Special Issue

Composite Materials: Nonlinear Behavior and Analytical Methods in Bending, Buckling, and Vibration

Message from the Guest Editor

Composite materials are widely used in aerospace. marine, and automotive industries due to their high strength, low density, and environmental resistance. Despite progress in bending, buckling, and vibration studies, challenges remain in analyzing their nonlinear behaviors. Firstly, it is difficult to develop some precise analytical methods for predicting the nonlinear behavior of anisotropic materials and structures due to the complexity of geometric and material nonlinearities. Furthermore, nonlinear analytical models and experimental investigations relating to the bending, buckling, and vibration issues of composite materials and structures are relatively limited. A large number of composite materials and structures often serve in multifield coupling environments, which further increases the complexity and difficulty of research. Therefore, these issues are hot topics, and much effort should be devoted to researching the above areas for a long time to come. We invite submissions (full papers, reviews, or communications) to this Special Issue.

Guest Editor

Prof. Dr. Hui Li

School of Mechanical Engineering and Automation, Northeastern University, Shenyang 110819, China

Deadline for manuscript submissions

10 January 2026



an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/240823

Materials
Editorial Office
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 3.2 CiteScore 6.4 Indexed in PubMed





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

 Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
 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)