

CUSTOM IMPLANTS

Research, Regenerative Medicine and Personalized Surgery at Rizzoli Orthopedic Institute

Technological innovation in orthopedics currently involves customized precision surgery and regenerative medicine. This innovation rests on custom substitutive devices or regenerative grafts, produced through subtractive or additive manufacturing. The Orthopedic Institute of Rizzoli of Bologna combines clinical care and scientific research and with its laboratories approaches this purpose operating in the following research fields: regenerative medicine; biomedicine; pharmaceuticals; biomechanics; clinical IT.

- 10:45 PRESENTATION OF RIZZOLI RIT DEPARTMENT**
Prof. Maria Paola LANDINI - Istituto Ortopedico Rizzoli
The Rizzoli RIT - Research, Innovation & Technology Department is the organizational branch managing the participation of the Rizzoli Orthopedic Institute to the Regional High Technology Network.
- 10:50 INTRODUCTION TO “CUSTOM IMPLANTS” PROJECT**
Leonardo VIVARELLI - Istituto Ortopedico Rizzoli
“CUSTOM IMPLANTS” POR-FESR project addresses different aspects and technologies within the customized precision surgery. Its main objective is to make custom implantable products accessible to patients.
- 11:00 PRECISION GRAFTING: Production of human precision tissues by robotized subtractive manufacturing**
Leonardo VIVARELLI - Istituto Ortopedico Rizzoli
An innovative aseptic bone tissue processing platform has been developed and validated. It comprises a robotic arm and a 3D vision system based on laser scanner.
- 11:15 PERSONALIZED SCAFFOLDS: In-vitro validation of magnetic microstructured 3D printed scaffolds**
Anna SAGNELLA - Laboratorio MIST E-R
In-vitro validation of microstructured scaffolds through 3D printing in bioabsorbable materials colonized with human cells. A magnetic manipulator of cells, magnetized by internalization or by coating of magnetic nanoparticles, is developing its prototype
- 11:30 CUSTOM ENDOPROTESI: Design of patient-specific ankle prosthesis for replacement surgery obtained through metal alloys 3D printing and polyethylene**
Paolo CARAVAGGI - Istituto Ortopedico Rizzoli
Design of customized endoprosthesis for ankle through geometric-biomechanical design and 3D printing technology to improve joint surfaces replacement by artificial endoprosthesis.

20th April 2018, 10:45 - 11:45, Sala DONIZETTI - Ammezzato PADD. 21/22

The event is free of charge, limited places available.

Participants have to send an e-mail to ricerca@confind.emr.it

Laboratories and Innovation Centres



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Participating companies

