

CURRICULUM VITAE - ELISA CIMETTA, PH.D.

ORCID ID: 0000-0002-8632-3999

EDUCATION

- 2011** Postbaccalaureate Business Program, Columbia University in the City of New York, NY, USA.
- 2009** Ph.D. in Chemical Engineering, Dept of Chemical Engineering, University of Padua, Italy.
- 2005** M.Sc. in Chemical Engineering, University of Padua, Italy.

ACADEMIC APPOINTMENTS

- Mar 2018 – present** Associate Professor (tenured), Department of Industrial Engineering, University of Padua, Italy.
- Apr 2016 – Feb 2018** Assistant Professor (tenure track), Department of Industrial Engineering, University of Padua, Italy.
- Jul 2013 – Apr 2016** Grant specialist and VP for Business Development at Epibone, Inc., Brooklyn, NY, USA.
- 2010 – 2013*** Associate Research Scientist, Laboratory for Stem Cells and Tissue Engineering, Department of Biomedical Engineering, Columbia University, New York, NY, USA.
***Voluntary appointment suspension for maternity leave since April 2013.**

ABILITAZIONE SCIENTIFICA NAZIONALE

- 2023** National Scientific Qualification to the function of Full Professor in Chemical Engineering (Discipline: Chemical and Process Engineering's Systems, Methods and Technologies, 09/D2) obtained from the Italian Ministry of University and Research.

RESEARCH AND PROFESSIONAL EXPERIENCE

- Mar 2010 – May 2010** Postdoctoral fellow, Dept of Chemical Engineering, University of Padua, Italy (*Design and development of micro- and nano-structured electrodes for biological applications*).
- Mar 2009 – Feb 2010** Postdoctoral fellow, Dept of Chemical Engineering, University of Padua, Italy (*Design and development of advanced cell culture technologies for the production of functional cardiac human tissue*).
- Jan 2005 – Feb 2009** PhD Student, Dept of Chemical Engineering, University of Padua, Padova, Italy (*Design and development of microscale technologies and microfluidic platforms for the in vitro culture of stem cells*).
- Jun 2008** Research contract with the "Fondazione per la Ricerca Biomedica Avanzata – Istituto Veneto di Medicina Molecolare", Padova, Italy (*consultant role and active research on the STROMA bioreactor, used during space missions of the ESA - Ente Spaziale Europeo*).
- Jun 2005 – Dec 2005** Research contract Dept of Chemical Engineering, University of Padua, Italy (*Bioreactors development for stem cells culture on three-dimensional scaffolds*).

May 2005 – Jun 2005 Research contract Dept of Chemical Engineering, University of Padua, Italy (*Production of polymeric scaffolds for cell cultures in bioreactor systems*).

FELLOWSHIPS, AWARDS AND HONORS

2010 – 2013 Druckenmiller Fellow, New York Stem Cell Foundation (NYSCF), New York, NY, USA.

2012 Young Investigator Travel Award assigned by the Tissue Engineering & Regenerative Medicine International Society (TERMIS) for their Third World Congress.

2011 Canadian Stem Cell Network travel scholarship subsidizing travel within Canada either immediately before or after ISSCR, to visit Canadian stem cell labs for the purpose of establishing new collaborations.

2007 NIH Scholarship, Keystone Symposia “Tissue Engineering and Development Biology”, Apr 12 - Apr 17, 2007, Snowbird Resort, Snowbird, Utah (USA)

AFFILIATIONS

2017 – current Institute of Pediatric Research Città della Speranza (IRP), Padova, Italy.

2009 – 2013 Tissue Engineering Resource Center (TERC), Tufts University, Boston, MA, and Columbia University, New York, NY, USA.

2009 – 2013 New York Stem Cell Foundation (NYSCF), New York, NY, USA.

2007 – 2009 Venetian Institute of Molecular Medicine (VIMM), Padova, Italy.

EDITORIAL ACTIVITIES

2016 - current Editorial Board Member of Biology Direct (Cell Biology section)

2010 - current Reviewer for several peer reviewed international journals (ie. Lab on a Chip, Biochemical Engineering Journal, Biomedical Materials, Biofabrication, IEEE, etc)

2023 Co-organizer of the 8th International Micro and Nano Flows Conference

INVITED LECTURES AND SEMINARS

1. Winter School of the PhD courses of the School of Medicine 2023. Lecture: “*Tissue Engineering*”. Padova, Italy, Feb 16th 2023.
2. RiskTox Workshop on “Alternative methods for the determination of toxic effects and risk assessment of contaminants and mixtures”. Speaker: “*Microscale technologies and microfluidic platforms for biomedical studies*”. Faculty of Pharmacy, University of Valencia, Spain, Dec 02nd 2022.
3. University of Pavia, Department of Civil Engineering and architecture. Seminar: “*Microscale technologies to decode EV-mediated cell behavior*”. Pavia, Italy, Nov 21st 2022.

4. Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering "G. Natta". Seminar: "*Microscale technologies to decode EV-mediated cell behavior*". Milano, Italy, Nov 11th 2022.
5. ECI Conference: Nanotechnology in Medicine III: Enabling Next Generation Therapies, keynote speaker: "*Microscale technologies to decode EV-mediated cell behavior*". Cetraro, Italy, May 16th 2022.
6. OHRC Musculoskeletal Research Seminar Series; UCLA, Los Angeles, CA, US. Online seminar: "*Microscale technologies to decode the role of exosomes in driving Neuroblastoma dissemination and aggressiveness*". Jan 12th 2022.
7. National Institute of Health and Medical Research, INSERM, Strasbourg, France. Seminar: "*Microscale technologies to decode the role of exosomes in driving Neuroblastoma dissemination and aggressiveness*". Nov 24th 2021.
8. Karolinska Institute, Stockholm, Sweden. Seminar: "*Microscale technologies to decode the role of exosomes in driving Neuroblastoma dissemination and aggressiveness*". July 5th 2021.
9. 36th CAE conference and exhibition. Panelist for the online workshop: "*How medicine and engineering interrelate – a female bioengineering perspective*". December 2nd 2020.
10. Department of Experimental Medicine (DIMES), Genova, IT, Seminar at the IANUA-ISSUGE ISB, Indirizzo in Scienze Biomediche. May 17 2019.
11. Congresso Nazionale Ordine degli Ingegneri d'Italia. Sassari, 19 Settembre 2019. Speaker for the workshop: "*Ingegneria di frontiera, scintille di innovazione*".
12. Brunel University London, College of Engineering Design and Physical Sciences. Chemical Engineering Seminar Series: "*Engineering approaches for Biomedical applications*". October 17 2019.
13. Department of Civil and Industrial Engineering (DICI), Pisa, IT. January 12 2018. "*Engineering approaches for Biomedical applications*", workshop: "*Microfluidics for flexible and intensified operations*".
14. Department of Experimental Medicine (DIMES), Genova, IT, November 29 2017. "*Engineering approaches for Biomedical applications*".
15. TEDx Padova. Padova, IT, 13 Maggio 2017. "*La fabbrica dei ricambi umani*".
16. SCENT, School of Entrepreneurship Ventures Programs. Padova, IT, April 7 2017. "*EpiBone*".
17. IBC's 5th Annual Cell Therapy Bioprocess & Commercialization Conference, Alexandria, VA, USA. Sept 30 - Oct 2, 2015. "*3D Printing Bone*".
18. Web Summit 2014, Dublin, IRL. Nov 4 – 5, 2014. Panelist for the discussion on "*Health is the New Wealth: Envisioning the Future of the Health Tech Revolution*".
19. Columbia Stem Cell Initiative (CSCI) Stem Cell Seminar series, Columbia University, New York, NY, USA. Dec 10 2012. "*Spatial and temporal regulation of signaling pathways in human Embryonic Stem Cells using microfluidic technologies*".
20. Stem Cell Engineering seminar series, Stem Cell Engineering Center (SCEC), Georgia Tech. Dec 4 2012. Atlanta, GA, USA. "*Advanced microscale technologies for the in vitro study of stem cells*".

21. Centro di Riferimento Oncologico (CRO) Apr 19 2012, Aviano, Italy. *“Advanced microscale technologies for the in vitro study of stem cells”*.
22. ECI conference “Scale-Up and Manufacturing of Cell-Based Therapies”. January 11-13, 2012, San Diego, California, USA. *“Engineering human tissues”*.
23. Istituto Scientifico San Raffaele DIBIT, Milan, Italy. November 14 2011. Plenary Seminar: *“Advanced microscale technologies for the in vitro study of stem cells”*.
24. International Society for Cellular Therapy (ISCT) North American Meeting. Charlottesville, VA, USA. September 14-16, 2011. *“Personalized Bone Grafts for Craniofacial Reconstruction”*.
25. International Society for Cellular Therapy (ISCT) North American Meeting. Charlottesville, VA, USA. September 14-16, 2011. *“Bioreactors in Cell Production: Preparing for Clinical Demands”*.
26. 3rd ICSCN Symposia for Outstanding Young Researchers. Toronto, Canada June 14-15, 2011. *“Microfluidic platforms for the in vitro culture of stem cells”*.
27. Graduate student seminar series, March 11 2011, Columbia University, New York, NY, USA. *“Advanced microscale technologies for the in vitro study of stem cells”*.
28. 2010 Carolina Biophysics Symposium. November 4-5. Durham, NC, USA. *“Engineering Cardiac Tissue: Grafts and Highthroughput screenings”*.

REPORT OF TEACHING

2016 - current	Instructor, Course of “Thermodynamics”, M.Sc. Degree in Chemical Engineering. University of Padua, Italy.
AA 2009/2010	Teaching assistant, Course “Transport Phenomena II”, M.Sc. Degree in Chemical Engineering, University of Padua, Italy.
AA 2008/2009	Teaching assistant, Course “Biological Engineering Fundamentals”. M.Sc. Degree in Chemical Engineering, University of Padua, Italy.
AA 2007/2008	Teaching assistant Course “Thermodynamics”. M.Sc. Degree in Chemical Engineering, University of Padua, Italy.

SUPERVISION

2016 - current	Supervisor for 3 Post-doctoral students. Supervisor for 8 PhD students (5 Industrial Engineering - Chemical and Environmental Engineering; 2 Biomedical Sciences, 1 Biosciences - Biochemistry and Biotechnologies). Supervisor for over 40 Bachelor Thesis Students and over 35 Master Thesis Students (Degrees: Chemical and Materials Engineering, Chemical and Process Engineering, Biomedical Engineering, Biology, Biotechnology).
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INTERNATIONAL RESEARCH ACTIVITY

Jul 2007	Visiting scholar at the MaRS Centre, Toronto Medical Discovery Tower, Toronto, ON, Canada under Prof. G. Keller supervision. Research activity: <i>“Training on cardiac mesoderm differentiation of human embryonic stem cells”</i> and <i>“Optimization of human cardiomyocytes culture techniques on microstructured substrates”</i> .
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- Jun 2006 – Apr 2007** Visiting scholar at the Biomedical Engineering Department, Columbia University, New York, NY, USA under Prof. G. Vunjak-Novakovic supervision. Research activity: *“Design and development of microfluidic platforms for the generation of concentration gradients applied to studies on Wnt signaling on cell cultures”*.
- May 2006 – Jun 2006** Visiting scholar at the Chemical Engineering Department, MIT, Massachusetts Institute of Technology, Cambridge, MA, USA under Prof. G. Vunjak-Novakovic and R. Langer supervision. Research activity: *“Training on microfabrication techniques and design strategies for the development of microfluidic platforms”*.

PATENTS AND TECHNOLOGY TRANSFER

- 2013** Co-founder and VP for business development of EpiBone inc, a Columbia University spinoff.
- 2012** Invention Report (IR) # CU13055: *“System and method for high-throughput assessment of cellular cardiotoxicity, drug screening, and cardiogenic factors via on-line physiological measurements”*.
- 2011** Member of one out of the four winning teams of the New York State “Bioaccelerate” award aimed at fostering tech transfer “from bench to bedside”. Project title: *“Personalized bone grafts for craniofacial reconstruction”*.
- 2011** Provisional U.S. Patent Application: *“Microarray – Gradient Platform”* following the invention report (IR) # CU12128: *“Microfluidic microreactor array generating stable concentration gradients for biological applications”*.

RECENT FUNDING SOURCES

- 2024-2025** ERC Proof of Concept Lump Sum Grant 2023: *“Automated cancer-on-a-chip organ-specific metastatic spread ARACHNID”*. €150.000. Role: Principal Investigator.
- 2023 – 2028** AIRC Investigator Grant - IG 2022: *“Multi-cellular integrated model on a chip: its new and unexplored role in rectal cancer treatment”*. €542.850,00. Role: Unit coordinator.
- 2022 – 2024** Fondazione Giovanni Celegghin ONLUS, 2022-2023 projects: *“Systemic injection of autologous monocytes loaded with a next-generation oncolytic herpes simplex virus type 1: an innovative approach to treat glioblastoma”*. €185.000,00. Role: Unit coordinator.
- 2017 – 2023** ERC Starting Grant 2017: *“Microbioreactor platforms as in vivo-like systems to probe the role of Neuroblastoma-derived Exosomes in cancer dissemination”*. €1,446,000. Role: Principal Investigator.
- 2013 - 2016** New York State Stem Cell Science (NYSTEM): *“Spatial-Temporal Studies of Stem Cells using a Microbioreactor Platform”*. \$1,077,792. Role: Co-Principal Investigator.

RESEARCH STATEMENT

Dr. Cimetta's main research interests are focused on the application of engineering principles to biological studies. In particular, she specialized in the design and development of advanced microscale technologies and microfluidic platforms for the in vitro culture of cells. The ultimate goal of her research is the optimization of biological models and cell cultures for their application in clinical settings to develop and test novel drugs, therapies and therapeutic strategies.

The engineering approach to biological studies brings several advantages over existing techniques since it allows exerting a precise and versatile control over the parameters characterizing a biological system. Microscale technologies and microfluidic platforms possess intrinsic characteristics such as small transport distances, small volumes being handled, and the ability to introduce and measure fast dynamic changes in the soluble environment. Transport phenomena become more easily predicted and mathematically described and are amenable to computational modeling. These characteristics ultimately translate into the capability of allowing precise control and fine-tuning of variables in a large parameter space, thus providing rational approaches to the optimization of culture conditions and reducing the intrinsic variability of biological phenomena.

Briefly, after her master thesis Dr. Cimetta worked as a doctoral student in Prof Elvassore laboratories at the Chemical Engineering Department of Padua University. Her research has since then been focused on the design and development of microscale technologies and microfluidic platforms for the in vitro culture of stem cells. During her PhD studies, she spent one year as a visiting student in Prof. G. Vunjak-Novakovic laboratory (Columbia University, NY, USA), developing a microfluidic platform for the generation of concentration gradients applied to studies on Wnt signaling on cell cultures. After obtaining her PhD in Chemical Engineering at the University of Padua, she worked as a post-doctoral research scientist on the design and development of advanced cell culture technologies for the production of functional cardiac human tissue. She then held a position as an Associate Research Scientist in the laboratory of Dr. Gordana Vunjak-Novakovic, further pursuing her research in the development of advanced technologies for the spatial and temporal regulation of culture microenvironments to study and direct stem cell differentiation. In 2011, Elisa graduated from the Postbaccalaureate Business Program from Columbia University. From 2010 to 2013, Dr. Cimetta has been a New York Stem Cell Foundation-Druckenmiller Fellow.

She is now proposing an independent line of research based on the development of advanced microscale technologies for the study of human Cancer. The main goal of these studies is the understanding of cancer cells behavior and of their metastatic dissemination, surpassing the limitations of standard cell culture techniques and ultimately leading to the development of novel cancer therapeutic approaches.

PUBLICATIONS

Citation Report (Scopus):

1. Number of publications: 46

2. Total number of Citations: >1100

3. Hirsch index: 20.

JOURNAL ARTICLES

1. Zanrè E, Dalla Valle E, D'Angelo E, Sensi F, Agostini M, Cimetta E. "Recent Advancements in Hydrogel Biomedical Research in Italy". *Gels* 2024, 10(4), 248. <https://doi.org/10.3390/gels10040248>
2. Zingales V, Esposito MR, Quagliata M, Cimetta E, Ruiz MJ. "Comparative Study of Spheroids (3D) and Monolayer Cultures (2D) for the In Vitro Assessment of

- Cytotoxicity Induced by the Mycotoxins Sterigmatocystin, Ochratoxin A and Patulin*. Foods 2024, 13(4), 564; <https://doi.org/10.3390/foods13040564>
3. Piccolo L, Bornillo K, Micheli S, Sorgato M, Ricotta M, Cimetta E and Lucchetta G. "A penetration efficiency model for the optimization of solid conical microneedles' geometry". J. Micromech. Microeng., 2024 34 025009. DOI 10.1088/1361-6439/ad1e36
 4. Miciaccia M, Rizzo F, ..., Cimetta E, ..., Fortuna CG, Perrone MG and Scilimati A. "Harmaline to Human Mitochondrial Caseinolytic Serine Protease Activation for Pediatric Diffuse Intrinsic Pontine Glioma Treatment". Pharmaceuticals 2024, 17(1), 135. <https://doi.org/10.3390/ph17010135>
 5. Piunti C, Cimetta E. "Microfluidic approaches for producing lipid-based nanoparticles for drug delivery applications". Biophysics Reviews, 2023, 4(3), 031304. <https://doi.org/10.1063/5.0150345>
 6. Zingales V, Esposito MR, Torriero N, Taroncher M, Cimetta E, Ruiz MJ. "The Growing Importance of Three-Dimensional Models and Microphysiological Systems in the Assessment of Mycotoxin Toxicity". Toxins, 2023 Jul;15:7,422. 10.3390/toxins15070422.
 7. Fusco P, Fietta A, Esposito MR, Zanella L, Micheli S, Bastianello A, Bova L, Borile G, Germano G, Cimetta E. "miR-210-3p enriched extracellular vesicles from hypoxic neuroblastoma cells stimulate migration and invasion of target cells". Cell & Bioscience, 2023 May;13:1,89. 10.1186/s13578-023-01045-z
 8. Bova L, Maggiotto F, Micheli S, Giomo M, Sgarbossa P, Gagliano O, Falcone D, Cimetta E. "A porous gelatin methacrylate-based material for 3D cell-laden constructs". Macromolecular Bioscience, 2023 Feb;23(2):e2200357. 10.1002/mabi.202200357
 9. Zanella L, Facco P, Bezzo F, Cimetta E. "Feature selection and molecular classification of cancer phenotypes: a comparative study". International Journal of Molecular Sciences 2022, 23(16), 9087. 10.3390/ijms23169087
 10. Micheli S, Mocellin P, Sorgato M, Bova L, Cimetta E. "Modeling-based design specifications for microfluidic gradients generators for biomedical applications". Biochemical Engineering Journal 181 (2022) 108415. 10.1016/j.bej.2022.108415
 11. Micheli S, Piunti C, Sorgato M, Lucchetta G, Cimetta E. "Cancer-on-a-Chip Platform to Study Metastatic Microenvironments". Chemical Engineering Transactions 2022, 93, 10.3303/CET2293036
 12. Ronaldson-Bouchard K, Baldassarri I, Naveed Tavakol D, Graney PL, Samaritano M, Cimetta E, Vunjak-Novakovic G. "Engineering complexity in human tissue models of cancer". Advanced Drug Delivery Reviews 184 (2022) 114181. 10.1016/j.addr.2022.114181
 13. Zingales V, Torriero N, Zanella L, Fernández-Franzón M, Ruiz MJ, Esposito MR, Cimetta E. "Development of an in vitro neuroblastoma 3D model and its application for sterigmatocystin-induced cytotoxicity testing". Food and Chemical Toxicology. Volume 157, November 2021 Article number 112605. 10.1016/j.fct.2021.112605
 14. Fusco P, Mattiuzzo E, Frasson C, Viola G, Cimetta E, Esposito MR, Tonini GP. "Verteporfin induces apoptosis and reduces the stem cell-like properties in Neuroblastoma tumour-initiating cells through inhibition of the YAP/TAZ pathway". Eur J Pharmacol. 2020 Dec 18;893:173829. 10.1016/j.ejphar.2020.173829
 15. Vianello C, Strozzi F, Mocellin P, Cimetta E, Fabiano B, Manenti F, Pozzi R, Maschio G. "A perspective on early detection systems models for COVID-19 spreading". Biochem Biophys Res Commun. 2020; Dec 5;S0006-291X(20)32180-X.

16. Bova L, Billi F, Cimetta E. "Mini-review: advances in 3D bioprinting of vascularized constructs". *Biol Direct*. 2020; Nov; 15(1). 10.1186/s13062-020-00273-4
17. Fusco P, Parisatto B, Rampazzo E, Persano L, Frasson C, Di Meglio A, Leslz A, Santoro L, Cafferata B, Zin A, Cimetta E, Basso G, Esposito MR, Tonini GP. "Patient-derived organoids (PDOs) as a novel in vitro model for neuroblastoma tumours". *BMC Cancer*. 2020; 19(1).
18. Castaldello C, Sforza E, Cimetta E, Morosinotto T, Bezzo F. "Microfluidic Platform for Microalgae Cultivation under Non-limiting CO2 Conditions". *Ind. Eng. Chem. Res*. 2019; 58(2):18036-18045.
19. Reilein A[#], Cimetta E[#], Tandon NM, Kalderon D, Vunjak-Novakovic G. "Live imaging of stem cells in the germarium of the *Drosophila* ovary using a reusable gas-permeable imaging chamber". *Nat Protoc*. 2018 Nov;13(11):2601-2614. [#]Corresponding Authors
20. Di Baldassarre A, Cimetta E, Bollini S, Gaggi G, Ghinassi B. "Human-Induced Pluripotent Stem Cell Technology and Cardiomyocyte Generation: Progress and Clinical Applications". *Cells*. 2018 May 25;7(6).
21. Reilein A, Melamed D, Park KS, Berg A, Cimetta E, Tandon N, Vunjak-Novakovic G, Finkelstein S, Kalderon D. "Alternative direct stem cell derivatives defined by stem cell location and graded Wnt signaling". *Nat Cell Biol*. 2017 May;19(5):433-444. 10.1038/ncb3505
22. G. Perin, E. Cimetta, F. Monetti, T. Morosinotto, F. Bezzo. "Novel micro-photobioreactor design and monitoring method for assessing microalgae response to light intensity". 2016 *Algal Res.*, 19, 69-76
23. A Marturano-Kruik, K Yeager, D Bach, A Villasante, E Cimetta[#], G Vunjak-Novakovic[#]. "Mimicking biophysical stimuli within bone tumor microenvironment". *Conf Proc IEEE Eng Med Biol Soc*. 2015 Aug;2015:3561-4. [#]Corresponding Authors.
24. D Sirabella, E Cimetta, G Vunjak-Novakovic. "The state of the heart: Engineering human cardiac tissue from pluripotent stem cells". *Exp Biol Med*. 2015 240(8):1008-18.
25. Cimetta E, Vunjak-Novakovic G. "Microscale technologies for regulating human stem cell differentiation". *Exp Biol Med*. 2014; 239(9): 1255-1263.
26. N Tandon*, E Cimetta*, A Villasante, N Kupferstein, MD Southall, A Fassih, J Xie, Y Sun, G Vunjak-Novakovic. "Galvanic microparticles increase migration of human dermal fibroblasts in a wound-healing model via reactive oxygen species pathway". *Exp Cell Res*. 2014 Jan 1;320(1):79-91. *Equally contributing.
27. N Tandon, A Taubman, E Cimetta, L Saccenti, G Vunjak-Novakovic. "Portable bioreactor for perfusion and electrical stimulation of engineered cardiac tissue". *Conf Proc IEEE Eng Med Biol Soc*. 2013 Jul; 2013:6219-23.
28. N Tandon, E Cimetta, A Taubman, N Kupferstein, U Madaan, J Mighty, S Redenti, G Vunjak-Novakovic G. "Biomimetic electrical stimulation platform for neural differentiation of retinal progenitor cells". *Conf Proc IEEE Eng Med Biol Soc*. 2013 Jul; 2013:5666-9.
29. R Saigal, E Cimetta, N Tandon, J Zhou, R Langer, M Young, G Vunjak-Novakovic, S Redenti. "Electrical stimulation via a biocompatible conductive polymer directs retinal progenitor cell differentiation". *Conf Proc IEEE Eng Med Biol Soc*. 2013 Jul; 2013:1627-31.
30. E Cimetta, A Godier-Furnémont, G Vunjak-Novakovic. "Bioengineering heart tissue for in vitro testing". *Curr Opin Biotechnol*. 2013 Oct;24(5).
31. N Tandon, D Marolt, E Cimetta, G Vunjak-Novakovic. "Bioreactor engineering of stem cell environments". *Biotechnol Adv*. 2013 Mar 24. doi:p11: S0734-9750(13).

32. E Cimetta*, D Sirabella, K Yeager, K Davidson, J Simon, RT Moon, G Vunjak-Novakovic. "Microfluidic bioreactor for dynamic regulation of early mesodermal commitment in human pluripotent stem cell". Lab on a Chip, 2013; 13(3): 355-64. *Corresponding author. 10.1039/c2lc40836h
33. E Serena, E Cimetta, S Zatti, T Zaglia, M Zagallo, G Keller, N Elvassore. "Micro-Arrayed Human Embryonic Stem Cells-Derived Cardiomyocytes for In Vitro Functional Assay". PLOS ONE, 2012, 7(11): e48483.
34. S Cagnin*, E Cimetta*, C Guiducci, P Martini, G Lanfranchi. "Overview of Micro- and Nano-Technology Tools for Stem Cell Applications: Micropatterned and Microelectronic Devices". Sensors, 2012, 12(11): 15947-82. *Equally contributing.
35. E Cimetta, M Franzoso, M Trevisan, E Serena, A Zambon, S Giulitti, L Barzon, N Elvassore. "Microfluidic-driven viral infection on cell cultures: theoretical and experimental study". Biomicrofluidics, 2012, 6(2): 024127.
 - Selected for the June 15, 2012 issue of Virtual Journal of Biological Physics Research.
36. S Zatti, A Zoso, E Serena, C Luni, E Cimetta, N Elvassore. "Micropatterning topology on soft substrates affects myoblasts proliferation and differentiation". Langmuir. 2012, 28(5):2718-26.
37. C Marshall, G Kai Wang, E Cimetta, C Talchai, D Egli, JW Shim, I Martin, F Ahmad, A Sproul, T Chen, V Fossati, D McKeon, K Smith, SL Solomon. "The New York Stem Cell Foundation: fifth annual translational stem cell research conference". Annals of the New York Academy of Sciences. 2011,1226(1):1-13.
38. Cimetta E, C Cannizzaro, R James, T Biechele, RT Moon, N Elvassore, G Vunjak-Novakovic. "Microfluidic device generating stable concentration gradients for long term cell culture: application to Wnt3a regulation of β -catenin signaling". Lab on a Chip. 2010, 10(23): 3277-83. 10.1039/c0lc00033g
39. E Serena, S Zatti, E Reghelin, A Pasut, E Cimetta, N Elvassore. "Soft substrates drive optimal differentiation of human healthy and dystrophic myotubes". Integrative Biology, 2010, 2(4):193 –201.
40. E Cimetta, S Cagnin, A Volpatti, G Lanfranchi, N Elvassore. "Dynamic culture of droplet-confined cell arrays". Biotechnology Progress. 2010, 26:1, 220-31.
41. E Cimetta, E Figallo, C Cannizzaro, N Elvassore, G Vunjak-Novakovic. "Micro-bioreactor arrays for controlling cellular environments: Design principles for human embryonic stem cell applications". Tissue Engineering: Methods. 2009, 47(2): 81–89. 10.1016/j.ymeth.2008.10.015
42. E Cimetta, S Pizzato, S Bollini, E Serena, P De Coppi, N Elvassore. "Production of arrays of cardiac and skeletal muscle myofibers by micropatterning techniques on a soft substrate". Biomedical Microdevices. 2009, 11(2): 389-400. 10.1007/s10544-008-9245-9
43. M Flaibani, L Boldrin, E Cimetta, M Piccoli, P De Coppi, N Elvassore. "Muscle differentiation and myotubes alignment is influenced by micropatterned surfaces and exogenous electrical stimulation". Tissue Engineering Part A. 2009, 15(9): 2447-57.
44. L Boldrin, A Malerba, L Vitiello, E Cimetta, M Piccoli, C Messina, PG Gamba, N Elvassore, P De Coppi. "Efficient delivery of human single fiber-derived muscle precursor cells via biocompatible scaffold". Cell Transplantation, 2008, 17(5): 577-84.
45. E Cimetta, M Flaibani, M Mella, E Serena, L Boldrin, P De Coppi, N Elvassore. "Enhancement of viability of muscle precursor cells on 3D scaffold in a perfusion bioreactor". International J of Artificial Organs. 2007, 30(5): 415-28.
46. L Boldrin, N Elvassore, A Malerba, M Flaibani, E Cimetta, M Piccoli, D Baroni, C Messina, PG Gamba, L Vitiello, P De Coppi. "Satellite cells delivered by micro-

patterned scaffolds: a new strategy for cell transplantation in muscle diseases". Tissue Engineering, 2007,13(2): 253-62.

Not indexed in WoS:

47. S Franzoso, D Sandonà, A Picard, S Furlan, V Gobbo, S Salvatori, N Elvassore, E Cimetta, R Betto, S Schiaffino. "Cultured adult muscle fibers in the microgravity environment. The MYO experiment in the Foton-M3 space flight mission". Basic Applied Myology, 2009, 19: 65-76.

BOOK CHAPTERS

- S Bhumiratana, J Bernhard, E Cimetta, G Vunjak-Novakovic. "Principles of Bioreactor Design for Tissue Engineering". Chapter 14, pp:261-278 in the book: "Principles of Tissue Engineering, 4th edition". Academic Press/Elsevier. ISBN: 978-0-12-398358-9.
- S Bhumiratana, E Cimetta, N Tandon, WL Grayson, M Radisic, G Vunjak-Novakovic. "Tissue Engineering Bioreactors", Chapter 22 in the book: "Tissue Engineering: Principles and Practices". 2012 by CRC Press.
- N Tandon, E Cimetta, S Bhumiratana, A Godier-Furnemont, R Maidhof, G Vunjak-Novakovic. "Bioreactors for tissue engineering". Section 6.5, chapter 8 in the book: "Biomaterials Science: An Introduction to Materials in Medicine", 3rd Edition. Eds. Ratner, Hoffman, Schoen, Lemons. ISBN: 9780123746269.
- E Serena, E Cimetta, C Luni, N Elvassore. "Microtechnology for stem cell culture" in the book: "Stem Cell Biology and Regenerative Medicine", Springer Science (Humana) Press. 2011, Part 5, 465-482, DOI: 10.1007/978-1-60761-860-7_29. (Indexed as both article and book).

DIVULGATIVE CONTRIBUTIONS

- E Serena, E Cimetta, M Zagallo. "Financing for research on embryonic stem cells: The situation in Italy and its origins". Report for the 3rd Italian National Congress of the Group of Italian Researchers on Embryonic Stem Cells (IES Group). Rome, 1st July 2008.