

Margherita DI PAOLA

Curriculum Vitae et Studiorum

Margherita DI PAOLA
date of birth: Palermo 27th May 1970
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Psychologist, Registered as Chartered Psychologist by the Professional Board of Psychologists (Italy), Specialist in Neuropsychology.

Research Assistant in Structural MRI at IRCCS, S. Lucia Foundation Rome, Italy.

Education:

1999-2003 University of Rome “La Sapienza” (Italy)

Specialist in “Neuropsychology” (four year school)

Graduated with Full Grades 70/70

Final Dissertation: “Neuropsychological and Neuroanatomic Aspects of Alzheimer’s Syndrome: Anatomic-Functional Correlations using Voxel-Based Morphometry”.

Ph.D. Supervisors: Dr. Francesco Tomaiuolo and Prof. Salvatore Maria Aglioti.

2003 May-June Montreal Neurological Institute, McGill University, Montreal (Canada)

Dept of Psychology, Montreal Neurological Institute

Summer Course on “Anatomy and cognitive function” taught by Prof. Michael Petrides

1990-1995 University of Palermo, (Italy)

Dept. of Psychology. Bachelor of Arts

Graduated with Full Grade: 110/100 cum laude

Final Project: Visual imaging in patient with brain lesions. Supervisor Prof. Santo Di Nuovo.

Work Experience:

2000 to present - Research Assistant in structural MRI: “Morphometric and morphological study in genetic, degenerative, and traumatological brain pathology” at IRCCS S. Lucia Foundation, Unit of Morphometry and Morphology for Neuroimaging, Rome, Italy. Director: Prof. Carlo Caltagirone.

1999-2003: Full-time clinical neuropsychology activity as post-graduate student.

- assessment and diagnosis of patients with *focal lesions* and *multiple sclerosis*. Morning ward round with the head of ward Dr. S. Paolucci, IRCCS S. Lucia Foundation, Rome.
- assessment and diagnosis of patients with *cranial trauma*. Morning ward round with the head of ward Dr. Rita Formisano, IRCCS S. Lucia Foundation, Rome.
- assessment and diagnosis of patients with *dementia* at the “Alzheimer Assessment Unit”. Head of ward Dr. Carlo Blundo, S. Camillo Hospital, Rome.
- observation of assessment and diagnosis and rehabilitation of children with neuropsychological deficits. Supervisors Dr. Paola Gentili and Dr. Maria Rosa Pizzamiglio.
- rehabilitation of aphasic patients. Outpatients’ Department, IRCCS S. Lucia Foundation. Supervisors: Speech Therapists Patrizia Marroni and Camilla Buitoni.

1997-1999: Full-Time Research Assistant on “Cognitive and linguistic mechanisms in writing deficits”. Prof. Gabriele Miceli. Catholic University of Sacred Heart “Policlinico Agostino Gemelli” Service of Neuropsychology, Rome.

1996-1997: Trainee Neuropsychologist at Service of Neuropsychology, Neurology ward, Catholic University of Sacred Heart “Policlinico Agostino Gemelli”. Supervisor Prof. Gabriele Miceli, Rome.

1995-1996: Trainee Neuropsychologist at IRCCS S. Lucia Foundation, Service of Neuropsychology, Director: Prof. Luigi Pizzamiglio, Rome.
Neuropsychological assessment and diagnosis of patients with acquired cognitive deficits.
Rehabilitation treatment of aphasic patients (supervisor Prof. Anna Basso; and Prof. Gabriele Miceli); and of patients with cranial trauma (supervisor Dr. Rita Formisano).

Attended Congresses and Workshops

FSL & FreeSurfer Course, 19-23 Giugno 2006 Siena, Italy.

Tutorial Workshop “Voxel-Based Morphometry: Theory and Applications” 4-5 May 2006, Bergen, Norway.

“The Human Brain – Modelling and Remodelling” International Conference, IRCCS S. Lucia Foundation, 6-9 October 2004, Rome.

Workshop: “The Neuroimaging Laboratory at the S.Lucia Foundation: a platform for human brain research in Rome” E. Macaluso and R.S. Frackowiak. International Conference Rome “The Human Brain – Modelling and Remodelling” IRCCS S. Lucia Foundation, 6-9 October 2004, Rome.

Workshop: “Volumetric measure of Magnetic Resonance Imaging of the Brain: semiautomatic and automatic procedures” Prof. DL Collins PhD, and Dr. F. Tomaiuolo PhD. International Conference Rome “The Human Brain” IRCCS S. Lucia Foundation, 5-10 October 2002, Rome.

International Conference on “Architectures of the Mind, Architectures of the Brain. Studiorum universitatum Docentium Congressus, 6-8 September 2000, Rome.

Workshop: Rehabilitation of Aphasic patients. Prof. Anna Basso. Major Hospital Milan, Service of re-education of aphasia, 3-7 March 1997, Milan.

Workshop: Neuropsychology and Behavioural Neurology. Dr. C. Blundo. Organized by NHS, Medical School of Rome and Region of Lazio, December 1996 - June 1997, Rome.

Workshop “The internal structure of semantic-lexical system. The aphasia diagnostic methods”. Prof. G. Miceli, Italian Association of Aphasia (A.IT.A), 22 February - 19 March - 2 April, 1997, Palermo (Italy).

“Neuropsychological problems in rehabilitation”. Research and Rehabilitation Study Group, School of rehabilitation therapists, 23 March 1996, Rome.

Congress Presentations/Posters

M. Di Paola, L. Fadda, L. Serra, U. Sabatini, C. Caltagirone, G.A. Carlesimo. Hippocampal atrophy is the critical brain change in patients with memory disorder resulting from anoxic episode. Cognitive Neuroscience, 5-8 May 2007, New York, USA.

M. Di Paola, M. Bozzali, L. Fadda, M. Musicco, U. Sabatini and C. Caltagirone. Chronic and incremental effect of hypoxia due to extreme high-altitude exposure relate with atrophy in motor-function related brain areas. ISMRM-ESMRMB, 19-25 May 2007, Berlin, Germany.

M. Di Paola, E. Macaluso, G.A. Carlesimo, F. Tomaiuolo, K.J. Worsley, L. Fadda, C. Caltagirone. Episodic memory impairment in patients with Alzheimer's Disease is correlated with entorhinal cortex atrophy: a voxel-based morphometry study. Neuroscience, 14-18 October 2006, Atlanta, Georgia, USA

F. Tomaiuolo, M. Scapin, **M. Di Paola**, P. Le Nezet, L. Fadda, M. Musicco, C. Caltagirone, and D. L. Collins. Gross Anatomy of the corpus callosum in Alzheimer's Disease: regions of degeneration and their neuropsychological correlates. Human Brain Mapping, 11-16 June 2006, Florence, Italy.

F. Tomaiuolo, K. Worsley, J. Lerch, **M. Di Paola**, G.A. Carlesimo, R. Bonanni, C. Caltagirone, T. Paus. Long-term consequences of severe non-missile traumatic brain injury in white matter: An in vivo T1 weighted MRI computational analysis study. Human Brain Mapping, 13-17 June 2004, Budapest, Hungary.

M. Di Paola, F. Tomaiuolo, G.A. Carlesimo, M. Petrides, F.Fera, R. Bonanni, P. Pasqualetti and C. Caltagirone. Morphologic and morphometric sequelae in the hippocampus, fornix and corpus callosum of patients with severe non-missile traumatic brain injury without macroscopic detectable lesions. Human Brain Mapping, 18-22 June 2003, New York.

M. Di Paola, F. Tomaiuolo, B. Caravale, S. Vicari, M. Petrides, C. Caltagirone. Morphology and morphometry of the corpus callosum in Williams syndrome: An *in-vivo* MRI study Fourth European Conference of Psychological Theory and Research on Mental Retardation and Cognitive Developmental Disabilities, 23-25 May 2002, Catania (Italy).

B. Caravale, **M. Di Paola**, S. Vicari, F. Tomaiuolo, C. Caltagirone. Posterior Mid-Body and Isthmus of Corpus Callosum Reduction in Williams Syndrome: An In Vivo Magnetic Resonance Imaging Study. 30th Annual Meeting of the Child Neurology Society, 17-20 October 2001, Vancouver.

R. Bonanni, **M. Di Paola**, F. Tomaiuolo, A. Carlesimo. Hippocampal atrophy and memory damage. 15th Meeting of Italian Neurology Society, 6-11 October 2000, Milan (Italy).

M. Di Paola, R. Capasso. Theoretical models for aphasia rehabilitation. Workshop: Training for Speech Therapists, 24 October 1998, Perugia (Italy).

U. Bivona, **M. Di Paola**, R. Monastero. "Wisconsin Card Sorting Test" and "Color Word Test": Italian normative data of two tests for executive function assessment. National Congress of the Experimental Psychology Section, 22-24 September 1997, Capri (Italy).

Publications:

M. Di Paola, E. Luders, P.M. Thompson, A.W. Toga, C. Caltagirone and G. Spalletta. Gross Anatomy of the corpus callosum in Mild Cognitive Impairment, regions of degeneration and comparison with Alzheimer Disease (**in progress**)

M. Di Paola, L. Fadda, L. Serra, U. Sabatini, C. Caltagirone, G.A. Carlesimo. Hippocampal atrophy is the critical brain change in patients with hypoxic pure amnesia (**in progress**)

M. Di Paola, M. Bozzali, L. Fadda, M. Musicco, U. Sabatini and C. Caltagirone. Chronic and incremental effects of hypoxia due to extreme high-altitude exposure relate with atrophy in motor-function brain areas. (**submitted** Journal of Neuroscience)

M. Di Paola, E. Macaluso, F. Tomaiuolo, K. Worsley, L. Fadda, G.A. Carlesimo, C. Caltagirone. Correlations between gray matter volume and neuropsychological measures in Alzheimer's Disease patients, assessed by voxel-based morphology (**in press** Journal of Neurology).

Nicolas Rüsçh, Ilaria Spoletini, Marko Wilke, Pietro Bria, **Margherita Di Paola**, Fulvia Di Iulio, Giovanni Martinotti, Carlo Caltagirone, Gianfranco Spalletta Prefrontal-thalamic-cerebellar gray matter networks and executive functioning in schizophrenia (**in press** Schizophrenia Research)

Eileen Luders, **Margherita Di Paola**, Francesco Tomaiuolo, Paul M. Thompson, Arthur W. Toga, Stefano Vicari, Michael Petrides, and Carlo Caltagirone. Callosal morphology in Williams syndrome: a new evaluation of shape and thickness. *Neuroreport*. 2007;18: 203-207.

Stefano Vicari, Deny Menghini, **Margherita Di Paola**, Laura Serra, Alberto Donfrancesco, Paola Fidani and Giovanni Augusto Carlesimo. Acquired amnesia in childhood: A single case study. *Neuropsychologia*. 2007;45:704-15.

F. Tomaiuolo, M. Scapin, **M. Di Paola**, P. Le Nezet, L. Fadda, C. Caltagirone, and D. L. Collins. Gross Anatomy of the corpus callosum in Alzheimer Disease: regions of degeneration and their neuropsychological correlates. *Dement Geriatr Cogn Disord*. 2007;23:96-103.

Gian Daniele Zannino, Roberta Perri, Patrizio Pasqualetti, **Margherita Di Paola**, Carlo Caltagirone, Giovanni A. Carlesimo. The role of semantic distance in category-specific impairment for living things: evidences from a case of semantic dementia. *Neuropsychologia*. 2006;44:1017-28.

F. Tomaiuolo, K. Worsley, J. Lerch, **M. Di Paola**, G.A. Carlesimo, R. Bonanni, C. Caltagirone and T. Paus. Changes in white matter in long-term survivors of severe non-missile traumatic brain injury: a computational analysis of magnetic resonance images. *J Neurotrauma* 2005 22:76-82.

F. Tomaiuolo, G.A. Carlesimo, **M. Di Paola**, M. Petrides, F. Fera, R. Bonanni, R. Formisano, P. Pasqualetti and C. Caltagirone. Gross morphology and morphometric sequelae in the hippocampus, fornix and corpus callosum of patients with severe non missile traumatic brain injury without macroscopic detectable lesions: *a T1 weighted MRI study*. *J. Neurol. Neurosurg. Psychiatry*, Sep 2004; 75: 1314-1322.

M. Caramia, S. Mosti, D. Cologno, **M. Di Paola**, C. Caltagirone. Disturbi comportamentali e psichici in un caso di paralisi sopranucleare progressiva. *Nuova Rivista di Neurologia* 2003, vol 13, No 1: 25-33.

F. Tomaiuolo, **M. Di Paola**, B. Caravale, S. Vicari, M. Petrides, C. Caltagirone. Morphology and morphometry of the corpus callosum in Williams syndrome: A T1 weighted MRI study. *Neuroreport* 2002, vol 13, No 17: 2281-2284.

Ongoing Collaborations

- with Dr. Stefano Vicari, Ospedale Pediatrico Bambino Gesù, Rome, on *Gray matter and white matter changes in Williams Syndrome using voxel based morphometry*.

- with Dr. Marco Molinari, IRCCS Santa Lucia Foundation, Rome on Study of cerebellar patients (*quantification of cerebral lesion, comparison with control group etc*) using tools of *Montreal Neurological Institute*.
- with Dr. Eileen Lüders, LONI, Department of Neurology, UCLA School of Medicine, Los Angeles, USA on *Gross anatomy of the corpus callosum in Mild Cognitive Impairment and Alzheimer Disease*.

Awards

Four-year Post-graduate Scholarship Award offered by the University of Rome “La Sapienza” to the first qualified for the national admission test to the post-graduate Specialisation School in Neuropsychology. Director Prof. Luigi Pizzamiglio, Rome 1999-2003.

Travel Award by the Human Brain Mapping Organization for one of the best presentations, New York, 18-22 June, 2003.

Award “Professione Psicologo” by the Professional Board of Psychologists for the Region of Sicily (Italy), for the best dissertation in Psychology, Taormina (Italy), 1995.

Research Skills:

MRI data processing and analysis: SPM2, SPM5, MRIcro, Brainshow, MNI programs

Windows package: Word, Excel, Power-Point.

Unix, Linux, Matlab platforms.

Good English level (written and spoken)