

第226回 IBBセミナー

学際・国際的高度人材育成ライフイノベーションマテリアル創製
共同研究プロジェクト 第6回生体医療・福祉材料分野研究会

Current Technological Advances in Bioceramics Additive Manufacturing

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日時: 2019年10月1日(火) 16:00~17:30

場所: 22号館1階 マルチタスクルーム

We have developed a digital light process (DLP) system. DLP compatible ceramic slurries were produced by homogeneously mixing photo-curable resins and ceramic powders with precisely controlled dispersant quantity by both compositions and particle conditions. We could precisely control the layer thickness up to 5 μm as minimum for alumina, zirconia, titania, bioglass, hydroxyl apatite, and β -tricalcium phosphate. Maximum thickness was decided by curability of each material. We could co-print multi-component in one structure using less amount of ceramic slurry with high resource efficiency. We have confirmed multi-material printability of both the functionally graded material (FGM) structures and the core-shell structure. We can expect various applications of our new technology in medical fields.

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