Special Issue

Novel Processing of Magnesium Materials

Message from the Guest Editor

In the past 20 years, magnesium alloys and composites have gained superior prominence in weight-critical applications in the aerospace, automotive, and transportation sectors. In recent times, magnesium's ability to degrade in the human body has made it a potential material for orthopedic implants. In research, several different approaches have been used to improve the properties of magnesium-based materials by means of alloying, composite technology, heat treatment, and coatings, among others. Furthermore, the use of unique processing technologies such as additive manufacturing, microwave sintering, extrusion, etc., have been able to deliver high-performance, lightweight magnesium-based materials. The combined effect of processing technology and novel alloying elements or reinforcements can be vital in achieving greater acceptance of magnesium-based materials in industry. Accordingly, this Special Issue aims to explore research articles focused on the use of novel processing technologies and their effect on the properties of the developed magnesium-based materials. Review articles are also welcome.

Guest Editor

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Deadline for manuscript submissions

closed (31 January 2024)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/160144

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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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