



materials



an Open Access Journal by MDPI

Towards Toughened Composites: Present and Future Challenge

Guest Editors:

Dr. Milad Saedifar

Structural Integrity & Composites,
Faculty of Aerospace
Engineering, Delft University of
Technology, 2629 HS Delft, The
Netherlands

Dr. Mohamed Nasr Saleh

Structural Integrity & Composites,
Faculty of Aerospace
Engineering, Delft University of
Technology, 2629 HS Delft, The
Netherlands

Deadline for manuscript
submissions:

closed (28 February 2022)

Message from the Guest Editors

Composite materials are characterized by high specific mechanical properties, while their out-of-plane properties have been always a major challenge that limits utilizing the full potential that such material systems can offer. Several design parameters should be addressed in order to enable the spread of the technology even further into industrial applications. One of the key properties, required in the aforementioned applications, is the toughness of composites materials.

Thus, the aim of the proposed Special Issue is to shed more light on the different but essential toughening mechanisms and techniques of composites. This can be achieved via various approaches including but not limited to: matrix toughening, introduction of nanoparticles or nanotubes, use of thermoplastic veils, and all possible ways of 3D reinforcement such as stitching, tufting, z-pinning, and 3D weaving. The experimental and computational characterization of such relevant toughening mechanisms and their associated failure modes; the proposal of new cost-effective, reliable manufacturing techniques; and non-destructive evaluation of the damage are all key subjects that this Special Issue aims to cover.



mdpi.com/si/77271

Special Issue



an Open Access Journal by MDPI

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

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.

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*)

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)