

Special Issue

Growth, Structural Identification, and Characterization of Semiconductor Alloys and Low-Dimensional Heterostructures

Message from the Guest Editor

Structural, electrical, phonon, and thermodynamic characteristics of bulk semiconductor alloys and heterostructures (multi-quantum wells (MQWs) and superlattices (SLs)) have provided strong foundations for the advancement of modern technology. These efforts have helped scientists and engineers to design electronic devices to meet growing societal needs, viz., photovoltaics, fuel cells, batteries, thermo-electrics, and photonics as well as information and data storage for biological and medical applications. This Special Issue on “Growth, Structural Identification, and Characterization of Semiconductor Alloys and Low-Dimensional Heterostructures” deals with different aspects of novel bulk elemental (group IV) and/or compound semiconductors (e.g., III-V, III-N, II-VI, and IV-IV), their alloys, and low-dimensional heterostructures—especially for comprehending their structural, electronic, vibrational, and thermal transport characteristics.

Guest Editor

Prof. Dr. Devki Talwar

1. Department of Physics, University of North Florida, 1 UNF Drive, Jacksonville, FL 32224-7699, USA
2. Department of Physics, Indiana University of Pennsylvania, 975 Oakland Avenue, 56 Weyandt Hall, Indiana, PA 15705-1087, USA

Deadline for manuscript submissions

10 December 2025



Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



mdpi.com/si/208965

Crystals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
crystals@mdpi.com

[mdpi.com/journal/
crystals](https://mdpi.com/journal/crystals)





Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



[mdpi.com/journal/
crystals](https://mdpi.com/journal/crystals)



About the Journal

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.

Editor-in-Chief

Prof. Dr. Alessandra Toncelli

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Crystallography) / CiteScore - Q2 (Condensed Matter Physics)