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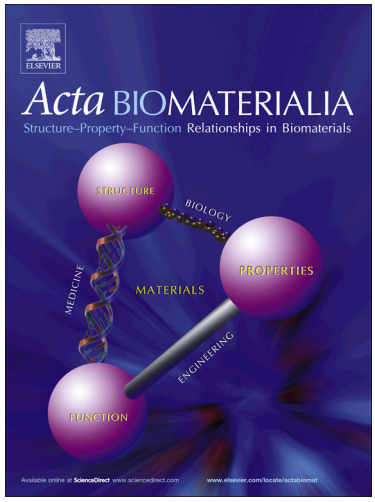

Review article

Surface Modification of Biomaterials and Biomedical Devices using Additive Manufacturing

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Surface Modification of Biomaterials and Biomedical Devices using Additive Manufacturing

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Abstract

The demand for synthetic biomaterials in medical devices, pharmaceutical products and, tissue replacement applications are growing steadily due to ageing population worldwide. The use for patient matched devices is also increasing due to availability and integration of new technologies. Applications of additive manufacturing (AM) or 3D printing (3DP) in biomaterials have also increased significantly over the past decade towards traditional as well as innovative next generation Class I, II and III devices. In this review, we have focused our attention towards the use of AM in surface modified biomaterials to enhance their *in vitro* and *in vivo* performances. Specifically, we have discussed the use of AM to deliberately modify the surfaces of different classes of biomaterials with spatial specificity in a single manufacturing process as well as commented on the future outlook towards surface modification using AM.

Key words: Additive manufacturing, 3D Printing, Biomaterials, Surface modification.