Special Issue

History, Developments and Trends in the Heat Treatment of Steel

Message from the Guest Editor

We would like to provide a set of papers devoted to the application of various heat treatment techniques to different steel classes: carburizing steels, structural steels, spring steels, nitriding steels, ball bearing steels, stainless steels, powder metallurgy manufactured steels and tool steels. Both research and review papers, informing readers on the latest ongoing research activities, on the current state-of-the-art, and on the history of the selected heat treatment techniques are welcome. The Special Issue will be focused mainly on the following topics (but will not be strictly limited to): annealing, various aspects of hardening and tempering (including vacuum processes), cryogenic processes, carburizing and quenching, carbonitriding, nitrocarburizing, nitriding (including gas and plasma processes), boronizing, laser hardening and remelting, induction hardening, electron beam treatments, CVD, PVD. Papers devoted to detailed description of the interrelationships between processing, microstructure, mechanical and other important properties (strength, hardness, toughness, fatigue behaviour, corrosion performance, wear performance, and distortion behaviour) are also welcome.

Guest Editor

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Deadline for manuscript submissions

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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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