Special Issue

Advances in Multicomponent Alloy Design, Simulation and Properties

Message from the Guest Editors

Materials with versatile electronic, magnetic, and mechanical functionalities in extreme environments are in high demand; hence, the discovery of new materials and/or combinations of existing materials is essential. Conventional alloys generally relying on the presence of a single principal element and various minor constituents have been pushed toward their functional limits. Nearly two decades ago, new groups of materials, known as high-entropy alloys (HEA) and medium-entropy alloys, were introduced. The utilization of a large percentage of multiple principal constituent elements created unique alloying and composition optimization processes, in which materials with functionalities surpassing existing alloys could be realized. This Special Issue will bring together recent experimental and theoretical developments in the field of multicomponent alloys, including, but not limited to, alloy design and the electrical and magnetic, mechanical, and electrochemical properties of these alloys in bulk, single-crystal, and thin-film form.

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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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