



## Intelligent Materials and Structures

Guest Editors:

**Prof. Dr. Pedro Manuel Calas  
Lopes Pacheco**

Department of Mechanical  
Engineering, CEFET/RJ–Centro  
Federal de Educação  
Tecnológica Celso Suckow da  
Fonseca, 20271-110 Rio de  
Janeiro, RJ, Brazil

**Prof. Dr. Marcelo Amorim Savi**

Center for Nonlinear Mechanics,  
Department of Mechanical  
Engineering, Universidade  
Federal do Rio de Janeiro,  
COPPE, P.O. Box 68.503, 21941-  
972 Rio de Janeiro, RJ, Brazil

Deadline for manuscript  
submissions:

**closed (31 December 2022)**

### Message from the Guest Editors

Intelligent materials are able to alter their response and properties through the multiphysics coupling such as mechanical, temperature, electrical and magnetic fields. Shape memory alloys, magnetostrictive materials, piezoelectric materials, are among the most usual intelligent materials.

Due to their remarkable characteristics, intelligent materials have attracted the attention of several researchers and industries in recent years, having been used as actuators and sensors in several areas such as aerospace, automotive, bioengineering, oil and gas exploration and robotics.

The characterization and modeling of intelligent materials present several challenges due to their complex behavior associated with the coupling between different physical fields. Therefore, these research activities are relevant to permit the development of new applications.

This Special Issue aims to address the latest research in the field of intelligent materials. Topics addressed in this Special Issue may include but are not limited to: characterization; modeling; applications, morphing, energy harvesting, smart composites, structural health monitoring, nonlinear vibration and wearable technology.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Yong Zhang

Beijing Advanced Innovation  
Center of Materials Genome  
Engineering, State Key  
Laboratory for Advanced Metals  
and Materials, University of  
Science and Technology Beijing,  
30 Xueyuan Road, Beijing 100083,  
China

## Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

## 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), Inspec, Ei Compindex, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

## Contact Us

---

Metals Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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

[mdpi.com/journal/metals](http://mdpi.com/journal/metals)  
[metals@mdpi.com](mailto:metals@mdpi.com)  
[X@Metals\\_MDPI](#)