

## **Maurizio Popoli**

Associate Professor of Pharmacology, Department of Pharmacological and Biomolecular Sciences, University of Milano (UNIMI). Member of UNIMI Committee for International Programs and Mobility; member of UNIMI Committee for Erasmus Student Exchange Program.

### **Education**

1975 Ph.D. (Biochemistry, Cell Biology) **University of Naples**  
1976-1979 Postdoctoral Fellow, **International Institute of Genetics and Biophysics (CNR), Naples**  
1980-1982 Postdoctoral Fellow, **Washington University Medical School (St. Louis, MO.)**

### **Professional appointments**

1980-1982 Research Associate, Department of Psychiatry, **Washington University Medical School (St. Louis, MO.)**  
1983-1993 Assistant Professor, Department of Neurology, **University of Naples**  
1994-2006 Senior Investigator, Department of Pharmacological Sciences, **University of Milano**  
2007-Present Associate Professor, Department of Pharmacological and Biomolecular Sciences, **University of Milano**

### **Awards**

1980-1982 Post-doctoral fellowship, **Washington University Medical School (St. Louis, MO.)**  
2001-2002 NARSAD (National Alliance for Research on Schizophrenia and Depression) Independent Investigator Award (USA).

### **Domain of research**

Investigation of the action of behavioral stress at synaptic level. Regulation of synaptic function, neuroplasticity and gene expression with regard to acute/chronic stress, pathogenesis of neuropsychiatric/neurodegenerative disorders, mechanisms of psychotropic drugs. Genome-wide studies of animal models of pathology and response to drugs (transcriptomics, proteomics, epigenetics, miRNomics). Special attention is given to the identification of new targets for diagnosis or treatment that may improve efficacy and alleviate adverse effects.

### **Participation or Coordination of Scientific Projects (Selection 2000-2016)**

Partner in 5 research projects funded by the Ministry of Health. Coordinator of 6 projects funded by the Ministry of University and Research. 2004-2016.

EU-6<sup>th</sup> Framework Program. Integrated Project: "Genome-based therapeutic drugs for depression (GENDEP)" (2004-2008), Partner CR9, coordinator of Task Force Group 4 "Functional genomics and proteomics using animal models". Member of Governing Board and Project Executive Board.

Tutor of projects of young investigators:

ECNP Young Investigator Award (2010-2011) (PI, Dr. L. Musazzi).  
CARIPO Young Investigator Award (2010-2011) (PI, Dr. D. Tardito).  
NARSAD Young Investigator Award (2015-2016) (PI, Dr. G. Treccani).  
CARIPO Young Investigator Award (2015-2016) (PI, Dr. L. Musazzi; tutor).

Research projects funded by Pharmaceutical Companies (2005-2011): Merck, GlaxoSmithKline, Servier, Sigma-Tau, Fidia, Abbott.

Other funding: Regione Lombardia, Cariplo Foundation.

### **Member of Scientific Societies**

Int. College Neuropsychopharmacology (CINP), Int. Scientific Program Committee (2014-2016); Fellowship & Awards Committee (2014-2016)

It. Society for Neuroscience (SINS), councillor

Member of: Society for Neuroscience, CINP, ECNP, FENS, SINS, SIF

### **Member of Editorial Boards**

Int J Neuropsychopharmacol. (Deputy Field editor), BMC Neuroscience (Section ed.), World J Biol Psychiatry (Field ed.), J Pharmacol Sciences (Japan; Associate editor), Neurobiology of stress, Neural Plasticity,

Neuropsychobiol., Current Neuropharmacol., Front. Neuropharmacol., Front. Psychopharmacol., Acta Neuropsychiatrica

**Referee for peer-reviewed journals/organizations** (selection)

Nat Rev Drug Discovery, Trends Pharmacol Sci, J Neurosci, Annals NY Acad Sci, Mol Psychiatry, Biol Psychiatry, J. Neurochem, Eur J Neurosci, Transl Psychiatry, The Pharmacogenomics Journal, Neuroscience, Neuropsychopharmacology, Neuropharmacology.

Alzheimer Association (USA), INTAS Grants (EU), Israel Sci. Found. (Israel), Ministry of University and Research (MIUR, Italy), National Science Centre (Poland), Transl Neuropsychiatry Unit, Aarhus University (Denmark), Ministry of Education (Czech Republic).

**Author of 116 publications** (including Nature Rev Neurosci, Nature Rev Drug Discov, Mol Psychiatry, Biol Psychiatry, J Neurosci, Neuropsychopharmacol, books, book chapters)

**Publications 2010-2015 (selection)**

Nava N, Treccani G, Alabsi A, Kaastrup Mueller H, Elfving B, Popoli M, Wegener G, Nyengaard JR. (2015) Temporal Dynamics of Acute Stress-Induced Dendritic Remodeling in Medial Prefrontal Cortex and the Protective Effect of Desipramine. *Cereb Cortex* (Epub ahead of print).

Mallei A, Baj G, Ieraci A, Corna S, Musazzi L, Lee FS, Tongiorgi E, Popoli M. (2015) Expression and dendritic trafficking of BDNF-6 splice variant are impaired in knock-in mice carrying human BDNF Val66Met polymorphism. *Int J Neuropsychopharmacol* (Epub ahead of print).

Popoli M, Musazzi L, Racagni G (2015) The serotonergic transmission, in "General and molecular pharmacology. Principles of drug action" (Clementi F, Fumagalli G, Eds.), **Wiley**, Hoboken, NJ.

Ieraci A, Mallei A, Musazzi L, Popoli M. (2015) Physical exercise and acute restraint stress differentially modulate hippocampal Brain-Derived Neurotrophic Factor transcripts and epigenetic mechanisms in mice. *Hippocampus* 25:1380-92.

Nava N, Treccani G, Liebenberg N, Chen F, Popoli M, Wegener G, Nyengaard JR. (2015) Chronic desipramine prevents acute stress-induced reorganization of medial prefrontal cortex architecture by blocking glutamate vesicle accumulation and excitatory synapse increase. *Int J Neuropsychopharmacol* 18:3.

Mallei A, Failler M, Corna S, Racagni G, Mathe' AA, Popoli M. (2015) Synaptoproteomic analysis of a rat gene-environment model of depression reveals involvement of energy metabolism and cellular remodeling pathways. *Int J Neuropsychopharmacol* 18:3.

Popoli M, Sanacora G, Diamond D, Editors (2014) "Stress at the synapse. Synaptic stress and pathogenesis of neuropsychiatric disorders", **Springer**, New York, NY.

Treccani G, Musazzi L, Perego C, Milanese M, Nava N, Bonifacino T, Lamanna J, Malgaroli A, Drago F, Racagni G, Nyengaard JR, Wegener G, Bonanno G, Popoli M. (2014) Stress and corticosterone rapidly increase the readily releasable pool of glutamate vesicles in synaptic terminals of prefrontal and frontal cortex. *Mol Psychiatry* 19:433-443.

Musazzi L, Treccani G, Popoli M. (2013) The action of antidepressants on the glutamate system: regulation of glutamate release and glutamate receptors. *Biol Psychiatry* 73:1180-1188.

Müller HK, Wegener G, Liebenberg N, Zarate CA, Popoli M, Elfving B. (2013) Ketamine regulates the presynaptic release machinery in the hippocampus. *J Psychiatr Res* 47:892-899.

Tardito D, Mallei A, Popoli M. (2013) Lost in translation. New unexplored avenues for neuropsychopharmacology: epigenetics and microRNAs. *Exp Opin Invest Drugs* 22:217-33.

Baj G, D'Alessandro V, Musazzi L, Mallei A, Tardito D, Sartori CR, Sciancalepore M, Langone F, Popoli M, Tongiorgi E. (2012) Physical exercise and antidepressants enhance BDNF targeting in hippocampal CA3 dendrites: further evidence of a spatial code for BDNF splice variants. *Neuropsychopharmacol* 37:1600-11.

Popoli M, Yan Z, McEwen BS, Sanacora G. (2012) The stressed synapse: the impact of behavioral stress and glucocorticoids on glutamate transmission. *Nature Rev Neurosci* 13:22-37.

Sanacora G, Treccani G, Popoli M. (2012) Towards a glutamate hypothesis of depression. An emerging frontier of neuropsychopharmacology for mood disorders. *Neuropharmacology* 62:63-77.

- Slattery DA, Uschold N, Magoni M, Baer J, Popoli M, Neumann ID, Reber SO. (2012) Behavioural consequences of two chronic psychosocial stress paradigms: anxiety without depression. *Psychoneuroendocrinology* 37:702-14.
- Eriksson TM, Delagrangé P, Spedding M, Popoli M, Mathé AA, Ogren SO, Svenningsson P. (2012) Emotional memory impairment in a genetic rat model of depression: involvement of 5-HT/MEK/Arc signaling in restoration. *Mol Psychiatry* 17:173-184.
- Mallei A, Giambelli A, Gass P, Racagni G, Mathe' AA, Vollmayr B, Popoli M. (2011) Synaptoproteomics of learned helpless rats involve energy metabolism and cellular remodeling pathways in depressive-like behavior and antidepressant response. *Neuropharmacology* 60:1243-53.
- Milanese M, Zappettini S, Onofri F, Musazzi L, Tardito D, Bonifacino T, Messa M, Racagni G, Usai C, Benfenati F, Popoli M, Bonanno G. (2011) Abnormal exocytotic release of glutamate in the spinal cord of the SOD1/G93A(+) mouse model of amyotrophic lateral sclerosis. *J Neurochemistry* 116:1028-42.
- Blaveri E, Kelly F, Mallei A, Harris K, Taylor A, Reid J, Razzoli M, Carboni L, Piubelli C, Musazzi L, Racagni G, Mathe' AA, Popoli M, Domenici E, Bates S. (2010) Expression profiling of a genetic animal model of depression reveals novel molecular pathways underlying depressive-like behaviours. *PLoS ONE* 5(9):e12596.
- Musazzi L, Milanese M, Barbiero VS, Zappettini S, Tardito D, Farisello P, Bonifacino T, Mallei A, Baldelli P, Racagni G, Raiteri M, Benfenati F, Bonanno G, Popoli M. (2010) Acute stress increases depolarization-evoked glutamate release in the rat prefrontal/frontal cortex. The dampening action of antidepressants. *PLoS ONE* 5(1):e8566.

#### Invited speaker (Selection 2010-2016)

- 2016 30<sup>th</sup> Int. College Neuropsychopharmacology (CINP) Congress, Seoul  
University of Tokushima (Dept. Pharmacology), Tokushima (Japan)  
29<sup>th</sup> Eur. College Neuropsychopharmacology (ECNP) Congress, Vienna
- 2015 Tohoku University Dept. Pharmacology, Sendai (Japan)  
88<sup>th</sup> Meeting Japanese Pharmacological Society, Nagoya (Japan)  
28<sup>th</sup> ECNP Congress, Amsterdam  
VII Symposium of Geriatric Psychiatry, Porto Alegre  
NeuroConferences "New Horizons in Psychopharmacology", Braga  
ECN Master-PhD Program, Regensburg University
- 2014 IBRO/APRC Neuroscience School Chandigarh (India), <http://ibro.info/events/applications-open-for-the-1st-ibroaprc-chandigarh-school/>  
CNP Seminar (Centre de Neurosciences Psychiatriques), Lausanne  
Transl Neuropsychiatry Unit, Dept. of Clinical Medicine, Aarhus University, Opening Symposium.  
29<sup>th</sup> CINP Congress, Vancouver  
Satellite Meeting to the FENS Forum 2014, Milano; „The many faces of stress“ (organizer with G. Sanacora (Yale), [http://users2.unimi.it/fens\\_stress/index.html](http://users2.unimi.it/fens_stress/index.html))  
17<sup>th</sup> World Congress of Basic and Clinical Pharmacology (IUPHAR), Cape Town
- 2013 26<sup>th</sup> ECNP Congress, Barcelona  
CINP Thematic Meeting, Jerusalem.  
Eur. Front. Neuropsychopharmacol. (Univ. Catania)  
CNRS Sophia Antipolis, Nice  
FENS-IBRO/SfN School of Neuroscience "Synaptic stress and pathogenesis of neuropsychiatric disorders". April 21-27, organizer with G. Sanacora (Yale), ([http://users2.unimi.it/fens\\_stress/index.html](http://users2.unimi.it/fens_stress/index.html)); <https://sites.google.com/site/sciencevenatnight/past-events/synaptic-stress>)  
9<sup>th</sup> Int. Workshop on Computational Neuropsychiatry, Univ. of Munich
- 2012 42<sup>nd</sup> Meeting Society for Neuroscience (SfN), New Orleans, LA  
Department of Pharmacology and Toxicology, CCB - University of Innsbruck  
Neuroscience School of Advanced Studies – "Mol. Pathogenesis of Depression: Neuroplasticity and Epigenetic Mechanisms" (Coordinator: E. Nestler), San Quirico d'Orcia (Italy) (<http://www.nsas.it/>)  
28<sup>th</sup> Congress CINP, Stockholm (Sweden)

Dip. Scienze della vita – BRAIN Center for Neuroscience, Università' di Trieste  
Biomedicum Seminar, University of Helsinki (Dr. I. Hovatta), Helsinki  
53<sup>rd</sup> Meeting Scandinavian Coll. Neuropsychopharmacol (SCNP), Copenhagen  
8<sup>th</sup> Int. Workshop on Computational Neuropsychiatry, Univ. of Munich  
2011 21<sup>st</sup> Elsevier-Neuropharmacology Conference "Anxiety and Depression", Falls Church, VA (USA)  
XIX World Congress of Psychiatric Genetics, Washington, DC  
Eur. Behavioural Pharmacology Society 14<sup>th</sup> Biennial Meeting, Amsterdam  
Yale University, New Haven, CT (USA)  
University of Regensburg - ECN Opening Ceremony Plenary Lecture (Prof. I. Neumann), Regensburg  
8<sup>th</sup> IBRO World Congress of Neuroscience, Firenze  
10<sup>th</sup> Congress World Federation Soc. Biological Psychiatry (WFSBP), Prague  
2010 49<sup>th</sup> Meeting American College for Neuropsychopharmacol. (ACNP), Miami, FL (USA)  
7<sup>th</sup> World Congress on Stress, Leiden  
University of Tokushima (Dept. Pharmacology), Tokushima (Japan)