



**Paola Francesca Zarin**

Director of Scientific Research

Italian Multiple Sclerosis Society

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**EXECUTIVE SUMMARY**

Leader with 30+ years of experience working in Neuroscience research, 15+ years experience in Drug Discovery and Development, 20+ years' experience in leading multidisciplinary team at international level, +9 years of experience in leading health research strategy and patient engagement at non-profit Patients Organization. Molecular neuropharmacologist by education, with special knowledge on neuronal plasticity mechanisms underlying neurodegenerative diseases. 71 publications and 9 patents/applications. Strengths include the ability to accurately assess situations, create a vision, make difficult decisions, collaborate with executive stakeholders, flawlessly execute strategic and tactical plans, and coach & develop current and future leaders.

## **PROFESSIONAL ROLES & KEY ACCOMPLISHMENTS**

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### ***NON PROFIT PATIENTS ORGANIZATIONS***

#### ***HEALTH RESEARCH AND PATIENTS ENGAGEMENT STRATEGY DEVELOPMENT AND DIRECTION***

##### **ITALIAN MULTIPLE SCLEROSIS**

***2010-Present***

##### **INTERNATIONAL MULTIPLE SCLEROSIS FEDERATION**

- Director of Scientific Research on Fully Resourced Research Programme in Multiple Sclerosis Biomedical Research, Research in Public Health, Research in Rehabilitation, Communication in Scientific Research and Patients Engagement. Italian MS Society & Fondation

- Dr. Zaratina developed a research portfolio management model (Nonprofit foundations spur translational research. Zaratina P, Trends Pharmacol Sci. 2014) that also allows effective programs of technology transfer aimed at developing new therapies (pharmacological and rehabilitation) for people with Multiple Sclerosis (MS). The research portfolio includes fully resourced research programme in MS Biomedical Research, Research in Public Health, Research in Rehabilitation and Communication in Scientific Research.

- Led the formation (2015) of the Industry Forum (Zaratina et al. Maximizing Collective Impact to Enable Drug Development. Trends Pharmacol Sci. 2016) of the Progressive Multiple Sclerosis Alliance (PMSA) whose mission is 'to expedite the development of effective disease modifying and symptom management therapies for progressive forms of multiple sclerosis' (Fox et al., "Setting a research agenda for progressive multiple sclerosis: The

international collaborative on progressive MS". Multiple Sclerosis Journal 2012). Member of the Scientific Committee and of the Industry Forum of PMSA.

- Coordinator (2018-2021) of the EU Responsible Research Innovation H2020 MULTI-ACT project, Dr. Zaratin led the development of a new research governance model and guidelines to engage patients as key stakeholder and co-researcher in multistakeholder research initiatives. (MULTI-ACT: A Collective Research Impact Framework and multi-variate models to foster the true engagement of actors and stakeholders in Health Research and Innovation; <http://www.multiact.eu/>; Evaluation woes: define metrics from the off. Zaratin P, Salvetti M. Nature. 2018)
- Led the formation (2019) of the global Patient Reported Outcome Initiative for MS (PROMS), a global initiative jointly coordinate by European Charcot Foundation and International Multiple Sclerosis Federation. Member of the PROMS Executive Board. The PROMS multistakeholder initiative has the strategic intent to maximize impact on Science with and of Patient Input on the health, healthcare and quality of life of people affected by MS (P. Soelberg Sorensen P et. Al. The Multiple Sclerosis Care Unit. Mult Scler. 2018).
- Programme manager (2010-2012) of the clinical osservazionale study on the prevalence of Chronic Cerebro Spinal Venous Insufficiency (CCSVI) in patients with Multiple Sclerosis (MS) and other neurodegenerative disorders (Reference: "Observational case-control study of the prevalence of chronic cerebrospinal venous insufficiency in multiple sclerosis: results from the CoSMo study". Multiple Sclerosis Journal 2013 Oct; 19(11):1508-17).

## ***PHARMACEUTICAL THERAPY AREA DIRECTION***

### **MERCK SERONO, SWITZERLAND**

**2007-2009**

- Senior Director of Therapeutic Area Neurodegenerative Disease and Translational Pharmacology on Fully Resourced Programme in Neurodegenerative Diseases therapeutic areas (primary focus Multiple Sclerosis).
- Directed portfolio of programs in Multiple Sclerosis and Parkinson's Diseases.
- Demonstrated experience building the framework to integrate acquisition and ensure the strategic and operational benefits in the post-acquisition environment. Following Merck acquisition of Serono, Dr. Zaratina integrated Italian Research department (50 staff) of Serono into company's global Therapeutic Neurodegenerative Diseases organization. The new Global Department aimed to bridge preclinical discipline toward clinical medicine. Four operational groups were created: Target Pharmacology, Disease Pharmacology and Translational Pharmacology.

### **SERONO, ITALY-SWITZERLAND**

**2004-2007**

- Director of Research Pharmacology Fully Resourced Programme in Immunology and Neurology Serono therapeutic areas and Projects team leader
- Headed pharmacology CNS Department (50 staff). developing in vivo models and ex vivo biomedical/omics assays and imaging techniques for use in preclinical candidate profile.
- Team leader of an international programme focused on the preclinical development and selection of candidate molecules for the oral treatment of MS. The team successfully showed Proof of

Concept of activity of new ligands as MS disease modifying agents.

- Assembled network of translational medicine collaborations to provide proof of biological activities in human disease samples and facilitate the definition of biomarkers. Highlights from this approach include the identification of genomic signatures and development of smart contrast agents to marker specific cell populations from patients with different clinical forms of MS aim to be used as diagnostic and prognostic markers to stratify patient populations and monitor therapy efficacy in support of clinical development.

### ***APPLIED PHARMACOLOGY RESEARCH***

#### **SERONO, ITALY-SWITZERLAND**

**2002-2004**

- Head of Neuropharmacology Unit of Resourced in vivo Pharmacology Programme in Multiple sclerosis and Peripheral Neuropathy therapeutic areas.
  - Headed Neuropharmacology Unit (10 staff) focused on 1) In vivo evaluation of Leads to Candidate Molecules (small non-peptide molecules and peptides) aimed at Establishing Proof-of-Concept in preclinical disease animal models and Selection of Preclinical Drug Candidates 2) the development of preclinical animal (and transgenic) models and read-outs relevant to clinical manifestations of neuroinflammatory/neuroimmune disorders (Multiple Sclerosis and Peripheral Neuropathy).
  - Data provided to define relevance of Serono molecules for the Multiple Sclerosis and Peripheral Neuropathy therapeutic areas. Highlights from the Unit included the implementation of new animal models of Multiple Sclerosis and read-outs relevant to clinical diagnosis – e.g. MRI analysis.
  - Both started and led Drug Discovery Programs on the identification of inhibitors of targets associated with Schizophrenia and oral treatment of Multiple Sclerosis.

***APPLIED DISCOVERY RESEARCH***

**GLAXOSMITHKLINE PHARMACEUTICALS - SMITHKLINE BEECHAM  
PHARMACEUTICALS, MILAN, ITALY 1993-2002**

- Senior Research Scientist, Head of In vivo Molecular Pharmacology Laboratory of Fully Resourced Programme in Pain Therapy Area and Programme team leader.
- Headed neurobiology and molecular pharmacology teams with increasing responsibilities.
- Range of skills applicable to innovating and growing in the following major areas of expertise: gene expression, in vitro assays and transcerebral in-vivo microdialysis techniques.
- Data provided to define relevance of SmithKline Beecham targets for the therapeutic areas of interest. Highlights from the laboratory included identification of functional involvement of human orphan receptor GPR7 in painful peripheral neuropathies.
- Team leader of multifunctional projects focused on the identification of ligands of new G-protein coupled receptors. The programme that I led was particularly successful in identifying a selective ligand of one of the above receptors and establishing Proof of Concept of activity of this ligand as a pain relief agent. This allowed progression to Programme Status to select a Preclinical Drug Candidate.
- Role in Developing External Collaborations focused on the identification of candidate markers of painful peripheral neuropathies and the generation of preclinical (transgenic) animal models.
- Contribution to the Therapy Area Strategy for future SmithKline effort in the Pain Therapy area. Co-author of a SmithKline Pain Strategic Document.

## SUMMARY OF PROFESSIONAL ROLES

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### CURRENT POSITION

*Director of scientific research (2010-present)*  
Italian MS Society & Fondazione, Genoa, Italy.

### PHARMACEUTICAL INDUSTRY ROLES

*Senior Director of Therapeutic Area Neurodegenerative Disease Disease  
and Translational Pharmacology*  
Merck Serono Research (2007-2009) Geneva, Switzerland.

*Director of Research Pharmacology*  
RBM S.p.A. Istituto di Ricerche Biomediche "A. Marxer" – Serono  
Preclinical Research (2004-2007) Ivrea, Italy - Geneva, Switzerland.

*Head of Neuropharmacology Unit*  
RBM S.p.A. Istituto di Ricerche Biomediche "A. Marxer" – Serono  
Preclinical Research (2002 – 2004) Ivrea, Italy - Geneva, Switzerland.

*Head of In vivo Molecular Pharmacology Laboratory*  
GlaxoSmithKline Pharmaceuticals (1997-2002) Milan, Italy.

*Head of Molecular Pharmacology Laboratory*  
SmithKline Beecham Pharmaceuticals (1997 – 1999) Milan, Italy.

*Research Scientist, Neurobiology Laboratory*  
SmithKline Beecham Pharmaceuticals (1994 – 1997) Milan, Italy.

*Assistant Research Scientist, Neurobiology Laboratory SmithKline  
Beecham Pharmaceuticals (1989-1993) Milan, Italy.*

## EDUCATION

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*Master Degree in Business Leadership*  
MIT Sloan School of Management (2006-2007)  
Cambridge, Massachusetts, USA.

*Ph.D. training*, Professor Flaminio Cattabeni, Institute of  
Pharmacological Science (1986-1989), University of Milan, Italy.

*Undergraduate B.A. in Chemistry and Pharmacology Technology* Faculty  
of Pharmacy (1981-1986), University of Milan, Italy