Special Issue on Digital Enterprise Technologies

Editorial

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The guest editors are delighted to present this special issue on Digital Enterprise Technologies, to international researchers and practioners in the manufacturing sector and related technology and service industries.

The special issue includes carefully selected papers presented at the 9th International Conference on Digital Enterprise Technology (DET2016) which was held on 29-31 March, 2016 in Nanjing, China. Authors were invited to re-write, extend and significantly improve their papers presented at DET2016. The main aim of the conference is to provide an international forum for the exchange of leading edge scientific knowledge and industrial experiences, regarding the development, integration and applications of the various aspects of Digital Enterprise Technologies, in the global manufafturing of the knowledge economy era.

Digital Enterprise Technology is defined by the conference scientific committee as "the collection of systems and methods for the digital modelling, simulation and optimization of the collaborative product development, factory and manufacturing processes planning, along their lifecycle". The guiding idea of the conference is to find a common understanding of employing Digital Enterprise Technologies in the factories of the future, moving from automated, to flexible, digital, sustainable, smart and intelligent manufacturing.

In total, 187 delegates from 15 countries and regions attended the conference, of which 27 delegates were from multi-national companies. A total of 121 papers were accepted for presentation at the conference. Of which 22 papers were selected for potential inclusion in the special issue. All selected papers had gone through the standard review process of the International Journal of Advanced

Manufacturing Technology. Based on the recommendations of international reviewers, 14 papers were finally selected by the guest editors.

The special issue starts with an overview paper written by James Gao and Alain Bernard (in addition to the 14 selected papers), which provides an introduction of the main issues and future research direction in knowledge management in the manufacturing industry with an emphasis on the new product development process. The 14 technical papers can be broadly grouped into the following interrelated and overlapping areas:

Two papers reported research on issues related to **product and design**, i.e., 'Assembly sequence planning for open-architecture products' authored by Ma *et al*; and 'Improving uncertainty analysis of embodied energy and embodied carbon in wind turbine design' authored by Ozoemena *et al*.

In the **manufacturing** area, three papers are presented, i.e., 'Manufacturing process information modeling using a metamodeling approach' authored by Yang *et al*; 'Using autonomous intelligence to build a smart shop floor' authored by Tang *et al*; and 'Research on key technologies for immune monitoring of intelligent manufacturing systems' authored by Cai *et al*.

Research in the area of **product service and maintenance** are reported in the following two papers, i.e., 'A lean PSS design and evaluation framework supported by KPIs monitoring and context sensitivity tools' authored by Mourtzis *et al*; and 'A collaborative machine tool maintenance planning system based on content management technologies' authored by Wan *et al*.

Two papers addressed issues in **five-axis flank milling** of surfaces, i.e., 'Research on surface morphology of the ruled surface in five-axis flank milling' authored by Li *et al*; and 'The mechanism of curvature for complex surface during five-axis flank milling' authored by Song *et al*.

Two papers reported research related to **accurate numerical control machining**, i.e., 'Improved forecasting compensatory control to guarantee the remaining wall thickness for pocket milling of a large thin-walled part' authored by Wang *et al;* and 'An error prediction model of NC machining process considering multiple error sources' authored by Hu *et al*.

Finally, three papers reported research in **cutting tools related to workpiece materials**, i.e., 'Effects of tool orientation and surface curvature on surface integrity in ball end milling of TC17' authored by Yao *et al*; 'Tool shape-performance-application integrated design approach: a development and a numerical validation' authored by Ji *et al*; and 'Hole-making processes and their impact on the microstructure and fatigue response of aircraft alloys' authored by Sun *et al*.

We would like to express our sincere thanks to all the authors and international peer reviewers for their contribution to the high quality papers presented in this

special issue, that will enrich the knowledge and stimulate future research interests in this important field.

Guest Editors:
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