

Milano, October 2018.

## Curriculum Vitae - short

### Zaira Cattaneo

*E-mail*                    zaira.cattaneo@unimib.it  
*Phone*                  +39-02-6448-3843

## CURRENT POSITION

- 2017-now      Associate Professor in Psychobiology and Physiological Psychology, Department of Psychology, University of Milano-Bicocca, Milano, Italy
- 2010-now      Member of the Cognitive Neuroscience and TMS laboratory, Brain Connectivity Center, IRCCS Mondino, Pavia, Italy.
- 2014-now      Member of the Milan Center for Neuroscience (<http://neuromi.it/>)

## *Habilitations*

- 2017 (April)    Habilitation as Full Professor in Neuropsychology  
2006            Ph.D. in Psychology, University of Pavia, Pavia, Italy

## RESEARCH AWARDS

2014 PAUL BERTELSON AWARD 2015, European Society of Cognitive Psychology (ESCOP) “granted every two years to an outstanding young scientist for making a significant contribution to European Cognitive Psychology”.

2016 Best scientific article in pre-clinical research for year 2014, IRCCS Casimiro Mondino

## INVITED PRESENTATIONS/CHAIRS

### *Keynote lectures:*

- **Cattaneo, Z** (2016) Keynote lecture “Brain stimulation and the neural bases of aesthetic appreciation”, *14<sup>th</sup> Conference of the International Association of Empirical Aesthetics*. Wien, Austria.
- **Cattaneo, Z** (2015). Paul Bertelson Award Keynote lecture, *19<sup>th</sup> ESCOP Conference*, Paphos, Cyprus.

### *Invited chair:*

- 2016 *6th International Conference on Transcranial Brain Stimulation 2016-* Session title: “What is stimulated? Beyond M1”, September 7-10, Gottingen, Germany.

*Other invited talks in national and international conferences/workshops/seminars:*

- **Cattaneo Z** (2018). Neural bases of aesthetic evaluation: insight from non-invasive brain stimulation. *Visual Neuroaesthetics Symposium (VisNA) 2018*. Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany
- **Cattaneo Z** (2017). Enhancing cognitive functions by means of Transcranial Magnetic Stimulation. *Workshop on Cognitive Enhancement, ESCOP 2017*, Potsdam, September 3, 2017.
- **Cattaneo Z** (2017). Brain stimulation in Neuroaesthetics. *International workshop in neuroaesthetics*, Palma, May 2017.
- **Cattaneo Z** (2016). From Symmetry Perception to Neuroaesthetics. *PhiloNeuro seminars*, Università Statale di Milano, Facoltà di Filosofia, February 29, Milan, Italy
- **Cattaneo Z** (2015). From Symmetry Perception to Neuroaesthetics. *Workshop on Perception: Embodied Cognition, Empathy, Normativity/Values, Social Cognition*, Università Vita-San Raffaele, Facoltà di Filosofia, October 15, Milan, Italy
- **Cattaneo Z.** (2014). What can we do about the preference for curvature from the neuroimaging studies? *Symposium on The Human Aesthetic (and Moral) Nature: The preference for curvature*. EVOCOG-IFISC/UIB research group, December 17-18, University of the Balearic Islands, Palma de Mallorca (Spain).
- **Cattaneo Z** (2013). Blind vision: perceptual and cognitive functioning in the blind, *2nd Challenges Workshop Andrea Bocelli Foundation-Massachusetts Institute of Technology*, December 5-6, Boston, US.
- **Cattaneo Z** (2012). What could neurophysiology add to assessment for Early Intervention of VI infants and children? *2nd World Congress of Paediatric Ophthalmology and Strabismus*, September 7-9, Milan, Italy.
- **Cattaneo Z** (2011). Visual cortical activation states associated with short-term memory and mental imagery. *International Neuropsychological Symposium 2011*, June 21-25, Mondsee, Austria.
- **Cattaneo Z** (2010). What happens in the early processing of visual information, V1/V2? *Provision 1^ International Conference (Visual problems in children with brain damage. What is new?)*, September 8-11, Dortmund, Germany.

## **GRANTS**

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|------|---|
| 2017 | "Neurocognitive underpinnings of social perception abilities in congenital and acquired cerebellar disorders: Neuropsychological evaluation and treatment." funded by The Italian Ministry of Health to Medea-Mondino IRCCS (407.449,50 euro). PI for the Unit of IRCCS Mondino Foundation.         |
| 2017 | "Emerging 'moral' technologies and the ethical-legal challenges of new subjectivities" P.I. Dr. Silvia Salardi - University of Milano-Bicocca. European Commission, Education, Audiovisual and Culture Executive Agency, Jean Monnet Activities 2017 Call EAC/A03/2016 (21.962 euro). Co-applicant. |
| 2016 | "Aesthetics in the Brain: an interdisciplinary investigation on the functional and neural mechanisms mediating aesthetic experience"- PRIN 2016 (2015_WXAXJF) funded by   |

	The Ministry of Education, Universities and Research (Italy) (212.995 euro). Principal investigator for the University of Milano-Bicocca and National coordinator.
2015	University of Milano-Bicocca, competitive funds “Fondo Ateneo quota competitiva” (25.000 euro). Principal investigator.
2012	“Neuropsychological bases of social and emotion perception” - FIRB 2012 (RBFR12F0BD_003) funded by The Ministry of Education, Universities and Research (Italy) (865.800 euro). Principal investigator for the University of Milano-Bicocca.
2012	“Investigating congenital prosopagnosia using tDCS”- Bando Vigoni 2011, Ateneo-Italo Tedesco 2011 - DAAD (German Academic Mobility Organization), 01/2012-12/2013. Principal investigator for the University of Milano-Bicocca.
2008	“A life-span perspective on cognitive impairment in low-vision: hints for possible rehabilitation strategies”. Joint research projects within the <u>Executive programme of cooperation</u> in the field of science and technology between Italy and United States of America for the years 2008-2010 (Mobility expenses covered). Co-applicant.
2009	“Sensory deprivation as a model to understand brain functional development and plasticity: a multidisciplinary study in humans” - PRIN 2009 (2009RC9X8T) funded by The Ministry of Education, Universities and Research (Italy). (Coordinator: prof. T Vecchi). Co-applicant.
2003	Award, Institute for Advanced Study (IUSS) 2003-2006 Pavia (approx. 6.000 euros)

## ***EDITORIAL ACTIVITY***

*Referee for the following organizations:*

- National Science Foundation USA
- FCT Foundation for Science and Technology, Portugal
- Economic and Social Research Council – ESRC- UK
- Austrian Science Fund
- Netherlands Organisation for Scientific Research (NWO, the Dutch Research Council)
- Research Foundation Flanders (Belgio)
- European Conference on Visual Perception
- Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR)
- Associazione Italiana di Psicologia
- 6th International Conference on Transcranial Brain Stimulation (2016)

*Referee for the following International scientific journals (> 45, alphabetic order):*

1. Acta Psychologica;
2. Behavioral and Brain Functions;
3. Behavioral Brain Research;
4. Behavior Research Methods;
5. Biological Psychology;
6. Brain and Cognition;
7. Brain Stimulation;
8. Brain Topography;
9. Canadian Journal of Experimental Psychology;
10. Cerebral Cortex;
11. Cognitive and Behavioral Neurology;
12. Cognitive Processing;

13. Cognitive Science;
14. Cortex;
15. Experimental Brain Research;
16. European Journal of Neuroscience;
17. Frontiers in Psychology;
18. Functional Neurology;
19. Human Brain Mapping;
20. I-perception;
21. Journal of Cognitive Enhancement;
22. Journal of Cognitive Neuroscience;
23. Journal of Neuropsychology;
24. Journal of Neuroscience;
25. Journal of Neural Transmission;
26. Journal of Visualized Experiments;
27. Laterality: Asymmetries of Body, Brain and Cognition;
28. Learning and Individual Differences;
29. Neuroimage;
30. Neuropsychologia;
31. Neuropsychology;
32. Neuropsychology Review;
33. Neuropsychological Rehabilitation;
34. Neuroscience;
35. Neuroscience Letters;
36. Perception;
37. PlosOne;
38. Psychology and Neuroscience ;
39. Psychology of Aesthetics, Creativity, and the Arts;
40. Psychomusicology: Music, Mind, and Brain;
41. Psychonomic Bulletin and Review;
42. Quarterly Journal of Experimental Psychology;
43. Rivista Internazionale di Filosofia e Psicologia;
44. Scientific Reports;
45. Social Cognitive and Affective Neuroscience;
46. Studia Psychologica;
47. Symmetry.

### **International Societies Membership:**

International Neuropsychological Symposium (selective admission), European Society of Cognitive Psychology, Italian Association of Psychology, Organization of Human Brain Mapping.

### **ACADEMIC TEACHING**

*Department of Psychology, University of Milano-Bicocca (Neuropsychology area)*

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|----------------|---|
| 2017-2018-2019 | Cognitive Neuroscience (master course)  |
| 2017-2018-2019 | Psychobiology of behavioural disorders  |
| 2015-2017      | Evaluative methods and techniques in neuropsychology                                      |
| 2014-2015      | Psychobiology of behavioural disorders  |
| 2012-2016      | Evaluative methods and techniques in neuropsychology                                      |
| 2010-2011      | Psychobiology of behavioural disorders  |
| 2009-2010      | Evaluation and rehabilitation in neuropsychology  |
| 2008-2009      | Behavioural and physiological methods for neuropsychological diagnosis and rehabilitation |

*Department of Psychology, University of Pavia (Experimental Psychology area):*

- 2006-2008      Psychodiagnosis of cognitive abilities (master course)  
2005-2008      Psychology of Individual differences

## PUBLICATIONS

### BOOKS

1. **Cattaneo Z & Vecchi, T.** (2011). *Blind vision. The neuroscience of visual impairment.* The MIT Press, Cambridge, Massachusetts, US.
2. **Cattaneo Z & Vecchi, T.** (2006). *Psicologia delle differenze sessuali.* Carocci: Roma.

### *ARTICLES IN PEER-REVIEWED JOURNALS and BOOK CHAPTERS (ordered for research topic):*

#### *Neural basis of symmetry perception and neuroaesthetics*

3. Ferrari C, Schiavi S, & **Cattaneo Z.** (2018). TMS over the superior temporal sulcus affects expressivity evaluation of portraits. *Cognitive, Affective, and Behavioral Neuroscience*.
4. **Cattaneo Z**, Bona S, Silvanto J. (2017). Not all visual symmetry is equal: partially distinct neural bases for vertical and horizontal symmetry. *Neuropsychologia*, 104, 126-132.
5. Nadal M, Schiavi S, **Cattaneo Z.** (2017). Hemispheric asymmetry of liking for representational and abstract paintings. *Psychonomic Bulletin & Review*.
6. Actis-Grosso R, Lega C, Zani A, Daneyko O, **Cattaneo Z**, & Zavagno D (2017). Can music be figurative? Exploring the possibility of crossmodal similarities between music and visual arts. *Psihologija*, 50(3), 285-306.
7. Ferrari, C., Nadal, M., Schiavi, S., Vecchi, T., Cela-Conde, C., & **Cattaneo Z** (2017). The dorsomedial prefrontal cortex mediates the interaction between moral and aesthetic valuation: a TMS study on the Beauty-is-Good stereotype. *Social, Cognitive & Affective Neuroscience*, 12(5):707-717.
8. **Cattaneo Z** (2017). The neural basis of mirror symmetry detection: a review. *Journal of Cognitive Psychology*, 29(3), 259-268.
9. **Cattaneo Z**, Schiavi S, Silvanto J, Nadal M. (2017). A TMS study on the contribution of visual area V5 to the perception of implied motion in art and its appreciation. *Cognitive Neuroscience*, 8, 59-68.
10. Ferrari C, Lega C, Tamietto M, Nadal M, & **Cattaneo Z** (2015). I find you more attractive...after (prefrontal cortex) stimulation. *Neuropsychologia*, 72, 87-93.
11. **Cattaneo Z**, Lega C, Ferrari C, Vecchi T, Cela-Conde CJ, 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.
12. Bona S, **Cattaneo Z**, Silvanto J. (2015). The causal role of the occipital face area (OFA) and lateral occipital (LO) cortex in symmetry perception. *Journal of Neuroscience*, 35(2), 731-738.
13. **Cattaneo Z.**, Lega, C., Gardelli C, Merabet, LB, Cela-Conde C, Nadal M. (2014). The role of prefrontal and parietal cortices in aesthetic appreciation of representational and abstract art: a TMS study. *Neuroimage*, 99, 443-450.
14. Bona S, Herbert A, Toneatto C, Silvanto J, & **Cattaneo Z** (2014). The causal role of the lateral occipital complex in visual mirror symmetry detection and grouping: an fMRI-guided TMS study. *Cortex*, 51:46-55.
15. **Cattaneo Z**, Lega C, Flexas A, Nadal M, Munar E, Cela-Conde CJ. (2014). The world can look better: enhancing beauty experience with brain stimulation. *Social Cognitive and Affective Neuroscience*. 9(11), 1713-21.

16. **Cattaneo Z**, Mattavelli, G., Papagno, C., Herbert, A.M., & Silvanto, J. (2011). The role of the human extrastriate visual cortex in mirror symmetry discrimination: A TMS adaptation study. *Brain & Cognition*, 77(1), 120-127.

\*\*For studies on symmetry detection in the blind see section “Sensory deprivation”

*Effects of sensory deprivation on perceptual and cognitive abilities*

17. Rinaldi L, Vecchi T, Merabet LB, **Cattaneo Z** (2018). The spatial representation of number, time, and serial order following sensory deprivation: a systematic review. *Neuroscience & Biobehavioral Reviews*, 90, 371-380.
18. **Cattaneo Z**, Rinaldi L, Geraci C, Cecchetto C, & Papagno C. (2017). Spatial biases in deaf, blind and deafblind individuals as revealed by a haptic line bisection task. *Quarterly Journal of Experimental Psychology*. <https://doi.org/10.1177/1747021817741288>
19. **Cattaneo Z**, Lega C, Rinaldi L, Fantino M, Ferrari C, Merabet LB, & Vecchi T (2018). The Spatial Musical Association of Response Codes does not depend on a normal visual experience: A study with early blind individuals. *Attention, Perception, & Psychophysics*, 80(4):813-821.
20. Bauer CM, **Cattaneo Z**, & Merabet LB (2018). Early Blindness is Associated with Increased Volume of the Uncinate Fasciculus. *European Journal of Neuroscience*. 47(5):427-432.
21. Rinaldi L, Vecchi T, Fantino M, Merabet LB, & **Cattaneo Z**. (2017). The ego-moving metaphor of time relies on visual experience: no representation of time along the sagittal space in the blind. *Journal of Experimental Psychology: General*. 147(3):444-450.
22. Ferrari C, Vecchi T, Merabet LB, & **Cattaneo Z**. (2017). Blindness and social trust: the effect of early visual deprivation on judgments of trustworthiness. *Consciousness & Cognition*, 55, 156-164.
23. Gamond L, Vecchi T, Ferrari C, Merabet LB, & **Cattaneo Z** (2017). Emotion processing in early blind and sighted individuals. *Neuropsychology*, 31(5):516-524.
24. **Cattaneo Z**, Cecchetto C, & Papagno C (2016). Deaf individuals show a leftward bias in numerical bisection. *Perception*, 45(1-2):156-64.
25. Rinaldi L, Vecchi T, Fantino M, Merabet LB, **Cattaneo Z** (2015). The effect of hand movements on numerical bisection judgments in early blind and sighted individuals. *Cortex*, 71, 76-84.
26. Bauer C, Yazzolino L, Hirsch G, **Cattaneo Z**, Vecchi T, Merabet L (2015). Neural correlates associated with superior tactile symmetry perception in the early blind. *Cortex*, 63, 104-117.
27. **Cattaneo Z** & Merabet, L. (2015). Brain plasticity and development. In Lueck, A.H., & Dutton, G.N. (Eds.). *Impairment of vision due to disorders of the visual brain in childhood: A practical approach*. New York: AFB Press.
28. **Cattaneo Z**, Bona S, Monegato M, Pece A, Vecchi T, Herbert AM, Merabet L (2014). Visual symmetry perception in early onset monocular blindness. *Visual Cognition*, 22(7), 963-974.
29. **Cattaneo Z**, Bona S, Bauer C, Silvanto J, Herbert A, Vecchi T, Merabet L. (2014) Symmetry detection in visual impairment: behavioural evidence and neural correlates. *Symmetry*, 6, 427-443.
30. **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.
31. **Cattaneo Z**, Vecchi, T., Monegato, M., Pece, A., Merabet, L.B., & Carbon, C.C. (2013). Strabismic amblyopia affects relational but not featural and Gestalt processing of faces. *Vision Research*, 80, 19-30.
32. **Cattaneo Z**, Vecchi T, Fantino M, Herbert A, Merabet LB (2013). The effect of vertical and horizontal symmetry on memory for tactile patterns in late blind individuals. *Attention, Perception & Psychophysics*, 75, 375-382.
33. Renzi, C., **Cattaneo Z**, Vecchi, T., & Cornoldi, C. (2013). Imagery in the blind. In S. Lacey, R. Lawson (Eds.). *Multisensory imagery: theory and applications*. New York: Springer.
34. **Cattaneo Z**, Fantino M, Tinti C, Pascual-Leone A, Silvanto J, & Vecchi T (2011). Spatial biases in peripersonal space in sighted and blind individuals revealed by a haptic line bisection paradigm. *Journal of Experimental Psychology: Human Perception & Performance*, 37(4):1110-21.
35. **Cattaneo Z**, Fantino M, Silvanto J, Tinti C, Vecchi T (2011). Blind individuals show pseudoneglect in bisecting numerical intervals. *Attention, Perception & Psychophysics*, 73(4), 1021-8.

36. **Cattaneo Z**, Fantino M, Tinti C, Silvanto J, Pascual-Leone A, & Vecchi T (2010). Symmetry perception in the blind. *Acta Psychologica*, 134(3):398-402.
37. **Cattaneo Z**, Fantino M, Tinti C, Silvanto J, Vecchi T (2010). Crossmodal interaction between the mental number line and peripersonal haptic space representation in sighted and blind individuals. *Attention, Perception & Psychophysics*, 72 (4), 885-890.
38. **Cattaneo Z**, & Vecchi, T. (2008). Supramodality effects in visual and haptic spatial processes. *Journal of Experimental Psychology: Learning, Memory ad Cognition*, 34 (3), 631-642.
39. **Cattaneo Z**, Vecchi, T., Cornoldi, C., Mammarella, I., Bonino, D., Ricciardi, E., & Pietrini, P., (2008). Imagery and spatial processes in visual impairments. *Neuroscience and Biobehavioral Reviews*, 32, 1346–1360.
40. **Cattaneo Z**, Bhatt, E., Merabet, L.B., Pece, A., & Vecchi, T. (2008). The influence of reduced visual acuity on age-related decline in spatial working memory: an investigation. *Aging, Neuropsychology and Cognition*, 15, 687–702.
41. **Cattaneo Z**, Merabet, L.B., Bhatt, E., & Vecchi, T. (2008). Effects of complete monocular deprivation on visuo-spatial memory. *Brain Research Bulletin*, 77, 112-116.
42. **Cattaneo Z**, Vecchi, T., Monegato, M., Pece, A., & Cornoldi, C. (2007). Effects of late visual impairment on mental representations activated by visual and tactile stimuli. *Brain Research*, 1148, 170-176.
43. Monegato, M., **Cattaneo Z**, Pece, A., & Vecchi, T., (2007). Comparing the effects of congenital and late visual impairments on visuospatial mental abilities. *Journal of Visual Impairment and Blindness*, 101, 278-295.
44. Vecchi, T., **Cattaneo Z**, Monegato, M., Pece, A., Cornoldi, C., & Pietrini P. (2006). Why Cyclops could not compete with Ulysses: monocular vision and mental images. *Neuroreport*, 17, 723-726.

#### *Neural basis of face processing and social evaluation of faces*

45. Bona S, Silvanto J, **Cattaneo Z**. (2018).TMS over right OFA affects individuation of faces but not of exemplars of objects. *Neuropsychologia*, 117:364-370.
46. Ferrari C, Oldrati V, Gallucci M, Vecchi T, & **Cattaneo Z** (2018). The role of the cerebellum in explicit and incidental processing of facial emotional expressions: A study with transcranial magnetic stimulation. *Neuroimage*. 169:256-264.
47. Ferrari C, Gamond L, Gallucci M, Vecchi T, & **Cattaneo Z** (2017). An exploratory TMS study on prefrontal lateralization in valence categorization of facial expressions. *Experimental Psychology*, 64, 282-289.
48. Gamond L, Ferrari C, La Rocca S, **Cattaneo Z** (2017). Dorsomedial prefrontal cortex and cerebellar contribution to in-group attitudes: a TMS study. *European Journal of Neuroscience*, 45(7):932-939.
49. Gamond, L., & **Cattaneo Z** (2016). The dorsomedial prefrontal cortex plays a causal role in mediating in-group advantage in emotion recognition: a TMS study. *Neuropsychologia*, 93, 312-317.
50. **Cattaneo Z**, Daini R, Malaspina M, Manai F, Lillo M, Fermi V, Schiavi S, Suchan B, Comincini S. (2016). Congenital prosopagnosia is associated with a genetic variation in the oxytocin receptor (OXTR) gene: an exploratory study. *Neuroscience*, 339, 162-173.
51. Bona S, **Cattaneo Z**, Silvanto J. (2016). Investigating the causal role of rightOFA in holistic detection of Mooney faces and objects: an fMRI-guided TMS study. *Brain Stimulation*, 9(4):594-600.
52. Ferrari, C., Vecchi, T., Todorov, A., & **Cattaneo Z** (2016). Interfering with activity in the dorsomedial prefrontal cortex via TMS affects social impressions updating. *Cognitive, Affective, & Behavioral Neuroscience*, 16(4):626-34.
53. Ferrari C, Lega C, Vernice M, Tamietto M, Mende-Siedlecki P, Vecchi T, Todorov A, **Cattaneo Z**. (2016). The dorsomedial prefrontal cortex plays a causal role in integrating social impressions from faces and verbal descriptions. *Cerebral Cortex*, 26(1):156-65.
54. Renzi, C., Ferrari, C., Schiavi, S., Pisoni, A., Papagno, C., Vecchi, T., Antal, A., **Cattaneo Z** (2015). The role of the occipital face area in holistic processing involved in face detection and discrimination: a tDCS study. *Neuropsychology*, 29(3), 409-416.
55. **Cattaneo Z**, Schiavi S, Lega C, Renzi C, Tagliaferri M, Boehringer J, Carbon CC, & Vecchi T (2014). Biases in spatial bisection induced by viewing male and female faces. *Experimental Psychology*, 61(5), 368-377.

56. **Cattaneo Z**, Lega C, Boehringer J, Gallucci M Girelli L, Carbon CC (2014). Happiness takes you right: the effect of emotional stimuli on line bisection. *Cognition and Emotion*, 28(2), 325-44.
57. **Cattaneo Z**, Renzi C, Bona C, Merabet LB, Carbon CC, & Vecchi, T. (2014). Hemispheric asymmetry in discriminating faces differing for featural or configural (second-order relations) aspects. *Psychonomic Bulletin and Review*, 21(2):363-9.
58. Renzi, S., Schiavi, S., Carbon, C.C., Vecchi, T., Silvanto, J., & **Cattaneo Z** (2013). Processing of featural and configural aspects of faces is lateralized in dorsolateral prefrontal cortex: a TMS study. *Neuroimage*, 74, 45-51.
59. **Cattaneo Z**, Mattavelli G, Platania E, Papagno C (2011). The role of the prefrontal cortex in controlling gender-stereotypical associations: A TMS investigation. *Neuroimage*, 56(3), 1839-46.
60. Mattavelli G, **Cattaneo Z**, Papagno C (2011). Transcranial magnetic stimulation of medial prefrontal cortex modulates face expressions processing in a priming task. *Neuropsychologia*, 49(5), 992-8.

***State-dependency and methodological aspects in brain stimulation (research line with prof. Silvanto, Westminster University)***

61. Silvanto J, Bona S, Marelli M, & **Cattaneo Z** (2018). On the mechanisms of Transcranial Magnetic Stimulation (TMS): How brain state and baseline performance level determine behavioral effects of TMS. *Frontiers in Psychology*, 9:741.
62. Silvanto J & **Cattaneo Z** (2017). Common framework for “virtual lesion” and state-dependent TMS: the facilitatory/suppressive range model of online TMS effects on behaviour. *Brain & Cognition*, 119, 32-38.
63. Silvanto J, Bona S, **Cattaneo Z** (2017). Initial activation state, stimulation intensity and timing of stimulation interact in producing behavioral effects of TMS. *Neuroscience*, 363, 134-141.
64. Renzi, C., Vecchi, T, D'Angelo, E, Silvanto, J, & **Cattaneo Z** (2014). Phosphene induction by cerebellar transcranial magnetic stimulation. *Clinical Neurophysiology*, 125(10), 2132-2133.
65. Silvanto, J. & **Cattaneo Z** (2014). State-dependency protocols. Rotenberg, A., Horvath, J.C. & Pascual-Leone, A. (Eds.). *NeuroMethods: Transcranial Magnetic Stimulation*. New York: Springer Publishing Company, pp.153-176.
66. **Cattaneo Z**, Bona S, Silvanto J. (2012). Cross-adaptation combined with TMS reveals a functional overlap between vision and imagery in the early visual cortex. *Neuroimage*, 59(3):3015-20.
67. Renzi C, Vecchi T, Silvanto J, **Cattaneo Z**. (2011). Overlapping representations of numerical magnitude and motion direction in the posterior parietal cortex: A TMS-adaptation study. *Neuroscience Letters*, 490(2):145-9.
68. **Cattaneo Z**, Rota, F., Walsh, V., Vecchi, T., & Silvanto, J. (2009). TMS-adaptation reveals abstract letter selectivity in the left posterior parietal cortex (PPC). *Cerebral Cortex*, 19(10):2321-5.
69. **Cattaneo Z**, Rota, F., Vecchi, T., & Silvanto, J. (2008). Using state-dependency of transcranial magnetic stimulation (TMS) to investigate letter selectivity in the left posterior parietal cortex: a comparison of TMS-priming and TMS-adaptation paradigms. *European Journal of Neuroscience*, 28, 1924–1929.
70. **Cattaneo, Z**, & Silvanto, J. (2008). Investigating visual motion perception using the TMS-adaptation paradigm. *Neuroreport*, 19(14), 1423-1427.
71. **Cattaneo, Z**, & Silvanto, J. (2008). Time course of the state-dependent effect of transcranial magnetic stimulation motion in the TMS-adaptation paradigm. *Neuroscience Letters*, 443, 82-85.
72. Silvanto, J., **Cattaneo Z**, Battelli, L., Pascual-Leone, A. (2008). Baseline cortical excitability determines whether TMS disrupts or facilitates behaviour. *Journal of Neurophysiology*, 99, 2725-30.

***Imagery, space and short-term memory***

73. Ferrari C, **Cattaneo Z**, Oldrati V, Casiraghi L, Castelli F, D'Angelo E, Vecchi T. (2018). TMS Over the Cerebellum Interferes with Short-term Memory of Visual Sequences. *Scientific Reports*, 8(1),6722.
74. Rinaldi L, Lega C, **Cattaneo Z**, Girelli L, Bernardi N (2016). Grasping the sound: auditory pitch influences size processing in motor planning. *Journal of Experimental Psychology: Human Perception and Performance*, 42(1):11-22.

75. 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 and Ataxia*, Mar 2;3:6.
76. **Cattaneo Z**, Silvanto, J. (2015). Mental imagery, Visual Cognition. In: James D. Wright (editor-in-chief), *International Encyclopedia of the Social & Behavioral Sciences, 2nd edition, Vol 15*. Oxford: Elsevier. pp. 220–227.
77. Plow EB, **Cattaneo Z**, Carlson TA, Alvarez GA, Pascual-Leone A., & Battelli L (2014). The compensatory dynamic of inter-hemispheric interactions in visuospatial attention revealed using rTMS and fMRI. *Front. Hum. Neurosci.* 8:226.
78. Lega, C, **Cattaneo, Z**, Merabet, LB, Vecchi, T, Cucchi, S (2014). The effect of musical expertise on the representation of space. *Front. Hum. Neurosci.* 8:250.
79. **Cattaneo Z**, Renzi, C., Casali, S., Silvanto, J., Vecchi, T., Papagno, C., D'Angelo, E. (2014). Cerebellar vermis plays a causal role in visual motion discrimination. *Cortex*, 58, 272-280.
80. Blini E, **Cattaneo Z**, Vallar G. (2013). Different effects of numerical magnitude on visual and proprioceptive reference frames. *Front Psychol.*, 4:190.
81. Lega C, Cucchi S, Vecchi T., **Cattaneo Z** (2013). L'influenza dell'esperienza musicale sulla rappresentazione dello spazio peripersonale: uno studio di bisezione tattile. *Giornale Italiano di Psicologia (Italian Journal of Psychology)*, 2, 409-416.
82. Bona, S., **Cattaneo Z** , Vecchi., T., Soto, D., Silvanto, J. (2013). Metacognition of visual short-term memory: Dissociation between objective and subjective components of VSTM. *Frontiers in Perception Science*, 4:62.
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