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History, Developments and Trends in the Heat Treatment of Steel

Guest Editor:

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Deadline for manuscript submissions: closed (31 July 2020)

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 carbonitriding, nitrocarburizing, quenching, 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.









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Message from the Editor-in-Chief

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