Special Issue

Emerging Refractory Ceramics: Microstructure, Properties and Applications

Message from the Guest Editors

This Special Issue focuses on emerging refractory ceramics, including ceramic oxides and refractory materials, delving into their microstructure, properties, and applications, with a particular emphasis on sintering using sustainable techniques. We seek advances in the synthesis and development of fine and structural ceramics, especially for high-temperature applications. We value research exploring innovative and sustainable sintering technologies, such as spark plasma sintering, selective laser sintering, microwave sintering, and the use of concentrated solar energy, as well as improvements in conventional furnaces. Priority will be given to studies that analyse the morphology and microstructure of refractories obtained through these techniques and their impact on final properties. Research on ceramic oxides and refractory materials doped with nano- and micro-sized particles, including their applications in industrial, ferroelectric, semiconductor, and thermal barrier coating fields, are encouraged. This Special Issue aims to compile articles presenting the current state of knowledge in ceramic sintering, with a focus on sustainability.

Guest Editors

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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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