

Curriculum Vitae

Carmelo De Maria

(December 2018)

Personal Data Place and Date of Birth: Lamezia Terme (Italy) on March 13th 1984
Phone: (+39) 320-4957732
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Study course High School grade: 100/100

Degree in Biomedical Engineering, industrial curriculum, obtained at Faculty of Engineering, University of Pisa on October 13th 2006 with grade 110/110 with honors.

The thesis, entitled “*Design and fabrication of a Bioreactor for the characterization and the engineering of blood vessels*” was carried out at the Interdepartmental Research Center “E. Piaggio” in Pisa, in collaboration with Institute of Clinical Physiology of Pisa of the Italian National Council of Research.

During my thesis I designed and fabricated a new bioreactor to modify mechanical properties of perfused blood vessels.

Master Degree in Biomedical Engineering, industrial curriculum, obtained at Faculty of Engineering, University of Pisa on July 22nd 2008 with grade 110/110 with honors.

The thesis, entitled “*Design and fabrication of a Bioreactor for mechanical stimulation*”, was carried out at the Interdepartmental Research Center “E. Piaggio” in Pisa, in collaboration with Institute of Clinical Physiology of Pisa of the Italian National Council of Research.

During my master thesis I designed and fabricated a new bioreactor for mechanical stimulation of cell culture. In particular, this device was optimized for chondrocytes culture.

PhD in Chemical and Material Engineering at the University of Pisa with a thesis entitled: “*Indirect microfabrication of biomimetic materials for locomotor tissues regeneration*”, discussed on June 8th 2012.

During my PhD I studied the feasibility to fabricate scaffolds for locomotor tissue engineering following the indirect micro-fabrication approach, using sacrificial moulds, built with low melting point materials, and two different techniques, continuous flow and the inkjet printing. Part of the research was carried out, from September 2010 to June 2011, at the University of Texas at El Paso (US), in the laboratory of Prof. T. Boland.

Professional Qualification of engineer achieved in Pisa on February 18th 2009.

Working experience Researcher at Let People Move Research Institute from March 1st 2012 to August 31st 2012.

Post-Doc Researcher at the Department of Information Engineering of University of Pisa from November 2012 to November 2014.

Post-Doc Researcher at the Research Center E. Piaggio of University of Pisa, from November 2014 to October 2016, in the Biofabrication Group of Prof. Giovanni Vozzi

Current position Assistant professor at the Department of Information Engineering of University of Pisa, since November 2016

Patents Ahluwalia A, Vozzi G, De Maria C, “High Throughput bioreactor for the engineering and the study of answer of vascular ducts to chemical and physical stimuli”, PI2007A000001 (Date 2007-01-07).

Ahluwalia A, Vozzi G, De Maria C, Mazzei D, “High Throughput sensorized bioreactor for imposing hydrodynamic pressures and shear stress on cell cultures and constructs”, PI20090033 (Date 2009-30-03); EP2236597 (A1) — (Date 2010-10-06); WO2011/121377A1 (Date 2011-10-06).

Foreign languages English: Spoken and written correctly. Good knowledge of technical English.

Computer skills Programming Language: C++, Objective-C (Cocoa Framework), F#, Wiring. Full utilisation of: Matlab (Calculus); COMSOL Multiphysics (FEM analysis); SAAM II (Compartmental Modelling); Solidworks, FreeCAD (CAD); OsiriX (Bioimages Analysis); Adobe Photoshop, GIMP (Graphics); MS Office, OpenOffice, LibreOffice (Office suite); TeXShop, TeXStudio (LaTeX typesetting system). Good knowledge of Windows, MacOSX and Ubuntu operating systems.

Laboratory skills Soft-lithography, Electrospinning, PAM (Pressure Aided Microsyringe), InkJet, FDM (Fused Deposition Modelling), Stereolithography fabrication techniques.

Characterisation of biomaterials and biological materials:

- mechanical properties: Ugo Basile isometric and isotonic systems; Instron and Zwick Roell uniaxial mechanical testing system; Haake Rheostress rheometer;
- electrical properties: Agilent LCR meter, KVS Kelvin probe.

Acquisition and analysis of EMG signals.

Printed-circuit fabrication.

Rapid prototyping of electromechanical devices.

Teaching activities Visiting professor at the Center of Biomedical Engineering (Addis Ababa Institute of Technology, Addis Ababa, Ethiopia), for teaching the postgraduate course Biomedical Design (BMED-4260) and short training of academic staff on 3D printing technology, in the period 16-30 September 2016.

Full teaching for the courses at University of Pisa:

- Laboratory of Biomedical Technologies (6 CFU), part of the course Biomedical Technologies for the Master Degree in Biomedical Engineering (2016-17, 2017-18) (co-teacher Prof. Giovanni Vozzi)
- Prosthetic (6 CFU), Degree in Biomedical Engineering (2016-17, 2017-18) (co-teacher Prof. Giovanni Vozzi)

Teacher for the course “Rapid Prototyping for Engineers” (3 CFU) for the PhD program in Ingegneria dell’Informazione 2016/17 at University of Pisa

Teaching assistant for the disciplinary sector ING-IND/34 during the academic since 2011 to 2016, for the courses of:

- Micro- and Nano-systems (9 CFU - Master Degree in Biomedical Engineering);
- Prosthetic (6 CFU - Degree in Biomedical Engineering);
- Chemical Bioengineering (6 CFU - Degree in Biomedical Engineering).

Seminar of four lessons for the course of “Compartmental Models and Pharmacokinetic” (6 CFU), Master Degree in Biomedical Engineering 2009-10.

Seminar of lessons for the course “Physical chemistry” (9 CFU), Degree in Chemistry 2013-14.

Teaching support for courses at University of Pisa:

- Compartmental Models and Pharmacokinetic (6 CFU), Master Degree in Biomedical Engineering 2008-2009;
- Bioengineering Laboratory (3 CFU), Degree in Biomedical Engineering 2008-09 and 2009-10;

Thesis supervisor for several Bachelor and Master students in Biomedical Engineering, and currently of two PhD students at the PhD program of University of Pisa

Co-organizer and lecturer for the

- “2nd Biomedical Engineering Innovators Summer School” (August 12-16 2013, Kenyatta University, Nairobi, Kenya);
- “3rd Biomedical Engineering Innovators Summer school” (December 8-12 2014, Muhimbili University, Dar Es Salaam, Tanzania);
- “4th Biomedical Engineering Innovators Summer school” (January 11-15 2016, Addis Ababa University, Addis Ababa, Ethiopia).

Lecturer at the “Summer School in Advanced Innovation Methods” (30 May – 11 June 2016, Pisa, Italy), part of the EU project ENDuRE, European Network of Design for Resilient Entrepreneurship, (Erasmus+, 554337-EPP-1-2014-1-IT-EPPKA2-KA)

Scientific Director, organizer and lecturer of the MAST Summer Schools 2016 and 2017, Fondazione MAST, Bologna, Italy, dedicated to 3D printing and Smart Objects.

Research activity At present, my research is focused on the integration of different additive manufacturing technologies, such as hydrogel plotting, inkjet printing and

electrospinning. Other research interests are in computational fluid dynamic and mechanical finite element modelling and in the development of bioreactors for mechanical stimulation on cell cultures. The mechanical characterization of biomaterials and biological materials is also part of my research topics.

The quality of the research is confirmed by papers on peer-reviewed journal (57) and proceedings in international conferences (28) and chapters in books (5) for an H-index equal to 9 on Scopus and 11 on Google Scholar. The ORCID is 0000-0002-1368-3571.

I'm also part of the editorial board of two journals:

- Clinical Microbiology Biochemical Technology (Peertechz);
- Industrial Chemistry (Omics International)

and editor of a special issue on "Open Source & Collaborative Project Based Learning in Engineering Education" on "The International Journal of engineering education" (in preparation).

I was an invited keynote speaker at the International Conference on Tissue Engineering (ICTE) 2013, 6-8 June Leiria (Portugal), with a presentation on "Inkjet printing for Tissue Engineering and Regenerative Medicine: applications and future perspectives". In the European chapter 2016 of TERMIS conference (Uppsala June 28th- July 1st 2016) I organized, together with Prof. Alberto Saiani from University of Manchester, and run as co-chair the session *Hydrogels as Cell and Drug Carriers for TERM*.

I'm also member of the COST Action BM1302: Joining Forces in Corneal Regeneration Research.

In parallel, I'm advocating the Open Source approach in the development of biomedical devices, as co-organizer and lecturer of the Innovators' Summer School, under the sponsorship of the United Nation Economic Commission for Africa (UNECA). In the context of this activity, I participated to the "Expert group meeting on the development and management of a Regional Innovation Platform" organized by UNECA on 9-10 January 2016, and I'm member of the Secretariat of the African Biomedical Engineering Consortium.

As expert on Additive Manufacturing technologies also applied for the fabrication of medical devices, I have been part of the following projects:

- team member in the project IOTPrise (2013-14) of University of Pisa, funded by Ministero dello Sviluppo Economico (call RIDITT DM 22/12/2009),
- team member in the ERC grant BOOST (Biomimetic trick to re-balance Osteoblast-Osteoclast loop in osteoporosis treatment: a Topological and materials driven approach GA 681798, 2016- to date). PI Prof. Chiara Brovarone from Politecnico di Torino.
- WP leader (WP2 - Design, fabrication and characterization of BrM model) in the European Project M-ERA.net "BIOMEMBRANE: Bioengineered in vitro model of retinal pigmented epithelium of human eye" (2017-to date). Coordinator Prof. Giovanni Vozzi.

- WP Leader (WP2 - Preparation and Characterisation of keratin based materials) in the European MANUNET project “KERAPACK: A novel integrated approach for the reduction, recycling and reuse of poultry feathers by keratins based packaging manufacturing” (2018-to date). Coordinator Prof. Giovanni Vozzi
- WP Leader e Coordinator Contact for the H2020 European Project "UBORA: Euro-African Open Biomedical Engineering e-Platform for Innovation through Education" (GA 731053) (2017-2019). Coordinator Prof. Arti Ahluwalia.
- Team Member: project “SIMPLIFY: progettazione di cannule aspira-saliva phthalate free” (POR FSE 2014-2020 of Regione Toscana). Coordinator Prof. Giovanni Vozzi
- Team member: project “IMAGO: Italian MexicAn working Group on biOfabrication for the development of a multimaterial and multiscale bioprinting system for 3D muscular tissue in vitro model” cofunded by MAECI and AMEXIC (2018-2019)

- Awards**
- “Augusto Bonola” 2007 Prize for the article: ”Nerve regeneration using inverted graft: comparison between an experimental analysis of the animal model and the use in man“ for its contribution to hand surgery research;
 - “Itek Award” 2013 for the article: “Printable Cellular Scaffold Using Self-Crosslinking Agents” for outstanding original student publication in the field of engineering;
 - best paper award at ICDS 2014 23-27 March 2014 Barcelona, (Spain) for the paper “Open Source Biomedical Engineering for Sustainability in African Healthcare: Combining Academic Excellence with Innovation”;
 - first place at Young Investigator Awards “Excellent in Research” given by the International Society for Biofabrication, October 21-31 2016, Winston-Salem (NC, USA).

Other Activities Co-founder and President of FabLab Pisa (www.fablabpisa.org), with the aim at research on prototyping and prototyping for research.

In compliance with the Italian legislative decree of 30 June 2003, no. 196 published in the Official Register of 29 July 2003, general series no. 174, ordinary supplement no. 123 L, I hereby authorize the recipient of this document to use and process my personal details contained in this document.

Pisa 03/12/2018

Carmelo De Maria

Publication list

Carmelo De Maria

Research paper (International Journals)

1. Gattazzo F, **De Maria C**, Rimessi A, Donà S, Braghetta P, Pinton P, Vozzi G, Bonaldo P *Gelatin-genipin-based biomaterials for skeletal muscle tissue engineering*. J Biomed Mater Res B Appl Biomater. 2018 Feb 7. doi: 10.1002/jbm.b.34057.
2. **De Maria C**, Di Pietro L, Lantada AD, Madete J, Makobore PN, Mridha M, ... & Ahluwalia A. *Safe innovation: On medical device legislation in Europe and Africa*. Health Policy and Technology, 2018. ISSN:2211-8837, doi: 10.1016/j.hlpt.2018.01.012
3. Cabiati M, Vozzi F, Gemma F, Montemurro F, **De Maria C**, Vozzi G, Domenici C, Del Ry S. *Cardiac tissue regeneration: A preliminary study on carbon-based nanotubes gelatin scaffold*. J Biomed Mater Res B Appl Biomater. 2017 Dec 5. doi: 10.1002/jbm.b.34056.
4. **De Maria C**, Vozzi G, Moroni L *Multimaterial, heterogeneous, and multicellular three-dimensional bioprinting*. MRS BULLETIN, 2017 vol. 42, p. 578-584, ISSN: 0883-7694, doi: 10.1557/mrs.2017.165
5. Moroni L, Boland T, Burdick JA, **De Maria C**, Derby B, Forgacs G, Groll J, Li Q, Malda J, Mironov VA, Mota C, Nakamura M, Shu W, Takeuchi S, Woodfield TBF, Xu T, Yoo JJ, Vozzi G. *Biofabrication: A Guide to Technology and Terminology*. Trends Biotechnol. 2018 Apr;36(4):384-402. doi: 10.1016/j.tibtech.2017.10.015. Epub 2017 Nov 11. Review.
6. Abbonante V, Di Buduo CA, Gruppi C, **De Maria C**, Spedden E, De Acutis A, Staii C, Raspanti M, Vozzi G, Kaplan DL, Moccia F, Ravid K, Balduini A. *A new path to platelet production through matrix sensing*. Haematologica. 2017 Jul;102(7):1150-1160. doi: 10.3324/haematol.2016.161562. Epub 2017 Apr 14.
7. Ferretti J, Di Pietro L, **De Maria C** *Open-source automated external defibrillator*. HARDWAREX, 2017, vol. 2, p. 61-70, ISSN 2468-0672, doi: 10.1016/j.ohx.2017.09.001
8. Guvendiren M, Fung S, Kohn J, **De Maria C**, Montemurro F, Vozzi G . *The control of stem cell morphology and differentiation using three-dimensional printed scaffold architecture*. MRS COMMUNICATIONS 2017 , vol. 7, p. 383-390, ISSN: 2159-6859, doi: 10.1557/mrc.2017.73
9. Criscenti G, Vasilevich A, Longoni A, **De Maria C**, van Blitterswijk CA, Truckenmuller R, Vozzi G, De Boer J, Moroni L. *3D screening device for the evaluation of cell response to different electrospun microtopographies*. Acta Biomater. 2017 Jun;55:310-322. doi: 10.1016/j.actbio.2017.03.049. Epub 2017 Apr 1.
10. De Acutis A, **De Maria C**, Vozzi G. *Multimaterial and Multiscale Rapid Prototyping of Patient-Specific Scaffold*. Advances in Science and Technology 100, 151-158
11. Rizzo S, Fantoni G, de Santis G, Lormen Lue JC, Ciampi J, Palla M, Genovesi Ebert F, Savastano A, **De Maria C**, Vozzi G, Brant Fernandes RA, Faraldi F, Criscenti G. *Effects of a modified vitrectomy probe in small-gauge vitrectomy: An Experimental Study on the Flow and on the Traction Exerted on the Retina*. Retina doi: 10.1097/IAE.000000000000141
12. Mazzei D, **De Maria C**, Vozzi G. *Touch sensor for social robots and interactive objects affective interaction*. Sensors and Actuators A: Physical. 2016:251;92–99

13. **De Maria C**, Santoro V, Vozzi G. *Biomechanical, Topological and Chemical Features That Influence the Implant Success of an Urogynecological Mesh: A Review*. Biomed Res Int. 2016;2016:1267521. doi: 10.1155/2016/1267521. Epub 2016 Apr 28. Review.
14. Carrabba M, **De Maria C**, Oikawa A, Reni C, Rodriguez-Arabaolaza I, Spencer H, Slater S, Avolio E, Dang Z, Spinetti G, Madeddu P, Vozzi G. *Design, fabrication and perivascular implantation of bioactive scaffolds engineered with human adventitial progenitor cells for stimulation of arteriogenesis in peripheral ischemia*. Biofabrication. 2016 Mar 24;8(1):015020. doi: 10.1088/1758-5090/8/1/015020. (shared first co-authorship)
15. Criscenti G, **De Maria C**, Sebastiani E, Tei M, Placella G, Speziali A, Vozzi G, Cerulli G. *Reconstruction of medial patello-femoral ligament: Comparison of two surgical techniques*. J Mech Behav Biomed Mater. 2016 Feb 10;59:272-278. doi: 10.1016/j.jmbbm.2016.02.009.
16. Criscenti G, Longoni A, Di Luca A, **De Maria C**, van Blitterswijk CA, Vozzi G, Moroni L. *Triphasic scaffolds for the regeneration of the bone-ligament interface*. Biofabrication. 2016 Jan 29;8(1):015009. doi: 10.1088/1758-5090/8/1/015009.
17. Criscenti G, **De Maria C**, Sebastiani E, Tei M, Placella G, Speziali A, Vozzi G, Cerulli G. *Quasi-linear Viscoelastic Properties of the human Medial patello-femoral Ligament*. J Biomech. 2015 Dec 16;48(16):4297-302 doi:10.1016/j.jbiomech.2015.10.042
18. Montemurro F, **De Maria C**, Orsi G, Ghezzi L, Tinè MR, Vozzi G. *Genipin diffusion and reaction into a gelatin matrix for tissue engineering applications*. J Biomed Mater Res B Appl Biomater. 2015 Nov 5. doi: 10.1002/jbm.b.33569.
19. Mattioli-Belmonte M, **De Maria C**, Vitale-Brovarone C, Baino F, Dicarlo M, Vozzi G. *Pressure-activated microsyringe (PAM) fabrication of bioactive glass-poly(lactic-co-glycolic acid) composite scaffolds for bone tissue regeneration*. J Tissue Eng Regen Med. 2015 Oct 29. doi: 10.1002/term.2095. (shared first co-authorship)
20. Criscenti G, **De Maria C**, Sebastiani E, Tei M, Placella G, Speziali A, Vozzi G, Cerulli G. *Material and structural tensile properties of the human medial patello-femoral ligament*. J Mech Behav Biomed Mater. 2015 Oct 8;54:141-148. doi: 10.1016/j.jmbbm.2015.09.030.
21. **De Maria C**, Burchielli S, Salvadori C, Santoro V, Montemurro F, Orsi G, Vozzi G. *The influence of mesh topology in the abdominal wall repair process*. J Biomed Mater Res Part B.2015.
22. **De Maria C**, Mazzei D, Ahaluwalia A. *Improving African Healthcare through Open Source Biomedical Engineering*. International Journal On Advances in Life Sciences. 7(1,2), pp10-19, 2015.
23. **De Maria C**, Ferrari L, Montemurro F, Vozzi F, Guerrazzi I, Boland T, Vozzi G, *Design and Validation of an Open-Hardware Print-Head for Bioprinting Application*. Procedia Engineering. 110, pp 98–105, 2015
24. Giussani M, **De Maria C**, Vasso M, Montemurro F, Triulzi T, Tagliabue E, Gelfi C, Vozzi G. *Biomimicking of the Breast Tumor Microenvironment*, Current Molecular Biology Reports 1 (2), 71-76. (shared first co-authorship)
25. Russo G, **De Maria C**, Cerulli G, Vozzi G. *Magnetic-Driven Pointing System: a Feasibility Study*. Sensors Journal, IEEE , vol.15, no.2, pp.703,714, Feb. 2015

26. Orsi G, **De Maria C**, Montemurro F, Chauhan VM, Aylott JW, Vozzi G. *Combining Inkjet Printing and Sol-Gel chemistry for Making pH-Sensitive surfaces*. Current topics in medicinal chemistry, 2014 Dec 28
27. Andreoni C, Orsi G, **De Maria C**, Montemurro F, Vozzi G. *In Silico Models for Dynamic Connected Cell Cultures Mimicking Hepatocyte-Endothelial Cell-Adipocyte Interaction Circle*. PloS one 9 (12), e111946
28. **De Maria C**, Grassi L, Vozzi F, Ahluwalia A, Vozzi G. *Development of a novel Micro-Ablation System to realise micrometric and well-defined hydrogel structures for Tissue Engineering applications*. Rapid Prototyping Journal, 2014; 20(6)
29. Gattazzo F, **De Maria C**, Whulanza Y, Taverni G, Ahluwalia A, Vozzi G. *Realisation and characterization of conductive hollow fibers for neuronal tissue engineering*. J Biomed Mater Res Part B 2014;00B:000–000.
30. Yanez M, Rincon J, Dones A, **De Maria C**, Gonzales R, Boland T. *In vivo assessment of printed microvasculature in a bilayer skin graft to treat full-thickness wounds*. Tissue Engineering Part A. doi:10.1089/ten.tea.2013.0561.
31. Orsi G, Fagnano M, **De Maria C**, Montemurro F, Vozzi G. *A new 3D concentration gradient maker and its application in building hydrogels with a 3D stiffness gradient*. J Tissue Eng Regen Med. 2014 doi: 10.1002/term.1908
32. Fogli G, Orsi G, **De Maria C**, Montemurro F, Palla M, Rizzo S, Vozzi G. *New eye phantom for ophthalmic surgery*. J Biomed Opt. 2014 Jun;19(6):068001. doi: 10.1117/1.JBO.19.6.068001.
33. Giannessi E, Coli A, Stornelli MR, Miragliotta V, Pirone A, Lenzi C, Burchielli S, Vozzi G, **De Maria C**, Giorgetti M. *An Autologously Generated Platelet-Rich Plasma Suturable Membrane May Enhance Peripheral Nerve Regeneration after Neurotomy in an Acute Injury Model of Sciatic Nerve Neurotmesis*. J reconstr Microsurg DOI: 10.1055/s-0034-1372483
34. Cei D, Malena A, **De Maria C**, Loro E, Sandri F, Moro G, Bettio S, Vergani L, Vozzi G. *In vitro development of engineered muscle using a scaffold based on the pressure-activated microsyringe (PAM) technique*. J Tissue Eng Regen Med. 2014, doi: 10.1002/term.1894
35. Micheloni A, Orsi G, **De Maria C**, Vozzi G. ADMET: *ADipocyte METabolism mathematical model*. Comput Method Biomec 2014 doi:10.1080/10255842.2014.908855
36. **De Maria C**, Rincon J, Duarte AA, Vozzi G, Boland T. *A new approach to fabricate agarose microstructures*. Polym Adv Tech 2013; 24: 895–902. doi: 10.1002/pat.3162
37. Yanez M, Rincon J, Cortez P, Günther N, Boland T, **De Maria C**. *Printable Cellular Scaffold Using Self-Crosslinking Agents*, Journal of Imaging Science and Technology, Volume 56, Number 4, July 2012, pp. 40506-1-40506-5(5)
38. Jelen C, Mattei G, Montemurro F, **De Maria C**, Mattioli-Belmonte M, Vozzi G. *Bone scaffolds with homogeneous and discrete gradient mechanical properties*. Mater Sci Eng-C 2012; Avail. online August 4
39. Tirella A, **De Maria C**, Criscenti G, Vozzi G, Ahluwalia A. *The PAM² system: a multilevel approach for fabrication of complex three-dimensional microstructures*. Rapid Prototyping J 2012;18(4):5-5

40. Vozzi G, Dini F, Burchielli S, Salvadori C, **De Maria C**, Chiono V, Barsotti G, Ciardelli G, Carlucci F, Roni R. *Melt Extruded PU Hollow Fibers for Nerve Regeneration: In vivo Study*. Vet Res 2011; 4(4):109-116
41. Tirella A, Vozzi F, **De Maria C**, Vozzi G, Sandri T, Sassano D, Cognolato L, Ahluwalia A. *Substrate stiffness influences high resolution printing of living cells with an ink-jet system*. J Biosci Bioeng. 2011 Jul;112(1):79-85. Epub 2011 Apr 15.
42. Orsi G, **De Maria C**, Guzzardi M, Vozzi F, Vozzi G, *HEMET β : improvement of HEpatocyte METabolism mathematical model*. Comput Methods Biomech Biomed Engin. 2011 Jan 1:1
43. **De Maria C**, Giusti S, Mazzei, D Crawford A, Ahluwalia A, *Squeeze Pressure Bioreactor a Hydrodynamic Bioreactor for Noncontact Stimulation of Cartilage Constructs*. Tissue Eng Part C Methods. 2011 Jul;17(7):757-64.
44. Cutrone A, **De Maria C**, Vinci B, Vozzi F, Ahluwalia A, Vozzi G. *A new library of HEMET model: Insulin effects on hepatic metabolism*. Comput Methods Programs Biomed. 2009 May;94(2):181-9.
45. **De Maria C**, Grassini D, Vozzi F, Vinci B, Landi A, Ahluwalia A, Vozzi G. *HEMET: Mathematical model of biochemical pathways for simulation and prediction of HEpatocyte METabolism*. Comput Methods Programs Biomed. 2008 Oct;92(1):121-34.

Research papers (National Journals)

1. Poggi DS, Massarella M, Cerulli G, Caraffa A, Burchielli S, Modenato M, Cantile C, Vozzi G, **De Maria C**, Lisanti M, Bonicoli E, Cantini G, *Nerve regeneration using inverted graft: comparison between an experimental analysis of the animal model and the use in man*, Rivista Italiana di Chirurgia della Mano, Vol 44 (3), 2007.

Chapters in book (English)

1. Criscenti G, **De Maria C**, Vozzi G, Moroni L. *Characterization of Additive Manufactured Scaffolds*. In: Ovsianikov A., Yoo J., Mironov V. (eds) 3D Printing and Biofabrication. Reference Series in Biomedical Engineering. Springer, Cham 2017 Online ISBN978-3-319-40498-1 DOI: https://doi.org/10.1007/978-3-319-40498-1_4-1
2. **De Maria C**, De Acutis A, Carrabba M, Criscenti G, Vozzi G. *Machine design for multimaterial processing*, in Nanobiomaterials in Soft Tissue Engineering - Applications of Nanobiomaterials 2016 ISBN: 978-0-323-42865-1. Elsevier
3. **De Maria C**, De Acutis A, Vozzi G. *Indirect Rapid Prototyping for Tissue Engineering*, in Essential of 3D Biofabrication and Translation. 2015 ISBN: 978-0-12-800972-7. Elsevier
4. **De Maria C**, Whulanza Y, Vozzi G, Ahluwalia A. *Smart Sensing Scaffolds*, in Smart Membranes and Sensors: Synthesis, Characterization, and Applications 2014 ISBN: 978-1-118-42379-0. John Wiley & Sons
5. Ahluwalia A, Giusti S, **De Maria C**. *The Squeeze Pressure Bioreactor: Design and Modelling of a Non-Contact Device for Mechanical Stimulation of Tissue Engineered Constructs*, in Bioreactors: Design, Properties and Applications. 2011 ISBN 978-1-62100-164-5 Nova Science Publishers

Chapters in book (Italian)

1. Vozzi G, **De Maria C**, Montemurro F. *Utilizzo di Phantom in oftalmologia* in Metodiche alternative alla sperimentazione animale. Pàtron Editore. *In press*
2. Vozzi G, Tirella A, **De Maria C**, Ahluwalia A, *Da scaffold a tessuti: progettazione, realizzazione e caratterizzazione di architetture 3D per la medicina rigenerativa* in Approccio integrato per la medicina rigenerativa. 2013 ISBN 978-88-555-3241-9 Pàtron Editore

Proceedings of International Meetings

1. Ahluwalia A, **De Maria C**, Diaz Lantada A, Di Pietro L, Ravizza A, Mridha M, Madete J, Makobore P, Aabloo A, Kitsing R, Leivobits A. *Towards Open Source Medical Devices - Current Situation, Inspiring Advances and Challenges*. 11th International Joint Conference on Biomedical Engineering Systems and Technologies Biodevices 2017 - Madeira (PT) Jan 19-21 2018 (proc. Vol. 1, pp. 141-149).
2. **De Maria C**, Da Ros F, Bisconti S, Bizzotto D, Montemurro F, De Acutis A, Braghetta P, Vozzi G. *Hydroxylated Keratin from chicken feather as novel substrate for in vitro tissue model fabrication*. Biofabrication 2017, 15-18 October, Beijing, China
3. Ahluwalia A, **De Maria C**, Díaz Lantada A, Mridha M, Makobore P, Madete J, Aabloo A, Leibovits A. *THE UBORA PROJECT: Euro-African Open Biomedical Engineering e-Platform for Innovation through Education*, 13th International CDIO Conference, University of Calgary, Calgary, Canada, June 18-22, 2017.
4. Lissel A, Ottenberg F, Bracio BR, Ravizza A, **De Maria C**, Ahluwalia A, Di Pietro L, Trommler P. *Status and solutions to medical device regulations for improving the healthcare landscape in Africa* 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando, FL, 2016, pp. 4329-4332.
5. **De Maria C**, Chiesa I, Angeli S, De Acutis A, Mattei G, Montemurro F, Smith AM, Saiani A, Vozzi G. *Modelling of scaffold fabrication with a pH-sensitive hydrogel*. Biofabrication 2016, 29-31 October, Winston-Salem, NC, USA
6. **De Maria C**, Vozzi F, Montemurro F, Vozzi G, *3Dprinted conductive scaffolds: potential application in Regenerative Medicine of Wound Healing*. Biofabrication 2016, 29-31 October, Winston-Salem, NC, USA
7. **De Maria C**, Chiesa I, Angeli S, De Acutis A, Montemurro F, Smith AM, Saiani A, Vozzi G, *3D bioprinting of self-assembling hydrogels*. TERMIS 2016, 28 June – 1 July, Uppsala, Sweden
8. Carrabba M, **De Maria C**, Vozzi G, Drinkwater B, Madeddu P. *Novel ultrasound-based seeding method for adventitial progenitor cells onto composite scaffolds*. TERMIS 2016, 28 June – 1 July, Uppsala, Sweden
9. Vozzi G, Montemurro F, **De Maria C**. *Multimaterial and Multiscale Biofabrication Process for the Future Development of Patient Specific Tissues*. CIMTEC 2016, 5-9 June, Perugia, Italy
10. **De Maria C**, Montemurro F, Ibrahimi M, Guerrazzi I, Criscenti G, Vozzi F, Vozzi G. *Innovative biofabrication of 3D conductive scaffolds for cardiac tissue modelling*. Biofabrication 2015, 7-9 November 2015, Utrecht, The Netherlands

11. Ahluwalia A, Atwine D, **De Maria C**, Ibingira C, Kipkorir E, Kiros F, Madete J, Mazzei D, Molyneux E, Moonga K, Moshi M, Nzomo M, Oduol V, Okuonzi J, *Open Biomedical Engineering Education in Africa*. 37th IEEE EMBC, 25-29 August 2015, Milan, Italy
12. **De Maria C**, Carrabba M, Madeddu P, Vozi G. *In vivo validation of smart scaffolds for the development of vascular network*, Biofabrication 2014, 28 September – 1 October 2014, Pohang, Korea
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