Special Issue

Fundamental Science and Applications of Highly Functional Alloys

Message from the Guest Editor

In the recent industry, high functional alloy materials with plural functionality are demanded. These characteristics are toughness, high ductility, super-elasticity, low thermal expansion, high durability, etc. As for materials that are used for actuators, oscillators, or transducers, further magnetic mechanical functionality is pursued in magnetic shape memory alloys. Articles about the recent progress of superalloys, invar alloys, shape memory alloy and other alloys that have high functionality are collected in this Special Issue. It is important to investigate a physical origin to expose the mechanisms of these characteristics, scientifically, to give further functionality to these materials. With applied technology, the articles of basic science using experimental theoretical considerations are raised. This issue will be comprised articles reporting new and progressive research results, as well as reviews of particular classes of fundamental science of the alloys and their applied applications.

Guest Editor

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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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