

**EUROPEAN  
CURRICULUM VITAE  
FORMAT**



**PERSONAL INFORMATION**

Name **MARCOLI, MANUELA**  
 Address  
 Telephone  
 Fax  
 E-mail  
  
 Nationality  
 Date of Birth  
 Gender

**WORK EXPERIENCE**

1992 - 2023	Researcher in Pharmacology and Toxicology (SSD BIO/14) University of Genova, Via Balbi 5, 16100 Genova, Italy Dept. Pharmacy (DIFAR), Pharmacology and Toxicology Unit, School of Medical and Pharmaceutical Sciences, Viale Cembrano 4, 16148 Genova Research and teaching, Pharmacology and Toxicology, SSD BIO/14
1982 - 1992	Tecnico Laureato University of Pavia, Corso Strada Nuova 65, 27100 Pavia, Italy Pharmacology Institute, Faculty of Medicine and Surgery, Piazza Botta 8, 27100 Pavia Research and integrative teaching, Pharmacology and Toxicology
1983 - 1984	Honorary Researcher University of Aberdeen, King's College, Aberdeen AB24 3FX, Scotland Unit for Research on Addictive Drugs headed by H. Kosterlitz, Marischal College Research, Pharmacology and Toxicology
1978 - 1980	Undergraduate Fellowship Pharmacology Institute, Faculty of Medicine and Surgery, University of Pavia, Piazza Botta 8, 27100 Pavia Research, Pharmacology and Toxicology

**EDUCATION AND TRAINING**

1980 - 1984	Master Program in Clinical Pharmacology University of Pavia, Corso Strada Nuova 65, 27100 Pavia, Italy Specialization in Clinical Pharmacology
1980	Professional training for national license to practice Medicine and Surgery University of Pavia, Corso Strada Nuova 65, 27100 Pavia, Italy National license to practice Medicine and Surgery
1974 - 1980	Degree course in Medicine and Surgery University of Pavia Corso Strada Nuova 65, 27100 Pavia, Italy Degree in Medicine and Surgery (cum laude)

**PERSONAL SKILLS AND  
COMPETENCES**

*Acquired in the course of life and career  
but not necessarily covered by formal  
certificates and diplomas..*

MADRELINGUA            **ITALIAN**

ALTRE LINGUA

- Capacità di lettura
- Capacità di scrittura
- Capacità di espressione orale

**ENGLISH**  
livello: eccellente  
livello: eccellente  
livello: buona

<p style="text-align: center;"><b>SOCIAL SKILLS AND COMPETENCES</b></p> <p><i>Living and working with other people, in multicultural environments, in positions where communication is important and situations where teamwork is essential (for example culture and sports), etc.</i></p>	<p>Consolidate experience in teamwork and in the organization of work in neuropharmacology laboratory</p> <p>Consolidate experience in teamwork and in the organization of work in animal welfare body and in national coordination for the protection of animal use for scientific purposes</p> <p>Consolidate experience in teamwork and in the organization of work in a Non Governative Organization advocating for gender equality: Zonta International (<a href="https://www.zonta.org">https://www.zonta.org</a>), also at international level</p>
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<p style="text-align: center;"><b>ORGANISATIONAL SKILLS AND COMPETENCES</b></p> <p><i>Coordination and administration of people, projects and budgets; at work, in voluntary work (for example culture and sports) and at home, etc.</i></p>	<p>Coordination and organization of work in in neuropharmacology laboratory, University of Genova.</p> <p>Coordination and organization of work in animal welfare body</p> <p>Coordination and organization of work in the Group 9 – 3Rs and Alternative Methods of the Coordinamento OPBA/CNPA Italy</p> <p>Coordination and organization of work in a Non Governative Organization advocating for gender equality: Zonta International (<a href="https://www.zonta.org">https://www.zonta.org</a>);</p> <p>Area Director Zonta International 2018-2020 for Liguria Piemonte Valle d'Aosta Principato di Monaco; Board of District 30 ZI (including the Areas of Switzerland, France, Italy, Germany, Bulgaria)</p>
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<p style="text-align: center;"><b>TECHNICAL SKILLS AND COMPETENCES</b></p> <p><i>With computers, specific kinds of equipment, machinery, etc.</i></p>	<p>The scientific experience and the acquired skills and expertise of Manuela Marcoli are based on more than twenty-year experimental work carried out on neurotransmission and gliotransmission in the central and peripheral nervous system, mainly in in vitro models, as documented by 108 full-length publications in international scientific journals.</p> <p>The technical skills and competences are mainly related to the following research fields:</p> <p>Glutamatergic transmission and release of neuro- and glio-transmitters from CNS preparations (slices, nerve terminals, astrocyte processes): neuronal and astrocytic ionotropic glutamate receptors</p> <p>Purinergic control (P2X7 receptor, pannexin-1) of neuronal and astrocytic glutamate release</p> <p>Identification and pharmacological characterization of receptors (protomers and heterodimers) regulating the release of the neurotransmitter and gliotransmitter glutamate in CNS</p> <p>Modes of communication in CNS; wiring and volume transmission; signalling through neuro-gliotransmitters and exosomes</p> <p>Network activity and transmission in neuron-astrocyte networks coupled to Multi Electrode Arrays (MEAs)</p> <p>Neuron-specific endpoints in human Induced Pluripotent Stem Cells (iPSCs)-derived neurons</p>
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<p style="text-align: center;"><b>OTHER SKILLS AND COMPETENCES</b></p>	<p>Office tools</p>
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<p style="text-align: center;"><b>ACADEMIC DUTIES</b></p>	<p><i>Since 2013</i> Board member of the PhD program of Experimental Medicine, Curriculum of Pharmacology and Toxicology, University of Genova</p> <p><i>Since 2011</i> Professor of Pharmacology - Bachelor Course in Biology, University of Genova</p> <p><i>Since 2011</i> Professor of Pharmacology - Master Course in Molecular and Health Biology, University of Genova</p> <p><i>2005-2013</i> Board member of the PhD program of Pharmacology and Toxicology, University of Genova</p>
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	<p>1996-2011 Professor of Cellular and Molecular Pharmacology – Faculty of Science MFN - University of Genova</p> <p>Since 2018 Coordinator of Group 9 -3Rs and Alternative Methods of the Coordinamento OPBA/CNPA Italy</p> <p>2019 -2023 President of the Animal Welfare Body University of Genova</p> <p>2018-2023 Delegate for University of Genova at the Coordinamento OPBA/CNPA Italy</p> <p>2015-2018 Member of the Council of the Department of Pharmacy, School of Medical and Pharmaceutical Sciences, University of Genova</p> <p>2015-2018 Board member of the School of Medical and Pharmaceutical Sciences, University of Genova</p> <p>2007-2018 Teaching staff representative in the Gender Equality Committee (CPO), University of Genova</p>
SCIENTIFIC SOCIETIES AND AFFILIATION TO RESEARCH CENTERS	<p>Member of: Italian Society of Pharmacology (SIF), Italian Society of Toxicology (SITOX), Italian Society of Neuroscience (SINS), Federation of European Neuroscience Societies (FENS); International Brain Research Organization (IBRO); Federation of European Toxicologists (EUROTOX)</p> <p>Member of the Basel Declaration Society (<a href="http://www.basel-declaration.org/">http://www.basel-declaration.org/</a>)</p> <p>Since 2018 Coordinator of the Italian Society of Toxicology SITOX regional section: Liguria</p> <p>Since 2020 Member of CILIA - Centro interdipartimentale per la longevità e l'invecchiamento attivo, University of Genova</p> <p>Since 2018 Member of the Interuniversity Center for the Promotion of the Principles of the 3Rs in Teaching and Research, Italy</p> <p>Since 2018 Member of the Scientific-Didactic Council of the Interuniversity Center for the Promotion of the Principles of the 3Rs in Teaching and Research, Italy</p> <p>Since 2012 Member of the Centre of Excellence for Biomedical Research CEBR, University of Genova</p> <p>2012-2014 Member of the Scientific Council of the Festival della Scienza, Genova</p>
GRANTS AND COMMERCIAL CONTRACTS. TOPIC AND ROLE: PRINCIPAL INVESTIGATOR (PI), CO-PI, COMPONENT IN THE RESEARCH UNIT (CRU)	<p>2022-2023 Appointment by 3Brain AG. Role: PI. Topic: neuron-astrocyte network</p> <p>2020-2022 JEROME LEJEUNE Foundation. Role: CRU. Topic: Neurons derived from human induced pluripotent stem cells (hiPSCs) from Down Syndrome patients: synaptic dysfunction</p> <p>2021-2022 Appointment by EURL-ECVAM, Ispra, Varese. Role: Co-PI. Topic: Neurotransmission in neurons from hiPSCs</p> <p>2021 Appointment by 3Brain AG. Role: PI. Topic: Exosomes and neuron-astrocyte network</p> <p>2020-2021 Appointment by Osp Bambin Gesù, Roma. Role: Co-PI. Topic ADAR2 and glutamate transmission (young and old transgenic and wild type mice)</p> <p>2020-2021 Appointment by DIBRIS, UNIGE. Role: PI Topic: Neuron-astrocytes co-cultures</p> <p>2018-2019 Appointment by DIBRS, UNIGE. Role: PI. Topic: Neuron-astrocytes co-cultures</p> <p>2018 Appointment by DISC, UNIGE. Role: PI. Topic Photobiomodulation of glutamate neurotransmission</p> <p>2017 MIUR - Funding of basic research activities FABBR</p> <p>2015-2016 In-Health, Italian Ministry of Economic Development, Appointment by DIBRS, UNIGE. Role: PI. Topic: In vitro neurotoxic effects of selected substances</p> <p>2013-2014 European Program EUROTRANSBIO, Italian Ministry of Economic Development, Appointment by Dept Informatic, Bioengineering, Robotic and System Engineering (DIBRS, UNIGE). Role: PI. Topic: In vitro neurotoxic effects of selected substances</p> <p>2011-2013 COFIN FESR. Role: PI. Topic: neurotoxicity - alternative in vitro method</p> <p>2012 University of Genova. Role: Co-PI. Topic: Glutamate ionotropic receptors and release of gliotransmitters in the cerebellum</p> <p>2009 COFIN-MIUR 2008. Role: CRU. Topic: neuronal differentiation</p> <p>2007-2008 Mariani Foundation. Role: CRU. Topic: Excitotoxicity in neonatal ischemia/reperfusion</p> <p>2007 University of Genova. Role: PI. Topic: Urotensin peptide II and neurotransmitter release from mouse spinal cord</p> <p>2007 COFIN-MIUR 2006. Role: CRU. Topic: neuron-like cells derived from adult Bone Marrow Stromal Cells (BMSC)</p> <p>2005 COFIN-Ministry of University and Research (MIUR) 2004. Role: CRU. Topic: neuron-like cells derived from adult Bone Marrow Stromal Cells (BMSC)</p>
INVITED SPEAKER IN NATIONAL/INTERNATIONAL MEETINGS	<p>May 4, 2023 Invited speaker at “Lo stato dell’arte dei metodi alternativi alla sperimentazione animale in Italia: analisi e prospettive”, for “I vent’anni del Comitato etico regionale”, Bologna. M. Marcoli: “Criticità e richieste degli OPBA rispetto al tema delle 3R”</p>

	<p><i>March 7, 2023</i> Invited speaker at Network PARERE - EURL ECVAM Network for Preliminary Assessment of Regulatory Relevance (online). M Marcoli: <i>Attività del Gruppo 9 (3R e metodi alternativi) del Coordinamento CNPA/OPBA)</i></p> <p><i>January 09-11, 2023</i> Invited speaker at The 12th Annual World Congress of Neurotalk (Neurotalk-2023) January, Sapporo (Japan; virtual). M Marcoli: <i>Oxytocin receptor heterodimerization and control of glutamate release from striatal astrocytes</i></p> <p>Invited speaker at the 5th Edition of International Conference on Neurology and Neurological Disorders (Neurology 2022), "Sensing New Horizons and Bridging Synaptic Gaps in Neurology" June 15-16, 2022, Rome, Italy. <i>New insights in neuron-astrocyte communication: astrocytic G protein coupled receptor heteromers and release of glutamate</i></p> <p><i>October 1-3, 2021</i> Invited speaker at PBM 2021 Photobiomodulation virtual Summit, Joint North American Association of Photobiomodulation Therapy NAALT - World Association for Photobiomodulation Therapy WALT conference. Topic: Photobiomodulation and release of the neurotransmitter glutamate</p> <p><i>March 9-13, 2021</i> Invited speaker at the 40° Congresso Nazionale della Società Italiana di Farmacologia, Sif week digital edition. Symposium: When the interaction leads to dysfunction: new perspectives for therapeutic intervention in Neurodegenerative Diseases. Topic: New insight for striatal astrocyte-neuron intercellular communications: the A2A-D2 interaction</p> <p><i>February 17, 2020</i> Invited speaker at "GENERE E MEDICINA: UN CONFRONTO MULTIDISCIPLINARE SU ASPETTI E PROSPETTIVE DELLA MEDICINA DI GENERE" University of Genova, Genova. Topic: Farmacologia di genere</p> <p><i>January 9, 2020</i> Invited speaker, European Commission's Joint Research Center (JRC, EURL ECVAM) Ispra, Italy. Topic. Release of neurotransmitters from human induced pluripotent stem cells</p> <p><i>October 10-13, 2019</i> Invited speaker at 22nd European Congress on Alternatives to Animal Testing EUSAAT Linz (Austria). Topic: In vitro neurotoxicity testing: Functional neuron-specific endpoints</p> <p><i>July 8-9, 2019</i> SECONDA CONVENTION NAZIONALE DEGLI ORGANISMI PREPOSTI AL BENESSERE ANIMALE (OPBA), Napoli, Italy, Topic: Attività del Gruppo 9 del Coordinamento OPBA/CNPA (GRUPPO 9: 3R/METODI ALTERNATIVI)</p> <p><i>June 20-21, 2019</i> Invited speaker at: 2nd Centro 3R Annual Meeting "3Rs in Italian Universities". Genova, Italy. Topic: "Centro 3R organ and Tissue Sharing Project</p> <p><i>November 9, 2018</i> Invited speaker at: HUMAN RELEVANCE TECHNOLOGY Nuove tecnologie per la ricerca: applicazione in campo alimentare e biomedico, Pavia, Italy. Topic: Il centro 3R: una novità nel panorama scientifico italiano</p> <p><i>October 4-8, 2018</i> Invited keynote speaker - 5th World Conference on Climate Change and 16th Annual Meeting on Environmental Toxicology and Biological Systems, London UK. Topic: Functional neuron-specific endpoints for in vitro neurotoxicity testing</p> <p><i>June 29, 2018</i> Invited speaker, Meeting "Glial cells and therapeutic perspectives: from maladaptive plasticity to neurorestoration" Firenze, Italy. Topic: G protein coupled receptor heterodimers on astrocytes: presence and function</p>
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	<p><i>April 10-13, 2018</i> 18° Congresso Nazionale Società Italiana di Tossicologia SITOX. Bologna, Italy. Topic: Reti neuronali su multielectrode arrays (MEAS): metodo alternativo per la valutazione di neurotossicità</p> <p><i>February 26, 2018</i> Invited speaker at European Commission's Joint Research Center (JRC, EURL ECVAM), Ispra, Italy. Topic: Release of neurotransmitters: functional neuron-specific endpoint for neurotoxicological and neuropharmacological testing</p> <p><i>Dcember 14-16, 2017</i> Invited keynote speaker - International Conference on Toxicology and Clinical Pharmacology &amp; 2nd International Conference on Generic Drugs and Biosimilars. Rome, Italy. Topic: Astrocytes and glutamate in striatum: A2A-D2 receptor-receptor interaction controls glutamate release from striatal astrocytic processes</p> <p><i>May 17-19, 2017</i> Plenary speaker: European Society for Clinical Investigation - 51st Annual Scientific Meeting. Genova, Italy. Topic: Striatal glutamatergic transmission: astrocytic A2A-D2 receptor-receptor interaction and homocysteine</p> <p><i>November 4-6, 2010</i> Invited speaker at the International symposium on Nitric oxide-cyclic GMP signal transduction - Valencia, Spain. Topic: Modulation of kainate receptors by extracellular cGMP</p>
<p>CURRENT RESEARCH INTERESTS AND COLLABORATIONS</p>	<p>The main current research interests are as follow:</p> <ul style="list-style-type: none"> <li>▪ Glutamatergic transmission and release of neuro- and glio-transmitters in animal models for polyamine metabolism dysregulation; roles of polyamines in neuron-astrocyte communication and synapse functioning</li> <li>▪ Purinergic control (P2X7 receptor, pannexin-1) of neuronal and astrocytic glutamate release in physiological and pathological conditions in central nervous system; neuropathic pain</li> <li>▪ Identification and pharmacological characterization of receptors (protomers and heterodimers) regulating the release of the neurotransmitter and gliotransmitter glutamate in CNS</li> <li>▪ Network activity and transmission in neuron-astrocyte networks coupled to Multi Electrode Arrays (MEA); effects of neuroactive substances/neurotoxicants; exosomes</li> <li>▪ Modes of communication in CNS; wiring and volume transmission; signalling through neuro-gliotransmitters and exosomes</li> <li>▪ Neuron-specific endpoints in human Induced Pluripotent Stem Cells (hiPSCs)-derived neurons</li> </ul> <p>On these topics she has established several collaborations at international and national level. Here below the main collaborations at international level:</p> <ul style="list-style-type: none"> <li>- Kjell Fuxe, Dasiel Borroto-Escuela, Dept of Neuroscience, Karolinska Institutet, Stockholm, Sweden: Receptor-receptor Interactions (RRIs); modes for signal transmission in CNS</li> <li>- Amina Woods, National Institute of Drug Abuse, Baltimore, MD 21224, USA: Receptor-receptor Interactions</li> <li>- Anna Bal-Price, European Commission, Joint Research Centre (JRC), Ispra, Italy: human Induced Pluripotent Stem Cells (hiPSCs): neuron-specific endpoints: neurotransmitter receptor and neurotransmitter release</li> </ul> <p>Main collaborations at national level:</p> <ul style="list-style-type: none"> <li>- Luigi Francesco Agnati, Univ of Modena and Reggio Emilia, Modena and Dept of Neuroscience, Karolinska Institutet, Stockholm, Sweden: RRIs; intercellular communication in CNS and brain connectomics</li> <li>- Paolo Mariottini, Manuela Cervelli, Dept. of Science, Univ Roma Tre, Roma: polyamine roles in CNS; polyamine supplementation</li> <li>- Carla Ghelardini, Lorenzo di Cesare Mannelli, Dept of Neuroscience, Psychology, Drug Research and Child Health-Neurofarba, Univ of Firenze: P2X7 receptor and pannexin-1, neuropathic pain</li> <li>- Diego Guidolin, Dept of Molecular Medicine, Univ of Padova: GPCR and RRIs; microvescles (exosomes)</li> <li>- Clementina Manera, Paola Nieri, Dept of Pharmacy, Univ of Pisa: cannabinoid receptors and transmitter release</li> <li>- Angela Gallo, IRCCS Ospedale Pediatrico Bambino Gesù: ADAR2 editing and role in glutamatergic transmission</li> </ul>

	<ul style="list-style-type: none"> <li>- Sergio Martinoia, Paolo Massobrio, DIBRIS, Univ of Genova: non-conventional electrophysiology; neuron networks on multielectrode arrays (MEAs)</li> <li>- Federico Zara, DINOEMI, Univ of Genova: transmitter release from human IPSCs-derived neurons</li> <li>- Stefano Benedicenti, DISC, Univ of Genova: fotobiomodulation and release of neuro and gliotransmitters</li> <li>- Monica Averna, Mario Passalacqua, DIMES, Univ of Genova: polyamine roles in CNS; Ca<sup>2+</sup> signals, RRs</li> <li>- Laura Vergani, DISTAV, Univ of Genova: polyamine roles in CNS; oxidative stress</li> </ul>
EDITORIAL ACTIVITY	<p>2024 Co-Editor of PIATTAFORMA OPBA. Documenti di consenso, linee guida, questionari, elaborati dalle rappresentanze nazionali degli Organismi Preposti al Benessere degli Animali. R.N. Lorenzini, Ed, P. ANFOSSI, M. BALIETTI, C. BERNARDI, P. COSTA, M. MARCOLI, G. MATTEUCCI, G. MORBIOLI, F. MUTINELLI, A. PARENTI, M. PERGHER, L. PICCOLI, R. QUELITI, E. ROSSI, F. STAFFIERI, E. TEDESCHI, A. VITALE, P. ZARATTINI, Co-Eds. Published January 15, 2024, doi: <a href="https://doi.org/10.5281/zenodo.10511257">10.5281/zenodo.10511257</a></p> <p>2022 Co-Editor of Special topic; <i>Frontiers in Endocrinology</i></p> <p>Since 2020 Member of the Editorial Board, <i>Life</i></p> <p>Since 2018 Associate Editor – Editorial Board of <i>Experimental Pharmacology and Drug Discovery – Frontiers in Pharmacology</i></p> <p>Reviewer for scientific journals (e.g. <i>Biomolecules</i>, <i>Int J Mol Sci</i>, <i>Cells</i>, <i>Br J Pharmacol</i>, <i>Neuromol Med</i>, <i>Oncotarget</i>, <i>Eur J Pharmacol</i>)</p>
BIBLIOMETRICS	<p>Author of 121 peer-reviewed publications.</p> <p>Total citations: 2311 (Scopus)</p> <p>h index: 28 (Scopus)</p>

**ADDITIONAL INFORMATION**

ID SCOPUS: 6603870944 ResearcherID: ORCID: 0000-0001-8290-3008  
<https://scholar.google.com/citations?user=JDmCGS4AAAAJ&hl=it>

Genova, January 24, 2024

(Manuela Marcoli)

*According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this*