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NANOCOATINGS, DEGRADABLE METALS & 3D TRIPLE CELL CULTURE IN BIOREACTORS FROM COLLAGEN GEL SCAFFOLDS FOR THE INNOVATION IN REPARATIVE AND REGENERATIVE MEDICINE

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Over the last 50 years, biomaterials, prostheses and implants saved and prolonged the life of millions of humans around the globe. Today, nano-biotechnology, nanomaterials and surface modifications provides a new insight to the current problem of biomaterial complications, and even allows us to envisage strategies for the organ shortage. In this talk, creative strategies for addressing functional nanocoatings, new metals for tunable degradable metals for a new class of implants and mixing vascular cells and collagen-based materials for physiologically relevant models will be targeted with the overall aim to envisage today how far *innovation* can bring tomorrow solutions for reparative and regenerative medicine.

The overall take home message of this talk is aimed to show how advanced nanostructured coatings, degradable metals and 3D human cell models represent the today bottleneck in reparative and regenerative medicine, and which are few of the strategies that have to be investigated to push forward innovation in the field, for the benefit of patients and Humans.

Biosketch

Holder of the Canada Research Chair Tier I in Biomaterials and Bioengineering for the Innovation in Surgery (2012-2026), professor at the Department of Materials Engineering at Laval University, senior scientist at the Division of Regenerative Medicine of the Research Center of the CHU de Québec, Diego Mantovani is a recognised specialist in biomaterials. He was Executive Co-Chair of the 10th World Biomaterials Congress 2016. He is advisor of three medical devices consortium in the Americas, Asia and Europe.

