

# Fiorio Pla Alessandra

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## Education

**December 20<sup>th</sup> 2001** PhD title in Physiological Sciences

**1998** Honor degree in Biology (Laurea) – University of Torino, Italy

**1992** High School Degree (Maturità Scientifica), Torino, Italy

## Research experience and Scientific Activity

**Since October 1 2007:** permanent position as **Assistant Professor in Physiology**, University of Turin. Research activity: cell physiology, with a particular interest on Ca<sup>2+</sup> signaling mechanisms. **In the last years the research activity has been focused on the role of intracellular Ca<sup>2+</sup> in the angiogenic process.** In 2009 Dr Fiorio Pla spent 6 months as visiting professor in Dr. Ambudkar's laboratory, NIDCR, NIH, Bethesda, MD, US as part of the WWS program sponsored by the University of Turin. Beside **Dott. Ambudkar**, Dr. Fiorio Pla has several **active collaborations**, as the one with **Dott. Moccia**, Dept. of Physiology, University of Pavia. Moreover recently a close collaboration was established with **Prof Prevarskaya** and Prof. Gkika, Laboratory of Cell Physiology, INSERM U1003 Bat. SN 3, UFR de Biologie Université de Lille 1. At the University of Turin, Dr Fiorio Pla established solid collaboration with several groups, including **Prof. Bussolati**, Department of Internal Medicine, Centre for Molecular Biotechnology; **Dott. Mancardi**, Department of Clinical and Biological Sciences; **Dott. Serini**, Department of Oncological Sciences and Division of Molecular Angiogenesis, Institute for Cancer Research and Treatment;

**2011-:** Visiting professor in Prof. Prevarskaya's laboratory, Laboratory of Cell Physiology, INSERM U1003 Bat. SN 3, UFR de Biologie Université de Lille 1.

**2009:** Visiting professor in Dr. Ambudkar's laboratory, NIDCR, NIH, Bethesda, MD, US

**2006-2007:** Post-doctoral research fellowship from Ricerca Scientifica Applicata CIPE Piemonte, Italy merit-based award sponsored by NIS (Nanostructured Interfaces and Surfaces Centre of Excellence, University of Turin) to work in Prof. L Munaron's Laboratory, Department of Animal and Human Biology, University of Turin. The project is focused on the study of nanostructured biomaterials and their biocompatibility for biomedical application. I am member of NIS.

**2004-2006:** Post-doctoral research fellowship from Ricerca Scientifica Applicata CIPE merit-based award sponsored by Prof. L. Munaron Piemonte, Italy. to work in Prof. L Munaron's Laboratory, Department of Animal and Human Biology, University of Turin. The aim of the project was the understanding of the mechanisms that control the cell cycle in tumor-derived endothelial cells and specifically the role of mitogen-activated calcium influx.

**2002-2004:** Post-doctoral Fogarty International Fellowship NIH merit-based award sponsored by Dr. Jeffery L. Barker, Laboratory of Neurophysiology, National Institute of Neurological Disorders and Stroke, National Institute of Health, Bethesda, MD. The project was focused on bFGF-induced signal transduction

pathways during neurogenesis of the embryonic rat cerebral cortex and their role on self renewal and differentiation of neural stem cells. It was studied in detail the contribution of TRPC1 channel in bFGF-mediated self-renewal on neural stem cells (NSC).

**1998-2001:** PhD fellowship merit-based award from MIUR (Italian Ministry for University and Research). PhD research in Physiological Sciences at the Department of Human and Animal Biology, University of Turin, Italy with a study focused on the role of calcium entry triggered by bFGF and Arachidonic Acid in endothelial cells. It was also investigated and demonstrated the role of arachidonic acid-induced calcium entry in the control of endothelial cell proliferation.

**1998-1999:** Practical laboratory training at the Department of Human and Animal Biology of the University of Torino. Working on calcium influx induced by mitogens in endothelial cells.

**Honors and Awards:**

2006-2007 Post-doctoral research fellowship from Ricerca Scientifica Applicata CIPE Piemonte, Italy merit-based award

2004-2006 *Post-doctoral research fellowship from Ricerca Scientifica Applicata CIPE merit-based award.*

2002-2004 *Fogarty International Fellowship. NIH merit-based award*

1998 Honor degree in Biology

**Teaching activity:**

Since 2009: Cellular and molecular biophysics, for Master students in Industrial Biotechnology I year, 5CFU

2007-2009: physics techniques in biology, for Master students in Biomolecular Sciences, "biosanitaria" and biomedical physics,

- Physiology teaching within a course of "Patogenesi dei Danni", Bachelor degree in "TECNICO DELLA PREVENZIONE NELL'AMBIENTE E LUOGHI DI LAVORO (TPALL)"

**Numbers of peer reviewed papers: 20**

**H-index: 11**

## List of Publications

1. Pupo E, Fiorio Pla A, Avanzato D, Moccia F, Avelino Cruz JE, Tanzi F, Merlino A, Mancardi D, Munaron L (2011). [Hydrogen sulfide promotes calcium signals and migration in tumor-derived endothelial cells](#). *Free Radic Biol Med*. 2011 Nov 1;51(9):1765-73. Epub 2011 Aug 17. **IF: 5.7**
2. Fiorio Pla A, Avanzato D, Munaron L, Ambudkar IS (2011). Vascularizing the tumor: TRP channels as molecular targets. *Am J Physiol Cell Physiol*. 2011 Aug 10. [Epub ahead of print]. **IF: 3.8**
3. Fiorio Pla A, Ong HL, Cheng KT, Brossa A, Bussolati B, Lockwich T, Paria B, Munaron L, Ambudkar IS (2011). [TRPV4 mediates tumor-derived endothelial cell migration via arachidonic acid-activated actin remodeling](#). *Oncogene*. 2011 Jun 20. doi: 10.1038/onc.2011.231. [Epub ahead of print]. **IF: 7.4**
4. Francesco Moccia, Giuseppe Bertoni, Alessandra Florio Pla, Silvia Dragoni, Emanuela Pupo, Annalisa Merlino, Daniele Mancardi, Luca Munaron and Franco Tanzi (2010). Hydrogen sulfide regulates intracellular Ca<sup>2+</sup> concentration in endothelial cells from excised rat aorta *Current Pharmaceutical Biotechnology (in stampa)* **IF: 3.4**
5. Daniele Mancardi, Alessandra Florio Pla, Francesco Moccia, Franco Tanzi, and Luca Munaron (2010). Old and new gasotransmitters in the cardiovascular system: focus on the role of nitric oxide and hydrogen sulfide in endothelial cells and cardiomyocytes. *Current Pharmaceutical Biotechnology (in stampa)* **IF: 3.4**
6. Fiorio Pla A, Genova T, Pupo E, Tomatis C, Genazzani A, Zaninetti R, Munaron L. (2010). [Multiple Roles of Protein Kinase A in Arachidonic Acid-Mediated Ca<sup>2+</sup> Entry and Tumor-Derived Human Endothelial Cell Migration](#). *Mol Cancer Res*. 2010 Oct 26. [Epub ahead of print]. **IF: 4.37**
7. Munaron L, Fiorio Pla A. (2009) Endothelial calcium machinery and angiogenesis: understanding physiology to interfere with pathology. *Curr Med Chem*. 2009;16(35):4691-703. **IF: 4.6**
8. Voyron S, Rocco F, Ceruti M, Forni P, Fiorio Pla A, Sarpietro MG, Varese GC, Marchisio VF. (2009). Antifungal activity of bis-azasqualenes, inhibitors of oxidosqualene cyclase. *Mycoses*. 2009 Jun 22. [Epub ahead of print] **IF: 1.67**
9. V .Aina, G . Malavasi, Fiorio Pla A, L . Munaron, C . Morterra (2008). Zinc-containing bioactive glasses: surface reactivity and behaviour towards endothelial cells. *ACTA BIOMATERIALIA*. May;5(4):1211-22. Epub 2008 Nov 11. **IF: 4.8**
10. Munaron L, Tomatis C, Fiorio Pla A. (2008) The Secret Marriage Between Calcium and Tumor Angiogenesis. *Technol Cancer Res Treat*.2008 Aug;7(4):335-340. **IF: 1.8**
11. Fiorio Pla A, Grange C, Antoniotti S., Tomatis C., Merlino A, Bussolati B. and Munaron L. (2008) Arachidonic acid-induced Ca<sup>2+</sup> entry is involved in early steps of tumor angiogenesis. *Mol. Cancer Res.*, 6(4) **IF: 4.37**
12. Dragan Maric, Alessandra Fiorio Pla, Yoong Hee Chang and Jeffery L. Barker (2007) Self-renewing and differentiating properties of cortical neural stem cells are selectively regulated by basic fibroblast growth factor (bFG) signaling via specific receptors. *J. Neurosci.*, 27 (8), 1836-1852 **IF: 7.27**
13. C. Tomatis\*, A. Fiorio Pla\* & L. Munaron (2007). Cytosolic calcium microdomains by arachidonic acid and nitric oxide in endothelial cells. *Cell Calcium*, 41 (3), 261-9. **IF: 3.55**
14. S. Antoniotti, A. Fiorio Pla, S.Barral, O. Scalabrino, L. Munaron & D. Lovisolo (2006) Interaction between TRPC channels subunits in endothelial cells *J. Receptor and Signal Transduction* 26, 225-240
15. Fiorio Pla A, Dragan Maric, So-Ching Brazer, Paolo Giacobini, Xibao Liu, Yoong Hee Chang, Indu S. Ambudkar, and Jeffery L. Barker (2005). Canonical Transient Receptor

- Potential 1 Plays a Role in Basic Fibroblast Growth Factor (bFGF)/FGF Receptor-1-Induced Ca<sup>2+</sup> Entry and Embryonic Rat Neural Stem Cell Proliferation. *J. Neurosci.* 25, 2687-2701.
16. L. Munaron, S. Antoniotti, A. Fiorio Pla and D. Lovisolo (2004) Blocking Ca<sup>2+</sup> entry: a way to control cell proliferation *Current Medicinal Chemistry* 11, 763-771
  17. S. Antoniotti, A. Fiorio Pla, S. Pregolato, A. Mottola, D. Lovisolo & L. Munaron (2003) Control of endothelial cell proliferation by calcium influx and arachidonic acid metabolism: a pharmacological approach *Journal of Cellular Physiology* 9999, 454-463
  18. S. Antoniotti, D. Lovisolo, A. Fiorio Pla, L. Munaron (2002). Expression and functional role of bTRPC1 channels in native endothelial cells. *FEBS Letters* 510, 189-195.
  19. A. Fiorio Pla & L. Munaron (2001). Calcium influx, arachidonic acid, and control of endothelial cell proliferation *Cell Calcium* 30 (4), 235-244.
  20. L. Munaron & A. Fiorio Pla (2000). Calcium influx induced by activation of tyrosine kinase receptors in cultured bovine aortic endothelial cells *Journal of Cellular Physiology* 185, 454-463.