


PERSONAL INFORMATION



**Giacomo Guidali**

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Sex Male | Date of birth 10/22/1992 | Place of birth Gallarate, Varese, Italy | Nationality Italian

ACTUAL POSITION

November 2020 - Present

**Post-doc researcher**

Neurophysiology Lab, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy

Main research project: *“Targeting default mode network dysfunction in persons at risk of Alzheimer’s disease with non-invasive techniques”*.

November 2019 - Present

**Teaching assistant**

Department of Psychology, University of Milano-Bicocca, Milan, Italy.

Course: *“Basic elements of neuroanatomy and neurophysiology”*

WORK EXPERIENCE

April 2019 – October 2019

**Visiting Ph.D. student**

MySpace Lab, Centre hospitalier universitaire vaudois (CHUV), Lausanne, Switzerland

Supervisor: prof. Andrea Serino

November 2017 - November 2018

**Visiting Researcher**

Neurophysiology Lab, IRCCS Istituto Centro San Giovanni di Dio Fatebenfratelli, Brescia, Italy.

April 2017 - October 2017

**Postgraduate internship (2<sup>nd</sup> semester)**

Neuropsychology Lab, Neuromotor Rehabilitation Unit, IRCCS Istituto Auxologico Italiano, Milan, Italy.

Project: *“Neuropsychological assessment and rehabilitation in stroke patients”*

Supervisor: Dott. Carlotta Casati

October 2016 - April 2017

**Postgraduate internship (1<sup>st</sup> semester)**

Department of Psychology, University of Milano-Bicocca, Milan, Italy.

Project: *“Non-invasive brain stimulation techniques”*

Supervisor: Prof. Nadia Bolognini

January 2016 - June 2016

**Visiting MCs Student**

Neurophysiology Lab, IRCCS Istituto Centro San Giovanni di Dio Fatebenfratelli, Brescia, Italy.

Research activity related to MCs thesis

September 2015  
- September 2016

### Undergraduate internship (MCs)

Department of Psychology, University of Milano-Bicocca, Milan, Italy.  
Supervisor: Prof. Nadia Bolognini

August 2013 - October 2013

### Undergraduate internship (BCs)

Infantile Neuropsychiatric Unit, San Antonio Abate Hospital, Gallarate (Varese), Italy.  
Supervisor: Dott. Andrea Calcaterra

## EDUCATION AND TRAINING

November 2017 – October 2020

### Ph.D. Student in “Neuroscience”

– curriculum: “Clinical Neuroscience” (XXXIII cycle)

School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy.  
Department of Psychology, University of Milano-Bicocca, Milan, Italy.  
Supervisor: Prof. Nadia Bolognini

March 2018

### Enrolment in the professional register

Ordine degli Psicologi della Lombardia - section “A”, number 20266

December 2017

### Licensed to practice as “Psychologist”

University of Milano-Bicocca, Milan, Italy.

October 2014 - October 2016

### Master degree (MCs) in “Clinical, Developmental and Neuropsychology”

EQF: 7

Department of Psychology, University of Milano-Bicocca, Milan, Italy.

- Final grade: 110/110 cum laude
- Experimental thesis in Neuroscience: “*Cross-modal properties of primary somatosensory cortex: a Paired Associative Stimulation study*”  
Supervisor: Prof. Nadia Bolognini, Co-supervisor: Prof. Carlo Miniussi, Advisor: Prof. Giuseppe Vallar

October 2011 - July 2014

### Bachelor degree (BCs) in “Psychological Sciences”

EQF: 6

Department of Psychology, University of Milano-Bicocca, Milan, Italy.

- Final grade: 110/110 cum laude
- Bibliographic thesis in History of psychology: “*The origins of psychoanalysis in Italy: 1907-1945*”  
Supervisor: Prof. Mauro Antonelli

September 2006 - July 2011

### High School Diploma

EQF: 4

Math and Science High School Arturo Tosi, Busto Arsizio, Varese, Italy.

- Final grade: 95/100

## PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

**English**

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
Proficient	Proficient	Independent	Independent	Proficient

UCLES/PET (March 2009), level B1

Communication skills

- Listening
- Open mindness
- Confidence
- Responsiveness

Organizational / managerial skills

- Team leadership
- Resourcefulness
- Time management
- Problem solving

Job-related skills

Neuroscience / Experimental Psychology:

- Transcranial Magnetic Stimulation (TMS): *single pulse* protocols, *repetitive* protocols (rTMS) and *Paired Associative Stimulation* (PAS). Excellent theoretical and practical knowledge.
- Transcranial Electric Stimulation (tES): direct currents stimulation (tDCS). Good theoretical and practical knowledge.
- EEG-TMS. Good theoretical and practical knowledge.
- Electromyography (EMG) (using Signal software).
- Neuronavigation (especially using SoftAxic, Eximia and Brainsight software).
- Fundamentals of acquisition and analysis of EEG data (using Brain Vision Recorder/Analyzer software).
- Construction of experimental designs/tasks with non-invasive brain stimulation (NIBS) techniques and in Virtual Reality setting.
- Statistical analysis of behavioral data (reaction times, accuracy, error rate, d prime, etc.) using principal psychometric models (regression, correlation, ANOVA, mixed models).
- Fundamentals of MR images manipulation (MRicro and SPM software).

Neuropsychology:

- Administration and scoring of principal Italian neuropsychological tests and battery.
- Fundamentals of neuropsychological rehabilitation (especially: language, memory, attention and executive functions)

Digital competence

- Operative systems: Windows, Macintosh.
- Suite: Office, Keynote.
- Statistical analysis software: IBM SPSS, Statistica, Jamovi, R (basic knowledge).
- Experimental task creation software: E-Prime, Matlab (basic knowledge), Python (basic knowledge), Cogent (basic knowledge).
- Image manipulation software: GIMP.
- Video manipulation software: iMovie, VLC, Windows Movie Maker.

Driving licence

B – with own car

ADDITIONAL INFORMATION

Memberships

- OPL - Ordine degli Psicologi della Lombardia (number: 20266).
- NeuroMI – Milan center for Neuroscience
- SIPF – Società italiana di Psicofisiologia e Neuroscienze Cognitive

Grant/Scholarships

- 2017-2020: Three years Ph.D. scholarship  
Funding agency: Ministero dell'Istruzione, Università e Ricerca (MIUR)

## Publications

\* shared first authorship

## First author:

- **Guidali G.**, Roncoroni C. & Bolognini N. (submitted). *Paired associative stimulations: novel tools for interacting with sensory and motor cortical plasticity.*
- **Guidali G.**, Roncoroni C., Papagno, C. & Bolognini N. (2020). Cross-modal involvement of the primary somatosensory cortex in visual Working Memory: a repetitive TMS study. *Neurobiology of Learning and Memory*, 175, 107325.  
<https://doi.org/10.1016/j.nlm.2020.107325>
- **Guidali G.**, Carneiro S. I. M. & Bolognini N. (2020). Paired Associative Stimulation drives the emergence of motor resonance. *Brain Stimulation*, 13(3), 627-636.  
<https://doi.org/10.1016/j.brs.2020.01.017>
- Maddaluno O.\*, **Guidali G.\***, Zazio A., Miniussi C. & Bolognini N. (2020). Touch anticipation mediates cross-modal Hebbian plasticity in the primary somatosensory cortex. *Cortex*, 126, 173-181.  
<https://doi.org/10.1016/j.cortex.2020.01.008>
- Zazio A.\*, **Guidali G.\***, Maddaluno O., Miniussi C. & Bolognini N. (2019). Hebbian associative plasticity in the visuo-tactile domain: a cross-modal paired associative stimulation protocol. *NeuroImage*, 201, 116025.  
<https://doi.org/10.1016/j.neuroimage.2019.116025>
- **Guidali G.**, Pisoni A., Bolognini N. & Papagno C. (2019). Keeping order in the brain: the Supramarginal Gyrus and serial order in short-term memory. *Cortex*, 119, 89-99.  
<https://doi.org/10.1016/j.cortex.2019.04.009>

## Other positions:

- Zapparoli L.\*, Seghezzi, S.\*, Zirone E., **Guidali G.**, Tettamanti, M., Banfi G., Bolognini N. & Paulesu E. (2020). How the effects of actions become our own. *Science Advances*, 6, eaay8301.  
<https://doi.org/10.1126/sciadv.aay8301>

## Poster – Talks

## First author:

- **Guidali G.** & Bolognini N. *Functional and behavioral correlates of the mirror paired associative stimulation protocol.* Poster presented at the XXVIII Virtual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 20-27, 2020.
- **Guidali G.** & Bolognini N. *Hebbian associative plasticity induced by a novel paired associative stimulation protocol shapes the properties of the Mirror Neuron System.* Poster presented at the Virtual meeting of the Cognitive Neuroscience Society. May 2-5, 2020.
- **Guidali G.**, Maddaluno O., Zazio A., Miniussi C. & Bolognini N. *Exploring cross-modal properties of the somatosensory cortex with a novel Paired Associative Stimulation protocol.* Poster presented at XXVIII European Workshop on Cognitive Neuropsychology. Jan 26-31, 2020, Brixen, BZ, Italy.
- **Guidali G.**, Carneiro S. I. M. & Bolognini N. *Hebbian associative plasticity drives the emergence of motor resonance: a novel Paired Associative Stimulation protocol.* Poster presented at Annual meeting of Milan center for neuroscience (NeuroMI). Nov 20-22, 2019, Milan, Italy.
- **Guidali G.**, Carneiro S. I. M. & Bolognini N. *Through the looking glass: Hebbian learning shapes motor resonance.* Talk presented at XXVII Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 14-16, 2019, Ferrara, Italy.  
§ **Winner of 'best oral presentation' award**
- **Guidali G.**, Pisoni A., Bolognini N. & Papagno C. *The role of the left Supramarginal Gyrus in the Short-Term Memory network: a Transcranial Magnetic Stimulation study.* Talk and poster presented at XXXVII European Workshop on Cognitive Neuropsychology. Jan 20-25, 2019, Brixen, BZ, Italy.  
§ **Shortlisted for EWCN 2019 prize**
- **Guidali G.**, Pisoni A., Bolognini N. & Papagno C. *Investigating serial order retention mechanisms in Short-Term Memory with repetitive Transcranial Magnetic Stimulation.* Poster presented at Transcranial Brain Stimulation in Cognitive Neuroscience Workshop. Dec 6-7, 2018, Rovereto, TN, Italy.
- **Guidali G.**, Zazio A., Maddaluno O., Miniussi C. & Bolognini N. *Modulating the response of the primary somatosensory cortex with a novel Paired Associative Stimulation protocol.* Poster presented at fourth International Meeting of the Milan center for Neuroscience (NeuroMI). Nov 21-23, 2018, Milan, Italy.
- **Guidali G.**, Pisoni A., Bolognini N. & Papagno C. *The Supramarginal Gyrus: a neural storage for order information in Short-Term Memory.* Talk presented at XXVI Congress of the Italian Society of

Psychophysiology and Cognitive Neuroscience (SIPF). Nov 15, 2018, Turin, Italy.

- **Guidali G.**, Zazio A., Maddaluno O., Miniussi C. & Bolognini N. *Primary somatosensory cortex and Hebbian associative learning: a novel cross-modal Paired Associative Stimulation (PAS) protocol*. Poster presented at Hand, Brain & Technology: the somatosensory system. Aug 26-31, 2018, Ascona, TI, Switzerland.
- **Guidali G.**, Pisoni A., Bolognini N. & Papagno C. *“What” and “Where” we remember: evidence for an anatomo-functional dissociation within verbal Short-Term Memory*. Poster presented at VI Cognitive Science Arena. Feb 23-24, 2018, Brixen, BZ, Italy.

*Other positions:*

- Maddaluno O., **Guidali G.**, Zazio A., Miniussi C. & Bolognini N. Cross-modal paired associative stimulation induces Hebbian plasticity through predictive coding mechanisms. Talk presented at VIII Cognitive Science Arena. Feb 7-8, 2020, Brixen, BZ, Italy.
- Roncoroni C., **Guidali G.**, Papagno C. & Bolognini N. *Primary somatosensory cortex and short-term retention of body- and non body-related visual information: preliminary results from a repetitive TMS study*. Poster presented at Annual meeting of Milan center for neuroscience (NeuroMI). Nov 20-22, 2019, Milan, Italy.
- Roncoroni C., **Guidali G.**, Papagno C. & Bolognini N. *The role of the primary somatosensory cortex in the visual short-term retention of body-related information: a TMS study*. Talk presented at XXV Congresso Associazione Italiana di Psicologia (AIP) – sezione sperimentale. Sept 18-20, 2019, Milan, Italy.
- Seghezzi S., Zapparoli L., Zirone E., **Guidali G.**, Banfi G., Bolognini N. & Paulesu E. *Modulating the sense of agency in the human brain: an fMRI-guided TMS study*. Talk and poster presented at XXXVII European Workshop on Cognitive Neuropsychology. Jan 20-25, Brixen, BZ, Italy.

**§ Winner of EWCN 2019 prize**

- Seghezzi S., Zapparoli L., Zirone E., **Guidali G.**, Banfi G., Bolognini N. & Paulesu E. *Modulating the sense of agency in the human brain: an fMRI-guided TMS study*. Poster presented at fourth International Meeting of the Milan center for Neuroscience (NeuroMI). Nov 21-23, 2018, Milan, Italy.
- Zazio A., Maddaluno O., **Guidali G.**, Bolognini N. & Miniussi C. *Investigating cross-modal properties of the primary somatosensory cortex by means of a novel cross-modal Paired Associative Stimulation protocol*. Talk presented at XXVI Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 17, 2018, Turin, Italy.
- Maddaluno O., **Guidali G.**, Zazio A., Miniussi C. & Bolognini N. *Tactile acuity as an index of plasticity induced by a novel cross-modal PAS protocol*. Poster presented at XXVI Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 15-17, 2018, Turin, Italy.
- Zazio A., Maddaluno O., **Guidali G.**, Miniussi C. & Bolognini N. *Cross-modal properties of the primary somatosensory cortex: a by-product of Hebbian association learning*. Talk presented at VI Cognitive Science Arena. Feb 24, 2018 Brixen, BZ, Italy.

Teaching activities

- 2019-2020: Advanced course in Neurophysiology and Cognitive Neuroscience (8 h – modules: ‘Aphasia’; ‘How to publish scientific data’), LUMSA Master school, Rome.
- 2019-present: teaching assistant for the course ‘Basic elements of neuroanatomy and neurophysiology’, University of Milano-Bicocca.
- 2020: co-supervisor for the master thesis ‘The role of supramarginal gyrus in serial order retention in short-term memory’. Candidate: S. Branchini. Supervisor: prof. C. Papagno. University of Milano-Bicocca.

Conferences/Congress/  
Workshop

*International:*

- Think Open Rovereto Workshop 2020, July, 10-11, 2020.
- Virtual meeting of the Cognitive Neuroscience Society. May 2-5, 2020.
- XXXVIII European Workshop on Cognitive Neuropsychology. Jan 26-31, 2020. Brixen, BZ, Italy.
- Fifth International Meeting of the Milan center for Neuroscience (NeuroMI). Nov 20-22, 2019, Milan, Italy.
- XXXVII European Workshop on Cognitive Neuropsychology. Jan 20-25, 2019. Brixen, BZ, Italy.
- Transcranial Brain Stimulation in Cognitive Neuroscience Workshop. Dec 6-7, 2018. Rovereto, TN, Italy.
- Fourth International Meeting of the Milan center for Neuroscience (NeuroMI). Nov 21-23, 2018, Milan,

Italy.

- Hand, Brain & Technology: the somatosensory system. Aug 26-31, 2018. Ascona, TI, Switzerland.
- VI Cognitive Science Arena 2018. Feb 23-24, 2018. Brixen, BZ, Italy.

*National:*

- XXVIII Virtual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 20-27, 2020.
- XXVII Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 14-16, 2019. Ferrara, Italy.
- XXVI Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). Nov 15-17, 2018. Turin, Italy.
- V Congress of the Italian Society of Neuropsychology (SINP). Dec 2-3, 2016. Milan, Italy.

Others

*H-index: 2 Total citations: 11*

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