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## 3D bioprinting for skin grafts

**Bayan Alarishi**  
University of Bridgeport, USA

This work will explore the potential of using the 3D printing technology as an effective solution to the problems of skin transplants. A large proportion of patients require skin transplants because of surgery, burns and cancer. Currently the traditional method of skin transplantation is lacking to keep up the demands of skin grafts. The technology of 3D printing can serve as a viable solution as it could eliminate the problems associated with traditional skin grafting methods such as waiting list. The introduction of 3D printing will allow the doctors to simply print the living tissues of the patients on demand. This thesis will present the whole process of bio-printing as a feasible alternative to the traditional organ transplant methods. The work also demonstrates the steps needed in the process of bio-printing from simple computer model to natural growing of tissues. The concerns of bio-printing as an emerging technology have also been touched upon in this work. The transplantations already achieved with the help of 3D bio-printing have also been the focus of this thesis. This work is an effort to prove that the technology of 3D bio-printing is an efficient solution as compared to other traditional methods for the treatment of skin burns and wounds or simply skin grafts.

### Biography

Bayan Alarishi, completed his bachelor's degree at University of New Haven on Bachelor of Science (B.S.), Biotechnology 2010 – 2013, and Master of Engineering (M.Eng.), Biomedical/Medical Engineering 2013 – 2015 at University of Bridgeport. He is having two publications: Structural DNA Nanotechnology: From Design to Applications and The Future of Laboratory Work Lab-On-Chip Device.

[balarish@my.bridgeport.edu](mailto:balarish@my.bridgeport.edu)

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