



## Advances in High Strength Steels

Guest Editors:

**Dr. Peng Chen**

Department of Materials Physics and Chemistry, School of Materials Science and Engineering, Northeastern University, Shenyang 110819, China

**Dr. Feng Shi**

Department of Materials Physics and Chemistry, School of Materials Science and Engineering, Northeastern University, Shenyang 110819, China

**Prof. Dr. Xiao-Wu Li**

Department of Materials Physics and Chemistry, School of Materials Science and Engineering, Northeastern University, Shenyang 110819, China

Deadline for manuscript submissions:

**closed (31 October 2022)**

### Message from the Guest Editors

High-strength steels have been widely used in engineered structures, in both military and civilian applications. In addition to high strength, good ductility, toughness, fatigue resistance, corrosion resistance and creep resistance of steels are required according to the operating conditions. At present, increasing efforts are being made regarding the development of high-performance steels, and the related mechanisms of deformation, fracture or other failure behaviors have been investigated. It is well known that mechanical properties and failure behavior are significantly influenced by material microstructure. Therefore, both the development of high-performance steels and the microstructure–property relationship of steels are of interest for this Special Issue. Special attention will be given to the following three aspects (though consideration will not be restricted to submissions on these): (1) new designs of steel materials to improve required properties; (2) characterization, analysis and adjustment of microstructure to optimize properties; (3) testing and observing failure processes to reveal failure mechanisms.





# crystals



an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Alessandra Toncelli**

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

## 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.

## 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](#), [CAPlus / SciFinder](#), and [other databases](#).

**Journal Rank:** JCR - Q2 (*Crystallography*) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

---

*Crystals* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/crystals](http://mdpi.com/journal/crystals)  
[crystals@mdpi.com](mailto:crystals@mdpi.com)  
[X@Crystals\\_MDPI](#)