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Emerging Topics on High Performance Alloys

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Message from the Guest Editors

Dear Colleagues,

High-performance alloys such as shape memory alloys, high entropy alloys, and aluminium alloys can be used in different industrial applications. Their properties are required to customize material processing and microstructure. As a result, it is important to investigate how the thermomechanical processing conditions affect the microstructure and property profile of high performance alloys. This investigation is important to developing and optimizing new alloys for different thermomechanical processing, as well as in the transfer to industrial processes. Therefore, the purpose of this Special Issue is the correlations between thermomechanical processes, microstructure, and mechanical properties of high-performance alloys. Contributions are intended to show the influence of the thermomechanical process, e.g., casting, hot or cold rolling, heat treatment, sintering, and extrusion on the property profile. In addition to experimental approaches, the development methods of modelling and simulation approaches are useful to predict composition–microstructure–property relations for high-performance alloy development and thermomechanical process design.

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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.

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