

## PERSONAL INFORMATION

First and Family name	<b>Pietro Fazzari, PhD</b>
Orcid code:	0000-0003-3457-9201

### Current position

Position	Group Leader, Ramon y Cajal Fellow		
Name of Institution	CIPF Centro de Investigación Príncipe Felipe		
Program	Neuroinflammation and Neurological Impairment		
Address and Country	C/ Eduardo Primo Yúfera, 3 46012 Valencia, Spain		
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Current position	Ramon y Cajal Group Leader at CIPF		
Espec. cód. UNESCO	2415 Molecular Biology		
Palabras clave	NRG1, Schizophrenia, Synapse, Cortical circuit, Cognition		

### Education

PhD	University	Year
Cell Science and Technology	University of Torino, School of Medicine	2007

### Articles, h Index, thesis supervised...

<u>Summary Of Publications</u>	Highlights as First name: 2 papers in <b>Nature</b> (2010; 2017), 1 paper in <b>Elife</b> (2014)
Total articles: 16	
Total Citations: 924	
h-index: 11	Master Thesis supervised: 5

### Summary of the Research Interest

I am a **molecular neurobiologist** devoted to research in wiring and function of cortical neurons in physiological and pathological conditions. In particular, my aim is to understand how genes involved in **brain diseases affect cortical neurons**. Recently, my lab investigated the role of Nrg1 in the neurons of the brain cortex. We found that this neurotrophic factor is involved in the **formation of cortical circuits** and in the **survival and regeneration** of neurons in pathological conditions.

### Publications

#### Most Relevant Publications

*Cortical distribution of GABAergic interneurons is determined by migration time and brain size.*

**Fazzari P** et al., Development, 2020.

#### *Nrg1 Intracellular Signaling Is Neuroprotective upon Stroke*

Navarro-González C, ..., **Fazzari P**. Oxidative Medicine and Cellular Longevity, 2019.

#### *PLD3 gene and processing of APP.*

**Fazzari P**, et al., **Nature**, 2017.

Here, I determined the role of PLD3, a gene recently linked to Alzheimer's Disease. Surprisingly, I found that PLD3 is not involved in APP processing as previously suggested but it is required to maintain the integrity of lysosomal system in hippocampal neurons.

*Cell autonomous regulation of hippocampal circuitry via Aph1b-γ-secretase/neuregulin 1 signalling.*

**Fazzari P**, Snellinx A, Sabanov V, Ahmed T, Serneels L, Gartner A, Shariati SA, Balschun D, De Strooper B. **Elife**. 2014;

I show that Aph1b- $\gamma$ -secretase have a selective role in cortical wiring via the regulation of NRG1 intracellular signalling. This work provides for the first time insights into the functional role of NRG1 intracellular signalling in the cortical neurons and schizophrenia *in vivo*.

*Control of cortical GABA circuitry development by Nrg1 and ErbB4 signalling.*

**Fazzari P**, Paternain AV, Valiente M, Pla R, Luján R, Lloyd k, Lerma J, Marín O\* & Rico B\*. \*Cor. authors. **Nature**, 2010

By gain- and loss-of-function experiments I showed that Nrg1/ErbB4 signalling regulates the excitatory drive received by interneurons and the establishment of inhibitory synapses on pyramidal neurons. This study was very influential and was followed up by several independent groups.

### Other publications

*Sema4C-Plexin B2 signalling modulates ureteric branching in developing kidney.* Perälä N, Jakobson M, Ola R, **Fazzari P**, Penachioni JY, Nymark M, Tanninen T, Immonen T, Tamagnone L, Sariola H. Differentiation. 2011

*FAK: dynamic integration of guidance signals at the growth cone.* Chacon M, **Fazzari P\***. \*Cor. author. Review, Cell Adhesion and Migration, 2010

*Nrg1 reverse signalling in cortical pyramidal neurons.* Peregrin S, **Fazzari P\***. \*Cor. author. Review, J Neuroscience, 2010

*The Sema4D-Plexin-B signalling complex regulates dendritic and axonal complexity in developing neurons via diverse pathways.* Vodrazka P, Korostylev A, Hirschberg A, Swiercz J, Worzfeld T, Deng S, **Fazzari P**, Tamagnone L, Offermanns S, Kuner R. Eur J Neuro, 2009

*Overexpression of GAP-43 modifies the distribution of the receptors for myelin-associated growth-inhibitory proteins in injured Purkinje axons.* Foscari S, Gianola S, Carulli D, **Fazzari P**, Mi S, Tamagnone L, Rossi F. Eur J Neuro, 2009

*Transcription factors make a turn into migration.* **Fazzari P**. Review, Cell Adhesion and Migration, 2009

*Semaphorin Signals in Cell Adhesion and Cell Migration: Functional Role and Molecular Mechanisms.* **Fazzari P\***, Casazza A\*, Tamagnone L. Review. Adv Exp Med Biol 2007. \*shared co-authorship

*Plexin-B3 is a functional receptor for semaphorin 5A.* Artigiani S, Conrotto P, **Fazzari P**, Gilestro GF, Barberis D, Giordano S, Comoglio PM, Tamagnone L. EMBO reports, 2004

*Functional regulation of semaphorin receptors by proprotein convertases.* Artigiani S, Barberis D, **Fazzari P**, Longati P, Angelini P, van de Loo JW, Comoglio PM, Tamagnone L. J Biol Chem, 2003

## **WORKING EXPERIENCE**

2018/May-present, **Group Leader** at **CIPF** Centro de Investigación Príncipe Felipe, Program in Neuroinflammation and Neurological Impairment

2016/April-present **Ramon y Cajal Fellow**,  
Centro de Biología Molecular Severo Ochoa-CSIC, Madrid.  
Department for Molecular Neuropathology.

**2011-2015 Staff Scientist,**

Project: "Selective role of gamma-secretase complexes in neuronal physiology and in Alzheimer's disease"

VIB-CME K.U.Leuven. Laboratory for Research on Neurodegenerative Diseases, Leuven, Belgium

Supervisor: Prof. Bart De Strooper

**2007-2010 Marie Curie Post Doctoral Fellow**

Project: "Analysis of Neuregulin-1 function in the maturation of cortical GABAergic interneurons: Implications for the etiology of schizophrenia"

Department of Neurobiology, INA Neuroscience Institute of Alicante, Spain

Supervisor: Prof. Oscar Marín, Prof. Beatriz Rico

**2002-2007 PhD Student, PhD Course in Cell Science and Technology**

Project: "PlexinB1 functional role during mouse development and in tumour angiogenesis"

Institute for Cancer Research and Treatment, Division of Molecular Oncology,

University of Torino, School of Medicine, Candiolo, Torino, Italy

Director: Prof. Paolo Comoglio, Supervisor: Prof. Luca Tamagnone

**2006 EMBO Visiting fellow**

Project: "Study of the functional interaction between B subfamily Plexins and Scatter Factor Receptors during growth and differentiation of hippocampal neurons"

Department of developmental neurobiology, KCL-Medical Research Council, London, UK

Supervisor: Prof. Britta J.Eickholt

**2004 Visiting researcher**

Project: "Study of PlexinB1 and Sema4D expression and function in cerebellar development and in neural regeneration upon axotomy and spinal cord injury"

Department of Neuroscience, University of Torino, Torino

Supervisor: Prof. Ferdinando Rossi

**2001-2002 Telethon fellow**

Project: "Characterization of PlexinB1 and Sema4D expression during embryonic development by In Situ Hybridization"

Unit of Motoneuron Development and Pathology, IBDM, Marseille, France

Director: Prof. Christopher Henderson, Supervisor: Prof. Flavio Maina

**1999-2000 Master Thesis Student**

Thesis Title: "Study of GnRh neuronal system development in urodela amphibian"

Department of Animal Biology, FSMFN, University of Torino, Torino

Supervisor: Prof. M.F. Franzoni

***Supervision of graduate students and postdoctoral fellows***

2018-19, Hector Carceller, PhD

2019-present, Ana González-Manteiga, PhD Student

2018- present, Carmen Navarro Gonzalez, PhD

2018- present, Angela Rodriguez Prieto, TFM, Currently PhD Student

2017 Alba Huerga Gomez, Graduate Student

2016 Vikram Jayaswal, Master Student

2013 Emilia Iscru, Postdoctoral Researcher

2012 Kristof Govaert, Master Student

2012 Jolien Steyaert, Master student

2012 Katrein De Clerq, Master student

***Teaching activities***

2018-present, Teaching assistant – Master Neurociencias, Universidad Valencia

2018-present, Teaching assistant – Neuronal circuit formation, UPV

2017-present, Teaching assistant – Cortical development and cell Migration, Universidad Autonoma Madrid

2017 Teaching assistant – Molecular Neurobiology, Universidad Complutense Madrid

2005-2006 Teaching assistant – Brain histology and cytology,  
Faculty of medicine, University of Torino