Special Issue

Advanced Ti-Based Alloys and Ti-Based Materials

Message from the Guest Editors

Titanium and Ti-based alloys are widely used in engineering applications, such as in the aerospace, biomedical, chemical, and nuclear industries, because they have a high strength to weight ratio, excellent corrosion resistance, and negligible biological impact on the human body. In the aerospace field, it is forecasted that the use of Ti-based alloys per plane should be increasing within the next year due to their high creep and oxidation resistance, good formability, and good strength/density ratio. In the biomedical area, the use of Ti-based alloys will be increasing because they exhibit only a slight biological impact on the human body, resulting in increases in human life expectancy. This Special Issue focuses on the research and development of Ti-based alloys and considers a wide range of topics stemming from the design theory of new alloys to applications.

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Deadline for manuscript submissions

27 November 2025

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/237681

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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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