Special Issue

Advanced Design, Synthesis, and Industrial Applications in Diamond Materials

Message from the Guest Editor

The first synthetic diamond was made by GE in 1954 using high pressure and high temperature (HPHT) techniques and by simulating the formation conditions of natural diamonds well below the Earth's crust, requiring several gigapascal pressure to stablize the diamond phase at high temperatures. Since then, research activities on synthetic diamonds have drawn tremendous attention worldwide. Following the development of HPHT technologies, other synthetic technologies, including chemical vapor deposition (CVD), have been developed as well. In this Special Issue, recent advances covering basic research and industrial applications of diamond and diamond-related materials will be addressed. Both original research papers and review articles are welcome. The specific topics include but are not limited to the following: (1) diamond synthetic technologies; (2) processing and characterization; (3) diamond-related materials, i.e., cBN, graphene, etc.; and (4) various industrial applications, i.e., rock drilling for the oil/gas exploration, etc. Thanks for your contributions.

Guest Editor

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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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