

Special Issue

Advances in Structural, Electrical, and Optical Analysis of Diamond and Diamond-Like Carbon Materials

Message from the Guest Editor

Diamond has a unique suite of properties that make it suitable for applications in a range of fields, including tribology, electronics, thermal management, optics, photonics, electrochemistry, and biomedicine. Most of these applications are now being realised thanks to the developments in synthetic diamond techniques such as chemical vapour deposition (CVD) that have occurred over the past few decades. In addition to natural diamonds, improved synthetic processes now routinely produce single-crystal, polycrystalline, nanocrystalline, and ultra-nanocrystalline diamonds as well as diamond-like carbon (DLC) films. Further development of synthetic diamond processes and applications relies on a continued understanding of the structure–property relationships of these materials through rigorous characterisation and analysis. In addition to enabling accurate knowledge of materials properties and understanding of how composition and structure influence the type of application and performance, thorough analysis and characterisation play a significant role in ensuring operational reliability as well as aiding the development of new materials and processes.

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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