Special Issue

3D and 4D Printing of Polymer Materials

Message from the Guest Editor

3D printing (additive manufacturing) is an important technological machining process in which material is joined or solidified under computer control through layer-by-layer printing to create a three-dimensional object. Recently, 4D printing as “3D-printed stimuli-responsive materials” with the additional fourth D being time has received a great deal of attention. The concept of the fourth dimension has evolved, i.e., the shape, property, or functionality of a 3D-printed object can change over time under external stimuli, such as heat, light, water, voltage, magnetic field or pH. The Special Issue will cover full papers, communications, and reviews in all aspects of 3D and 4D technologies, printing of different polymers, and smart materials, as well as manuscripts from a broad range of applications for this emerging field, from industry to medicine. Challenges facing 3D and 4D printing such as broadening the scope of (smart) polymers, the compatibility of printing different materials, challenges in printing of soft polymers, improving printing processes, resolution and speed, and future perspectives for this field are invited to be discussed.

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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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