

Maria Morena Curriculum Vitae

Place Rome
Date 29-09-2021

Part I – General Information

Full Name	Maria Morena
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
Pre-graduation training	2009-2010	Sapienza University of Rome; Dept. Physiology and Pharmacology	Master student /tesista sperimentale. Basic research on the effects of drugs of abuse, such as propofol, ketamine and cannabinoids, on learning and memory and emotionality
University graduation	2010	Sapienza University of Rome	Pharmaceutical Chemistry/Chimica e Tecnologia Farmaceutiche - Final grade: <u>110/110 cum laude</u>
Habilitation (PharmD)	2011	Sapienza University of Rome	Board-Certified Pharmacist/abilitazione alla professione di farmacista
Licensure	2011	Istituto Superiore di Sanità	Training on laboratory animal research/Corso base per neolaureati sull'utilizzo degli animali da laboratorio in campo biomedico
Pre-doctorate training	2012	Dept. of Anaesthesiology, Ludwig-Maximilian University, Munich, Germany	Research Internship ; Basic research on the effects of drugs of abuse, such as ketamine and propofol on memory processes. Laboratory of Prof. Gustav Schelling
Licensure	2013	University of Calgary (Canada)	Training course on rat husbandry, handling and procedures
Pre-doctorate training	2013	University of Calgary (Canada)	Research Internship ; Basic research on cannabinoid interference with memory and neuroendocrine stress response; Laboratory of Prof.

			Matthew N. Hill
PhD	2014	Sapienza University of Rome; Dept. Physiology and Pharmacology	Toxicology (SSD BIO/14). Doctoral Dissertation: “ <i>The endocannabinoid system: A key modulator of stress effects on memory</i> ”
Post-doctorate training	2014	University of Roma Tre, Rome	Research Internship on the effects of cannabinoids on social interaction and emotionality at different developmental ages
Licensure	2014	University of Calgary (Canada)	Training course on basic surgery for research animals
Post-doctorate training	2014-2020	University of Calgary (Canada)	Post-doctoral/research fellow. Basic and clinical research activity on the effects of cannabinoids in memory, emotionality and stress-related disorders.
Habilitation to professorship (ASN)	2019	MIUR	Italian scientific habilitation to associate professorship in Pharmacology, Clinical Pharmacology and Pharmacognosy (Abilitazione Scientifica Nazionale - Seconda Fascia Settore Concorsuale 05/G1 Farmacologia, Farmacologia Clinica e Farmacognosia)

Part III – Appointments

Start	End	Institution	Position
Jan 2021	Aug 2023	Fondazione Santa Lucia, IRCCS	Researcher/Ricercatore in convenzione
Dec 2020	Nov 2021	Sapienza University of Rome, Dept. of Physiology and Pharmacology “V. Erspamer”	Seal of SAPIExcellence fellow SSD BIO/14, SC 05/G1
Apr 2019	Nov 2020	University of Calgary (Canada), Dept. of Cell Biology and Anatomy	Post-doctoral Associate/Senior fellow
Apr 2014	Mar 2019	University of Calgary (Canada), Dept. of Cell Biology and Anatomy	Post-doctoral fellow
Mar 2014	Apr 2014	University of Roma Tre, Dept. of Sciences	Research internship
Feb 2014	Mar 2014	Sapienza University of Rome, Dept. of Physiology and Pharmacology “V. Erspamer”	Research internship
Apr 2013	Oct 2013	University of Calgary (Canada), Dept. of Cell Biology and Anatomy	Research internship (PhD student)

Oct 2012	Nov 2012	Ludwig-Maximilian University, Munich, (Germany), Dept. of Anaesthesiology	Research internship (PhD student)
Nov 2010	Feb 2014	Sapienza University of Rome, Dept. of Physiology and Pharmacology “V. Erspamer”	PhD student
Feb 2009	Oct 2010	Sapienza University of Rome, Dept. of Physiology and Pharmacology “V. Erspamer”	Master student

Leave of absence: January 2020-November 2020 – Maternity Leave

Part IV – Teaching/Academic Supervising experience

IVA – Teaching experience

Year	Institution	Lecture/Course
2021	Sapienza University of Rome	Course of Pain management; Graduate Specialization School in Hospital Pharmacy. SSD BIO/14. 1 CFU; 8 h; Lecturer/Examining board president/Titolare del corso
2021	Sapienza University of Rome	Course of Toxicology; Graduate Specialization School in Chemical Risk Assessment and Management. SSD BIO/14; 2 CFU; 16 h; Lecturer/ Examining board president/Titolare del corso
2021	Sapienza University of Rome	Course of Pharmacology and Toxicology – Seminar on “Therapeutic applications of Cannabis”; 2h. Master Course in Pharmaceutical Chemistry, Faculty of Medicine and Pharmacy. Assistant Lecturer/attività seminariale
2020-present	Sapienza University of Rome	Exam committee member - Expert in the field of “ Pharmacology and Pharmacognosy ” (Cultore della materia – membro commissione di esame: “Farmacologia e Farmacognosia”)
2020-present	Sapienza University of Rome	Exam committee member - Expert in the field of “ Toxicology ” (Cultore della materia – membro commissione di esame: “Tossicologia”)
2020-present	Sapienza University of Rome	Exam committee member - Expert in the field of “ Special Pharmacology and Pharmacotherapy ” (Cultore della materia – membro commissione di esame: “Farmacologia Speciale e Farmacoterapia”)
2020-present	Sapienza University of Rome	Exam committee member - Expert in the field of “ General and Molecular Pharmacology ” (Cultore della materia –

		membro commissione di esame: “Farmacologia Generale e Molecolare”)
2015	University of Calgary (Canada)	Graduate Course Neuro II - Lecture on “ <i>Stress and Reward</i> ”; 2h - PhD course in Neuroscience. Assistant Lecturer
2012-2013	Sapienza University of Rome	Course of Pharmacology and Toxicology ; Lectures on “ <i>Toxicity during breastfeeding</i> ”; <i>Cannabinoids</i> ”; 4h. Master Course in Pharmacy, Faculty of Medicine and Pharmacy, Sapienza University of Rome. Assistant Lecturer
2011-2012	Sapienza University of Rome	Course of Toxicology ; Lecture on “ <i>Toxicity during breastfeeding</i> ”; 2h. Master Course in Pharmacy, Faculty of Medicine and Pharmacy, Sapienza University of Rome. Assistant Lecturer

IVB – Academic Mentoring and Supervising experience

Year	Institution	Notes (student; title of the project/thesis,...)
2021-present	Santa Lucia Foundation (IRCSS)	PhD Co-tutor, PhD in Pharmacology and Toxicology ; thesis project on <i>the effects of psychostimulant drugs on mechanisms of fear memory generalization and neuronal circuits involved in the development of trauma-related disorders</i> ; PhD student: Eleonora Riccardi
2021-present	Santa Lucia Foundation (IRCSS)	PhD Co-tutor, PhD in Pharmacology and Toxicology ; thesis project on <i>the effects of cannabinoids on mechanisms of fear memory formation and extinction involved in the pathophysiology of trauma-related disorders</i> ; PhD student: Eleonora Blasi
2020-present	Sapienza University of Rome	MSc Thesis committee member and co-supervisor , thesis in <u>Pharmacology</u> . Title of the thesis: <i>Post-traumatic stress disorder and comorbidities: evaluation of emotional alterations and hormonal stress response in female rats susceptible or resilient to develop trauma-related disorders</i> ; student Alessia Milione
2020-present	Sapienza University of Rome	MSc Thesis committee member and co-supervisor , thesis in <u>Pharmacology</u> . Title of the thesis: <i>Post-traumatic stress disorder and comorbidities: evaluation of emotional alterations in male animal models of susceptibility and resilience to develop trauma-related disorders</i> ; student Arianna Pisaneschi
2020-2021	Sapienza University of Rome	MSc Thesis committee member and co-supervisor , thesis in <u>Toxicology</u> . Title of

		the thesis: <i>Effects of the psychostimulants amphetamine and MDPV on memory and ultrasonic vocalizations in adult rats</i> ; student Livia D'Alfonso
2018	University of Calgary (Canada)	Co-evaluator MSDC 528 – Independent Studies in Medical Science , Bachelor of Health Science; Student: Sonia Martins
2017-2018	University of Calgary (Canada)	BSc Thesis co-supervisor, thesis in Neuroscience . Title of the thesis: <i>Sex-Specific Effects of the Endocannabinoid System on Fear Memory Dynamics</i> ; student Andrei Nastase
2017	University of Calgary (Canada)	MSc Thesis external committee member and co-supervisor , thesis in <u>Pharmacology</u> . Title of the thesis: <i>Endocannabinoid modulation of short-term recognition memory in rats: Influence of stress and circadian rhythm</i> ; student Alessia Santori
2014-2020	University of Calgary (Canada)	Co-advisor/post-doc mentor . Students: Rebecca Hay, Kira Leidl, Elizabeth Dunlop, Maya Sohn, Andrei Nastase
2010-2014	Sapienza University of Rome	Co-advisor, MSc Thesis in Pharmacology and Toxicology . Students: Cosima Giaffreda, Chiara Pecci, Veronica Carrara, Andrea Peloso

Part V – Research Activities

Keywords	Brief Description
Cannabinoids	<p>The overarching aim of my research is to investigate the neuropsychopharmacology of synthetic (and endogenous) cannabinoids and other drugs of abuse, such as psychostimulants, ketamine and propofol, in the modulation of memory processes and their interaction with stress and emotional arousal, by using a complementary, pharmacological, biochemical, electrophysiological and behavioral approach, to elucidate mechanisms of trauma- and stress-related psychiatric disorders, and identify potential therapeutic targets for the treatment of these pathologies.</p> <p>Studies performed during my PhD and PDF have led to important contributions to the field: (1) The endocannabinoid anandamide is released after an aversive event in the cortico-limbic circuit where it mediates the formation of a strong memory trace (PNAS 2014; IF.:11.205); (2) Depletion of anandamide in the amygdala reduces anxiety and fear memory expression (J Neurosci 2019; IF:6.167); (3) Enhancing endocannabinoid transmission ameliorates traumatic stress-induced behavioral alterations seen in PTSD (Neuropsychopharmacology 2018, IF:7.853); (4) The endocannabinoid anandamide through activation of vanilloid TRPV1 receptors increases fear responses in females (Br J Pharmacol, 2021, IF: 8.739).</p> <p>Basic and clinical research on the neuropsychopharmacology of cannabinoids In the last 5 years my research has taken a more translational angle moving from basic investigations to clinical studies. I have coordinated and participated to two distinct international collaborations with Dr. Leah Mayo (Linköping University, Sweden) and Dr. J. Cox (University College London, UK) focused on the study of the endogenous cannabinoid system and the potential therapeutic applications of cannabinoid drugs in the treatment of fear-related disorders in humans (published in Br J Anesth (IF: 9.166) and Biol Psychiatry (IF: 13.382). Furthermore, I have been funded, as a PI and National coordinator, a translational research project</p>
Cannabis	
Psychostimulants	
Ketamine	
Propofol	
Fear memory	
Stress	
Fear extinction	
Behavioral neuropsychopharmacology	

aimed at identifying the neural mechanisms by which stress interferes with traumatic memory processes and how cannabinoids regulate these processes in rodents and healthy humans. The ultimate aim of this project is to identify therapeutic cannabinoid targets to treat trauma-related disorders, which will be tested in a clinical trial on PTSD patients in collaboration with Dr. Luca J. Steardo (University of Catanzaro).

Basic research on the neuropsychopharmacology of psychostimulants

In parallel with the studies on cannabinoids, a new separate research line examines the mutual relationship between substance abuse and trauma-related disorders, focusing on the mechanisms by which psychostimulants, such as amphetamine and the synthetic cathinone MDPV (bath salt), interfere with fear memory processes and alter alert signals and communication of danger; documented by the graduation thesis work of the student Livia D’Alfonso (see above, part IVB) and by a recently submitted paper (still under review; see full publication list) for which I am co-senior author.

Basic research on the neuropsychopharmacology of the drugs of abuse ketamine and propofol

This research line examines how ketamine and propofol affect fear memory processes by interacting with the endocannabinoid and the adrenergic system, documented by publications in *Neurobiol Learn Mem*, IF:2.877; *Behav Brain Res*, IF:3.332, *Anesthesiology*, IF:7.892.

Part VI – Management, organization and coordination of research groups and national/international collaborations

VIA – Management, organization and coordination of research groups

Role	Brief Description
Direction/Management/coordination	<p>Direction and coordination of a research group in the Neuropsychopharmacology Lab to which I am affiliated with, headed by Prof. Patrizia Campolongo, at the European Center for Brain Research (Santa Lucia Foundation).</p> <p>This research line focuses on the examination of the effects of drugs of abuse on processes of fear memory formation and fear generalization; documented by: (i) the following publication, where I am co-last author, currently under review: Riccardi E., Blasi E., Zwergel C., Mai A., Morena M. *, Campolongo P. * <i>Sex-dependent effects of amphetamine and the smart drug MDPV on fear memory</i>. Neurosci, under review; and (ii) the Graduation thesis I co-supervised entitled: <i>Effects of the psychostimulants amphetamine and MDPV on memory and ultrasonic vocalizations in adult rats</i>; student Livia D’Alfonso</p> <p>Research group: Eleonora Riccardi, PhD student; Eleonora Blasi, PhD Student; Livia D’Alfonso.</p>
National Direction/Management/coordination	<p>Direction, management and national coordination of a research group in the Neuropsychopharmacology Lab to which I am affiliated with, headed by Prof. Patrizia Campolongo, at the European Center for Brain Research (Santa Lucia Foundation).</p> <p>This translational research line focuses on the investigation of neural mechanisms regulating processes of information contextualization and fear generalization and on the examination of cannabinoid-based therapeutic strategies to treat trauma-related disorders in animal models and humans; funded by the research grant (GR-2019-12369216) that I got as PI (please see above, part VI).</p>

	Research group: Dr. Luca J. Steardo (Università Magna Graecia di Catanzaro); Dr. Antonia Manduca (Università di Roma Tre); Eleonora Riccardi, PhD student; Eleonora Blasi, PhD Student; Arianna Pisaneschi, undergraduate student; Alessia Milione, undergraduate student.
Direction/Management/coordination	Direction, management and coordination of a research group in the Campolongo Lab, at the Dept. of Physiology and Pharmacology, Sapienza University of Rome. This research line focuses on the examination of the interplay between astroglial and neuronal cells in the hippocampus in the modulation of stress- and fear-related memory processes and the effects of cannabinoid in the regulation of these neural mechanisms; documented by the Seal of SAPIExcellence fellowship that I got as PI (please see above, part VI) Research group: Eleonora Riccardi, PhD student; Eleonora Blasi, PhD Student; Arianna Pisaneschi, undergraduate student; Alessia Milione, undergraduate student

VIB – Direction/participation/coordination of national and international collaborations

Role	Name & affiliation of collaborator/description
Direction and coordination	<u>Dr. Luca J. Steardo</u> , Università Magna Graecia di Catanzaro / Topic: <i>Clinical trial on the examination of cannabinoid-based therapeutic strategies to treat trauma-related disorders in PTSD patients</i> ; project funded by the Ministry of Health (GR-2019-12369216) as PI
Direction and coordination	<u>Dr. Antonia Manduca</u> , Università di Roma Tre / Topic: <i>Investigation of neural mechanisms regulating processes of information contextualization and fear generalization and on the examination of cannabinoid-based therapeutic strategies to treat trauma-related disorders in animal models</i> ; project funded by the Ministry of Health (GR-2019-12369216) as PI
Direction and Participation	<u>Prof. Gustav Schelling</u> , Dept. of Anesthesiology, Ludwig-Maximilian University, Munich, Germany / Topic: <i>Effects of ketamine and propofol on learning and memory processes</i> . Documented by the DAAD, German Academic Exchange Service fellowship (€1,000) I was awarded to spend a month at the Schelling lab and by the publications listed below in Part XV (number 3, 19, 33)
Direction and Participation	<u>Dr. Leah Mayo</u> , Linköping University / Topic: <i>Neuropsychopharmacology of cannabinoid-based drugs to alleviate stress-induced emotional and memory alterations in humans</i> . Documented by the publication listed below in Part XV (number 9)
Participation	<u>Dr. J. Cox</u> , University College London / Topic: <i>Case report of a microdeletion in a cannabinoid-related gene and phenotypic consequences</i> . Documented by the publications listed below in Part XV (number 11)
Participation	<u>Prof. Louk Vanderschuren</u> , University of Utrecht, The Netherlands) & <u>Prof. Viviana Trezza</u> , Dept. of Sciences, Università di Roma Tre, Italy / Topic: <i>Effects of cannabinoids on social interaction and emotionality at different developmental ages</i> . Documented by the Roma Tre post-doctoral fellowship (€ 3,000) I was awarded and by the publications listed below in Part XV (number 4, 10, 18, 19, 27, 32)
Participation	<u>Prof. James McGaugh</u> , Center for the Neurobiology of Learning and Memory, Dept. of Neurobiology and Behavior, University of California, Irvine (CA), USA / Topic: <i>Cannabinoid effects on limbic pathways of fear</i>

	<i>memory consolidation</i> . Documented by the publications listed below in Part XV (number 29)
Participation	<u>Prof. Benno Roozendaal</u> , Department of Cognitive Neuroscience, Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center, Nijmegen, The Netherlands / Topic: <i>Cannabinoid effects on limbic pathways of fear memory consolidation</i> . Documented by the publications listed below in Part XV (number 17, 25, 29, 31, 33)
Participation	<u>Prof. David Schriemer</u> , Dept. of Biochemistry and Molecular Biology, University of Calgary, Calgary (AB), Canada / Topic: <i>Development of a method to determine cannabinoid tissue levels</i> . Documented by the publication listed below in Part XV (number 26)
Direction/coordination	<u>Prof. Sheena Josselyn</u> , Sick Children's Research Institute, University of Toronto (ON), Canada / Topic: <i>Evaluation of the role of cannabinoids in stress-induced neuroendocrine and behavioral responses</i> . Documented by the publication listed below in Part XV (number 13)
Coordination	<u>Dr. Zhengping Jia</u> , Dept. of Physiology, Faculty of Medicine, University of Toronto, Toronto (ON), Canada / Topic: <i>Molecular mechanisms of endocannabinoid signaling in the hippocampus</i> . Documented by the publication listed below in Part XV (number 22)
Participation	<u>Dr. Ryan McLaughlin</u> , Washington State University and <u>Prof. Cecilia Hillard</u> , Medical College of Wisconsin / Topic: <i>Endocannabinoid regulation of stress-coping styles</i> . Documented by the publication listed below in Part XV (number 16)

Part VII – Realization/execution of Project Activities

Role	Topic
Direction/coordination/execution	<i>Effects of ketamine and propofol on learning and memory processes and interaction with the endocannabinoid and the adrenergic system</i> . Documented by the DAAD, German Academic Exchange Service fellowship (€1,000), and by the publications listed in Part XVI (number 3, 19, 33)
Direction/coordination/execution	<i>Cannabinoids, endocannabinoids and regulation of stress responses, anxiety, and fear expression</i> . Documented by the Canadian Institutes of Health and Research (CIHR) Postdoctoral national competitive grant, by the Alberta Innovates Health Solutions (AIHS) Postdoctoral competitive grant, and by the publications listed in Part XVI (number 2, 13, 21)
Direction/coordination/execution	<i>Examination of cannabinoid-based therapeutic strategies to treat trauma-related disorders in animal models</i> . Documented by the publication listed in Part XVI (number 18)
Direction/coordination/execution	<i>Examination of the interplay between astroglial and neuronal cells in the hippocampus in the modulation of stress- and fear-related memory processes and the effects of cannabinoid in the regulation these neural mechanisms</i> ; Documented by the Seal of SAPIExcellence fellowship
Direction/coordination	<i>Abuse of psychostimulants, such as amphetamine and the synthetic cathinone MDPV (bath salt), and effects on fear memory processes and danger ultrasonic vocalization communication</i> . Documented by the graduation thesis work of the student Livia D'Alfonso (see above, part IVB) and by a recently submitted paper (still under review; see full

publication list) for which I am co-senior author.
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Part VIII - Society memberships, Awards and Honors

VIIIA – Society memberships

Year	Society
2014	International Cannabinoid Research Society (ICRS)
2014	Society for Neuroscience (SFN)
2015	European Brain and Behaviour Society (EBBS)
2015	Italian Society of Pharmacology (SIF)
2015	Canadian Consortium for the Investigation of Cannabinoids (CCIC)
2015	International Society of Psychoneuroendocrinology (ISPNE)
2016	European Behavioural Pharmacology Society (EBPS)
2016	Mediterranean Neuroscience Society (MNS)
2021	Italian Society of Neuroscience (SINS)

VIIIB – Research prizes, Awards and Honours

Year	Title
2019	GRC Trainee Conference Support to attend the Gordon Research Conference on Cannabinoids 2019 awarded by Gordon Research Conference – Jul 21-26, 2019 (US\$ 200)
2019	GRS Trainee Conference Support to attend the Gordon Research Seminar on Cannabinoids 2019 awarded by Gordon Research Seminar – Jul 20-21, 2019 (US\$ 375)
2019	Seal of Excellence , awarded by the European Commission , as the institution managing the EU Framework Programme for Research and Innovation 2014-2020, for a research project submitted under the Horizon 2020's Marie Skłodowska-Curie actions, individual fellowship 2018 , Mar 19 2019
2019	2018 Postdoctoral Researcher of the Year Award (second place) awarded by the Hotchkiss Brain Institute (University of Calgary)-Jan 2019
2018	ICRS Poster Presentation Award 2018 awarded by the International Cannabinoid Research Society - 28th Annual symposium of the International Cannabinoid Research Society in Leiden (The Netherlands) – Jun 30-Jul 5, 2018 (US\$ 100)
2018	ICRS Travel Award to support the attendance to the 28th Annual symposium of the International Cannabinoid Research Society in Leiden (The Netherlands) – Jun 30-July 5, 2018 (US\$ 500)
2018	Young Research Award 2017 awarded by the Dept. of Physiology and Pharmacology, Sapienza University of Rome-Mar 2018 (€ 2,000)
2018	FENS-IBRO/PERC Travel grant to support the attendance of the 11 th FENS Forum of Neuroscience, Berlin 2018 – Mar 29 2018 (€ 750)
2017	HBI Conference Travel Award awarded by the Hotchkiss Brain Institute, University of Calgary – Nov 8, 2017 (CAN \$ 500)
2017	Otsuka 2017 Prize for Young Scientist awarded by the Italian Society of Pharmacology (SIF) – Oct 27, 2017 (€ 5,000)
2017	GRC Trainee Conference Support to attend the Gordon Research Conference on Cannabinoids 2017 awarded by Gordon Research Conference – Aug 20-25, 2017 (US\$ 500)

2017	GRS Trainee Conference Support to attend the Gordon Research Seminar on Cannabinoids 2017 awarded by Gordon Research Seminar – Aug 19-20, 2017 (US\$ 260)
2017	Mathison Centre Trainee Travel Award to support the attendance to the 6th Conference of the Mediterranean Neuroscience Society awarded by the Mathison Centre for Mental Health Research & Education, University of Calgary, Calgary, Canada – Jul 29, 2017 (CAN\$ 1,000)
2017	ICRS Travel Award to support the attendance to the 27th Annual symposium of the International Cannabinoid Research Society in Montreal (Canada) – Jun 22-27, 2017 (US\$ 350)
2017	MNS2017 Travel Award to support the attendance to the 6th Conference of the Mediterranean Neuroscience Society in Malta – Jun 12-15, 2017 (€ 500)
2017	2016 Postdoctoral Researcher of the Year Award (second place) awarded by the Hotchkiss Brain Institute (University of Calgary)-Jan 2017
2017	HBI Trainee Publication Award 2016 awarded by the Hotchkiss Brain Institute (University of Calgary)-Jan 2017 (CAN\$ 100)
2016	2016 Dr. Hubert van Tol Travel Grant awarded by the Brain Canada Foundation – Sep 2016 (CAN\$ 5,000)
2016	2016 SFN Trainee Professional Development Award awarded by the Society for Neuroscience – Aug 2016 (US\$ 1,000)
2016	ACNP Travel Award awarded by the <i>American College of Neuropsychopharmacology</i> – Jun 2016
2016	ICRS Travel Award to support the attendance to the 26th Annual symposium of the International Cannabinoid Research Society in Bukovina (Poland) – Jun 27-30, 2016 (US\$ 500)
2016	2015 Postdoctoral Researcher of the Year Award (first place) awarded by the Hotchkiss Brain Institute (University of Calgary)-Jan 2016
2016	Young Research Award 2015 awarded by the Dept. of Physiology and Pharmacology, Sapienza University of Rome-Jan 2016 (€ 2,000)
2016	HBI Trainee Publication Award 2015 awarded by the Hotchkiss Brain Institute (University of Calgary)-Jan 2016 (CAN\$ 100)
2015	“SIF-Farindustria-2015” Prize for Young Scientist awarded by the Italian Society of Pharmacology (SIF) – Sep 18, 2015 (€ 5,000)
2015	EBBS Travel Award to attend the EBBS/EBPS meeting 2015 in Verona (Italy) awarded by the European Brain and Behaviour Society (EBBS) – May 25, 2015 (€ 500)
2015	CCIC Trainee Conference Support to attend the Gordon Conference on Cannabinoids 2015 awarded by the Canadian Consortium for the Investigation of Cannabinoids (CCIC) – May 11, 2015 (CAN\$ 1,500)
2015	Outstanding Postdoctoral Research Talk Prize , Canadian Spring Conference on Behaviour and Brain - Feb 19-21, 2015, Fernie (BC), Canada
2014	Mathison Centre Travel Award to support the attendance to the Gordon Conference on Cannabinoids 2015 awarded by the Mathison Centre for Mental Health Research & Education, University of Calgary, Calgary, Canada – Dec 15, 2014 (CAN\$ 1,000)
2014	ICRS Travel Award to support the attendance to the 24th Annual symposium of the International Cannabinoid Research Society in Baveno (Italy) – Jun 28 - Jul 3, 2014 (US\$ 500)
2014	Research fellowship awarded by University of Rome, Rome, Italy-Apr 2014 (€ 3,000)

2014	Eyes High Post-doctoral grant - University of Calgary, Canada – Apr 2014-Mar 2016 (CAN\$ 100,000)
2013	SIF Oral communication prize awarded by the Italian Society of Pharmacology (SIF), 36° Congresso nazionale della società italiana di farmacologia “Il ruolo della ricerca farmacologica per la crescita e la salute in Italia” - Oct 23-26, 2013, Turin, Italy (€ 500)
2013	SIF Research fellowship for PhD students to conduct research for a 6-month period at the University of Calgary, Calgary, Canada (Supervisor Dr. Matthew N. Hill) awarded by the Italian Society of Pharmacology (Società Italiana di Farmacologia, SIF)-Apr 2013-Oct 2013 (€ 6,000)
2013	ICRS Travel Award to support the attendance to the 23rd Annual symposium of the International Cannabinoid Research Society in Vancouver – Jun 21-26, 2013 (US\$ 550)
2012	DAAD Research fellowship for PhD students to conduct research at a German higher education institution (Supervisor Prof. Gustav Schelling) awarded by the German Academic Exchange Service (Deutscher Akademischer Austausch Dienst, DAAD)-Oct 2012 (€ 1,000)
2012	EBBS Travel Award to support the attendance at the Conference “Frontiers in Stress and Cognition: From Molecules to Behavior” – Sep 23-26, 2012, Ascona, Switzerland (€ 300)
2010	Individual three-year fellowship in Pharmacology and Toxicology released by “Sapienza” University of Rome – Nov 2010- Oct 2013 (€ 40,900)

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

Year	Title	Program	Grant value
2021-2024	“Integrating cannabinoids into the treatment of Posttraumatic Stress Disorder: Exploring mechanisms of amygdala-hippocampal communication during information contextualization”- GR-2019-12369216 - PI-principal investigator / National coordinator – First ranked in National scoring	Giovani Ricercatori -Ministero della Salute	€ 449,980
2020-2021	“Endocannabinoid-mediated neuroglial communication and regulation of contextual fear extinction under stress: Implications for the treatment of trauma related disorders” - PI-principal investigator	Seal of SAPIExcellence grant - Sapienza University of Rome	€ 50,000
2016-2019	“Endocannabinoid signaling in the prefrontal cortex-amygdala circuit and the regulation of fear extinction: Implications for PTSD” - PI-principal investigator	Canadian Institutes of Health and Research (CIHR) Postdoctoral national competitive grant	CAN\$ 131,250

2016-2019	“Examination of the role of endocannabinoids in the amygdala-prefrontal cortex circuit during the extinction of aversive memories: Implications for the treatment of post-traumatic stress disorder” - PI-principal investigator	Alberta Innovates Health Solutions (AIHS) Postdoctoral competitive grant	CAN\$ 165,000
2016-2018	“Examination of the role of endocannabinoids in the amygdala-prefrontal cortex circuit during the extinction of aversive memories: Implications for the treatment of post-traumatic stress disorder” - had to decline because of internal University rules since I got a National grant - PI-principal investigator	“Mathison Centre for Mental Health Research & Education” Postdoctoral competitive grant	CAN\$ 110,000
2016-2018	“Examination of the role of endocannabinoids in the amygdala-prefrontal cortex circuit during the extinction of aversive memories: Implications for the treatment of post-traumatic stress disorder” – had to decline because of internal University rules since I got a National grant - PI-principal investigator	“Cumming School of Medicine Postdoctoral Scholarship” Postdoctoral competitive grant	CAN\$ 37,500

Part X – Scientific Journal Editorial and Reviewer Board Member

Role	Journal name	Impact factor 2020
Editorial Board Member - Academic Editor	PLOS ONE	3.240
Editorial Board Member	Applied Sciences	2.679
Review Editor	Frontiers in Behavioral Neuroscience - Behavioral Neuroscience Archive	3.558
Review Editor	Frontiers in Behavioral Neuroscience - Learning and Memory	3.558
Review Editor	Frontiers in Pharmacology - Experimental Pharmacology and Drug Discovery	5.810
Reviewer	Behavioural Pharmacology	2.293
Reviewer	Brain, Behavior and Immunity	7.217

Reviewer	Brain Research Bulletin	4.077
Reviewer	British Journal of Pharmacology	8.739
Reviewer	British Journal of Psychology	4.267
Reviewer	Endocrine	3.633
Reviewer	European Neuropsychopharmacology	4.600
Reviewer	European Journal of Neuroscience	3.386
Reviewer	Experimental and Clinical Psychopharmacology	3.157
Reviewer	Frontiers in Molecular Neuroscience	5.639
Reviewer	Frontiers in Pharmacology - Translational Pharmacology	5.810
Reviewer	Journal of Psychopharmacology	4.153
Reviewer	Molecular Neurobiology	5.590
Reviewer	Neurobiology of Stress	5.441
Reviewer	Neuropharmacology	5.250
Reviewer	Neuropsychopharmacology	7.853
Reviewer	Neuroscience Letters	3.046
Reviewer	Neurotoxicity Research	3.911
Reviewer	Neurotoxicology and Teratology	3.763
Reviewer	Oncotarget	3.765
Reviewer	Physiology and Behavior	3.244
Reviewer	PLoS One	3.240
Reviewer	Psychoneuroendocrinology	4.905

Part XI – Scientific Research and Grant Referee Activity

Role	Program name
Grant reviewer	Canadian Institutes of Health and Research (CIHR) “Doctoral Research Awards – A” National Awards
Evaluator for Medical and health sciences panel	Research and professional activity of research-oriented institutes of the Czech Academy

Part XII – Organization of National/International Scientific Meetings and Symposia

XIIA – Organization of Scientific Meetings

Year	Role	Meeting name/Symposium title
2019	Conference Organizer/Meeting chair -International conference-	Gordon Research Seminar Amygdala Function in Emotion, Cognition & Disease: “Sex Differences, Physiological Mechanisms and Pathological Conditions of the Amygdala” – Aug 3 - 4, 2019, Easton, Massachusetts, USA
2017	Scientific judge committee member -National conference-	Hotchkiss Brain Institute Summer Student Symposium – Aug 15 2017, Calgary (AB), Canada
2017	Scientific Program Committee member	27th Annual International Cannabinoid Research Society

	-International conference-	Conference – Jun 22-27, 2017, Montreal (QB), Canada
2014	Scientific judge committee member -International conference-	24th Annual International Cannabinoid Research Society Conference – Jun 28 - July 3, 2014, Baveno, Italy
2011	Scientific secretariat -International conference-	“The Emotional Brain: From neurobiology to new therapeutic opportunities –Sep 5-6, 2011, Rome, Italy

XIIB – Organization of Symposia

Year	Role	Meeting name/Symposium title
2021	Symposium organizer and chair -National Conference-	19th Congress of the Italian Society for Neuroscience – Sept 9-11, 2021, virtual congress. Under 40 Symposium title: <i>“Exploring the behavioral signature of abnormal brain endocannabinoid signaling”</i>
2019	Symposium organizer -International conference-	7th Mediterranean Neuroscience Society Conference – Jun 23-27, 2019, Marrakech, Morocco. Symposium title: <i>“New perspectives on fear memory-related neuronal networks: Integrating electrophysiological, molecular and behavioral approaches”</i>
2017	Symposium chair -International conference-	27th Annual International Cannabinoid Research Society Conference – Jun 22-27, 2017, Montreal (QB), Canada. <i>“Anxiety, Fear and PTSD”</i> session
2017	Symposium organizer and chair -International conference-	6th Mediterranean Neuroscience Society Conference – Jun 12-15, 2017, Malta. <i>“Neurological mechanisms of the impact of stress on memory and emotionality in health and disease: Insights from animal and clinical studies”</i> oral session
2016	Symposium chair -International conference-	Canadian Spring Conference on Behaviour and Brain – Feb 18-20, 2016, Fernie (BC), Canada. <i>“EEG”</i> oral session
2016	Symposium chair -International conference-	Canadian Spring Conference on Behaviour and Brain – Feb 18-20, 2016, Fernie (BC), Canada. <i>“Facilitating recovery”</i> oral session

Part XIII – Oral communication at National/International Conferences & Academic Institutions

Year	Description	Title & Conference/Academic Institution
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2021	National conference	Morena M. “ <i>Endocannabinoid modulation of stress influence on mechanisms of fear extinction</i> ” invited talk , symposium – 40th National Congress of the Italian Society of Pharmacology (SIF) – Mar 09-13, 2021, Virtual meeting
2019	International conference	Morena M. , Colangeli R., Nastase A. S., Santori A., Teskey G. C., Hill M. N. “ <i>Inhibition of the endocannabinoid anandamide degradation restores stress-mediated impairments of contextual fear memory extinction and hippocampal in vivo long-term synaptic plasticity</i> ” selected talk – Canadian Spring Conference on Behaviour and Brain - Feb 22-24, 2019, Fernie (BC), Canada
2018	International conference	Morena M. , Colangeli R., Nastase A. S., Santori A., Teskey G. C., Hill M. N. “ <i>Inhibition of the endocannabinoid anandamide degradation restores stress-mediated impairments of contextual fear memory extinction and hippocampal in vivo long-term synaptic plasticity</i> ” selected Data Blitz talk - ACNP meeting 2018 – Dec 9-13, 2018, Hollywood (Florida) USA
2018	Academic Institution	Morena M. “ <i>Enhancing endocannabinoid neurotransmission augments the efficacy of extinction training and ameliorates traumatic stress-induced behavioral alterations in rats</i> ”, invited talk – Young Research Award 2017, Dept. Physiology and Pharmacology, Sapienza University of Rome – Aug 12 2018, Rome, Italy
2018	International conference	Morena M. “ <i>Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala paradoxically decreases anxiety and fear memory</i> ” selected lightning talk – The 2018 International Conference on Learning and Memory – Apr 18-22, 2018, Huntington Beach, California, USA
2017	National conference	Morena M. “ <i>Impact of different stress intensities on cognition and emotion: a focus on endocannabinoids</i> ” invited talk, symposium – 38 th National Congress of the Italian Society of Pharmacology (SIF) – Oct 25-28, 2017, Rimini, Italy
2017	International conference	Morena M. , Leidl K. D., Rashid A., Josselyn S. A., Hill M. “ <i>Fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala induces paradoxical effects on anxiety and fear memory in rats</i> ” selected talk – Gordon Research Seminar Cannabinoid function in the CNS - Aug 19-20, 2017, Waterville Valley (NH), USA
2017	International conference	Morena M. , Leidl K. D., Rashid A., Josselyn S. A., Hill M. “ <i>Fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala induces paradoxical effects on anxiety and fear memory in rats</i> ” selected talk – 27 th Annual symposium of the International Cannabinoid Research Society 2017 - Jun 22-27, 2017, Montreal (QB), Canada
2017	International conference	Morena M. “ <i>Modulation of cognition and emotion by the endocannabinoid signaling is dependent on stress and arousal state</i> ” invited talk, symposium – 6 th Conference of the Mediterranean Neuroscience Society 2017 - Jun 12-15, 2017, Malta
2017	International conference	Morena M. “ <i>Paradoxical effects of fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala in anxiety and fear memory in rats</i> ” selected talk – Munich Winter Conference on Stress – Mar 19-22, 2017, Garmisch-Partenkirchen, Germany

2017	International conference	Morena M., Leiti K. D., Rashid A., Josselyn S. A., Hill M. “ <i>Fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala paradoxically decreases anxiety and reduces fear expression in rats</i> ” selected talk – Canadian Spring Conference on Behaviour and Brain - Feb 23-25, 2017, Fernie (BC), Canada
2017	National meeting	Morena M. “ <i>Cannabis and PTSD: From neurobiology to clinical implications</i> ” invited talk - Medical Cannabis & Clinical Research in Canada, Clinical Research Association of Canada – Feb 2, 2017, Calgary (AB), Canada
2016	Academic Institution	Morena M. “ <i>Endocannabinoid modulation of cognition and emotion: Influences of stress and arousal state</i> ” invited talk – HBI Postdoctoral Researcher of the Year, Hotchkiss brain Institute, University of Calgary – May 13, 2016, Calgary (AB), Canada
2016	International conference	Morena M. “ <i>Endocannabinoid modulation of cognition and emotion is influenced by arousal state</i> ” invited talk – Youth Mental Health Day 2016, The Mathison Centre for Mental Health Research and Education, University of Calgary – Mar 7, 2016, Calgary (AB), Canada
2016	Academic Institution	Morena M. “ <i>Training-associated emotional arousal shapes endocannabinoid modulation of spatial memory retrieval in rats</i> ”, invited talk – Young Research Award 2015, Dept. Physiology and Pharmacology, Sapienza University of Rome – Mar 1 2016, Rome, Italy
2015	International conference	Morena M. “ <i>Stress effects on memory: The role of the endocannabinoid system</i> ”, invited talk, symposium – Psychoneuroendocrinology 2015, 61:20; PS4.3.2 - ISPNE Conference: Stress and the Brain, from Fertility to Senility – Sep 8-11, 2015, Edinburgh, Scotland
2015	International conference	Morena M., De Castro V., Gray J. M., Trezza V., Roozendaal B., Hill M. N. and Campolongo P. “ <i>Learning under stress differentially affects cannabinoid modulation of spatial memory retrieval in rats</i> ”, selected talk – Canadian Spring Conference on Behaviour and Brain - Feb 19-21, 2015, Fernie (BC), Canada
2014	International conference	Morena M., Peloso A., Trezza V., Hill M. N. and Campolongo P. “ <i>Learning under stress differentially affects cannabinoid modulation of spatial memory retrieval in rats</i> ”, selected talk – 24 th Annual symposium of the International Cannabinoid Research Society 2014 - Jun 28-Jul 3, 2014, Baveno, Italy
2013	National conference	Morena M., Peloso A., Campolongo P., Cuomo V. “ <i>Context-associated emotional arousal shapes endocannabinoid modulation of spatial memory retrieval in rats</i> ”, selected talk – 36 th Conference of the Italian Society of Pharmacology” - Oct 23-26, 2013, Turin, Italy

Part XIV – Poster presentations at National/International Conferences

Year	Title & Conference
2019	Morena M., Colangeli R., Nastase A. S., Santori A., Teskey G. C., Hill M. N. Increased hippocampal anandamide signaling restores stress-mediated impairments of contextual fear extinction and hippocampal long-term synaptic plasticity - Proceedings of the GRS & GRC Amygdala Function in Emotion, Cognition & Disease – Aug 3-9, 2019, Easton, Massachusetts, USA
2019	Morena M., Colangeli R., Nastase A. S., Santori A., Teskey G. C., Hill M. N. Increased hippocampal anandamide signaling restores stress-mediated impairments

	of contextual fear extinction and hippocampal long-term synaptic plasticity - Proceedings of the GRS & GRC Cannabinoid function in the CNS – Jul 20-26, 2019, Castelldefels, Spain
2018	Morena M. , Colangeli R., Nastase A. S., Santori A., Teskey G. C., Hill M. N. Inhibition of the endocannabinoid anandamide degradation restores stress-mediated impairments of contextual fear memory extinction and hippocampal in vivo long-term synaptic plasticity - Proceedings of the ACNP meeting 2018 – Dec 9-13, 2018, Hollywood (Florida), USA
2018	Morena M. , Aukema R., Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala decreases anxiety and fear memory – Proceedings of the 2018 ICRS – Jun 30-Jul 5, 2018, Leiden, The Netherlands
2018	Shansky R., Morena M. , Nastase A., Colom J., Li A., Hill M. N. Sex-specific effects of endocannabinoid actions on fear conditioning and extinction – Proceedings of the 2018 ICRS – Jun 30-Jul 5, 2018, Leiden, The Netherlands
2018	Leidl K., Morena M. , Santori A., Sohn M., Hill M. N. Modulation of anxiety by the endocannabinoid anandamide signaling in the prefrontal cortex is dependent on the emotional arousal state – Proceedings of the 2018 ICRS – Jun 30-Jul 5, 2018, Leiden, The Netherlands
2018	Colangeli R., Morena M. , Pittman Q. J., Hill M. N., Teskey G. C. Involvement of the endocannabinoid system in the electrophysiological alterations associated with amygdala kindling in rats – Proceedings of the 2018 ICRS – Jun 30-Jul 5, 2018, Leiden, The Netherlands
2018	Vecchiarelli H. A., Morena M. , Sharkey K. A., Hill M. N. Sex differences in the modulation of endocannabinoid content by peripheral inflammation – Proceedings of the 2018 ICRS – Jun 30-Jul 5, 2018, Leiden, The Netherlands
2018	Morena M. , Aukema R., Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala decreases anxiety and fear memory – Proceedings of the FENS 2018 – Jul 7-11, 2018, Berlin, Germany
2018	Morena M. , Aukema R., Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala paradoxically decreases anxiety and fear memory – Proceedings of the 2018 Stress Neurobiology Meeting – Jun 8-11, 2018, Banff, AB, Canada
2018	Morena M. , Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala paradoxically decreases anxiety and fear memory – Proceedings of the 2018 International Conference on Learning and Memory – Apr 18-22, 2018, Huntington Beach, California, USA
2018	Colucci P., Santori A., Morena M. , Palmery M., Trezza V., Hill M.N., Campolongo P. Effects of different post-encoding stress intensities on short-term recognition memory in rats: the endocannabinoid buffering – Proceedings of the 2018 International Conference on Learning and Memory – Apr 18-22, 2018, Huntington Beach, California, USA
2017	Morena M. , Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Overexpression of the endocannabinoid anandamide degrading enzyme in the basolateral amygdala paradoxically decreases anxiety and fear memory – Proceedings of the American College of Neuropsychopharmacology (ACNP) Annual Meeting – Dec 3-7, 2017, Palm Springs, California, USA
2017	Morena M. , Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Fatty acid amide hydrolase overexpression in the basolateral amygdala induces paradoxical effects on anxiety and fear memory in rats – Proceedings of the GRS & GRC Cannabinoid function in the CNS – Aug 20-25, 2017, Waterville Valley, NH, USA
2017	Morena M. , Leidl K.D., Rashid A., Josselyn S. A., Hill M. N. Fatty acid amide

	hydrolase overexpression in the basolateral amygdala paradoxically decreases anxiety and fear memory in rats – Proceedings of the GRS & GRC Amygdala Function in Emotion, Cognition & Disease – Aug 5-11, 2017, Easton, Massachusetts, USA
2016	Morena M. , Leitl K.D., Rashid A., Josselyn S. A., Hill M. N. Fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala induces paradoxical effects on anxiety and fear memory in rats – Proceedings of the American College of Neuropsychopharmacology (ACNP) Annual Meeting – Dec 4-8, 2016, Hollywood, Florida, USA
2016	Berger A., Lugo J., Sticht M., Morena M. , Hill M. N., McLaughlin R. Chronic Unpredictable Stress Exposure Augments Habenular 2-Arachidonoylglycerol Signaling – Proceedings of the American College of Neuropsychopharmacology (ACNP) Annual Meeting – Dec 4-8, 2016, Hollywood, Florida, USA
2016	Morena M. , Leitl K. D., Rashid A., Josselyn S. A., Hill M. N. Fatty acid amide hydrolase overexpression in the basolateral nucleus of the amygdala paradoxically decreases anxiety and reduces fear expression in rats - Proceedings of Neuroscience 2016 – Nov 12-16, 2016, San Diego, USA
2016	Leitl K. D., Morena M. , Vecchiarelli H. A., Gray M. J., Campolongo P., Hill M. N. The anxiolytic effect of elevated 2-arachidonoylglycerol signaling in the basolateral amygdala is mitigated by heightened levels of emotional arousal - Proceedings of Neuroscience 2016 – Nov 12-16, 2016, San Diego, USA
2016	Xia S., Zhou Z., Leung C., Zhu Y., Pan X., Qi J., Morena M. , Hill M. N., Xie W., Jia Z. PAK1 regulates GABAergic synaptic transmission via endocannabinoid signaling in mouse hippocampus - Proceedings of Neuroscience 2016 – Nov 12-16, 2016, San Diego, USA
2016	Atsak P., Morena M. , Schoenmaker C., Hill M. N., Roozendaal B. Hippocampal endocannabinoid signalling mediates the residual effects of early life stress on fear memory - Proceedings of Neuroscience 2016 – Nov 12-16, 2016, San Diego, USA
2016	Vecchiarelli H. A., Morena M. , Sticht M., Keenan C. M., Ho W., Sharkey K. A., Hill M. N. Sustained peripheral inflammation triggers anandamide hydrolysis to promote anxiety - Proceedings of Neuroscience 2016 – Nov 12-16, 2016, San Diego, USA
2016	Morena M. , Leitl K. D., Vecchiarelli H. A., Gray M. J., Campolongo P., Hill M. N. Modulation of anxiety by endocannabinoid signaling in the amygdala is dependent on arousal state - Proceedings of 10 th FENS Forum of Neuroscience - Jul 2-6, 2016, Copenhagen, Denmark
2016	Morena M. , Leitl K. D., Vecchiarelli H. A., Gray M. J., Campolongo P., Hill M. N. Modulation of anxiety by endocannabinoid signaling in the amygdala is dependent on arousal state - Proceedings of 26 th Annual symposium of the International Cannabinoid Research Society 2016 - Jun 27-30, 2016, Bukovina, Poland
2015	Morena M. , Vecchiarelli H. A., Gray J. M., Campolongo P., Hill M. N. Modulation of anxiety by anandamide signaling in the amygdala is dependent on arousal state – Proceedings of Neuroscience 2015 – Oct 17-21, 2015, Chicago, USA
2015	Atsak P., Morena M. , Oomen C. A., Hill M. N., Roozendaal B. Early life stress induces rapid and persistent alterations in limbic endocannabinoid system - Proceedings of Neuroscience 2015 – Oct 17-21, 2015, Chicago, USA
2015	Vecchiarelli H. A., Lee T. T. Y., Morena M. , Gray J. M., Hill M. N. Dynamic endocannabinoid responses to stress are influenced by both sex and stressor intensity - Proceedings of Neuroscience 2015 – Oct 17-21, 2015, Chicago, USA
2015	Morena M. , Vecchiarelli H. A., Gray J. M., Campolongo P., Hill M. N. Emotional arousal state influences anandamide signaling in the amygdala to modulate anxiety – Proceedings of the 7 th European Conference on Cannabinoid Research & IACM 8 th Conference on Cannabinoid in Medicine – Sep 17-19, 2015, Sestri Levante,

	(Genova), Italy
2015	Morena M. , De Castro V., Gray J. M., Palmery M., Trezza V., Roozendaal B., Hill M. N., Campolongo P. Hippocampal monoacylglycerol lipase inhibition selectively impairs memory retrieval of stressful experiences – Proceedings of the EBBS-EBPS Joint Meeting – Sep 12-15, 2015, Verona, Italy
2015	Morena M. , Rashid A., Josselyn S. A., Hill M. N. Paradoxical Effects of Fatty Acid Amide Hydrolase Overexpression in the Basolateral Nucleus of the Amygdala in Anxiety and Fear Memory in rats – Proceedings of the Gordon Research Seminar and Conference “Amygdala in Health & Disease” – Aug 1-8, 2015, Easton MA, USA
2015	Atsak P., Morena M. , Oomen C., Hill M. N., Roozendaal B. Early life stress induces rapid and persistent alterations in limbic endocannabinoid content – Proceedings of IBRO 2015 9 th World Congress – Jun 7-11, 2015, Rio de Janeiro, Brazil
2015	Vecchiarelli H. A., Gandhi C. P., Gray J. M., Morena M. , Hassan K., Hill M. N. Divergent amygdalar and prefrontal cortex delayed inflammatory responses to acute psychological stress exposure – Brain, Behavior and Immunity 2015, 49:e38 - PsychoNeuroImmunology Research Society's 22nd Annual Scientific Meeting – Jun 3-6, 2015, Seattle (WA), USA
2015	Morena M. , Vecchiarelli H. A., Gray J. M., Campolongo P., Hill M. N. Emotional arousal-dependent activation of the endocannabinoid system differentially modulates anxiety behavior in rats – Proceedings of the Gordon Research Conference “Cannabinoid Function in the CNS: From Molecules to Disease Mechanisms” – May 24-29, 2015, Lucca, Italy
2015	Morena M. , De Castro V., Gray J. M., Palmery M., Trezza V., Roozendaal B., Hill M. N., Campolongo P. Training-associated emotional arousal shapes endocannabinoid modulation of spatial memory retrieval in rats – Proceedings of the Gordon Research Conference “Cannabinoid Function in the CNS: From Molecules to Disease Mechanisms” – May 24-29, 2015, Lucca, Italy
2014	Morena M. , Peloso A., Gray J. M., Trezza V., Hill M. N. Campolongo P. The endocannabinoid system differentially modulates spatial memory retrieval depending on stress level at encoding - Proceedings of Neuroscience 2014 – Nov 14-19, 2014, Washington D.C., USA
2014	Vecchiarelli H. A., Gray J. M., Hassan K. I., Gandhi C. P., Morena M. , Hill M. N. Acute psychological stress-induced circulating and central cytokine production - Proceedings of Neuroscience 2014 – Nov 14-19, 2014, Washington D.C., USA
2014	Gray J. M., Vecchiarelli H. A., Lee T. T. Y., Morena M. , Hermanson D. J., Kim A., McLaughlin R. J., Hassan K., Kuhne C., Wotjack C. T., Deussing J. M., Patel S., Hill M. N. Corticotropin-releasing hormone drives anandamide hydrolysis in the amygdala to promote anxiety - Proceedings of Neuroscience 2014 – Nov 14-19, 2014, Washington D.C., USA
2013	Morena M. , Hauer D., Trezza V., Peloso A., Atsak P., Cuomo V., Roozendaal B., Schelling G., Campolongo P. The basolateral complex of amygdala interacts with the hippocampus and the medial prefrontal cortex in modulating endocannabinoid effects on memory consolidation for emotionally arousing experiences – Proceedings of Neuroscience 2013 – Nov 9-13, 2013, San Diego, California, USA
2013	Morena M. , Peloso A., Palmery M., Campolongo P., Cuomo V. Effects of clinically used sedative/anesthetic drugs on memory for aversive experiences in rats – Proceedings of 36 ^o Congresso nazionale della società italiana di farmacologia “Il ruolo della ricerca farmacologica per la crescita e la salute in Italia” - Oct 23-26, 2013, Turin, Italy
2013	Peloso A., Morena M. , Ratano P., Hauer D., Trezza V., Cuomo V., Schelling G., Campolongo P. Endocannabinoid modulation of memory consolidation: the crucial role of the basolateral complex of the amygdala – Proceedings of XV National congress of the Italian society of neuroscience – Oct 3-5, 2013, Rome,

	Italy
2013	Morena M. , Hauer D., Trezza V., Peloso A., Atsak P., Cuomo V., Roozendaal B., Schelling G., Campolongo P. Endocannabinoids enhance memory consolidation of emotionally arousing experiences: key role of the basolateral complex of the amygdala – Proceedings of 23 rd Annual symposium of the International Cannabinoid Research Society 2013 - Jun 21-26, 2013, Vancouver, Canada
2013	Morena M. , Hauer D., Trezza V., Peloso A., Atsak P., Cuomo V., Roozendaal B., Schelling G., Campolongo P. Endocannabinoids enhance memory consolidation of emotionally arousing experiences: key role of the basolateral complex of the amygdala – Proceedings of 9 th Annual HBI Research day - Jun 5, 2013, Calgary, Canada
2012	Morena M. , Trezza V., Scaccianoce S., Peloso A., Cuomo V., Roozendaal B., Campolongo P. Training-associated emotional arousal differentially modulates cannabinoid effects on recognition memory and adrenocortical activity in rats – Proceedings of “Frontiers in Stress and Cognition: From Molecules to Behavior” - Sep 23-26, 2012, Ascona, Switzerland
2012	Morena M. , Campolongo P., Cuomo V. Interaction between cannabinoids and glucocorticoids in the modulation of recognition memory in rats - Proceedings of 16 ^o Seminario SIF Dottorandi e Assegnisti di Ricerca - Sep 16-19, 2012, Rimini, Italy
2012	Morena M. , Trezza V., Ratano P., Bedetta M.C., Campolongo P., Cuomo V. Basolateral amygdala interacts with other brain regions in regulating endocannabinoid effects on memory for emotionally arousing experiences - Proceedings of Convegno monotematico “Cannabinoidi: presente e futuro” - Sep 14-15, 2012, Ferrara, Italy
2012	Morena M. , Trezza V., Scaccianoce S., Pasquale A., Cuomo V., Schelling G., Roozendaal B., Campolongo P. Cannabinoid modulation of object recognition memory in rats: involvement of the glucocorticoid system- Proceedings of 22 th Annual symposium of the International Cannabinoid Research Society - Jul 22-27, 2012, Freiburg, Germany
2012	Morena M. , Hauer D., Ratano P., Scaccianoce S., Trezza V., Pecci C., Atsak P., Cuomo V., Roozendaal B., Schelling G., Campolongo P. The endocannabinoid system and the regulation of memory consolidation for emotionally arousing experiences - Proceedings of 8 th FENS Forum of Neuroscience - Jul 14-18, 2012, Barcelona, Spain
2012	Morena M. , Hauer D., Ratano P., Carrara V., Roozendaal B., Cuomo V., Schelling G., Campolongo P. The anesthetic propofol enhances memory consolidation of stressful events via an interaction with the endocannabinoid system - Proceedings of Open format school “Drugs and the Brain: an Update in Psychopharmacology from Experimental to Clinic” - Apr 15-20, 2012, Braga, Portugal
2011	Morena M. , Trezza V., Scaccianoce S., Palmery M., Roozendaal B., Campolongo P., Cuomo V. Cannabinoid effects on object recognition memory depend on training-associated emotional arousal- Proceedings of Convegno monotematico “I cannabinoidi: dalla biologia alla clinica” - Sep 29-30, 2011, Cagliari, Italy
2011	Morena M. , Trezza V., Ratano P., Pecci C., Palmery M., Campolongo P., Cuomo V. Inhibition of fatty acid amide hydrolase in the rat limbic system enhances consolidation of memory for emotionally arousing events – Proceedings of 35 ^o congresso nazionale della società italiana di farmacologia “Il farmaco: dalla ricerca alla salute dell’uomo” - Sep 14-17, 2011, Bologna, Italy
2011	Morena M. , Hauer D., Ratano P., Palmery M., Roozendaal B., Cuomo V., Schelling G., Campolongo P. Should propofol anesthesia be used shortly after a patient experiences a stressful event? - Proceedings of “The Emotional Brain: from neurobiology to new therapeutic opportunities” - Sep 5-6, 2011, Rome, Italy
2011	Ratano P., Morena M. , Manduca A., Miele J., Trezza V., Scattoni M.L., Palmery

	M., Campolongo P., Cuomo V. The endocannabinoid transport inhibitor AM404 differentially modulates emotionality and short-term memory depending on environmental aversiveness - Proceedings of “The Emotional Brain: from neurobiology to new therapeutic opportunities” - Sep 5-6, 2011, Rome, Italy
2011	Manduca A., Morena M. , Campolongo P., Carrara V., Palmery M., Cuomo V., Vanderschuren L.J.M.J., Trezza V. Effects of the dual FAAH-MAGL inhibitor JZL195 in the regulation of emotionality in adolescent and adult rats - Proceedings of “The Emotional Brain: from neurobiology to new therapeutic opportunities” - Sep 5-6, 2011, Rome, Italy
2011	Ratano P., Trezza V., Morena M. , Manduca A., Miele J., Campolongo P., Cuomo V. Effects of central administration of the indirect cannabinoid agonist URB597 in the modulation of emotional memory in rats. European Neuropsychopharmacology Volume 21, Supplement 3, Pages S342–S343, Sep 2011 – 24th ECNP Congress - September 3–7, 2011 Paris, France

Part XV - Scientific Dissemination and Citations in National and International Newspapers or Web Portals

Year	Description	Title & URL
2016	On line article - UToday	“ <i>Struggling to forget: Memory researcher studies PTSD causes and cure</i> ”; UToday (University of Calgary on line news service), Mar 17 2016. https://www.ucalgary.ca/utoday/issue/2016-03-17/struggling-forget-memory-researcher-studies-ptsd-causes-and-cure
2016	Newspaper article - Calgary Herald	“ <i>U of C studies marijuana link to possible PTSD cure</i> ”; Calgary Herald , Mar 17 2016 http://calgaryherald.com/health/u-of-c-studies-marijuana-link-to-possible-ptsd-cure
2016	Newspaper article – Calgary Sun	“ <i>Testing pot to help PTSD</i> ”; Calgary Sun , March 17 2016
2016	On line video interview - AIHS channel	“ <i>Maria Morena, PhD</i> ”; AIHS Channel , March 17 2016 https://www.youtube.com/watch?v=o5OgFcyn2I4&feature=youtu.be
2016	On line article – Onda News	“ <i>Premi e riconoscimenti per una ricercatrice di Teggiano. Il Canada incorona Maria Morena</i> ”; Italia2TV , March 29 2016. http://www.italia2tv.it/2016/03/29/premi-riconoscimenti-ricercatrice-teggiano-canada-incorona-maria-morena/
2016	On line article – La Mosca del Mattino	“ <i>Un Vallo di cervelli (in fuga): Maria Morena</i> ”; La Mosca del Mattino-Blog , March 29 2016. https://passorrentino.wordpress.com/2016/03/29/un-vallo-di-cervelli-in-fuga-maria-morena/
2016	Radio interview – Radio Alfa	“ <i>Salernitani nel Mondo: la ricercatrice Maria Morena in Canada studia i meccanismi dei ricordi</i> ”, March 30 2016. https://www.youtube.com/watch?v=zFHIPPrZlbg
2016	Radio interview - CKUA	CKUA , Edmonton (AB), Canada. Program: Innovation Anthology. Title: “ <i>Brain research into PTSD memories</i> ”, April 5 2016
2016	Magazine article – Apple Magazine	“ <i>Wiping out the fear, using our brain chemistry to help battle PTSD</i> ”. Apple magazine , Summer 2016, issue 22, page 37. http://www.applemag-digital.com/applemag/summer_2016?pg=37#pg37

Part XVI – Total Peer Reviewed Scientific Publications

1. Farrell J.S., Colangeli R., Dong A., George A.G., Addo-Osafo K., Kingsley P.J., **Morena M.**, Wolff M.D., Dudok B., He K., Patrick T.A., Sharkey K.A., Patel S., Marnett L.J., Hill M.N., Li Y., Teskey G.C., Soltesz I. *In vivo endocannabinoid dynamics at the timescale of physiological and pathological neural activity*. **Neuron** 2021; 109:2398-403. Article selected for cover page. **IF2020: 17.173; cit. (Scopus): 0**
**Responsible for the coordination and execution of the experiments related to the endocannabinoid extraction.
2. **Morena M.***, Nastase A.S., Santori A., Shansky R., Hill M.N. *Sex-dependent effects of endocannabinoid modulation of conditioned fear extinction in rats*. **British Journal of Pharmacology** 2021; 178:983-96. **IF2020: 8.739; cit. (Scopus): 6.** *corresponding author.
3. **Morena M.**, Colucci P., Mancini G.F., De Castro V., Peloso A., Schelling G., Campolongo P. *Ketamine anesthesia enhances fear memory consolidation via noradrenergic activation in the basolateral amygdala*. **Neurobiology of Learn and Memory** 2020; 178: 107362. **IF2020: 2.877; cit. (Scopus): 2**
4. Mancini G.F., Marchetta E., Riccardi E., Trezza V., **Morena M.**, Campolongo P. *Sex-divergent long-lasting effects of single prolonged stress in adult rats*. **Behav Brain Res** 2021, 401:113096. **IF2020: 3.332; cit. (Scopus): 0**
5. Vecchiarelli H.A., **Morena M.**, Keenan C.M., Chiang V., Tan K., Qiao M., Leidl K., Santori A., Pittman Q.J., Sharkey K.A., Hill M.N. *Comorbid Anxiety-Like Behavior in a Rat Model of Colitis is Mediated by an Upregulation of Corticolimbic Fatty Acid Amide Hydrolase*. **Neuropsychopharmacology** 2021, 46:992-1003. **IF2020: 7.853; cit. (Scopus): 1**
**Responsible for part of the behavioral experiments and surgeries.
6. Santori A., **Morena M.**, Hill M.N., Campolongo P. *Hippocampal 2-arachidonoyl glycerol signaling regulates time-of-day- and stress-dependent effects on rat short-term memory*. **Int J Mol Sci** 2020; 21:7316. **IF2020: 5.923; cit. (Scopus): 2**
7. Colangeli R., **Morena M.**, Pittman Q.J., Hill M.N., Teskey G.C. *Anandamide signalling augmentation rescues amygdala synaptic function and comorbid emotional alterations in a model of epilepsy*. **J Neurosci** 2020; 40:6068-6081. **IF2020: 6.167; cit. (Scopus): 6**
8. Yasmin F., Colangeli R., **Morena M.**, Filipski S., van der Stelt M., Pittman Q.J., Hillard C.J., Teskey G.C., McEwen B.S., Hill M.N., Chattarji S. *Stress-induced modulation of endocannabinoid signalling leads to delayed strengthening of synaptic connectivity in the amygdala*. **Proc Natl Acad Sci U S A** 2020; 117:650-655. **IF2020: 11.205; cit. (Scopus): 22**
**Responsible for the coordination and execution of the experiments related to the brain endocannabinoid extraction.
9. Mayo L.M., Asratian A., Lindé J., **Morena M.**, Haataja R., Hammer V., Augier G., Hill M.N., Heilig M. *Elevated anandamide, enhanced recall of fear extinction, and attenuated stress responses following inhibition of fatty acid amide hydrolase (FAAH): a randomized, controlled experimental medicine trial*. **Biol Psychiatry** 2020; 87:538-547. **IF2020: 13.382; cit. (Scopus): 50**
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10. Santori A., Colucci P., Mancini G.F., **Morena M.**, Trezza V., Palmery M., Puglisi-Allegra S., Hill M.N., Campolongo P. *Anandamide modulation of circadian- and stress-dependent effects on rat short-term memory*. **Psychoneuroendocrinology** 2019; 108:155-162. **IF2020: 4.905; IF2019: 4.732; cit. (Scopus): 9**

11. Habib A.M., Okorokov A.L., Hill M.N., Bras J.T., Lee M., Li S., Gossage S.J., van Drimmelen M., **Morena M.**, Houlden H., Ramirez J.D., Bennett D.L.H., Srivastava D., Cox J.J. *Microdeletion in a FAAH pseudogene identified in a patient with high anandamide concentrations and pain insensitivity*. **Br J Anaesth** 2019; 123:e249-e253. **IF2020: 9.166; IF2019: 6.880; cit. (Scopus): 37**
**Responsible for the coordination and execution of the experiments related to the endocannabinoid extraction.
Press release on “The New York Times” URL:
<https://www.nytimes.com/2019/03/28/health/woman-pain-anxiety.html?smid=nytcore-ios-share>
12. **Morena M.** and Hill M.N. *Buzzkill: the consequences of depleting anandamide in the hippocampus*. **Neuropsychopharmacology** 2019, 44:1347-1348. **IF2020: 7.853; IF2019: 6.751; cit. (Scopus): 0**
13. **Morena M.**,* Aukema R.J., Leidl K.D., Rashid A.J., Vecchiarelli H.A., Josselyn S.A., Hill M.N. *Upregulation of anandamide hydrolysis in the basolateral complex of amygdala reduces fear memory expression and indices of stress and anxiety*. **J Neurosci** 2019; 39:1275–1292. **IF2020: 6.167; IF2019: 5.673; cit. (Scopus): 26. *corresponding author**
14. Sticht MA., Lau DJ., Keenan CM., Cavin JB., **Morena M.**, Vemuri VK., Makriyannis A., Cravatt BF., Sharkey KA., Hill MN. *Endocannabinoid regulation of homeostatic feeding and stress-induced alterations in food intake in male rats*. **Br J Pharmacol** 2019; 176:1524-1540. **IF2020: 8.739; IF2019:7.730; cit. (Scopus): 8**
15. Ratano P., Petrella C., Forti F., Petrocchi Passera P., **Morena M.**, Palmery M., Trezza V., Severini C., Campolongo P. *Pharmacological inhibition of 2-arachidonolglycerol hydrolysis enhances memory consolidation in rats through CB2 receptor activation and mTOR signaling modulation*. **Neuropharmacology** 2018; 138:210-218. **IF2020: 5.250; IF2018: 4.367; cit. (Scopus): 24**
16. Berger A.L., Henricks A.M., Lugo J.M., Wright H.R., Warrick C.R., Sticht M.A., **Morena M.**, Bonilla I., Laredo S.A., Craft R.M., Parsons L.H., Grandes P.R., Hillard C.J., Hill M.N., McLaughlin R.J. *The lateral habenula directs coping styles under conditions of stress via recruitment of the endocannabinoid system*. **Biol Psychiatry** 2018; 84:611-623. **IF2020: 13.382; IF2018: 11.501; cit. (Scopus): 14**
**Responsible for the coordination and execution of the experiments related to the enzymatic activity analyses.
17. Atsak P., **Morena M.**, Schoenmaker C., Tabak E., Oomen C., Jamil S., Hill M.N., Roozendaal B. *Glucocorticoid-endocannabinoid uncoupling mediates fear suppression deficits after early – life stress*. **Psychoneuroendocrinology** 2018; 91:41-49. **IF2020: 4.905; IF2018: 4.013; cit. (Scopus): 11**
18. **Morena M.**, Berardi A., Colucci P., Palmery M., Trezza V., Hill M.N., Campolongo P. *Enhancing endocannabinoid neurotransmission augments the efficacy of extinction training and ameliorates traumatic stress-induced behavioral alterations in rats*. **Neuropsychopharmacology** 2018; 43:1284-96. **IF2020: 7.853; IF2018: 7.160; cit. (Scopus): 36**
19. **Morena M.**,* Berardi A., Peloso A., Valeri D., Palmery M., Trezza V., Schelling G., Campolongo P. *Effects of ketamine, dexmedetomidine and propofol anesthesia on emotional memory consolidation in rats: Consequences for the development of posttraumatic stress disorder*. **Behav Brain Res** 2017; 329:215-220. **IF2020: 3.332; IF2017: 3.173; cit. (Scopus): 22. *corresponding author**
20. Silveira M.M., Adams W.K., **Morena M.**, Hill M.N., Winstanley C.A. *Δ9-Tetrahydrocannabinol decreases willingness to exert cognitive effort in male rats*. **J Psychiatry Neurosci** 2017; 42:131-138. **IF2020: 6.186; IF2017: 4.770; cit. (Scopus): 10**

21. **Morena M.**, Leitl K. D., Vecchiarelli H. A., Gray J. M., Campolongo P., Hill M. N. *Emotional arousal state influences the ability of amygdalar endocannabinoid signaling to modulate anxiety.* **Neuropharmacology** 2016; 111:59-69. **IF2020: 5.250; IF2016: 5.012; cit. (Scopus): 43**
22. Xia S., Zhou Z., Leung C., Zhu Y., Pan X., Qi J., **Morena M.**, Hill M. N., Xie W., Jia Z. *p21-activated kinase 1 restricts tonic endocannabinoid signaling in the hippocampus.* **eLife** 2016; pii:e14653. **IF2020: 8.140; IF2016: 7.725; cit. (Scopus): 15**
**Responsible for the coordination and execution of the experiments related to the endocannabinoid extraction.
23. **Morena M.**, Patel S., Bains J. S., Hill M. N. *Neurobiological interactions between stress and the endocannabinoid system.* **Neuropsychopharmacology** 2016; 41:80-102. **IF2020: 7.853; IF2016: 6.403; cit. (Scopus): 261**
24. Vecchiarelli H. A., Gandhi C. P., Gray J. M., **Morena M.**, Hassan K., Hill M. N. *Divergent responses of inflammatory mediators within the amygdala and medial prefrontal cortex to acute psychological stress.* **Brain Behavior and Immunity**, 2016; 51:70-91. **IF2020: 7.217; IF2016: 5.964; cit. (Scopus): 22**
25. **Morena M.**,* De Castro V., Gray M.J., Palmery M., Trezza V., Roozendaal B., Hill M.N. and Campolongo P. *Training associated-emotional arousal shapes endocannabinoid modulation of spatial memory retrieval in rats.* **J Neurosci** 2015; 35:13962-74. **IF2020: 6.167; IF2015: 5.924; cit. (Scopus): 46.** *corresponding author
26. Qi M., **Morena M.**, Vecchiarelli H. A., Hill M. N., Schriemer D. C. *A robust capillary liquid chromatography/tandem mass spectrometry method for quantitation of neuromodulatory endocannabinoids.* **Rapid Commun Mass Spectrom** 2015; 29:1889-97. **IF2020: 2.419; IF2015: 2.226; cit. (Scopus): 30**
27. Manduca A., **Morena M.**, Campolongo P., Servadio M., Palmery M., Trabace L., Hill M.N., Vanderschuren L.J.M.J, Cuomo V., Trezza V. *Distinct roles of the endocannabinoids anandamide and 2-arachidonoylglycerol in social behavior and emotionality at different developmental ages in rats.* **Eur Neuropsychopharmacol** 2015, 25:1362-74. **IF2020: 4.600; IF2015: 4.409; cit. (Scopus): 36**
28. Gray J.M., Vecchiarelli H.A., **Morena M.**, Lee T.T.Y., Hermanson D., Kim A.B., McLaughlin R.J., Hassan K., Kühne C., Wotjak C.T., Deussing J.M., Patel S., Hill M.N. *Corticotropin releasing hormone drives anandamide hydrolysis in the amygdala to promote anxiety.* **J Neurosci** 2015; 35:3879-92. **IF2020: 6.167; IF2015: 5.924; cit. (Scopus): 128**
**Responsible for the behavioral and surgery experiments related to the central endocannabinoid manipulation and testing of anxiety-like behavior.
29. **Morena M.**, Roozendaal B., Trezza V., Ratano P., Peloso A., Hauer D., Atsak P., Trabace L., Cuomo V., McGaugh J.L., Schelling G. and Campolongo P. *Endogenous cannabinoid release within prefrontal-limbic pathways affects memory consolidation of emotional training.* **Proc Natl Acad Sci U S A** 2014; 111:18333-8. **IF2020: 11.205; IF2014: 9.674; cit. (Scopus): 86**
30. **Morena M.** and Campolongo P. *The endocannabinoid system: An emotional buffer in the modulation of memory function.* **Neurobiology of Learning and Memory** 2014; 112:30-43. **IF2020: 2.877; IF2014: 3.652; cit. (Scopus): 94**
31. Campolongo P.*, **Morena M.***, Scaccianoce S., Trezza V., Chiarotti F., Schelling G., Cuomo V., Roozendaal B. *Novelty-induced emotional arousal modulates cannabinoid effects on recognition memory and adrenocortical activity.* **Neuropsychopharmacology.** 2013; 38:1276-86. *equal contribution. **IF2020: 7.853; IF2013: 7.833; cit. (Scopus): 54**

32. Trezza V., Campolongo P., Manduca A., **Morena M.**, Palmery M., Vanderschuren L.J.M.J., Cuomo V. *Altering endocannabinoid neurotransmission at critical developmental ages: impact on rodent emotionality and cognitive performance*. **Frontiers in Behavioral Neuroscience**. 2012; 6:2. **IF2020: 3.558; IF2012: 4.758; cit. (Scopus): 44**
33. Hauer D., Ratano P., **Morena M.**, Scaccianoce S., Briegel I., Palmery M., Cuomo V., Roozendaal B., Schelling G., Campolongo P. *Propofol enhances memory formation via an interaction with the endocannabinoid system*. **Anesthesiology**. 2011; 114:1380-8. **IF2020: 7.892; IF2011: 5.359; cit. (Scopus): 48**
**Responsible for the behavioral pharmacology experiments examining the cannabinoid-propofol interaction.

Under review

1. Riccardi E., Blasi E., Zwergel C., Mai A., **Morena M.**,* Campolongo P.* *Sex-dependent effects of amphetamine and the smart drug MDPV on fear memory*. **Neurosci**, under review; *co-senior authorship
2. Vecchiarelli H.A., Aukema R., Hume C., Chiang V., **Morena M.**, Keenan C.M., Nastase A., Lee F.S., Pittman G.J., Sharkey K.A. & Hill M.N. *Genetic Variants of Fatty Acid Amide Hydrolase Modulate Acute Inflammatory Responses to Colitis in Adult Male Mice*. **Frontiers in Cellular Neuroscience**, under review.

Part XVII – Book chapters

1. **Morena M.** and Campolongo P. *Disturbi d'Ansia (Anxiety Disorders)*. In: Calignano (Ed.) *Manuale di Farmacoterapia (Pharmacotherapy Handbook)*. Idelson-Gnocchi, 2019. ISBN: 9788879476874; pp. 677-702.
2. **Morena M.** and Campolongo P. *Endocannabinoid modulation of memory for emotionally arousing experiences*. In: Fattore and Campolongo (eds.) *Cannabinoids Modulation of Emotion, Memory, and Motivation*. Springer-Verlag New York, 2014. ISBN 978-1-4939-2293-2.

Part XVIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	33	Pubmed/Scopus	2011	present
Books chapters [scientific]	2	Scopus (only one)	2014	present
Proceedings of conferences (poster abstracts)	54		2011	present
Proceedings of conferences (oral communication abstracts)	19		2013	present

	Scopus	Google scholar
Total Impact factor (2020)	235.587	
Average impact factor (2020) per product	7.139	
Total Impact factor (2020) of the last 10 years	227.695	
Average Impact factor (2020) of the last 10 years	7.115	
Total Impact factor (publication year)	218.264	
Average impact factor (publication year) per product	6.614	
Total Impact factor (publication year) of the last 10 years	212.905	
Average Impact factor (publication year) of the last 10 years	6.653	
Total Citations (Scopus)	1193	1596

Average Citations per Product (Scopus)	36.15	
Total Citations (Scopus) of the last 10 years	1145	
Average Citations per Product (Scopus) of the last 10 years	35.78	
Hirsch (H) index (Scopus)	19	21
Normalized H index*	1.88	2.08
Normalized H index**	1.74	1.92
<i>Scientific contribution to papers</i>	<i>Number of papers</i>	
Position of First Autor in papers	12	
Position of Last Autor in papers	1 (paper under review)	
Corresponding Author in papers	4	
Responsible for part of the research in papers published in journals with IF > 5 (where I am not first or last author)	9	

*H index divided by the academic seniority (10.08 academic seniority, calculated as the time span from the University Graduation, subtracting the maternity leave -Mat leave taken in Canada:10 months-).

**H index divided by the academic seniority (10.92 academic seniority, calculated as the time span from the University Graduation, without subtracting the maternity leave).

Part XIX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

- Farrell J.S., Colangeli R., Dong A., George A.G., Addo-Osafo K., Kingsley P.J., **Morena M.**, Wolff M.D., Dudok B., He K., Patrick T.A., Sharkey K.A., Patel S., Marnett L.J., Hill M.N., Li Y., Teskey G.C., Soltesz I. *In vivo endocannabinoid dynamics at the timescale of physiological and pathological neural activity*. **Neuron** 2021; 109:2398-403. **Article selected for cover page. IF2020: 17.173; cit. (Scopus): 0**
**Responsible for the coordination and execution of the experiments related to the endocannabinoid extraction.
- Morena M.***, Nastase A.S., Santori A., Shansky R., Hill M.N. *Sex-dependent effects of endocannabinoid modulation of conditioned fear extinction in rats*. **British Journal of Pharmacology** 2021; 178:983-96. **IF2020: 8.739; cit. (Scopus): 6.** *corresponding author
- Vecchiarelli H.A., **Morena M.**, Keenan C.M., Chiang V., Tan K., Qiao M., Leitl K., Santori A., Pittman Q.J., Sharkey K.A., Hill M.N. *Comorbid Anxiety-Like Behavior in a Rat Model of Colitis is Mediated by an Upregulation of Corticolimbic Fatty Acid Amide Hydrolase*. **Neuropsychopharmacology** 2021, 46:992-1003. **IF2020: 7.853; cit. (Scopus): 1**
**Responsible for part of the behavioral experiments and surgeries.
- Colangeli R., **Morena M.**, Pittman Q.J., Hill M.N., Teskey G.C. *Anandamide signalling augmentation rescues amygdala synaptic function and comorbid emotional alterations in a model of epilepsy*. **J Neurosci** 2020; 40:6068-6081. **IF2020: 6.167; cit. (Scopus): 6**
- Yasmin F., Colangeli R., **Morena M.**, Filipski S., van der Stelt M., Pittman Q.J., Hillard C.J., Teskey G.C., McEwen B.S., Hill M.N, Chattarji S. *Stress-induced modulation of endocannabinoid signalling leads to delayed strengthening of synaptic connectivity in the amygdala*. **Proc Natl Acad Sci U S A** 2020; 117:650-655. **IF2020: 11.205; cit. (Scopus): 22**

**Responsible for the coordination and execution of the experiments related to the brain endocannabinoid extraction.

6. Mayo L.M., Asratian A., Lindé J., **Morena M.**, Haataja R., Hammer V., Augier G., Hill M.N., Heilig M. *Elevated anandamide, enhanced recall of fear extinction, and attenuated stress responses following inhibition of fatty acid amide hydrolase (FAAH): a randomized, controlled experimental medicine trial.* **Biol Psychiatry** 2020; 87:538-547. **IF2020: 13.382; cit. (Scopus): 50**
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Press release on “The New York Times” URL:
<https://www.nytimes.com/2019/03/28/health/woman-pain-anxiety.html?smid=nytcare-ios-share>
8. **Morena M.**,* Aukema R.J., Leidl K.D., Rashid A.J., Vecchiarelli H.A., Josselyn S.A., Hill M.N. *Upregulation of anandamide hydrolysis in the basolateral complex of amygdala reduces fear memory expression and indices of stress and anxiety.* **J Neurosci** 2019; 39:1275–1292. **IF2020: 6.167; IF2019: 5.673; cit. (Scopus): 26.** *corresponding author
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13. **Morena M.**, Leidl K. D., Vecchiarelli H. A., Gray J. M., Campolongo P., Hill M. N. *Emotional arousal state influences the ability of amygdalar endocannabinoid signaling to modulate anxiety.* **Neuropharmacology** 2016; 111:59-69. **IF2020: 5.250; IF2016: 5.012; cit. (Scopus): 43**
14. Xia S., Zhou Z., Leung C., Zhu Y., Pan X., Qi J., **Morena M.**, Hill M. N., Xie W., Jia Z. *p21-activated kinase 1 restricts tonic endocannabinoid signaling in the hippocampus.* **eLife** 2016; pii:e14653. **IF2020: 8.140; IF2016: 7.725; cit. (Scopus): 15**

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15. **Morena M.**, Patel S., Bains J. S., Hill M. N. *Neurobiological interactions between stress and the endocannabinoid system. Neuropsychopharmacology* 2016; 41:80-102. **IF2020: 7.853; IF2016: 6.403; cit. (Scopus): 261**
16. **Morena M.*** De Castro V., Gray M.J., Palmery M., Trezza V., Roozendaal B., Hill M.N. and Campolongo P. *Training associated-emotional arousal shapes endocannabinoid modulation of spatial memory retrieval in rats. J Neurosci* 2015; 35:13962-74. **IF2020: 6.167; IF2015: 5.924; cit. (Scopus): 46. *corresponding author**
17. Gray J.M., Vecchiarelli H.A., **Morena M.**, Lee T.T.Y., Hermanson D., Kim A.B., McLaughlin R.J., Hassan K., Kühne C., Wotjak C.T., Deussing J.M., Patel S., Hill M.N. *Corticotropin releasing hormone drives anandamide hydrolysis in the amygdala to promote anxiety. J Neurosci* 2015; 35:3879-92. **IF2020: 6.167; IF2015: 5.924; cit. (Scopus): 128**
**Responsible for the behavioral and surgery experiments related to the central endocannabinoid manipulation and testing of anxiety-like behavior.
18. **Morena M.**, Roozendaal B., Trezza V., Ratano P., Peloso A., Hauer D., Atsak P., Trabace L., Cuomo V., McGaugh J.L., Schelling G. and Campolongo P. *Endogenous cannabinoid release within prefrontal-limbic pathways affects memory consolidation of emotional training. Proc Natl Acad Sci U S A* 2014; 111:18333-8. **IF2020: 11.205; IF2014: 9.674; cit. (Scopus): 86**
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20. Campolongo P.*, **Morena M.***, Scaccianoce S., Trezza V., Chiarotti F., Schelling G., Cuomo V., Roozendaal B. *Novelty-induced emotional arousal modulates cannabinoid effects on recognition memory and adrenocortical activity. Neuropsychopharmacology.* 2013; 38:1276-86. *equal contribution. **IF2020: 7.853; IF2013: 7.833; cit. (Scopus): 54**

Summary of Scientific Achievements in the selected publications

Selected publications	20
Total Impact factor (2020)	168.670
Average impact factor (2020) per product	8.433
Total Impact factor (publication year)	158.783
Average impact factor (publication year) per product	7.939
Total Citations (Scopus)	955
Average Citations per product (Scopus)	47.75
<i>Scientific contribution to papers</i>	<i>Number of papers</i>
Position of First Autor in papers	10
Corresponding Author in papers	4
Responsible for part of the research in papers published in journals with IF > 5 (where I am not first or last author)	8

Date

Rome, 29/09/2021

Signature

