Special Issue

Mechanical Properties in Progressive Mechanically Processed Metallic Materials

Message from the Guest Editors

One of the possible ways to effectively increase the utility properties of metallic materials is to decrease their grain size. The introduction of thermomechanical treatment represented a breakthrough in grain refinement. Contrary to conventional production technologies, the main advantage of such treatment is the possibility to precisely control structural phenomena. Grain boundaries can significantly contribute to material strengthening; however, the final effect depends on the ratio of grain boundaries and grain interiors.

Thermomechanical treatment can only decrease the grain size to the scale of microns. However, further research devoted to pushing materials' performance beyond the limits led to the introduction of severe plastic deformation (SPD) methods providing producers with the ability to acquire ultra-fine-grained and nanoscaled metallic materials with superior mechanical properties. SPD methods can be performed with the help of conventional forming equipment; however, many newly designed processes have been introduced.

It is my pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome.

Guest Editors

Dr. Radim Kocich

Regional Materials Technology and Science Centre (RMTSC), Faculty of Materials Science and Technology, VŠB–Technical University of Ostrava, Ostrava, Czech Republic

Dr. Lenka Kunčická

Institut of Physics of Materials, Czech Academy of Sciences, Brno, Czech Republic

Deadline for manuscript submissions

closed (31 August 2020)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/30825

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

About the Journal

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.

Editors-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

Prof. Dr. Yuguang Ma
State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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

MDPI