

WORK EXPERIENCE

08/2020 – to date	National Research Council of Italy – <i>Institute of Science, Technology and Sustainability for Ceramics (CNR)</i> Faenza, IT - Researcher (Permanent position)
2019 – 2020	National Research Council of Italy – <i>Institute of Science, Technology and Sustainability for Ceramics (CNR)</i> Faenza, IT - Post-Doctoral Fellowship
2018 – 2019 2017 – 2018	Italian Ministry of Education – <i>Math professor</i>
2017 – 2018	University of Bologna, Faculty of Biomedical Engineering - <i>Contract Professor</i>
2017 – 2018	Montecatone Rehabilitation Institute, Imola, IT - <i>Biomedical Engineer, Consultant</i>
2016 – 2017	National Research Council of Italy – <i>Institute of Science, Technology and Sustainability for Ceramics (CNR)</i> Faenza, IT - Researcher (Fixed-term position)
2012 – 2016	National Research Council of Italy – <i>Institute of Science, Technology and Sustainability for Ceramics (CNR)</i> Faenza, IT - Graduate and PhD Fellowship
2015	Imperial College London – Department of Materials <i>Visiting Ph.D. candidate</i>

EDUCATION

- **2016**-BIOENGINEERING, PhD, University of Bologna
- **2011**-BIOMEDICAL ENGINEERING, MSc, University of Bologna
- **2009**-BIOMEDICAL ENGINEERING, BSc, University of Bologna

PUBLICATIONS

Scopus Author ID: 55444362200; <https://orcid.org/0000-0002-8783-4061>
H index = **16**; Total Publications n = **27** (source Scopus);

- Cocchi C., **Dapporto M.**, Guerrieri A.N., Liverani C., Tavoni M., Bellotti C., Spadazzi C., Tampieri A., Gambarotti M., Miserocchi G., Sprio S., Lucarelli E., Iafisco M., Ibrahim T., De Vita A., Mercatali L., A Modular Biomimetic Preclinical Platform to Elucidate the Interaction Between Cancer Cells and the Bone Metastatic Niche, *J Funct Biomater.* 2025 Jun 12;16(6):220, <https://doi.org/10.3390/jfb16060220>
- Abbas, Z.; **Dapporto, M.**; Piancastelli A.; Gardini D.; Tampieri, A.; Sprio, S. Rheological Behavior of Ion-Doped Hydroxyapatite Slurries, *J. Compos. Sci.* **2025**, *9*(4), 181; <https://doi.org/10.3390/jcs9040181>
- Lanzillotti C., Iaquina M.R., De Pace R., Mosaico M., Patergnani S., Giorgi C., Tavoni M., **Dapporto M.**, Sprio S., Tampieri A., Montesi M., Martini F., Mazzoni E., Osteosarcoma cell death induced by innovative scaffolds doped with chemotherapeutics, *J Cell Physiol.* 2024; 239: e31256. <https://doi.org/10.1002/jcp.31256>
- Tampieri A., Kon E., Sandri M., Campodoni E., **Dapporto M.** and Sprio S., Marine-Inspired Approaches as a Smart Tool to Face Osteochondral Regeneration, 2023, *Marine Drugs*, 21 (4), 212, <https://doi.org/10.3390/md21040212>
- Pupilli F., Ruffini A., **Dapporto M.**, Tavoni M., Tampieri A., Sprio S., Design Strategies and Biomimetic Approaches for Calcium Phosphate Scaffolds in Bone Tissue Regeneration, *Biomimetics* 2022, *7*(3), 112; <https://doi.org/10.3390/biomimetics7030112>
- **Dapporto M.**, Tavoni M., Restivo E., Carella F., Bruni G., Mercatali L., Visai L., Tampieri A., Iafisco M., Sprio S., Strontium-doped apatitic bone cements with tunable antibacterial and antibiofilm ability, *Front*

- Abbas, Z.; **Dapporto, M.**; Tampieri, A.; Sprio, S. Toughening of Bioceramic Composites for Bone Regeneration. *J. Compos. Sci.* 2021, 5(10), 259. <https://doi.org/10.3390/jcs5100259>
- Tavoni, M.; **Dapporto, M.**; Tampieri, A.; Sprio, S. Bioactive Calcium Phosphate-Based Composites for Bone Regeneration. *J. Compos. Sci.* 2021, 5, 227. <https://doi.org/10.3390/jcs5090227>
- Ruffini, A.; Sandri, M.; **Dapporto, M.**; Campodoni, E.; Tampieri, A.; Sprio, S. Nature-Inspired Unconventional Approaches to Develop 3D Bioceramic Scaffolds with Enhanced Regenerative Ability. *Biomedicines* 2021, 9, 916. <https://doi.org/10.3390/biomedicines9080916>
- Tampieri, A., Sandri, M., Iafisco, M., Panseri S., Montesi M., Adamiano A., **Dapporto M.**, Campodoni E., Dozio S.M., Degli Esposti L., Sprio S., Nanotechnological approach and bio-inspired materials to face degenerative diseases in aging. *Aging Clin Exp Res* 33, 805–821 (2021). <https://doi.org/10.1007/s40520-019-01365-6>
- **Dapporto, M.**; Gardini, D.; Tampieri, A.; Sprio, S. Nanostructured Strontium-Doped Calcium Phosphate Cements: A Multifactorial Design. *Appl. Sci.* 2021, 11, 2075. <https://doi.org/10.3390/app11052075>
- 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, *Scientific Reports* volume 10 (2020), <https://doi.org/10.1038/s41598-020-79448-y>
- Sprio S., **Dapporto M.**, Preti L., Mazzoni E., Iaquina M.R., Martini F., Tognon M., Pugno N.M., Restivo E., Visai L., Tampieri A., Enhancement of the biological and mechanical performances of sintered hydroxyapatite by multiple ions doping, *Front. Mater.*, 2020, <https://doi.org/10.3389/fmats.2020.00224>
- Scialla S., Carella F., **Dapporto M.**, Sprio S., Piancastelli A., Palazzo B., Adamiano A., Degli Esposti L., Iafisco M., Piccirillo C., Mussel Shell-Derived Macroporous 3D Scaffold: Characterization and Optimization Study of a Bioceramic from the Circular Economy, *Mar. Drugs* 2020, 18(6), 309; <https://doi.org/10.3390/md18060309>
- 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*, <https://doi.org/10.1016/j.jeurceramsoc.2019.11.015>
- Tampieri A., Sandri M., Iafisco M., Panseri S., Montesi M., Adamiano A., **Dapporto M.**, Campodoni E., Dozio S.M., Degli Esposti L., Sprio S., Nanotechnological approach and bio-inspired materials to face degenerative diseases in aging, *Aging clinical and experimental research*, <https://doi.org/10.1007/s40520-019-01365-6>
- Krishnakumar G.S., Gostynska N., **Dapporto M.**, Campodoni E., Montesi M., Panseri S., Tampieri A., Kon E., Marcacci M., Sprio S., Sandri M. (2017). Evaluation of different crosslinking agents on hybrid biomimetic collagen-hydroxyapatite composites for regenerative medicine. *International Journal of Biological Macromolecules*. 106. <https://doi.org/10.1016/j.ijbiomac.2017.08.076>
- Krishnakumar G.S., Gostynska N., Campodoni E., **Dapporto M.**, Montesi M., Panseri S., Tampieri A., Kon E., Marcacci M., Sprio S., Sandri M. (2017) Ribose mediated crosslinking of collagen-hydroxyapatite hybrid scaffolds for bone tissue regeneration using biomimetic strategies. *Materials Science and Engineering C*, 77, 594-605, <https://doi.org/10.1016/j.msec.2017.03.255>
- Montesi M., Panseri S., **Dapporto M.**, Tampieri A., Sprio S. (2017) Sr-substituted bone cements direct mesenchymal stem cells, osteoblasts and osteoclasts fate. *PLoS ONE* 12(2): e0172100. <https://doi.org/10.1371/journal.pone.0172100>
- Sprio S., **Dapporto M.**, Montesi M., Panseri S., Lattanzi W., Pola E., Logroscino G., Tampieri A. Novel Osteointegrative Sr-Substituted Apatitic Cements Enriched with Alginate. *Materials* 2016, 9, 763., <https://doi.org/10.3390/ma9090763>
- **Dapporto M.**, Sprio S., Fabbi C., Figallo E., Tampieri A., *A novel route for the synthesis of macroporous bioceramics for bone regeneration*, *Journal of the European Ceramic Society* 36 (2016) pp. 2383-2388. <https://doi.org/10.1016/j.jeurceramsoc.2015.10.020>
- Cunha C, Sprio S, Panseri S, **Dapporto M.**, Marcacci M, Tampieri A. (2013) *High biocompatibility and improved osteogenic potential of novel Ca-P/titania composite scaffolds designed for regeneration of load-*

bearing segmental bone defects. J Biomed Mater Res: Part A. 101A(6), 1612-1619. <https://doi.org/10.1002/jbm.a.34479>

- Sprio S, Guicciardi S, **Dapporto M**, Melandri C, Tampieri A. (2013) *Synthesis and mechanical behavior of beta-tricalcium phosphate/titania composites addressed to regeneration of long bone segments*. J Mech Behav Biomed Mater, 17: 1-10. <https://doi.org/10.1016/j.jmbbm.2012.07.013>

BOOK CHAPTERS

-**Dapporto M**, Tampieri A., Sprio S., (2017) Composite Calcium Phosphate/Titania Scaffolds in Bone Tissue Engineering, Application of Titanium Dioxide Magdalena Janus, IntechOpen, DOI: 10.5772/intechopen.68867.

-Sprio S, Ruffini A, **Dapporto M**, Tampieri A. (2016) *New biomimetic strategies for regeneration of load bearing bones*. In Sprio S, Tampieri A, eds: Bio-inspired Regenerative Medicine: Materials, Processes and Clinical Applications, PAN Stanford Publishing, Singapore. pp.85-117

ABSTRACTS

-**Dapporto M.**, Cranial Reconstruction, Plenary Session, Bioceramics32 Congress, September 20-23, 2022, Venice Mestre, Italy (*Plenary Oral Presentation*)

-**Dapporto M.**, Abbas Z., Furlani F., Boghi C., A.Tampieri, S. Sprio, From calcium phosphate slurries to scaffolds with tailored porosity, European Congress and Exhibition on Advanced Materials and Processes-EUROMAT 2021. 13-17 September 2021 Virtual Conference (Oral presentation)

-Tavoni M., Carella F., **Dapporto M.**, Cocchi C., De Vita A., Tampieri A., Iafisco M., Sprio S., Doxorubicin-loaded hydroxyapatite nanoparticles as trigger for anticancer bone cements, 31st Conference of the European Society for Biomaterials, ESB Congress, 5-9 September 2021 (*Poster presentation*)

-**Dapporto M.**, Carella F., Tavoni M., Restivo E., Visai L., Mercatali L., Ibrahim T., Tampieri A., Iafisco M., Sprio S., Apatitic bone cements with effective antibacterial and antibiofilm ability, 31st Conference of the European Society for Biomaterials, ESB Congress, 5-9 September 2021 (*Poster presentation*)

-Tavoni M., Campodoni E., **Dapporto M.**, Ruffini A., Cocchi C., De Vita A., Ibrahim T., Mercatali L., Sandri M., Sprio S., Tampieri A., Montesi M., Nanostructured medicated scaffolds for the local treatment of bone metastasis, Congresso Nazionale Biomateriali - SIB – Società Italiana Biomateriali, Lecce, Italia, July 11-14, 2021. (*Poster presentation*)

-**Dapporto M.**, Gardini D., Panseri S., Montesi M., Logroscino G., Tampieri A, Sprio S., *Bioactive and self-hardening calcium phosphate pastes for additive manufacturing technology*, Bioceramics31 Congress, New Orleans, Louisiana, 14-17 Novembre 2019 (Oral presentation)

-Mangia AL, **Dapporto M.**, Ferrari A., Fantozzi S., Baroncini I., Nalon C., Giovannini T., Bonavita J., *Waterproof IMU to investigate temporal gait parameters on aquatic walking of persons with Incomplete Spinal Cord Injury: a preliminary validation*, SIAMOC 2017 –, Torino, Italia, 4-7 Ottobre 2017 (Poster presentation)

-**Dapporto M.**, Montesi M., Panseri S., Logroscino G., Tampieri A., Sprio S., *Versatile designing of the performance of calcium phosphate bone cements*, Materials2016, Aci Castello, Italia, 12-16 Dicembre 2016 (Oral presentation)

-**Dapporto M.**, Montesi M., Panseri S., Logroscino G., Tampieri A., Sprio S., *Design of Novel Sr-Doped Bone Cements with Enhanced Osteoconductivity*, Bioceramics28, Charlotte, North Carolina, USA, October 17-22, 2016 (Oral presentation)

-Sprio S., **Dapporto M.**, Panseri S., Montesi M., Logroscino G., Tampieri A., *New bioactive, osteointegrative strontium-substituted apatite cements for bone regeneration*, 10th World Biomaterials Congress, Montreal, Canada, May 17-22, 2016

-**Dapporto M.**, Machado C.G., Sprio S., Tampieri A., Saiz E., *Robocasted β -TCP scaffolds for bone regeneration*, Newgen Cost Action Meeting. Aveiro, Portugal, March 17-18, 2016.

-Sprio S., **Dapporto M.**, Panseri S., Tampieri A. *New biomimetic strategies for regeneration of load-bearing bones*. 39th International Conference and Exhibition on Advanced Ceramics and Composites, ICACC2015, Daytona Beach (USA), January 25-30, 2015.

-Sprio S., Ruffini A., **Dapporto M.**, Tampieri A. *New bioceramics for regeneration of load-bearing bones*. EMN Meeting on Ceramics, Orlando (USA), January 26-29, 2015.

-Montesi M. **Dapporto M.**, Panseri S., Sprio S., Tampieri A. *Biological interaction between a novel Sr-substituted bone cement and mesenchymal stem cells*. 26th European Conference on Biomaterials, Liverpool, August 31 – September 3, 2014.

-**Dapporto M.**, Sprio S., Pagano E.D., Logroscino G., Tampieri A., *A new bioactive bone cement for regenerative vertebroplasty*, Congresso Nazionale Biomateriali - SIB – Società Italiana Biomateriali, Palermo, Italia, July 2-4, 2014. (*Oral presentation*)

- Sprio S., **Dapporto M.**, Tampieri A. *Highly osteointegrative, self-hardening biomimetic bone cements for vertebral regeneration*, The 42nd International Summer School-Conference “Advanced Problems in Mechanics-2014” S. Petersburg, Russia, June 30 – July 5, 2014
- Dapporto M.**, Sprio S., Cunha C., Panseri S., Tampieri A. *Novel osteogenic porous composite scaffolds for the regeneration of load-bearing bone*, BIOCERAMICS25, 25th Symposium and Annual Meeting of the International Society for Ceramics in Medicine, Bucharest, Romania, November 7-10, 2013. (Oral presentation)
- Sprio S., **Dapporto M.**, Panseri S., Lattanzi W., Logroscino G., Tampieri A., *Novel injectable Sr-substituted HA cements for regenerative vertebroplasty*, BIOCERAMICS25, 25th Symposium and Annual Meeting of the International Society for Ceramics in Medicine, Bucharest, Romania, November 7-10, 2013. (Oral presentation)
- Dapporto M.**, Sprio S., Cunha C., Panseri S., Tampieri A. *Novel β -tricalcium phosphate/titania composite porous scaffolds for the regeneration of load-bearing segmental bone defects*. MIME – 1st edition International Conference Materials in Medicine, Faenza, Italia, October 8-11, 2013.
- Logroscino G., Pola E., Pagano E., Campana V., Colangelo D., Nasto L., Russo G., Malerba G., Ziranu A., Barba M., Sprio S., **Dapporto M.**, Tampieri A., Lattanzi W. *Comparative analysis of a novel injectable bone substitute vs kyphos for kyphoplastic surgery: preliminary results*. MIME – 1st edition International Conference Materials in Medicine, Faenza, Italia, October 8-11, 2013. (Oral presentation)
- Dapporto M.**, Sprio S., Cunha C., Panseri S., Tampieri A. *Synthesis, mechanical and biological behavior of novel β TCP/TiO₂ composite scaffolds designed for regeneration of load-bearing segmental bone defects*. ECERS - 13th International Conference of the European Ceramic Society. Limoges, Francia, June 23-27, 2013.
- Sprio S., **Dapporto M.**, Panseri S., Tampieri A. *Sr-containing porous apatitic bone cements for regenerative vertebroplasty*. ECERS - 13th International Conference of the European Ceramic Society. Limoges, Francia, June 23-27, 2013. (Keynote Lecture)
- Cunha C., Panseri S., **Dapporto M.**, Sprio S., Tampieri A. *Analysis of osteoblast viability and activity on ceramic β TCP/TiO₂ biomimetic scaffolds*. 3rd TERMIS World Congress 2012 – Tissue Engineering and Regenerative Medicine, Vienna, Austria, September 5-8, 2012.
- Sandri M., Sprio S., **Dapporto M.**, Tampieri A. *Intelligent biomaterials for tissue regeneration and nanomedicine*. 3rd TERMIS World Congress 2012 – Tissue Engineering and Regenerative Medicine, Vienna, Austria, September 5-8, 2012.
- Dapporto M.**, D'Alessandro T., Sprio S., Cunha C., Tampieri A. *Novel biomimetic bone cements based on Sr-substituted hydroxyapatite for regenerative vertebroplasty*. Congresso Nazionale Biomateriali - SIB – Società Italiana Biomateriali, Lecce, Italia, June 18-20, 2012.

SCIENTIFIC RESPONSIBILITY

- Progetto Regionale PR-FESR EMILIA ROMAGNA 2021-2027 “Avanzamento tecnologico e validazione preclinica di biomateriali medicati per il trattamento e la rigenerazione del tessuto osseo metastatico (DINAMICA 2.0)” – Responsabile Scientifico del Progetto per ISSMC-CNR
- Contratto di Ricerca all'interno del Piano Nazionale della Ricerca Militare (PNRM) 2023 – Progetto “BIOHEMO - Materiali biomimetici per emostasi di emergenza” – Responsabile Scientifico del Progetto

Faenza, 01/10/2025

Massimiliano Dapporto