



DIGITAL TWIN FOR HEALTHCARE

The numerical simulations based on finite element analysis are focused on the investigation of the blood fluid dynamics, the mechanical response of vessel walls and the interaction of devices within the patient-specific implantation site. We perform cutting-edge research in areas of fundamental and applied biomedical modelling by applying RBF, ROM and UQ techniques.

BioCardiolab

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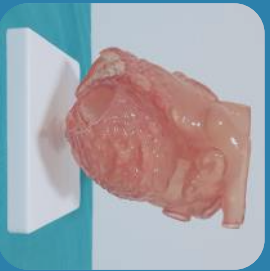
BioCardiolab



Clinic

Research

Engineering



The physical reproduction of the patient anatomy, conducted by means of 3D printing additive manufacturing technique, allows the development of a new approach for the clinical planning.

TESTING MACHINE fluid dynamics

and mechanical characterization

BioCardioPump

The BioCardioPump is a fully controlled pulsatile pump able to generate cardiac-like pulsatile waveforms for all kind of experimental purposes involving fluid dynamics testbenches. It has been developed to be integrated with a MR environment.

BioCardioTM²

The BioCardioTM² is a biaxial testing machine completely developed by the BioCardioLab. BioCardioTM² is equipped with highly configurable hardware and software. It is able to test polymeric and biological tissues for the full mechanical characterization.

