

---

## Editorial

---

### Juan-José Aguilar-Martín\* and José-Antonio Yagüe-Fabra

Department of Design and Manufacturing Engineering,  
University of Zaragoza,  
I3A, Aragon Institute of Engineering Research,  
María de Luna, 3, 50018 Zaragoza, Spain  
E-mail: jaguilar@unizar.es  
E-mail: jyague@unizar.es  
\*Corresponding author

---

This special issue of the *International Journal of Mechatronics and Manufacturing Systems (IJMMS)* includes nine research articles related to machining processes, micromachining, non-traditional manufacturing processes and mechatronics issues in manufacturing and measurement systems. Manufacturing engineering is experiencing a great transformation due to unexpected challenges arising from the current approach to optimisation and continuous performance improvement in manufacturing processes, production of large products, miniaturisation, development of new materials, manufacturing bioengineering oriented, etc. Recently, engineers and scientists have begun to explore new approaches to manufacture highly complex products based, for example, on additive manufacturing. Moreover, these optimised and emerging processes are aimed at improving the product quality and process performance. A brief summary of the main contributions presented in this special is discussed below.

In this special issue, various aspects of mechatronics issues in manufacturing processes such as micro-end-milling processes, dry plunge-milling, five-axis laser cladding and CO<sub>2</sub> laser cutting are presented by several articles from leading research groups.

Analytical forces model, cutting conditions, process parameter selection, surface integrity, deviation of the tool path, tool deflection, dynamic effects and other factors of influence to improve productivity are also presented by internationally renowned researchers in this field.

The special issue also includes interesting research articles on industrial metrology, micro- and nano-metrology and applications including geometrical errors identification in machine tool, indexed precision platform for verification of geometrical instruments and fan/cone beam CT design for non-destructive testing.

The Editors, Dr. Aguilar-Martín and Dr. Yagüe-Fabra greatly acknowledge Inderscience publishers team for their professional support throughout the preparation of this special. We are grateful to Professor T. Ozel, Editor-in-Chief of *International Journal of Mechatronics and Manufacturing Systems (IJMMS)* for inviting us as the guest editors of this issue. Finally, the editors would like to thank all the authors and all the referees for their availability and their thorough evaluations of the papers appear in this issue.