UNIVERSITÉ DU LUXEMBOURG

ANATOSCOPE

MARIE CURIE ACTIONS

RAINBOW
Rapid Biomechanics Simulation for Personalized Clinical Design
A Marie Sklodowska-Curie European Training Network

DIGITAL TWINNING FOR REAL-TIME SIMULATION

WHAT IS IT?

Digital twin reconstruction through registration techniques.
Based on a surface scan that will reconstruct the skin of a patient, the registration algorithm will allow an anatomic transfer of a reference model onto the patient. Coupled with a haptic arm, a surgeon would be able to be trained for a specific surgery on a special patient.

WHY DOES IT MATTER?

The main difficulties for biomechanical simulations are to obtain the geometry of the patient's organs as well as their mechanical properties. **These applications will allow the surgeon to have better planning, better visual feedback, more accurate and less invasive operations.**

WHAT'S THE TREND FOR THE ADOPTION OF THIS TECHNOLOGY?

Numerical simulations start to be used more and more in the medical field mostly for its ability to predict complex deformations. Thanks to the arrival of big data and learning algorithms, biomechanical simulations are becoming more patient-specific and also more accurate.

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