Special Issue

Heat Treatment of Metallic Materials in Modern Industry–Volume II

Message from the Guest Editors

Steels, cast irons and non-ferrous metals are nowadays widely used in various industrial branches for manufacturing of components or tools. The tools or components must be subjected to different heat, thermo-chemical or surface treatments before being operated. These treatments either convert the initial annealed microstructures to hard martensitic or bainitic ones, or assist to form hard and wear resistant surface lavers that protect the materials against various environmental attacks. A variety of techniques are used to generate these modifications such as hardening and tempering procedures, carburizing, nitriding, boriding or selective laser or electron beam thermal treatments. This Special Issue is devoted to the studies related (but not strictly limited) to the effects of different thermal or superficial treatments on microstructure, mechanical properties, wear performance and other important characteristics of iron-based and non-ferrous metals used in the today's industry.

Guest Editors

Dr. Pavel Novak

Department of Metals and Corrosion Engineering, University of Chemistry and Technology, Technická 5, 166 28 Prague, Czech Republic

Dr. Peter Jurči

Faculty of Material Sciences and Technology of the STU in Trnava, J. Bottu 25, 917 24 Trnava, Slovakia

Deadline for manuscript submissions

20 April 2025



an Open Access Journal by MDPI

Impact Factor 3.1 CiteScore 5.8 Indexed in PubMed



mdpi.com/si/177749

Materials MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 materials@mdpi.com

mdpi.com/journal/

materials





an Open Access Journal by MDPI

Impact Factor 3.1 CiteScore 5.8 Indexed in PubMed



materials



About the Journal

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.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada 2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (Condensed Matter Physics)