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Green Manufacturing for Metallic Materials

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Deadline for manuscript submissions:
closed (31 March 2024)

Message from the Guest Editors

Dear Colleagues,

The green advanced/hybrid manufacturing process has become increasingly important in industry due to carbon tax and a friendly environment. The surface quality of difficult-to-machine materials, such as Inconel, tungsten carbide, polycrystal diamond (PCD) and cermet, is affected by the conditions of cutting tools, workpieces, process parameters, lubrication, machine performance, etc. Many green advanced/hybrid manufacturing processes have been developed in recent years to enhance the machinability of these materials. In this Special Issue, the research topics of interest include the experiment and simulation of green metal cutting/milling/forming/ultrasonic-vibration-assisted milling/laser-assisted milling/minimum quantity lubrication /electrical discharge machining/wire electrical discharge machining/electrochemical machining/ultrafast laser/micro particle bombarding (MPB) surface treatment, such as micro peening and micro blasting. All papers related to increasing the manufacturing efficiency of high-performance materials with lower energy consumption and fossil lubrication via green advanced/hybrid manufacturing are welcome to this Special Issue.

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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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