



Last Update: December 2017

## CURRICULUM VITAE

### Antonio Malgaroli

**Born:** Rieti, Italy, August 19, 1958

**Citizenship:** Italian Citizen

**Address:** School of Medicine, University Vita-Salute San Raffaele,  
Via Olgettina 58, 20132 Milano, Italy  
email: malgaroli.antonio@univr.it  
Phone: 39-0226434886  
Administrative Assistant: Samanta Pederzoli; Phone:39-0226435497

#### EDUCATION

1985 Università Degli Studi di Milano, M.D. (Major in Pharmacology)

1985 Università Degli Studi di Milano, Board certified in Medicine

1990 Università Degli Studi di Milano, Postgraduate Degree in Psychiatry

#### PROFESSIONAL APPOINTMENTS

2004-present Full Professor of Physiology, Università Vita-Salute San Raffaele, Milano

1999-2003 Associate Professor of Physiology, Università Vita-Salute San Raffaele, Milano

2000-Summer MBL investigator, Marine Biological Laboratories, MBL, Woods Hole

1999-Summer MBL investigator, Marine Biological Laboratories, MBL, Woods Hole

1999-2009 Adjunct Professor in Physiology, Università Degli Studi di Milano, Milano

1992-present Director of the "Neurobiology of Learning" Unit, DIBIT, Scientific Institute San Raffaele, Milano

1989-1992 Postdoctoral fellow, Department of Molecular and Cellular Physiology, Stanford University, Stanford

1988-1989 Visiting fellow, Department of Physiology, School of Biology, University Degli Studi di Milano, Milano

1985-1988 Postdoctoral fellow, Department of Pharmacology, School of Medicine, Università Degli Studi di Milano, Milano

1985-1989 Clinical fellow in Psychiatry and Psychotherapy, Postgraduate Degree in

Psychiatry, Department of Psychiatry, School of Medicine, Università Degli Studi di Milano, Milano

1982-1985 Junior Research Fellow, Department of Pharmacology, School of Medicine, Università Degli Studi di Milano, Milano

1983-Summer Visiting Student, Department of Neurological Sciences, School of Medicine, Edinburgh University, Edinburgh

### **HONORS AND AWARDS**

1985-88 Recipient of the AIRC research fellowship

1988-89 Recipient of the Monte Tabor research fellowship

1988 DeVisart award

1989-91 Recipient of the G. Moruzzi FIDIA research fellowship

1991 Chemofux prize, University of Vienna (Co-Recipient with Anna Teti)

1998-2001 Human Frontier grant award

1999 Herbert W. Rand Award, MBL

2000 Frank Lillie Award, MBL

2000 Elected as a member of the Physiological Society London

2000 Elected as a member of EMBO

### **REVIEWING EDITOR**

Frontiers in Neuroengineering

Frontiers in Neuroscience

Frontiers in Synaptic Neuroscience (Associate Editor)

### **EMBO**

2005-2009 Membership Committee

2000-present Regular Reviewer for the EMBO fellowship program

### **HUMAN FRONTIER SCIENCE PROGRAM (HFSP)**

2003 Italian Member, Grant Review Committee

2004 Italian Member, Grant Review Committee

2005 Italian Member, Grant Review Committee

2006 Italian Member, Grant Review Committee

## **AGENCIE NATIONALE DE LA RECHERCHE FRANCAIS (ANR)**

2010 Member, Comités Scientifiques, Neurosciences

2011 Member, Comités Scientifiques, Neurosciences

2012 Member, Comités Scientifiques, Neurosciences

2013 Member, Comités Scientifiques, Neurosciences

## **TEACHING**

*Antonio Malgaroli has an extensive teaching experience with Undergraduate and Graduate students and he is a sought-after speaker in the area of Physiology, Neurophysiology, Neurobiology and Neuroscience.*

1993-1999 Lecturer, Corso di Fisiologia Generale, Undergraduate Program in Biology, School of Biological Sciences, Università Degli Studi di Milano (Course director Dario DiFrancesco)

1997-2002 Lecturer, Corso di Biofisica, Undergraduate Program in Physics, School of Physics, Università Degli Studi di Milano (Course director Giancarlo Baldini)

1994-1996 Organizer of the PhD course in Neurophysiology, Joint Program UniSR and Open University London

2002- 2007 Lecturer, PhD course in Physiology, Synaptic Plasticity, Joint Program Università Degli Studi di Milano and University Vita Salute San Raffaele

1999-2009 Adjunct Professor, Course director, Corso Neurobiologia and Corso di Neurofisiologia e Fisiologia Molecolare, School of Biological Sciences, Università Degli Studi di Milano

1999-1997 Professor, Course director, Biofisica e Fisiologia, Degree in Medicina e Chirurgia, University Vita-Salute San Raffaele (17 Credits)

2001-2015 Professor, Course director, Fisiologia Umana, Bachelor Degree in Physioteraphy, University Vita-Salute San Raffaele (10 Credits)

2012-2014 Professor, Course director, Fisiologia Umana, Degree in Dental Medicine, University Vita-Salute San Raffaele (13 Credits)

2009-2016 Professor, Course director, Physiology Course (Taught in English), Medical Degree Program, University Vita-Salute San Raffaele (17 Credits)

2004-2016 Professor, Course director, Neurobiologia della Memoria, Master Degree in Psychology, University Vita-Salute San Raffaele (6 Credits)

2004-2016 Professor Fondamenti di Neuroscienze, Bachelor Degree in Psychology,

- University Vita-Salute San Raffaele (9 Credits)
- 2011-2016 Organizer of the annual course in *Decision Theory in Neuroscience* (taught in English) for the UniSR, PhD students enrolled in the PhD Program in “Neuroscienze delle Decisioni”, University Vita Salute San Raffaele.
- 2016- Professor, Course director, *Elementi di Anatomia e Fisiologia*, Bachelor Degree in Psychology, University Vita-Salute San Raffaele (6 Credits)
- 2016- Professor, Course director, *Learning and Memory*, Master Degree in Cognitive Psychology in H.C., Joint Degree, University of Lugano (USI) and University Vita-Salute San Raffaele, (6 Credits).
- 2016- Professor, Course director, *Learning and Memory*, Master Degree in Cognitive Psychology in H.C., Joint Degree, University of Lugano (USI) and University Vita-Salute San Raffaele, (13 Credits).
- 2017- Adjunct Professor, Course director, *Biologia e Fisiologia*, Bachelor Degree in Bioengineering and Informatics, Politecnico di Milano, (10 Credits).

#### **INSTITUTIONAL SERVICE**

- 2008-2015 Chair of the institutional “*Nucleo di Valutazione*”, the monitoring body which acts in concert with the *Ministero della Ricerca e dell’Università* (MIUR) to oversee and generate an unbiased review of Budgets, Performance, Policies and Teaching of the University Vita Salute San Raffaele, Milano.
- 2006- 2013 Deputy of the Rector for official agreements with Regione Lombardia on scientific research funding matters at the regional level, University Vita Salute San Raffaele, Milano.
- 2006-2013 Deputy of the Rector as member of the “Gruppo di Lavoro Interministeriale per lo sviluppo della Cultura Scientifica e Tecnologica”.
- 2009-2013 Deputy of the President of the University Vita Salute San Raffaele to sign and coordinate the project of the Regione Lombardia for the “*Dote Ricercatori e Dote Ricerca Applicata*, accordo per lo sviluppo del capitale umano nel sistema universitario lombardo”
- 2004 *Member of the Founding Committee for the Master Degree in Cognitive Neuroscience*, Psychology School, University Vita Salute San Raffaele, Milano.
- 2005 *Member of the Founding Committee for the Medical Degree Program* (M.D. Program) for foreign medical students, University Vita Salute San Raffaele, Milano.

- 2010 -present Chair of the *PhD Program in Decision Neuroscience*, University Vita-Salute San Raffaele.
- 2002-2006 Member of the Committee “*Commissione Didattica di Programmazione*” (CTP) to oversee and coordinate teaching activities for the Degree in Medicina e Chirurgia, University Vita Salute San Raffaele.
- 2006-present Member of the Committee “*Commissione Didattica di Programmazione*” (CTP) to oversee and coordinate teaching activities for the Medical degree program for foreigner students, University Vita Salute San Raffaele.
- 2004-2010 Member of the Committee “*Commissione Didattica di Programmazione*” (CTP) to oversee and coordinate teaching activities for Degree in Physiotherapy , University Vita Salute San Raffaele.
- 2000- present Coordinator of Physiology teaching activities for all the “*Scuole di Specialità Mediche*” of the University Vita-Salute San Raffaele
- 2004-2008 Chair of the internal *Seminar Committee*, Scientific Institute San Raffaele
- 2000-present Involved annually in at least 3-4 *Undergraduate thesis committees* and 1-2 *Graduate thesis committees* either at the University Vita Salute San Raffaele (Medical School, Psychology School, Physiotherapy school) or at other external institutions (Università degli Studi di Milano, Politecnico di Milano, Sissa Trieste, Università Politecnica delle Marche Ancona, Università di Torino)

## TRAINEES AND FELLOWS

- Completed training: 12 M.D., 75 M.Sc; 18 PhD students, 7 Visiting PhD students (Caltech; Ucl; Berne University; Baltimore University, Politecnico di Milano); 23 postdoctoral fellows.
- Currently training: 7 MS; 2 PhD students; 4 postdoctoral fellows.
- Current group members: **Vincenzo Zimarino** (Senior Scientist HSR and Adjunct Professor, UniSR), **Federico Esposti** (Assistant Professor, UniSR), **Jacopo Lamanna** (Assistant Professor, UniSR), **Mattia Ferro** (Post Doc), **Sara Spadini** (PhD Student), **Gabriella Racchetti** (Technician).

*Antonio Malgaroli has published more than one hundred publications, 46 of these are peer-reviewed papers with around 3500 citations overall; he has an h-index of 26, g-index of 58 (source Google Scholar). His work has been widely described in many textbooks and reviews in physiology and neuroscience.*

## GRANTS RECEIVED

1992	Scientific Inst. S. Raffaele Starting grant
1993-94	EC Grant BMH*-CT92-0008
1993-94	CNR Grant 9301754CT04, Italy
1993-94	Regione Lombardia Grant 886, Italy
1994-95	CNR Grant 9400988CT04, Italy
1994-95	Telethon Grant D19, Italy
1996-98	National program in Neuroscience, PNR, Italy
1996-99	EC grant, Biomed-2 BMH4-CT95-1406
1996-99	Telethon Grant D44, Italy
1996-97	Scientific Inst. S. Raffaele, internal grant, Italy
1999-2001	PRIN 1998 Miur Grant, Italy, 9806183096_004
1997-2001	Armenise-Harvard Grant
1998-2001	Human Frontier, HFSP, RG0112
2000-2004	EC grant Key action RS 1.1.1.-9.1 Research and Technological Development Activity in Neuroscience, No. QLRT-1999-01340
2000-2003	PRIN 2000 Miur Grant, Italy, MM05A98228
2000	MIUR Grant for the Institution of Excellent research centers; CE00A95854
2001	CNR Grant for Neuroscience
2002-2004	PRIN 2001 Miur Grant, Italy, 2001054998_008
2002-2005	PRIN 2002 Miur Grant, Italy, 2002053813
2002	CNR Grant on Functional genomic
2003-2006	FIRB 2001, MIUR, Postgenomic, RBNE01LNX7_002
2003-2007	FIRB 2001, MIUR, Neuroscience, RBNE01RHZM_004
2005-2007	PRIN 2004 Miur Grant, Italy, 2004057720_002
2011-2013	PRIN 2009 Miur Grant, Italy, 2009BRMW4W_004
2011-2014	Regione Lombardia, Grant “Dote ricercatori e dote ricerca applicata”
2014-2017	PRIN 2012 Miur Grant, Italy, 2012A9T2S9_003
2012-2014	Cariplo Foundation, Scientific Research in Biomedicine 2011, 2011-0635

## INVITED LECTURES AND PRESENTATIONS

Invited Speaker, Golgi winter conference on Neuroscience, Ponte di Legno, 1993

Invited Speaker, Collegium Internazionale Neuro-Psychopharmacologicum, President's workshop, Capri, 1993

Lecturer FEBS/ICRO Course "Biochemistry of Membrane Transport", Lake Balaton, Hungary, 1993

Invited Speaker, Symposium " Neurobiology of aging ", National Inst. on Aging,Warrenton, USA, 1993

Lecturer, The Calcium Club "Advanced techniques for Ca<sup>2+</sup> measurement", Milano, Italy, 1993

Plenary lecture, Annual Meeting Italian Society for Cell Biology-differentiation, Milano, 1993

Seminar, Max-Plank-Institut fur biophysikalische Chemie, Gottingen (Erwin Neher),1993

Seminar, Dept. of Cell Biology, Howard Hughes Medical Inst., Yale University (P.DeCamilli),1993

Seminar, Inst. for Molecular Biology, Glaxo, Geneve (S.Catsicas),1994

Invited Speaker 14 th Blankenese conference "Modulation of signals in neuronal systems", Hamburg, 1994

Invited Speaker Symposium "Neurotransmitter Release and synaptic plasticity", Roma, 1994

Invited Speaker European Society for Neurochemistry, ESN, Jerusalem,1994

Invited Speaker, Human Frontier Science Program meeting:Neurotrophins, synaptic plasticity and cell death in the CNS, Trieste, 1994

Invited Speaker,New direction in the neurobiology of aging, National Inst. on Aging, Miami, 1994

Seminar, Department of Experimental Biomed. Science, University of Padua, Padua (T.Pozzan)1995

Invited Speaker , European Congress in Pharmacology, Milano, 1995

Seminar, Dept. of Molecular and Cellular Physiology, Stanford University, Stanford (R.W.Tsien),1995

Seminar, Dept. of Behavioral Biology, California Institute of Technology, Pasadena (E.Schuman),1995

Lecturer, Graduiertenkolleg Synaptischer Prozesse: struktur, function, modelle Georg-August-Universitat Gottingen, Volterra, 1995

Seminar, Institut fur Neurobiologie, Magdeburg Universitat, Magdeburg (K.G.Reymann),1996

Invited Speaker, Symposium 25th year of the Center for Cellular and Molecular Pharmacology, Milano, 1996

Seminar, Dept. of Neurosciences, John Hopkins University, Baltimore (F.Rupp),1996

Seminar, Dept. of Neurophysiology , MRC, Mill Hill, London (T.V.P. Bliss),1996

Seminar, Center for Genome Research and Neuroscience, University of Edinburgh, Edinburgh (S.Grant),1996

Invited Speaker, Gordon Conference Cell biology of the Neuron Plymouth State College, Plymouth, 1996

Seminar, Division of Cell and Molec. Biology, Univ of Texas at Southwestern, Dallas (F.Belardetti),1996

Seminar, Department of Pharmacology, University of Berne, Berne (H.Reuter),1997

Seminar, Dept. of Anatomy and Cell Biology, University of Lausanne, Lausanne (S.Catsicas),1997

Seminar, Dept. of Pharmacology, University of Ferrara (G. Fumagalli),1997

Invited Speaker, Armenise-Harvard 1st Annual Symposium, Como,1997

Lecturer Nato Course Neuronal Circuits and networks, International School of Biophysics, Erice, 1997

Speaker Human Frontier Science Program Workshop, Quantal Transmission in the CNS, Strasbourg, 1997

Speaker Joint Israeli-Italian workshop on Transduction Mechanisms and Synaptic Function, Erice, 1997

Seminar Department of Physiology, University of Berne, Berne (H. Luscher), 1997

Invited Speaker, Jacques Monod Conference Mechanisms of Exocytosis, La Londe-Les-Maures, 1998

Invited Speaker, 2nd Ceccarelli Symposium, Molecular Aspects of Exocytosis, Milano, 1998

Invited Speaker, Symposium New insights into Hebbian synapses and Workshop Optical approaches to synaptic physiology and plasticity at the Meeting of the European Neuroscience Ass., Berlin, 1998

Invited Speaker, Gordon Conference, Synaptic Transmission, Plymouth State College, Plymouth, 1998

Invited Speaker, Annual Meeting of the Italian Society for Cell Biology-Differentiation, Montesilvano, 1998

Invited Speaker, Symposium on Latrotoxins and secretory systems, Gaeta, 1998

Lecturer, Meeting on Biological effects of electromagnetic waves, Motorola, Madrid, 1998

Seminar, Dept. of Neurobiology, University of SouthWestern, Dallas (Thomas Sudhof),1999

Seminar, Dept. of Anatomy and Cell Biology, University of Lausanne, Lausanne (S.Catsicas),1999



Plenary lecture, Berlin Neuroscience Forum (1999)

Seminar, Biozentrum, University of Basel, Basel (U.R. Meyer), 1999

Seminar, Dept. of Neurophysiology, MRC, Mill Hill, London (T.V.P. Bliss), 1999

Seminar, Dept. of Pharmacology, University of Milano (G.Racagni), 1999

Seminar, Dept. of Neuroscience, Albert Einstein College of Medicine, New York (D.Faber), 1999

Seminar, Inst. Fur Hirnforschung Universitat Zurich, Brain Reseach Inst. (B. Gahwiller), 2000

Invited Speaker, Workshop Synapses 2000", Munich, 2000

Invited Speaker, J. Monod Conference on Mechanisms of Signalling in the Brain, Roscoff, 2000

Invited Speaker, Symposium Synapse pools and minis Max Plank Inst. Goettingen, Goettingen, 2000

Lecturer FENS 2000, Technical Workshop and Symposium, Brighton, 2000

Seminar, Dept. of Physiology, Berkeley University, Berkeley (R. Zucker), 2001

Seminar, Dept. of Neuroscience, Brown University, Providence (J. Kauer), 2001

Seminar, Sissa, Trieste (L. Domenici), 2001

Seminar, Dept. of Physiology, Università Milano Bicocca (E. Wanke), 2001

Invited Speaker, Human Fronteer Science Meeting, Torino, June 2001

Invited Speaker, Gordon Conference on Synaptic Plasticity, Salve Regina Univ. , Newport, 2001

Seminar, Dept. of Biology, State University of Milano (D. DiFrancesco), 2001

Invited Speaker, New EMBO members workshops, Crete, 2001

Plenary Lecture, Annual Meeting of the Italian Society for Neuroscience, Torino, 2001

Seminar, Department of Neuroscience, Verona (G. Berlucchi), 2001

Seminar, Dipartimento di Scienze Biomediche e Biotecnologiche, Brescia (A. Albertini), 2001

Invited Speaker, Armenise-Harvard symposium, Milano 2001

Seminar, Department of Physiology, UCL, London 2001 (F. Edwards)

Seminar, Pasteur Institute, Paris 2002 (R. Bruzzone)

Invited Speaker, FISV meeting, Riva del Garda 2002

Invited Speaker, Symposium Brain Plasticity, Torino 2003

Plenary lecture, Il progresso tecnologico in Italia, Fondazione Ambrosetti, 2003

Invited Speaker, Joint Israeli-Italian workshop on Neuroscience, Eilat 2003

Invited Speaker, NeuroMat III: Neuroscienze Computazionali, Dipartimento di Matematica, Università degli Studi di Milano, Milano 2004

Lecture at the Brain and Mind Institute, Ecole Polytechnique Fédérale de Lausanne (EPFL),  
Seminar, EPFL Lausanne, 2004 (Stephan Catsicas)

Invited Speaker, 55th National Congress of Italian Society of Physiology, Pisa, 2004

Plenary Lecture, Satellite Symposium Lega Italiana Contro L'epilessia, XX Congresso Nazionale di Neuroradiologia Milano, 2004

Invited Speaker, Symbiotic course on “computational systems biology of the neuronal cell”, Sissa, Trieste, 2004

Invited Speaker, Inaugural Symposium dell'Istituto di Neurologia Sperimentale, San Raffaele, Milano, 2004

Invited Speaker, National Congress of the Italian Society for Neuroscience, Ischia 2005

Lecture, Course on “Cellule Staminali Cerebrali, Tecniche Analitiche e di Manipolazione”, Constem, Università' Milano Bicocca, Milano, 2006

Invited Speaker, Lions meeting on deafness “Tema di Studio Sordità e inquinamento acustico”, Milano, 2006

Invited Speaker, Symposium Bioingegneria e Biotecnologie. Fondazione dell'Ordine degli Ingegneri della Provincia di Milano, Milano, 2006

Lecturer, Course on Molecular and Cellular Neurobiology, Università' degli Studi di Milano, Milano, 2006

Bergamo Scienza, “I neuroni a specchio un meccanismo per capire gli altri”, Bergamo 2006

Plenary Lecture at “Incontri di scienza e filosofia”, Facoltà di Medicina e Chirurgia Università Politecnica delle Marche, Ancona 2006

Invited Speaker, Special Symposium on LTP, MRC Mill Hill, Londra, 2006

Symposium “Neurotrophic actions in the brain”, Bergamo Scienza, Bergamo 2007

Seminar at the Brain and Mind Institute, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, 2008 (Henry Markram)

Plenary Lecture, Bioengineering for Cognitive Neuroscience Symposium, Scuola Annuale di Bioingegneria, Brixen 2009

Lecture, Cognitive Neuroscience Symposium, San Raffaele Sponsored Talk, Milano 2010

Lecture at the Politecnico di Milano, Bioengineering School, (Sergio Cerutti) Milano 2010

Lecture, Brain evolution and the animal intelligence, San Raffaele Sponsored Talk, Medicina and Sacerdozio, Milano 2011

Plenary Lecture at the EDRA Symposium “Terapia delle discinesie, distonie e altri disturbi del movimento ad eziologia iatrogena in psichiatria”, Milano 2013

Round Table on Extraprymidal Disorders, King's College (Ray Chaudhuri) London, 2014

Invited Speaker at the 37th Annual Meeting of the EMBC'15 and the IEEE Engineering in

Medicine and biology, “Grand challenges in brain research in Europe and USA” Symposium, 2015 (Chair of the session: Prof. S. Cerutti)

Invited Speaker at the “maratona di arte e scienza” Opificio Golinelli (Marino Golinelli) 2015

Invited Speaker, Ten Years of CUSSB Symposium, Biology and Statistics, Milano, 2015

Seminar, Dept. of Physics, State University of Milano Unimi (A. Lascialfari), 2016

## PUBLICATIONS

### Refereed Journal Articles

M.Ferro, J. Lamanna, M. Ripamonti, G. Racchetti, A. Arena, S. Spadini, G. Montesano, R. Cortese, V. Zimarino & A. Malgaroli. (2017) Functional mapping of brain synapses by an enriching activity-marker. *Nature Communications*, Oct 31;8(1):1229. doi: 10.1038/s41467-017-01335-4.

Putzu, S. Valtorta, G. Di Grigoli, M. Haenggi, A. Malgaroli, M. Gemma, G. Landoni, L. Beretta, RM Moresco (2017) Regional differences in cerebral glucose metabolism after cardiac arrest and resuscitation in rats using [18F]FDG positron emission tomography and autoradiography. *Neurocritical Care*, Sep 5. doi: 10.1007/s12028-017-0445-0.

C. Schulte, M. Ripamonti, E. Maffioli, M.A. Cappelluti, S. Nonnis, L. Puricelli, J. Lamanna, C. Piazzoni, A. Podestà, C. Lenardi, G. Tedeschi\*, A. Malgaroli\* & P. Milani\* (2016) Scale invariant disordered nanotopography promotes hippocampal neuron development and maturation with involvement of mechanotransductive pathway. *Frontiers Cell Neuroscience*. 10:267. eCollection 2016. (\* shared last authors)

Arena A, Lamanna J, Gemma M, Ripamonti M, Ravasio G, Zimarino V, De Vitis A, Beretta L, & Malgaroli A (2017) A linear transformation of the encoding mechanism for light-intensity underlies paradoxical enhancement of cortical visual responses by sevoflurane. *J. Physiology J Physiol*. Jan 1;595(1):321-339 doi: 10.1113/JP272215. Epub 2016 Aug 13.

Montesano G, Belfiore M, Ripamonti M, Arena A, Lamanna J, Ferro M, Zimarino V, Ambrosi A, Malgaroli A. (2015) Effects of the Concomitant Activation of ON and OFF Retinal Ganglion Cells on the Visual Thalamus: Evidence for an Enhanced Recruitment of GABAergic Cells. *Front Neural Circuits*. 9: 77, 1-19.

Lamanna J, Signorini MG, Cerutti S, Malgaroli A. (2015) A pre-docking source for the power-law behavior of spontaneous quantal release: application to the analysis of LTP. *Front Cell Neurosci*. 9: 44, 1-13.

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) Acute stress rapidly increases the readily releasable pool of glutamate vesicles in prefrontal and frontal cortex through non-genomic action of corticosterone. *Mol Psychiatry*. 19(4):401-

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) Acute stress rapidly increases the readily releasable pool of glutamate vesicles in prefrontal and frontal cortex through non-genomic action of corticosterone. **Mol Psychiatry**. 19:433-43
- D'Acunzo P, Badaloni A, Ferro M, Ripamonti M, Zimarino V, Malgaroli A\*, Consalez GG\*. (2014) A conditional transgenic reporter of presynaptic terminals reveals novel features of the mouse corticospinal tract. **Frontiers Neuroanatomy** 7:50, 1-12. (\* shared corresponding authors)
- Lamanna J, Malgaroli A, Cerutti S, Signorini MG. (2012) Detection of fractal behavior in temporal series of synaptic quantal release events: a feasibility study. **Comput Intell Neurosci**. 704673: 1-9
- Lamanna J, Esposti F, Malgaroli A, Signorini MG. (2011) Fractal behavior of spontaneous neurotransmitter release: from single-synapse to whole-cell recordings. **Conf Proc IEEE Eng Med Biol Soc.**;2011:3346-3349.
- Anelli T, Bergamelli L, Margittai E, Rimessi A, Fagioli C, Malgaroli A, Pinton P, Ripamonti M, Rizzuto R, Sitia R. (2012) Ero1 $\alpha$  regulates Ca(2+) fluxes at the endoplasmic reticulum-mitochondria interface (MAM). **Antioxid Redox Signal**. 16(10):1077-87.
- Fanelli A, Titapiccolo JJ, Esposti F, Ripamonti M, Malgaroli A, Signorini MG. (2011) Novel image processing methods for the analysis of calcium dynamics in glial cells. **IEEE Trans Biomed Eng**. 58(9):2640-7.
- Croccolo F, Quintini A, Barni R, Ripamonti M, Malgaroli A, Riccardi C (2009). H-mode inductive coupling plasma for PVC surface treatment. **The european physical journal. d, atomic, molecular and optical physics**, vol. 54, p. 477-480.
- Torta F, Usuelli V, Malgaroli A, Bachi A. (2009) Proteomic analysis of protein S-nitrosylation. **Proteomics**. 8:4484-94
- Corti V, Sanchez-Ruiz Y, Piccoli G, Bergamaschi A, Cannistraci CV, Pattini L, Cerutti S, Bachi A, Alessio M, Malgaroli A. (2008) Protein fingerprints of cultured CA3-CA1 hippocampal neurons: comparative analysis of the distribution of synaptosomal and cytosolic proteins. **BMC Neurosci**. 9:36-52
- Moresco RM, Lavazza T, Belloli S, Lecchi M, Pezzola A, Todde S, Matarrese M, Carpinelli A, Turolla E, Zimarino V, Popoli P, Malgaroli A, Fazio F. (2008) Quinolinic acid induced neurodegeneration in the striatum: a combined in vivo and in vitro analysis of receptor changes and microglia activation. **Eur J Nucl Med Mol Imaging**. 35:704-15.
- Camerini S, Polci ML, Restuccia U, Usuelli V, Malgaroli A, Bachi A. (2007) A novel approach to identify proteins modified by nitric oxide: the HIS-TAG switch method. **J Proteome Res**. 6:3224-31.
- De Filippis L, Lamorte G, Snyder EY, Malgaroli A, Vescovi AL. (2007) A novel, immortal, and multipotent human neural stem cell line generating functional neurons and oligodendrocytes. **Stem Cells**. 25:2312-21.

- Thiagarajan TC, Lindskog M, Malgaroli A, Tsien RW. (2007) LTP and adaptation to inactivity: overlapping mechanisms and implications for metaplasticity. **Neuropharmacology** 2007 52:156-75.
- Bernasconi F, Malgaroli A, Vallar L. (2006) Independent Regulation of Rap1 and Mitogen-Activated Protein Kinase by the alpha Chain of G(o). **Neurosignals** 15:180-189
- Malgaroli A, Vallar L, Zimarino V. (2006) Links Protein homeostasis in neurons and its pathological alterations. **Current Opinion Neurobiology** 16:270-4.
- Rastaldi MP, et al. (2006) Glomerular podocytes contain neuron-like functional synaptic vesicles. **FASEB Journal** 20:976-8.
- Panzeri D., Lavazza T & Malgaroli A (2005) Advanced tracer technique to monitor synaptic activity. **Arch Ital Biol** 143:157-68
- Lundstrom K, Abenavoli A, Malgaroli A, Ehrenguber MU (2003) Novel Semliki Forest Virus vectors with reduced cytotoxicity and temperature-sensitivity: long-term enhancement of transgene expression. **Mol Therapy**, 7 :202-9.
- Abenavoli, A., L. Forti, Bossi M., Bergamaschi A., Villa A. & Malgaroli A. (2002) Multimodal quantal release at hippocampal synapses: evidence for lack of lateral inhibition. **J. Neuroscience** 22: 6336-6346.
- Moroni A, Gorza L, Beltrame M, Gravante B, Vaccari T, Bianchi ME, Altomare C, Longhi R, Heurteaux C, Vitadello M, Malgaroli A & DiFrancesco D. (2001) HCN1 is a molecular determinant of the cardiac pacemaker current *I<sub>f</sub>*. **J Biol Chem** 31: 29233-29241.
- Abenavoli, A., Montagna, M. & Antonio Malgaroli. (2001) Calcium: the common theme in vesicular cycling, **Nature Neuroscience**, 4: 117-118.
- Böse, CM, Qiu D., Bergamaschi, A., Gravante, B., Bossi M., Villa, A, Rupp F, & Malgaroli A. (2000) Agrin controls synaptic differentiation in hippocampal neurons. **J. Neuroscience** 20:9086-9095.
- Abenavoli A, Forti L & Malgaroli A (2000) Mechanisms of spontaneous miniature activity at CA3-CA1 synapses: evidence for a divergence from a random Poisson process. **Biology Bull.** 199:184-6.
- Malgaroli, A.(1999) Silent synapses: I can't hear you! Could you please speak aloud. **Nature Neuroscience**, 2 : 3-5.
- Forti, L., Bossi, M., Bergamaschi, A., Villa, A. & Malgaroli, A. (1997) Loose-patch recordings of single quanta at individual hippocampal synapses, **Nature** 338: 874-878.
- Osen-Sand, A., Naldi, E., Staple, J.K., Schiavo, G., Petitpierre, S. Malgaroli, A., Montecucco, C., Catsicas, S. (1996) Distinct mechanism for regulated membrane fusion in axonal growth

- and transmitter release. *Journal of Comparative Neurology* 367: 222-234.
- Malgaroli, A., Ting, A.E., Wendland, B., Bergamaschi, A., Villa, A., Tsien, R.W., & Scheller, R.H. (1995) Presynaptic Component of Long-term Potentiation Visualized at Individual Hippocampal Synapses. *Science* 268: 1624-1628.
- Malgaroli, A. & Tsien, R.W. (1992) Glutamate-induced long-term potentiation of the frequency of miniature synaptic currents in cultured hippocampal neurons. *Nature*, 357: 134-139.
- Letari, O., Malgaroli, A., Morgan, D.G., Welton, A.F. & Nicosia, S. (1991) Cytosolic calcium ion and arachidonic acid release and metabolism in macrophages. *European J. Pharmacol.*, 206: 211-219.
- Malgaroli, A. & Meldolesi, J. (1991)  $[Ca^{2+}]_i$  oscillations from internal stores sustain exocytic secretion in rat chromaffin cells. *FEBS letters*, 283: 169-172.
- Sacchetti E, Malgaroli A. (1991) Cytosolic-free calcium concentrations in skin fibroblasts of patients with bipolar disorder *Journal of Neuropsychiatry and Clinical Neurosciences*. 3: 114.
- Milani, D., Malgaroli, A., Guidolin, D., Fasolato, C., Skaper, S.D., Meldolesi, J. & Pozzan, T. (1990)  $Ca^{2+}$  channels and intracellular stores in neuronal and neuroendocrine cells. *Cell Calcium*, 11: 191-199.
- Malgaroli, A., Fesce R. & Meldolesi, J. (1990) Spontaneous  $Ca^{2+}$  fluctuations of rat chromaffin cells involve a caffeine and ryanodine sensitive intracellular  $Ca^{2+}$  store, apparently insensitive to inositol-1, 4, 5-trisphosphate. *J. Biol. Chem.*, 265: 3005-3008.
- Malgaroli, A., De Camilli, P. & Meldolesi, J. (1989) Distribution of  $\alpha$ -latrotoxin receptor in the rat brain by quantitative autoradiography: comparison with the nerve terminal protein synapsin-I. *Neuroscience*, 32: 393-404.
- Malgaroli, A., Meldolesi, J., Zamboni Zallone, A. & Teti, A. (1989) Control of cytosolic free  $Ca^{2+}$  in rat and chicken osteoclasts. The role of extracellular  $Ca^{2+}$  and calcitonin. *J. Biol. Chem.*, 264: 14342-14347.
- Colonna, R., Tatone, C., Malgaroli, A., Eusebi, F., & Mangia, F. (1989) Effects of protein kinase C stimulation and free  $Ca^{2+}$  rise in mammalian egg activation. *Gamete Res*, October 1, 1989; 24(2): 171-83.
- Malgaroli, A., Hashimoto, S., Grohovaz, F., Fumagalli, G., Pozzan, T. & Meldolesi, J. (1988) Intracellular source(s) of  $[Ca^{2+}]_i$  transients in non-muscle cells. *Ann. N.Y. Acad. Sci.*, 551: 159-167.
- Pandiella, A., Malgaroli, A., Meldolesi, J. & Vicentini, L.M. (1987) EGF raises cytosolic  $Ca^{2+}$  in A431 and Swiss 3T3 cells by a dual mechanism: redistribution from intracellular stores and stimulated influx. *Experimental Cell Research*, 170: 175-185.
- Wanke, E., Ferroni, A., Malgaroli, A., Ambrosini, A., Pozzan T. & Meldolesi, J. (1987) Activation of a muscarinic receptor selectively inhibits a rapidly inactivated  $Ca^{2+}$

current in rat sympathetic neurons. *Proc. Natl. Acad. Sci. USA*, 84: 4313-4317.

Malgaroli, A., Vallar, L. RezaElahi, F., Pozzan, T., Spada, A. & Meldolesi, J. (1987). Dopamine inhibits cytosolic Ca<sup>2+</sup> increases in rat lactotroph cells: evidence of a dual mechanism of action *J. Biol. Chem.*, 262: 13920-13927.

Malgaroli, A., Milani, D., Meldolesi, J. & Pozzan, T. (1987) Fura-2 measurement of cytosolic free Ca<sup>2+</sup> in monolayers and suspensions of various types of animal cells. *J. Cell Biol.*, 105: 2145-2155.

Pandiella, A., Malgaroli, A. Vicentini, L.M. & Meldolesi, J. (1986) Early raise of cytosolic Ca<sup>2+</sup> induced by NGF in PC12 and Chromaffin cells. *FEBS Letters*, 208: 48-51.

## Chapters And Reviews

A. Malgaroli (2005 and 2010), Chapter 5: Il potenziale d'azione la sua genesi e la sua propagazione. *Fisiologia Medica*, ed. Fiorenzo Conti, Edi-Ermes.

A. Malgaroli (2005 and 2010) La Plasticità sinaptica. Su *Fisiologia Medica* a cura di Fiorenzo Conti, Edi-Ermes.

Numerous monographic issues for the journal **KOS** (As examples: I labirinti del Cervello, 2003; Una Battaglia d'avanguardia: speciale genomica e proteomica, 2004; La memoria, 2005)

Malgaroli, A. A synaptic assay to study learning and memory. (1999) In *A Focus in Pharmaceutical Research: Pharmaceutical Policy and Law*, ed. J.L. Valverde and G.N. Fracchia, IOS Press, Oxford, pag. 71-78

Ingrassia, R., Trabucchi, C. Bergamaschi, A. & Malgaroli, A. (1999) Monitoring synaptic exocytosis and endocytosis by optical techniques. In: *Imaging Living Cells*, ed. R. Rizzuto and C. Fasolato, Springer Verlag. Publ. pag 231-261

Malgaroli, A. (1998) Properties of neurotransmission at hippocampal synapses In: *Central Synapses: quantal mechanisms and plasticity*, ed. H. Atwood, D. Faber, H. Korn, S. Thompson, S. Redman and J. Altman, Human Frontier, pag 123-130.

Malgaroli A. & Meldolesi J. (1997)  $\alpha$ -Latrotoxin. In: *Guidebook to protein toxin and their use in cell biology*, ed. C. Montecucco and R. Rappuoli, Oxford University Press pag 233-235..

Malgaroli, A. (1994) LTP expression: hanging like a yo-yo. *Seminars in Cell Biology*, 5: 231-241.

Naldi, E., Ciardo, A., Bergamaschi, A., & Malgaroli, A. (1994) Mechanism of long-term potentiation in cultured hippocampal neurons In: *Recent advances in the treatment of neurodegenerative disorders and cognitive dysfunctions*, ed. G. Racagni, N. Brunello, S.Z. Langer, Karger Press pag. 152-156.

- Ciardo, A., Bergamaschi, A., Naldi, E., & Malgaroli, A. (1994) Development of an in vitro system for the evaluation of drug effects on biological substrate of learning and memory. In: **Perspectives in Pharmacotoxicology and Pharmacovigilance**, ed. G.N. Fracchia, IOS Press, Oxford, vol 7, pag 77-84.
- Malgaroli, A., Malinow, R., Schulman, H. & Tsien, R.W. (1992) Persistent signalling and changes in presynaptic function in long-term potentiation. In: **Interactions among cell signalling systems**, Ciba Foundation Symposium, ed. R.Sato, G.R. Bock and K.Widdows, John Wiley & Sons, vol 164, pag. 176-191.
- Meldolesi, J. , Pandiella, A., Vallar, L., Madeddu, L., Malgaroli, A., Fasolato C. & Pozzan, T. (1990) Receptor regulating intracellular  $Ca^{2+}$ . In: **Transmembrane Signalling, Intracellular Messengers and implications for drug development**, ed. S.R.Nahorski, John Wiley & Sons Ltd, pag.131-145.
- Malgaroli, A., Pozzan, T. & Meldolesi, J. (1989) Resting  $Ca^{2+}$  in rat chromaffin cells: evidence for an oscillatory behaviour. In: **Biochemical Approaches to Cellular Calcium, Methodological Surveys in Biochemistry and Analysis**, ed. E.Reid, G.M.W.Cook and J.P.Luzio, The Royal Soc. of Chemistry, vol. 19: pag. 317-318.
- Meldolesi, J., Hashimoto, S., Bruno, B., Ambrosini, A., Malgaroli, A., Grohovaz, F., Fumagalli, G., Fasolato, C. & Pozzan, T. (1989) Receptor triggered polyphosphoinositide hydrolysis in neuron and neurosecretory cells:  $Ca^{2+}$  influx and redistribution from intracellular stores. In: **Neuropharmacology**, ed. E. Costa, Raven Press, pag. 69-77.
- Meldolesi, J. , Malgaroli, A., Pandiella, A., Ambrosini, A. , Dettori, C., Madeddu, L., Vallar, L., Fasolato, C. & Pozzan, T. (1989) Phospholipid metabolites with intracellular messenger function. In: **Neurochemical aspects of phospholipid metabolism**, ed L.Freysz, J.N.Hawthorne & G.Toffano, Liviana Press, vol. 20, pag. 99-105.
- Meldolesi, J., Malgaroli, A., Wollheim, C.B. & Pozzan, T. (1987)  $Ca^{2+}$  transient and secretion: studies with Quin2 and other  $Ca^{2+}$  indicators. In: **In vitro methods for studying secretion**, ed. A.Poisner and J.M.Trifaro, Elsevier Pub., Amsterdam, pag. 289-313.
- Meldolesi, J., Malgaroli, A., Pandiella, A., Ambrosini, A., Vicentini, L.M., Milani, D., DiVirgilio, F. & Pozzan, T. (1988) Studies of voltage-gated  $Ca^{2+}$  channels by means of fluorescent  $Ca^{++}$  indicators. In: **Calcium and calcium binding proteins**, ed. C.Gerday, R.Gilles, L.Bolis, Springer Verlag, pag. 236-242.
- Vallar, L., Malgaroli, A., Vicentini, L. & Meldolesi, J. (1988) Regulation of  $Ca^{2+}$  influx in pheochromocytoma and lactotroph cells . In: **Voltage sensitive ions channels modulation by neurotransmitters and drug**, ed. G. Biggio, P.F. Spano, G. Toffano and G.L. Gessa, Liviana Press, pag.133-138.



## **IMPORTANT ABSTRACTS NOT PUBLISHED SUBSEQUENTLY AS FULL ARTICLES**

*Malgaroli, A., Porciatti, F. & Difrancesco, D. (1989) Neuromodulation by c-AMP of the hyperpolarization-activated current in hippocampal neurons in culture. American Soc. Cell Biology Abs. [First evidence for the modulation of If or Ih current by cAMP]: first demonstration that the pacemaker Ih current could be modulated in neurons.*

*Malgaroli, A. & Tsien, R.W. (1990). Exocytosis of large dense core vesicles from cultured hippocampal pyramidal cells monitored by reverse hemolytic plaque assay. American Soc. Neurosci. Abs..*

*Malgaroli, A., Wheeler, D.B., Naldi, E., Ciardo, A., Bergamaschi, A. & Tsien, R.W. (1993). A presynaptic alteration supporting LTP in hippocampal neurons: Contrast with effect of  $\alpha$ -Latrotoxin. American Soc. Neuroscience Abs.*

*Noel J. & Malgaroli A (1994) KCl induced LTP in CA3-CA1 cultures: a possible role for NO. American Soc. for Neuroscience Abs.*