Special Issue

3D/4D Printing for Biomedical Applications: Materials, Techniques and Emerging Trends

Message from the Guest Editor

3D printing technologies offer ground-braking tools that enable the fabrication of highly customizable, reproducible, and accurate structures for different biomedical applications, including tissue engineering, biosensors, and medical devices. In the last few decades, several innovations have been introduced in the field of 3D printing biomedical, such as multi-material and multi-scale 3D printing, bioprinting, and 4D printing. Indeed, 4D printing, which integrates the 4th dimension (i.e., time) into 3D printed structures, enables us to fabricate dynamic structures that are programmed to change their properties and shape according to environmental stimuli (e.g., heat, humidity, electric fields, etc.). Moreover, 4D-printed objects accomplish their function without using external driving mechanisms, instead relying on safer and contactless actuation, enabling their use in harsh environments, such as the human body. In this Special Issue, we will focus on original research papers and comprehensive reviews, reporting the most innovative works in the 3D and 4D printing fields with regard to their biomedical applications.

Guest Editor

Dr. Irene Chiesa

Department of Information Engineering, University of Pisa, Via Girolamo Caruso, 16, 56122 Pisa, Italy

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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