Special Issue

Microstructure Analysis, Phase Composition and Properties of Steels

Message from the Guest Editor

This Special Issue aims to highlight recent advances in the characterization, design, and modification of microstructures in steels, and to explore how these transformations influence mechanical, thermal, and corrosion-resistant properties. Emphasis will be placed on the processing conditions, phase evolution, and performance in various applications, including structural, automotive, energy, and machining industries. We invite original research and review articles on the following (but not limited to) topics:

- Advanced characterization of steel microstructures (SEM, TEM, EBSD, XRD, etc.)
- Phase transformations and kinetics in alloyed steels
- Relationships between microstructure and mechanical properties
- Heat treatment, thermomechanical processing, and surface modification
- Modeling and simulation of microstructural evolution
- Correlation of crystal structure and anisotropy with physical properties
- Steel behavior under extreme environments
- Novel alloying concepts and high-performance steel grades

This Special Issue provides a platform for metallurgists, materials scientists, and mechanical engineers to share insights and promote innovation in steel design and analysis.

Guest Editor

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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.

Editor-in-Chief

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