Special Issue

Cobalt-Based Alloys: From Prosthetic Dentistry to Hot Turbine Components

Message from the Guest Editors

At present, cobalt-based alloys are used in various applications: as refractory alloys for the hottest parts in aeronautical or power generation turbines, corrosion-resistant alloys for dental prostheses and other biomedical devices, wear-resistant alloys for hardfacing components, amorphous alloys for applications exploiting their magnetic properties, etc. Among the first cobalt-based alloys to appear, there were the conventionally cast chromium-rich ones which emerged about a century ago for responding dentistry needs and, a little later, their cousin cobalt-based superalloys which allowed developing turbines for WWII military aircrafts. From this period, the chemical composition and elaboration techniques were more or less continuously developed and improved. New elaboration ways, metallurgical strengthening principles, or answers for enhanced resistance against corrosion, for instance, are today investigated for crystalline cobalt-based superalloys (e.g., cobalt–rhenium–chromium alloys or gamma/gamma prime Co-based single crystals) as for dental alloys (e.g., new compositions and additive manufacturing).

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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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