

LSPC - IOR

GENERAL PRESENTATION

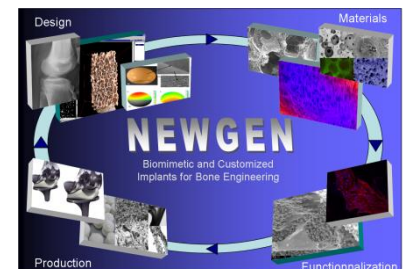


- ✓ **Complete denomination:** Laboratory of Preclinical and Surgical Studies and Laboratory of Biocompatibility, Innovative Technologies and Advanced Therapies – Rizzoli Orthopedic Institute
- ✓ **Location (city, country):** Bologna, Italy
- ✓ **Director:** Dr. Milena Fini
- ✓ **Contact person in NEWGEN:** Dr. Milena Fini; milena.fini@ior.it
- ✓ **Working Group involvement:** WG4 “*In vitro and in vivo* evaluation of the performance”
- ✓ **Staff:** 22; 3 Medical Doctors, 1 Veterinarian, 12 Biologists, 1 Industrial Chemist, 5 Technicians
- ✓ **Research topics:** pre-clinical and clinical research on traumatic, metabolic, degenerative, infective and oncologic diseases of the musculo-skeletal system; biocompatibility, bioactivity and biofunctionality of biomaterials, scaffolds and medical devices; safety and “proof of concept” studies on technological innovations and advanced therapies; tissue engineering and regenerative medicine; alternative 2D and 3D *in vitro* models; mesenchymal stem cells, signal molecules; biophysical stimulation

<http://www.ior.it/laboratori/lab-studi-precli-chirurg/laboratorio-studi-preclinici-e-chirurgici>

<http://www.ior.it/dipartimento-rizzoli-rit/lab-bitta/laboratorio-bitta>

LSPC
Rizzoli Orthopedic Institute
Via di Barbiano 1/10
40136, Bologna - ITALY



COST Action MP1301



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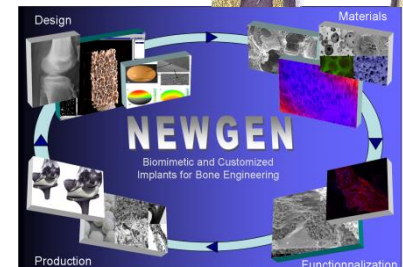
✓ Researchers expertises:

- Cellular biology and *in vitro* models
- Tissue Engineering and Regenerative Medicine
- Surgical Unit Veterinary Care and Animal Facility
- Morphology and Biomechanical analyses
- Histology and Histomorphometry of calcified and undecalcified tissues
- Bone and scaffold/biomaterial microarchitecture
- *In vitro* and *In vivo* microtomography



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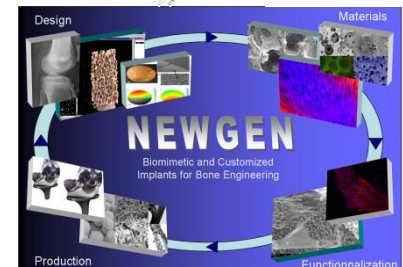
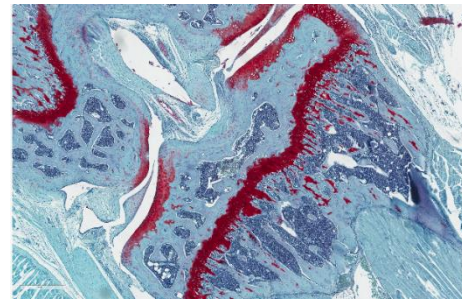
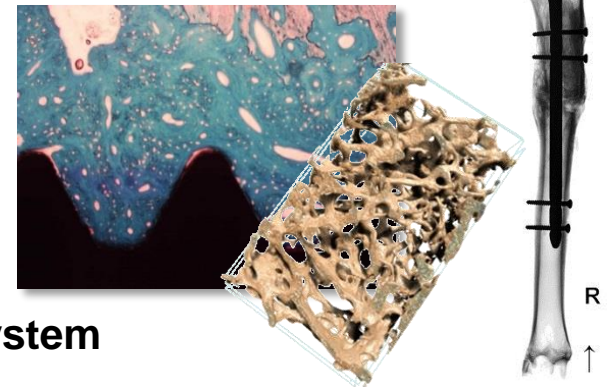
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- ✓ *In vivo* researches are performed following Italian current Legislation and European Directives, ISO 10993-2-Animal Welfare Requirements, Guide for the Care and Use of Laboratory Animals.
- ✓ The laboratory is certified for the implementation and maintenance of a quality management system according to UNI EN ISO 9001:2008 for the conduction and execution of research projects and tests for third parties.

MAIN EQUIPMENT FOR *IN VIVO* RESEARCH

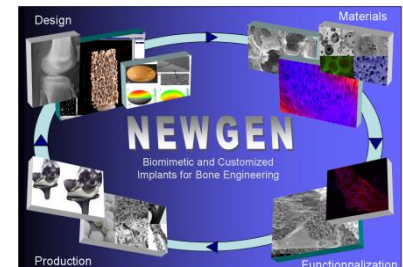
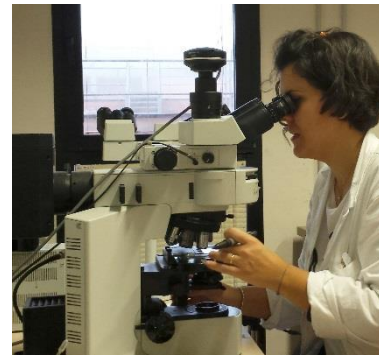
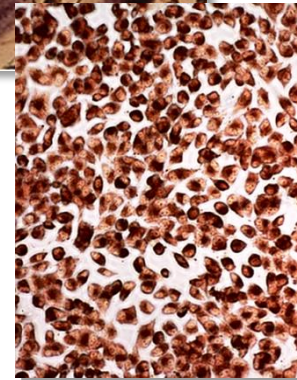
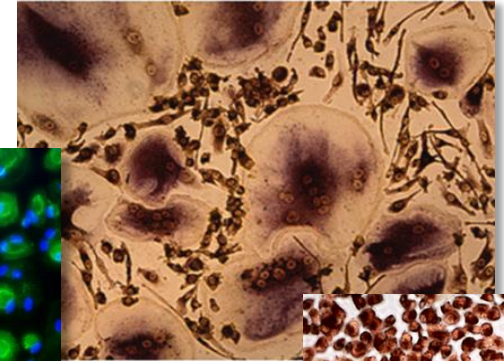
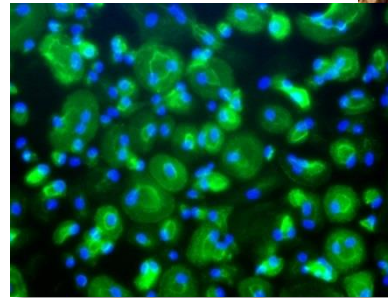
- *In vivo* Microtomography System
- Anaesthesia equipments
- Ray equipment for macro radiographs digitization system
- Operating microscope
- Thermostatic cabinets





MAIN EQUIPMENT FOR *IN VITRO* RESEARCH

- Biological laminar flow hoods
- Chemical hoods
- CO₂ cell incubators
- Microplate Readers
- Refrigerated centrifuge
- Inverted optical microscope with transmitted light and fluorescence
- Spectrophotometer
- Thermocycler
- Real Time PCR
- Spectrophotometer Nanodrop





EQUIPMENT OF THE LABORATORIES FOR HISTOLOGY, HISTOMORPHOMETRY and EXPERIMENTAL BIOMECHANICS

- Microtomographic *ex vivo* Systems
- Microtome for paraffin sectioning
- Circular diamond blade microtomes for resin embedded section
- Cutting systems
- Metallographic saw
- Grinding system
- Biomechanical apparatus (pull- and push-out, torque, compression, bending)
- Image acquisition and analysis software
- Optic and fluorescence microscopes with digital cameras
- Digital image acquisition system
- Microdurimeter

