Editorial

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Biographical notes: J. Paulo Davim received his PhD in Mechanical Engineering from University of Porto in 1997 and the Aggregation from University of Coimbra in 2005. Between 1986/96, he was a Lecturer in University of Porto. Currently, he is Auxiliary Professor with Aggregation in Department of Mechanical Engineering of the University of Aveiro and Head of MACTRIB – Machining and Tribology Research Group. He has more 20 years of teaching and research experience in manufacturing processes. He is the editor of two international journals, guest editor, editorial board member, reviewer and scientific advisory for many international journals and conferences. He has also published more than 150 papers in refereed international journals and conferences.

T. Özel received his PhD in Mechanical Engineering from The Ohio State University in 1998. He is an Assistant Professor of Industrial and Systems Engineering at Rutgers University and the director of Manufacturing Automation and Research Laboratory. His current research interest include computational modelling of manufacturing processes, machining, mechatronics, automation, control and optimisation of manufacturing systems, and micro/nano manufacturing sciences. He has over ten years of experience in teaching and researching about machining systems and manufacturing automation. He has been reviewer, symposium organiser, guest editor and editorial board member for several international journals and conferences. He has published over 50 refereed papers in international journals and conferences.

In modern manufacturing systems, there is an ever-increasing need to utilise intelligent and autonomous software agents, hardware components, computational methods for advanced analysis, high level automation and control strategies in order to continuously improve productivity, quality and operational conditions as the global economy faces new challenges such as aging work forces in developed countries and growing need for modern technologies in emerging countries. This purpose of the *International Journal of*

Mechatronics and Manufacturing Systems (IJMMS) to create a platform for knowledge exchange among academicians, industry and practitioners about modern manufacturing technologies and publish papers related to recent advances in mechatronics, production processes, machines and systems.

The journal publishes research papers, review papers, select papers of the conferences, technical papers and notes, discussion on papers and case studies. The journal also publishes special issues on topics of specific interest within the scope of the journal. The journal covers the following topics (but not limited to):

- Agent-based manufacturing systems

- Artificial intelligence methods for manufacturing

- Advanced machining systems

- Autonomous and adaptive control systems

- Automated manufacturing systems

- Computer aided and integrated manufacturing methods

- Computer aided inspection and quality control systems

- Computers in manufacturing

- Computational methods and optimisation

- Software design for intelligent manufacturing

- Robotics in manufacturing

- Micro and nano mechatronics systems for manufacturing

- Hybrid manufacturing processes and systems

- Intelligent and smart machining systems

- Layered manufacturing

- Micro and nanomanufacturing systems

- Modern engineering of manufacture

- Process modelling and monitoring

- Sensors and actuators for manufacturing systems

- Virtual and rapid prototyping

- Network technologies in manufacturing

The founders and editors of the IJMMS, aimed to organise an inaugural issue with wide selection of papers in the journal coverage area to reflect the diverse scope of the field and initiate fruitful discussions towards further issues. Therefore, we present such papers on mechatronics education, micromanufacturing, intelligent haptics, advanced control systems, intelligent machining, sensors and process monitoring, advanced laser processing of ceramics and agent based manufacturing systems.

The founders and editors greatly acknowledge Inderscience publishers, Dr. M. Dorgham and editorial team for their adequate and professional support throughout the preparation of this journal. Finally, we would like to thank all the authors and all the referees for their availability and their thorough evaluations of the papers appear in this inaugural issue.