UNIVERSITÀ
DEGLI STUDI
FIRENZE

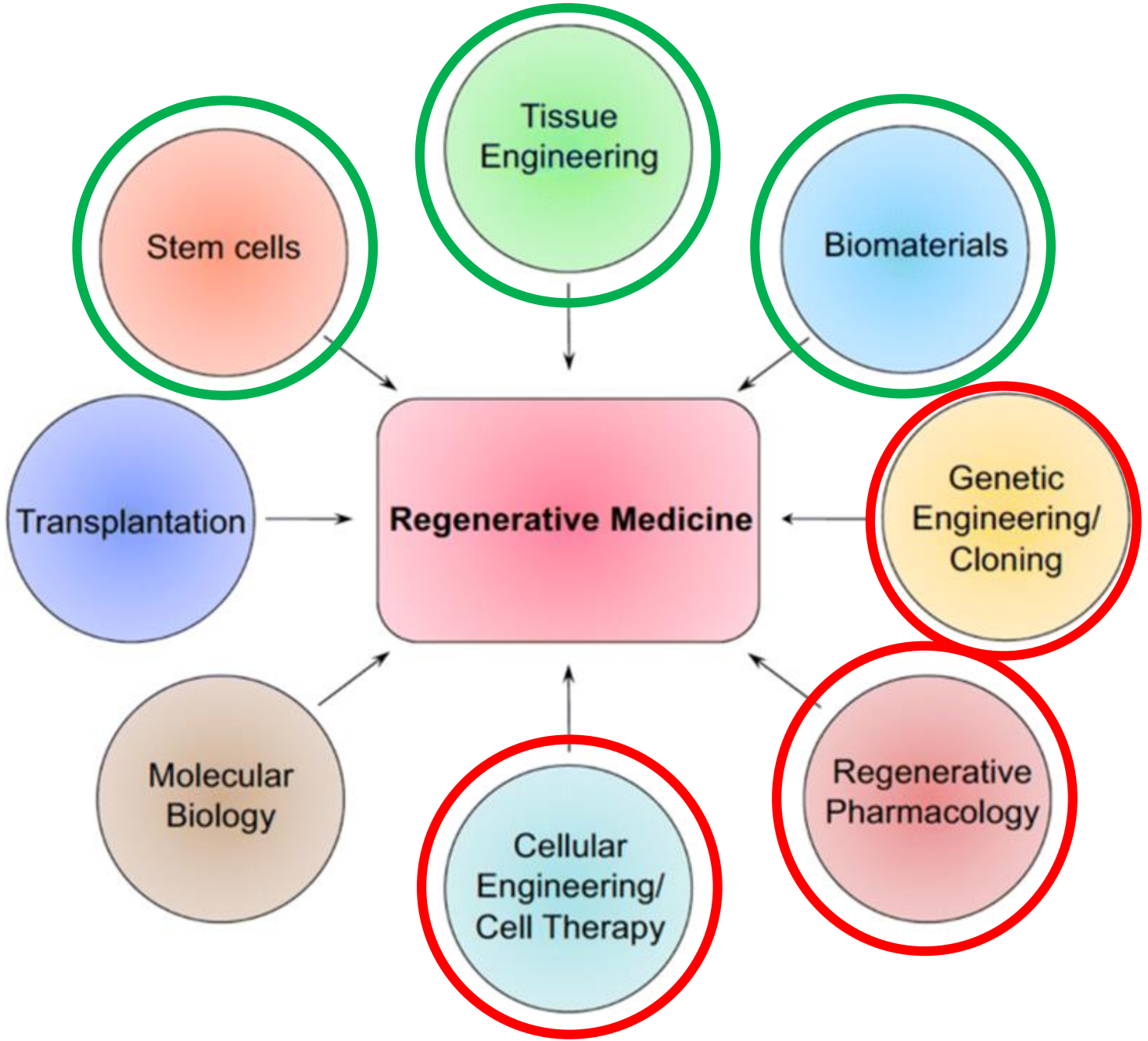
Tecniche di rigenerazione di tessuti e organi

Prof.ssa Laura Lasagni/Prof.ssa Laura Sartiani

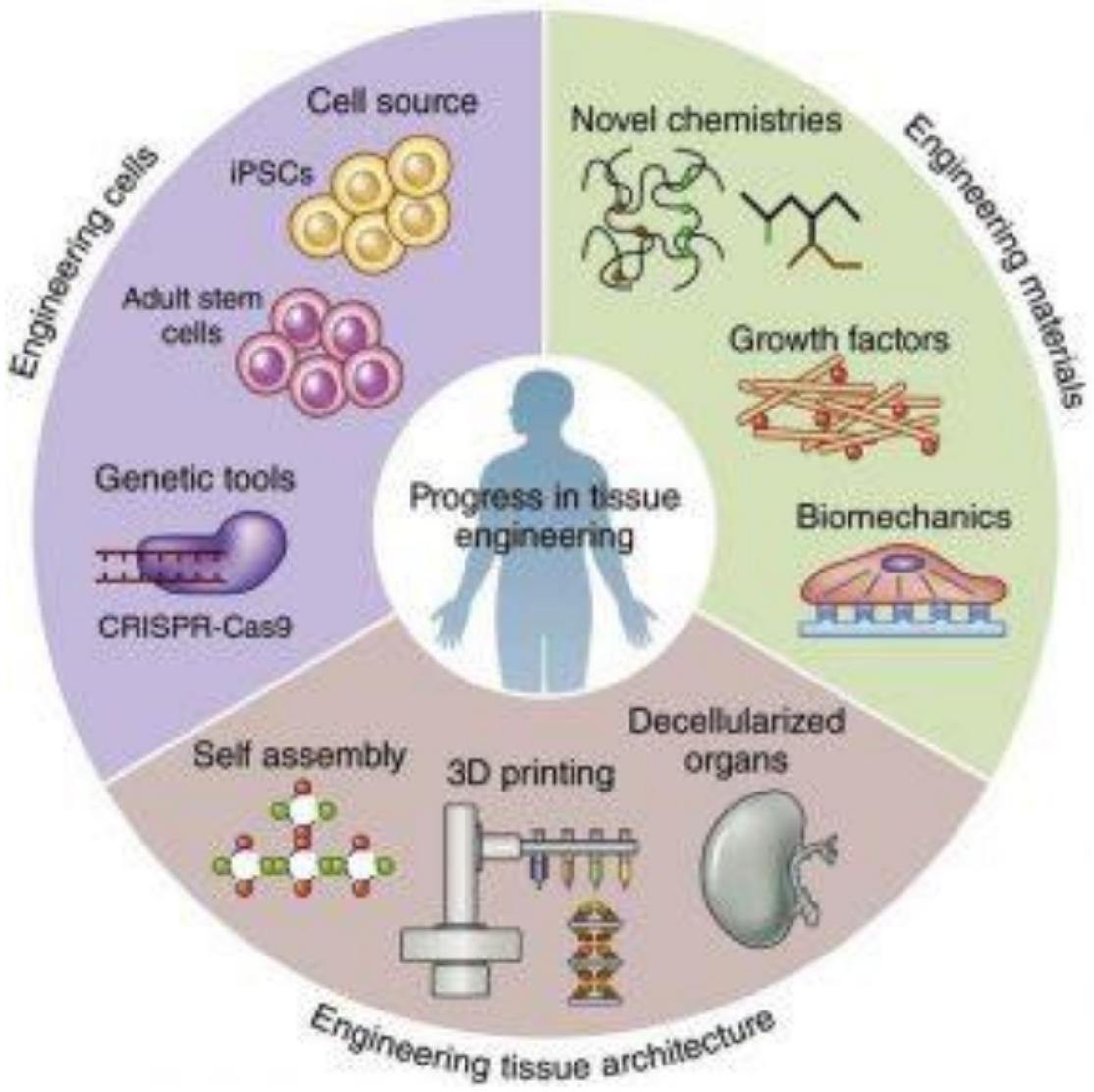
laura.lasagni@unifi.it

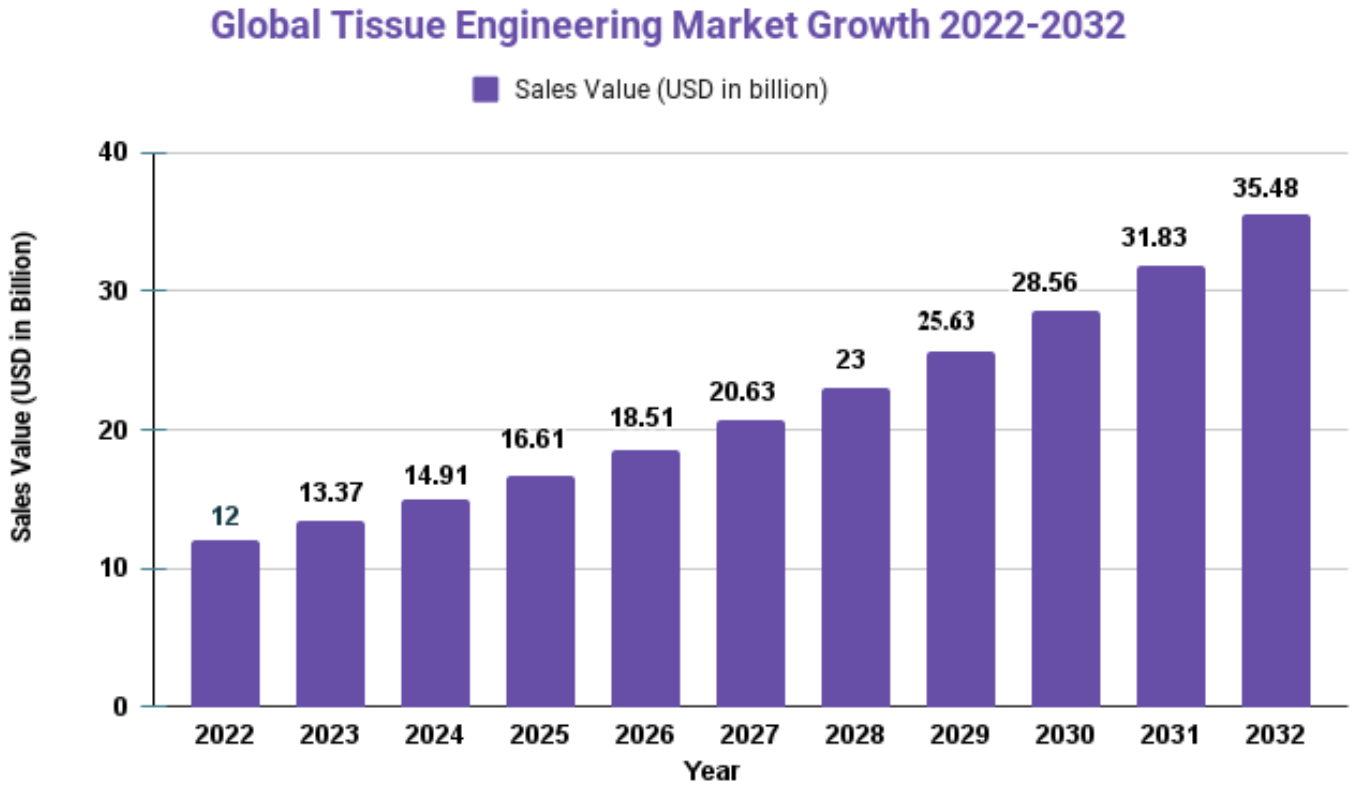
Obiettivi formativi

Il corso si propone di fornire allo studente conoscenze delle strategie e delle tecniche utili alla **ingegnerizzazione** di cellule, tessuti, organi e alla creazione di **organoidi** e tessuti *in vitro* con una particolare attenzione alle loro applicazioni nell'ambito della **medicina rigenerativa**.



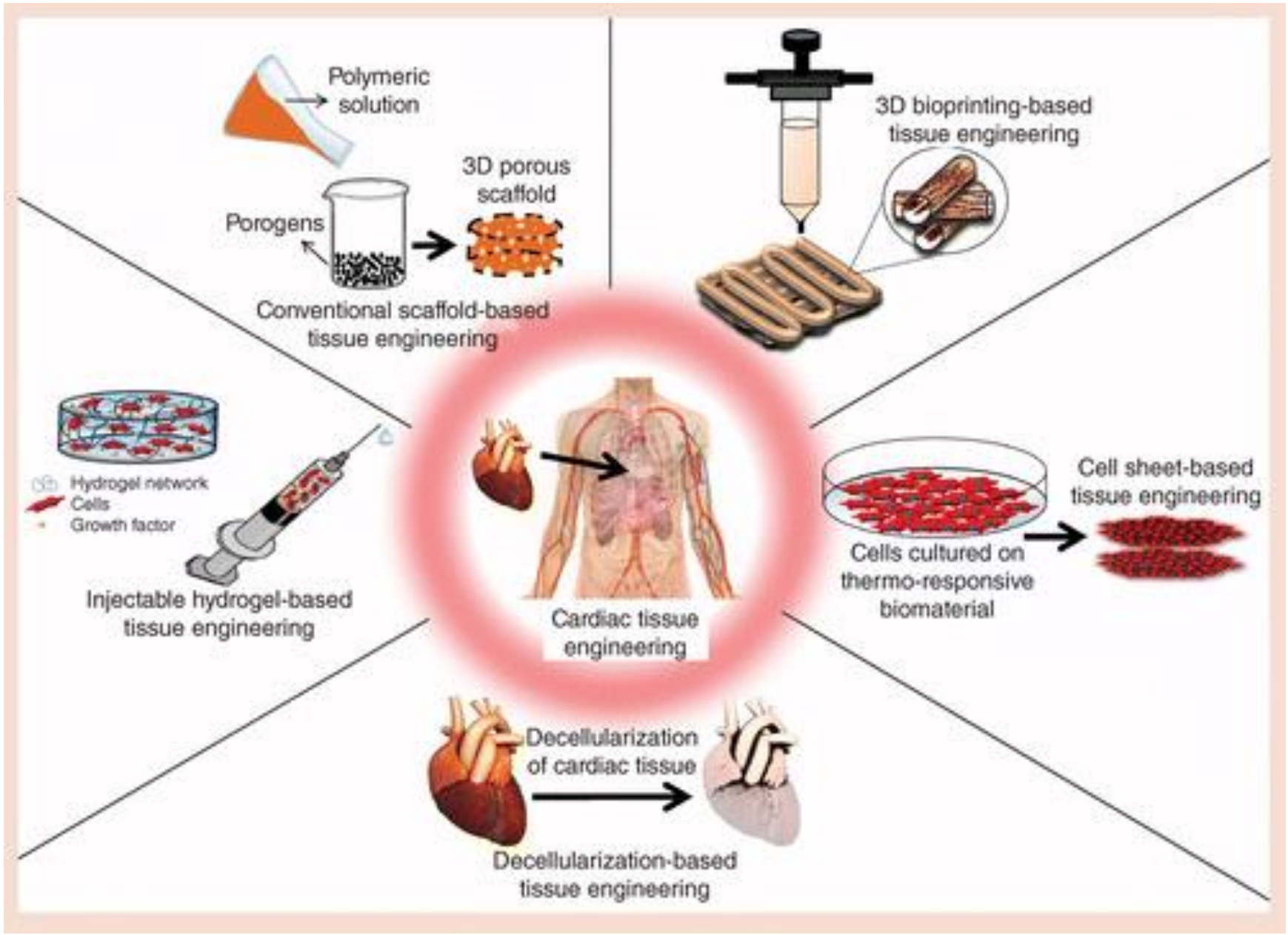
Regenerative medicine: tissue engineering





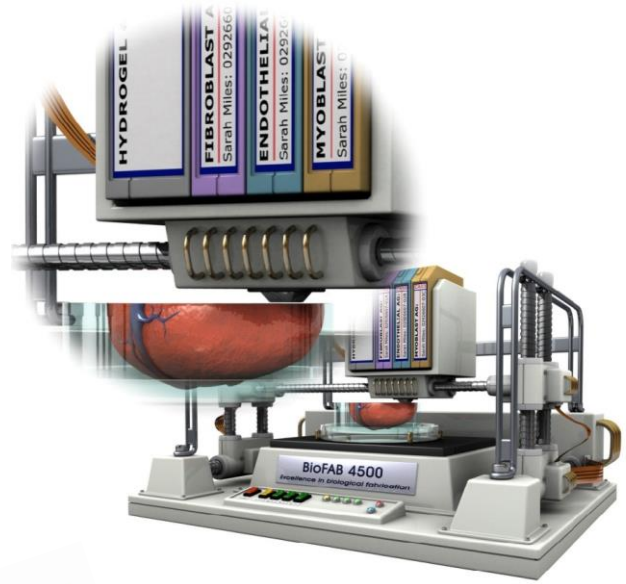
(Source: www.grandviewresearch.com)

How to obtain scaffolds and biomaterials: 3D bioprinting, tissue decellularization

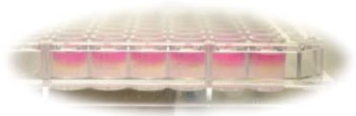


Application of 3D bioprinting techniques

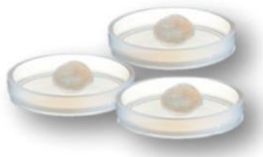
From the laboratory….



Tissue engineering and regenerative medicine

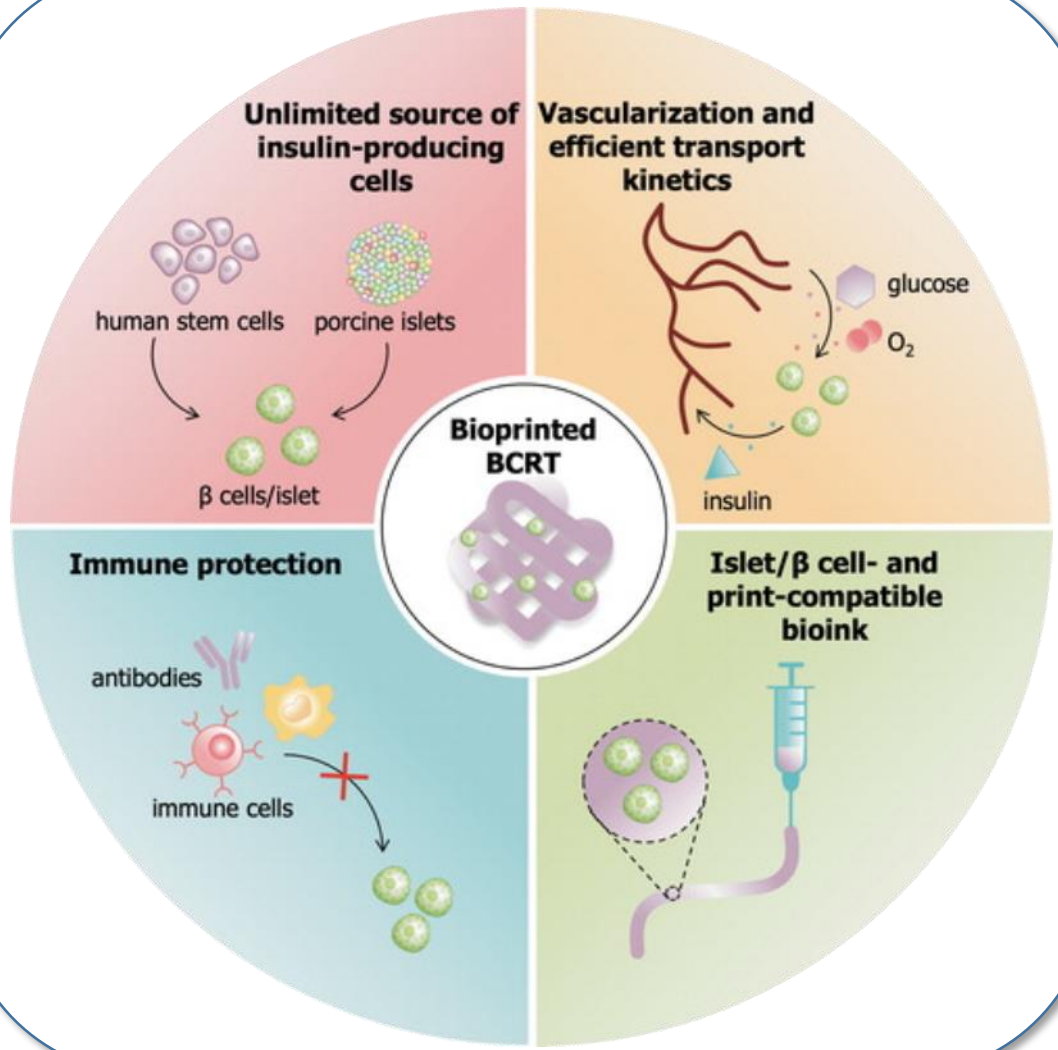


Drug screening and high-throughput assays



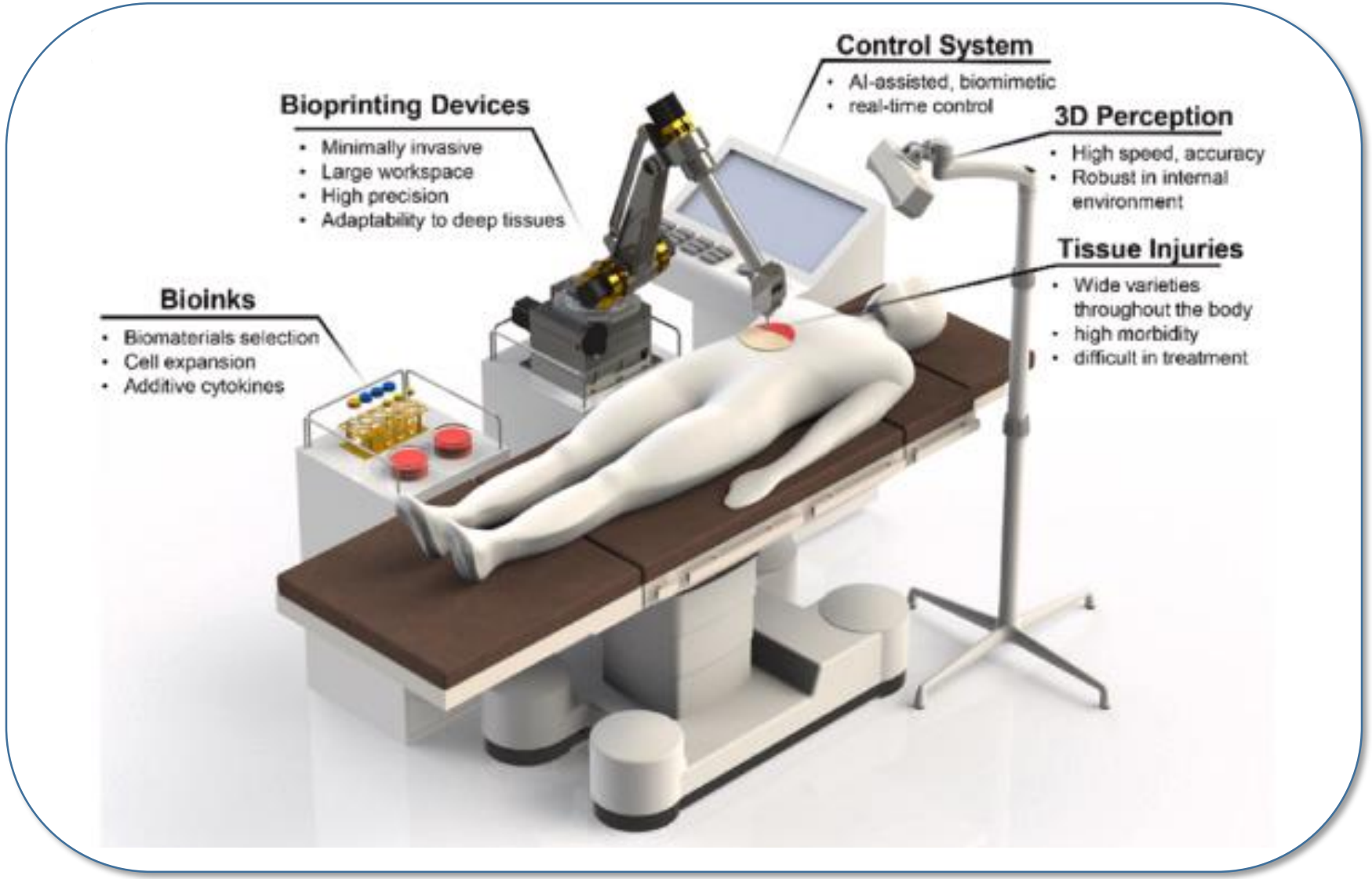
Cancer research

….to the clinic



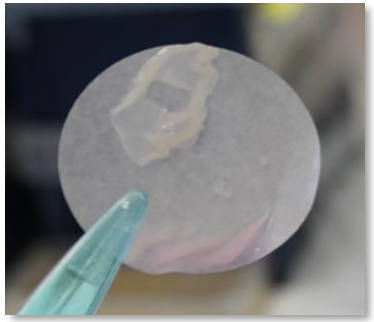
BCRT: beta cell replacement therapy

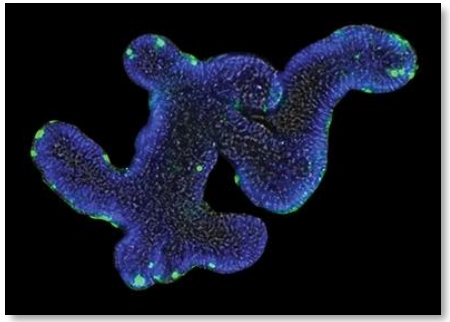
Future directions of 3D bioprinting techniques: intraoperative bioprinting (IOB)



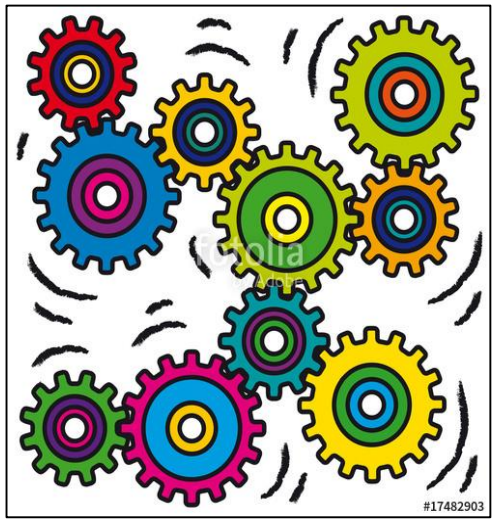
Stem cells in regenerative medicine

Stem cells as drugs





Stem cells as therapeutic target



FIBROSI

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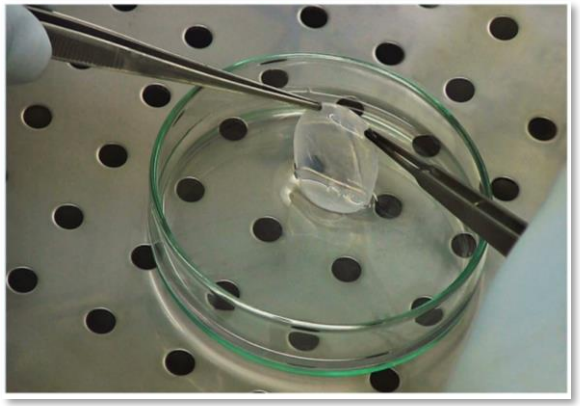
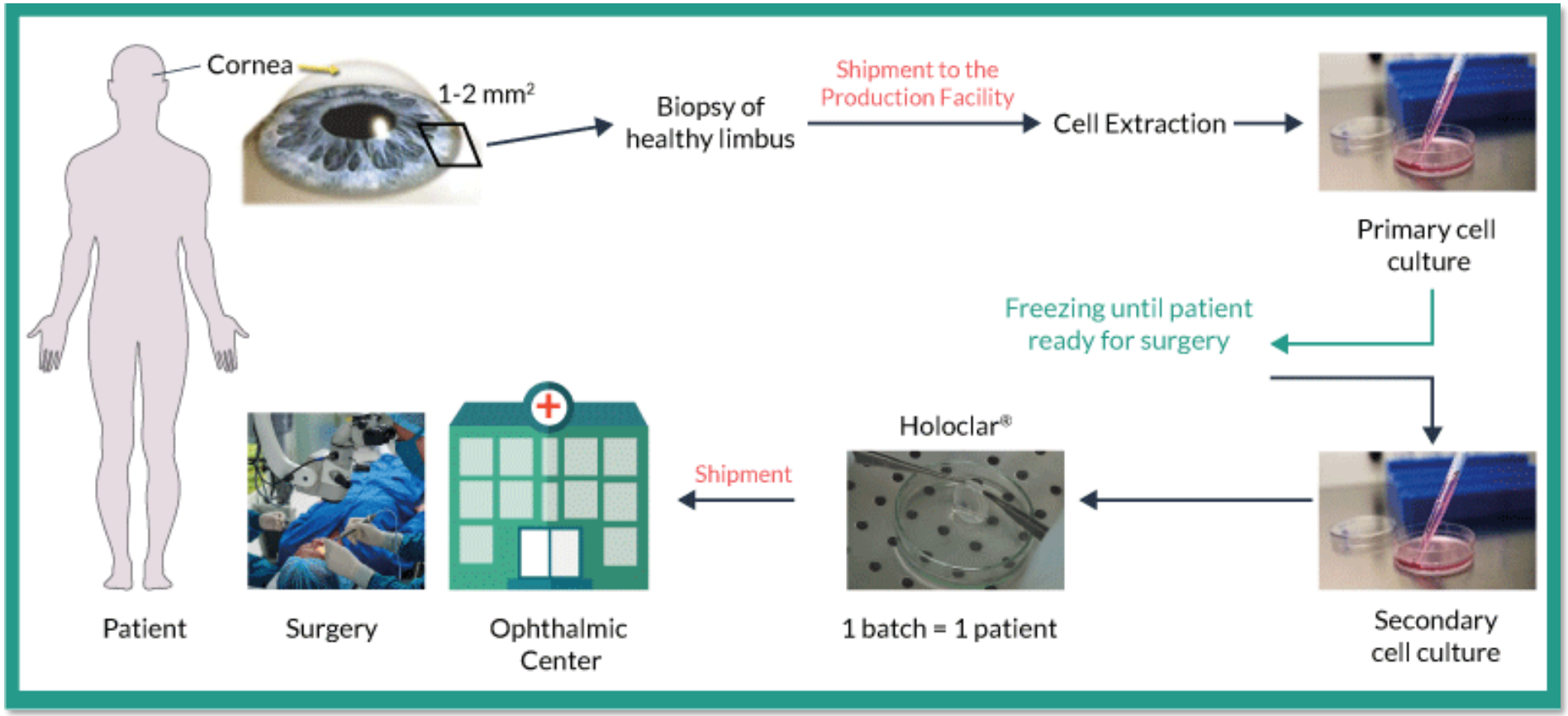
TUMORE

Bioengineering Approaches to Tissue Regeneration and Stem Cell Therapy for the Eye

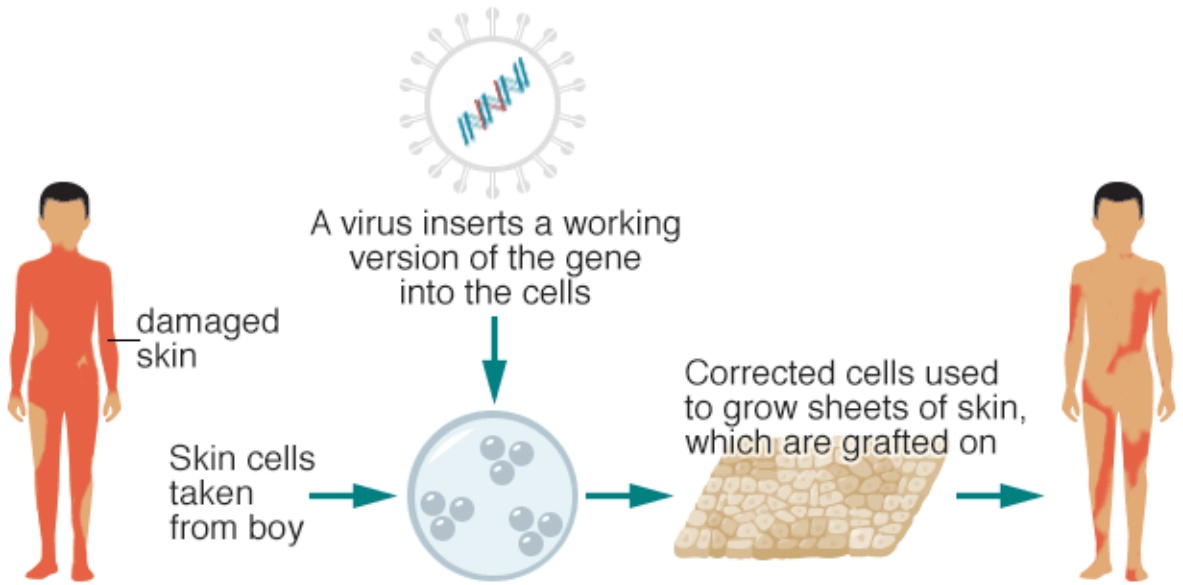


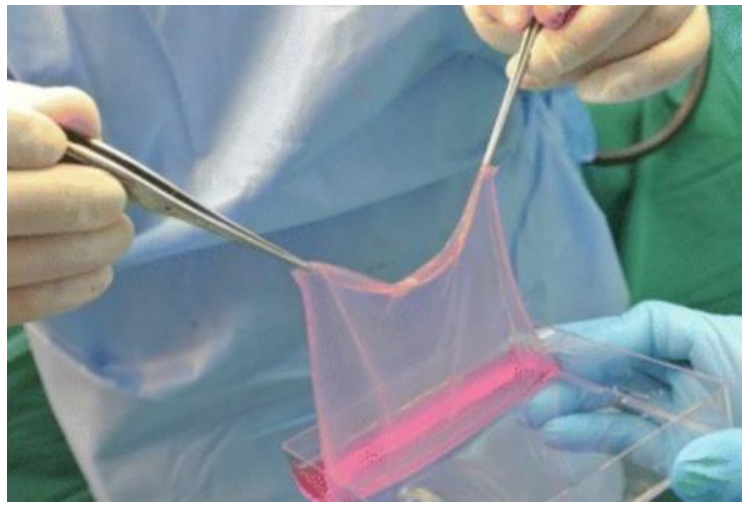
HOLOCLAR

the first stem cell—based medicinal product



Regenerative medicine: from bench to bedside!





Regeneration of the entire human skin using transgenic stem cells

Hologene 5: A Phase II/III Clinical Trial of Ex vivo combined cell and gene therapy of Junctional Epidermolysis Bullosa

Stem cells: from bench to bedside!

"If you asked me 30 years ago if it was realistic to replace the whole skin with transgenic epidermis, I would have said no, but we have done it.

The final aim of my career is to make this gene therapy a real treatment for children — not a clinical trial or a demonstration of what we might do, but something that is used to treat everyone who needs it."

Michele De Luca