Special Issue

Mechanical and Metallurgical Characterizations of Advanced Alloys

Message from the Guest Editor

The design and manufacturing of advanced materials are of great interest in many applications of automotive, aerospace, clean energy, military, and heavy industries. The addition of alloy elements and various manufacturing processes greatly influence the resulting microstructures and mechanical properties. Furthermore, microstructures and their material properties can be modified by post material processing, including shaping and forming, thermal and/or mechanical treatment, welding, and joining for the final application. In addition, residual stress after thermal and/or mechanical processing also affects mechanical performances under static or dynamic mechanical testing or in-service conditions. This Special Issue focuses on multidisciplinary research for emerging alloy design, approaches, and theories of material processing and joining as well as advanced metallurgical characterizations and mechanical properties under static, dynamic, corrosion, high-pressure gas, or other environmental testing.

Guest Editor

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Message from the Editor-in-Chief

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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