Special Issue

Sustainable Manufacturing of Light Alloys

Message from the Guest Editors

Aluminum alloys, titanium alloys, magnesium alloys, and nickel super alloys are some of the most widely used alloys in such strategic industrial sectors as the aeronautic, automotive, and biomechanical industries, both individually and hybridized with composite materials. Their excellent mechanical and physical-chemical properties make these light alloys an excellent alternative to other materials in engineering applications. However, many of these materials have problems in their ability to be manufactured, especially when sustainable manufacturing processes are applied, due to certain social, economic, and environmental issues. The goal of this Special Issue is to provide a comprehensive overview of the more recent advances in the field of sustainable manufacturing of light alloys, which include machining, forming and additive novel processing techniques, sustainable manufacturing technologies, eco-friendly lubrication and cooling systems, and advanced simulation methods. Examples of innovative and successful industrial applications are also encouraged.

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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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