Special Issue

Microstructure and Mechanical Properties of Biomedical Alloys

Message from the Guest Editors

In recent decades, there has been a considerable increase in research related to the development of biomaterials. These studies are expected to improve the performance of medical devices used in various medical fields, such as orthopedic, dentistry, neurology, etc. However, further studies on the structure and mechanical properties of biomedical alloys are required to improve the mechanical stability, corrosion resistance, and biocompatibility of implants. Regarding biomedical metal alloys, special attention has been paid to the development of materials that are free of cytotoxic elements, such as Al, V, Cr, Co, and Ni, and still present adequate mechanical properties to mimic the behavior of biomechanical tissue and achieve good interaction with the host tissue. In this Special Issue, original research articles and reviews are welcome. All approaches will be considered, including theoretical, numerical, and experimental contributions.

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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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