

10th CIRP International Conference on Intelligent Computation in Manufacturing Engineering - CIRP ICME '16

Editorial

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This Procedia CIRP volume contains the Proceedings of the *10th CIRP International Conference on Intelligent Computation in Manufacturing Engineering (CIRP ICME '16)*, 20 - 22 July 2016, Ischia, Italy, with focus on *Innovative and Cognitive Production Technology and Systems*.

The *CIRP ICME Conference Series*, founded by Prof. R. Teti in 1998 with the first edition strongly encouraged by Dr. Eugene Merchant and supported through his personal participation, resulted from the activities of the *Working Group on Applications of Artificial Intelligence Methods in Manufacturing Engineering*, chaired by Prof. R. Teti within the *Scientific-Technical Committee "O" (STC-O)* of the *International Academy for Production Engineering (CIRP)*.

The response to the *10th edition of the CIRP ICME Conference* in terms of number of submitted papers and their quality has confirmed the widespread interest in Intelligent Computation in Manufacturing Engineering, covering the whole of Production Engineering Research.

The 108 accepted papers and 4 keynote papers were presented by authors from 24 countries and 5 continents, witnessing an altogether worldwide spread interest. The topics dealt with ranged from Manufacturing Systems issues (System Modelling, Design, Planning and Control; Supply & Production Networks; Machine Tools; Flexibility, Sustainability, Reconfigurability, Complexity; Assembly Systems; Logistics Systems), to Product related matters (Product Life Cycle, Product Development and Product Service), to Manufacturing Technology aspects (Subtractive Manufacturing, Additive Manufacturing, Forming Technologies, Laser Manufacturing, Metrology and Quality) as well as emerging issues such as Energy and Resource Efficiency, Cognitive Systems, Digital Factory, Cyber Physical Systems, Cloud Based Manufacturing, and the Industry 4.0 framework.

Last but not least, two Symposia were organized within this Conference edition with reference to Composite Materials Parts Manufacturing (CMPM, as an issues of the CIRP Collaborative Working Group on CMPM, and the International Workshop on Emergent Synthesis (IWES) in honour of its founder Prof. Kanji Ueda, Past President of the CIRP.

Through this wide range of research topics, this CIRP ICME Conference aimed at providing an international forum for the exchange of up-to-date knowledge information, experiences and results as well as the review of

progress and the discussions on the state-of-the-art and future trends of intelligent computing methods and artificial cognitive systems in the various sectors of advanced manufacturing technology and systems.

The Conference represented an exciting opportunity for scientists and experts to meet, interact and share ideas about this highly dynamic research field. Last but not least, the Conference offered the opportunity to visit (or re-visit) Ischia, the “green” island in the Gulf of Naples, world wide famous for its beauty and enchantment, while concentrating on manufacture science and engineering issues.

I should like to express my deep gratitude to all the people and organisations that contributed to the realization and success of the Conference: Prof. G. Levy, Prof. J. Jeswiet, Prof. J. Fleischer and Prof. N. Nishino for their highly appreciated Keynote Papers presentations in the Plenary Session; the International Program Committee Members for their help and support; the Session Chairmen for stimulating and managing the technical discussions; the Referees for their expert advice and assistance; all the Authors for their high-level contributions and presentations in the Technical Sessions. Finally, let me thank the Conference Technical Secretary, Dr. D.M. D'Addona, and the Organising Committee Members for the hard work they have undergone: Prof. F. Capece Minutolo, Dr. A. Caggiano, Dr. T. Segreto; the Dept. of Chemical, Materials and Industrial Production Engineering personnel and graduate students as well as assistant staff for their energy and team-work: M. Carandente, D. Matarazzo, A. Bottillo, V. Balsamo, R. Angelone, A. Teti, A. Burraccione, D. Corradini, the youngest Conference participants: S. Corradini and F.S. Teti; and, last but not least, my wife Nunzia for her support in the organization of the Conference Social Events.

Particular thanks are due to the *International Academy for Production Engineering (CIRP)*, the main scientific sponsor of the *CIRP ICME Conference Series*, and the scientific co-sponsors of the event: the *Fraunhofer Joint Laboratory of Excellence on Advanced Production Technology (Fh-J_LEAPT Naples)* that contributed with participants from Germany and from Italy; and, finally, the Conference main supporting bodies: the *University of Naples Federico II* and the *Italian Ministry of Instruction, University and Research (MIUR)* are gratefully acknowledged for their organizational and financial assistance to the event activities.

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Roberto Teti
Chairman and Editor