

CARTIGEN

To Restore Mobility

"CARTIGEN is a high-level research and innovation platform. Unique site, dedicated to the analysis and modeling of movement to better understand osteoarticular and muscular diseases and to study innovative therapies targeting these diseases"

Pr Christian Jorgensen

CARTIGEN initiator and supervisor

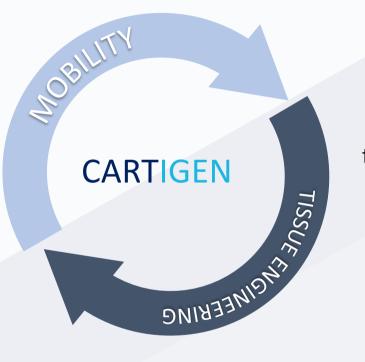




Two interconnected research and innovation platforms

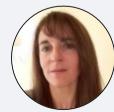
"Analysis and Modelling of movement for better diagnostic"

Pr I. Lafont



"Development of new therapies based on Tissular Engineering and 3D bioprinting"

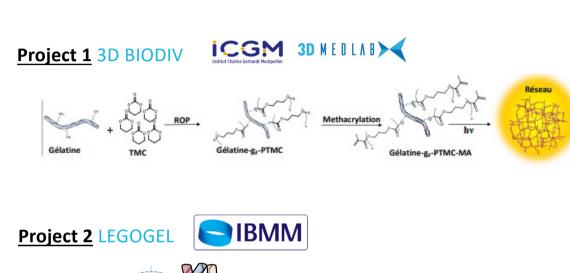
Pr D. Noël

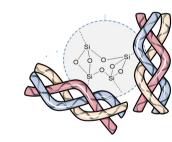


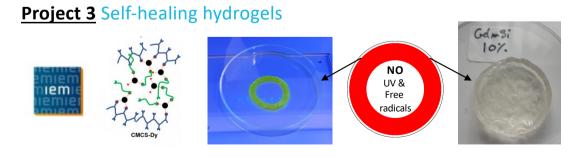
Dr E. Perrier-Groult

CARTIGEN To Restore Mobility Chemistry ASSUK ENGINEERING Biology 3D printing Analysis **Robotics**

Development of novel biomaterials

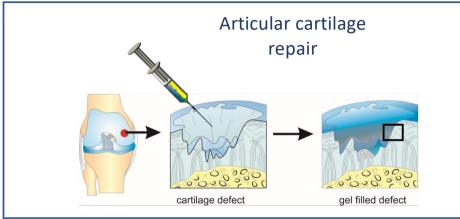


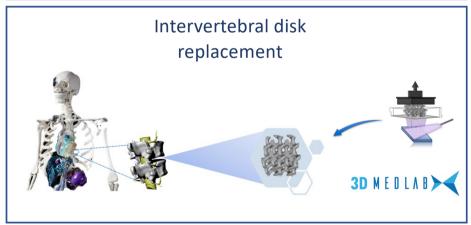




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Long-Term Goals





In vitro 3D joint-on-chip models Cell culture (2D) Knee articulation In vivo **Bones** Synovie Cell culture (3D) - Organoid Cartilage: - Articular - Microspheres - Meniscus - Micromass Joint-on-chip 3D Bioprinting **Bones** Cartilage Svnovie 3D construct (Side View) + Physical stimulations + Micro-bioreactors **Future Human** joint model

- Bio-prosthesis (meniscus and disk)
- Bone or cartilage defect healing

- Drug screening / personalized therapy
- Advanced tools for research purpose



Cell culture laboratory

Bioreactors & microfluidics







Incubators

Rheological analysis



Elastosens2 Rheolution

Cytometry



BD FACSymphony A3 Cell Analyzer

Equipment





Confocal microscope Leica SP8

MEB PHENOM ProX



3D Printers and Bioprinters



BIO X CELLINK



Allevi 1



Bioplotter EnvisionTEC



3D Asiga Max



μFAB-3D 2 photons Microlight 3D

