

Curriculum Vitae

MANUELA PIAZZA

Center for Mind/Brain Sciences (CIMEC), Rovereto (TN)

University of Trento

DATE/PLACE OF BIRTH: 29-12-1971 Piacenza, Italy

STATUS: married, 2 children (2003, 2008)

EDUCATION

2003: PhD in Cognitive Neuroscience. Institute of Cognitive Neuroscience, University College London, UK.

2002: European Diploma in Cognitive and Brain Sciences. The Max Planck-Institute for Psychological Research, München, Germany.

1997: Laurea (MS) in Experimental Psychology. University of Padova, Italy.

RESEARCH / ACADEMIC POSITIONS

2020-present: Full Professor in “Psychobiology and Physiological Psychology” (SSD: M-PSI/02).
Cognitive Science Faculty, University of Trento, Italy.

2020: Fellow of the Italian Academy for advanced studies in the USA.

Columbia University, New York, USA (2020 spring term).

2019-present: Coordinator of the Master's program in Cognitive Science.

Center for Mind/Brain Sciences, University of Trento, Italy.

2017: National Scientific Habilitation (Abilitazione Scientifica Nazionale) for a full professor position in “psychobiology and physiological psychology” (SSD: M-PSI/02) obtained.

2015 - 2020: Associate Professor in “Psychobiology and Physiological Psychology”.

Cognitive Science Faculty, University of Trento, Italy.

2007 - present: Principal Investigator

Center for Mind/Brain Sciences, University of Trento, Italy.

2005 - 2014: Researcher (Chargé des Recherches CR1)

Cognitive Neuroimaging Unit, INSERM (French national institute for medical research), France.

2003 - 2005: Post-Doctoral Fellow (European Marie Curie Individual Fellow).

Cognitive Neuroimaging Unit, INSERM, France.

PROFESSIONAL / RESEARCH EXPERIENCE

Panel/Society member

2019-2020: **Panel Chair** of the *ERC Starting Grants* (ERC-2019-StG) for the *SH4* ("The Human Mind and Its Complexity"). European Research Council. Bruxelles (Be).

2019-present: **Elected Member** of the International Neuropsychological Symposium.

2016-2020: **Panel Member** of the *ERC Starting Grants* (ERC-2016-StG; ERC-2017-StG; ERC-2018-StG) for the *SH4* ("The Human Mind and Its Complexity"). European Research Council. Bruxelles (Be).

2010-present: **Examiner** in several PhD thesis committee (University of Szeged, Hungary; University of Padova, Italy; University of Louvain-La-Neuve, Belgium; University of Louven, Belgium; University of Florence, Italy; University Paris Descartes, France).

- Ad hoc grant reviewer for the National Science Engineering Research Council of Canada; CNRS, France; the Schwab Center for Dyslexia and Cognitive Diversity, UCSF, USA.

Editorial responsibilities

- Regular Ad-hoc reviewer for scientific journals:

Science, Nature Communications, PLoS Biology, Current Biology, Proceedings of the National Academy of Science, Journal of Neuroscience, Journal of Cognitive Neuroscience, Cerebral Cortex, NeuroImage, Psychological Science, Cortex, Psychological Review, Cognition, Cognitive Neuropsychology, Journal of Experimental Psychology:HPP, Animal Cognition, Laterality, Neuropsychology, Neuropsychologia, Perception & Psychophysics, Vision research, Journal of Vision, PLoS One.

Clinical-related activity

- Conception of a computer-based education video-game for learning number processing and calculation ("The number catcher"). Paris, FR. 2012.

- Consulting in the conception of a diagnostic test for developmental dyscalculia ("Dyscalculia Screener", by B. Butterworth, nferNelson Publisher). London, UK. 2000.

- Teaching at "permanent education courses" for pediatricians and speech therapists on dyscalculia in Italy, France, Belgium, England. 2010-2018.

Main ongoing international scientific collaborations

- Prof. Stanislas Dehaene; Dr. Ghislaine Dehaene-Lambertz; Dr. Evelyn Eger. NeuroSpin Center, FR

- Dr. Veronique Izard; Laboratoire Psychologie de la Perception. CNRS Paris, FR

- Prof. Liz Spelke; Department. of Psychology. Harvard University, USA

- Dr. Daniel Hyde; Department of Psychology. University of Illinois, USA

ACADEMIC ACTIVITY

Academic responsibilities

2019-present: Coordinator of the CIMEC Master's program in Cognitive Science (University of Trento).

2018-2021: CIMEC delegate for the University Library acquisitions.

2018-2019: Member of the Commissione Paritetica Docenti Studenti del dipartimento di Scienze Cognitive (University of Trento).

2017-2018: Member of the End-Of-Year Evaluation Committee of CIMEC Doctoral School (University of Trento).

2016-2018: Member of the Executive Committee of CIMEC Doctoral School (University of Trento).

2015: Responsible for the Italian evaluation of the quality of research done at CIMEC (VQR 2011-2014)

2015-2018: Member of the "Commissione Giudicatrice Collegio di Merito Bernardo Clesio" (University of Trento).

2007-present: Member of CIMEC Doctoral School (University of Trento).

Teaching

Since 2015 (120 teaching hours / year)

Undergraduate Level - Laurea Triennale in Scienze e Tecniche di Psicologia Cognitiva, University of Trento, IT:

- "The psychobiology of cultural acquisitions: reading and maths" (63h).
- "Current debates in cognitive neurosciences" (28h) -in English.

Graduate level - Master in Cognitive Science, CIMEC, University of Trento, IT:

- "Foundations in cognitive psychology and neuroscience" (20h) -in English.
- "Advanced cognitive psychology and neuroscience (8h) -in English.

Past

Seminars for the Master in Cognitive Science (Cogmaster), Ecole Normale Supérieure, Paris, FR. 2011-2013.

Seminars for the PhD school of the Center for Mind/Brain sciences, University of Trento, IT. 2007-2009.

Seminars for "Settimana di orientamento alla scelta Universitaria" ("University curriculum counselling week"). University of Trento and University of Bolzano.

Student & Post-Doc mentoring

Post-Doctoral researchers:

- M. Amalric (Marie Skłodowska-Curie Global fellowship) 2020-present.
- S. Vigano' (CIMEC fellowship) 2018-2020. *Now Post-Doc @ Max Planck Institute for Human Cognitive and Brain Sciences. Leipzig, DE.*
- L. DeHevia (Marie Skłodowska-Curie fellowship) 2012-2014. *Now researcher @CNRS Paris, FR.*
- Q. Cai (Fondation de France fellowship) 2011-2013. *Now associate professor @ NYU Shanghai, Cina.*

- M. Andres (Université catholique de Louvain fellowship) 2009-2010. *Now researcher @ UCL, Louvain-La-Neuve, BE.*
- A. Knops (CIMeC fellowship) 2009-2010. *Now researcher @ La Sorbonne, Paris, FR.*

PhD students:

- A. Karami. 2019-present.
- S. Vigano'. 2015-2018. *Now Post-Doc @ Max Planck Institute for Human Cognitive and Brain Sciences. Leipzig, DE.*
- G. Decarli. 2015-2018. *Now Post -Doc @ CNRS, FR.*
- P. Pinero Chagas. 2013 - 2018. *Now Post-Doc @ Stanford Medical School, USA.*
- V. Borghesani. 2013-2017. *Now Post-Doc @ UCSF, San Francisco, USA.*
- A. Chinello. 2007-2010. *Now research project coordinator @ the Fondazione IRCCS Cà Granda, Ospedale Maggiore Policlinico, Milano, IT.*
- S.K. Revkin. 2005-2008. *Now lecturer @ FH-Campus, Wien University, A.*

Various Master and trainee students (INSERM and UNITN)

Popularization of scientific results

- Articles/interviews in newspapers and popular scientific magazines in Italy (« La Stampa », « Il Trentino », « L'Adige », « Vita dell'Infanzia, rivista dell'Opera Nazionale Montessori »), and France (« Telerama », « Pour La Science », « Science et Vie », « La clef »).
- TV and radio programs in Italy and France (« Radio3scienza », « RAI radio1 », « Le magazine de la santé », « Icarus »).
- Installation of experiments for visitors at the science museum in Bristol (UK) (“science@bristol science museum”) on basic number abilities.

GRANTS/SCHOLARSHIPS

- 2021-2024: *EUREGIO Science Fund* for Post-Doc researcher (Principal Investigator)
- 2020-2020: *Columbia University Italian Institute* for advanced studies fellowship (Principal Investigator)
- 2019-2023: *Marie Curie Global Fellowship* to Marie Amalric (Responsible of the Research)
- 2018-2020: *CIMeC Grant* for Post-Doc researcher (Principal Investigator)
- 2015-2016: *Programme Vinci* for PhD Co-tutelle programme FR-IT (Co-Advisor)
- 2012-2014: *Fondation Bettencourt* (Responsible of sub-project “numeracy”)
- 2012-2014: *Marie Curie Pos-Doc Fellowship* to Lola de Hevia (Responsible of the Research)
- 2013-2014: *College de France* scholarship for basic research (Principal Investigator)
- 2011-2013: *Fondation de France* fellowship for Post-Doc researcher (Principal Investigator)
- 2009-2010: *Fondazione IPRASE* for Post-Doc researcher (Principal Investigator)
- 2003-2005: Post-Doc Marie Curie Individual Fellowship (2 years)
- 2001-2002: Fellowship for the European Diploma in Cognitive and Brain Sciences (2 years)
- 1999-2000: Scholarship for PhD University College London Graduate School (UK) (1 year)
- 1998-1999: Scholarship for studying abroad from Università La Sapienza (Roma) (1 year)
- 1997: Prize “Marco Davi” for best Experimental Psychology Master thesis. Padova University
- 1996: Erasmus Scholarship for University College London (UK) (9 months)

PUBLICATIONS

From Google Scholar, February 2022

<u>Citations</u>	12379
<u>h-index</u>	33
<u>i10-index</u>	42

Articles under revision

1. A.Guez, M. Piazza, P. Pinheiro-Chagas, H. Peyre, B. Heude, and F. Ramus. "Preschool language and visuospatial skills respectively predict multiplication and addition/subtraction skills in middle school children". *Under revision (Developmental Science)*.
2. G. Decarli, M. Piazza, and V. Izard. "Are infants' preferences in the number change detection paradigm driven by sequence patterns?". *Under revision (Infancy)*.
3. G.Decarli, D. Zingaro, L. Surian, and M. Piazza. "Number sense at 12 months predicts 4-year-olds' maths skills". *Under revision (Developmental Science)*.

Articles published/in press

55. D.C. Hyde, Y. Mou, I. Berteletti, E.S. Spelke, S. Dehaene, & M. Piazza. "Testing the role of symbols in training preschool numeracy: An experimental, computer-based intervention study". *PLoS ONE*, *in press*.
54. S. Viganò, V. Rubino, M. Buiatti, & M. Piazza (2021). "The neural representation of absolute direction during mental navigation in conceptual spaces". *Communications Biology*, *in press*.
53. E. Castaldi, M. Piazza, and E. Eger (2021). "Resources underlying visuo-spatial working memory enable veridical large numerosity perception". *Frontiers in Human Neuroscience*, *in press*.
52. S. Viganò, V. Borghesani, and M. Piazza (2021). "Symbolic categorization of novel multisensory stimuli in the human brain". *NeuroImage*, 235, 118016.
51. S. Viganò & M. Piazza (2021). "The hippocampal-entorhinal system represents nested hierarchical relations between words during concept learning". *Hippocampus*, 31 (6), 557-568.
50. S. Viganò, V. Rubino, A. Di Soccio, M. Buiatti, & M. Piazza (2021). "Grid-like and distance codes for representing word meaning in the human brain". *NeuroImage*. 232, 117876.
49. Y. Mou, B. Zhang, M. Piazza, & D. C. Hyde (2021). "Comparing set-to-number and number-to-set measures of cardinal number knowledge in preschool children using latent variable modelling". *Early Childhood Research Quarterly*, 54, 125-135.
48. G. Decarli, E. Paris, C. Tencati, C. Nardelli, M.Vescovi, L. Surian, & M. Piazza (2020). "Impaired large numerosity estimation but not subitizing in developmental dyscalculia". *PlosONE*, 15 (12), e0244578.
47. Pinho, A. L., Amadon, A., Gauthier, B., Clairis, N., Knops, A., Genon, S., ... & Roger, S (2020). Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping. *Scientific Data*, 7(1), 1-16.
46. E. Castaldi, M. Turi, S. Gassama, M. Piazza, & E. Eger (2020). "Excessive visual crowding effects in developmental dyscalculia". *Journal of Vision*, 20(8):7.

45. G. Decarli, L. Franchin, M. Piazza, and L. Surian (2020). "Infants' use of motion cues in object individuation processes". **Journal of Experimental Child Psychology**. 197, 104868.
44. S. Vigano' & M. Piazza (2020). "Distance and direction codes underlie navigation of a novel semantic space in the human brain". **The Journal of Neuroscience**, 40(13), 2727-2736.
43. E. Castaldi, M. Piazza, S. Dehaene, A. Vignaud, & E. Eger (2019). "Attentional amplification of neural codes for number independent of other quantities along the dorsal visual stream". **eLife**. 8, e45160.
42. P. Pinhero, M. Piazza, and S. Dehaene (2019). "Decoding the processing stages of mental arithmetic with magnetoencephalography". **Cortex**. 114, 124-139.
41. V. Borghesani, M. de Hevia, A. Viarouge, P. Pinheiro Chagas, E. Eger, and M. Piazza (2019). "Processing number and length in the parietal cortex: sharing resources, not a common code". **Cortex**. 114, 17-27.
40. M. Buiatti, E. Di Giorgio, M. Piazza, C. Polloni, G. Menna, F. Taddei, E. Baldo, and G. Vallortigara (2019). "A cortical route for face-like pattern processing in human newborns". **PNAS**, 116 (10), 4625-4630.
39. V. Borghesani, M. Buiatti, E. Eger, and M. Piazza (2019). "Conceptual and perceptual dimensions of word meaning are recovered rapidly and in parallel during reading". **Journal of Cognitive Neuroscience**. 31(1), 95-108.
38. G. Lasne, M. Piazza, S. Dehaene, A. Kleinschmidt, and E. Eger. (2019). "Discriminability of numerosity-evoked fMRI activity patterns in human intra-parietal cortex reflects behavioral numerical acuity". **Cortex**, 114, 90-101.
37. E. Castaldi, A. Mirassou, S. Dehaene, M. Piazza, and E. Eger (2018). "Asymmetrical interference between number and item size perception provide evidence for a domain specific impairment in dyscalculia". **PlosONE**, 13 (12), e0209256.
36. S. Pezzelle, R. Bernardi, and M. Piazza (2018). "Probing the mental representation of quantifiers". **Cognition**. 181, 117-126.
35. M. Piazza, V. De Feo, S. Panzeri, and S. Dehaene (2018). "Learning to focus on number". **Cognition**. 181, 35-45.
34. Borghesani, V. & Piazza, M. (2017). "The neuro-cognitive representations of symbols: the case of concrete words. **Neuropsychologia**. 105, 4-17.
33. P. Pinero Chagas, D. Dotan, M. Piazza, and S. Dehane (2017). "Finger tracking reveals the covert stages of mental arithmetic". **Open Mind: Discoveries in Cognitive Science**. 1, 30-41.
32. A. Gomez, Alice, M. Piazza, A. Jobert, G. Dehaene-Lambertz, & C. Huron. (2017). Numerical abilities of school-age children with Developmental Coordination Disorder (DCD): A behavioral and eye-tracking study. **Human Movement Science**. 55, 315-326.
31. V. Borghesani, M.D. de Hevia, A. Viarouge, P. Pinheiro Chagas, E. Eger, & M. Piazza. (2016). Comparing magnitudes across dimensions: a univariate and multivariate approach. **2016 International Workshop on Pattern Recognition in Neuroimaging (PRNI). IEEE**, 2-4.
30. V. Borghesani, F. Pedregosa, A. Amadon, E. Eger, M. Buiatti, & M. Piazza. (2016). "Word meaning in the ventral visual path: a perceptual to conceptual gradient of semantic coding". **NeuroImage**. 143, 128-140.
29. M. Piazza & E. Eger (2016). "Neural foundations and functional specificity of number representations" **Neuropsychologia**. 83, 257-273.
28. A Gomez, M. Piazza, A Jobert, G Dehaene-Lambertz, S Dehaene, and C. Huron (2015). "Mathematical difficulties in developmental coordination disorder: Symbolic and non-symbolic number processing". **Research in developmental disabilities**. 43, 167-178.

27. E. Pasquinelli, T. Zalla, K. Gvodzic, C. Potier-Watkins, and M. Piazza (2015). "Mind, brain, and teaching. Some directions for future research". ***Behavioral and Brain Sciences***. 38, e54.
26. M. Andres, M. Buiatti, C. Finocchiaro, and M. Piazza (2015). "Contribution of motor representations to action verb processing". ***Cognition***. 134, 174-184.
25. V. Borghesani, F. Pedregosa, E. Eger, M. Buiatti, and M. Piazza (2014). "A perceptual-to-conceptual gradient of word coding along the ventral path". ***4th International Workshop on Pattern Recognition in NeuroImaging (PRNI)1-4, IEEE***.
24. A. Knops, M.Piazza*, R. Sengupta, E.Eger, and D. Melcher*. (* *equal contribution*). (2014). "A shared, flexible neural map architecture underlies capacity limits in both working memory and enumeration". ***The Journal of Neuroscience***. 34 (30), 9857-9866.
23. M.Piazza, V. Izard, E.Spelke, P.Pica, and S. Dehaene. (2013) "Education enhances the acuity of the pre-verbal approximate number system". ***Psychological Science***, 24(6): 1037-1043.
- Highlighted in the APS Observer ("Psychological science in the news").
22. A. Chinello, V. Cattani, C. Bonfiglioli, S. Dehaene, and M. Piazza. (2013) "Objects, numbers, fingers, space: clustering of ventral and dorsal functions in young children and adults". ***Developmental Science***, 16(3): 377-93.
21. M. Piazza. (2012). "How culture shapes the brain: neuronal mechanisms of reading and calculation". ***Neuropsychiatrie de l'Enfance et de l'Adolescence*** 60 (5): S6.
20. D. Melcher and M. Piazza. (2011) "The role of attentional priority and saliency in determining capacity limits in enumeration and visual working memory". ***PLoS ONE***. 6(12):e29296.
19. M. Piazza, A. Fumarola, A. Chinello, and D. Melcher. (2011) "Subitizing reflects visuo-spatial object indexing capacity". ***Cognition***, 121(1): 147-153.
18. M.Piazza (2010) "Neurocognitive start-up tools for symbolic number representations". ***Trends in Cognitive Science***, Special issue: Space, Time, and Number. 14(12): 542-551.
17. M. Piazza, A. Facoetti, A.N. Trussardi, I. Berteletti, S. Conte, D. Lucangeli, S.Dehaene, and M. Zorzi (2010) "Developmental trajectory of number acuity reveals a severe impairment in developmental dyscalculia". ***Cognition***, 116(1): 33-41.
16. I. Berteletti, D. Lucangeli, M. Piazza, S. Dehaene, ad M. Zorzi (2010) "Numerical representations in preschoolers". ***Developmental Psychology***, 46(2): 545-551.
15. M. Piazza and V. Izard (2009) "What is an (abstract) neural representation of quantity?". ***Behavioral and Brain Sciences***, 32: 348-349.
14. M. Ranzini, S. Dehaene, M. Piazza, and E. Hubbard (2009) "Neural mechanisms of attentional shifts due to irrelevant spatial and numerical cues". ***Neuropsychologia***, 47(12): 2615-2624.
13. E.M. Hubbard, M Ranzini, M. Piazza, and S. Dehaene (2009) "What information is critical to elicit interference in number-form synaesthesia?". ***Cortex***, 45(10): 1200-1216.
12. M. Piazza & V. Izard. (2009) "How humans count: numerosity and the parietal cortex". ***The Neuroscientist***. 15(3):261-73.
11. S.K. Revkin, M. Piazza, V. Izard, L. Zamarian; E. Karner, and M. Delazer (2008). "Verbal numerosity estimation deficit in the context of spared semantic representation of numbers: A neuropsychological study of a patient with frontal lesions". ***Neuropsychologia***, 46(10): 2459-2471.
10. S.K. Revkin, M. Piazza, V. Izard, L. Cohen, and S. Dehaene (2008). "Does subitizing reflect numerical estimation?". ***Psychological Science***, 19(6): 606-613.
9. M. Piazza, P.Pinel, D. LeBihan, and S. Dehaene (2007). "A magnitude code common to numerosity and number symbols in human intraparietal cortex". *Neuron*. 53(2): 293-305.
- Commented by Ansari (2007). *Neuron* 53, 165-167.

- Commented by Welberg (2007). *Nature Reviews Neuroscience* 8, 168-169.

8. M. Piazza, A. Mechelli, C. Price, and B. Butterworth (2006). "Exact and approximate judgments of visual and auditory numerosity: an fMRI study". *Brain Research*, 1106(1): 177-188.

7. M. Piazza, P. Pinel, and S. Dehaene (2006). "Objective correlates of an unusual subjective experience: a single-case study of number-form synaesthesia". *Cognitive Neuropsychology*. 23(8): 1162–1173.

6. E.M. Hubbard, M. Piazza, P. Pinel, and S. Dehaene (2005). "Interactions between number and space in parietal cortex". *Nature Reviews Neuroscience*, 6(6): 435-48.

5. M. Piazza, V. Izard, P. Pinel, D. LeBihan, and S. Dehaene (2004). "Tuning curves for approximate numerosity in the human parietal cortex". *Neuron*, 44(3): 547-555.

- Commented by Nieder (2004). *Neuron* 44:407-409.

4. P. Pinel, M. Piazza, D. Le Bihan, and S. Dehaene (2004). "Distributed and overlapping representations of number, size, and luminance in parietal cortex during comparative judgments". *Neuron*, 41(6): 983-993.

3. M. Piazza, E. Giacomini, D. Le Bihan, and S. Dehaene (2003). "Single-trial classification of parallel pre-attentive and serial attentive processes using fMRI". *Proceedings of the Royal Society of London: Biological sciences*, 270: 1237-1245.

2. S. Dehaene, M. Piazza, P. Pinel, and L. Cohen (2003). "Three parietal circuits for number processing". *Cognitive Neuropsychology*, 20(3): 487-506.

1. M. Piazza, A. Mechelli, B. Butterworth and C. Price (2002). "Are subitizing and counting implemented as separate or functionally overlapping processes?". *NeuroImage*, 15(2): 435-446.

Book chapters:

8. E. Castaldi, M. Piazza, T. Iuculano (2020). "Learning Disabilities: Developmental Dyscalculia". In *Neurodevelopmental and cognitive disabilities. Handbook of Clinical Neurology*. Vol. 174, Chapter 33. Elsevier.

7. M. Piazza (2014). "Comment la culture façonne le cerveau: mécanismes neuronaux de la lecture et du calcul". In C. Chiland et J.P. Raynaud. *Cerveau, psyché et développement*. Pages 109-117. Odile Jacob.

6. M. Piazza (2013). "Start-up neurocognitivi dell'apprendimento dei numeri e del calcolo". In Biancardi A., Mariani E. and Pieretti M. *Intervento logopedico nei DSA- La discalculia*. Pages 18-44. Erickson.

5. M. Piazza (2011). "Neurocognitive Start-upTools for symbolic number representations". In S. Dehaene and E. Brannon (Eds.). *Space time and number in the brain. Searching for the foundations of mathematical thoughts*. Pages 267-286. Academic Press.

4. E.M. Hubbard, M. Piazza, P. Pinel, and S. Dehaene. (2009). "Numerical and spatial intuitions: A role for posterior parietal cortex?". In L. Tommasi, L. Nadel and M.A. Peterson (Eds.) *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain and Behavior*, pages 221-246. MIT Press, Cambridge, Mass.

3. M. Piazza and S. Dehaene (2004). "From number neurons to mental arithmetic: the cognitive neuroscience of number sense ". *The Cognitive Neuroscience, 3rd Ed.* by Gazzaniga et al. pp. 865-875.

2. S. Dehaene, M. Piazza, P. Pinel, and L. Cohen (2004). "Three parietal circuits for number processing". In *Handbook of Mathematical Cognition*. Psychological press, New York.

1. M. Piazza (2002). "Les processus de quantification: subitizing, estimation et dénombrement", Chapter 5; In "L'arithmétique cognitive". **Traité de Science Cognitive**. X. Seron & M. Pesenti Ed. Hermes, Bruxelles.

Popularization of science articles:

3. M. Piazza (2015). "Cervello e apprendimento: il punto di vista delle neuroscienze cognitive". **Vita dell'Infanzia**. Rivista mensile dell'Opera Nazionale Montessori. n° 1-4; 13-19.
2. M. Piazza (2015). "Start-up neurocognitivi nella cognizione matematica". **Vita dell'Infanzia**. Rivista mensile dell'Opera Nazionale Montessori. n° 1-4; 44-48.
1. M. Piazza (2014). "Dyscalculia, le sens perdu des nombres". **Clefs CEA** n° 62, Autumn 2014, on "Exploring the brain".

PLENARY TALKS

- International Neuropsychological Symposium. Crete, Greece, **2017**.
- Collège de France. Colloquium on "Interactions between Space, Time and Number: 20 Years of Research". Talk: "How do young children expand their number sense?". Paris, France. **2013**.
- International Association for Child and Adolescent Psychiatrists and Allied Professions World Congress (IACAPAP). Talk: "How culture shapes the brain". Paris, France. **2012**.
- Collège de France. Colloquium on "Cognitive Science and Education". Talk: "Le gout du nombre et comment l'acquérir". Paris, France. **2012**.
- Attention and Performance Symposium "Space, Time and Number in the Brain". Talk: "Neurocognitive Start-up-tool for symbolic number knowledge". Cernay, France. **2010**.
- Education, Cognition and Neuroscience: International workshop. Department of Cognitive and Education Sciences. Talk: "Neurocognitive Start-up-tool in Numerical Cognition". University of Trento, Italy. **2009**.
- Concepts, Actions, and Objects: International workshop. Center for Mind/Brain Sciences. Talk: "Number concepts: Quantity meets symbols in parietal cortex". University of Trento, Italy. **2007**.
- Cognitive Neuroscience Society Meeting. Talk: "Number sense: Quantity meets symbols in parietal cortex". New York, USA. **2007**.
- British Experimental Psychology Society Meeting. Talk: "The quantifying brain: cerebral correlates of numerosity estimation and counting". London, UK. **2001**.

INVITED LECTURES (a short selection)

- Dartmouth Center for Cognitive Neuroscience. Dartmouth College, Hanover, NH, USA, 2020.
- Pisa Vision Lab workshop: Sensory plasticity, Adaptation, and Development. Pisa, Italy, 2018.
- International Convention of Psychological Science. Vienna, Austria, 2017.
- Department of Cognitive Science. Central European University. Budapest, Hungary, 2017.
- Association Montessori International, Amsterdam, Netherland. 2016.
- International School on Mind, Brain, and Education. Erice, Italy, 2015.
- Humboldt University of Berlin, Germany. 2014.
- University of Louvain la Neuve, Belgium. 2014.
- MIUR (Italian Ministry of Education) on Montessori pedagogy. Rome, Italy. 2014.
- Symposium on dyscalculia. University of Cambridge, UK. 2013.
- Symposium on number processing. Pisa Vision Lab, CNR Pisa, Italy. 2012.
- National Dyscalculia and Maths Learning Difficulties Conference. London, UK. 2010.
- Symposium on developmental neuroscience. Neurospin, Saclay, France. 2010.
- Associazione Italiana Psicologia. Sciacca, Italy. 2004.
- International Workshop on number processing. Psychology Department, University of Gent, Belgium. 2002.