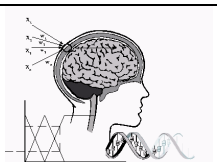
International

Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Title of Session: Sustainable Machining Technologies and Applications

Name, Title and Affiliation of Chair:
Dr Weidong Li, Dr Guoqing Jin (Coventry University, UK)
Dr Shuming Gao (Zhejiang University, China)
Dr Yunchun Xu, Dr Jorn Mehnen (Cranfield University, UK)
Dr Volodymyr Shatokha (National Metallurgical Academy of Ukraine)

Details of Session (including aim and scope):
In recent years, paramount demands for new products have incurred more product development and manufacturing activities. In order to balance the multi-faceted dimensions of economic growth and environmental protection, many countries have been developing a series of regulations and guidelines on lifecycle energy/carbon-related management for manufacturing enterprises to embrace "Competitive Sustainable Development" and shoulder "Extended Producer Responsibilities (EPR)". For instance, the Directive of eco-design of Energy using Products (EuP), European standard EN 16001:2010, lifecycle carbon labelling outlined by the lifecycle assessment frameworks of the ISO 14040: 2006, ISO 14044: 2006, and Publicly Available Specification 2050: 2008 (PAS 2050), have been introduced with a bid to stimulate energy efficiency and carbon emission improvement during product lifecycle.
Among the various stages of product lifecycle, manufacturing processes are energy intensive making the stage one of the primary energy consumption and carbon footprint sources. Manufacturing processes in factories, in which motors, compressors and machine tools need to be powered and adequate heating, ventilation and air conditioning need to be maintained by using significant electricity, contribute to over 24% of total European energy consumption. Therefore, effective implementation of manufacturing sustainability for product development is increasingly prevalent for companies.
In this session, the research focus will be on sustainable machining technologies and applications. We aim at inviting scientists and engineers to present their latest related research both from theoretical and practical viewpoints. Topics of Interest could be, but not limited to:

- Computer Aided Design (CAD)/Computer Aided Manufacturing (CAM) for sustainable machining processes and applications
- Management and improvement of sustainable machining processes
- Process planning and scheduling for sustainable machining processes
- Energy efficiency monitoring and measurement technologies for machining processes
- Intelligent decision making and support for sustainable machining
- ICT for sustainable machining applications

For more conference details, please visit the conference website:
http://sdm-14.kesinternational.org/ (28-30 April 2014 Cardiff, Wales, UK)

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

- Coventry University
- Zhejiang University

- Cranfield University
- National Metallurgical Academy of Ukraine
-

Website URL of Call for Papers (if any):

Email & Contact Details: Professor Weidong Li and Dr Guoqing Jin
weidong.li@coventry.ac.uk; guoqing.jin@coventry.ac.uk
Faculty of Engineering and Computing, Coventry University, UK