Special Issue

Spark Plasma Synthesis under High Pressure for Advanced Materials

Message from the Guest Editors

Spark plasma sintering is being increasingly employed in the field of sintering to increase the level of solid chemistry reaction that induces a decrease in the sintering temperature over a shorter duration by limiting grain growth. Spark plasma synthesis focuses on a new approach in advanced materials, such as the assembly of various materials (multimaterials), the densification of composites less than their melting temperatures, the welding of metal alloys, electromigration, etc. The application of high pressure in SPS—instead of conventional pressure which is restricted to the use of graphite molds—with other types of molds allows a new high-pressure field in materials science for refractory compositions, high-pressure phases (diamond, cubic boron nitride, etc.), phase transitions, hydro(solvo)thermal, etc., for innovative fields of application. Combination of the spark plasma process using high-pressure tools for material synthesis will be addressed in this Special Issue. To this end, we are pleased to invite you to submit a manuscript to this Special Issue. Full articles, papers and reviews are welcome.

Guest Editors

Dr. Alain Largeteau
1. University of Bordeaux, Bordeaux, France
2. ICMCB (UMR 5026) - CNRS, 33608 Pessac, France

Dr. Mythili Prakasam
ICMCB (UMR 5026) - CNRS, 33608 Pessac, France

Deadline for manuscript submissions

closed (20 September 2023)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/92894

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

MDPI