

## Special Issue

# Silicon and Germanium Crystals for Applications in Modern Physics

### Message from the Guest Editor

Silicon and germanium crystals are widely used in a broad range of applications in modern physics. Indeed, in addition to the traditional uses, e.g., as semiconductors and photovoltaic cells, many other applications are based on Si and Ge, especially because these materials can be produced with high crystallographic perfection at reasonable costs and because they can be machined and micro-machined with very high precision. Consequently, Si and Ge have become the prime elements for several applications in modern physics, such as high-performance radiation detection, the optics for X- and  $\gamma$ -rays, the deflection and collimation of charged particle beams through the channeling phenomenon, the realization of detectors and sensors, and applications based on coherent interactions with incident radiation and crystalline lattices. The purpose of this Special Issue is to provide an update on the state of the art and on the future developments of these and other applications in modern physics that are based on silicon and germanium crystals.

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### Guest Editor

Dr. Riccardo Camattari  
National Institute of Nuclear Physics (INFN), Ferrara, Italy

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### Deadline for manuscript submissions

closed (30 November 2020)



## Crystals

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## 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.

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### Editor-in-Chief

Prof. Dr. Alessandra Toncelli  
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