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Heat Treatment and Mechanical Properties of Metals and Alloys II

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Deadline for manuscript submissions:
closed (30 November 2022)

Message from the Guest Editor

The main factors contributing to the functional properties of a metallic material are its chemical composition and the applied technologies which affect the material both directly and indirectly through its structure. The structure of a material, as a factor subject to a very wide range of changes and modifications, is important in shaping the material's properties. The properties of metallic materials can be divided into those that are sensitive to changes in the material's structure and those that do not show particular sensitivity to these changes. In general terms, heat treatment is a technological process that changes the mechanical and physicochemical properties of metals and solid alloys by causing changes of the structure that are mainly a function of temperature, time, and environmental conditions.

In this Special Issue, we seek to provide a wide set of articles on various aspects of heat treatment and thermal treatment and on the mechanical properties of metals and alloys. Articles on heat treatment and thermal processing methods, thermomechanical treatment, cryogenic treatment, metallurgy, characterization, and evaluation of metallic materials are welcome.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

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