## عنوان مقاله:

Effect of engineering parameters on the use of ۳D bioprinting in tissue engineering

## محل انتشار:

ششمین کنفرانس بین المللی علوم، مهندسی، تکنولوژی و کسب و کارهای فناورانه (سال: 1402)

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## خلاصه مقاله:

Recent years have seen considerable advancements in the three-dimensional (۳D) bioprinting techniques in tissue and reconstructive medicine engineering to build the framework or structure of cellular printers to mimic actual tissues on micron scales. ۳D bioprinting enables biological scaffolds to replicate the required tissue using both live materials and living cells. The ability to print or duplicate ۳D scaffolding, essential to the bioprinting process, is one of the most crucial components. Several engineering criteria related to scaffold design, inkjet, and printing process affect proposed structures' printing capabilities and quality. These parameters, such as extrusion speed, thread offset distance, bioink flow behavior, and transverse connection mechanism, can be investigated by analyzing their effect on scaffold morphology and mechanical properties. However, studying these parameters alone is difficult due to their dependence on each other. In addition to recent advances in using ۳D bioprinting in tissue engineering, this review evaluates printability, engineering parameters on the printability of bioscaffolds, and challenges and achievements in .this field

## کلمات کلیدی:

۳D Bioprinting, Tissue engineering, Bioink, Printability, Scaffolds