



## Metamaterials and Devices

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### **Message from the Guest Editor**

The purpose of this Special Issue is to highlight recent advances in mechanical metamaterials, engineered structural composites and material systems with dramatically enhanced mechanical properties, or properties nonexistent in natural materials. Examples include negative elastic moduli, negative compressibility, negative thermal expansion, reverse Saint-Venant effect, surface localization of vibration and deformation energy, acoustic and mechanical rectifiers and by-passers.

This Special Issue covers all aspects of mechanical metamaterials research with an emphasis on understanding basic physical phenomena that determine metamaterials functionality, understanding the role of structural hierarchy, phase transitions maps, design approaches, novel manufacturing methods, and numerical modelling methods.

### **Keywords**

- mechanical metamaterial
- reverse elastic properties
- smart structure
- multistable structure
- structural composite





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## Message from the Editor-in-Chief

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