Special Issue

High-Entropy Ceramics: Synthesis and Applications

Message from the Guest Editors

The solid solutions of complex ceramics are currently attracting growing scientific interest due to their unique combination of functional and mechanical properties. In particular, the entropy-driven stabilization of new phases and compositions represents a kind of new “far west for ceramurgists”. This approach allows the development of novel materials with still unexplored properties.

Due to their complex composition, high-entropy ceramics require advanced processing routes, often aided also by the development of predictive models to define their thermal stability. As such, HECs have been manufactured by various synthesis processes, including sol-gel processing, wet chemical synthesis, spray pyrolysis, solid-state synthesis, and others. Moreover, various sintering processes have been applied to high-entropy ceramics, such as SPS, flash sintering, UHS, and conventional sintering.

In this Special Issue, new trends in the field of high-entropy ceramics are highlighted with a specific focus on structural simulations, processing, and properties. Both theoretical and experimental works are welcomed, including full-length papers, communications, and reviews.

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Deadline for manuscript submissions

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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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