



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

Guest Editor:

**Prof. Dr. Ernesto Chicardi**

Departamento de Ingeniería y  
Ciencia de los Materiales y del  
Transporte, University of Seville,  
Sevilla, Spain

Deadline for manuscript  
submissions:

**closed (10 August 2022)**

### 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.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

## 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.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:** JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

*Materials* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)