



## Variable Stiffness Composite Materials and Structures

Guest Editors:

**Dr. Humberto Almeida Jr.**

Advanced Composites Research  
Group, School of Mechanical and  
Aerospace Engineering, Queen's  
University Belfast, Belfast, UK

**Dr. Saullo G. P. Castro**

Group of Aerospace Structures  
and Computational Mechanics,  
Department of Aerospace  
Structures and Materials, Faculty  
of Aerospace Engineering, Delft  
University of Technology, Delft,  
The Netherlands

Deadline for manuscript  
submissions:

**closed (10 May 2022)**

### Message from the Guest Editors

This Special Issue (SI) of *Materials* of MDPI, titled “Variable Stiffness Composite Materials and Structures”, addresses advances in variable stiffness structures, where variable stiffness is achieved by means of curvilinear fibers, variable fiber volume content, variable thickness, or any combination thereof. Studies investigating variable stiffness metallic structures for lightweight applications are also welcome.

Investigations into the fatigue and damage tolerance (FDT) of variable stiffness composite structures are extremely welcome, given the relative reduced number of studies in this direction. How does the FDT behavior of variable stiffness composites compare to traditional ones? How is the FDT behavior affected by design parameters? How does a crack initiate and propagate in variable stiffness composites? These are examples of research questions this SI is aiming at.

Other topics that are welcome in this SI are novel and robust computational models that accurately describe the behavior of variable stiffness composite materials, including the presence of gaps and overlaps, when applicable; and new or improved manufacturing techniques.





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

## Contact Us

Materials Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)