Editorial

Jianli Song*

Division II of Engineering,
Department of Engineering and Materials Sciences,
National Natural Science Foundation of China,
No. 83, Shuangqing Road, Haidian District, Beijing, 100085, China
Email: songjianli@nsfc.gov.cn
*Corresponding author

Fei Tao

School of Automation Science and Electrical Engineering,
Beihang University,
No. 37, Xueyuan Road,
Haidian District, Beijing 100191, China
Email: ftao@buaa.edu.cn

Biographical notes: Jianli Song received her PhD degree from the Shanghai Jiaotong University. She is currently the Program Director of Manufacturing Science at Division II of Engineering, Department of Engineering and Materials Sciences, National Natural Science Foundation of China. She is also a Professor in School of Instrument Science and Opto-Electronics Engineering, Beijing Information Science and Technology University. Her research interests are material processing technology and advanced manufacturing technology. She has published two textbooks, one academic book and more than 50 articles, and has obtained four provincial and ministerial level science and technology awards in the research fields.

Fei Tao is currently a Professor at the School of Automation Science and Electrical Engineering in Beihang Universigy. Before he joined Beihang University, he worked as a Research Scholar and Postdoctoral Researcher at the University of Michigan-Dearborn, USA. His research interests include service-oriented intelligent manufacturing, manufacturing service management, and data driven manufacturing. He is the first author of three monographs and over 60 journal articles of these subjects. He was nominated and elected to be a research affiliate of CIRP in 2009. He is currently the Editor of *International Journal of Service and Computing-oriented Manufacturing* (*IJSCOM*).

The International Conference on Frontiers of Design and Manufacturing (ICFDM) is biennially held by the National Natural Science Foundation of China (NSFC) and Shien-Ming Wu Foundation of the USA. It has over 20 years of history. Since 1994, ICFDM has become an important platform to showcase outstanding research achievements in design and manufacturing science. Besides, the conference also aims at promoting and strengthening international academic cooperation and communication. ICFDM2016 was held in Shenyang, China during August 10–12, 2016. The conference covers research topics on the frontiers of mechanical design and manufacturing.

Under the support of related worldwide researchers, 367 papers have been received for ICFDM2016. Each paper was reviewed by at least two anonymous reviewers, and two track chairs. Based on the review results and recommendation from the track chairs, 83 papers have been selected out as the candidate papers for oral presentation at ICFDM2016. After the second round review, six papers have been selected out and recommended to submit to this special issue on *International Journal of Internet Manufacturing and Service* (*IJIMS*).

After received the six submissions, each paper was reviewed at least by two reviewers for the third round and the authors were requested to revise their paper according to the comments before the final acceptance in this special issue. The six papers included in this issue are briefly introduced as follows.

In the paper 'The mechanics-magnetic properties analysis and experiment of ferromagnetic material specimen in tensile process', the mechanics-magnetic properties are investigated through magnetic memory testing in tensile process by taking Q235 plate specimen as an example.

In the paper 'Product quality characteristics oriented task reliability modelling method for manufacturing equipments', to avoid the complex analysis of the equipment components and their relationship, a model which evaluates task reliability of manufacturing equipment using product quality characteristics parameters is investigated. It indicates that the method proposed in the paper has good accuracy.

In the paper 'Influence of air vortices on the instabilities of aerostatic slider', the authors evaluate the oscillation phenomenon of aerostatic slider caused by the vortex of gas flow both mathematically and experimentally. The experimental results are verified by the calculated results derived from mathematical equations.

In the paper 'The investigation of effects of friction on the formation of dead metal zone with finite element method', the effect of friction condition on the cutting process is investigated using finite element method. The behaviour and shape of the dead metal zone are studied by examining the distribution of the material velocity as well as the effects of friction.

In the paper 'Study on mill-grinding SiCp/Al composites using cutting tools with spiral grooves', the authors present a new type of cutting tool with spiral grooves for mill-grinding SiCp/Al composites. Results reveal that smaller cutting force and specific energy can be gained using cutting tool with helix angle and spiral grooves number.

In the paper 'Increased realism in virtual assembly using point cloud representation', a virtual assembly system in which each component can be installed in the correct position and orientation according to the hierarchical geometric relationships based on point cloud representation is developed. The experiments show the advantages of point cloud environment for virtual assembly simulation.

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