# Special Issue

# Mechanical Metamaterials, Phononic Crystals, Acoustic Metamaterials and Symmetries

## Message from the Guest Editor

Metamaterials, that is, artificial materials elaborately designed to achieve unusual performance, have been extensively investigated in recent decades. Their objective performance includes unusual electromagnetic, thermal, acoustic, or mechanical behaviors, including negative index, cloak, negative thermal expression, negative Poisson's ratio and so on. Specifically, in the field of mechanical engineering, extraordinary mechanical or acoustic behaviors can be achieved. Microstructural design with objective applications occupies the central position in the field of mechanical metamaterials. This Special Issue will focus on the technological innovation and exploration of the new designs and the latest achievements in the field of mechanical metamaterials, especially acoustic metamaterials and phononic crystals. Topics of Interest:
1. Mechanical metamaterials with extraordinary mechanical behaviors
2. Experimental and theoretical research in phononic crystals and acoustic metamaterials
3. Engineering applications of acoustic metamaterials and phononic crystals
4. New-generation mechanical metamaterials with periodic, quasiperiodic or aperiodic structures

## Guest Editor

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## Deadline for manuscript submissions

closed (15 May 2023)

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# About the Journal

## Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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