

RAMSES LABORATORY

For regenerative and personalized medicine of musculoskeletal system

Acting Director: Prof. Nicola Baldini

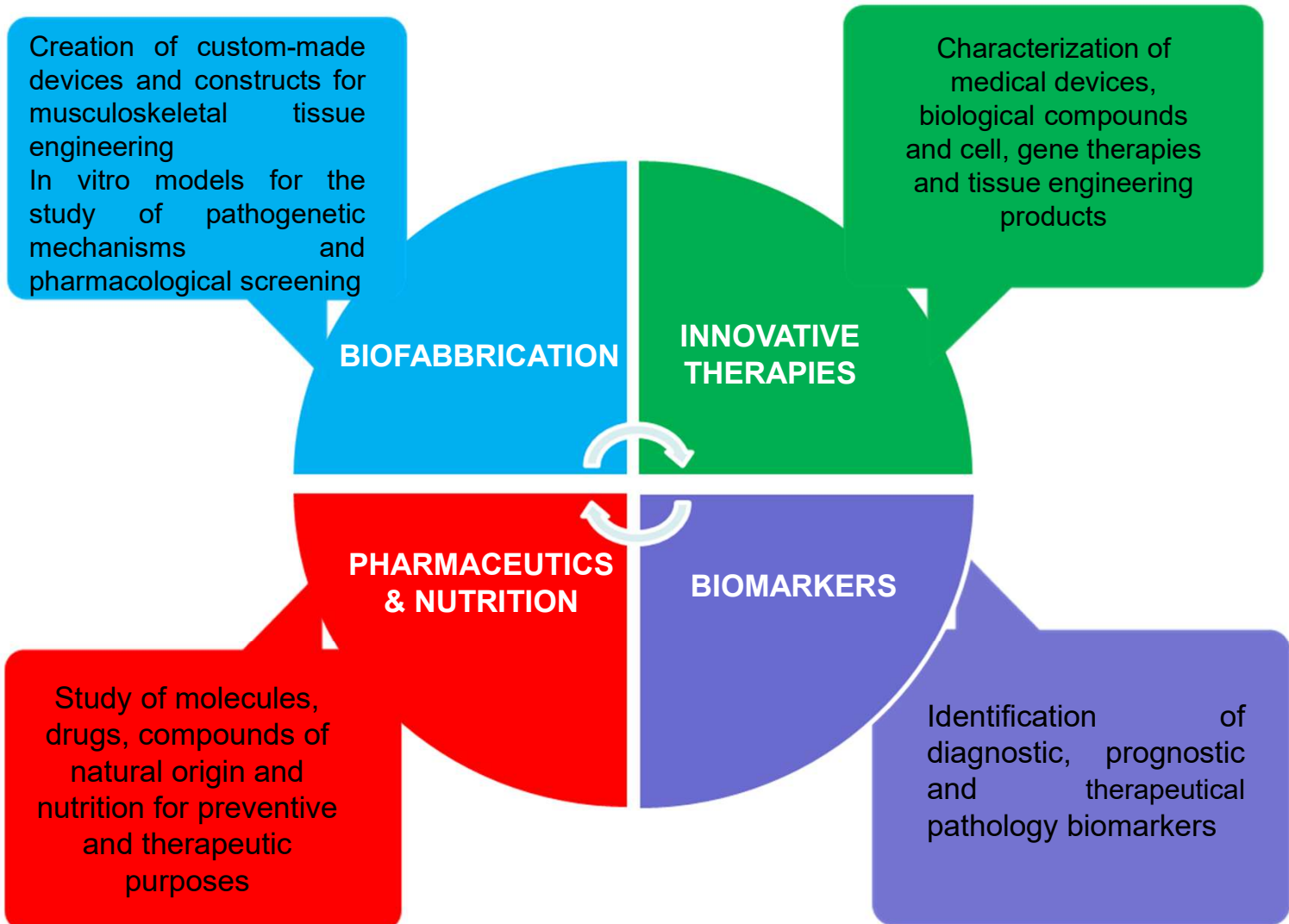
MISSION

The laboratory deals with the research of innovative therapies for the treatment of pathologies affecting the musculoskeletal system, focusing the attention on the technological transfer from basic to clinical research through collaboration with the assistance component of the Institute, other national and international realities and with the industries.

VISION

To strengthen research activities in collaboration with clinical units and local enterprises in the view to continuous improvement. To identify and develop new strategic technologies to meet patients/customer requests.

TOPICS





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Methods

- Morphology (samples processing for histological and immunohistochemical analysis, cytologic specimen setting, imaging analysis)
- Cell biology (primary cultures from normal and pathological tissues, normal and transformed cell line cultures, cell population separation, proliferation and cytolytic activity assay, nucleic acid transfection, immunoenzymatic reactions, immunofluorescence staining, flow cytometry, flow-fish)
- Molecular biology (PCR, RT-PCR, real-time PCR, Western blotting, *in situ* hybridization)
- Analytical Chemistry methods (ELISA, Multiplex etc)
- Custom-made products development by 3D Bioprinting

Relevant technological resources

Structural and ultra-structural analysis

Microtome, Cryostat
Fluorescent microscope with imaging analysis

Cell Culture

Laminar hoods, CO₂ incubator, inverted microscope
System for pressure/tension induction,
U-CUP System Bioreactor

Phenotypical analysis

Flow Cytometer

Molecular Biology

Thermocyclers for quantitative PCR

Proteomics

ELISA, Multiple analysis (Bioplex)*
Western Blot (IBLOT gel transfer device)

3D Bioprinting

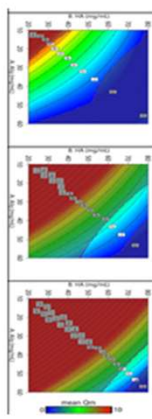
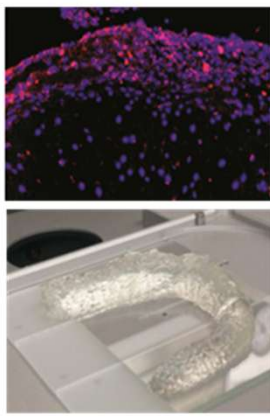
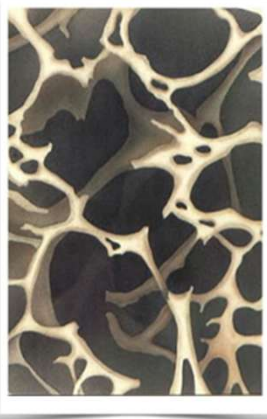
Tissue printer Bio Factory
Bio Printer 3D Discovery

Training opportunities

RAMSES laboratory provides training for national and international students: degree thesis preparation.

Commissioned research

The Laboratory carries out activities on behalf of third parties for Industries, also dealing with the design and planning of research protocols



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