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; pharmaceutics; biomechanics; clinical IT.

15:30 **PRESENTATION OF RIZZOLI RIT DEPARTMENT**
Nicola Baldini - 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. The activity of the research laboratories, which constitute the Department, is characterized by its relations with industrial companies, by operating in the following research fields: regenerative medicine; biomedicine; pharmaceutics; biomechanics; clinical IT.

15:45 **PRESENTATION OF "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: in the short term, with the processing of donor tissues and with custom metal prostheses, in the medium term, with the refinement of 3D printing technology for custom scaffolds and the related magnetic-cellularisation.

16:05 **PRESENTATION OF "Regenerative medicine in Orthopedics: experience of the Rizzoli Orthopedic Institute and perspectives"**
Nicola Fazio - Istituto Ortopedico Rizzoli
In Rizzoli Orthopedic Institute a long regenerative medicine tradition is established. Among all countless projects ongoing in the Institute, the hospital joins the regenerative clinical arena with 3 big national and international initiatives: project Orthounion, an innovative approach to manage non-consolidated fractures, based on autotransplantation of GMP expanded bone marrow mesenchymal stem cells; Italian Regenerative Medicine Infrastructure (IRMI), public-private national network with the mission to push innovation and increase international competitiveness of Italian industries and institutes; Rizzoli Cell Factory, the first public department in Italy implementing a Class A clean room-based facility, which is today reshaping its operative models with innovative technologies that will grant more productivity and more dynamicity in developing innovative therapies.

12th October 2017, 15:30 – 16:30, Mollino Room

Laboratories and Innovation Centres

Participating companies

"Custom Implants" project is co-financed by the European Regional Development Fund POR-FESR 2014-2020 of Emilia-Romagna Region
www.custom-implants.it