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Novel Processing of Magnesium Alloys and Composites–Properties and Applications

Guest Editor:

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Deadline for manuscript submissions:
closed (31 July 2022)

Message from the Guest Editor

Dear Colleagues,

In the past of 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 element 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.

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Message from the Editor-in-Chief

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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