3<sup>rd</sup> International Conference on

## **3D Printing Technology and Innovations**

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## 3D (bio) printing of novel biocompatible scaffolds and medical devices

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Emerging 3D bioprinting (3DP) technology and biocompatible bio-inks are revolutionizing the field of tissue Engineering and can be used to fabricate complex geometry of personalised medical devices e.g. scaffolds, providing novel platform beyond the current state-of-the-art. There is an opportunity for technological innovation in the fabrication of novel scaffolds or biomaterials using 3DP that requires a convergence of expertise in biomaterial, pharmaceutical, and vascular biological fields. In response to this need, advances in additive manufacturing and thus 3DP have inspired scientists to employ this innovative technology for biomaterials and tissue engineering. 3D printing has particularly gained attention for its ability to control and deposit sequential layers of biomaterials, allowing the tailoring of a specific geometry to an object and even permitting the placement of cells and biological molecules. Hence, a multi-disciplinary study reports a new case of an optimized printing technology in order to fabricate novel scaffolds and medical implants with various model drugs for the application of i.e. endothelial cell repair. This study proves the concept that our developed biomaterials and optimized 3D printing platform can be used for a range of biomedical applications including that in endothelial cell repair in any medical conditions in which endothelial damage occurs.

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