PREFACE

This volume constitutes the proceeding of the 2011 International Conference on Mechatronics and Information Technology (ICMIT 2011), which was held on August 16-19, 2011, in Shenyang, Liaoning province, P. R. China.

ICMIT series conferences have over 16 years of tradition. They are regarded as good opportunities for professional interactions in the fields of advanced mechatronics, information technology, mechanical engineering and automation, and so on. Historically, on the purpose of promoting a cooperative research development relational between Asian countries, the Korea-Japan Joint Advanced Mechatronics Research Association initiated the first International Workshop on Advanced Mechatronics (IWAM) in 1995. The Association decided to change the conference name into ICMIT (i.e. the International Conference on Mechatronics and Information Technology) in 2001, in order to keep with the new trend of mechatronics and information technology together with other relative fields. The series of the biennial conference ICMIT began in Cheju (KR) first, continuing to Nagasaki (JP), Chunchen (KR), Yamaguchi (JP), Jecheon (KR), Chongqing (CN), Gifu (JP), Gwangju (KR). Now, ICMIT 2011, hold in Shenyang (CN), is the 9th conference.

The primary conference aim of ICMIT 2011 is to share ideas and discuss new techniques and applications in mechatronics and information technology and speed the development of advanced equipment manufacture, under the conference theme of "mechatronics and information technology developed for advanced equipment manufacture". The conference topics of ICMIT 2011 include: Control Theory and Application, Magnetic Resonance Imaging, Actuators and Mechanism, Communication and Network Systems, Smart Materials and Structure, Ubiquitous Application, Welfare Engineering, Sensors and Signal/Image Processing, Biomedical Engineering, Embedded System, Robotics, Human Interface, Mechatronics and MEMS, Information Technology, Intelligent Control and System, Condition Monitoring/Fault Diagnosis, Applied Electromagnetics and Mechanics, Power Electronics.

There are over 300 papers submitted to ICMIT 2011. It is very grateful to the authors from over 10 countries for their careful efforts in preparing their papers for the conference. And it is also to grateful to over 100 professors and experts for their reviewing work on all the papers which will be published in TTP according to the journal standards required.

The editors of the volume would like to express the sincere appreciation to the members of the Advisory Board, Program Committee, and Steering Committee for their valuable contributions to ICMIT 2011. They also thank very much all the sponsors, including Natural Science Foundation of China, The Society of Applied Electromagnetics and Mechanics -Japan, GES Co., Korea and China-Japan-Korea Joint Advanced Mechatronics Research Association.

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October 12, 2011

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