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Photonic Crystals: Physics and Applications

Guest Editor:

Dr. Shih-Wen Chen

Graduate Institute of Automation
Technology, National Taipei
University of Technology, Taipei
10608, Taiwan

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Message from the Guest Editor

Dear Colleagues,

Inspired by naturally astonishing photonic crystals, photonic crystals have become one of the major structures to manipulate light. The periodic dielectric function in photonic crystals leads to the photonic band structure, which is similar to the electronic band structures of atomic crystals in semiconductors. They are widely used by 1D gratings or distributed feedback structures as resonance cavities for generating photons. Their light confinement ability creates not only diverse micro-structured optical fibers, but also nano-structured waveguides in semiconductors. The light manipulation of photonic crystals is also exhibited in beam splitters, filters, metamaterials, etc. With the high quality factor and the high wavelength sensitivity, photonic crystals can be applied to multidisciplinary fields of sensors (gas sensors or biosensors). Furthermore, the optical nonlinearity of photonic crystals may pave the way for optical computers. This Special Issue will cover the recent achievements related to this topic, and, thus, I warmly invite you to contribute to this Special Issue by submitting your original research articles.



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Special Issue



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Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University
of Pisa, 56126 Pisa, PI, Italy

Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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Crystals Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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