
Editorial

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Biographical notes: Mats Björkman is Professor and Head in the Division of Manufacturing Engineering at the Department of Management and Engineering at Linköping University, Sweden. He is the Chair of Swedish Production Academy and Deputy Head at the Department of Management and Engineering 2007–2011. His research has a focus on development, design, operation, and justification of flexible manufacturing, systems with a relatively high degree of automation. The research base and results concerning the development and design of complex manufacturing, mainly assembly, systems has over the years expanded to be applied to other areas such as the interface and integration between manufacturing and product design, including design science. Furthermore, the research has developed from areas such as aerospace and automotive to also include areas as recycling, remanufacturing, integrated product service systems, and biotech equipment.

Jan-Eric Ståhl received his MSc in 1982 and PhD in 1986 from Lund University, Sweden. He was appointed as Associate Professor and Full Professor at the Department of Mechanical Engineering, Lund University in 1987 and 1990, respectively. He has been working in education and research in the area of production and materials engineering for more than 30 years. He was the Director of educational programmes at the Faculty of Engineering and Vice Dean at the respective faculty responsible for industrial connection. He has published more than 200 scientific articles, which cover wide range of production and materials engineering, from modelling of machining process, machinability of materials, lean manufacturing to advanced tooling materials. He has several patents on material engineering and metal cutting technology. He has won national awards in production research for activities related to implementation and technology transfer of research results to Swedish industry. He initiated and started up the Swedish Production Academy in 2005 and has been the President of the academy for two terms.

Lihui Wang is Professor and Chair of Sustainable Manufacturing at KTH Royal Institute of Technology, Sweden. His research interests are focused on cloud manufacturing, web-based real-time monitoring and remote control, human-robot collaborations, and adaptive process planning. The ultimate goal of his research is to achieve sustainability in human society with better living environment. He is actively engaged in various professional activities. He is the Editor-in-Chief of *International Journal of Manufacturing Research*, Editor of *Robotics and Computer-Integrated Manufacturing*, Editor (Europe) of *Journal of Intelligent Manufacturing*, and Associate Editor of *Journal of Manufacturing Systems*. He is a fellow of Society of Manufacturing Engineers (SME), a Board Director of North American Manufacturing Research Institution, and a registered professional engineer in Canada. He has published seven books and authored in excess of 250 scientific articles in books, archival journals and refereed conference proceedings. His accomplishment has won him 12 international and institutional awards.

Manufacturing companies of today stand before huge challenges. Increased global competition is forcing the development towards shorter lead times, shorter time to get innovations to market, and increased flexibility. These challenges have to be met by the industries. The overall goal must be to develop sustainable production systems being manufacturing environmental friendly and safe products involving new technology and materials.

These challenges constitute the background and context for the series of International Swedish Production Symposia that are organised in every 18 months. The aim of the symposia is to promote both the breadth and the depth in manufacturing research, and to bridge the gap between academic research and industrial implementation. The first symposium of the series, SPS07, was held in Gothenburg in 2007, and the second, SPS08, in Stockholm. The third symposium, SPS09, and the fourth, SPS11, were held in Gothenburg and Lund, respectively.

The symposia are arranged by the Swedish Production Academy that is an independent organisation consisting of professors, researchers, teachers, graduate students as well as PhD's in the field of manufacturing working in industry. The aim is to promote and influence Swedish production research and education. The Production Academy is active in the following areas: strategic research partnerships, strategic cooperation in education, national and international graduate student activities, international conferences and strategic industry collaboration.

The Swedish Production Symposium is one of the most important activities of Swedish Production Academy, and the purpose of the 5th International Swedish Production Symposium (SPS12) was to address the problems in the following topical areas:

- automation in production systems
- humans in production systems
- localisation and cross-cultural issues
- machining
- manufacturing processes
- metrology in production

- production of carbon fibre and composite parts
- production system design
- production performance
- sustainable production and remanufacturing
- virtual manufacturing and simulation.

The papers in this special issue of the *International Journal of Manufacturing Research* are based on the papers presented at the SPS12, the 7th–8th of November 2012 in Linköping, Sweden. The conference was opened by the Vice President of Linköping University, Professor Helen Dannetun. The link between academic research and industry was manifested by a presentation made by Åke Svensson, Director General of Teknikföretagen. Teknikföretagen is an employers' organisation that has 3,500 engineering companies as members. Furthermore, the presentations made by Charlotte Brogren, Director General of VINNOVA and Hans Folkesson, Chairman of the Board of ProViking showed the large importance that the research funding agencies in Sweden put on manufacturing research.

The papers included in this special issue are carefully selected from the best conference papers. Each of the selected paper has been extended and peer-reviewed by at least two domain experts. The guest editors are grateful to those authors who contributed to this special issue, and wish to thank the reviewers for their valuable review comments that have largely improved the quality of the finally selected papers in this special issue. We hope that readers find this collection of papers informative and interesting.