Special Issue

Fabrication, Properties and Applications of Functional Transparent Ceramics, Crystal and Glass

Message from the Guest Editor

Transparent ceramics, crystals, and glass materials are at the forefront of modern technology, driving innovations in optics, photonics, defense, energy and biomedicine. Their ability to combine optical clarity with exceptional mechanical, thermal and chemical properties makes them indispensable for advanced applications. This Special Issue invites cutting-edge research on the fabrication, characterization and application of functional transparent materials. Key topics include novel fabrication methods like additive manufacturing and spark plasma sintering, property optimization through grain boundary and porosity control, new techniques or processes on single-crystal growth and the integration of these materials into technologies such as laser gain media, smart glass and energy-efficient systems. Contributions exploring multifunctional properties—optical, mechanical and thermal—and their applications in high-performance optics, photonics, defense and biomedicine are particularly welcome. We also encourage research addressing sustainability and scalability, such as environmentally friendly processes, cost-effective manufacturing and recyclability.

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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