Special Issue

New Progresses in the Development, Microstructure and Properties of Ceramic-Metal Composites (Cermets)

Message from the Guest Editor

Ceramic–metal composites (cermets) are materials formed by at least a hard and a tough metallic binder phase, designed to achieve specific properties for particular applications when it is impossible to obtain them with monophasic materials. Particularly, for the machining industry, the cermet cutting tools based on WC–Co (usually called hard metal) are widely employed due to their exceptional toughness and damage tolerance under cyclic loadings. However, they fail when it comes to the most demanding applications. Alternative to them are cermets based on TiC and Ti(C,N), with high wear resistance, chemical stability, and mechanical strength at high temperature. Therefore, this Special Issue is focused on contributions related to experimental and theoretical studies based on the design, production technologies, development, processing, synthesis, and characterization of cermets, with new clear progress in their microstructure and/or properties that increase their potential role as materials to be successfully applied for high-speed machining or similar applications. In addition, contributions focused on other different cermets would also be accepted.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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