



an Open Access Journal by MDPI

## Nature-Inspired Mechanical Metamaterials

Guest Editors:

**Prof. Dr. Federico Bosia**

Department Applied Science and  
Technology, Politecnico di  
Torino, 10138 Torino TO, Italy

**Dr. Marco Miniaci**

Institut d'électronique de  
microélectronique et de  
nanotechnologie (IEMN, UMR  
8520) CNRS, France

Deadline for manuscript  
submissions:

**closed (31 January 2022)**

### Message from the Guest Editors

In recent years, phononic crystals and elastic metamaterials have provided new opportunities for wave control and a wealth of applications have been proposed in acoustics and vibration control. In parallel, the development of elastic metamaterials has also led to lightweight microstructured designs exhibiting exceptional quasistatic mechanical properties.

Bioinspiration has already enabled the design of structures with optimized mechanical properties such as strength or toughness. Since metamaterials derive their unconventional behaviour from structure rather than from material properties, biological systems are ideal candidates as a source of inspiration.

This Special Issue welcomes contributions related to the mechanics of Bioinspired metamaterials, both for the control of wave propagation and for the achievement of unconventional quasistatic properties, at various size scales and in various engineering fields. Submissions are expected related to investigations on analytical and numerical approaches for novel optimized bioinspired designs, as well as their fabrication and experimental verification.



[mdpi.com/si/69787](https://mdpi.com/si/69787)

# Special Issue



an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Giulio Nicola Cerullo**  
Dipartimento di Fisica,  
Politecnico di Milano, Piazza L.  
da Vinci 32, 20133 Milano, Italy

## Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

## 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, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q1 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

## Contact Us

---

Applied Sciences Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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

[mdpi.com/journal/applsci](http://mdpi.com/journal/applsci)  
[applsci@mdpi.com](mailto:applsci@mdpi.com)  
[X@Applsci](#)