

Carlotta Lega

DEPARTMENT OF NEUROSCIENCE, BIOMEDICINE AND MOVEMENT SCIENCE
UNIVERSITY OF VERONA

carlotta.lega@univr.it

CURRENT POSITION

March 2017 Post-doctoral research fellow
Department of Neuroscience, Biomedicine and Movement Science
University of Verona, Italy

Supervisors: Prof. Leonardo Chelazzi
Prof. Luigi Cattaneo

EDUCATION

Jan 2013 Ph.D. in *Experimental Psychology, Linguistics and Cognitive Neurosciences*
Dec 2016 Department of Psychology, University of Milano-Bicocca, Italy
Thesis title: *Moving in tune: neuro-functional mechanisms mediating auditory-motor associations*
Supervisor: Prof.ssa Zaira Cattaneo

2012 MsC, Clinical and Developmental Psychology and Neuropsychology
University of Milano-Bicocca, Milan, Italy.
Thesis title: *Musical expertise and the representation of peripersonal space*
Supervisor: Prof.ssa Zaira Cattaneo

2010 BSc, Psychological Sciences
University of Milan-Bicocca, Milan, Italy
Thesis title: *Plasticità cerebrale in soggetti musicisti*
Supervisor: Professor Zaira Cattaneo

2012 Postgraduate course, *Theory and Practice of Musical Cognition: didactic, psychology and neuroscience*
University of Pavia
Academy "Teatro alla Scala"

2010 Master degree in piano at the Conservatory "Vittadini"
Pavia, Italy

VISITING POSITION and RESEARCH INTERNSHIPS

Sept 2014 - *Visiting Ph.D Student*
Aug 2015 McGill University, Montreal, Canada
BRAMS, International Laboratory for Brain, Music and Sound Research
Supervisor: Robert J. Zatorre, Virginia Penhune

Jun 2016 *Course*
Brain Stimulation and Imaging Meeting
Geneve (Switzerland)

May 2015 *Course*
3rd North America Meeting on Brain Stimulation and Neuroimaging
Montreal, Canada

Sept 2012 - *Internship*
Sept 2013 University of Pavia, Department of Brain and Behavioural Science
Supervisor: prof. Tomaso Elia Vecchi

Feb 2013 *Course*
NWG Practical Course Transcranial Magnetic and Electrical Stimulation
(TMS/tDCS/tACS/tRNS)
University Medical Center Gottingen
Georg-August-University, Germany

SUMMER SCHOOLS

“What the face can reveal about social and cognitive processes”. 16-20 June 2014, University of Milan – Bicocca, Cinisello Balsamo (MI), Italy.

Helsinki Summer School in Cognitive Neuroscience. Aug 2013. University of Helsinki, Institute of Behavioural Science, Cognitive Brain Research Unit (CBRU), Helsinki

AWARDS and FELLOWSHIPS

Jan 2013 - *Doctoral Scholarship*
Dec 2016 Department of Psychology, University of Milan - Bicocca, Milan, Italy

Dec 2013- Two-years grant funded by Fondazione Cariolo (€ 4.000).
Dec 2015 Research project: “Pitch and grasp the sound! Action planning dances on pitch dimension”.
University of Milano-Bicocca

Nov 2016

IBRO (International Brain Research Organization) International Travel Grant in the amount of €1800 to attend the international conference 'Neuroscience and Music VI - Music, Sound and Health" (Boston USA, 15 - 18 June 2017)

PUBLICATIONS

Lega, C., Stephan, M. A., Zatorre, R. J., & Penhune, V. (2016). Testing the Role of Dorsal Premotor Cortex in Auditory-Motor Association Learning Using Transcranial Magnetic Stimulation (TMS). *PloS one*, 11(9), e0163380.

Stephan, M. A., Brown, R., **Lega, C.**, & Penhune, V. (2016). Melodic Priming of Motor Sequence Performance: The Role of the Dorsal Premotor Cortex. *Frontiers in neuroscience*, 10.

Lega, C., Vecchi, T., D'Angelo, E., & Cattaneo, Z. (2016). A TMS investigation on the role of the cerebellum in pitch and timbre discrimination. *Cerebellum & ataxias*, 3(1), 1.

Rinaldi, L., **Lega, C.**, Cattaneo, Z., Girelli, L., & Bernardi, N. F. (2016). Grasping the sound: Auditory pitch influences size processing in motor planning. *Journal of Experimental Psychology: Human Perception and Performance*, 42(1), 11.

Ferrari, C., **Lega, C.**, Tamietto, M., Nadal, M., & Cattaneo, Z. (2015). I find you more attractive... after (prefrontal cortex) stimulation. *Neuropsychologia*, 72, 87-93.

Cattaneo, Z., **Lega, C.**, Ferrari, C., Vecchi, T., Cela-Conde, C. J., Silvanto, J., & Nadal, M. (2015). The role of the lateral occipital cortex in aesthetic appreciation of representational and abstract paintings: A TMS study. *Brain and cognition*, 95, 44-53.

Ferrari, C., **Lega, C.**, Vernice, M., Tamietto, M., Mende-Siedlecki, P., Vecchi, T., ... & Cattaneo, Z. (2014). The Dorsomedial Prefrontal Cortex Plays a Causal Role in Integrating Social Impressions from Faces and Verbal Descriptions. *Cerebral Cortex*, bhu186.

Cattaneo, Z., **Lega, C.**, Gardelli, C., Merabet, L. B., Cela-Conde, C. J., & Nadal, M. (2014). The role of prefrontal and parietal cortices in esthetic appreciation of representational and abstract art: A TMS study. *NeuroImage*, 99, 443-450.

Lega, C., Cattaneo, Z., Merabet, L. B., Vecchi, T., & Cucchi, S. (2014). The effect of musical expertise on the representation of space. *Frontiers in human neuroscience*, 8.

Cattaneo, Z., **Lega, C.**, Cecchetto, C., & Papagno, C. (2014). Auditory deprivation affects biases of visuospatial attention as measured by line bisection. *Experimental brain research*, 232(9), 2767-2773.

Cattaneo, Z., Schiavi, S., **Lega, C.**, Renzi, C., Tagliaferri, M., Boehringer, J., ... & Vecchi, T. (2014). Biases in spatial bisection induced by viewing male and female faces. *Experimental psychology*, 61(5), 368.

Cattaneo, Z., **Lega, C.**, Boehringer, J., Gallucci, M., Girelli, L., & Carbon, C. C. (2014). Happiness takes you right: the effect of emotional stimuli on line bisection. *Cognition & emotion*, 28(2), 325-344.

Cattaneo, Z., **Lega, C.**, Flexas, A., Nadal, M., Munar, E., & Cela-Conde, C. J. (2013). The world can look better: enhancing beauty experience with brain stimulation. *Social cognitive and affective neuroscience*, nst165.

Lega, C., Cucchi, S., Vecchi, T. E., & Cattaneo, Z. (2013). L'influenza dell'esperienza musicale sulla rappresentazione dello spazio peripersonale. *Giornale Italiano di Psicologia*, 40(2), 409-416.

Cattaneo, Z., **Lega, C.**, Vecchi, T., & Vallar, G. (2012). Listening to white noise counteracts visual and haptic pseudoneglect. *Perception*, 41(11), 1395-8.

CHAPTERS IN BOOKS

Cattaneo, Z., Devlin, J. T., **Lega, C.**, & Vecchi, T. Il contributo della stimolazione cerebrale alla comprensione dell'organizzazione del linguaggio. *LA RICERCA SPERIMENTALE SUL LINGUAGGIO: ACQUISIZIONE*, 69.

CONFERENCE PRESENTATIONS

Lega, C., Stephan, M. A., Zatorre, R.J. & Penhune, V. (2016). Testing the role of dorsal premotor cortex in auditory-motor association learning using Transcranial magnetic stimulation (TMS). Organization for Human Brain Mapping (OHBM), June, Geneve, Switzerland. Poster

Lega, C., Stephan, M., Zatorre, R., Penhune, V. (2015). Investigating the role of the dorsal premotor cortex in the formation of auditory-motor associations: a preliminary TMS study. 19th Conference of the European Society for Cognitive Psychology (ESCP), September, Cyprus. Poster

Ferrari, C., **Lega, C.**, Vernice, M., Tamietto, M., Mende-Siedlecki, P., Todorov, A., & Cattaneo, Z. (2014). The dorsomedial prefrontal cortex plays a causal role in integrating social impressions from faces and verbal descriptions. 20th Annual Meeting of the Italian Association of Psychology, section of Experimental Psychology, 16-18 September, Pavia, Italy. Poster

Ferrari C., **Lega C.**, Vernice M., Tamietto M., Mende-Siedlecki P., Vecchi T., Todorov A., Cattaneo Z. (2014). The dorsomedial prefrontal cortex plays a causal role in integrating social impression from faces and verbal descriptions. 9th FENS Forum of Neuroscience, July 5-9, Milano, Italy. Poster

Cattaneo, Z., Vecchi, T., **Lega, C.**, Ferrari, C., Silvanto, J., Cela-Conde, C., & Nadal, M. (2015). The lateral occipital cortex plays a causal role in aesthetic appreciation of figurative paintings. 21st Annual Meeting of the Organization for Human Brain Mapping, June 14 – 18, Honolulu, USA. Poster

Cattaneo, Z., Ferrari C., **Lega C.**, Vernice M., Tamietto M., Mende-Siedlecki P., Todorov A., Vecchi T. (2015). The DMPFC plays a causal role in integrating social impression from faces and

verbal description: A TMS study. International Convention of Psychological Science, March 12-14, Amsterdam, The Netherlands. Poster

Lega C, Bernardi NF, Ancona N, Cattaneo Z, Girelli L, Rinaldi L. (2014). Musical expertise modulates the spatial organization of pitch representation. *THE NEUROSCIENCES AND MUSIC - V Cognitive Stimulation and Rehabilitation*, 29 May - 1 June, Dijon, France. Poster

Rinaldi L., **Lega C**, Cattaneo Z, Girelli L., Bernardi NF. (2014). Pitch and Grasp the Sound! Motor planning dances on pitch dimension. *THE NEUROSCIENCES AND MUSIC - V Cognitive Stimulation and Rehabilitation*, 29 May - 1 June, Dijon, France. Poster

Lega C, Rinaldi L, Cattaneo Z, Girelli L., Bernardi NF. (2014). Pitch and Grasp the Sound! Motor planning dances on pitch dimension. *9th FENS Forum of Neuroscience*, July 5-9, Milano, Italy. Poster

Lega C, Cattaneo, Z., Cecchetto, C, Papagno, C. Auditory deprivation affects biases of visuospatial attention as measured by line bisection. *Cognitive Science Arena for Beginners*. Brixen (Italy), May 2014. Oral presentation

Lega C, Cattaneo, Z., Cecchetto C., Cucchi S., Papagno C., Vecchi, T. Effects of intense musical training and deafness on spatial attention: evidence from line bisection. *ESCOL (European Society for Cognitive Psychology)*. Budapest (Hungary), August 2013. Poster

Lega C, Cattaneo, Z., and Vecchi, T. Il genere dei volti influenza l'attenzione: uno studio di bisezione. *AIP Associazione Italiana di Psicologia*. Roma (Italy), April 2013. Oral presentation

Lega C, Cattaneo, Z., Cucchi, S. and Vecchi, T. The effect of music on the representation of space. *Cognitive Science Arena for Beginners*. Brixen (Italy), February 2013. Oral presentation

Lega C, Cattaneo, Z., Cucchi, S. and Vecchi, T. The effect of music on the representation of peripersonal space. *12th International Conference on Music Perception and Cognition (ICMPC) / 8th Triennial Conference of the European Society for the Cognitive Science of Music (ESCOM)*. Thessaloniki (Greece), July 2012. Poster

TECHNICAL SKILLS

Non-invasive Brain Stimulation Techniques: Transcranial Magnetic Stimulation (TMS) and Transcranial Direct Current Stimulation (tDCS)

Basic knowledge of Motion Capture Techniques

Reaction times based experiments building softwares: E-prime, OpenSesame.

Data analysis packages: SPSS, R

REFERENCES

Zaira Cattaneo
Department of Psychology
University of Milano-Bicocca
1, Piazza dell'Ateneo Nuovo
Milan, 20126
zaira.cattaneo@unimib.it

Tomaso Elia Vecchi
Department of Brain and
Behavioural Science
University of Pavia
Pavia, 27100
vecchi@unipv.it

Virginia Penhune
Department of Psychology
Concordia University
Montreal, QC H4B 1R6
Canada
virginia.penhune@concordia.ca