

The Conference Organizers have decided to sustain and promote the activities of the

**Fondazione Istituto di Ricerca Pediatrica
 Città della Speranza**

They will be present at the Exhibition and you are invited to visit them providing your support.

Since 2012, IRP has pursued its ambitious goal to be a leader in the study of pediatric medicine. Its six top research programs are focused on pediatric oncology, regenerative medicine, nanomedicine, genetic and rare

diseases, immunology, and predictive medicine.

The Institute adopts a unique multidisciplinary approach that blends ideas from biomedicine, bioengineering, biochemistry and materials science.

It also strives to promote cooperation with national and international university hospitals and research institutes, to provide high-level training in pediatric research to students and researchers, to foster innovation and technology transfer, and to facilitate dialogue with the public through conferences and educational activities.

Engineering Principles



Elisa Cimetta

Prof. Cimetta's research interests are focused on the application of engineering principles to biological studies. Classically used cell culture approaches fail to fully reproduce the complexity of the *in vivo* interaction between the cells and the dynamic microenvironment (μ Env), limiting the understanding of its precise role in biology. Engineering solution and microreactor platforms (μ BR) can surpass these limitations by enabling precise and versatile control over culture parameters, in a closer mimic of the *in vivo* scenario.

Tissue Engineering Lab



Martina Piccoli

The newly formed group is born from the joint experience of applied biology and biomaterials engineering. Our group is mainly focused on the study of skeletal muscle regeneration with the aim of discovery new tissue engineering approaches for the treatment of malformations and congenital defects.

Examples of technical skills developed by our group are: tissue decellularization and recellularization, 3D *in vitro* culture systems, development and control of bioreactor systems for different tissue culture application. Currently, our research is supported by a project grant whose purpose is to regenerate *in vitro* a tissue engineered patch to repair the congenital diaphragmatic hernia.

Laboratory of Nanomaterials

Dr. Delogu's laboratory focus on the translation of different nanomaterials in the Medical Scenario, with an emphasis on three pillars: i) the revealing of nanomaterial immune compatibility and intrinsic immune-properties ii) the development and assessment of nanomaterials for bone regeneration iii) the study of nanomaterials applications in space biology.



Lucia Delogu

In collaborations with international leaders in nanomaterial production and chemical characterization, the lab mainly focuses on carbon-based materials (CBMs) such as carbon nanotube fibers, graphene oxide, aminated graphene, exfoliated graphene, graphene nanoribbons.

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