

## Special Issue

# New Advances in the Optical Properties of Plasmonic and Phononic Metamaterials

### Message from the Guest Editors

This Special Issue titled "New Advances in the Optical Properties of Plasmonic and Phononic Metamaterials" aims to explore new research in the field of plasmonic and phononic metamaterials, focusing on their optical characteristics. Plasmonic and phononic metamaterials, which are able to manipulate light at the nanoscale through surface plasmon and phonon resonances, offer remarkable capabilities for applications based on light-matter interactions. Plasmonic metamaterials generally exploit collective oscillations of electrons at the interface between a metal and a dielectric, and have numerous applications, such as in the development of highly sensitive biosensors, photonic circuits, and super-resolution techniques for imaging systems. On the other hand, phononic metamaterials, which control acoustic and elastic waves, are examined for their unique ability to influence phonon propagation through engineered periodic and non-periodic structures. Research in this area includes breakthroughs in the design of phononic crystals and acoustic metamaterials, with applications ranging from sound insulation, exotic optical properties, and the control of heat propagation.

### Guest Editors

Prof. Dr. Stefano Lupi  
Dr. Salvatore Macis  
Dr. Annalisa D'Arco

### Deadline for manuscript submissions

closed (20 May 2025)



## Materials

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### Message from the Editor-in-Chief

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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