

PERSONAL INFORMATION

Francesca Ferroni

 francesca.ferroni1@unipr.it

CURRENT POSITION

Research Fellow

Department of Medicine and Surgery, Unit of Neuroscience, University of Parma

Title of the project: "The neural underpinnings of the representation and plasticity of multisensory integration processes in healthy and psychopathological population".

(BIO/09 – M-PSI/02)

SCIENTIFIC PROFILE

ORCID ID: 0000-0003-4665-9102

Scopus Author ID: 57194607170

Scopus citations: 282

Scopus h-index: 8

WORK EXPERIENCE

03/2023– Present

Professor - supplementary teaching/exercises

Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia

Course: Laboratory of Neuropsychology

Degree Course: Psychological Sciences and Techniques

04/2022– 09/2023

Teaching Assistant

Department of Humanities, Social Sciences and Cultural Industries, University of Parma (Italy)

Course: Neuroscience (BIO/09)

Degree Course: Philosophy

10/2023– Present

Teaching Assistant

Department of Food and Drug, University of Parma (Italy)

Course: General Physiology (BIO/09)

Degree Course: Pharmacy

10/2022– Present

Teaching Assistant

Department of Food and Drug, University of Parma (Italy)

Course: Human Anatomy (BIO/16)

Degree Course: Pharmacy

04/2021– Present

Teaching Assistant

Department of Medicine & Surgery, University of Parma (Italy)

Course: General Psychology (M-PSI/02)

Degree Course: Audioprothetic Techniques; Physiotherapy; Sport Sciences, Physical Exercise and Human Health.

04/2021– Present **Teaching Assistant**
Department of Biomedical, Metabolical and Neural Sciences, University of Modena and Reggio Emilia (Italy)
Course: Laboratory of Neuropsychology (M-PSI/02)
Degree Course: Psychological Sciences and Techniques

04/2021– Present **Admitted to the National Order of Biologists (n. AA_089117)**
Order of Biologists of Emilia-Romagna and Marche (Italy)

EDUCATION AND TRAINING

11/2017-03/2021 **PhD in Neuroscience**
University of Modena, Modena (Italy)
Thesis: “Bodily self-identity and the performativity of peripersonal space in schizotypy and schizophrenia”
Supervisor: Professor Vittorio Gallese
Final mark: Excellent cum Laude.

09/2016-10/2017 **Scholarship in Neuroscience**
University of Parma, Parma (Italy)

- Participation in experimental research projects as participant
- Recording of physiological (e.g., electrocardiogram, galvanic skin response) and superficial facial electromyographic (EMG) data
- Acquisition of Functional Magnetic Resonance (fMRI) data
- Contribution to the drafting of the scientific paper “Evidence for anger saliency during the recognition of chimeric facial expressions of emotions in underage ebola survivors” published in *Frontiers in psychology*

09/2014-09/2016 **Master's degree in Neurobiology**
University of Pavia, Pavia (Italy)
Thesis: “The Enfacement Illusion: empathy, physiological correlates and insights into psychopathology of schizophrenia”
Supervisor: Professor Maria Grazia Bottone
Final mark: 110/110 cum Laude.

09/2011-09/2014 **Bachelor's Degree in Biology**
University of Parma, Parma (Italy)
Thesis: “Effects of early traumatic experiences on physiological responses to viewing emotional facial expressions in Sierra Leone”.
Supervisor: Professor Vittorio Gallese
Final mark: 110/110.

PREVIOUS POSITIONS

10/2022-09/2023 **Post-doctoral research fellow**
Department of Medicine and Surgery, University of Parma, Parma, Italy
Title of the project: “The neural bases of multisensory integration processes during prenatal development”.
(M-PSI/02)

10/2021-08/2022 **Post-doctoral research fellow**
Department of Medicine and Surgery, University of Parma, Parma, Italy
Title of the project: “My Space”.
(M-PSI/02)

PERSONAL SKILLS

Mother tongue Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
French	B2	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Job-related skills

TECHNICAL SKILLS

- Functional Magnetic Resonance Imaging - Independent user
- Facial electromyography - Independent user
- Autonomic Nervous System recordings - Proficient user
- Recording and analysis of psychological and psychophysical data - Proficient user

ADDITIONAL SKILLS

- Discussant for lecture of Professor Shaun Gallagher: "Bodily self-awareness and body-schematic processes"
- Associate Editor for Mind & Society journal (07/2023-present)
- Review Editor for Perception Science (Frontiers in Psychology, Frontiers in Neuroscience) (03/2023-present)
- Associate Editor for BMC Research Notes journal (02/2022-present)
- Reviewer for several international indexed journals: e.g., Brain Sciences, Consciousness and Cognition; Frontiers in psychology; Journal of Experimental Psychology; Neuroscience & Biobehavioural Review; PANS; Psychopathology; Schizophrenia Research
- Participation in graduate committees as correlator of master's theses
- Supervising theses of master's degree students
- Doctoral student representative (01/2018-12/2020)

RESEARCH INTERESTS

- Multisensory integration mechanisms and their alterations in schizophrenia
- Peripersonal Space representation and plasticity along the schizophrenia spectrum (i.e., schizotypy, full-blown schizophrenia patients)
- The neurobiological bases of Bodily-Self in healthy individuals and schizophrenic patients
- Neurophysiological bases of Aesthetic experience

TEACHING ACTIVITY - INVITED LECTURES

- Invited lecture for seminar “Arte e senso comune”
Genova, Italy.
20-04-2024

- Invited lecture during the “Neuroscience” course of the Bachelor degree in Philosophical Studies,
University of Parma.
Title: “Bodily self and schizophrenia”.
12-03-2024

- Invited lecture for the NAAD Master,
Title: “ The Rhythm of Space”.
IUAV University of Venice; Venice, Italy.
29-02-2024

- Invited lecture during winter course “Moving Boundaries”
Title: “ Space or place? a look at architecture from within”.
Venice, Italy.
13-12-2023 / 17-12-2023

- Invited lecture during “Neuroshopping” course of the Master degree in Trade and consumer
marketing,
Title: “Dove ci porteranno le Neuroscienze? una prospettiva *embodied*”.
Parma, Italy.
22-11-2023

- Invited lecture for the ‘Giornata mondiale della salute mentale’,
Title: “Mente e Malattia”.
Piacenza, Italy.
10-10-2023

- Invited lecture for the Forum interdisciplinare Ferdinando Rossi,
Title: “Intersoggettività e neuroni specchio”.
Forum interdisciplinare Ferdinando Rossi; Torino, Italy.
13-04-2023

- Invited lecture during the “Neuroscience” course of the Bachelor degree in Philosophical Studies,
University of Parma.
Title: “Bodily self and schizophrenia”.
28-02-2023

- Invited lecture for the IFRA Master,
Title: “ Neuron Mirror: nuove prospettive per lo studio dell’Intersoggettività”.
IFRA - Istituto per la formazione e la Ricerca applicata; Bologna, Italy.
21-01-2023/22-01-2023

- Invited lecture for the NAAD Master,
Title: “ From architecture to biology: Rhythms and perception”.
IUAV University of Venice; Venice, Italy.
12-01-2023

- Invited lecture during the “Clinical Psychology” course of the Bachelor degree in Psychology,
University of Parma.
Title: “Sé corporeo e schizofrenia”.
24-11-2022

- Invited lecture for the Yoga Studies Master,
Title: “Cervello, corpo e psicopatologia”.
Fondazione Università Cà Foscari; Milan, Italy.
08-10-2022

- Invited lecture during the “Neuroscience” course of the Bachelor degree in Philosophical Studies,
University of Parma.
Title: “Multisensory Integration: basic principles & psychopathology”.
11-05-2022

- Invited lecture at the School of Analytical Psychotherapy (AION), Bologna (Italy).
Title: "Clinical psychology: a dialogue between neuroscience and psychotherapy".
19-03-2022
- Invited lecture during the "Neuroscience" course of the Bachelor degree in Philosophical Studies, University of Parma.
Title: "Body identity and performativity of peripersonal space in schizotypy and schizophrenia".
13-05-2021
- Publication Day: series of appointments of the "Mental Health" initiative.
Department of Medicine and Surgery, University of Parma.

Invited seminars entitled:

- "Unravelling the motor roots of peripersonal space plasticity in schizophrenia"
03-11-2021
- "The plasticity of peripersonal space in schizotypy and schizophrenia"
05-11-2020
- "Multisensory integration processes in schizotypy and schizophrenia"
06-11-2019

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

- Good level of knowledge of radiological imaging data processing and analysis programs, in particular SPM12 packages.
- Independent user of MATLAB software (e.g., experimental psychology paradigms programming in Matlab-Psychtoolbox).
- Proficient user of Microsoft Office instruments (Excel, Word, Power Point).
- Proficient user of statistical software packages for data analysis: SPSS, Statistica, R.
- Proficient user of Graphics software: Adobe Photoshop, Adobe Illustrator, Blender.

Other skills

Diagnostic testing and screening for SARS-CoV-2.

Driving licence

B

ADDITIONAL INFORMATION

Publications

- 1) **Ferroni, F.**, Arcuri, E., Ardizzi, M., Chinchella, N., Gallese, V., & Ciaunica, A. (2024). Lost in time and space? Multisensory processing of peripersonal space and time perception in people with frequent experiences of depersonalisation. *Quarterly Journal of Experimental Psychology*, 17470218241261645.
- 2) Gallese, V., Ardizzi, M., & **Ferroni, F.** (2024). Schizophrenia and the bodily self. *Schizophrenia Research*, 269, 152-162.
- 3) Ampollini, S., Ardizzi, M., **Ferroni, F.**, & Cigala, A. (2024). Synchrony Perception Across Senses: A Systematic Review of Temporal Binding Window Changes From Infancy to Adolescence in Typical and Atypical Development. *Neuroscience & Biobehavioral Reviews*, 105711.
- 4) **Ferroni, F.**, Rabellino, D., Mazzeschi, C., & Ardizzi, M. (2024). The bodily self and its alterations: psychopathological, neural and theoretical aspects. *Frontiers in*

Psychology, 15, 1447443.

- 5) Garello, S., **Ferroni, F.**, Gallese, V., Cuccio, V., Ardizzi, M. (2024). From breaking bread to breaking hearts. Embodied simulation and action language comprehension. *Language, Cognition and Neuroscience*, 1-13.
- 6) Garello, S., **Ferroni, F.**, Gallese, V., Ardizzi, M., & Cuccio, V. (2024). The role of embodied cognition in action language comprehension in L1 and L2. *Scientific Reports*, 14(1), 12781.
- 7) Ardizzi, M., **Ferroni, F.**, Manini, A., Giudici, C., Maccaferri, E., Uccelli, S., & Umiltà, M. A. (2023). The influence of sensorimotor experience on beauty evaluation of preschool children. *Frontiers in Human Neuroscience*, 17.
- 8) **Ferroni, F.**, & Gallese, V. (2022). Social bodily self: conceptual and psychopathological considerations. In *The Routledge Handbook of Bodily Awareness* (pp. 522-541). Routledge.
- 9) **Ferroni, F.**, Gallese, V., Soccini, A. M., Langiulli, N., Rastelli, F., Ferri, D., ... & Ardizzi, M. (2022). The Remapping of Peripersonal Space in a Real but Not in a Virtual Environment. *Brain Sciences*, 12(9), 1125.
- 10) **Ferroni, F.**, Ardizzi, M., Magnani, F., Ferri, F., Langiulli, N., Rastelli, F., ... & Gallese, V. (2022). Tool-use Extends Peripersonal Space Boundaries in Schizophrenic Patients. *Schizophrenia Bulletin*.
- 11) Peciccia, M., Germani, A., Ardizzi, M., Buratta, L., **Ferroni, F.**, Mazzeschi, C., & Gallese, V. (2022, February). Sense of self and psychosis, part 2: A single case study on amniotic therapy. In *International Forum of Psychoanalysis* (pp. 1-12). Routledge.
- 12) Peciccia, M., Buratta, L., Ardizzi, M., Germani, A., Ayala, G., **Ferroni, F.**, ... & Gallese, V. (2022, February). Sense of self and psychosis, part 1: Identification, differentiation and the body; A theoretical basis for amniotic therapy. In *International Forum of Psychoanalysis* (pp. 1-11). Routledge.
- 13) Ardizzi, M., **Ferroni, F.**, Umiltà, M. A., Pinardi, C., Errante, A., Ferri, F., ... & Gallese, V. (2021). Visceromotor roots of aesthetic evaluation of pain in art: an fMRI study. *Social Cognitive and Affective Neuroscience*.
- 14) Calbi, M., Langiulli, N., **Ferroni, F.**, Montalti, M., Kolesnikov, A., Gallese, V., & Umiltà, M. A. (2021). The consequences of COVID-19 on social interactions: an online study on face covering. *Scientific reports*, 11(1), 1-10.
- 15) Soccini, A. M., **Ferroni, F.**, & Ardizzi, M. (2020). From Virtual Reality to Neuroscience and Back: a Use Case on Peripersonal Hand Space Plasticity. In *2020 IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR)* (pp. 394-396). IEEE.
- 16) Siri, F., Kolesnikov, A., Ardizzi, M., Calbi, M., **Ferroni, F.**, Ferro, A. M., ... & Gallese, V. (2020). The Perceptual Experience of Portraits and Self-Portraits: A Behavioural and Eye-Tracking Study. Available at SSRN 3519045.
- 17) **Ferroni, F.**, Ardizzi, M., Ferri, F., Tesanovic, A., Langiulli, N., Tonna, M., ... & Gallese, V. (2020). Schizotypy and individual differences in peripersonal space plasticity. *Neuropsychologia*, 107579.
- 18) Ardizzi, M., Ambrosecchia, M., Buratta, L., Ferri, F., **Ferroni, F.**, Palladini, B., ... & Gallese, V. (2020). The motor roots of minimal self disorders in schizophrenia. *Schizophrenia research*, 218, 302-303.
- 19) Sandsten, K. E., Nordgaard, J., Kjaer, T. W., Gallese, V., Ardizzi, M., **Ferroni, F.**, ... & Parnas, J. (2020). Altered self-recognition in patients with schizophrenia. *Schizophrenia Research*.
- 20) Ardizzi, M., **Ferroni, F.**, Siri, F., Umiltà, M. A., Cotti, A., Calbi, M., ... & Gallese, V.

(2020). Beholders' sensorimotor engagement enhances aesthetic rating of pictorial facial expressions of pain. *Psychological Research*, 84(2), 370-379.

- 21) **Ferroni, F.**, Ardizzi, M., Sestito, M., Lucarini, V., Daniel, B. D., Paraboschi, F., ... & Gallese, V. (2019). Shared multisensory experience affects Others' boundary: The enfacement illusion in schizophrenia. *Schizophrenia research*, 206, 225-235.
- 22) Siri, F., **Ferroni, F.**, Ardizzi, M., Kolesnikova, A., Beccaria, M., Rocci, B., ... & Gallese, V. (2018). Behavioral and autonomic responses to real and digital reproductions of works of art. In *Progress in brain research* (Vol. 237, pp. 201-221). Elsevier.
- 23) Ardizzi, M., Evangelista, V., **Ferroni, F.**, Umiltà, M. A., Ravera, R., & Gallese, V. (2017). Evidence for Anger Saliency during the Recognition of Chimeric Facial Expressions of Emotions in Underage Ebola Survivors. *Frontiers in psychology*, 8, 1026.

Oral and poster presentations

- Oral presentation
ESCAN 2024: *Your space and mine: peripersonal space expansion in a social context and its shrinkage in trait anxiety*
Ferroni F., Gallese V., Rastelli F., Ardizzi M.
- Poster
BRNet 2023: *Your space or mine: trait anxiety shapes the peripersonal space expansion in a social context*
Ferroni F., Rastelli F., Gallese V., Ardizzi M.
- Oral presentation - Symposium: "Disturbi psicotici: un approccio computazionale"
SOPSI 2023: *Confini dello spazio peripersonale e schizofrenia*
Ferroni F.
- Poster presentation
SIPF 2022: *Tool-use extends peripersonal space boundaries in schizophrenic patients*
Ferroni F., Ardizzi M., Magnani F., Ferri F., Langiulli N., Lucarini V., Tonna M., Gallese V.
- Oral presentation
ESCAN 2022: *Tool-use extends peripersonal space boundaries in schizophrenic patients*
Ferroni F., Ardizzi M., Magnani F., Ferri F., Langiulli N., Tonna M., Gallese V.
- Oral presentation
AISC 2022: *Tool-use extends peripersonal space boundaries in schizophrenic patients*
Ferroni F., Ardizzi M., Magnani F., Ferri F., Langiulli N., Tonna M., Gallese V.
- Oral presentation - Symposium
SOPSI 2022: *Motricità e Spazio: prime evidenze di una inalterata plasticità dello spazio peripersonale nella schizofrenia*
Ferroni F.
- Oral presentation
BRNet 3 2021 (Virtual Edition): *The missing genesis: the effects of prenatal and postnatal adverse experiences on basic self-development.*
Ferroni F., Calbi M., Ardizzi M.
- Oral presentation
ESCAN 2021 (Virtual Edition): *Schizotypy and individual differences in peripersonal space plasticity.*
Ferroni F., Ardizzi M., Ferri F., Tesanovic A., Langiulli N., Tonna M., Marchesi C., Gallese V.
- Oral presentation
IX Congresso Nazionale della Società italiana di Neuropsicologia (SINP 2020 –

Virtual Edition): *Schizotypy and individual differences in peripersonal space plasticity.*

Ferroni F., Ardizzi M., Ferri F., Tesanovic A., Langiulli N., Tonna M., Marchesi C., Gallese V.

- Oral presentation
IX Congresso Nazionale della Società italiana di Neuropsicologia (SINP 2020 – Virtual Edition): *The motor roots of minimal self disorders in schizophrenia.*
Ardizzi M., Ambrosecchia M., Ferri F., **Ferroni F.**, Gallese V.
- Oral presentation
The fuzzy body: stable and dynamic properties of Body Representation – Milan, Italy (05/07/2019): *Shared multisensory experience affects Others' boundary: The enfacement illusion in schizophrenia.*
Ferroni F., Ardizzi M., Sestito M., Lucarini V., Daniel B. D., Paraboschi F., Tonna M., Marchesi C., Gallese V.
- Oral and Poster presentation
International Summer School in "Body, Senses and Neural Oscillations: an integrated approach to human perception and behaviour 2019"- Pescara, Italy (03/06/2019-08/06/2019): *Shared multisensory experience affects Others' boundary: The enfacement illusion in schizophrenia.*
Ferroni F., Ardizzi M., Sestito M., Lucarini V., Daniel B. D., Paraboschi F., Tonna M., Marchesi C., Gallese V.
- Poster presentation
Skin to Self Meeting 2019 in London (01/04/2019 - 02/04/2019): *Shared multisensory experience affects Others' boundary: The enfacement illusion in schizophrenia.*
Ferroni F., Ardizzi M., Sestito M., Lucarini V., Daniel B. D., Paraboschi F., Tonna M., Marchesi C., Gallese V.
- Talk and Poster presentation
European Workshop on Cognitive Neuropsychology (EWCN) 2018: *Back to Einfühlung: Motor enactment of facial expressions increases explicit aesthetic judgment of artworks.*
Ferroni F., Ardizzi M., Siri F., Umiltà M.A., Gallese V.

Congress organization

Organizer of the symposium "Multisensory integration 40 years later: three outstanding topics on the table" of SIPF (Società Italiana di Psicofisiologia e Neuroscienze Cognitive) congress (09/11/2023 – 11/11/2023)

First International Women in Neuroscience Parma Workshop – The sense of Touch
(30/09/2021-01/10/2021)

Organizer of the Internal Seminars of the Department of Medicine & Surgery, Unit of Neuroscience
(01/2018-12/2020)

Courses

Course of statistical data analysis with R (01/2019-05/2019)
University of Parma

Course of Transcranial magnetic stimulation (TMS) (10/2021)
University of Parma

Course of Python (03/2021-05/2021)
University of Parma

Principles of fMRI 1 (04/2022) (4 weeks), Johns Hopkins University, accessible via Coursera.

Principles of fMRI 2 (10/2022) (4 weeks), Johns Hopkins University, accessible via

Coursera.

Honours and awards

FIL-Quota Incentivante of University of Parma, co-sponsored by Fondazione Cariparma - 2020
P.I.: Dr. Martina Ardizzi
Team members: **Francesca Ferroni**, Nunzio Langiulli, Antonino Errante, Agata Soccini.

Membership

Member of Società Italiana di Psicofisiologia e Neuroscienze Cognitive (SIPF).
2023-present

Member of Schizophrenia International Research Society (SIRS).
2021-present

Member of The European Society for Cognitive and Affective Neuroscience (ESCAN).
2020-present

Member of the Interdepartmental Center for Neuroimaging (CIN), University of Parma
2024-present

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 GDPR 679/16

Parma, 9th September 2024

In faith,
Francesca Ferroni