

Special Issue

Cermets and Hardmetals

Message from the Guest Editor

Ceramic-metal composites, or cermets, are widely used in demanding wear and corrosion applications, as both bulk materials and coatings. The most ubiquitous example of cermets are based on WC-Co, which are typically referred to as 'hardmetals', and have been actively developed for many decades. More recently, lightweight systems based on alternate carbides, borides and nitrides have come to prominence. The mechanical, wear and corrosion properties of these composite systems are highly dependent on their composition and microstructure, and there is an increasing drive towards nano-structured cermets, particularly for their improved wear response. In many scenarios, tribo-corrosion environments are also encountered, such that the physical and chemical demands on the materials are extreme. Consequently, there is a continuing research demand for new cermet and hardmetal systems. The primary aim of this Special Issue is, therefore, to provide a platform for researchers to overview the current state-of-the-art in the development, characterization and applications of high performance ceramic-metal composites.

Guest Editor

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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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