Centro E. Piaggio
bioengineering and robotics research center

# BIOFABRICATION

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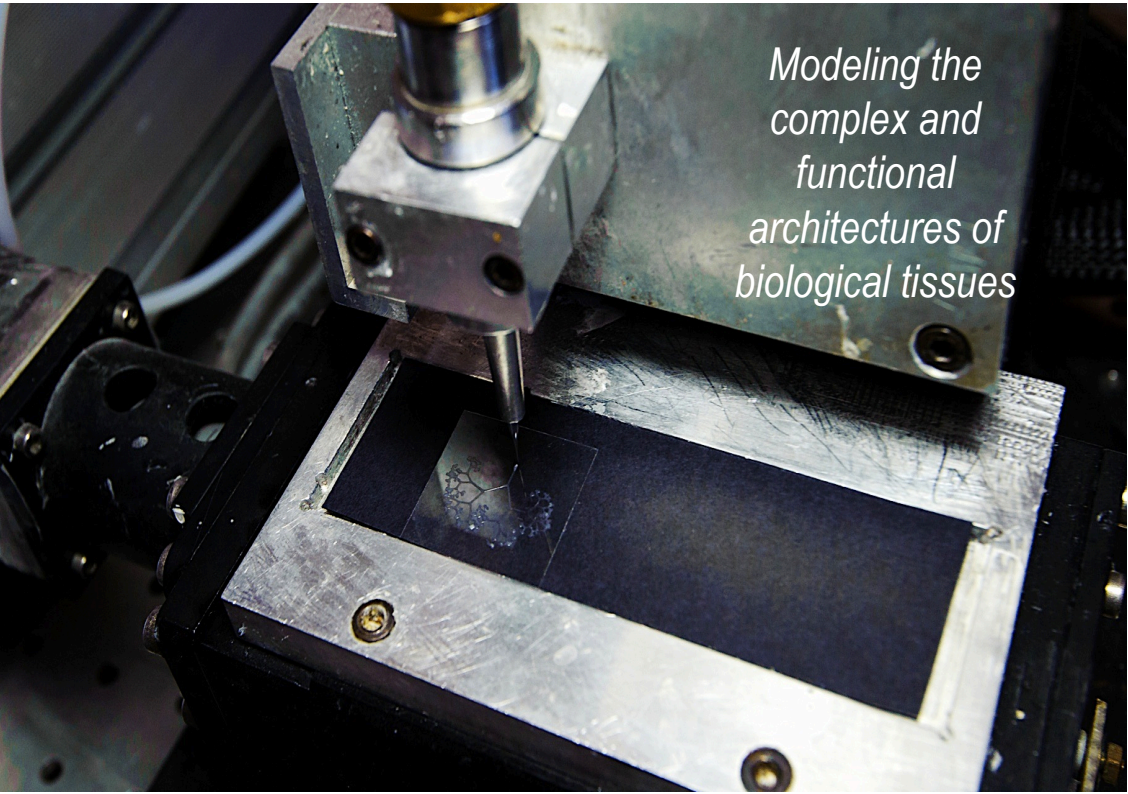


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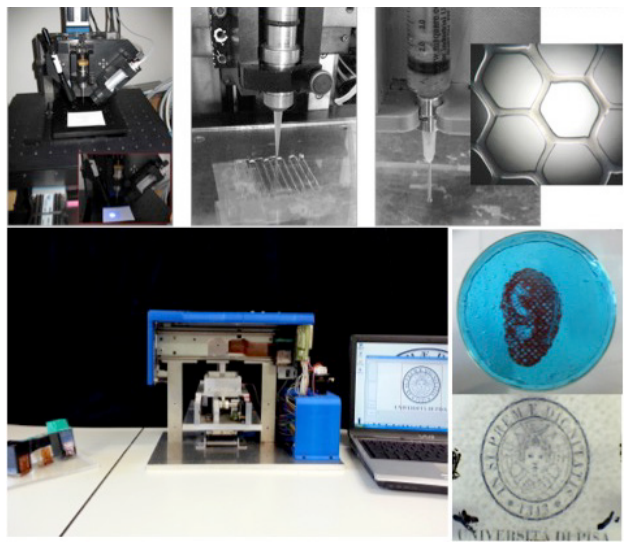
*Biological tissues have highly complex and functional architectures. In order to construct an engineered tissue, that can be used regenerative medicine, pharmacological and basic cell biology studies, cells must be provided with a suitable three dimensional synthetic or biological scaffolds upon which they can adhere and proliferate.*

The Biofabrication Group at Centro "E.Piaggio" developed and patented several microfabrication techniques for 3D bio-printing these complex structures combining different materials, including living cells. Once fabricated, the engineered tissues can be stimulated thanks to Gradient Generator Bioreactors, developed by the Group, able to recreate the biochemical environment of the human body, even of the embryo. In-silico modelling tools are currently developed and used for predicting the cells behaviour. The fabrication of sensors and actuators, using the same technologies for scaffolds and bioreactors, completes the research activities of the group.



**Collaboration with industries:**
ELCAM medical,
Linari Engineering,
Dipromed Medical Devices,
ASA Dental

**Projects:**
Innomed,
ERC Grant BOOST
(in collaboration with
Politecnico di Torino)

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