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## Education

**2015:** PhD in Clinical and Experimental Nutrition, PhD school of Biochemical, Nutritional and Metabolic Science, Laboratory of Experimental and Applied Nutrition, Department of Biomedical Science for Health, University of Milan. Thesis title: “Assessment of potential biological activities of caseinophosphopeptides from a purified mixture and from Grana Padano and Trentin Grana, after *in vitro* digestion”.

**2011:** Second level professional Master’s diploma in Biotechnology, Laboratory of Molecular Biology, Cellular Biology Department, University of Calabria. University of Calabria. Thesis title: “Innovative systems for chemotherapeutic delivery in anticancer therapy”.

**2009:** Habilitation for biologist profession.

**2008:** Master degree in Biological Sciences, Laboratory of Enzymology, Organic and Biological Chemistry Department, University of Messina. Thesis title: “Study of heavy metals metabolism in aquatic bio-indicators”.

## Work experiences

February 2016 - present: Post-doctoral researcher at the Orthopaedic Biotechnology Laboratory, held by Dr. Laura de Girolamo, IRCCS Galeazzi Orthopaedic Institute, Milan.

November 2011-October 2012: Research Fellow Assistant at the Laboratory of Tissue Engineering, held by Eng. Matteo Moretti, IRCCS Galeazzi Orthopaedic Institute, Milan.

May 2011- October 2011: Research Fellow Assistant at the Laboratory of Molecular Pharmacology, Oncology Department, held by Dott. Massimo Brogginì, Mario Negri Institute, Milan.

### **Laboratory skills**

Isolation, culture and differentiation of Mesenchymal stem cells (Bone Marrow Stem cells, Adipose Derived Stem Cells), Osteoblasts, Chondrocytes (from articular cartilage and from intervertebral disc) and BOKL, MDA-MB-231, CaCo2, HT29, SAOS2 cell lines; ELISA assay; Immunohistochemistry and immunofluorescence assays, histological analysis, electrophoresis on agarose gel, western blotting, RNA and DNA extraction, reverse transcription-PCR, Real Time PCR; PBMC isolation from blood and bone marrow; *in vivo* imaging techniques such as optical imaging and micro-computed tomography; apoptotic and cell cycle assays, *in vitro* digestion of food, spectrophotometry, enzymatic and protein assays from cell extracts, viability assays (MTT, Alamar, Live&Dead, Cyquant), trans membrane electrical resistance measurements (TEER), calcium uptake analysis in human intestinal cells by fluorescent imaging technics (FURA-2); preparation of cultures and analysis of the constitutional karyotype on peripheral blood and on amniotic fluid; genetic evaluation of the risk of cardiovascular disease by gene mutation analysis of factor II (prothrombin), factor V Leiden, and MTHFR; Site-directed mutagenesis, Cloning into vector pET series, expression in *E. coli* of homologous and heterologous proteins, purification of proteins by chromatographic techniques; SDS-PAGE, protein and enzymatic assays, HPLC, column chromatography, UV/VIS spectrophotometry, atomic absorption, XRF.