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Synthesis, Properties, and Applications of Functional Nanocomposites

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Message from the Guest Editors

This Special Issue of Crystals focuses on the synthesis, properties, and potential applications of functional nanocomposites. Over the past few decades, functional nanocomposites (e.g., polymer–matrix, organic–inorganic, ceramic–matrix, polymer–silicate, bio-nanocomposites) have steadily grown in importance and are now considered a significant class of materials. Nanocomposites are solid materials that contain multiple phase domains, and at minimum one of these phase domains has a nanoscale structure (typically less than 100 nm) or structures that contain nanoscale repeating distances between the different phases that comprise the materials. In general, nanocomposite materials can dramatically enhance various properties, such as mechanical, including modulus, strength, and dimensional stability, thermal stability, chemical resistance, opto-electronic, etc., which depend on the inherent material characteristics, the morphology, and the interfacial characteristics of the components. As a result, there has been a growing amount of interest in nanocomposites research within academia and the polymer industry.



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Special Issue



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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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