Jun Ding, Res. Rev. J Mat. Sci. 2017, 5:7
DOI: 10.4172/2321-6212-C1-010

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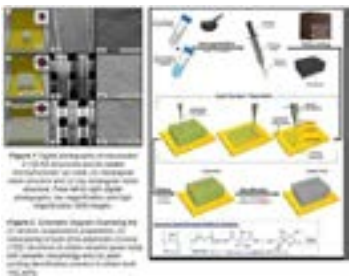
Functional structures & devices by additive manufacturing

Recently, additive manufacturing has attracted a significant attention in the area of materials science and engineering because of its great potential for fabrication of unique structures which cannot or cannot easily made by conventional techniques. Recently, we have built facility of additive manufacturing and fabricated metallic and ceramic structures by different techniques, including selective laser melting and extrusion free-forming. Electrocermaics such as YBCO superconductor, soft and hard magnets have been successfully prepared by additive manufacturing, showing the potential of additive manufacturing in fabrication of functional devices. We have paid particular attention on cellular structures. Some interesting properties have been obtained, such as electronic filter, electrode as water splitting, light-weight applications. This presentation shows some of our recent results to demonstrate fabrication of different functional structures/devices.



Biography

Dr Jun Ding is Professor at Department of Materials Science & Engineering, National University of Singapore. He has been working on functional materials (particularly magnetic materials) over 25 years. His current research is focusing on additive manufacturing (3D printing) with the emphasis of advanced functional and multi-functional devices.

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