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# Advances in Metamaterial and Asymmetry/Symmetry

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### Message from the Guest Editors

Metamaterials are macroscopic composite materials with periodic subwavelength structures whose electromagnetic properties can be controlled not only by varying the chemical composition but also by engineering the shape of the meta-atoms and their internal structures, as well as the mutual positions and orientations of the meta-atoms in the composite material. In general, the symmetry and asymmetry of the structure is a crucial factor in the design of metamaterials, as well as the engineering of the optimal properties for specific applications.

In recent years, metamaterials have established themselves as one of the most important topics in physics and engineering and have found practical applications across a wide variety of fields, including photonics, condensed matter physics, materials science, and biological and medical physics.

Topics of interest include, but are not limited to, bound states in the continuum in metamaterials, strong coupling in metamaterials, topological properties in metamaterials, nonlinear and quantum effects in metamaterials, novel optical phenomena in metamaterials, and optical and optoelectronic devices based on metamaterials.

**Special**sue



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### **Editor-in-Chief**

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#### 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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