Special Issue

Numerical and Experimental Analysis of Thermal, Electrical and Mechanical Aspects of Carbon-Based Composites

Message from the Guest Editors

Polymers are classically recognized as insulating materials due to their low electrical and thermal conductivity, and therefore, are inappropriate to use in different practical applications. On the contrary, they are highly appreciated for their lightness, cost-effectiveness, ease of processing, corrosion resistance and strength-to-weight ratio. The recent developments in advanced polymers are based on nanotechnology. In particular, the introduction in polymer matrices of carbon-based fillers has been effective at improving the thermal and electrical conductivity of the resulting materials and their mechanical properties. However, despite the promising achievements made thus far, the desired results have still not been fully achieved due to a lot of factors (the aspect ratio of filler, polarization at the interface, and more) which affect the overall final properties of the resulting materials. Future experimental investigation and theoretical and computational studies on carbon-based nanocomposites are encouraged to add to our knowledge and achieve new goals.

Guest Editors

Prof. Dr. Giovanni Spinelli

1. Faculty of Transport Sciences and Technologies, University of Benevento "Giustino Fortunato", via Raffaele Delcogliano 12, Benevento, Italy
2. OLEM, Institute of Mechanics, Bulgarian Academy of Sciences, Sofia 1113, Bulgaria

Prof. Dr. Vittorio Romano

Department of Industrial Engineering, University of Salerno, Via Giovanni Paolo II, 132, 84084 Fisciano, Italy

Deadline for manuscript submissions

closed (20 March 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/181353

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

MDPI

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)