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Machining: State-of-the-Art 2022

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Deadline for manuscript submissions:
closed (31 December 2022)

Message from the Guest Editors

Machining remains one of the most important manufacturing processes in the worldwide context, being used every time surface finishing needs to be almost perfect due to contact with other parts. Machining processes have evolved significantly. The optimization of machining parameters has been a largely studied subject but remains a challenge because every day, new materials and alloys are being developed, new tool shapes are being created, and new coatings are used in their surfaces. Moreover, uncountable subjects around machining are being developed every day. Indeed, materials are evolving continuously, as are their tools and coatings; chips resulting from machining processes are increasingly studied; machining trajectories in CNC machines have experienced a deep evolution; and the Industry 4.0 is invading machining processes and operations through cloud computing, decentralized decision-making systems, and machine-learning processes.

This Special Issue aims to accumulate the most recent advances through original high-quality works that are able to disseminate the new evolutions and trends in machining processes, from the conventional to the most advanced processes.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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Journal Rank: JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

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