

Curriculum Vitae
Dr. Matteo Feurra

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Academic History

2014-2015 Assistant Professor, School of Psychology, National Research University, Higher School of Economics. Moscow, Russian Federation.

2011-2014 Research fellow and Principal Investigator of the three-year grant "Memory Enhancement by Advanced Non Invasive Brain Stimulation: A project on neuro-rehabilitation of patients with memory diseases". Department of Neurology, Neurology and Clinical Neurophysiology section. University of Siena.

2010-2011 Post-doctoral fellow. Department of informational engineering, Neurophysiology and Neuroscience, University of Siena. Coordinator: Prof. Domenico Prattichizzo. Supervisor: Dr. Simone Rossi.

2009-2010 Post-doctoral fellow. Department of Neurology, Neurology and Clinical Neurophysiology section. University of Siena. Supervisor: Dr. Simone Rossi.

2009 PhD in Psychological Sciences. Department of Psychology, University of Florence. Supervisors: Prof. Nicoletta Berardi and Maria Pia Viggiano.

2009 Professional body number: 5442

2007 Visiting PhD student. Institute of Cognitive Neuroscience, University College of London (UCL), United Kingdom. Supervisor: Prof. Vincent Walsh.

2004 Laurea in Psicologia Sperimentale (five-year combined BSc and MSc in Experimental Psychology), University of Florence.

Awards

2013 Young Investigator prize. TMS Summer School, Oxford, UK.

2011 Young Italian Researchers Grant, Italian Ministry of Health, "Memory Enhancement by Advanced Non Invasive Brain Stimulation: A project on neuro-rehabilitation of patients with memory diseases" (352.000 euros). Project Code: GR-2009-1591481.

2009 Poster prize: "Role of the left prefrontal cortex in episodic encoding of faces: an interference study by rTMS". Italian Society for Clinical Neurophysiology.

Teaching Experience

2014 -2015 Assistant Professor in Cognitive Neuroscience. Faculty of Psychology, National Research University, Higher School of Economics. Moscow, Russian Federation.

2010 -2011 Assistant Lecturer in General Psychology. Faculty of Medicine, University of Florence

2010 Assistant Lecturer in Neuroeconomy. Faculty of Psychology, University of Florence.

2005-2006 Assistant Lecturer in Communication Psychology. Faculty of Architecture, University of Florence.

2005-2006 Assistant Lecturer in Perception Psychology. Faculty of Architecture, University of Florence.

Selected Collaborations

2015-2016 Prof. David Bartrés-Faz. Department of Psychiatry and Clinical Psychobiology, University of Barcelona Barcelona, Spain.

2014-2015 Dr. Roi Cohen Kadosh. University of Oxford. Oxford, UK.

2014-2015 Prof. Olga Dragoy, Neurolinguistics Laboratory. National Research University Higher School of Economics, Moscow.

2013-2015 Prof. Romyana Kristeva, Klinik für Neurologie und Neurophysiologie, Freiburg, Germany.

2011-2015 BrainTrends, Applied Neuroscience Company, Rome, Italy.

2010-2015 Prof. Domenico Prattichizzo, Department of informational engineering, Neurophysiology and Neuroscience, University of Siena, Italy.

2008-2010 Prof. Walter Paulus, Department of Clinical Neurophysiology, Universitätsmedizin Göttingen, Germany.

2007-2008 Prof. Patrick Haggard, Institute of Cognitive Neuroscience, University College London, London, UK.

Publications

2016

Galli, G., Santarnecchi, E., Feurra, M., Bonifazi, M., Rossi, S., Paulus, M. P. et al. 2016. Individual and sex-related differences in pain and relief responsiveness are associated with differences in resting-state functional networks in healthy volunteers. Eur.J.Neurosci., 43, 486-493.

2016

Cioncoloni, D., Rosignoli, D., Feurra, M., Rossi, S., Bonifazi, M., Rossi, A. et al. 2016. Role of brain hemispheric dominance in anticipatory postural control strategies. Exp.Brain Res.

2015

Shpektor, A., Bartrés-Faz, D., Feurra, M., 2015. The role of BDNF protein in synaptic motor plasticity revealed by Transcranial Direct Current Stimulation. *Front. Aging. Neurosci.* In Press. doi: 10.3389/fnagi.2015.00183

2014

Cioncoloni, D., Galli, G., Feurra, M., Giovannelli, F., Santarnecchi, E., Bonifazi, M., Rossi, A., Rossi, S. (2014). Differential effects of acute cortisol administration on deep and shallow episodic memory traces: a study on healthy males. *Neurobiology of Learning and Memory*, 114, 186-192

Caliandro, P., Padua, L., Rossi, A., Rossini, P.M., Stalberg, E., Feurra, M., Ulivelli, M., Bartalini, S., Giannini, F., Rossi, S. (2014). Jitter of corticospinal neurons during repetitive transcranial magnetic stimulation. Method and possible clinical implications. *Brain Stimulation*. 7, 4, 580-596

Santarnecchi E, Feurra M, Barneschi F, Acampa M, Bianco G, Cioncoloni D, Rossi A and Rossi S (2014). Time course of corticospinal excitability and autonomic function interplay during and following monopolar tDCS. *Front. Psychiatry* 5:86.

2013

Feurra, M., Pasqualetti, P., Bianco, G., Santarnecchi, E., Rossi, A. & Rossi, S. (2013) State-dependent effects of transcranial oscillatory currents on the motor system: what you think matters. *J. Neurosci*, 33, 17483-17489.

Santarnecchi, E., Feurra, M., Galli, G., Rossi, A. & Rossi, S. (2013) Overclock your brain for gaming? Ethical, social and health care risks. *Brain Stimul.*, 6, 713-714.

Santarnecchi, E., Polizzotto, N.R., Godone, M., Giovannelli, F., Feurra, M., Matzen, L., Rossi, A. & Rossi, S. (2013) Frequency-dependent enhancement of fluid intelligence induced by transcranial oscillatory potentials. *Curr. Biol.*, 23, 1449-1453.

Innocenti, I., Cappa, S.F., Feurra, M., Giovannelli, F., Santarnecchi, E., Bianco, G., Cincotta, M. & Rossi, S. (2013) TMS interference with primacy and recency mechanisms reveals bimodal episodic encoding in the human brain. *J. Cogn. Neurosci*, 25, 109-116.

Ragazzoni, A., Pirulli, C., Veniero, D., Feurra, M., Cincotta, M., Giovannelli, F., Chiaramonti, R., Lino, M., Rossi, S. & Miniussi, C. (2013) Vegetative versus minimally conscious states: a study using TMS-EEG, sensory and event-related potentials. *PLoS One*, 8, e57069.

2012

Bianco, G., Feurra, M., Fadiga, L., Rossi, A. & Rossi, S. (2012) Bi-hemispheric effects on corticospinal excitability induced by repeated sessions of imagery versus observation of actions. *Restor. Neurol. Neurosci*, 30, 481-489.

Feurra, M., Galli, G. & Rossi, S. (2012) Transcranial alternating current stimulation affects decision making. *Front Syst. Neurosci*, 6, 39.

2011

Feurra, M., Paulus, W., Walsh, V. & Kanai, R. (2011) Frequency specific modulation of human somatosensory cortex. *Front Psychol.*, 2, 13.

Feurra, M., Bianco, G., Santarnecchi, E., Del, T.M., Rossi, A. & Rossi, S. (2011b) Frequency-dependent tuning of the human motor system induced by transcranial oscillatory potentials. *J. Neurosci*, 31, 12165-12170.

Feurra, M., Bianco, G., Polizzotto, N.R., Innocenti, I., Rossi, A. & Rossi, S. (2011a) Cortico-Cortical Connectivity between Right Parietal and Bilateral Primary Motor Cortices during Imagined and Observed Actions: A Combined TMS/tDCS Study. *Front Neural Circuits*, 5, 10.

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Rossi,S., Innocenti,I., Polizzotto,N.R., Feurra,M., De,C.A., Ulivelli,M., Bartalini,S. & Cappa,S.F. (2011) Temporal dynamics of memory trace formation in the human prefrontal cortex. *Cereb.Cortex*, 21, 368-373.

2010

Feurra,M., Fuggetta,G., Rossi,S. & Walsh,V. (2010) The role of the left inferior frontal gyrus in episodic encoding of faces: An interference study by repetitive transcranial magnetic stimulation. *Cogn Neurosci*, 1, 118-125.

Giovannelli,F., Silingardi,D., Borgheresi,A., Feurra,M., Amati,G., Pizzorusso,T., Viggiano,M.P., Zaccara,G., Berardi,N. & Cincotta,M. (2010) Involvement of the parietal cortex in perceptual learning (Eureka effect): an interference approach using rTMS. *Neuropsychologia*, 48, 1807-1812.

Innocenti,I., Giovannelli,F., Cincotta,M., Feurra,M., Polizzotto,N.R., Bianco,G., Cappa,S.F. & Rossi,S. (2010) Event-related rTMS at encoding affects differently deep and shallow memory traces. *Neuroimage*, 53, 325-330.

Papeo,L., Longo,M.R., Feurra,M. & Haggard,P. (2010) The role of the right temporoparietal junction in intersensory conflict: detection or resolution? *Exp.Brain Res.*, 206, 129-139.

2008

Viggiano,M.P., Giovannelli,F., Borgheresi,A., Feurra,M., Berardi,N., Pizzorusso,T., Zaccara,G. & Cincotta,M. (2008) Disruption of the prefrontal cortex function by rTMS produces a category-specific enhancement of the reaction times during visual object identification. *Neuropsychologia*, 46, 2725-2731.

2006

Galli,G., Feurra,M. & Viggiano,M.P. (2006) "Did you see him in the newspaper?" Electrophysiological correlates of context and valence in face processing. *Brain Res.*, 1119, 190-202.

Papers under review

Feurra, M., Galli, G., Pavone EF., Rossi, A., Rossi, S. Frequency-specific insight into short-term memory capacity. *J.Neurophysiol.*

Vukovic, N., Feurra, M., Shpektor, A., Myachykov, A., Shtyrov, Y. Primary motor cortex functionally contributes to language comprehension: an online rTMS study. *Cereb.Cortex*

Editorial and reviewing activities

- Guest Associate Chief Editor, *Frontiers in Neuropsychiatric Imaging and Stimulation*. Research topic titled "Non Invasive Brain Stimulation: from neuro-enhancement to cognitive rehabilitation" (2013).

- Peer Review Activities: *Journal of Neuroscience Methods*, *Neuropsychologia*, *Brain Stimulation*, *Journal of Neurophysiology*, *Journal of the American Psychiatric Nurses Association*, *Frontiers in Human Neuroscience*, *Clinical Neurophysiology*, *Expert Review of Neurotherapeutics*.

Selected Conference proceedings

2015

Feurra M., STATE-DEPENDENT EFFECTS OF TRANSCRANIAL ALTERNATING CURRENT STIMULATION OF THE MOTOR SYSTEM.1st Moscow Conference with International Participation "TRANSCRANIAL MAGNETIC STIMULATION: FROM CURRENT STATE-OF-ART TO FUTURE HORIZONS" 4-5 June, Moscow, Russian Federation

Feurra M. Neuromodulation Treatment in Aphasia. Summer Neurolinguistic School "Language and Brain Pathology" August 24th – 26th, Moscow, Russian Federation.

2014

Frequency-specific insight into memory for digits M Feurra, G Galli, EF Pavone, A Rossi, S Rossi. *Clinical Neurophysiology* 125, S29.

2013

State dependent effects of transcranial alternating current stimulation of the motor system: What you think matters.

M Feurra, P Pasqualetti, G Bianco, E Santarnecchi, A Rossi, S Rossi. *Clinical Neurophysiology* 124 (10), e137-e138..

Frequency-dependent boosting of fluid intelligence during weak prefrontal alternate current stimulation.

S Rossi, E Santarnecchi, M Godone, NR Polizzotto, F Giovannelli, M Feurra, A. *Clinical Neurophysiology* 124 (10), e54.

Effects of transcranial alternating current stimulation (tACS) on spontaneous motor tempo and sensorimotor synchronization:

Preliminary data. F Giovannelli, I Innocenti, M Feurra, E Santarnecchi, A Borgheresi, ED Sordo et al.

Clinical Neurophysiology 124 (11), e220.

2011

Functional cortical connectivity in vegetative state and minimally conscious state: an investigation by transcranial magnetic stimulation-evoked potential. C Pirulli, A Ragazzoni, D Veniero, S Rossi, M Feurra, M Cincotta, F Giovannelli, R Chiaromonti, M Lino, C Miniussi. *Clinical Neurophysiology* 122, S180.

Frequency-dependent tuning of human motor system induced by transcranial oscillatory potentials. M Feurra, G Bianco, M Del Testa, E Santarnecchi, A Rossi, S Rossi. *Clinical Neurophysiology* 122, S126.

2010

Are motor imagery and action observations innate or learned mechanisms? A single-pulse TMS study. G Bianco, M Feurra, L Fadiga, A Rossi, S Rossi. *Clinical Neurophysiology* 121, S277-S278.

2009

Role of the left prefrontal cortex in episodic encoding of faces: an interference study by repetitive transcranial magnetic stimulation. Feurra, M; Fuggetta, G; Rossi, S; Walsh, V. In: *European Journal of Neurology*. (pp. 452 - 452). WILEY-BLACKWELL PUBLISHING, INC.

2008

Relationship between episodic and semantic memory in face recognition: a rTMS investigation. M Feurra, G Fuggetta, V Walsh,. *Brain Stimulation* 1 (3), 243.

Disruption of the prefrontal cortex function by rTMS produces a category-specific enhancement of the reaction times during visual object identification. F Giovannelli, A Borgheresi, M Feurra, N Berardi, T Pizzorusso, G Zaccara, MP Viggiano, M Cincotta. *Brain Stimulation* 1 (3), 318-319.

Involvement of the right parietal cortex in perceptual learning (Eureka effect): an interference approach using rTMS F Giovannelli, A Borgheresi, D Silingardi, M Feurra, G Zaccara, MP Viggiano, T Pizzorusso, N Berardi, M Cincotta. *Brain Stimulation*. 1 (3), 319.

Electrophysiological evidence for the role of extrastriate visual cortex in visual awareness. G Fuggetta, J Silvanto, N Muggleton, E Pavone, M Feurra, L Sartori, C Marzi. *Journal of Vision* 8 (6), 486-486.

2007

Electrophysiological correlates of motion priming: A combined ERP/TMS study. G Fuggetta, M Feurra, EF Pavone, CA Marzi, V Walsh, G Campana. *Perception* 36, 89-89.

Research Methods:

- TMS (Transcranial Magnetic Stimulation)
- EEG (Electroencephalography)
- TDCS (Transcranial Direct Current Stimulation)
- TACS (Transcranial Alternate Current Stimulation)
- EMG (Electromyography)

Lab and Computer Experience:

- Brainsight Frameless for TMS
- Softaxic optical, neuro-navigation system
- Neuroscan for recording EEG data
- Neuroscan for analyzing EEG data
- Brain Vision (EEG Analyzer and Recorder)
- E-Prime for running behavioural and ERP experiment
- Presentation for running behavioural and ERP experiment
- Ms Office (Word, Excel, FrontPage, Outlook, PowerPoint)
- SPSS windows-syntax for statistical analyses
- Irfanview, Paint Shop Pro, Photoshop for editing visual stimuli

Languages

- Italian mother tongue
 - English: fluent
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