

Maria Leggio

Curriculum Vitae

Part I – Education

Type	Year	Institution	Notes
PhD Degree	1997	Sapienza University of Rome	PhD Degree in “Neuropsychology”, score Excellent
Specialization	1992	“Sacro Cuore” Catholic University, Rome	Specialization in Neurology, score 50/50 cum laude
Licensure: Qualification for medical doctor	1988	“Sacro Cuore” Catholic University, Rome	Qualification for medical doctor (abilitazione all’esercizio della professione medica)
MD degree	1988	“Sacro Cuore” Catholic University, Rome	MD degree, score 110/110 cum laude
High School diploma	1982	High School (Liceo Classico) “Umberto I”, Ragusa	High school focusing on humanities (Liceo Classico), score 60/60

Part II – Appointments

Ila – Academic Appointments

Start	End	Institution	Position
2017	at present	Department of Psychology, Sapienza University of Rome	Full Professor (Professore Ordinario)
2001	2017	Department of Psychology, Sapienza University of Rome	Associate Professor (Professore Associato)
1996	2001	Department of Psychology, Sapienza University of Rome	Permanent Research Position (Ricercatore a tempo pieno)

IIb – Academic Responsibilities

Start	End	Institution	Position
1998	at present	Sapienza University of Rome	Member of the board of the PhD Course in “Psychobiology and Psychopharmacology”, at present “Behavioral Neuroscience”
2011	2014	Sapienza University of Rome	Member of the Executive Board (Giunta di Facoltà) of the Faculty of Medicine and Psychology
2011	2012	Sapienza University of Rome	Member of the Scientific Research Board (Commissione di Ricerca Scientifica) of

			the Sapienza University of Rome
2004	2009	Sapienza University of Rome	Member of the Evaluation Board (Nucleo di valutazione) of the Faculty of Psychology 1, Sapienza University of Rome
2004	2004	Sapienza University of Rome	President of the I State Board (Esami di Stato) for Psychologists
1998	2004	Sapienza University of Rome	Member of the Executive Board (Giunta di Dipartimento) of the Department of Psychology, Faculty of Psychology 1, Sapienza University of Rome

Part III – Teaching experience

IIIa – Teaching: Degree Courses

Year	Institution	Lecture/Course
2012 – at present	Sapienza University of Rome	“Cognitive Neuroscience” at the Degree Course (three years) "Psychology and Health", Department of Psychology, Faculty of Medicine and Psychology. Appointed GOMP 9 CFU
2014 – at present	Sapienza University of Rome	Laboratory of “Neuropsychological evaluation and Rehabilitation” at the Specialized Degree Course (two years) "Cognitive Neuroscience Evaluation and Neuropsychological Rehabilitation ", Department of Psychology, Faculty of Medicine and Psychology. Appointed GOMP 2 CFU
2009 - 2012	Sapienza University of Rome	“Cognitive Neuroscience” at the Degree Courses (three years) "Psychological Sciences and Techniques of analysis and evaluation of the cognitive processes", Department of Psychology, Faculty of Medicine and Psychology. Appointed GOMP 8 CFU (6 + 2 CFU of Laboratory)
2008 - 2009	Sapienza University of Rome	“Basis of Psychobiology and Psychophysiology” at the Degree Courses (three years) "Psychological Sciences and Techniques of analysis and evaluation of the cognitive processes ", Faculty of Psychology 1. Appointed GOMP 8 CFU
2003 - 2009	Sapienza University of Rome	“Neuroscience laboratory: preclinic models of cognitive dysfunctions” at the Specialized Degree Course (two years) "Evaluation and Treatment of cognitive dysfunctions", Faculty of Psychology 1. Appointed GOMP 2 CFU
2002 - 2008	Sapienza University of Rome	“Basis of Psychophysiology” at the Degree Courses (three years) "Normal and pathological cognitive processes", Faculty of Psychology 1. Appointed GOMP 4 CFU
2002 - 2008	Sapienza University of Rome	“Behavioral physiological basis” at the Degree Courses (three years) "Psychological Sciences and Techniques of the Clinical Intervention for the Individual, the Group and the Institutions", Faculty of Psychology 1. Appointed GOMP 4 CFU
2003 -	Sapienza University of Rome	“Basic Neuroanatomy and Neurophysiology” at the

2005		Specialized Degree Course (two years) "Dynamic and Clinical Psychology of Individual, Organizations and Community", Faculty of Psychology 1. Appointed GOMP 4 CFU
2000 - 2002	Sapienza University of Rome	"Psychophysiology", at the Degree Courses "Psychology", Faculty of Psychology 1. Academic year duration (annualità)
1999 - 2000	Sapienza University of Rome	"Basic Neuroanatomy and Neurophysiology", at the Degree Courses "Psychology", Faculty of Psychology 1. Academic year duration (annualità)

IIIb – Teaching: PhD Courses

Year	Institution	Lecture/Course
1998 – at present	Sapienza University of Rome	Member of the teaching staff of the PhD Course in "Psychobiology and Psychopharmacology", at present "Behavioral Neuroscience"

IIIc – Teaching: Master and Specialization Courses

Year	Institution	Lecture/Course
2013 – at present	Sapienza University of Rome	"Neuropsychology of the Neurodegenerative diseases" at the Specialization Course in "Neuropsychology", Department of Psychology, Faculty of Medicine and Psychology Appointed GOMP 2 CFU
2013 – at present	Sapienza University of Rome	"Neurobiological basis in Autism Spectrum Disorders: role of the Cerebellum" at the 2nd level University Master degree "Autism Spectrum Disorders in the Adolescence", Faculty of Medicine and Psychology Appointed GOMP 2 CFU
2009 – 2013	Sapienza University of Rome	"Clinical framework of the main neurodegenerative diseases" at the Specialization Course in "Neuropsychology", Department of Psychology, Faculty of Medicine and Psychology Appointed GOMP 4 CFU

IIId – Tutoring and Supervisor activity

Year	Institution	Lecture/Course
1996 – at present	Sapienza University of Rome	Tutoring and supervisory activity of degree students, PhD students, Postdoctoral researchers (Assegnisti di Ricerca)

Part IV - Society memberships, Awards and Honors

IVa – Society Memberships

Year	Title
1994 – at present	Society for Neuroscience (SfN)
1995 – at present	European Brain and Behaviour Society (EBBS)
1997 – at present	Società Italiana di Neurologia (SIN)
2007 – at present	Società Italiana di Neuropsicologia (SINP)
2007 – at present	Società Italiana di Riabilitazione Neurologica (SIRN)
2008 – at present	Society for Research on the Cerebellum (SRC)
2008 – at present	Federation of the European Societies of Neuropsychology (ESN)
2008 – at present	Federation of European Neuroscience Societies (FENS)
2016 – at present	Society for Research on the Cerebellum and Ataxias (SRCA)

Vb – Editorial Duties

Editorial Board Member	The Cerebellum
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IVc – Reviewing Activity

Journal

Brain, Journal of Neuroscience, Cortex, NeuroImage, Journal of Neurology Neurosurgery and Psychiatry, Neurobiology of Learning and Memory, Plos One, Experimental Brain Research, Behavioural Brain Research, Brain and Language, The Cerebellum, Cerebellum & Ataxias, Neuropsychologia, Neuropsychology, Progress in Neuro-Psychopharmacology & Biological Psychiatry, European Journal of Neurology, Behavioural Neurology, Behavioural Processes, Cognition and Emotion, Neurological Sciences, Physiotherapy Theory and Practice, Scientific Reports.
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Scientific Projects

- Blue-Sky Programme, Agence Nationale de la Recherche - ANR
- FIRB, Ministero dell'Istruzione, dell'Università e della Ricerca - MIUR

IVc – Congress Organization

Year	Title
2014	Member of the Scientific Committee of the “Sixth International SRC Congress”
2012	Member of the Scientific Committee of the symposium on “The Cerebellum in the cognitive functions: actor or walk-on?” at the Annual meeting of the Italian Society of Neuropsychology.
2008	Member of the Scientific Committee of the symposium on “Cerebellum and Language” at the 1st Meeting of the Federation of the European Societies of Neuropsychology.
1992	Member of the Scientific Secretary of Satellite Symposium of the 15th Annual Meeting of the European Neuroscience Association on “Thalamic networks for relay and modulation”

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

Year	Title	Program	Grant value
2016	Study on the cerebellar role in	Ricerca Universitaria,	4000,00 euros

	Pathological Gambling: an insight into the neurobiological basis of Impulse Control Disorders. Prot. RP116154E6F75140	Sapienza University of Rome	Principal Investigator
2015	"Combined behavioral, neuroimaging and noninvasive brain stimulation studies of the ability to understand another person's mental states in participants with Autism Spectrum Disorders and patients with Cerebellar Diseases." – Prot. C26H15MSBK	Ricerca Universitaria, Sapienza University of Rome	30.000,00 euros Investigator
2014	"The cerebellar role in the emotional processing." – Prot. C26A14R2FP	Ricerca Universitaria, Sapienza University of Rome	10.000,00 euros Investigator
2013	"An integrate neuropsychological, morphofunctional and connectivity study of the cerebellar functionality" – Prot. C26A1329AR	Ricerca Universitaria, Sapienza University of Rome	11.000,00 euros Principal Investigator
2011-2012	Not-permitted to submit university grant applications as member of the Scientific Research Board (Commissione di Ricerca Scientifica) of the Sapienza University of Rome		
2010	"Relazioni anatomo-funzionali tra circuitazioni sotto- e neo-corticali" – Prot. C26A10SY7C	Ricerca Universitaria, Sapienza University of Rome	9.000,00 euros Principal Investigator
2009	"Ruolo del cervelletto nella regolazione delle componenti cognitivo-emozionali sottese ai processi di scelta." – Prot. C26F09EYKZ	Ricerca di ateneo Federato di scienza e della Tecnologia AST, Sapienza University of Rome	3.600,00 euros Principal Investigator
2009	"Uno studio nell'uomo e nell'animale della funzionalità cognitiva cerebellare" – Prot. C26A09RR3J	Ricerca Universitaria, Sapienza University of Rome	24.050,00 euros Investigator
2008	"Interazione cerebello-frontale nel controllo delle funzioni esecutive. Studio clinico e sperimentale." – Prot. C26A08KFWE	Ricerca Universitaria, Sapienza University of Rome	10.000,00 euros Principal Investigator
2007	"Stimolazione ambientale e modificazioni neuronali. Studio morfologico nel ratto in un paradigma di "ambiente arricchito" – Prot. C26F07BB5L	Ricerca di ateneo Federato di scienza e della Tecnologia AST, Sapienza University of Rome	1.200,00 euros Principal Investigator
2007	"Ipotesi colinergica della malattia di Alzheimer: modificazioni comportamentali, strutturali e biochimiche in modelli sperimentali e clinici." – Prot. C26A07Z3FK	Ricerca Universitaria, Sapienza University of Rome	26.600,00 euros Investigator
2006	"Il ruolo del cervelletto nelle funzioni esecutive: studio clinico e sperimentale." – Prot. C26A06XEEE	Ricerca di Ateneo, Sapienza University of Rome	7.000,00 euros Principal Investigator
2006	"Interazione cerebello-corticale nell'elaborazione di informazioni sensoriali. Studio neuropsicologico e neurofisiologico." – Prot. C26F06B7PL	Ricerca di Facoltà, Sapienza University of Rome	7.000,00 euros Principal Investigator

2005	"Contributo del Cervelletto all'elaborazione corticale dell'informazione sensoriale. Studio Neuropsicologico e neurofisiologico" – Prot. C26H15MSBK	PRIN, Ministero, dell'Istruzione, dell'Università e della Ricerca	Total 154.000,00 euros (Unit 27.900 euros) (Operative Unit)
2005	"Stop and Go! Ruolo del cervelletto nei processi di inibizione." – Prot. C26F052933	Ricerca di Facoltà, Sapienza University of Rome	1.078,00 euros Principal Investigator
2005	"Il ruolo del cervelletto nella funzione spaziale: uno studio sperimentale e clinico" – Prot C26A050120	Ricerca di Ateneo, Sapienza University of Rome	9.500,00 euros Investigator
2004	"Effetti dell'arricchimento ambientale sulle abilità spaziali. Studio morfologico e comportamentale in ratti." – Prot. C26F042114	Ricerca di Facoltà, Sapienza University of Rome	1.092,00 euros Principal Investigator
2004	"Ruolo dei circuiti cerebellari in compiti discriminativi" – Prot. C26A041020	Ricerca di Ateneo, Sapienza University of Rome	27.600,00 euros Investigator
2003	"Ruolo delle circuitazioni cerebellari nei processi di memoria spaziale " – Prot. C26F038537	Ricerca di Facoltà, Sapienza University of Rome	1.279,00 euros Principal Investigator
2003	"Le funzioni cognitive nelle lesioni cerebellari: correlazioni fra modelli animali e dati clinici" – Prot. C26A039974	Ricerca di Ateneo, Sapienza University of Rome	10.000,00 euros Investigator
2002	"Valutazione del ruolo cerebellare nell'elaborazione di informazioni sensoriali ritmiche e sequenziali" – Prot. C26F023114	Ricerca di Facoltà, Sapienza University of Rome	1.226,00 euros Principal Investigator
2001	"Studio neuropsicologico delle abilità discriminative sensoriali in soggetti con danno cerebellare" – Prot. C26F011797	Ricerca di Facoltà, Sapienza University of Rome	1.441,00 euros Principal Investigator

Part VI – Research Activities

Vla-Research Topics

Current research topics

Keywords	Brief Description
Cerebellum, cognition, Behaviour	<p>Study of the cerebellar role on different cognitive and behavioral domains by means of integrated neuropsychological, neurophysiological and neuroimaging approach.</p> <p>Characterization of specific cognitive profiles according to etiology and localization of the cerebellar damage</p>
Sequence theory	Development of a “sequence hypothesis” that allows to explain the specificity of the cerebellar involvement in the multifarious motor and non-motor domains
Visuospatial functions, Sensorized platform	<p>Study of the visuospatial abilities in cerebellar disorders.</p> <p>Study of the cerebellar role in spatial procedural learning.</p> <p>Setting up a sensor-equipped platform, named “SmarTile”, an innovative tool managed by a software developed ad hoc to study the sequential learning abilities within the spatial.</p>
Mood, Emotion, Decision-making, Cerebellum	<p>Study of mood alterations and emotional functions in patients affected by cerebellar pathologies by means of MoMo, a mood monitoring device that has been developed at the Ataxia Lab to characterize mood alteration in patients.</p> <p>Study of a possible cerebellar role in the feelings subtending decision-making processes.</p>
Social cognition, Cerebello-Cortical circuits	<p>Study of the involvement of the cerebello-cortical circuits in the social cognition domain by using an integrated behavioral, neuroimaging and neurophysiological approach in patients affected by cerebellar pathology.</p> <p>Study of the effects of the cerebellar excitability modulation by means of transcranial direct current stimulation (tDCS) on specific social cognition aspects in healthy subjects.</p>
Voxel-based morphometry, Diffusion-based tractography, Resting state functional MRI	<p>Investigation of the structural and functional patterns of cerebello-cortical circuits in cerebellar patients and healthy subjects to explore the impact of cerebellar damage on cognitive and emotional functions.</p> <p>Investigation of the structural and functional patterns of cerebello-cortical circuits in subjects affected by autistic spectrum disorders, in order to explore whether specific features of these networks may account for specific aspects of the autistic disorders</p>

Research topics – in progress

Keywords	Brief Description
Cerebellar tDCS, neurorehabilitation	Study of the behavioral effects of tDCS over the cerebellum, in order to clarify the specific role of cerebello-cortical networks in cognitive and emotional

	<p>functions.</p> <p>Study of cerebellar tDCS effects in order to explore new rehabilitation approaches</p>
Virtual reality, Cerebellar functions	<p>Use of virtual reality to investigate the interaction between motor, cognitive, and behavioral functions of the cortico-cerebellar circuits within the framework of the “sequence detection theory”.</p> <p>Use of virtual reality techniques to implement new neuro-rehabilitation protocols, specifically aimed at the recovery of the cerebellar disabilities</p>
Autism, Neuro-biological basis	<p>Study of the Theory of Mind (ToM) performances and of the neuro-anatomical alterations in patients affected by cerebellar disease and in subjects with Autism Spectrum Disorders (ASDs).</p> <p>Characterization of the role of the cerebello-cortical circuits in specific ToM aspects by means of an ad-hoc ToM battery and advanced MRI methods to evaluate the structural and functional alterations in cerebellar-cortical circuits of cerebellar patients and ASDs subjects</p>

Previous research topics

Keywords	Brief Description
Environmental enrichment, Animal model	<p>Characterization of the effects of environmental enrichment on the cortical neuronal morphology in the rat.</p> <p>Study of the behavioral effects of environmental enrichment in a rat model of Alzheimer’s disease.</p> <p>Study of the relationship between environmental enrichment and cognitive reserve in rats with or without basal forebrain cholinergic lesions</p>
Hemycerebellectomy, Rat	<p>Characterization of the non-motor cerebellar role in a rat model of surgical hemycerebellectomy:</p> <ul style="list-style-type: none"> - acquisition of the procedural components of spatial exploration; - disentanglement of the cerebellar role in spatial procedural learning and in spatial working memory; - study of the cerebellar role in observational learning.
Spatial procedural learning, NMDA receptor, Cerebellum, Hippocampus	<p>Characterization of the hippocampal and cerebellar role in spatial procedural learning by using an NMDA receptor antagonist (CGS 19755) in the rat.</p>
Thalamocortical networks, Animal model	<p>Characterization of different aspects of the Thalamocortical networks:</p> <ul style="list-style-type: none"> - hymmunoistochemical characterization of the Thalamic Intralaminar Nuclei in the cat; - study of the nucleus-specific expression of GABA_A receptor subunit in monkey Thalamus; - hymmunoistochemical characterization of the Auditory Thalamocortical pathways in the monkey.

Vlb- Research Experience and Responsibility

Years	Institution	Position
2003 – at present	Department of Psychology, University of Rome "La Sapienza"	Chief of the laboratory "Cognitive Neuroscience and Cerebellum"
2006 – at present	IRCCS Santa Lucia Foundation, Rome	Chief of Ataxia Lab
1999 – at present	IRCCS Santa Lucia Foundation, Rome	Scientific advice at the Research Institute

Vlc- Research Experience in qualified International Institutions

Years	Institution	Position
1993, 1994, 1995	Frontier Research Program (chief of the lab. Prof. E.G. Jones), RIKEN Institute, Wako, Saitama, Japan	Visiting Researcher
1993,1994	Institute of Anatomy and Neurobiology (chief of the lab. Prof. E.G. Jones), University of California Irvine, Irvine, CA, USA	Visiting Researcher

Vld- Scientific Collaborations

<ul style="list-style-type: none"> - Neuroimaging Laboratory, IRCCS Santa Lucia Foundation, Rome, Italy - Psychology Department, Catholic University, Milan, Italy - Neuroscience Department, Catholic University, Rome, Italy - Center for Mind/Brain Sciences, University of Trento, Italy - Neurological and Spinal Cord Injury Rehabilitation Department A, IRCCS Santa Lucia Foundation, Rome, Italy - Physiology and Pharmacology Department, Sapienza University of Rome, Italy - Clinical Imaging Science Center , Brighton and Sussex Medical School, Brighton , UK. - Centre de Neuroscience Cognitive, Centre National de la Recherche Scientifique (CNRS), Lyon France - Sobell Department of Motor Neuroscience and Movement Disorders- UCL Institute of Neurology – London - Department of Anatomy and Neurobiology, University of California, Irvine - Laboratory for Neural Systems, Frontier Research Program

Part VII – Summary of Scientific Achievements

Total Impact factor	249,476
Total Citations	Scopus: 3.082; ISI: 2.745; Google Scholar: 4.174.
Average Citations per Product	Scopus: 41,64; ISI: 39,21; Google Scholar: 45,36.
Hirsch (H) index	Scopus: 33; ISI: 31; Google Scholar: 35.