



Europass Curriculum Vitae

Personal information

First name / Surname

Silvia Masciarelli

Address

Department of Anatomy, Histology, Forensic Medicine and Orthopedics, Section of Histology and Medical Embryology, "Sapienza" University of Roma
Via Scarpa 14, 00161, Roma

Work experience

Dates January 2019-December 2021

Occupation or position held

Tenured Assistant Professor (RTD-A, SSD BIO/17, Histology)

Name and address of employer

Dip. di Scienze della Vita e Sanità Pubblica, Istituto di Istologia ed Embriologia
Università Cattolica del Sacro Cuore, Rome, Italy

Dates September 2012-December 2019

Occupation or position held

Senior post-doc fellow

Name and address of employer

Department of Anatomy, Histology, Forensic Medicine and Orthopedics
Università di Roma "Sapienza"

Dates December 2009 – August 2012

Occupation or position held

Post-doc fellow

Name and address of employer

Translational Oncogenomic Unit
Regina Elena Cancer Institute, Rome, Italy

Dates May 2008 – December 2008

Occupation or position held

Post-doc fellow

Name and address of employer

Protein Transport and Secretion Unit, DiBiT San Raffaele Scientific Institute, Milan, Italy

Dates January 2004 - April 2008

Occupation or position held

PhD student in the Open University (UK) – Università Vita-Salute (Milan, Italy) PhD program

Name and address of employer

Protein Transport and Secretion Unit, DiBiT San Raffaele Scientific Institute, Milan, Italy

Dates June 2006 – October 2006

Occupation or position held

Visiting PhD student at St. Jude Children Research Hospital, Memphis, TN, USA.

Name and address of employer

Genetics/Tumor Cell Biology, St.Jude Children's Research Hospital Memphis, TN, USA

Dates 2001 - 2003

Occupation or position held

Post-graduate fellow

Name and address of employer	PCCMB, National Institute of Health, Bethesda, MD, USA
Dates	1997 - 2001
Occupation or position held	Undergraduate student/intern
Name and address of employer	Dept. of Public Health Sciences, University "La Sapienza", Rome, Italy

Education and training

Dates	19 November 2020
Title of qualification awarded	Abilitazione Scientifica Nazionale Settore Concorsuale 05/H2 Istologia
Dates	05 August 2008
Title of qualification awarded	PhD degree in Molecular and Cellular Biology/Dottorato di Ricerca in Biologia Cellulare e Molecolare
Name and type of organisation providing education and training	Open University (Milton Keynes, UK)/Università Vita-Salute San Raffaele (Milan, Italy)
Dates	28 February 2000
Title of qualification awarded	Degree in Biological Sciences , 110/110 with honours
Name and type of organisation providing education and training	University of Rome "La Sapienza", Italy
Dates	July 1994
Title of qualification awarded	High school diploma
Name and type of organisation providing education and training	Liceo classico T.Tasso, Rome, Italy

Personal skills and competences

Mother tongue	Italian
Other language	English
Self-assessment	

Professional skills and competences

Technical skills:
 Cellular and molecular biology: mammalian cell lines, mouse and human primary cells isolation and culture, bacterial culture, genetic engineering, CFU assays, transfection, lentiviral vectors production and cell transduction, multi-color flow cytometry, confocal microscopy, IHC, cellular fractionation, ChIP, RIP, realtime PCR; array microfluidic cards . Biochemistry: WB, ELISA, IP/Co-IP, enzymatic assays. Mouse biology: colony management, organ isolation, tail bleeding, peritoneal injection.

Other professional competences:

- Teaching activity in the Faculty of Medicine and Surgery "A. Gemelli"
- Public speaking: invited speaker to international scientific meetings, intra- and inter-institutional scientific seminars
- Guest Editor (Frontiers Cell and Developmental Biology)
- Reviewer board member (Frontiers in Oncology; Cancers)
- Scientific writing: scientific papers and grants.
- Team management: supervision and coordination of undergraduate, PhD students and post-doc fellows

Computer skills and competences

OS and Windows operating systems; scientific data analysis software (statistical analysis, flow cytometry, Image J, confocal microscopy analysis, molecular biology tools) Microsoft Office suite, iWork suite, G suite, Adobe Photoshop, Illustrator and bibliographic software

Other experiences

Transgenic technology: methods and applications. FAES, NIH, Bethesda, MD, U.S.A., 2002
Microscopy basics, Alembic, DiBiT-San Raffaele Scientific Institute, Milan, Italy June 2003
 Member of the **Scientific Committee** for the **4th Joint PhD Student Workshop**, January, 23-25 2006. Astoria Park Hotel, Riva del Garda (TN), Italy

Invited Scientific talks

74° Congresso Nazionale della Società Italiana di Anatomia ed Istologia, September 24-25 2021, Bologna, Italy
 XV Congresso Nazionale Società Italiana Ematologia Sperimentale, October 18-20 2018 Rimini, Italy
 72° Congresso Nazionale della Società Italiana di Anatomia ed Istologia, September 20-22 2018, Parma, Italy
 7th International Symposium On Acute Promyelocytic Leukemia, September 24-27 2017, NH Vittorio Veneto Hotel, Rome, Italy
 Cells as protein factories meeting, June 28-30 2007, Durham University, Durham, UK
 ABCD meeting, Membrane traffic and organelle biogenesis, April 13-14 2007, Certosa di Pontignano (SI), Italy
 Fertilization and activation of Development Gordon Research Conference, July 27 - August 1, 2003, Holderness School, Plymouth, NH, USA
 Workshop Cortona 2000. April 6-8 2000, Cortona, Italy

Publication List

#co-first author; *co-corresponding author

1. S, Ottone T, Angelini DF, Fiori V, Dominici S, Noguera NI, Śniegocka M, Antonelli S, Irno Consalvo MA, De Bardi M, Banella C, Divona M, Marchesi F, **Masciarelli S**, Fazi F, Pieraccioli M, Palmieri R, De Angelis G, Buccisano F, Venditti A, Battistini L, Magnani M, Voso MT. CD99 as a novel therapeutic target on leukemic progenitor cells in FLT3-ITDmut AML. *Leukemia*. 2022 Jun;36(6):1685-1688. doi: 10.1038/s41375-022-01566-5. Epub 2022 Apr 14. PMID: 35422094.
2. A. Iaiza, C. Tito1, Z. Ianniello, F. Ganci, V. Laquintana, E. Gallo, A. Sacconi, **S. Masciarelli**, L. De Angelis, S. Aversa, D. Diso, M. Anile, V. Petrozza, F. Facciolo, E. Melis, E. Pescarmona, F. Venuta, M. Marino, G. Blandino, G. Fontemaggi, A. Fatica, F. Fazi. METTL3-dependent MALAT1 delocalization drives c-Myc induction in Thymic Epithelial Tumors. *Clin Epigenetics*. 2021 Sep 16;13(1):173. doi: 10.1186/s13148-021-01159-6.
3. Z. Ianniello, M. Sorci, L. Ceci Ginistrelli, A. Iaiza, M. Marchioni, C. Tito, E. Capuano, **S. Masciarelli**, T. Ottone, C. Attrotto, M. Rizzo, L. Franceschini, S. de Pretis, M.T. Voso, M. Pelizzola, F. Fazi, A. Fatica. New insight into the catalytic -dependent and -independent roles of METTL3 in sustaining aberrant translation in Chronic Myeloid Leukemia. *Cell Death Dis*. 2021 Sep 24;12(10):870. doi: 10.1038/s41419-021-04169-7.
4. **S. Masciarelli*** F. Palombarini* A. Incocciati 1 , F. Liccardo, E. Di Fabio, A. Iazzetti, G. Fabrizi, F. Fazi, A. Macone, A. Bonamore, A. Boffi. Self-assembling ferritin-dendrimer nanoparticles for targeted delivery of nucleic acids to myeloid leukemia cells. *J. Nanobiotechnology* 2021 Jun 9;19(1):172. doi: 10.1186/s12951-021-00921-5.
5. Tito C., Ganci F, Sacconi A, **Masciarelli S**, Giulia Fontemaggi et al. LINC00174 is a novel prognostic factor in thymic epithelial tumors involved in cell migration and lipid metabolism. *Cell Death Dis*. 2020 Nov 7;11(11):959. doi: 10.1038/s41419-020-03171-9.
6. Saracino R, Capponi C, Di Persio S, Boitani C, **Masciarelli S**, Fazi F, Fera S, Vicini E. Regulation of Gdnf expression by retinoic acid in Sertoli cells. *Mol Reprod Dev*. 2020 Feb 5. doi: 10.1002/mrd.23323. [Epub ahead of print]
7. Banella C, Catalano G, Travaglini S, Divona M, **Masciarelli S**, Guerrera G, Fazi F, Lo Coco F, Voso MT, Noguera N. PML/RARα Interferes with NRF2 Transcriptional Activity Increasing the Sensitivity to Ascorbate of Acute Promyelocytic Leukemia Cells. *Cancers (Basel)*. 2019 Dec 30;12(1). pii: E95. doi: 10.3390/cancers12010095.
8. **Masciarelli S***, Capuano E, Ottone T, Divona M, Lavorgna S, Liccardo F, Śniegocka M, Travaglini S, Noguera NI, Picardi A, Petrozza V, Fatica A, Tamagnone L, Voso MT, Lo Coco F, Fazi F.* Retinoic acid synergizes with the unfolded protein response and oxidative stress to induce cell death in FLT3-ITD+ AML. *Blood Adv*. 2019 Dec 23;3(24):4155-4160. doi: 10.1182/bloodadvances.2019000540.

9. Macone A, **Masciarelli S**, Palombarini F, Quaglio D, Boffi A, Trabuco MC, Baiocco P, Fazi F, Bonamore A. Ferritin nanovehicle for targeted delivery of cytochrome C to cancer cells. *Sci Rep*. 2019 Aug 13;9(1):11749. doi: 10.1038/s41598-019-48037-z.
10. Bellissimo T, Tito C, Ganci F, Sacconi A, **Masciarelli S**, Di Martino G, Porta N, Cirenza M, Sorci M, De Angelis L, Rosa P, Calogero A, Fatica A, Petrozza V, Fontemaggi G, Blandino G, Fazi F. Argonaute 2 drives miR-145-5p-dependent gene expression program in breast cancer cells. *Cell Death Dis*. 2019 Jan 8;10(1):17. doi: 10.1038/s41419-018-1267-5.
11. Donzelli S, Milano E, Pruszko M, Sacconi A, **Masciarelli S**, Iosue I, Melucci E, Gallo E, Terrenato I, Mottolese M, Zylitz M, Zylitz A, Fazi F, Blandino G, Fontemaggi G. Expression of ID4 protein in breast cancer cells induces reprogramming of tumour-associated macrophages. *Breast Cancer Res*. 2018 Jun 19;20(1):59. doi: 10.1186/s13058-018-0990-2.
12. **Masciarelli S***, Capuano E, Ottone T, Divona M, De Panfilis S, Banella C, Noguera NI, Picardi A, Fontemaggi G, Blandino G, Lo-Coco F, Fazi F. * Retinoic acid and arsenic trioxide sensitize acute promyelocytic leukemia cells to ER stress. *Leukemia*. 2017 Aug 4. doi: 10.1038/leu.2017.231. [Epub ahead of print]
13. Genovese I, Fiorillo A, Ilari A, **Masciarelli S**, Fazi F, Colotti G. Binding of doxorubicin to Sorcin impairs cell death and increases drug resistance in cancer cells. *Cell Death Dis*. 2017 Jul 20;8(7):e2950. doi: 10.1038/cddis.2017.342
14. Bellissimo T, Ganci F, Gallo E, Sacconi A, Tito C, De Angelis L, Pulito C, **Masciarelli S**, Diso D, Anile M, Petrozza V, Giangaspero F, Pescarmona E, Facciolo F, Venuta F, Marino M, Blandino G, Fazi F. Thymic Epithelial Tumors phenotype relies on miR-145-5p epigenetic regulation. *Mol Cancer*. 2017 May 10;16(1):88. doi: 10.1186/s12943-017-0655-2.
15. Poser E, Genovese I, **Masciarelli S**, Bellissimo T, Fazi F, Colotti G. Surface Plasmon Resonance: A Useful Strategy for the Identification of Small Molecule Argonaute 2 Protein Binders. *Methods Mol Biol*. 2017;1517:223-237.
16. Bellissimo T, **Masciarelli S**, Poser E, Genovese I, Del Rio A, Colotti G, Fazi F. Small Molecules Targeting the miRNA-Binding Domain of Argonaute 2: From Computer-Aided Molecular Design to RNA Immunoprecipitation. *Methods Mol Biol*. 2017;1517:211-221.
17. Mangiavacchi A., M. Sorci, **S. Masciarelli**, S. Larivera, I. Legnini, I. Iosue, I. Bozzoni, F. Fazi, A. Fatica. The miR-223 host non-coding transcript linc-223 induces IRF4 expression in acute myeloid leukemia by acting as a competing endogenous RNA. *Oncotarget*. 2016 Sep 13;7(37):60155-60168. doi: 10.18632/oncotarget.11165
18. Conti S, Petrunaro S, Marini ES, **Masciarelli S**, Tomaipitina L, Filippini A, Giampietri C, Ziparo E. A novel role of c-FLIP protein in regulation of ER stress response. *Cell Signal*. 2016 Sep;28(9):1262-9. doi: 10.1016/j.cellsig.2016.06.003. Epub 2016 Jun 3
19. Smeriglio P, Alonso-Martin S, **Masciarelli S**, Madaro L, Iosue I, Marrocco V, Relais F, Fazi F, Marazzi G, Sassoon DA, Bouché M. Phosphotyrosine phosphatase inhibitor bisperoxovanadium endows myogenic cells with enhanced muscle stem cell functions via epigenetic modulation of Sca-1 and Pw1 promoters. *FASEB J*. 2016 Apr;30(4):1404-15. doi: 10.1096/fj.15-275420. Epub 2015 Dec 15
20. **Masciarelli S**, Bellissimo T, Iosue I, Fazi F. The Methylated DNA Immunoprecipitation [MeDIP] to Investigate the Epigenetic Remodeling in Cell Fate Determination and Cancer Development. *Methods Mol Biol*. 2016;1379:69-76. doi: 10.1007/978-1-4939-3191-0_6.
21. Hughes JM, Legnini I, Salvatori B, **Masciarelli S**, Marchioni M, Fazi F, Morlando M, Bozzoni I, Fatica A. C/EBP α -p30 protein induces expression of the oncogenic long non-coding RNA UCA1 in acute myeloid leukemia. *Oncotarget*. 2015 Jul 30;6(21):18534-44
22. Venneri MA, Giannetta E, Panio G, De Gaetano R, Gianfrilli D, Pofi R, **Masciarelli S**, Fazi F, Pellegrini M, Lenzi A, Naro F, Isidori AM. Chronic Inhibition of PDE5 Limits Pro-Inflammatory Monocyte-Macrophage Polarization in Streptozotocin-Induced Diabetic Mice. *PLoS One*. 2015 May 11;10(5):e0126580. doi: 10.1371/journal.pone.0126580..
23. **S. Masciarelli**, R. Quaranta, I. Iosue, G. Colotti, F. Padula, G. Varchi, F. Fazi, and A. Del Rio. A Small-Molecule Targeting the MicroRNA Binding Domain of Argonaute 2 improves the Retinoic Acid Differentiation Response of the Acute Promyelocytic Leukemia Cell Line NB4. *ACS Chem. Biol*. 2014 Aug 15;9(8):1674-9. Doi: 10.1021/cb500286b
24. Iosue I., Quaranta R., **Masciarelli S**., Fontemaggi G., Batassa E.M., Bertolami C., Ottone T., Divona M., Salvatori B., Padula F., Fatica A., Lo-Coco F., Nervi C., Fazi F. Argonaute 2 sustains the gene expression program driving human monocytic differentiation of Acute Myeloid Leukemia cells. *Cell Death & Disease* 2013 Nov 21;4:e926. doi: 10.1038/cddis.2013.452
25. **Masciarelli S**., Fontemaggi G., Di Agostino S., Donzelli S., Carcarino E., Strano S. and Blandino G. Gain of function mutp53 down-regulates miR223 contributing to chemoresistance of cultured tumor cells. *Oncogene* 2014 Mar 20;33(12):1601-8. doi: 10.1038/nc.2013.106.
26. Bertolotti M, Yim S, **Masciarelli S**, Kim E, Garcia-Manteiga JM, Vené R Rubartelli A, Rhee SG and Sitia R. B to plasma cell terminal differentiation entails oxidative stress and profound reshaping of the antioxidant responses. *Antioxid Redox Signal*. 2010 Oct;13(8):1133-44
27. **Masciarelli S**, Bertolotti M., Fagioli C., Fra A., Ron D., Hendershot L. and Sitia R. CHOP-

- independent apoptosis and pathway-selective induction of the UPR in developing plasma cells. **Mol Immunol.** 2010 Mar;47(6):1356-65. doi: 10.1016/j.molimm.2009.12.003..
28. **Masciarelli S.** and Sitia R. Building and operating an antibody factory: redox control during B to plasma cell terminal differentiation. **Biochim Biophys Acta** 2008 Apr;1783(4):578-88. Review
 29. Anelli T, Ceppi S, Bergamelli L, Cortini M, **Masciarelli S**, Valetti C, Sitia R. Sequential steps and checkpoints in the early exocytic compartment during secretory IgM biogenesis. **EMBO J.** 2007 Oct 3;26(19):4177-88.
 30. Galletti R, **Masciarelli S**, Conti C, Matusali G, Di Renzo L, Meschini S, Arancia G, Mancini C, Mattia E. Inhibition of Epstein Barr Virus LMP1 gene expression in B lymphocytes by antisense oligonucleotides: uptake and efficacy of lipid-based and receptor-mediated delivery systems. **Antiviral Res.** 2007 May;74(2):102-10.
 31. Cenci S, Mezghrani A, Cascio P, Bianchi G, Cerruti F, Fra A, Lelouard H, **Masciarelli S**, Mattioli L, Oliva L, Orsi A, Pasqualetto E, Pierre P, Ruffato E, Tagliavacca L, Sitia R. Progressively impaired proteasomal capacity during terminal plasma cell differentiation. **EMBO J.** 2006 Mar 8;25(5):1104-13..
 32. **S. Masciarelli**, K. Horner, C. Liu, SH Park, M. Hinckley, S. Hockman, T. Nedachi, C. Jin, M. Conti, and V.C. Manganiello. Cyclic nucleotide phosphodiesterase 3A-deficient mice as a model of female infertility. **J Clin Invest.** 2004 Jul;114(2):196-205
 33. G. Mearini, S. Chichiarelli, M. Zampieri, **S. Masciarelli**, M. D'Erme, A. Ferraro and E. Mattia. Interaction of EBV latent origin of replication with the nuclear matrix: identification of S/MAR sequences and protein components. **FEBS Lett.** 2003 Jul 17; 547(1-3):119-124
 34. **S. Masciarelli**, B. Mattioli, R. Galletti, P. Samoggia, S. Chichiarelli, G. Mearini, and E. Mattia. Antisense to Epstein Barr Virus-encoded LMP1 does not affect the transcription of viral and cellular proliferation-related genes, but induces phenotypic effects on EBV-transformed B lymphocytes. **Oncogene** 2002 Jun 13;21(26):4166-70
- Book chapter:** Degerman, E., Rahn-Landstrom, T., Stenson-Holst, L. Goransson, O., Harndahl, L., Ahmad, F., Choi, Y., **Masciarelli, S.**, Liu, H., and Manganiello, V.C. Role for phosphodiesterase 3B in regulation of lipolysis and insulin secretion. In: LeRoith, D., Taylor, S.I., Olefsky, J.M. (eds). **Diabetes Mellitus: A Fundamental and Clinical Text (3rd ed)**, Lippincott-Raven Publishers, Philadelphia, PA. 2003Total publications: 16