

Special Issue

Advanced Research in Semiconductor Materials and Devices

Message from the Guest Editors

Semiconductor materials are the cornerstones of current and future optoelectronic technologies. Recently, new and effective materials have been designed for specific devices based on their unique physical, thermal, mechanical, electrical, magnetic, and optical characteristics. The requirements regarding increasing energy demand, industrialization, and urbanization set a priority for new cost- and energy-efficient devices, which in turn opens new avenues for materials research. In this regard, numerous new candidate materials have been proposed, which have reduced dimensions in order to achieve the ultimate efficiency of functional devices. For example, extensive research has been devoted to developing graphene nanoribbons, reduced graphene oxide (rGO), transition metal dichalcogenides (i.e., MoS₂, MoSe₂, MoTe₂, WS₂, and WSe₂), g-C₃N₄, metal oxide nano-films (TiO₂, ZnO, Ta₂O₅, Nb₂O₅, WO₃, Bi₂O₃, etc.), and 2D Van der Waals heterostructures, etc., as well as organic semiconductors.

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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.

Editor-in-Chief

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