

## PERSONAL INFORMATION

### Stefania Marcuzzo

📍 Fondazione IRCCS Istituto Neurologico Carlo Besta  
UOC Neurology 4 – Neuroimmunology and Neuromuscular Diseases  
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## WORK EXPERIENCE

2019 - to date

### Health Researcher

Fondazione IRCCS Istituto Neurologico Carlo Besta – UOC Neurology 4- Neuroimmunology and Neuromuscular Diseases, Milan, Italy.

- Research activity on motor neuron diseases. Project coordination, grant application, manuscript writing, supervisor of junior and senior fellowships, graduate and PhD students.

2013 - 2019

### Senior researcher

Fondazione IRCCS Istituto Neurologico Carlo Besta – UOC Neurology 4- Neuroimmunology and Neuromuscular Diseases, Milan, Italy.

- Involved in research projects on amyotrophic lateral sclerosis (ALS) pathogenesis, carrying out and coordinating the experimental activities, with focus on the role of microRNAs.

2010 - 2013

### PhD student

Fondazione IRCCS Istituto Neurologico Carlo Besta – UOC Neurology 4- Neuroimmunology and Neuromuscular Diseases, Milan, Italy.

- Understanding ALS pathogenesis by brain and muscle MRI analysis and characterization of spinal cord-derived stem cells in the G93A-SOD1 mouse model.

2011 - 2011

### PhD student, scientific visit

Neuronal Regeneration Laboratory, Department of Regenerative Medicine at Centro de Investigación Principe Felipe in Valencia, Spain.

- Acquisition of skills and technical competences in in vitro studies on neural stem cells in the frame of the PhD program related to ALS pathogenesis.

2008 - 2010

### Junior fellowship

Fondazione IRCCS Istituto Neurologico Carlo Besta – UOC Neurology 4- Neuroimmunology and Neuromuscular Diseases, Milan, Italy.

- Involved in research projects aimed at investigating the molecular and cellular mechanisms underlying ALS. Competences in cellular and molecular methodologies.

## EDUCATION AND TRAINING

2017- to date

### Qualified as Professional Biologist

University of Study of Pavia, Pavia, Italy.

2010 - 2013

### PhD in Translational and Molecular Medicine (DIMET)

Dept. of Medicine, University of Studies of Milan Bicocca, Milan, Italy.

- Experience in molecular and cellular biology, biochemistry methods and in vivo studies in the field of ALS. Acquisition of skills in microRNA profiling, iPSCs, and multi-electrode array (MEA) technology.

- 2006 - 2008 **Master Science Degree in Neurobiology**  
 Dept. of Physiology Molecular and Cellular Pharmacology, University of Pavia, Pavia, Italy.
- Experience in animal and cellular biology, specifically in neural stem cell isolation, culture and differentiation, focusing on the study of ALS.

- 2003 - 2006 **First level Master Science Degree**  
 Dept. of Pharmacology, University of Milan, Milan, Italy.
- Experience in animal biology, particularly with the animal model of Creutzfeldt-Jacob disease.

## ACHIEVEMENTS AND AWARD

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- Awards**
- 2010, Award DIMET, Travel award for the XII ICNMD Congress on Neuromuscular Disease, Naples, Italy.
  - 2010-2011, Award DIMET, Fellowship award for scientific visit at the Neuronal Regeneration Lab. directed by Prof. V. Moreno-Manzano, Valencia, Spain.

**Editorial activity** Reviewer for Cells, Biomedicines, IJMS, JCM, JNC, Muscle & Nerve, JN.

- Grants**
- 2020 – today, Task Leader in the frame of the project INTERSLA–Reg. Lombardia, coordinated by Prof. G. Lauria.
  - 2017–2020, Task Leader in the frame of the project TRANSALS–FRRB, coordinated by Prof. G. Lauria.

- Patents**
- 09/03/2022 Patent Submitted: number 102022000004496; title: “*Vettori non virali*”.
  - Inventor of National Patent MI2011A002106: “*Biomarcatore di staminalità e/o neurogenesi e metodo di monitoraggio del progresso di una malattia neurodegenerativa*” “*Biomarker of stem and/or neurogenesis and method of monitoring of a neurodegenerative disease*”.

## TECHNICAL SKILLS

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Animal biology: Maintaining of animal G93A-SOD1 transgenic colony, Genotyping

Molecular biology: Nucleic acid extraction, PCR amplification and sequencing, molecular cloning, Real Time PCR (ABI PRISM 7000 and 7500 programs - SDS Software), MicroRNA expression profiling analysis (miRNomica), qPCR on microfluidic cards; non-coding RNA (miRNA, lncRNA) analyses in human tissues, cells and biofluids.

Biochemistry: Western blot, Cell-based assay (CBA), Immunohistochemistry and immunofluorescence, tissue processing at cryostat, confocal microscopy, RNAscope technology.

Cellular biology: Primary cellular cultures of myoblasts, Primary cellular cultures of cortical neurons, Primary cultures of adult neural stem cells from ALS mice; characterization of adult neural stem cells by immunofluorescence and molecular analysis; protocols of differentiation into neural and motor neuronal phenotypes for adult neural stem cells; Primary cultures of fibroblasts from human biopsy; reprogramming of human fibroblasts by Sendai virus to obtain human induced pluripotent stem cell (iPSCs) cultures; characterization of iPSCs by immunofluorescence and molecular analysis; protocols of differentiation into neural, motor neuronal and skeletal muscle phenotypes from iPSCs; Cell Transfection; Peripheral blood mononuclear cell isolation. MiRNA mimic and inhibitor technologies.

Electrophysiological techniques: Multielectrode Array (MEA) recording system to evaluate the neuronal activity of neuron/motor neuron-derived stem cells.

Informatic abilities: Use of the main Windows applications and instrument software, use of Adobe Photoshop, Image Pro-plus, Image J, Biorender, Lasersharp 2000 and Panoramic Viewer for image acquisition, use of GraphPad PRISM version.5 and Origen for statistical analysis, DIANA tool software, miRwal, miRbase (e.g. TarBase, miRPath).