Special Issue

Emerging Technologies for Development of Novel Materials Systems and Coatings

Message from the Guest Editor

New or emerging technologies for materials synthesis and processing are needed to obtain materials systems and coatings with design composition, microstructure, and architectures fulfilling the harsh requirements for applications in extreme mechanical, high-temperature, high-corrosion or biological–environmental conditions. Green chemical procedures with a low environmental impact enable finetuning of components and dopants by controlling the kinetics and mechanisms involved in the synthesis of nanostructured composite or hybrid material systems. The use of these advanced materials to obtain functionally graded materials and coating architectures may open new directions in the study of nucleation and growth processes while using physical or chemical coating technologies and controlling functional properties. In this Special Issue, modern trends in novel material synthesis and coatings, including fundamental research, modeling, and optimization, are highlighted and discusses. It is my pleasure to invite you to submit a manuscript to this Special Issue. Full papers, communications, and reviews are all welcome.

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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