Special Issue

Design of Cemented Carbides and Cermet

Message from the Guest Editor

Cemented carbides and cermets are families of ceramic–metal composites used as materials for quite diverse applications: Forming and cutting tools, structural components and wear parts, all of them involving severe and complex service conditions. In this context, the design and manufacturing of novel materials with enhanced tribological and thermo-mechanical behaviours are continuous and challenging demands. They include the development of new hard composite bulk materials and coatings (with modified composition, microstructure and phases), implementation of advanced processing routes (reduction of energy, costs and environmental impact) alternative to conventional ones, as well as the improvement of resistance to fracture, fatigue, wear, oxidation, etc. This Special Issue's scope includes contributions of experimental and theoretical analysis, aiming to rationalize and improve the relationship among microstructure, processing and properties of cemented carbides, cermets, high entropy alloys (HEAs), as well as functional gradient materials (FGMs), multilayered designs, hard coatings, etc.

Guest Editor

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Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editor-in-Chief

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