Special Issue

Advances in Titanium Alloys and Manufacturing and Processing Technologies

Message from the Guest Editors

Titanium alloys are used in a variety of important industries including the aerospace, transportation, and biomedical fields. This arises from the high specific strength, excellent corrosion resistance, and biocompatibility of titanium alloys. Nevertheless, titanium alloys have a few drawbacks such as a lack of workability, low room temperature formability, and high costs. Many researchers have endeavored to overcome these limitations either by developing a novel alloying system or by optimizing the processing parameters of conventional thermomechanical processes. Furthermore, they have focused on various ways of forming titanium alloys including traditional methods (sheet forming, forging) and innovative methods (additive manufacturing, cryogenic forming, and electrically assisted forming). In this Special Issue, we welcome articles that focus on titanium alloys in terms of their design, smelting, melting, plastic deformation processing, welding and joining, microstructure control technologies to overcome its shortcomings, and especially their innovative manufacturing processes that can both reduce the price of titanium alloys and maximize their properties.

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Deadline for manuscript submissions

closed (30 June 2022)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/95885

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About the Journal

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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