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## Editorial

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**Biographical notes:** J. Paulo Davim received a PhD in Mechanical Engineering from the University of Porto and the Aggregation from the University of Coimbra. Between 1986 and 1996, he was a Lecturer in the Department of Mechanical Engineering of the University of Porto. Currently, he is an Auxiliary Professor with Aggregation in the Department of Mechanical Engineering of the University of Aveiro. He teaches undergraduate and graduate courses in machining and tribology. He has about 20 years of teaching and research experience. He is the Editor of the two new international journals in these subjects. He has also published more than 120 papers on machining and tribology in refereed international journals and conferences.

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## 1 Introduction

Nowadays the *machining* is a field of science and technology with great technological development and innovation in several industries. However, important improvements in manufacturing engineering will continue to be made by the use of the latest advances in *machining*. Therefore, the objective of the *International Journal of Machining and Machinability of Materials (IJMMM)* is to provide an effective medium for dissemination of recent advances and original research in machining and machinability of materials.

Recently, the use of advanced materials has increased in various areas of science and technology due to their special mechanical and physical properties. Therefore, advanced materials have replaced conventional materials in various fields of application such as automotive, aeronautical, aerospace, die and mould, biomechanics, as well in the other industries because of its own properties. As a result of these properties and potential applications, there exist a great necessity to understand the questions associated with the *machinability* of these materials.

The journal acts as a vehicle to help academics and researchers, engineers, professionals in *machining* and related industries, to disseminate knowledge between academic/research institutions and industrial applications. This journal publishes research papers, review papers, technical papers, technical notes, short communications, discussion on papers and case studies. Also, special issues devoted to important topics in *machining* will be published. The following topics are covered by *IJMMM* (but not limited to):

- machining processes: turning, drilling, milling and grinding
- mechanics of cutting and chip formation
- cutting forces and cutting temperatures

- cutting tool material and coatings
- tool wear
- surface finish and integrity surfaces
- tribology in metal cutting
- high-speed machining (HSM)
- 'Non-traditional' machining processes: Laser, EDM, ECM, USM and Water jet cutting
- precision machining: micromachining and nanomachining
- vibrations and acoustics emission techniques in machining
- machinability of materials: metallic materials and composite materials (MMC's; PMC's and CMC's)
- design experiments: Taguchi techniques, response surface methodology, etc.
- machining simulation: FEM models, etc.
- optimisation: genetics algorithms, neural networks, etc.
- intelligent machining
- integrated manufacturing systems.

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