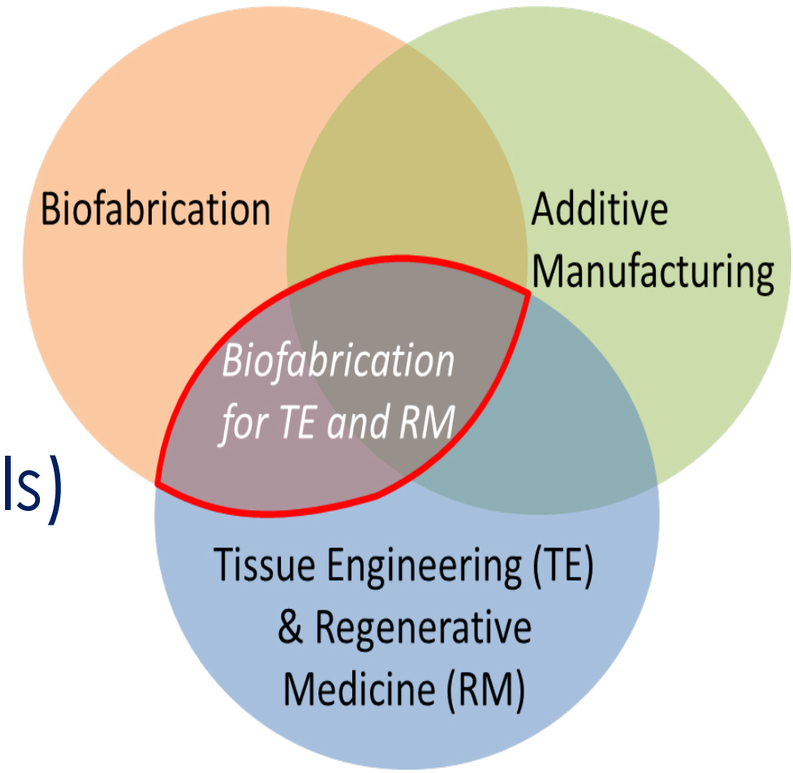
Centro E. Piaggio
bioengineering and robotics research center

BIOFABRICATION

MULTISCALE AND MULTIMATERIAL BIOFABRICATION

- Advanced fabrication technologies, including 3D printing, for smart and (bio-)materials
- Production of scaffolds for in vitro models and Tissue Engineering
- Experience in processing biopolymers extracted from waste material
  - Keratin (poultry feathers)
  - Pectin (apple and lemon peels)

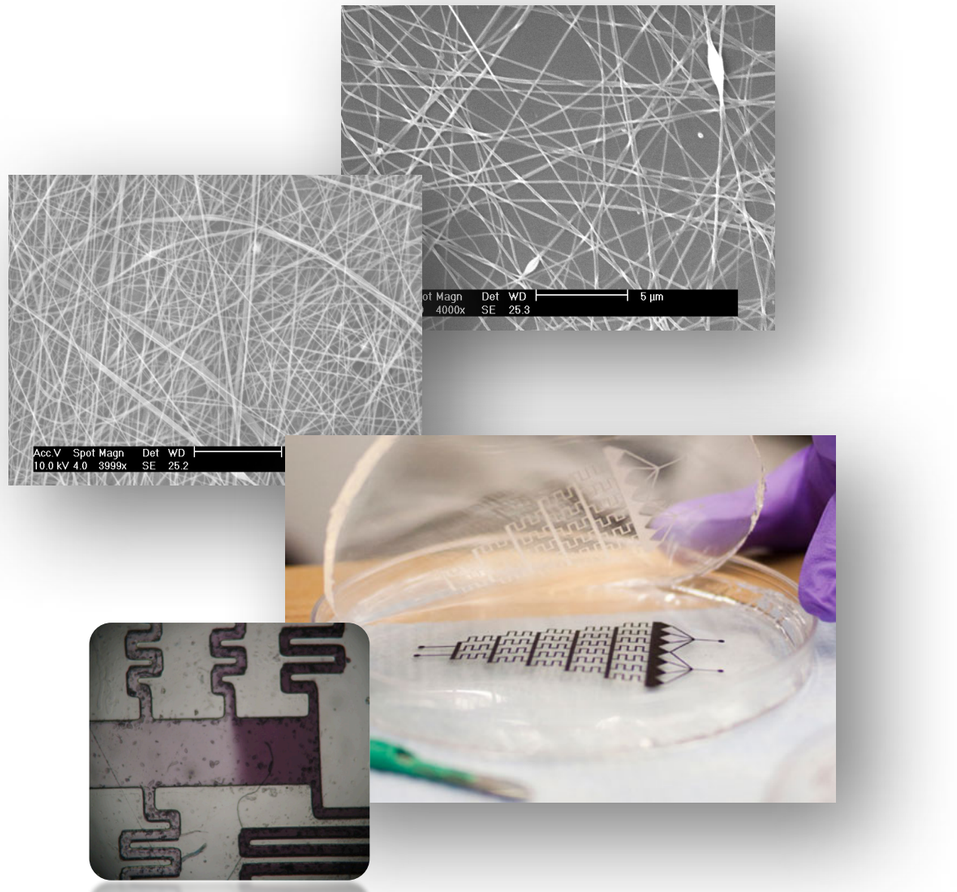


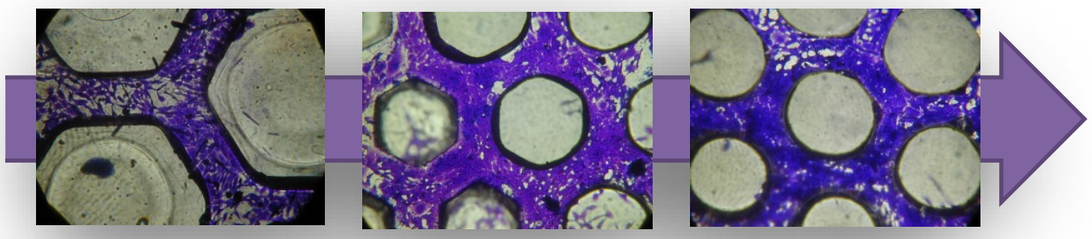
2D FABRICATION TECHNOLOGIES

- Electrospinning
  - Production of nanofibers matrices, for applications in nonwoven fabrics, filters, packaging

- Microfluidic devices fabrication
  - Micromixing and creation of stable gradies of chemical species, including drugs

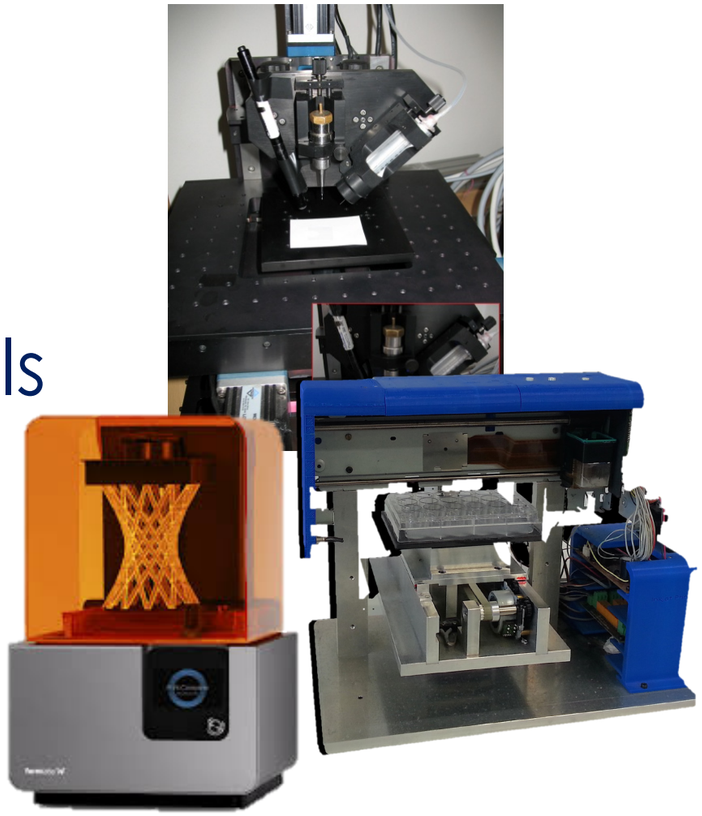
- Soft Molecular Imprinting
  - Scavenging of molecules dispersed into a solution with high selectivity (key-hole mechaniism)

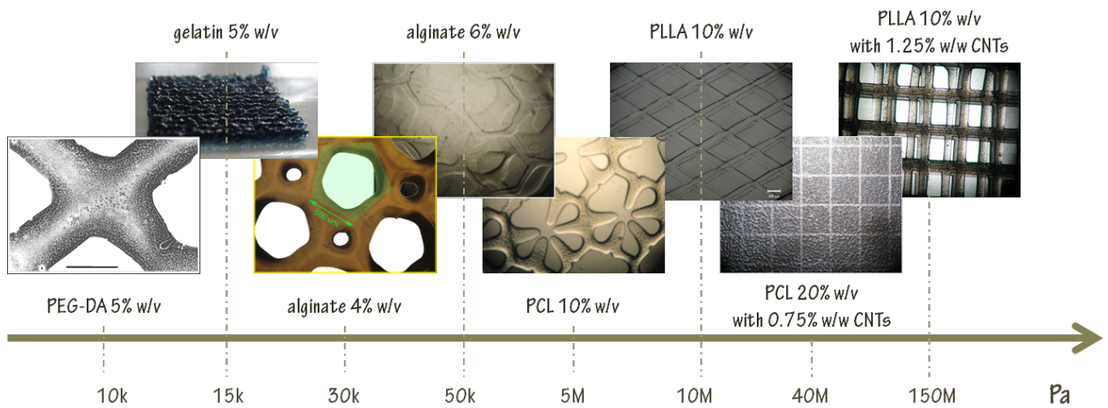




3D Fabrication Technologies
Additive Manufacturing

- Fused deposition modelling
  - From filament and pellets
- 3D printing of paste and gel materials
- Stereolithography
- Inkjet printing of nanoparticles and sensors





Tunable properties

Patient-specific 3D structures