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Introduction to the special issue on the “IFTToMM International Symposium on Robotics and Mechatronics”

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This special issue of *Frontiers of Mechanical Engineering* (FME) is dedicated to the topic of Robotics and Mechatronics. It features a selection of some of the best papers presented at the International Symposium on Robotics and Mechatronics (ISRM), which was held in Shanghai, China, on November 3–5 2011. ISRM 2011 is an event organized by the Technical Committee on Robotics and Mechatronics under International Federation for the Promotion of Mechanism and Machine Science (IFTToMM). The aim of this symposium is to promote timely scholarly exchange for robotics and mechatronics R&D community. ISRM 2011, with about 80 attendees from 11 countries and 54 paper presentations, is the 2nd edition of this event held in Singapore with its predecessor in Hanoi, Vietnam (2009). The scope of ISRM covers niche and emerging areas in robotics, mechatronics and automation as well as their applications. In ISRM 2011, three distinguished plenary speakers, Dr. Ke Ma (China First Heavy Industry Machine), Prof Zexiang Li (Hong Kong University of Science and Technology, China), and Prof Weizhong Guo (Shanghai Jiao Tong University, China), were invited to give their account on the current and future aspect of robot design from basic design methodology to industrial applications.

This special issue contains ten technical papers dealing with parallel manipulator systems and design, medical robots and systems, humanoid robot dynamics, rehabilitation robots and exoskeletons, and biologically inspired legged robots. These articles are rigorously selected from the papers submitted to ISRM 2011. All of the articles presented here have gone through the process of peer review for conference publication, evaluation of the presentations during the conference, and two rounds of journal publication reviews in order to meet publication standard of FME. We hope that through such a progressive review process, the advancement in this field can be reported in a rigorous and timely manner.

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