Special Issue

Future Perspectives on Carbon Fibers and Their Composites

Message from the Guest Editor

Lightweight materials are essential for all types of mobility and engineering constructions. During use, they significantly enable the reduction of CO2 emissions. However, the use of carbon fibers as reinforcement materials requires intense energy for their generation. This Special Issue will, therefore, focus especially on future raw materials, technologies, and markets contributing to overall significant CO2 reductions. The present Special Issue, focuses on alternative, renewable raw materials as precursor materials for carbon fiber processing. The latest scientific directions prescribe the use of alternative raw materials, i.e., lignin/cellulose compositions. Energy efficient process technologies such as low pressure stabilization for the conversion to carbon fibers. Additionally, the use of hydrogen as a future energy source for electric cars and energy generation, as well as for storage potential in aviation and cars, requires the application of carbon fibers with unique properties in composites. Furthermore, the reinforcement of concrete finally demonstrates the unique potential for a reduction of CO2 by replacing steel already in use.

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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