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Metamaterials and Devices

Guest Editor:

Prof. Dr. Eduard Karpov

Department of Civil and Materials Engineering, School of Engineering, University of Illinois at Chicago, 842 West Taylor St, M/C 246, Chicago, IL 60607, USA

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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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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

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Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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