



Novel Thermal Barrier Coating Materials

Guest Editors:

Dr. Mario De Stefano Fumo

CIRA, Italian Aerospace Research
Centre, 81043 Capua, Italy

Dr. Mario Tului

RINA – Centro Sviluppo Materiali,
00128 Rome, Italy

Deadline for manuscript
submissions:

closed (20 September 2023)

Message from the Guest Editors

Dear Colleagues,

Thermal barrier coatings (TBCs) are usually applied for protecting metallic components in gas turbines for aviation and energy applications. These hot components include combustion chambers, blades, and vanes. The TBC leads to a significant reduction of heat transfer from the high temperature gas to the metal surface. Research in new chemical compositions and the development of novel deposition processes, prediction of the TBC service life and of failure modes are key aspects for the TBC production process. In parallel, the improvement of experimental capabilities in the thermal, mechanical and relevant operative environment in conjunction with numerical modelling tools allow the enhancement in TBC understanding and their extensive usage for industrial applications.

In this Special Issue, research and development enhancement in the field of TBC from the chemical composition to deposition process including experimental and numerical aspects are presented and discussed.

It is my pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome.





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 - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)