

Special Issue

Advance in Alloy Materials

Message from the Guest Editor

The history of the alloy materials dates back to the Bronze Ages. From that point on, mankind has been trying to make alloys by combining metals with one or more other elements to obtain the desired mechanical properties. The demands for advanced materials have been emphasized to meet the increasing requirements of industry in the form of high-performance structural materials. Among ferrous alloys, high-Mn steels were recently highlighted for their excellent combination of strength and ductility, led by twinning-induced plasticity (TWIP) or transformation-induced plasticity (TRIP) behavior. For non-ferrous lightweight alloys, such as magnesium, aluminum, and titanium alloys, their mechanical properties have been improved by employing solid solution and precipitation hardening mechanisms. Moreover, recently developed high-entropy alloys (HEA) have suggested new concepts by which the random occupation of alloying elements in a crystalline structure can be understood.

Guest Editor

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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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