in the 3rd ICMAM in 2013.

With our warmest regards,

Ching Kuo Wang and Jing Guo

Conference Organizing Chair

December 26, 2012

BOSI EDU

Committees and Sponsors

Committees

Advisory Committee

Han-Pang Huang, National Taiwan University, Taiwan
Hsi-Kuei Chen, Hwa Hsia Institute of Technology, Taiwan
Paul P.Lin, Cleveland State University, USA
Okyay Kaynak, Bogazici University, Bebek, Turkey
Bruno SICILIANO Università di Napoli Federico II, Italy

Conference Chairs

Wen-Fang Yen, Hwa Hsia Institute of Technology, Taiwan
Ching-Kuo Wang, Taiwan Society of Android Robotices (TSOAR), Taiwan
Tsing-Tshih Tsung , Chinese Culture University, Taiwan
Jing Guo, Harbin(Dalian)Section CIS Chapter, China

Technical Program Committee Chairs

Ravindras. Goonetilleke, Hong Kong University of Science and Technology, Hong Kong
Long Wang, Peking University, China
Seung Han Yang, Kyungpook National University, Korea
Imre J. Rudas, Obuda University, Hungary

International Program Committee Chairs (France)

Xavier Gandibleux, University of Nantes, France

International Program Committee Chairs (Jordan)

Ashraf Ismail Yousef Saleem, Philadelphia University, Jordan

International Program Committee Chairs (Hong Kong)

Yuan Jing, The Hong Kong Polytechnic University, Hong Kong
CHENG Li, The Hong Kong Polytechnic University, Hong Kong
Ping Zheng, Hong Kong University of Science and Technology, Hong Kong
Zhigang Li, Hong Kong University of Science and Technology, Hong Kong

International Program Committee Chairs (England)

Alexander M. Korsunsky, University of Oxford, England

International Program Committee Chairs (Taiwan)

Chun-Fei Hsu, Chung Hua University, Taiwan
Chih-Min Lin, Yuan Ze University, Taiwan
Jen-Yuan (James) Chang, National Tsing Hua University, Taiwan
Jeng-Haur Horng, National Formosa University, Taiwan

International Program Committee Chairs (Japan)

Tomonori Hashiyama, The University of Electro Communications, Japan

International Program committee Chairs (India)

Karm Veer Arya, ABV-Indian Institute of Information Technology & Management, India

International Program Committee Chairs (Hungary)

Marta Takacs, Obuda University, Hungary

Laszlo Horvath, Obuda University, Hungary

Jozsef Tar, Obuda University, Hungary

International Program Committee Chairs (New Zealand)

Raj Das, Department of Mechanical Engineering and Centre for Advanced Composite Materials University of Auckland, New Zealand

Program Committee

Digvijay Kulshreshtha,C. K. Pithawalla College of Engineering and Technology, India

Mohd. Zamri Bin Yusoff, Universiti Tenaga Nasional (UNITEN),Malaysia

Neville Ka-Shek LEE, Hong Kong University of Science and Technology, Hong Kong

Holger Voos, University of Luxembourg, Luxembourg

SURESH K.AGGARWAL, University of Illinois at Chicago, USA

Hwa-Young Jeong, Kyung Hee University, Korea

Ka Lok Man, Xi'an Jiaotong-Liverpool University (XJTLU), China