SURGICAL ROBOTICS
MONTPELLIER/FRANCE/2013
6th Summer School

Research and Development on a Simulator for Learning Childbirth Delivery Gestures

Summer school students' presentations
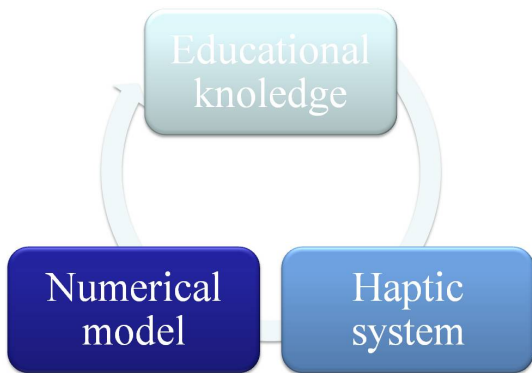
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SURGICAL ROBOTICS
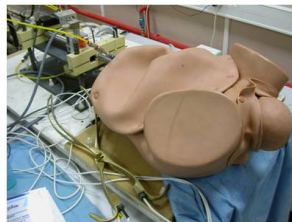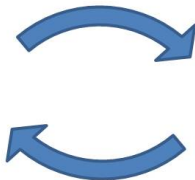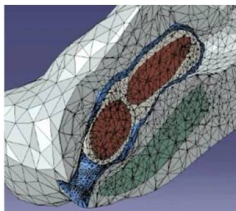MONTPELLIER/FRANCE/2013
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- Labs : LIRIS, LSE, TIMC-IMAG, CAOR, Ampère
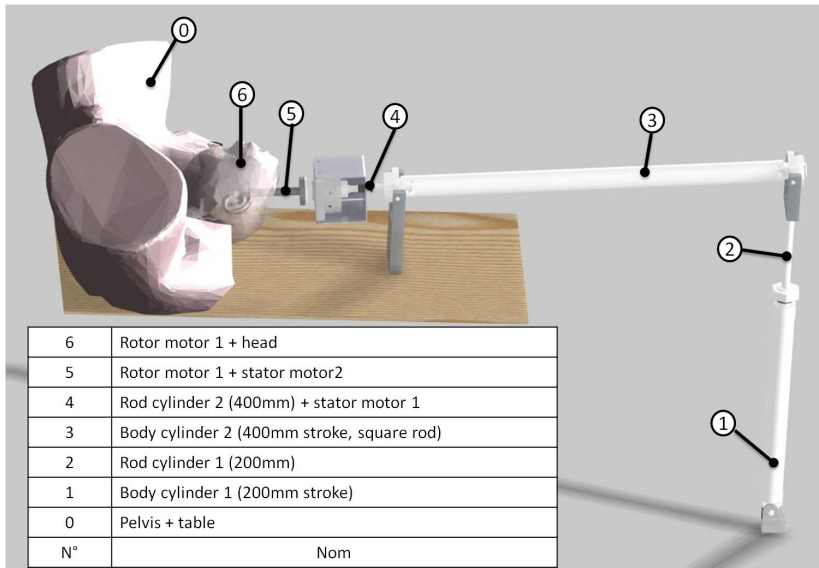- A manufacturer

Objectives and obstacles

Objectives :

- Tool to analyse and teach obstetric gestures
- Link an haptic interface and a numerical model

Obstacles :

- Multi-axis pneumatic actuation
- Using a numerical model to control an haptic interface
- Pneumatic haptic interface
- Deal between space and power of actuators

N°	Nom
6	Rotor motor 1 + head
5	Rotor motor 1 + stator motor2
4	Rod cylinder 2 (400mm) + stator motor 1
3	Body cylinder 2 (400mm stroke, square rod)
2	Rod cylinder 1 (200mm)
1	Body cylinder 1 (200mm stroke)
0	Pelvis + table

Review and prospects

Tasks done :

- Biomechanical analyse of a childbirth delivery
- Kinematic model
- Sizing of sensors and actuators

Next steps :

- Developpement of stiffness control law
- Link the numerical model with haptic interface

Thank for your attention