
Curriculum Vitae

Marialuisa Martelli, Associate Professor

Place: ROME

Date: 05/01/2020

Personal Statement

Marialuisa Martelli (Unit 1) is an expert in visual psychophysics, reading and reading disabilities. In my lab we investigate the cognitive mechanisms involved in expert automatized tasks. We record behavioural measures, such as reaction times and thresholds, during objects and words recognition tasks, while measuring eye movement's parameters. Based on the psychophysical evidences, we try to understand the core of the deficits in diverse populations. The underling research interest focuses on the possibility to account for the population variability drawing from to the current available models. In this vein I've been working with elderly individuals, vascular brain damaged patients, patients with traumatic brain injury, as well as with developmental populations with learning disabilities. The core junction is the understanding of the processing slowness. I believe the novelty in the approach is the combination of across-fields knowledge. We are filling the gaps and in doing so we have explained some important conditions, such as neglect dyslexia, with findings that point to focussed rehabilitation protocols.

| INSTITUTION AND LOCATION | DEGREE (if applicable) | Completion Date MM/YYYY | FIELD OF STUDY |
|---|---------------------------|-------------------------------|--|
| University of Rome "La Sapienza", Rome | MA | 07/1996 | Experimental psychology |
| University of Rome "La Sapienza", Rome, Italy | PHD | 11/2001 | Visual Neuroscience |
| Research and Rehabilitation Centre, IRCCS Santa Lucia, Rome | Fellow | 1997 | Post-graduate training in neuropsychology |
| University of Virginia, Michael Kubovy's laboratory | Fellow | 1998 | Post-graduate training on visual perception |
| New York University, Denis Pelli's laboratory, New York City, NY | Postdoctoral Fellow | 2004 | Visual Psychophysics |

Part II Positions and Employment

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|-------------|---|
| 1994 - 1995 | Research assistant in Neuropsychology, University of Rome, Psychology Department, Rome |
| 1997 - 1998 | Research Scholarship CUN, UVA, Graduate School of Arts and Science, Cognitive Department, Auditory and Visual Perception Laboratory, Specialization with Dr. Michael Kubovy |
| 1999 - 2000 | Instructor in Research techniques, University of Rome "La Sapienza", Rome |
| 2000 - 2001 | Doctoral Scholarship University of Rome to complete a specialization with Dr. Denis Pelli, New York University |
| 2000 - 2004 | Research Scientist, New York University, New York, NY |
| 2001 - 2003 | TA in Psychology, New York University, New York, NY |
| 2003 - 2004 | Research Contract, Spatial Orientation, Aeronautica Militare Pratica di Mare, Sezione Disorientamento Spaziale |
| 2004 - 2005 | Research Scientist, University of Rome "La Sapienza", Rome |
| 2004 - 2006 | Teaching contract, Perception, New York University Florence, Florence |
| 2004 - 2007 | Teaching Position, University of Rome "La Sapienza", Psychophysics, Rome |
| 2005 - | Adjunct Professor, University of Rome "La Sapienza", Rome |

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| 2009 - 2015 | Tenure full time Research Scholar, Università degli studi di Roma La Sapienza, Rome |
| 2010 - 2011 | International consultant, The World Bank (International Bank for Reconstruction and Development) |
| 2012 - | International consultant, The World Bank (International Bank for Reconstruction and Development) |
| 2014 - | International consultant , Qatar Foundation , WISE (World Innovation Summit for Education) |
| 2015 - | Tenure full time Associate Professor, Università degli studi di Roma La Sapienza, Rome |

Part III – Teaching experience

| Year | Institution | Lecture/ Course |
|-----------|--|---|
| 2004-2007 | New York University, Florence | Perception (CFU 6) |
| 2005-2008 | Facoltà di Psicologia, Università di Roma La Sapienza | Metodi di ricerca in neuroscienze: metodi psicofisici (2 CFU), Laurea Specialistica in Diagnosi e riabilitazione dei disturbi cognitivi (509, percorso sperimentale) |
| 2011-2013 | New York University, Florence | Perception (CFU 6) |
| 2009-2014 | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Modelli psicofisici e cognitivi della mente (8 CFU), Laurea Magistrale in Neuroscienze cognitive e riabilitazione psicologica (270, percorsi diagnosi e sperimentale) |
| 2011-2020 | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Corso di Psicofisica (2 CFU) Scuola di Specializzazione in Neuropsicologia del Dipartimento di Psicologia e l'IRCCS Fondazione Santa Lucia di Roma |
| 2014-2016 | Facoltà di Lettere e Filosofia, Università di Roma La Sapienza | Psicologia Generale (CFU 6), Corso di laurea triennale in Scienze del Turismo |
| 2014-2016 | Aston University UK. Bachelor in Optometry and visual science | Visual Psychophysics (6 CFU) |
| 2015-2016 | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Advanced Perception & Attention (CFU 9), corso in lingua del percorso internazionale della laurea in Neuroscienze |
| 2015-2020 | Facoltà di Medicina e Odontoiatria, Università di Roma La Sapienza | Psicologia Generale (2 CFU) |
| 2016-2020 | Master sui disturbi dell'apprendimento, Dipartimento di Psicologia, Università di Roma La Sapienza | Limiti percettivi all'acquisizione delle abilità di lettura. |
| 2017-2021 | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Perceptual and Cognitive Processing (CFU 9), corso in lingua della laurea in Cognitive Neuroscience |
| 2018-2020 | Master in animazione, Università di Roma La Sapienza | Psicologia della percezione e della narrazione. |

Part IV – institutional positions

| Year | Institution | Position |
|-----------|--|---|
| 2005- | Dipartimento di Psicologia, Università di Roma La Sapienza | PhD program member Cognitive Neuroscience, now named Behavioural Neuroscience. |
| 2010-2017 | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Member of the evaluating commission of the course program in Neuroscienze Cognitive e Riabilitazione Psicologica (15266). |
| 2014- | Dipartimento di Psicologia, Facoltà di | Program director of the curriculum (c) course |

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| 2017 | Medicina e Psicologia, Università di Roma La Sapienza | program in Neuroscienze Cognitive e Riabilitazione Psicologica (15266). |
| 2017- | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Director of the International course LM-51 in Cognitive Neuroscience |
| 2017- | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Member of the didactic department committee |
| 2017- | Dipartimento di Psicologia, Facoltà di Medicina e Psicologia, Università di Roma La Sapienza | Member of the research department committee |

Part V - Society memberships, Awards and Honors

| Year | Title |
|-----------|--|
| 1997-1998 | Research grant CUN, Italy. One year training Prof. Michael Kubovy, Auditory and Visual Perception Laboratory, Cognitive Department, Graduate School of Arts and Science, UVA, USA. |
| 2002 | Outstanding contribution in training young scientists, INTEL. |
| 2006-2010 | Visiting scholar, Department of Psychology, New York University, NY, USA. Finanziamento (2006-07 e 2007-08) Università di Roma La Sapienza per lo studio della lettura nell'ambito di un accordo bilaterale tra il Dipartimento di Psicologia dell'Università di Roma La Sapienza e la Sezione di Scienze Cognitive della New York University. |
| 2011 | Coordinamento scientifico. XV Congresso interdisciplinare, "L'evoluzione degli ambiti della disciplina optometrica" Bologna, Italia |
| 2012 | Lezione magistrale su invito IX Congresso Nazionale SoptI (Società Optometrica Italiana). |
| 2014 | Invited speaker, II World Dyslexia Forum - 17-20 Agosto 2014 – Belo Horizonte – Brasil |
| 2014 | Invited speaker, WISE Summit "Imagine-Create-Learn: Creativity at the Heart of Education" 3-6 Novembre 2014, Doha, Qatar |
| 2015- | Vision Science Society member |
| 2015 | Coordinamento scientifico. XVIII Congresso interdisciplinare, "Information communication technology: Una nuova sfida per il mondo della visione" Bologna, Italia |
| 2019 | Invited speaker, Crowding Conference Murten Switzerland 23rd and 24th of June 2019 |

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

2012-2013

Project 'Ateneo Federato'

Marialuisa Martelli (PI)

Project title "Cognitive and motor slowing in traumatic brain damaged patients." C26A13LRHS.

2014

Qatar Foundation

WISE (World Innovation Summit for Education)

Marialuisa Martelli (PI)

Project title "customized research review on creativity for policy advice".

2013-2014

Bank Foundation 'Ente Cassa di Risparmio di Firenze'

Marialuisa Martelli (PI)

Project title "Reading acquisition deficits: a research-intervention on learning disabilities" (n. 2013.0892)

2015

C26H15CZX4, Project 'Ateneo

Marialuisa Martelli (PI)

Project title "Testing different treatments for developmental dyslexia: an eye movement study".

2017-2020

NIH

Marialuisa Martelli (unit PI), Denis Pelli (international PI)

Project Title: Studying crowding as a window into object recognition and development and health of visual cortex

Part VII – Research Activities

1. Object recognition: Basic visual mechanisms involved in objects and faces recognition: studies involve psychophysics, brain imaging and eye movements' recordings.
 - a. Strappini, F., Martelli, M., Cozzo, C., & di Pace, E. (2020). Empirical evidence for intraspecific multiple realization?. *Frontiers in Psychology*, 11.
 - b. Moreau, Q., Parrotta, E., Era, V., Martelli, M. L., & Candidi, M. (2019). Role of the occipito-temporal Theta rhythm in hand visual identification. *Journal of neurophysiology*.
 - c. Albonico, A., Martelli, M., Bricolo, E., Frasson, E., & Daini, R. (2018). Focusing and orienting spatial attention differently modulate crowding in central and peripheral vision. *Journal of Vision*, 18(3):4, 1–17, <https://doi.org/10.1167/18.3.4>.
 - d. Strappini F, Galati G, Martelli M, Di Pace E, Pitzalis S (2017) Perceptual integration and attention in human extrastriate cortex *Scientific Reports* 7, Article number: 14848.
 - e. Zeri F, Calcatelli P, Funaro E, Martelli M, Naroo SA (2017) How accurate is an LCD screen version of the Pelli-Robson test? *Int Ophthalmol*. 1-12. doi: 10.1007/s10792-017-0609-0.
 - f. Strappini, F., Pelli, D. G., Di Pace, E., & Martelli, M. (2017). Agnosic vision is like peripheral vision, which is limited by crowding. *Cortex*, 89, 135-155.
 - g. Albonico, A., Malaspina, M., Bricolo, E., Martelli, M., & Daini, R. Temporal dissociation between the focal and orientation components of spatial attention in central and peripheral vision. *Acta Psychologica* 2016, 171, 85-92. PubMed PMID: [27743522](https://pubmed.ncbi.nlm.nih.gov/27743522/)
 - h. Pelli DG, Waugh SJ, Martelli M *et al.* (2016) A clinical test for visual crowding. *F1000Research* 2016, 5:81.
 - i. Bricolo E, Salvi C, Martelli M, Arduino LS, Daini R. The effects of crowding on eye movement patterns in reading. *Acta Psychol (Amst)*. 2015 Sep;160:23-34. PubMed PMID: [26143298](https://pubmed.ncbi.nlm.nih.gov/26143298/).
 - j. Lucertini M, De Angelis C, Martelli M, Zolesi V, Tomao E. Subjective visual vertical in erect/ supine subjects and under microgravity: effects of lower body negative pressure. *Eur Arch Otorhinolaryngol*. 2011 Jul;268(7):1067-75. PubMed PMID: [21293964](https://pubmed.ncbi.nlm.nih.gov/21293964/).
2. Reading: Models of reading acquisition across languages; studies involve psychophysical modeling and eye movement studies of reading.
 - a. Rusich, D., Arduino, L. S., Mauti, M., Martelli, M., & Primativo, S. (2021). Evidence of Semantic Processing in Parafoveal Reading: A Rapid Parallel Visual Presentation (RpvP) Study. *Brain Sciences*, 11(1), 28.
 - b. Facchin, A., Maffioletti, S., Martelli, M., & Daini, R. (2019). Different trajectories in the development of visual acuity with different levels of crowding: The Milan Eye Chart (MEC). *Vision research*, 156, 10-16.
 - c. Primativo S, Spinelli D, Zoccolotti P, De Luca M, Martelli M. Perceptual and Cognitive Factors Imposing "Speed Limits" on Reading Rate: A Study with the Rapid Serial Visual Presentation. *PLoS One*. 2016;11(4):e0153786. PubMed PMID: [27088226](https://pubmed.ncbi.nlm.nih.gov/27088226/); PubMed Central PMCID: [PMC4835101](https://pubmed.ncbi.nlm.nih.gov/PMC4835101/).

- d. Marinelli CV, Horne JK, McGeown SP, Zoccolotti P, Martelli M. Does the mean adequately represent reading performance? Evidence from a cross-linguistic study. *Front Psychol.* 2014;5:903. PubMed PMID: [25191289](#); PubMed Central PMCID: [PMC4137238](#).
 - e. Marinelli, Chiara Valeria; Martelli, Marialuisa; Praphamontripong, Prachayani; Zoccolotti, Pierluigi; Abadzi, Helen. 2013. Visual and Linguistic Factors in Literacy Acquisition : Instructional Implications for Beginning Readers in Low-income Countries. Global Partnership for Education (GPE) working paper series on learning;no. 2. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/16244>
3. Developmental dyslexia: Perceptual integration as a factor in determining slow reading in developmental dyslexia: studies involve mathematical modeling of psychophysical measures.
 - a. Zoccolotti, P., Marinelli, C. V., Martelli, M., Spinelli, D., & De Luca, M. (2019). Psycholinguistic factors and global components in developmental dyslexia. College Publication
 - b. Martelli M, De Luca M, Lami L, Pizzoli C, Pontillo M, Spinelli D, Zoccolotti P. Bridging the gap between different measures of the reading speed deficit in developmental dyslexia. *Exp Brain Res.* 2014 Jan;232(1):237-52. PubMed PMID: [24132528](#).
 - c. Martelli M, Burani C, Zoccolotti P. Visual perceptual limitations on letter position uncertainty in reading. *Behav Brain Sci.* 2012 Oct;35(5):294-5. PubMed PMID: [22929297](#).
 - d. Martelli, M., Di Filippo, G., Spinelli, D., & Zoccolotti, P. (2009). Crowding, reading, and developmental dyslexia. *Journal of vision*, 9(4), 14-14.
 - e. Zoccolotti, P., De Luca, M., Di Filippo, G., Judica, A., & Martelli, M. (2009). Reading development in an orthographically regular language: Effects of length, frequency, lexicality and global processing ability. *Reading and Writing*, 22(9), 1053.
 4. Acquired dyslexia: The role of eye movements and perceptual limitation in vascular patients with an acquired reading deficit.
 - a. Sand, K., Robotham, R. J., Martelli, M., & Starrfelt, R. (2018). Visual crowding in pure alexia and acquired prosopagnosia. *Cognitive Neuropsychology*, 1-10.
 - b. Daini R, Albonico A, Malaspina M, Martelli M, Primativo S, Arduino LS. Dissociation in Optokinetic Stimulation Sensitivity between Omission and Substitution Reading Errors in Neglect Dyslexia. *Front Hum Neurosci.* 2013;7:581. PubMed PMID: [24062678](#); PubMed Central PMCID: [PMC3775017](#).
 - c. Martelli M, Arduino LS, Daini R. Two different mechanisms for omission and substitution errors in neglect dyslexia. *Neurocase.* 2011;17(2):122-32. PubMed PMID: [20812140](#).
 - d. Primativo S, Arduino LS, Daini R, De Luca M, Toneatto C, Martelli M. Impaired oculo-motor behaviour affects both reading and scene perception in neglect patients. *Neuropsychologia.* 2015 Apr;70:90-106. PubMed PMID: [25698638](#).
 - e. Primativo S, Arduino LS, De Luca M, Daini R, Martelli M. Neglect dyslexia: a matter of "good looking". *Neuropsychologia.* 2013 Sep;51(11):2109-19. PubMed PMID: [23850599](#).
 5. Perceptual and motor components in decision-making: Modeling the slowing of information processing in Alzheimer and TBI patients by psychophysical measures.
 - a. Cappa A, Ciccarelli N, Baldonero E, Martelli M, Silveri MC. Posterior AD-type pathology: cognitive subtypes emerging from a cluster analysis. *Behav Neurol.* 2014;2014:259358. PubMed PMID: [24994944](#); PubMed Central PMCID: [PMC4068066](#).
 - b. Puopolo C, Martelli M, Zoccolotti P. Role of sensory modality and motor planning in the slowing of patients with traumatic brain injury: a meta-analysis. *Neurosci Biobehav Rev.* 2013 Dec;37(10 Pt 2):2638-48. PubMed PMID: [24025160](#).

- c. Martelli, M., Barban, F., Zoccolotti, P., and Silveri, M.C. Slowing of information processing may depend upon execution (not cognitive) components in Alzheimer's disease. *Cognitive and Behavioural Neurology* 2012, 25, 175–185. PubMed PMID: [23277138](#)

Part VIII– Summary of Scientific Achievements (Scopus)

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| Total Impact factor | 62.88 |
| Total Citations | 643 |
| Average Citations per Product | 15.29 |
| Hirsch (H) index | 10 |