Special Issue

Nanocomposite High Performance Alloys

Message from the Guest Editors

High-performance alloys provide both high performance and metallic characteristics, and they are synthesized using two or more kinds of metals, or a metal or nonmetal. These nanocomposites are materials based on high-performance alloys that are reinforced with a dispersed nanophase. The inorganic compounds are usually ceramics, metals, etc., and the organic compounds are usually organic polymer materials. Because of their designability, high-performance alloys and their nanocomposites have desirable properties, such as high modulus, high strength, and good toughness. Hence, high-performance alloys and their nanocomposites have been developed into new types of material, which have been widely applied in many fields, such as the military, aerospace, and automotive fields. Thus, we welcome studies about the fabrication, characterization, and testing of high-performance alloys and metal-matrix composites reinforced with different nanophases to be submitted for publication in this Special Issue. Furthermore, studies on the manufacturing process of high-performance alloys and nanocomposites and analyses of their strengthening mechanism will also be considered.

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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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