SWISS MEDICAL NETWORK

# Prof Dr. méd Antonio Malgaroli

Specialista in Psichiatria e Psicoterapia, membro FMH

## Langues

EN,IT

## Expérience professionnelle

| | |
|---|---|
| Depuis 2020 | Head of Field Project Master in Cognitive Psychology and H.C., USI - UniSR, Sant'Anna Clinic |
| Depuis 2017 | Director of the Centre for the Study of Behaviour (International Center for Behavioral Neuroscience and Communication) University Vita-Salute San Raffaele, Milan, IT |
| Depuis 2016 | Clinical Activity as Neuropsychiatrist, VilleTurro San Raffaele Hospital, San Donato Group, Milan, IT |
| Depuis 2000 | Full Professor of Human Physiology, University Vita-Salute San Raffaele, Milan, IT |
| 2017–2019 | Clinical activity as Psychiatrist, The Tourette's Centre, IRCCS Galeazzi Hospital, San Donato group, Milan |
| 1993–2000 | Head of Unit of Neurobiology of Memory, San Raffaele Scientific Institute |
| 1989–1992 | Postdoctoral fellow, Department of Molecular and Cellular Physiology, Stanford University, Stanford, CA, US |
| 1985–1989 | Clinical fellow in Psychiatry and Psychotherapy, Postgraduate Degree in Psychiatry, Department of Psychiatry, Faculty of Medicine, University of Milan, Milan, Italy |
| 1982–1985 | Research Fellow, Department of Pharmacology, Faculty of Medicine, University of Milan, Milan |

## Formation

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|---|---|
| 1991 | University of Milan, Specialisation Diploma in Psychiatry and Psychotherapy |
| 1985 | University of Milan, Degree in Medicine and Surgery |
| 1985 | Licence to practise medicine and surgery |

## Affiliations

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|---|---|
| Depuis 2016 | Member of Scientific Board, Italian Tourette Syndrome Association (AIST) |

## Publications

Ferro M, Lamanna J, Spadini S, Nespoli A, Sulpizio S, Malgaroli A. Synaptic plasticity mechanisms behind TMS efficacy: insights from its application to animal models.J Neural Transm (Vienna). 2022 Jan;129(1):25-36. doi: 10.1007/s00702-021-02436-7.

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Briguglio M, Dell'Osso B, Panzica G, Malgaroli A, Banfi G, Zanaboni Dina C, Galentino R, Porta M. (2018) Dietary Neurotransmitters: A Narrative Review on Current Knowledge. Nutrients. 10;10(5). pii: E591. doi: 10.3390/nu10050591.

M.Ferro, J. Lamanna, M. Ripamonti1, 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.

A.Malgaroli La complessità dell'uomo e la psicosomatica. à jour! Psychotherapie Berufsentwicklung, 4(2):71-74 · November 2018, Psychosozial Verlag doi.org/10.30820/8245.31

Briguglio M, Dell'Osso B, Panzica G, Malgaroli A, Banfi G, Zanaboni Dina C, Galentino R, Porta M. Dietary Neurotransmitters: A Narrative Review on Current Knowledge. Nutrients. 2018 May 10;10(5).

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.

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, Ripamonit 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

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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.

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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 increase the readily releasable pool of glutamate vesicles in synaptic terminals of prefrontal and frontal cortex Mol Psychiatry. 19:433-43

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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

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Fanelli A, Titapiccolo JI, Esposti F, Ripamonti M, Malgaroli A, Signorini MG. (2011) Novel image processing methods for the analysis of calcium dynamics in glial cells.IEEE Trans
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Torta F, Usuelli V, Malgaroli A, Bachi A. (2009) Proteomic analysis of protein S-nitrosylation. Proteomics. 8:4484-94

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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, Ehrengruber MU (2003) Novel Semliki Forest Virus vectors with reduced cytotoxicity and temperature-sensitivity: long-term enhancement of transgene expression. Mol Theraphy, 7 :202-9.

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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.

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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.

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Malgaroli, A., Vallar, L. RezaElahi, F., Pozzan,T., Spada, A. & Meldolesi, J. (1987). Dopamine inhibits cytosolic Ca2+ increases in ratlactotroph 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 Ca2+ 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 Ca2+ induced by NGF in PC12 and Chromaffin cells. FEBS Letters, 208: 48-51.

## Prix

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

## Recherche

Antonio Malgaroli ha pubblicato più di cento pubblicazioni nel campo della neurofisiologia, neuroscienze, psicologia e psichiatria, 58 di queste sono articoli peer-reviewed con circa 3500 citazioni complessive; ha un h-index di 26, g-index di 58 (fonte Google Scholar). Il suo lavoro è stato ampiamente descritto in molti libri di testo e recensioni nel campo della fisiologia e neuroscienze. Per quanto concerne la sua attuale attività di ricerca, i suoi interessi si focalizzano sui meccanismi della plasticità sinaptica cerebrale. Oltre ai risvolti maladattativi, che portano ad anomalie funzionali e/o anatomiche e che per questo motivo sono coinvolte nella genesi di molte malattie neuropsichiatriche, i fenomeni di plasticità sono alla base di molti processi di compenso, come quelli indotti dalle terapie, non solo farmacologiche ma anche psicoanalitiche e psicoterapiche. Nel dettaglio, i principali interessi di ricerca si incentrano su quattro aree tematiche:

1. La plasticità delle reti neurali e suoi meccanismi cellulari e molecolari. In questo campo ha ottenuto risultati importanti relativi alla comprensione dei meccanismi di induzione e di espressione della plasticità sinaptica, sia nell'ippocampo che nella corteccia prefrontale.
2. Sviluppo di tecniche innovative per lo studio funzionale dei circuiti sinaptici in vitro ed in vivo. Tra i risultati ottenuti, la prima tecnologia per la misura elettrica dell'attività di una singola sinapsi centrale, e la prima tecnologia per la valutazione funzionale delle modifiche di attività sinaptica di una rete neurali in vitro. Recentemente, dopo alcuni anni di lavoro ha sviluppato l'unica metodica oggi disponibile per registrare l'attività sinaptica in vivo (GreenZip), tecnica che viene utilizzata per molte domande al punto 3, qui sotto.
3. I meccanismi neurobiologici e gli aspetti clinici di alcune condizioni psicopatologiche quali l'ansia e lo stress, anoressia, sindrome di Tourette, comprensione del meccanismo d'azione di alcuni psicofarmaci quali la ketamina, oggi utilizzata per la cura della depressione maggiore non responsiva ad altri trattamenti.

Tra i progetti clinici sull'uomo: lo studio del disturbo DOC nella Sindrome di Tourette; ii) L'implementazione dei protocolli di stimolazione magnetica cerebrale TMS al fine di indurre modifiche plastiche durature a carico dei circuiti cerebrali coinvolti in alcuni disturbi psichiatrici (DOC, anoressia, depressione, S. Tourette); L'utilizzo della TMS per valutare il coinvolgimento di alcune aree cerebrali negli aspetti attentivi e decisionali e dell'effetto degli stati emozionali.

## Accréditation

Clinica Sant'Anna

## Spécialités

Psychiatrie et psychothérapie

## Contactez-nous

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