Special Issue

Ti-Alloys: Microstructures, Mechanical Properties, Deformation Mechanisms, and Thermodynamics

Message from the Guest Editor

As we all know, Ti and Ti-alloys offer a wide range of properties such as high strength, low density, and good corrosion resistance. These properties are advantages for Ti-alloys to be used in various engineering fields, such as aerospace, biomedical, automotive, etc. At present, all countries are developing new Ti-alloys with low cost and high performance. New applications of Ti-alloys require significant improvements in their physical and mechanical properties, which can be achieved through the use of new technologies (laser processing, additive manufacturing, nanotechnology). Traditionally, alloy design is based on physical metallurgy, in particular an understanding of structural evolution and property relationships. On the other hand, the rapid development of digital technologies has enabled intelligent engineering and design systems (eg, finite element simulations, neural networks.) to play a huge role in the development of advanced materials and technologies. This Special Issue of Materials aims to present recent original research on the design, mechanical properties, and micromechanisms of Ti-alloys.

Guest Editor

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Message from the Editorial Board

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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