Special Issue

3D/4D Printing Application for Shape Memory Materials

Message from the Guest Editor

Three-dimensional printing belongs to the emerging technologies of our time, offering an extensive freedom of design, as well as the possibility to create individualized objects, e.g., for medical or protection applications. Some 3D printing materials, such as poly(lactic acid) (PLA) often used in fused deposition modeling, show an additional shape memory effect, meaning that the material "remembers" its original shape after a deformation, being able to recover with the application of an external stimulus, e.g., heat. On the other hand, the area of 4D printing uses this effect to change the shape of an object with time, either once or even bidirectionally. Such materials can be used for a broad range of applications, from design to functional properties, and from medical purposes to soft robotics. This Special Issue aims at collecting recent material innovations and applications of 3D-printed shape memory materials for shape recovery and 4D printing. Recent experimental and theoretical studies are as welcome as comprehensive reviews regarding these topics.

Guest Editor

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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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