

MONICA MARANESI

Work and Education

Gen 2023 – Gen 2024	Senior Research Fellow (Ricercatore RTT), Department of Medicine and Surgery, University of Parma
Mar 2023 – Feb 2023	Research Fellow (Ricercatore RTDa - proroga), Department of Medicine and Surgery, University of Parma
Mar 2019 – Feb 2023	Research Fellow (Ricercatore RTDa), Department of Medicine and Surgery, University of Parma
Sep 2022- Present	Local Reference Person for animal welfare , Department of Medicine and Surgery, University of Parma
Sep 2017 – Feb 2019	Senior Research Fellow (Assegno di Ricerca), Department of Medicine and Surgery, University of Parma
Sep 2012 - Aug 2017	Junior Post-Doc , Brain Center for Social and Motor Cognition, Istituto Italiano di Tecnologia (IIT), Parma
Jan 2016	Certificate in Psychotherapy , focused on Developmental Neuropsychology – ANSVI (Academy of Developmental Neuropsychology), Parma (Italy)
Jan 2011 - Aug 2012	Post-Doc fellow , Department of Neuroscience, University of Parma
Jan 2007 - Aug 2011	PhD in Neuroscience , Supervisor prof. Leonardo Fogassi, Department of Neuroscience, University of Parma
Feb 2006	Degree in Psychology (LM-51), experimental Thesis (<i>cum laude</i>), Supervisor prof. Leonardo Fogassi, Department of Neuroscience, University of Parma

Training

2023-2024	Course specific for Non-Human Primate, University of Parma.
2021-2022	Course specific for Non-Human Primate, University of Parma.
2018	Blackrock Microsystems Utah arrays & Microflex array surgical workshop, Amsterdam, Netherlands.
2016	Laboratory animal science course on primates according to Felasa guidelines – Function A and B – EUPRIM – Net.
2014-2015	Psychotherapy internship on Specific Learning Disorders, Parma (Italy).
2013	Psychotherapy internship on Specific Language Disorders, Parma (Italy).
2012	Psychotherapy internship: follow-up psychomotor evaluation in pre-term infants, Neonatology ward, Modena General Hospital, Modena (Italy).
2012	Psychotherapy internship: follow-up psychomotor evaluation in pre-term infants, Neonatology ward, Modena General Hospital, Modena (Italy).
2012	Psychotherapy internship on children Development 0-3 years, Parma (Italy).
Sep 2006 – Mar 2007	Internship in macaque neurophysiology, Department of Neuroscience, University of Parma.
Mar 2006 – Aug 2007	Internship in monkey ethology, Istituto di Scienze e Tecnologie della Cognizione (ISTC), Consiglio Nazionale delle Ricerche (CNR).

Grants, Awards and Research Support

2019-2024	Grants	Fondi locali per la ricerca di Ateneo - FIL [Faculty Resources Grant]
2022	Grant	PRIN 2022 (2022Sp5K99), PI: Monica Maranesi. Starting Date: 5 Oct 2023.
2022	Grant	Consolidator Grant 2022 (101002704), PI: Luca Bonini, Role: Research Fellow 2019-present.
2015	Grant	Starting Grant 2015 (678307), PI: Luca Bonini, Role: Key postdoctoral fellow 2017-2022.
2009	Grant	Grant 2009 (250013), PI: Giacomo Rizzolatti, Role: postdoctoral fellow 2014-2016

Teaching Experience

Since 2024	Animal and comparative psychobiology	(64 hrs) MSc in Psychobiology and Cognitive Neuroscience, University of Parma
2024	Psychobiology of sport	(7 hrs) BSc in Motor Sciences, Sport, and Health, University of Parma
2020-2023	Psychobiology of sport	(42 hrs) BSc in Motor Sciences, Sport, and Health, University of Parma
2019	Psychobiology of sport	(14 hrs) BSc in Motor Sciences, Sport, and Health, University of Parma

Memberships and Academic accomplishment

SfN (Society for Neuroscience)

SINS (Italian Society for Neuroscience)

April 2017	National Board Qualification	Associate Professor in General Psychology, Psychobiology and Psychometry
April 2017	National Board Qualification	Associate Professor in Physiology

Editor and Reviewer

Associate Editor: in the Editorial Board of *Frontiers in Psychology* and *Plos One*

Ad hoc Reviewer: Brain Structure and Function, Journal of Neural Engineering, Journal of Cognitive Neuroscience, NeuroImage, Psychological Research, Psychological Review, Scientific Reports, Sistemi Intelligenti.

Personal skills and competences

Languages: Italian (native), English (advanced).

Data-analyses: Statistica, Matlab, Plexon Offline Sorter, Plexon Neuroexplorer.

Organizational experience at International Conferences

Symposia organizer/speaker:

- Neurobiology of social interactions: integration of ecological and neurophysiological approach. Proponent: **Maranesi, M.** Second Chair: Genovesio, A. Speakers: **Maranesi, M.**, Palagi, E., Dal Monte, O. *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Distinction between own and other's grasping hand in the ventral premotor cortex. **Maranesi M.**, Livi A., Fogassi L., Rizzolatti G., Bonini L. *Federation of European Neuroscience Societies (FENS), Milano, Italia, 2014.*
- Space-dependent representation of objects and other's actions in monkey ventral premotor grasping neurons. **Maranesi M.**, Livi A., Fogassi L., Rizzolatti G., Bonini L. *64° Congresso Nazionale Società Italiana di Fisiologia (SIF), Portonovo (AN), Italia, 2013.*
- Anatomico-functional organization of the lateral agranular frontal cortex in the macaque monkey. **Maranesi M.**, Rodà F., Bonini L., Ferrari PF., Rozzi S., Fogassi L., Coudé G. *Primate Neurobiology Meeting, Göttingen, Germania, 2011.*

Poster presenter:

- Linkage of multiple sensory and motor properties in single neuron activity of the macaque anterior intraparietal area. **Maranesi M.**, Lanzilotto M., Ferroni C. G., Livi A., Albertini D., Bonini L. *Society for Neuroscience (SFN), Chicago, IL, 2019.*
- Anterior intraparietal (AIP) neurons encode actions and pantomimes from dynamic and static stimuli. **Maranesi M.**, Lanzilotto M., Livi A., Ferroni C. G., Andujar M., Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Time course of affordances processing in macaque ventral premotor neurons. **Maranesi M.**, Bruni S., Livi A., Fogassi L., Rizzolatti G., Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2014.*
- Influence of the sight of monkey's own acting hand on the motor discharge of mirror neurons **Maranesi M.**, Livi A., Caselli L., Fogassi L., Rizzolatti G., Bonini L. *Society for Neuroscience (SFN), New Orleans, LA, 2012.*
- Monkey dorsal premotor neurons can discharge during execution and observation of a reach-to-grasp motor task. **Maranesi M.**, Caselli L., Livi A., Bimbi M., Fogassi L., Rizzolatti G., Bonini L. *Federation of European Neuroscience Societies (FENS), Barcellona, Spagna, 2012.*
- Monkey gaze behavior during action observation and its relationship with mirror neurons activity. **Maranesi M.**, Ugolotti Serventi, F., Bimbi, M., Bruni, S., Fogassi, L., Bonini, L. *Society for Neuroscience (SFN), Washington, DC, 2011.*
- Influence of the gaze direction of an observed agent on the visual discharge of grasping mirror neurons in macaque monkey **Maranesi M.**, Ugolotti F., Bonini L., Simone L., Rozzi S., Ferrari PF., Fogassi L. *The Primate Mind, Erice, Italia, 2009.*

Abstract co-author:

- Predicting spontaneous behaviors in freely moving monkeys from intracortical recordings. Rondoni E.H., Lanzarini F., **Maranesi M.**, Albertini D., Bonini L., Mazzoni A. *Society for Neuroscience (SFN), Chicago, IL, 2024.*
- *Elena H. Rondoni^{1,2}, Francesca Lanzarini^{3,4}, Monica Maranesi³, Davide Albertini³, Luca Bonini³, Alberto Mazzoni^{1,2}*
- From walking to reaching: single neurons and population dynamics in monkey lateral frontal cortex. Sini R., Albertini D., Lanzarini F., Tili F., **Maranesi M.**, Bonini L. *Society for Neuroscience (SFN), Chicago, IL, 2024.*
- Pragmatic representation of self and other's action in the monkey putamen. Rotunno C., Reni M., Ferroni C.G., Bonini L., **Maranesi M.** *Society for Neuroscience (SFN), Chicago, IL, 2024.*
- Neural dynamics of spontaneous walking: insights from macaque motor cortex activity. Sini R., Albertini D., Lanzarini F., **Maranesi M.**, Bonini L. *International congress of neuroethology, Berlin, Germany, 2024.*
- Neural fingerprints of grasping actions in the monkey premotor cortex in head-fixed, head-free, and freely moving contexts. Ismael E., Ferretti E., **Maranesi M.**, Bonini L. *National Congress of Italian Society of Physiology, Rome, Italy, 2024.*
- Single-neuron encoding of self and other's actions in the monkey putamen. Reni M., Rotunno C., Ferroni C.G., **Maranesi M.**, Bonini L. *CAOs Workshop on CONCEPTS, ACTIONS, and OBJECTS, Rovereto (TN), 2024.*
- Neuronal correlates of spontaneous walking in the monkey ventral premotor cortex. Sini, R., Albertini, D., Lanzarini, F., **Maranesi, M.**, Bonini, L. *Society for Neuroscience (SFN), Washington, DC, 2023.*
- Premotor coding of natural behaviors in freely moving monkeys. Albertini, D., Lanzarini, F., **Maranesi, M.**, Rondoni, E.H. Lanzilotto, M., Mazzoni, A., Bonini, L. *Society for Neuroscience (SFN), Washington, DC, 2023.*
- Yawn selective neurons in the monkey ventral premotor cortex. Ferretti, E., Lanzarini, F., **Maranesi, M.**, Bonini, L. *Society for Neuroscience (SFN), Washington, DC, 2023.*
- Neuronal representations of self and other's action in the monkey putamen. Rotunno, C., Reni, M., Ferroni, C.G., Bonini, L. **Maranesi, M.** *Society for Neuroscience (SFN), Washington, DC, 2023.*
- Neuronal encoding of reaching-grasping actions in the monkey putamen. Reni, M., Rotunno, C., Ferroni, C.G., Bonini, L., **Maranesi, M.** *Society for Neuroscience (SFN), Washington, DC, 2023.*

MONICA MARANESI

- Memory-driven coding of graspable objects in monkey parieto-frontal areas. Mitola, A., **Maranesi, M.**, Bonini, L., Lanzilotto, M. *Society for Neuroscience (SFN), Washington, DC, 2023.*
- Neurophysiological correlates of peripersonal space representation in human and non-human primates. Fitzpatrick, A.M., Bufacchi, R., Lanzarini, F., Albertini, D., **Maranesi, M.**, Novembre, G., Bonini, L., Iannetti, G. *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Neurons responsive to yawn in the monkey ventral premotor cortex. Ferretti, E., Lanzarini, F., **Maranesi, M.**, Bonini, L. *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Monkey ventral premotor cortex generates rhythmic activity during spontaneous walking. Sini, R., Albertini, D., Lanzarini, F., **Maranesi, M.**, Bonini, L. *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Memory-driven coding of objects in the monkey parieto-frontal grasping network. Mitola, A., **Maranesi, M.**, Bonini, L., Lanzilotto, M. *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Neuronal signals for self and other's action in the monkey putamen. Reni, M., Rotunno, C., Ferroni, C.G., Di Volo, M., Bonini, L., **Maranesi, M.** *National Congress of the Italian Society for Neuroscience, Torino, Italia, 2023.*
- Neuronal signals for self and other's action in the monkey putamen. Rotunno, C., Ferroni, C.G., Reni, M., Di Volo, M., Bonini, L., **Maranesi, M.** *Primate Neurobiology Meeting, Göttingen, Germania, 2023.*
- Visuo-tactile place fields of macaques' ventral premotor neurons. Albertini, D., **Maranesi, M.**, Lanzarini, F., Bonini, L. *Comparative neurobiology of higher cognitive functions, Erice, Italia, 2022.*
- Neural correlates of yawning in the monkey ventral premotor cortex. Ferretti, E., Lanzarini, F., Albertini, D., **Maranesi, M.**, Bonini, L. *Comparative neurobiology of higher cognitive functions, Erice, Italia, 2022.*
- Neuronal signals for self and other's action in the monkey putamen. Rotunno, C., Ferroni, C.G., Di Volo, M., Reni, M., Bonini, L., **Maranesi, M.** *Comparative neurobiology of higher cognitive functions, Erice, Italia, 2022.*
- Neuronal representations of self and other's action in the monkey basal ganglia. Rotunno, C., **Maranesi, M.**, Ferroni, C.G., Di Volo, M., Reni, M., Bonini, L. *Federation of European Neuroscience Societies (FENS), Parigi, Francia, 2022.*
- Linkage of multiple sensory and motor properties in single neuron activity of the macaque anterior intraparietal area. **Maranesi, M.**, Lanzilotto, M., Livi, A., Ferroni, C. G., Albertini, D., Bonini, L. *Society for Neuroscience (SFN), Chicago, IL, 2019.*
- Sensory and motor properties of physiologically identified neuronal classes in multiple areas of the parieto-frontal grasping network. Ferroni C.G., **Maranesi, M.**, Livi A., Lanzilotto M., Albertini D., Bonini L. *Society for Neuroscience (SFN), Chicago, IL, 2019.*
- View-dependent processing of observed manipulative action in the monkey anterior intraparietal area (AIP). Lanzilotto M., **Maranesi, M.**, Livi A., Ferroni C. G., Fogassi L., Bonini L., Orban G. A. *Society for Neuroscience (SFN), Chicago, IL, 2019.* Abs 404.03
- Connectional gradients underlie functional transitions in monkey pre-supplementary motor area. Albertini D., Gerbella M., Lanzilotto M., Livi A., **Maranesi, M.**, Ferroni C. G., Bonini L. *Society for Neuroscience (SFN), Chicago, IL, 2019.*
- A visual-to-motor gradient in AIP: An anatomo-functional study. Ferroni C. G., Gerbella M., Lanzilotto M., **Maranesi, M.**, Livi A., Borra E., Fogassi L., Bonini L., Orban G. A. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Barriers in the brain: Pragmatic representation of objects by single neurons of the cortical grasping network. Livi A., Lanzilotto M., Ferroni C. G., **Maranesi, M.**, Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Neuronal selectivity for observed hand actions in monkey's anterior intraparietal area. Lanzilotto M., **Maranesi, M.**, Livi A., Ferroni C. G., Fogassi L., Bonini L., Orban G. A. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Anatomo-functional evidence on the role of pre-supplementary motor area F6 in the extended cortical grasping network. Gerbella M., Lanzilotto M., **Maranesi, M.**, Livi A., Ferroni C. G., Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Beyond the dorsolateral grasping network: comparative properties between area F6 and F5 neurons during vision and grasping of objects. Lanzilotto M., **Maranesi, M.**, Livi A., Gerbella M., Fogassi L., Rizzolatti G., Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Functional properties of mirror neurons of the monkey presupplementary motor area f6. Livi A., LanzilottoM., **Maranesi, M.**, Gerbella M., Fogassi L., Rizzolatti G., Bonini L. *Society for Neuroscience (SFN), Washington, DC, 2017.*
- Visuo-motor processing of objects in pre-supplementary motor area F6 neurons of the macaque. Bonini L., Livi A., Lanzilotto M., **Maranesi, M.**, Ruther P., Barz F., Fogassi L., Rizzolatti G. *Society for Neuroscience (SFN), Chicago, IL, 2015.* Abs 601.14/L36
- Mirror neurons responding to inaction in the monkey ventral premotor cortex. Bonini L., Maranesi M., Livi A., Fogassi L., Rizzolatti G. *Society for Neuroscience (SFN), San Diego, CA, 2013.*
- Functional characterization of monkey ventral premotor grasping neurons classes during execution and observation of a visuo-motor task. Bonini L., **Maranesi, M.**, Caselli L., Livi A., Bimbi M., Fogassi L., Rizzolatti G. *Society for Neuroscience (SFN), New Orleans, LA, 2012.*
- Ventral premotor cortex of the macaque monkey controls conditioned vocalization. Coudé G., Ferrari PF., Rodà F., **Maranesi, M.**, Rozzi S., Fogassi L., *Society for Neuroscience (SFN), Chicago, IL, 2009*
- Neuronal responses during vocalization in the ventral premotor cortex of macaque monkeys. Coudé G., Ferrari PF., Rodà F., **Maranesi, M.**, Veroni V., Monti F., Rizzolatti G., Fogassi L. *Society for Neuroscience (SFN), San Diego, CA, 2007.*
- Tufted Capuchin Monkeys (*Cebus apella*) Prefer Variety when Dealing with Objects and Food. Addressi E., **Maranesi, M.**, Visalberghi E. *XVIII Congresso dell'Associazione Primatologica Italiana (API), Calci, Italia, 2007.*

Thrid mission activities

- "Apprendimento in azione", *Notte europea dei ricercatori, Parma, Italia, 29 settembre 2023.*

- "Neuroquiz", *Notte europea dei ricercatori, Parma, Italia, 30 settembre 2022.*
- "Apprendimento in azione", *Notte europea dei ricercatori, Parma, Italia, 24 settembre 2021.*

----- Research Output-----

Role of ventral premotor and primary motor cortex in motor planning and execution

1. Lanzarini F*, **Maranesi M.***, Rondoni E.H., Albertini D.*, Ferretti E., Lanzilotto M., Micera S., Mazzoni A., Bonini L. (2025) Neuroethology of natural actions in freely moving monkeys. *Science*
2. Bonini L., **Maranesi M.**, Livi A., Fogassi L., Rizzolatti G. (2014) Ventral premotor neurons encoding representations of action during self and others' inaction. *Current Biology*
3. **Maranesi M.**, Ugolotti Serventi F., Bruni S., Bimbi M., Fogassi L., Bonini L. (2013) Monkey gaze behavior during action observation and its relationship to mirror neuron activity. *European Journal of Neuroscience*
4. Bonini L., Ugolotti Serventi F., Bruni S., **Maranesi M.**, Bimbi M., Simone L., Rozzi S., Ferrari P.F. (2012) Selectivity for grip type and action goal in macaque inferior parietal and ventral premotor grasping neurons. *Journal of Neurophysiology*
5. Macellini, S.*, **Maranesi, M.***, Bonini, L., Simone, L., Rozzi, S., Ferrari, P.F., Fogassi, L. (2012) Individual and social learning processes involved in the acquisition and generalization of tool-use in macaques. *Philosophical Transactions of the Royal Society B*
6. **Maranesi M.**, Rodà F., Bonini L., Rozzi S., Ferrari P.F., Fogassi L., Coudé G. (2012) Anatomofunctional organization of the ventral primary motor and premotor cortex in the macaque monkey. *European Journal of Neuroscience*

Cortical processing of object and action observation

7. **Maranesi M.**, Arcuri E., Lanzilotto M., Bonini L. (2024) Mixed selectivity in monkey anterior intraparietal area during visual and motor processes. *Progress in Neurobiology*
8. Albertini D., Lanzilotto M., **Maranesi M.**, Bonini L. (2021) Largely shared neural codes for biological and nonbiological observed movements but not for executed actions in monkey premotor areas. *Journal of Neurophysiology*
9. **Maranesi M.**, Bruni S, Livi A, Donnarumma F, Pezzulo G, Bonini L. (2019) Differential neural dynamics underlying pragmatic and semantic affordance processing in macaque ventral premotor cortex. *Scientific Reports*
10. **Maranesi M.***, Livi A.*, Bonini L. (2017) Spatial and viewpoint selectivity for others' observed actions in monkey ventral premotor neurons. *Scientific Reports*
11. **Maranesi M.**, Livi A., Bonini L. (2015) Processing of own hand visual feedback during object grasping in ventral premotor mirror neurons. *Journal of Neuroscience*
12. Bonini L.*, **Maranesi M.***, Livi A., Fogassi L., Rizzolatti G. (2014) Space-dependent representation of objects and other's action in monkey ventral premotor grasping neurons. *Journal of Neuroscience*
13. **Maranesi M.**, Bonini L., Fogassi L. (2014) Cortical processing of object affordances for self and others' action. *Frontiers in Psychological and Behavioral Science*
14. **Maranesi M.**, Livi A., Fogassi L., Rizzolatti G., Bonini L. (2014) Mirror neuron activation prior to action observation in a predictable context. *Journal of Neuroscience*
15. Coudé G., Ferrari P.F., Rodà F., **Maranesi M.**, Borelli E., Veroni V., Monti F., Rozzi S., Fogassi L. (2011) Neurons controlling voluntary vocalization in the macaque ventral premotor cortex. *PLoS ONE*

Extension of mirror neuron network.

16. **Maranesi M.**, Lanzilotto M., Arcuri E., Bonini L. (*in press*) Mixed selectivity in monkey anterior intraparietal area during visual and motor processes.
17. Ferroni C.G., Albertini D., Lanzilotto M., Livi A., **Maranesi M.**, Bonini L. (2021) Local and system mechanism for action execution and observation in parietal and premotor cortices. *Current Biology*
18. Albertini D., Gerbella M., Lanzilotto M., Livi A., **Maranesi M.**, Ferroni C.G., Bonini L. (2020) Connectional gradients underlie functional transitions in monkey pre-supplementary motor area. *Progress in neurobiology*
19. Lanzilotto M., **Maranesi M.**, Livi A., Ferroni C.G., Orban G.A., Bonini L. (2020) Stable readout of observed actions from frontal-dependent activity of monkey's anterior intraparietal neurons. *Proceedings of the National Academy of Sciences*
20. Lanzilotto M., Ferroni C.G., Livi A., Gerbella M., **Maranesi M.**, Borra E., Passarelli L., Gamberini M., Fogassi L., Bonini L., Orban G. (2019) Anterior Intraparietal Area: A Hub in the Observed Manipulative Action Network. *Cerebral Cortex*
21. Livi A., Lanzilotto M., **Maranesi M.**, Fogassi L., Rizzolatti G., Bonini L. (2019) Agent-based representations of objects and actions in the monkey pre-supplementary motor area. *Proceedings of the National Academy of Sciences*
22. Bruni S., Gerbella M., Bonini L., Borra E., Coudé G., Ferrari P.F., Fogassi L., **Maranesi M.**, Rodà F., Simone L., Ugolotti Serventi F., Rozzi S. (2018) Cortical and subcortical connections of parietal and premotor nodes of the monkey hand mirror neuron network. *Brain Structure and Function*
23. Lanzilotto M., Livi A., **Maranesi M.**, Gerbella M., Barz F., Ruther P., Fogassi L., Rizzolatti G., Bonini L. (2016) Extending the Cortical Grasping Network: Pre-supplementary Motor Neuron Activity During Vision and Grasping of Objects. *Cerebral Cortex*

Development and testing of multi-contact probes.

MONICA MARANESI

24. Ferroni C.G., **Maranesi M.**, Livi A., Lanzilotto M., Bonini L. (2017) Comparative performance of linear multielectrode probes and single-tip electrodes for intracortical microstimulation and single-neuron recording in macaque monkey. *Frontiers in System Neuroscience*
25. Barz F., Livi A., Lanzilotto M., **Maranesi M.**, Bonini L., Paul O., Ruther P. (2017) Versatile, modular three-dimensional microelectrode arrays for neuronal ensemble recordings: from design to fabrication, assembly, and functional validation in non-human primates. *Journal of Neural engineering*
26. Bonini L., **Maranesi M.**, Livi A., Bruni S., Fogassi L., Holzhammer T., Paul O., Ruther P. (2013) Application of floating silicon-based linear multielectrode arrays for acute recording of single neuron activity in awake behaving monkeys. *Biomedical engineering*

H-index: 19 (Scopus)

ORCID: 0000-0002-8090-3300

Total number of citations: 968 (Scopus)