

PERSONAL INFORMATION

Monica Montesi, Ph.D

Scopus author ID: 54398049600; **ORCID ID:** <https://orcid.org/0000-0002-9192-8554>;

<https://www.istec.cnr.it/en/?team=montesi-monica>

monica.montesi@istec.cnr.it

+39 0546 699771

CURRENT POSITION

12.2018 Permanent Researcher at Institute of Science and Technology for Ceramics of the National Research Council (ISTEC- CNR). Head of Cell/Material Interaction BioLab

Via Granarolo, 64- 48018- Faenza (RA) Italy

PROFESSIONAL EXPERIENCES

11.2014 to 12.2018: Postdoctoral position at ISTEC-CNR (Faenza, Italy) in Bioceramics and Bio- hybrid Composites Group coordinated by Dr. A. Tampieri.

Career break: maternity leave September 2016-February 2017 and October 2021-March 2022

11.2013 to 12.2013: Visiting researcher in the Prof. I. Martin's group at Tissue Engineering Laboratory, Institute for Surgical Research and Hospital Management (ICFS), University Hospital Basel, Switzerland.

11.2012 to 10.2014: Research Fellow at ISTEC-CNR (Faenza, Italy) in Bioceramics and Bio-hybrid Composites Group coordinated by Dr. A. Tampieri.

07.2011 to 10.2011: Graduate student fellowship in the laboratory of Dr. Lynda Bonewald, at the Oral Biology Laboratory, University of Missouri, Kansas City, USA.

03.2008 to 10.2012: Research Fellow at Medical Technology Lab, Rizzoli Orthopaedic Institute, Bologna, Italy. Leader group Dr. Aldo Toni.

02.2007 to 01.2008: Biomedical laboratory technician at Laboratory of Cellular Biology and Electronic Microscopy, Rizzoli Orthopaedic Institute, Bologna, Italy. Leader group Prof. Nadir Mario Maraldi.

11.2005 to 01.2007: Biomedical laboratory technician in Clinica Pathology. University Hospital S. Orsola – Malpighi, Bologna, Italy. Head physician Dr. Paola Boni

EDUCATION

04.2014: PhD in Molecular and Cellular Biology, at the Department of Biology, University of Bologna. "In vitro study of the osteocytes response to hypoxia and their regulation on bone homeostasis."

11.2010: National qualification test to biologist profession.

02.2010: Master degree in Biological Science (M.Sc), University of Urbino "Carlo Bo". 110/110 cum laude. Title of degree thesis: "In vitro study of hypoxia conditions on the murine osteocytes model".

10.2005: Bachelor degree in Biomedical laboratory technician, University of Bologna. 110/110 cum laude. Title of degree thesis: "Immunoistochemistry evaluation of Bcl-2 expression in the Mammary ductal carcinoma".

INTERNATIONAL SCHOOLS AND TRAINING

Advanced Summer School THE NANO / MEDICINE INTERFACE | 29TH JUNE - 3RD JULY 2015 | PORTO-

PORTUGAL

Training School AFM in Biology - a Focus on Marine Biology, Genoa Research Area of the Italian National Research Council (CNR) from 16 to 19 april 2013 organized by COST Action

Advanced School on Bone Cell and Tissue Mechanics at International Center for Mechanical Sciences (CISM), Udine, from July 19 to July 23, 2010; coordinated by professor Stephen C. Cowin.

COORDINATION AND MANAGERIAL SKILLS

11.2015 to present: LAB Manager of Cell/Biomaterial Interaction Laboratory (Provvedimento N. 0002437 del 09/11/2015).

2013 to present: Scientific Coordinator of technical relationship with Fin-Ceramica Faenza spa and GreenBone Ortho srl for biological evaluations.

2012 to present: Scientific Coordinator of Cell/Biomaterial Interaction Lab and of cellular and molecular biology activity.

2011 to present: Tutor and supervisor of **B.Sc. students** (4), **M.Sc. students** (6) and **PhD students** (3) from University of Bologna, Ferrara, Messina and Chieti.

TECHNICAL AND PROFESSIONAL SKILLS

The interests and the research activities concern nanotechnology, tissue and tumour engineering and regenerative medicine, in particular the design and the study of the *in vitro* 2D and 3D cellular models for the understanding the fine regulation of cellular and molecular events involved in the cell/biomaterial interaction.

- **Molecular Biology techniques:** protein and nucleic acid quantification, Western Blotting, RNA/DNA isolation, RealTime PCR, techniques of RNA silencing and cDNA synthesis;
- **Cell Biology technique:** 2D and 3D cells culture of osteocytes, osteoblast and osteoclast cells, mesenchymal stem cells, cancer cells, primary cells and cell lines, techniques of histopathology for hard and soft tissues (resin and paraffin embedding, histochemistry, immunohistochemistry), techniques of fluorescence and transmission and scanning electron microscopy, ELISA, immunochemistry/immunofluorescence, image processing with ImageJ and Photoshop software.
- **Clinical chemistry technique;**

TEACHING ACTIVITIES

2019 to present Lesson and practical laboratory on Nanotechnology (40 hours/year) at high school students. (STEAM Outreach program).

2019 Lesson on Cell/Biomaterial interaction (3 hours). II level Master in "Hemocomponents and cells for regenerative medicine" at School of Medicine, University of Piemonte Orientale 2018-2019

2018 to present Lesson on Bioceramics in regenerative medicine (2 hours/year). PhD program in Chemistry -Faculty of Industrial Chemistry, University of Bologna.

2018 Lessons and supervisor activity of high school students (3 weeks). Supported by National Operating Program (PON European Structural Funds) 2014-2020 and Student work experience program.

NATIONAL AND INTERNATIONAL PROJECTS**European projects:**

- **Unit Leader PREDICTOS** HORIZON-WIDERA-2021-ACCESS-03-01-Twinning, grant N. 101079372. “Strengthening excellence for advanced osteosarcoma’s predictive models” (2023-2025) Euro 1 375 188 (Euro 252. 813,00 ISTEC-CNR)
- **Unit Leader STRIKE** HORIZON-MSCA–2021–DN, grant N.: 101072462. Comprehensive STRategies to tackIE malignant tumors: from nanomedicine and theranostic to precision medicine (2023-2026). Euro 2,106,835.2 (Euro 259437.60 ISTEC-CNR)
- **Key personnel** NANO4TARMED H2020-WIDESPREAD-2020-5-952063 Advanced hybrid theranostic nanoplatfoms for an active drug delivery in the cancer treatment (2021-2023). Euro 744,898 (159,195 for ISTEC-CNR)
- **Key personnel** SCREENED SC1-BHC-27-2018-825745 A multistage model of thyroid gland function for screening endocrine-disrupting chemicals in a biologically sex-specific manner (H2020 2019-2023) Euro 5,655,088 (400,000 ISTEC)
- **Key personnel** BIO-INSPIR “Bio-inspired bone regeneration”. (7th Framework Program) PITN-GA-2013-607051 (2013-2017) Euro 3.807.344.97 (510.00,00 ISTEC)
- **Key personnel: SMILEY** “Smart Nano-structured Devices Hierarchically Assembled by Mineralization Processes” (7th Framework Program) NMP-SL-2012-SMALL-6-310637 (2012-2015). Euro 3.996.130,00 (1.417.360,00 ISTEC)
- **Key personnel:** “Multifunctional nanocrystalline apatite for cancer therapeutic applications” (Scientific cooperation program Galileo, Italian-French University) G12-3 (2012-2013).
- **Key personnel: OPHIS** “Composite Phenotypic triggers for bone and cartilage repair” (7th Framework Program) NMP3-SL-2010-SMALL-3-246373 (2010-2013). Euro 3.939.927,00 (704.427,00 ISTEC)
- **Key personnel: VPHOP** “The Osteoporotic Virtual Physiological Human” (7th Framework Program) ICT2008-223865 (2008-2012). Euro 9.184.863,00 (1.542.015,00 ISTEC)

National Projects:

- **Unit Leader:** “Osteosarcoma and Mesenchymal Stem Cells to assay innovative materials, bioactive injectable bone cements, with drug delivery ability, to contrast spine tumour recurrence and to enhance healthy bone regrowth” **PRIN MIUR** (2019-2022) Euro 395.830,00 (118.474,00 ISTEC)
- **Key personnell** MEDFil “Filtri multifunzionali con elevate capacità di scambio di calore ed umidità (HMEf) e per l’identificazione precoce di infezioni delle vie respiratory” PG/2018/631599, POR-FESR (2019-2020) Euro 1.117.125 (575.000 ISTEC)
- **Unit Leader: DINAMICA** “Sviluppo e validazione di biomateriali medicati nanostrutturati per il trattamento e la rigenerazione del tessuto Osseo metastatico” PG/2018/632022 POR-FESER (2019-2020) Euro 1.117.084,00 (189.875,00 ISTEC)
- **Principal Investigator:** “Diverse formulazioni di concentrati piastrinici (PRP) come terapia innovativa per la cura delle tendinopatie Fondazione Del Monte di Bologna e Ravenna” (Italy). 23.000,00 euro, 2016.
- **Key personnel: NIPROGEN** “La natura ispira processi innovativi per lo sviluppo di impianti per la medicina rigenerativa a elevato grado di vascolarizzazione e performance meccaniche” CUP B42I16000020005 POR-FESER (2014-2020). Euro 999.767,50 (455.250,00 ISTEC)
- **Key personnel:** Progetto Bandiera “Invecchiamento” 2012-2014. Euro 61.538.461,54 (450.000 ISTEC)
- **Key personnel:** Progetto finanziato dalla Fondazione del Monte di Bologna e Ravenna (Prot. No. 434 bis/2015 del 20 Luglio 2015, “Nanoparticelle di silice porosa come vettori di rilascio controllato di farmaci in pazienti osteoporotici”) 2015. Euro 10.000

- Key personell Clinica Study: “Efficacia dell’estratto di Rosa canina nel trattamento complementare del dolore del paziente affetto da artrosi severa dell’anca”, supported by the Observatory for unconventional medicines (OMNCER) of the Emilia Romagna Region (2010-2012).

ATTENDANCE TO INTERNATIONAL CONGRESSES

Participation at more than 50 International Congress, as European Calcified Tissues Society Annual Meeting, ASBMR Annual Meeting, European Conference on Biomaterials, International Conference on Materials in Medicine, International Conference Translational Research in Oncology, World Biotechnology Congress, Tissue Engineering and Regenerative Medicine World Congress.

- Advanced multi-dimensional cellular models as emerging reality to reproduce in vitro the human body complexity (**invited speaker**) “INNOVATIONS IN DRUG MOLECULES” Congress Hisarya, Bulgaria, 19-22 July, 2022
- Smart Biomimetic Nanoparticles: a New Platform For Nanomedicine (**plenary presentation**) 25th Nano Congress for Future Advancements. August 16-18, 2018 Dublin, Ireland.
- Multi-dimensional Cellular Tumour Models with Increased Predictive Potential of the Preclinical in Vitro Study (**invited speaker**). World Congress on Functional Materials and Nanotechnology, 2019 Valencia. Spain

ORGANIZATION OF SCIENTIFIC CONFERENCES

Member of Organizing Committee of **BioCeramics 32** – Annual Meeting of the International Society for Ceramics in Medicine”, September 20-23, 2022, Venice, Italy.

Member of Organizing Committee of “**Sorveglianza, Vigilanza e Sostituzione delle Protesi in campo ortopedico**” organized by Special Orthopedic-Trauma Pathology Department, Rizzoli Orthopaedic Institute, and supported by Emilia Romagna Region, 26th March and 16th October 2009, Bologna, Italy.

SCIENTIFIC PUBLICATIONS

S M Torcasio, R Oliva, **M Montesi***, S Panseri, G Bassi, A Mazzaglia, A Piperno, O Coulembier and A Scala*. Three-armed RGD-decorated starPLA-PEG Nanoshuttle for Docetaxel delivery. *Biomater Adv.* 2022 Jul 25;140:213043. <https://doi.org/10.1016/j.bioadv.2022.213043>

Giusto E, Zarska L, Beirne DF, Rossi A, Bassi G, Ruffini A, **Montesi M**, Montagner D, Ranc V, Panseri S. Graphene oxide nanoplatforms to enhance cisplatin-based drug delivery in anticancer therapy. *Nanomaterials* 2022. 12, 2372. <https://doi.org/10.3390/nano12142372>

Iwanov I, Rossi A, **Montesi M**, Doytchinova I, Sargsyan A, Momekov G, Panseri S, Naydenova E. Peptide-based targeted cancer therapeutics: design, synthesis and biological evaluation. *Eur J Pharm Sci.* 2022, 176, pp. 106249 <https://doi.org/10.1016/j.ejps.2022.106249>

M Montanari, A Sangiorgi, E Campodoni, G Bassi, D Gardini, **M Montesi**, S Panseri, A Sanson, A Tampieri and M Sandri. Additive-Free Gelatine-Based Devices for Chondral Tissue Regeneration: Shaping Process Comparison among Mould Casting and Three-Dimensional Printing. *Polymers* 2022, 14(5), 1036; <https://doi.org/10.3390/polym14051036>.

MA Grimaudo, GS Krishnakumar, E Giusto, F Furlani, G Bassi, A Rossi, F Molinari, F Lista, **M Montesi**, S Panseri. Bioactive injectable hydrogels for on demand molecule/cell delivery and for tissue regeneration in the central nervous system. *Acta Biomater.* 2022 March 1; S1742-7061(21)00787-X. doi: 10.1016/j.actbio.2021.11.038

Furlani F, Rossi A, Grimaudo MA, Bassi G, Giusto E, Molinari F, Lista F, **Montesi M**, Panseri S. Controlled Liposome Delivery from Chitosan-Based Thermosensitive Hydrogel for Regenerative Medicine. *Int J Mol*

Sci. 2022 Jan 14;23(2):894. doi: 10.3390/ijms23020894.

E Moynihan, G Bassi, A Ruffini, S Panseri, **M Montesi***, TV-Torrijos*, D Montagner*. Click Pt(IV)-Carbohydrates Pro-Drugs for Treatment of Osteosarcoma. *Front Chem.* 2021 Dec 7; 9:795997. doi: 10.3389/fchem.2021.795997. eCollection 2021.

Campodoni, E.; Montanari, M.; Artusi, C.; Bassi, G.; Furlani, F.; **Montesi, M.**; Panseri, S.; Sandri, M.; Tampieri, A. Calcium-Based Biomineralization: A Smart Approach for the Design of Novel Multifunctional Hybrid Materials. *J. Compos. Sci.* 2021, 5, 278. <https://doi.org/10.3390/jcs5100278>

Campodoni E, Velez M, Fragogeorgi E, Morales I, de la Presa P, Stanicki D, Dozio SM, Xanthopoulos S, Bouziotis P, Dermisiadou E, Rouchota M, Loudos G, Marín P, Laurent S, Boutry S, Panseri S, **Montesi M**, Tampieri A, Sandri M. Magnetic and radio-labeled bio-hybrid scaffolds to promote and track in vivo the progress of bone regeneration. *Biomater Sci.* 2021. In press.

Piperno A, Sciortino MT, Giusto E, **Montesi M**, Panseri S, Scala A. Recent Advances and Challenges in Gene Delivery Mediated by Polyester-Based Nanoparticles. *International Journal of Nanomedicine* 2021;16 5981–6002. <https://doi.org/10.2147/IJN.S321329>

M Mulazzi, E Campodoni, G Bassi, **M Montesi**, S Panseri, F Bonvicini, G A Gentilomi, A Tampieri, M Sandri. Medicated Hydroxyapatite/Collagen Hybrid Scaffolds for Bone Regeneration and Local Antimicrobial Therapy to Prevent Bone Infections. *Pharmaceutics.* 2021 Jul 16;13(7):1090. doi: 10.3390/pharmaceutics13071090

L Degli Esposti, S Markovic, N Ignjatovic, S Panseri, **M Montesi**, A Adamiano, M Fosca, J V Rau, V Uskoković, M Iafisco. Thermal crystallization of amorphous calcium phosphate combined with citrate and fluoride doping: a novel route to produce hydroxyapatite bioceramics. *J Mater Chem B.* 2021 Jun 23;9(24):4832-4845. doi: 10.1039/d1tb00601k

G Borella, A Da Ros, G Borile, E Porcù, C Tregnago, M Benetton, A Marchetti, V Bisio, B Montini, B Michielotto, A Cani, A Leszl, E Campodoni, M Sandri, **M Montesi**, S Bresolin, S Cairo, B Buldini, F Locatelli, M Pigazzi. Targeting mesenchymal stromal cells plasticity to reroute acute myeloid leukemia course: MSC and AML dual targeting to treat pediatric AML. In press, *Blood*, 2021. <https://doi.org/10.1182/blood.2020009845>

Mazzoni E, Iaquina MR, Lanzillotti C, Mazziotta C, Maritati M, **Montesi M**, Sprio S, Tampieri A, Tognon M and Martini F. Bioactive Materials for Soft Tissue Repair. *Front. Bioeng. Biotechnol.*, 19 February 2021 | <https://doi.org/10.3389/fbioe.2021.613787>

Bassi G, Grimaudo MA, Panseri S, **Montesi M**. Advanced multi-dimensional cellular models as emerging reality to reproduce in vitro the human body complexity. *Int. J. Mol. Sci.* 2021, 22(3), 1195; <https://doi.org/10.3390/ijms22031195>

Fernandes Patrício, T.M., Mumcuoglu, D., **Montesi, M.**, Panseri, S., Witte-Bouma, J., Garcia, S.F., Sandri, M., Tampieri, A., Farrell, E., Sprio, Bio-inspired polymeric iron-doped hydroxyapatite microspheres as a tunable carrier of rhBMP-2. *Materials Science and Engineering C*, 2021, 119, 111410. DOI: 10.1016/j.msec.2020.111410

S Panseri, **M Montesi**, D Hautcoeur, SM Dozio, S Chamary, E De Barra, A Tampieri, A Leriche. Bone-like ceramic scaffolds designed with bioinspired porosity induce a different stem cell response. *J Mater Sci Mater Med.* 32, 3 (2021). <https://doi.org/10.1007/s10856-020-06486-3>

Bassi, G., Panseri, S., Dozio, S.M., Sandri M., Campodoni E., Dapporto M., Sprio S., Tampieri A & **Montesi M**. Scaffold-based 3D cellular models mimicking the heterogeneity of osteosarcoma stem cell niche. *Sci Rep* 10, 22294 (2020). <https://doi.org/10.1038/s41598-020-79448-y>

Guerrieri, A.N., **Montesi, M.**, Sprio, S., Laranga, R., Mercatali, L., Tampieri, A., Donati, D.M., Lucarelli, E. Innovative Options for Bone Metastasis Treatment: An Extensive Analysis on Biomaterials-Based Strategies for Orthopedic Surgeons. *Frontiers in Bioengineering and Biotechnology*, 2020, 8, 589964. DOI: 10.3389/fbioe.2020.589964

- R Liénard, **M Montesi**, S Panseri, SM Dozio, FVento, P G Mineo, A Piperno, J De Winter, O Coulembier, A Scala. Design of naturally inspired jellyfish-shaped cyclopolylactides to manage osteosarcoma cancer stem cells fate. *Materials Science and Engineering C*, 2020, 117, 111291 DOI: 10.1016/j.msec.2020.111291.
- E. Campodoni, SM Dozio, S. Panseri, **M. Montesi**, A. Tampieri, M. Sandri. Mimicking Natural Microenvironments: 3D-aligned hybrid scaffold for dentin regeneration. *Frontiers in Bioengineering and Biotechnology*, 2020, 8, 836. DOI: 10.3389/fbioe.2020.00836
- Campodoni E., Montanari M, Dozio S.M., Heggset E.B., Panseri S, **Montesi M**, Tampieri A, Syverud K, Sandri M. Blending Gelatin and Cellulose Nanofibrils: Biocomposites with Tunable Degradability and Mechanical Behavior. *Nanomaterials* 2020, 10(6), 1219; <https://doi.org/10.3390/nano10061219>
- Mineo, P.G., Foti, C., Vento, F., **Montesi, M.**, Panseri, S., Piperno, A., Scala, A. Salinomycin-loaded PLA nanoparticles: drug quantification by GPC and wave voltammetry and biological studies on osteosarcoma cancer stem cells. *Anal Bioanal Chem.* 2020 May 25. 412(19), 4681-4690. DOI :10.1007/s00216-020-02721-6.
- Sprio, S., Panseri, S., **Montesi, M.**, Dapporto, M., Ruffini, A., Dozio, S.M., Cavuoto, R., Misseroni, D., Paggi, M., Bigoni, D., Tampieri, A. Hierarchical porosity inherited by natural sources affects the mechanical and biological behaviour of bone scaffolds. *Journal of the European Ceramic Society* April 2020, 40(4), pp. 1717-1727
- Dozio SM, **Montesi M**, Campodoni E, Sandri M, Piattelli A, Tampieri A, Panseri S. Differences in osteogenic induction of human mesenchymal stem cells between a tailored 3D hybrid scaffold and a 2D standard culture. *J Mater Sci Mater Med.* 2019 Dec 4;30(12):136. doi: 10.1007/s10856-019-6346-3
- Iaquinta M.R., Mazzoni E, Bononi I, Rotondo J.C., Mazziotta C, **Montesi M**, Sprio S, Tampieri A, Tognon M and Martini F. Adult Stem Cells for Bone Regeneration and Repair. *Front. Cell Dev. Biol.*, 12 November 2019 | <https://doi.org/10.3389/fcell.2019.00268>
- Tampieri A, Sandri M, Iafisco M, Panseri S, **Montesi M**, Adamiano A, Dapporto M, Campodoni E, Dozio SM, Degli Esposti L, Sprio S. Nanotechnological approach and bio-inspired materials to face degenerative diseases in aging. *Aging Clin Exp Res.* 2019 Oct 8. doi: 10.1007/s40520-019-01365-6.
- Sprio S, Preti L, **Montesi M**, Panseri S, Adamiano A, Vandini A, Pugno N, Tampieri A. Surface phenomena enhancing the antibacterial and osteogenic ability of nanocrystalline hydroxyapatite, activated by multiple ions doping. *ACS Biomater. Sci. Eng.* 2019
- Fernandes Patrício T.M., Panseri S., **Montesi M.**, Iafisco M., Sandri M., Tampieri A., Sprio S. Superparamagnetic hybrid microspheres affecting osteoblasts behaviour. *Materials Science and Engineering C* Volume 96, March 2019, Pages 234-247
- A Tampieri, A Ruffini, A Ballardini, **M Montesi**, S Panseri, F Salamanna, Milena Fini and S Sprio. Heterogeneous chemistry in the 3-D state: an original approach to generate bioactive, mechanically-competent bone scaffold. *Biomater. Sci.*, 2018, DOI: 10.1039/C8BM01145A.
- Sarda S, Iafisco M, Pascaud-Mathieu P, Adamiano A, **Montesi M**, Panseri S, Marsan O, Thouron C, Dupret-Bories A, Tampieri A, Drouet C. Interaction of folic acid with nanocrystalline apatites and extension to methotrexate (antifolate) in view of anticancer applications. *Langmuir.* 2018 Sep 11. doi: 10.1021/acs.langmuir.8b02602
- A Ballardini, **M Montesi**, S Panseri, A Vandini, PG Balboni, A Tampieri, S Sprio. New hydroxyapatite nanophases with enhanced osteogenic and antibacterial activity. *Journal of Biomedical Materials Research Part A*, 2017 DOI: 10.1002/jbm.a.36249
- Krishnakumar GS, Gostynska N, Dapporto M, Campodoni E, **Montesi M**, Panseri S, Tampieri A, Kon E, Marcacci M, Sprio S, Sandri M. Evaluation of different crosslinking agents on hybrid biomimetic collagen-hydroxyapatite composites for regenerative medicine. *Int J Biol Macromol.* 2018 Jan;106:739-748. . doi: 10.1016/j.ijbiomac.2017.08.076

GB Ramirez-Rodríguez, **Montesi M**, S Panseri, S Sprio, A Tampieri, M. Sandri. Biomaterialized recombinant collagen-based scaffold mimicking native bone enhances mesenchymal stem cell interaction and differentiation. *Tissue Engineering Part A*. June 2017 doi.org/10.1089/ten.TEA.2017.0028

Gostynska N, Krishnakumar G, Campodoni E, Panseri S, **Montesi M**, Sprio S, Kon E, Marcacci M, Tampieri A, Sandri M. 3D porous collagen scaffolds reinforced by glycation with ribose for tissue engineering application. *Biomed Mater*. 2017 Jun 2. doi: 10.1088/1748-605X/aa7694

C Piccirillo, A Adamiano, DM Tobaldi, M Montalti, J Manzi, PM Lima Castro, S Panseri, **M Montesi**, S Sprio, A Tampieri, M Iafisco. Luminescent calcium phosphate bioceramics doped with europium derived from fish industry byproducts. *J Am Ceram Soc*. 2017;1–13. DOI: 10.1111/jace.14884

Iannotti V, Adamiano A, Ausanio G, Lanotte L, Aquilanti G, Coey JMD, Lantieri M, Spina G, Fittipaldi M, Margaritis G, Trohidou K, Sprio S, **Montesi M**, Panseri M, Sandri M, Iafisco M, Tampieri A. Fe-Doping-Induced Magnetism in Nano-Hydroxyapatites. *Inorg. Chem*. 2017, 56, 4446–4458. DOI: 10.1021/acs.inorgchem.6b03143

Krishnakumar GS, Gostynska N, Campodoni E, Dapporto M, **Montesi M**, Panseri S, Tampieri A, Kon E, Marcacci M, Sprio S, Sandri M. Ribose mediated crosslinking of collagen-hydroxyapatite hybrid scaffolds for bone tissue regeneration using biomimetic strategies. *Materials Science and Engineering: C*. August 2017, Pages 594–605.

A Pistone, D Iannazzo, C Espro, S Galvagno, A Tampieri, **M Montesi**, S Panseri, M Sandri. Tethering of Gly-Arg-Gly-Asp-Ser-Pro-Lys Peptides on Mg-Doped Hydroxyapatite. *Engineering*, 2017, 3(1): 55-59. DOI: 10.1016/J.ENG.2017.01.007

Montesi M, Panseri S, Dapporto M, Tampieri A, Sprio S. Sr-substituted bone cements direct mesenchymal stem cells, osteoblasts and osteoclasts fate. *PLoS One*. 2017 Feb 14;12(2):e0172100. doi: 10.1371/journal.pone.0172100.

Shankar KG, Gostynska N, **Montesi M**, Panseri S, Sprio S, Kon E, Marcacci M, Tampieri A, Sandri M. Investigation of different cross-linking approaches on 3D gelatin scaffolds for tissue engineering application: A comparative analysis. *Int J Biol Macromol*. 2017 Feb;95:1199-1209. doi: 10.1016/j.ijbiomac.2016.11.010

Neri G, Micale N, Scala A, Fazio E, Mazzaglia A, Mineo P.G, **Montesi M**, Panseri S, Tampieri A, Grassi G, Piperno A. Silibinin-conjugated graphene nanoplateform: Synthesis, characterization and biological evaluation. *FlatChem* January 2017, 34–41. doi.org/10.1016/j.flatc.2016.10.002

Sprio S, Dapporto M, **Montesi M**, Panseri M, Lattanzi W, Pola E, Logroscino G, Tampieri A. Novel osteointegrative Sr-substituted apatitic cements enriched with alginate. *Materials* 2016, 9, 763; doi:10.3390/ma9090763

Ramirez Rodriguez GB, Delgado-López JM, Iafisco M, **Montesi M**, Sandri M, Sprio S; Tampieri A. Bioinspired mineralization of collagen-like peptide as novel multiscale design of advanced nanocomposite scaffolds for bone regeneration. *Journal of Structural Biology*. In press 2016. doi:10.1016/j.jsb.2016.06.025

Campodoni E, Adamiano A, Dozio SM, Panseri S, **Montesi M**, Sprio S, Tampieri A, Sandri M. Development of Innovative Hybrid and Intrinsically Magnetic Nanobeads as Drug Delivery. *Nanomedicine (Lond.)*. In press 2016.

Montesi M, Jähn K, Bonewald L, Stea S, Bordini B, Beraudi A. Hypoxic condition tunes the osteocyte ORP 150 expression and cell death in vitro. *Molecular Medicine Reports*. 14: 4248-4254, 2016. DOI: 10.3892/mmr.2016.5790

Sandri M, Filardo G, Kon E, Panseri S, **Montesi M**, Iafisco M, Savini E, Sprio S, Cunha C, Giavaresi G, Veronesi F, Fini M, Salvatore L, Sannino A, Marcacci M, Tampieri A. Fabrication and pilot in vivo study of a Collagen-BDDGE-elastin core-shell scaffold for tendon regeneration. *Frontiers in Bioengineering and*

Biotechnology 4, 52. doi: 10.3389/fbioe.2016.00052

Panseri S, **Montesi M**, Dozio SM, Savini E, Tampieri A and Sandri M. Biomimetic scaffold with Aligned Microporosity Designed for Dentin Regeneration. 2016 Front. Bioeng. Biotechnol. 4:48. doi: 10.3389/fbioe.2016.00048

Bianchi M, Gambardella A, Berni M, Panseri S, **Montesi M**, Lopomo L, Tampieri A, Marcacci M, Russo A. Surface morphology, tribological properties and in-vitro biocompatibility of nanostructured zirconia thin films. J Mater Sci Mater Med. 2016 May;27(5):96. doi: 10.1007/s10856-016-5707-4

Boanini E, Panseri S, Arroyo F, **Montesi M**, Rubini K, Tampieri A, Covarrubias C and Bigi A. Alendronate Functionalized Mesoporous Bioactive Glass Nanospheres. Materials 2016, 9, 135; doi:10.3390/ma9030135

Sprio S, Sandri M, Iafisco M, Panseri S, Adamiano A, **Montesi M**, Campodoni E, Tampieri A. Bio-inspired assembling/mineralization process as a flexible approach to develop new smart scaffolds for the regeneration of complex anatomical regions. J. Eur. Ceram. Soc; 36(2016)2383–2388;

Sgambato A, Russo L, **Montesi M**, Panseri S, Marcacci M, Caravà E, Raspanti M, and Cipolla L. Different sialoside epitopes on collagen film surfaces direct mesenchymal stem cell fate. ACS APPLIED MATERIALS & INTERFACES, 2016. doi: 10.1021/acsami.5b08270. In press.

Panseri S, **Montesi M.**, Sandri M, Iafisco M, Adamiano A, Ghetti M, Cenacchi C and Tampieri A. Magnetic labelling of mesenchymal stem cells with iron-doped hydroxyapatite nanoparticles as tool for cell therapy. JOURNAL OF BIOMEDICAL NANOTECHNOLOGY, 2016. doi:10.1166/jbn.2016.2248.

Iafisco M, Drouet C, Adamiano A, Pascaud P, **Montesi M**, Panseri S, Sarda S and Tampieri A. Superparamagnetic iron-doped nanocrystalline apatite as delivery system for doxorubicin. J. Mater. Chem. B, 2016. DOI: 10.1039/C5TB01524C.

Montesi M, Panseri S, Iafisco M, Adamiano A, Tampieri A. Coupling Hydroxyapatite Nanocrystals with Lactoferrin as a Promising Strategy to Fine Regulate Bone Homeostasis. PLoS One. 2015 Jul 6 . doi: 10.1371/journal.pone.0132633.

Montesi M; Panseri S; Iafisco M; Adamiano A; Tampieri A. Effect of hydroxyapatite nanocrystals functionalized with lactoferrin in osteogenic differentiation of mesenchymal stem cells. J Biomed Mater Res A. 2015 Jan;103(1):224-34. doi: 10.1002/jbm.a.35170

Pistone A; Iannazzo D; Panseri S; **Montesi M**; Tampieri A; Galvagno S. Hydroxyapatite-Magnetite-MWCNT Nanocomposite as Biocompatible Multifunctional Drug Delivery System for Bone Tissue Engineering Nanotechnology. 2014 Sep 29;25(42):425701.

Bassani P, Panseri S, Ruffini A, **Montesi M**, Ghetti M, Zanotti C, Tampieri A, Tuissi A. Porous NiTi shape memory alloys produced by SHS: microstructure and biocompatibility in comparison with Ti2Ni and TiNi 3. J Mater Sci Mater Med. 2014 Oct;25(10):2277-85. doi: 10.1007/s10856-014-5253-x

Panseri S, Russo L, **Montesi M**, Taraballi F, Cunha C, Marcacci M, and Cipolla L. Bioactivity of surface tethered Osteogenic Growth Peptide motifs. MedChemComm 16 April 2014

Fiorani A; Gualandi C; Panseri S; **Montesi M**; Marcacci M; Focarete M.L; Bigi A. Comparative performance of collagen nanofibers electrospun from different solvents and stabilized by different crosslinkers. Journal of Materials Science: Materials in Medicine. 2014 Mar 25

Beraudi A; Catalani S; **Montesi M**; Stea S; Sudanese A; Apostoli P; Toni A. Detection of cobalt in synovial fluid from metal-on-metal hip prosthesis: correlation with the ion haematic level. Biomarkers. 2013 Dec;18(8):699-705

Beraudi A, **Montesi M**, Traina F, Falcioni S, Stea S. Toni A. Uncemented Primary Total Hip Arthroplasty, Presentation of Pain, and Expression of Osteonectin. Artificial Organs 2013 Jun;37(6):561-6.

De Pasquale D, Stea S, Beraudi A, **Montesi M**, Squarzoni S, Toni A. Ceramic debris in hip prosthesis: correlation between synovial fluid and joint capsule. The Journal of Arthroplasty. 2013 May 28(5):838-41

Stea S, Traina F, Beraudi A, **Montesi M**, Bordini B, Squarzone S, et al. Ceramic debris in synovial fluid allow early diagnosis of hip prosthesis damage. *Clinical Orthopedics and Related Research*. 2012 Aug;30(8):1312-20.

Montesi M, Beraudi A, Stea S, Ancarani C, Traina F, Toni A. Monocyte Chemoattractant Protein 1 Expression in Synovial Fluid of Patients with Total Hip Arthroplasty. *Artificial Organs*. 2012 May; 36(5):487-91.

Particelli F, Mecozzi L, Beraudi A, **Montesi M**, Baruffaldi F, Viceconti M. A comparison between micro-CT and histology for the evaluation of cortical bone: effect of polymethylmethacrylate embedding on structural parameters. *J Microsc*. 2012 Mar; 245(3):302-10.

Danussi C, Spessotto P, Petrucco A, Wassermann B, Sabatelli P, **Montesi M**, Doliana R, Bressan GM, Colombatti A. Emilin1 Deficiency Causes Structural and Functional Defects of Lymphatic Vasculature. *Mol Cell Biol*. 2008 Jun;28(12):4026-39.

BOOK CHAPTERS

Sprio S, Tampieri A, Dapporto M, Iafisco M, **Montesi M**. *Bioceramics in Regenerative Medicine*. 2020/1/1 Elsevier.

Campodoni E, Dozio SM, Mulazzi M, Montanari M, **Montesi M**, Panseri S, Sprio S, Tampieri A, Sandri M. Biomimetic Approaches for the Design and Development of Multifunctional Bioresorbable Layered Scaffolds for Dental Regeneration. *Current Advances in Oral and Craniofacial Tissue Engineering 2020*. <https://doi.org/10.1201/9780429423055-8>

Campodoni, E., Patricio, T., **Montesi M.**, Tampieri, A., Sandri, M., & Sprio, S. (2018). Biomineralization process generating hybrid nano-and micro-carriers. In *Core-Shell Nanostructures for Drug Delivery and Theranostics* (pp. 19-42). Woodhead Publishing.

S Sprio, M Sandri, A Ruffini, A Adamiano, M Iafisco, M Dapporto, S Panseri, **M Montesi** and A Tampieri. Tissue engineering and biomimetics with bioceramics. *Advances in Ceramic Biomaterials Materials, Devices and Challenges 2017*, Pages 407-432 Edited by: Paola Palmero, Francis Cambier and Eamonn De Barra. Woodhead Publishing.

Sprio S, Sandri M, Iafisco M, Ruffini A, Panseri S, **Montesi M**, Adamiano A, Dapporto M, Tampieri A. Developing biocomposites as scaffolds in regenerative medicine. In *Biomedical Composites (2nd Edition)*. Ed. Ambrosio L. Woodhead Publishing. 2017 (ISBN: 978-0-08-100752-5) doi 10.1016/B978-0-08-100752-5.00022-6

Sprio S, Sandri M, Iafisco M, Panseri S, **Montesi M**, Ruffini A, Adamiano A, Ballardini A, Tampieri A. (2016) Nature-inspired nanotechnology and smart magnetic activation: two ground-breaking approaches towards a new generation of biomaterials for hard tissue regeneration. In Rozim Zorzi A, de Miranda JB, eds: *Advanced Techniques in Bone Regeneration*, InTech Publication. ISBN 978-953-51-2539-6

Montesi M and Panseri S. Triggering cell-biomaterial interaction: recent approaches for osteochondral regeneration. In *Bio-inspired Regenerative Medicine: Materials, Processes and Clinical Applications*, eds. PAN Stanford Publishing, Singapore 2016. (Print ISBN: 978-981-4669-14-6)

Tampieri A, Sandri M, Panseri S, Adamiano A, **Montesi M**, and Sprio S. Biologically Inspired Nanomaterials and Nanobiomagnetism: A Synergy among New Emerging Concepts in Regenerative Medicine. In *Bio-inspired Regenerative Medicine: Materials, Processes and Clinical Applications*, eds: PAN Stanford Publishing, Singapore 2016 (Print ISBN: 978-981-4669-14-6)

Tampieri A, Iafisco M, Sprio S, Ruffini A, Panseri S, **Montesi M**, Adamiano A, Sandri M. Hydroxyapatite: From Nanocrystals to Hybrid Nanocomposites for Regenerative Medicine. In *“Handbook of Bioceramics and Biocomposites”*, Ed. Antoniac I. Meteor Springer, International Publishing Switzerland 2015. (ISBN 978-3-319-09230-0).

Montesi M and Panseri S. Advanced tissue engineering approaches in neurotrauma therapies. In “Biomimetic approaches for tissue healing”, Ed. Panseri S, Taraballi F., Cunha C. OMICS Group International 2015. (ISBN No: 978-1-63278-053-9).

H-INDEX: 21 (Scopus); 23 (Google Scholar)

CITATIONS: 1320 (Scopus); 1641 (Google Scholar)

EDITORIAL ACTIVITIES

Reviewer for several international journals (e.g. ACS Applied Materials & Interfaces, PlosOne, Biomed Research International, Nanomedicine: Nanotechnology, Biology, and Medicine, Journal of Materials Science: Materials in Medicine, Green Chemistry, Colloids and Surfaces B: Biointerfaces, The Science of Nature)

Guest Editor Special Issue on “Stimuli-responsive biomaterials to instruct cells for tissue regeneration”. Frontiers in Bioengineering and Biotechnology. 2022 <https://www.frontiersin.org/research-topics/34239/stimuli-responsive-biomaterials-to-instruct-cells-for-tissue-regeneration>

From 2021 Member of the Editorial Board International Journal of Molecular Sciences. <https://www.mdpi.com/journal/ijms/editors>

Guest editor of the Special Issue titled “Cell - Biomaterial Interaction”. International Journal of Molecular Sciences. four editions 2018-2021 https://www.mdpi.com/journal/ijms/special_issues/cell_biomaterials_2020

Lead Guest Editor Special Issue on “Cell-Instructive Microenvironment to Direct Stem Cell Fate” 2019. Stem Cells International. <https://www.hindawi.com/journals/sci/si/260967/>

Member of the Editorial Board of International Journal of Bone and Mineral Metabolism's

OTHER

2019 Member of the External Jury of the National Contest “Torricelli Web 2019” for Science communication dedicated to high school. Faenza (Italia)

2017 Founder of “**Ruote Quadrate** – La Scienza Inaspettata” non-profit association with the mission to communicate and disseminate the science to the society. www.ruotequadrate.it

AWARDS

2022 **CNR Short Term Fellowship Program** for collaboration with Prof. Dominique Heymann Nantes Université, France. “Development of the scaffold-based 3D tumours”.

Fellowship for the comprehensive **advanced program on BioBusiness 2018** (12 November-16 November 2018), Università della Svizzera italiana, Lugano.

“**Salvatore Venuta**” **fellowship** 2013 and participation at the 6th Annual NanoGagliato conference, July 25-30, 2013 in Gagliato, Italy.

26th September 2022

