Special Issue on
Advances in 3D Printing Nanotechnology

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3D printing, invented by Charles W. Hull in 1986, is an additive manufacturing process aimed at rapid production of structures with high shape fidelity, which is under extensive exploration in biomedical, energy storage, energy conversion, and thermal-energy fields. 3D printing techniques, including fused deposition molding (FDM), stereolithography, and selective laser sintering (SLS), build three-dimensional structures layer by layer and bind these layers together through melting, polymerization, or sintering. Although 3D printing has attracted increasing interest, only a limited number of materials can be used as "ink" for 3D printing, for example, certain polymers, metals, and ceramics. With the tremendous development of nanotechnology, it is highly demanding to fabricate nanoscale building blocks, assemble the blocks into higher-order structures, and integrate these structures into larger scale systems by 3D printing techniques for various applications. However, it is still challenging to produce functional architecture with features at the nanoscale through 3D printing due to the aggregation nature of nanomaterials and the low viscosity of the printing ink.

This special issue intends to publish original research and review articles addressing fundamental and multidisciplinary research of 3D printing nanotechnology.

Potential topics include but are not limited to the following:

- ▶ Process and mechanism of 3D printing nanotechnology
- ▶ 3D printing of nanomaterial reinforced architectures
- ▶ 3D printing of nanomaterial-based electrodes
- ▶ 3D printing of drug delivery systems
- ▶ Integrating 3D printing with nanomaterials for tissue engineering

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