
Preface

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Biographical notes: Liang Gao is currently a Professor and Head of the Department of Industrial & Manufacturing System Engineering, Huazhong University of Science and Technology, China. He also serves as the vice Dean of the School of Advanced Technology and Equipment. He received his PhD in Mechatronics Engineering from Huazhong University of Science and Technology in 2002, and joined the university afterward. His research interests include operations research, optimisation and scheduling.

Gene Hou received his PhD in Mechanical Engineering from the University of Iowa in 1983. He joined Old Dominion University right after graduation and was promoted to the rank of Full Professor in 1996. His research area is computational design, emphasising multidisciplinary design optimisation. Currently, he is working on stochastic design optimisation and fluid-structure interaction.

Xiaoping Li is currently a Professor and the Director of the Neuroengineering Lab in the Department of Mechanical Engineering, National University of Singapore. He received his PhD from the University of New South Wales, Australia, in 1991 and joined the National University of Singapore in 1992. He is internationally known for his broad research contributions to manufacturing and neuroengineering. His current research interests include neurosensing and neuromodulation.

Gee-Pinn James Too received his PhD from the School of Mechanical Engineering, Georgia Institute of Technology, in 1991. He is currently a Full Professor in National Cheng Kung University. His research interests are in the areas of acoustic signal procession, noise control and underwater acoustics.

Daoguo Yang is currently a Professor and Dean of the School of Mechanical and Electrical Engineering, Guilin University of Electronic Technology, China. He is also the director of Research Center for Microelectronics Packaging and Assembly. He received his PhD in Delft University of Technology in 2007. He worked for Philips Semiconductors, Netherlands, as a principal engineer and project leader before joining the university. His research interests focus on microelectronic packaging technology and reliability, electronic packaging and interconnection materials, electronic packaging and virtual manufacturing technology.

With the rapid advances of engineering and technologies in all important fields, intelligent systems and mechatronics are growing into a new era. The goal of this special issue is to provide a multidisciplinary platform for researchers in the field to publish results from their scientific progresses and technological advancements. The focuses of the special issue are placed on integration of mechatronic sensors/devices/systems, intelligent robots, mechatronics in manufacturing, neuroengineering systems, energy systems, mechatronics and system design, modelling and computational systems for mechatronics, autonomous systems, advanced materials and rapid prototyping.

All 13 papers in this special issue were thoroughly reviewed. They were selected mainly from the 5th International Forum of Systems and Mechatronics, 2013 (IFSM2013), as well as from the submissions in response to the general call for papers. In this special issue, Sheng Li et al. of Wuhan University, China, report load sharing characteristics of multi-stage planetary gear train using analytical and finite element model, Jian-Feng Chen et al. of Beijing Institute of Technology, China, present a simulation study on the eccentricity of float in liquid floated gyroscope, Yang Liu et al. of Shanghai University, China, report a model-based study on the mechanical behaviour of hemispherical soft fingertip, Xia Ji et al. of Donghua University, China, report predicting the effects of cutting fluid on machining force, temperature and residual stress by analytical method, Tian Zhang et al. of Beijing Institute of

Technology, China, present a registration technique for spatial curves based on multi-view reconstruction, Huaizhong Li of Griffith University, Australia, present a jerk-constrained asymmetric motion profile for high-speed motion stages to reduce residual vibration, Wenchao Yi et al. of Huazhong University of Science and Technology, China, present solving flexible job shop scheduling by an effective memetic algorithm, Bo-Xuan Zhao and Jian-Hua Liu of Beijing Institute of Technology, China, present a research on ASP-based pipe routing assessment and diagnosis approach, Lin-Yan Liu and Hui-Fen Wang of Nanjing University of Science and Technology, China, present an integrated design and analysis system for feed drive system of CNC machine tools, Zhiyuan Wang et al. of Missouri University of Science and Technology, USA, report realisation of robot ink deposition on a curved surface, Changyu Chen and Gang Zhao of BeiHang University, China, report an information interpretation-oriented integration interface for manufacturing enterprises, Yan Ye et al. of National University of Singapore, Singapore, present a study of the ionic conductivity of a gelatin-NaCl electrolyte, and Ana M. Djuric et al. of Wayne State University, USA, present a reconfigurable machinery efficient workspace analysis based on the twist angles.

Finally, special thanks are due to all the authors who contributed to this issue, thus helping to advance the state-of-the-art for the intelligent systems and mechatronics.