

## Europass Curriculum Vitae



### Personal information

First name(s) / Surname(s)

**LUCIA BUCCARELLO**

### Occupational field

**In the field of neurosciences, my scientific interests are decoding the intracellular pathways regulating the cellular and neuronal dysfunctions in many different neurological disorders, focusing mainly on neuronal and microglial cellular activity with the final purpose to induce neuroprotection.**

### Work experience

Dates (2024-actually)

Name and address of employer

**UNICAMILLUS - SAINT CAMILLUS INTERNATIONAL UNIVERSITY OF HEALTH AND MEDICAL SCIENCES VIA DI SANT' ALESSANDRO 8, 00131 ROME, ITALY**

Occupation or position held

Researcher (RTT) in Molecular Biology (Bios-08 ex BIO-11)

Main activities and responsibilities

Teacher in Molecular Biology at the faculty of MSc Medicine and Surgery (LM-41) in Rome and Venezia and MSc Dentistry and Dental Prosthetics (LM-46) in Rome. Involved also as a Post-Doc researcher in the study of neuroprotective effects of NGF painless against the optic pathway glioma (OPG) growth and proliferation in a mouse model of OPG.

Dates (2022-2024)

Name and address of employer

**EBRI-EUROPEAN BRAIN RESEARCH INSTITUTE RITA LEVI-MONTALCINI FOUNDATION, VIALE REGINA ELENA 295, ROME, ITALY**

Occupation or position held

Post-Doc Researcher in the Laboratory of Neurons and microglia in the physiopathology of cortical microcircuits.

Main activities and responsibilities

Involved in the project "Painless Nerve Growth factor (hNGFp): anti-inflammatory and neuroprotective actions on visual deficits in optic glioma". Employed in the pre-clinical study of neuroprotective mechanism of painless Nerve Growth Factor in a murine transgenic model of optic pathway glioma, in collaboration with Hospital Policlinico Gemelli dedicated to a clinical trial to test painless Nerve Growth Factor on pediatric patients suffering from this disease. Specifically, I am involved in in vivo pharmacological and behavioral locomotor/visual experiments, as well as ex vivo cellular and molecular assays on brain, retina, optic nerve and glioma, performing also biochemical studies on retina and visual system, as well as on confocal microscopy imaging and analyses.

Type of business or sector

Neuroscience

Dates (2020-2022)

Name and address of employer	<b>EBRI-EUROPEAN BRAIN RESEARCH INSTITUTE RITA LEVI-MONTALCINI FOUNDATION, VIALE REGINA ELENA 295, ROME, ITALY; NEED INSTITUTE FOUNDATION FOR CURE AND REHABILITATION OF NEUROLOGICAL DISEASES, MILAN</b>
Occupation or position held	Post-Doc Researcher in the laboratory of Post-translational protein modifications and neurotransmitter release mechanisms.
Main activities and responsibilities	Involved in the project "Analysis of potential biomarkers for the pathology of Amyotrophic Lateral Sclerosis", focused on the role of Synaptic proteins in human samples and primary cultures derived from ALS patients performing biochemical/biomolecular as well as histological analysis.
Type of business or sector	Neuroscience

Dates (2019-2020)

Name and address of employer	<b>EBRI-EUROPEAN BRAIN RESEARCH INSTITUTE RITA LEVI-MONTALCINI FOUNDATION, VIALE REGINA ELENA 295, ROME, ITALY</b>
Occupation or position held	Post-Doc Researcher in the laboratory of Post-translational protein modifications and neurotransmitter release mechanisms.
Main activities and responsibilities	Involved in the project "Role of SUMOylation in the neuronal stability of tau protein in relation the degradation system", performing biochemical/biomolecular as well as histological analysis in cellular/primary cultures and murine models of neurodegeneration.
Type of business or sector	Neuroscience

Dates (2018-2019)

Name and address of employer	<b>UNIVERSITY OF STUDY OF MILAN, DEPARTMENT OF PHARMACOLOGICAL AND BIOMOLECULAR SCIENCES, VIA BALZARETTI 9, 20133 MILAN – INSTITUTE OF PHARMACOLOGICAL RESEARCH MARIO NEGRI (IRFMN), DEPARTMENT OF NEUROSCIENCE, VIA GIUSEPPE LA MASA 19, 20154, MILAN, ITALY.</b>
Occupation or position held	Teaching assistant of Human Anatomy at the Department of Pharmacological and Biomolecular Sciences (UniMI, RTDA) and Post-Doc Researcher in the Neuronal Death and Neuroprotection laboratory, Neuroscience Department (IRFMN)
Main activities and responsibilities	Post-Doc Researcher at University of Milan, Department of Pharmacological and Biomolecular Sciences Pharmacological Department (DISFEB). Series of lectures and assistant examinations of Human Anatomy for the faculties of Pharmacy, Pharmaceutical Sciences and Technologies and SSCTA at the Department of Pharmacology (UniMI) under the supervision of Prof. Borsello. Leading the synaptopathy project in neurological disorders focused on the study of the intracellular mechanisms underlying the dendritic spine dysfunction by developing an in vitro model of synaptopathy based on co-cultures of neurons, microglia and astrocytes.

Dates (2016-2018)

Name and address of employer	<b>INSTITUTE OF PHARMACOLOGICAL RESEARCH MARIO NEGRI (IRFMN), DEPARTMENT OF NEUROSCIENCE, VIA GIUSEPPE LA MASA 19, 20154, MILAN, ITALY.</b>
Occupation or position held	Post-Doc Researcher in the Neuronal Death and Neuroprotection laboratory, Neuroscience Department.
Main activities and responsibilities	Leading the synaptopathy project in neurodegenerative and neurodevelopmental disorders focused on the study of intracellular mechanisms underlying the dendritic spine dysfunction performing biochemical, behavioral and functional analysis both in vivo and ex vivo murine models (mouse models used: Alzheimer, tauopathies, Rett Syndrome and Angelman Syndrome).

Dates (2015)

Name and address of employer	<b>CENTRE OF RESEARCH AND BIOMEDICAL TECHNOLOGY INSTITUTE AUXOLOGICO ITALIANO IRCCS, DEP. OF RARE DISEASES VIA GIUSEPPE ZUCCHI, 18,20095 CUSANO MILANINO (MI), ITALY. INSTITUTE OF PHARMACOLOGICAL RESEARCH IRCCS MARIO NEGRI, DEPARTMENT OF NEUROSCIENCE, VIA GIUSEPPE LA MASA 19, 20154, MILAN, ITALY.</b>
Occupation or position held	Post-Doc Researcher in Genetic and Rare disease laboratory/ Post-Doc Researcher in the Neuronal Death and Neuroprotection laboratory, Neuroscience Department.
Main activities and responsibilities	Leading the research project: "Role of amino acid taurine in a mouse model of Angelman syndrome: analysis of behavioral and synaptogenic profiles".
Type of business or sector	Neuroscience

**Dates (2012-2015)**

Name and address of employer	<b>UNIVERSITY OF STUDY OF MILAN, DEP. VETERINARY SCIENCE - INSTITUTE OF PHARMACOLOGICAL RESEARCH MARIO NEGRI</b>
Occupation or position held	PhD Fellow
Main activities and responsibilities	PhD- project "Assessment of the effects of two diets (low and high fat and protein content) in a mouse model of neurodegenerative diseases (young and elderly P301L TG mice affected by tauopathy), evaluating the impact of these diets on the onset and progression of the pathology focusing on neuronal death/apoptosis signaling pathways, accumulation of Abeta plaques/Neurofibrillary tangle and hyperphosphorylated Tau analyzing metabolic profile (survival rate, food and water consumption), behavioral profile (novel object recognition test and open field test) and biochemical/immunohistochemical analysis on brain and organs such as the liver, intestine, kidney and stomach.

**Dates (2011-2012)**

Name and address of employer	<b>INSTITUTE OF PHARMACOLOGICAL RESEARCH IRCCS MARIO NEGRI, DEP. ANIMAL WELFARE, VIA GIUSEPPE LA MASA 19, 20154 MILAN, ITALY</b>
Occupation or position held	Graduate fellowship
Main activities and responsibilities	Employed in behavioral and biochemical studies in a mouse model of neurodegenerative diseases

**Dates (2010-2011)**

Name and address of employer	<b>UNIVERSITY OF STUDY OF MILAN, DEP. PHARMACOLOGICAL SCIENCES AND BIOMOLECULAR, VIA TRENTACOSTE, 20133 MILAN, ITALY; INSTITUTE OF PHARMACOLOGICAL RESEARCH IRCCS MARIO NEGRI, DEP. NEUROSCIENCE, VIA GIUSEPPE LA MASA 19, 20154 MILAN, ITALY</b>
Occupation or position held	Graduating student
Main activities and responsibilities	B.A. thesis on: Studies on the mechanisms responsible for the pathogenesis of Alzheimer's disease (AD), investigating the mechanism of action through which the oligomers of beta amyloid (Abeta), which accumulate in the brains AD, induce synaptic and cognitive dysfunctions.

**Dates (2009)**

Name and address of employer	<b>UNIVERSITY OF STUDY OF MILAN, DEP. PHARMACOLOGICAL SCIENCES AND BIOMOLECULAR, VIA TRENTACOSTE, 20133 MILAN, ITALY</b>
Occupation or position held	Graduating student
Main activities and responsibilities	Employed in the performance of techniques targeted to the analysis of DNA and RNA, with the main role in the handling of cell cultures, in order to dose the amyloid beta (component more involved in the onset of Alzheimer's disease) in specific membrane areas of SHSY5Y cellular line.

## EDUCATION AND TRAINING

- Dates (2023) Animal experimentation certificate: animals used for scientific purposes: modules 3.2,6.2 and 8 function a), c), d) of the Ministerial Decree 5-8-2021: small animal edition Experimental Zooprohylactic Institute of Lazio and Tuscany M. Aleandri.
- Animal experimentation certificate: BIOLOGIA E GESTIONE DEGLI ANIMALI DA LABORATORIO, MODULI 3.1, 4, 5, 6.1, 7. DM 5 AGOSTO 2021 RODITORI E LAGOMORFI. Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna
- Animal experimentation certificate: ETICA E CONCEZIONE DEI PROGETTI, MODULI 9, 10, 11, DM 5 AGOSTO 2021. Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna
- Animal experimentation certificate: LEGISLAZIONE NAZIONALE ED ETICA LIVELLO 1, MODULI 1 E 2, DM 5 AGOSTO 2021. Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna
- Dates (2019) The license for in vivo manipulation of animals for research at the EBRI Institute.
- Dates (2016) Biologist Board certificate
- Dates (2015) Biologist's license
- PhD at Doctoral School "High Veterinary Graduate School", University of Milan, Dep. Veterinary Sciences to Health, animal production and safety, with a PhD Thesis on "Effects of different diets in a mouse model of Neurodegenerative Disease".
- Dates (2012) The license on "Basic course for graduates on the use of laboratory animals in biomedical field" at the National Institute of Health (Rome)
- Dates (2011) The certificate "Course HARLAN level A second recommendation FELASA"
- The license for in vivo manipulation of animals for research at Institute of Pharmacological Research Mario Negri.

## Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **English**

Self-assessment

European level (\*)

**Language**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2

## TECHNICAL SKILLS AND COMPETENCES

- Great experience in animal manipulation: transgenic mice colony breeding and management, specifically constitutive fluorescent mice crossed to label different neuronal and glial cells;
- Animal treatment (intraperitoneal injection, subcutaneous injection, per os injection, nasal and ocular injection)
- Primary neuronal cultures, Microglia and astrocytes co-cultures;
- Different cellular cultures (i.e. SHSY5Y, HeLa, fibroblasts, iPSCs);
- Neuronal and cellular transfection;
- Time-lapse on living neurons;
- NeuroLucida and NeuroExplorer morphometric-analysis;
- Expertise in microsurgery of rodents (ICV implants);
- HIC and IF analysis both in neuronal/cellular preparations and brain/organ slices (both in free-floating and embedded tissues)
- Retinal dissection and free-floating/ embedded analysis.

Behavioral analysis (with correlated statistical tests): such as NOVEL OBJECT RECOGNITION TEST, OPEN FIELD, ELEVATED PLUS MAZE, MORRIS WATER MAZE, X-MAZE, FORCE SWIMMING TEST, ROTAROD, GRID BAR, MURBLE TEST, CLIFF TEST.

### **Routine biochemical/biological techniques:**

Basic biochemistry-techniques: yeast culture, protein dosage; spectrophotometry and chromatography.

Molecular Biology techniques:

DNA purification, manipulation of plasmide, subcloning, constructions of targeting vector, nucleic acid sequencing, preparation of chromosomal DNA from mammalian cells, ELISA, PCR, real-time PCR, SS-DNA preparations, southern- blot, immunoprecipitation of proteins, western-blot, cells transfection; TAT-HIV technology to introduce peptides into living neurons.

### **Teaching experience:**

From 2016 to 2019 series of lectures in Human Anatomy at the courses of: Pharmacy, Pharmaceutical biotechnology and Chemistry and Pharmaceutical Technologies (CTF) faculties of University of the Study of Milan, Pharmacological Department (under the supervision of Prof. Borsello).

### **Scientific projects**

My scientific interests are decoding the intracellular pathways regulating the cellular and neuronal dysfunctions in many different neurological disorders, focusing mainly on neuronal and microglial cellular activity with the final purpose to induce neuroprotection. In this context I was involved in different projects:

**Rett Syndrome:** we studied the effect of JNK inhibitor peptide D-JNK11 in MeCP2y/- mice analyzing its neuroprotective effect such as an improvement of wellbeing, a recovery of locomotor impairment and synaptic function.

**Angelman syndrome:** we investigated the synaptic, cognitive and locomotor damage in the mouse model Ube3a +/- . We studied the JNK kinase, which plays a key role in synaptic dysfunction and the neuroprotective effects of D- JNK11 to improve the pathological symptomatology characterizing Angelman syndrome.

**Tauopathy:** The P301L mouse model showed a spine injury similar to that identified in AD, with P-tau accumulation in the post-synaptic terminal most marked in females than in male mice. We examined the synaptic dysfunction in this tauopathy model, analysing also a neuroprotective effect of a low-fat protein diet on synaptopathy, cognitive and locomotor damage performing behavioral, biochemical and histological studies.

**Quadripartite synapse plasticity:** we set an in vitro model to study dendritic spine function and dysfunction. By using 2 different fluorescent cell types: 1- brainbow neurons for label the pre and post synaptic elements, 2- homo129CX3 for monitoring microglia we will analyze how microglia interact with the pre- and post-synaptic elements in control and pathological condition.

**The presynaptic compartment injury in Alzheimer's disease:** with the Super Resolution and biochemical methods we studied the dysmorphogenesis at the presynaptic terminal (focusing on the t-SNARE proteins, in particular with Syntaxin-1/2 and SNAP25) in animals affected by Alzheimer's disease.

**Alzheimer and retinal degeneration:** using the eye as a mirror of the brain, we investigated the accumulation of abeta in the retina as well as in the optic nerve of a mouse model of early Alzheimer's disease, examining his correlation with neurodegenerative processes. Moreover, we demonstrated the important neuroprotective effect of JNK inhibitor peptide D-JNKI1 in CRND8 mice to rescue the retina thinning as well as the retinal neurodegeneration and abeta accumulation, underling as the eye could represent a therapeutical and more accessible window to study the brain and the neurodegenerative diseases.

**SUMO-1, Tau and JNK interaction in oxidative stress condition:** Since SUMO- 1 is a post-translation modification implicated in the control of protein synthesis and release, synaptic function and oxidative stress, we studied the interaction among SUMO-1, JNK that has a key role in synaptic dysfunction and Tau protein in an in vitro model of oxidative stress. We found in oxidative stress condition an important hyperactivation of SUMO-1, JNK and Tau axis causing an augmented cell death and altered apoptotic and autophagic pathway activation, restored by curcumin administration, a powerful antioxidant compound and target of these three actors.

**SUMOylation and retinal degeneration:** we developed a new ex-vivo model for the study of retinal degeneration and we studied the influence of SUMOylation of this damaged process. We found an altered SUMO- 1, JNK and Tau activation associated to an increased Retinal ganglion cell death and thinning of retina layers in only 24 hours from optic nerve cut. We also obtained a total recovery of these alterations injecting curcumin in enucleated eye balls and we are currently investigating the effect of cell permeable peptides (CPPs developed in our laboratory) able to inhibit the SUMOylation process in order to tackle retinal degeneration associated not only to the glaucoma, but also to several forms of retinopathies.

**SUMOylation and Tau protein:** we studied the role of SUMOylation on Tau aggregation in healthy and pathological conditions, focusing on the mechanisms undergo SUMO-1 and Tau protein interaction in Alzheimer's disease animal models and human patients affected by MCI and AD. We tested also the effects of CPPs SUMO-1 inhibitors developed in the laboratory in in vitro hippocampal neurons as well as in in vivo AD mice with the final aim to revert/slow the neurodegenerative processes associated to an altered SUMO-1 activity.

**Analysis of potential biomarkers for the pathology of Amyotrophic Lateral Sclerosis:** we studied the role of synaptic proteins in blood, siera and exosomes derived by ALS and control subjects, focusing on TDP43 and C9oRF mutations mainly involved in the ALS develop and progression investigating a possible correlation among these mutations and the SUMOylation process. Investigating better the mechanisms undergo synaptic protein alterations could highlight an important correlation between synaptic protein and ALS progression, representing a novel and important biomarker to counteract and slow the ALS.

**NGF signaling and retinal degeneration in optic pathway glioma:** I am employed in the study of neuroprotective mechanism of painless Nerve Growth Factor in a murine transgenic model of optic pathway glioma, in collaboration with Hospital Policlinico Gemelli. Specifically, I am involved in in vivo pharmacological and behavioral visual experiments, as well as ex vivo cellular and molecular assays on brain, retina, optic nerve and glioma, performing also biochemical studies on retina and visual system, as well as on confocal microscopy imaging and analyses.

## Publications

1. Latini L, De Araujo DSM, Amato R, Canovai A, **Buccarello L**, De Logu F, Novelli E, Vlasjuk A, Malerba F, Arisi I, Florio R, Asari H, Capsoni S, Strettoi E, Villetti G, Imbimbo BP, Monte MD, Nassini R, Geppetti P, Marinelli S, Cattaneo A. A p75 neurotrophin receptor-sparing nerve growth factor protects retinal ganglion cells from neurodegeneration by targeting microglia. *Br J Pharmacol*. 2024 Sep 9. doi: 10.1111/bph.17316. Epub ahead of print. PMID: 39252503.
2. Tringali G, Pizzoferrato M, Lisi L, Marinelli S, **Buccarello L**, Falsini B, Cattaneo A, Navarra P. A Vicious NGF-p75NTR Positive Feedback Loop Exacerbates the Toxic Effects of Oxidative Damage in the Human Retinal Epithelial Cell Line ARPE-19. *Int J Mol Sci*. 2023 Nov 12;24(22):16237. doi: 10.3390/ijms242216237. PMID: 38003427; PMCID: PMC10671591.
3. Marino R, **Buccarello L**, Hassanzadeh K, Akhtari K, Palaniappan S, Corbo M, Feligioni M. A novel cell-permeable peptide prevents protein SUMOylation and supports the mislocalization and aggregation of TDP-43. *Neurobiol Dis*. 2023 Nov;188:106342. doi: 10.1016/j.nbd.2023.106342. Epub 2023 Oct 31. PMID: 37918759.
4. Hassanzadeh K, Vahabzadeh Z, **Buccarello L**, Dragotto J, Corbo M, Maccarone R, Feligioni M. Protective Effect of Curcuma Extract in an Ex Vivo Model of Retinal Degeneration via Antioxidant Activity and Targeting the SUMOylation. *Oxid Med Cell Longev*. 2022 Jul 29;2022:8923615. doi: 10.1155/2022/8923615. PMID: 35941902; PMCID: PMC9356244.
5. Book Chapter: Bioactive Peptides in Neurodegenerative Diseases. *Bioactive Peptides from Food*. Hassanzadeh K, Feligioni M, Zarei M, Muhiaddin BJ, Maccarone R, Corbo M, **Buccarello L**. Taylor&Francis ebook. CRC Press 2022, ISBN 9781003106524.
6. Book Chapter: Synaptosomal preparation and its application in preclinical studies. Feligioni M, **Buccarello L**, Hassanzadeh K, Corbo M. *Translational research methods in neurodevelopment disorders' Neuromethods* (springer.com) Press Nov2021.
7. **Buccarello L**, Dragotto J, Hassanzadeh K, Maccarone R, Corbo M, Feligioni M. Retinal ganglion cell loss in an ex vivo mouse model of optic nerve cut is prevented by curcumin treatment. *Cell Death Discov*. 2021 Dec 15;7(1):394. doi: 10.1038/s41420-021-00760-1. PMID: 34911931; PMCID: PMC8674341.
8. Hassanzadeh K, **Buccarello L**, Dragotto J, Mohammadi A, Corbo M, Feligioni M. Obstacles against the Marketing of Curcumin as a Drug. *Int J Mol Sci*. 2020 Sep 10;21(18):E6619. doi: 10.3390/ijms21186619. PMID: 32927725.
9. **Buccarello L**, Dragotto J, Iorio F, Hassanzadeh K, Corbo M, Feligioni M. The pivotal role of SUMO-1-JNK-Tau axis in an in vitro model of oxidative stress counteracted by the protective effect of curcumin. *Biochem Pharmacol*. 2020;178:114066. doi:10.1016/j.bcp.2020.114066
10. Hassanzadeh K, Perez Pena H, Dragotto J, **Buccarello L**, Iorio F, Pieraccini S, Sancini G, Feligioni M. Considerations around the SARS-CoV-2 Spike Protein with Particular Attention to COVID-19 Brain Infection and Neurological Symptoms. *ACS Chem Neurosci*. 2020;11(15):2361-2369. doi:10.1021/acchemneuro.0c00373
11. Musi CA, Agrò G, **Buccarello L**, Camuso S, Borsello T. JNK signaling activation in the Ube3a maternal deficient mouse model: its specific inhibition prevents post-synaptic protein-enriched fraction alterations and cognitive deficits in Angelman Syndrome model. *Neurobiol Dis*. 2020;140:104812. doi:10.1016/j.nbd.2020.104812.
12. **Buccarello L**, Musi CA, Turati A, Borsello T. The Stress c-Jun N-terminal Kinase Signaling Pathway Activation Correlates with Synaptic Pathology and Presents A Sex Bias in P301L Mouse Model of Tauopathy. *Neuroscience*. 2018 Nov 21;393:196-205. doi: 10.1016/j.neuroscience.2018.09.049. Epub 2018 Oct 11. PubMed PMID: 30315879.
13. Guzzetti S, Calzari L, **Buccarello L**, Cesari V, Toschi I, Cattaldo S, Mauro A, Pregolato F, Mazzola SM, Russo S. Taurine Administration Recovers Motor and Learning Deficits in an Angelman Syndrome Mouse Model. *Int J Mol Sci*. 2018 Apr 5;19(4). pii: E1088. doi: 10.3390/ijms19041088. PubMed PMID: 29621152; PubMed Central PMCID: PMC5979575.
14. **Buccarello L**, Scip A, Sacchi M, Castaldo AM, Bertani I, ReCecconi A, Maestroni S, Zerbini G, Nucci P, Borsello T. The c-Jun N-Terminal Kinase plays a key role in ocular degenerative changes in a mouse model of Alzheimer disease suggesting a correlation between ocular and brain pathologies. *Oncotarget*. 2017 Aug doi: 10.18632/oncotarget.19886.
15. **Buccarello L**, Grignaschi G, Di Giancamillo A, Domeneghini C, Melcangi RC, Borsello T. Neuroprotective effects of low fat-protein diet in the P301L mouse model of tauopathy. *Neuroscience*. 2017 Jun 23;354:208-220. doi: 10.1016/j.neuroscience.2017.04.027. Epub 2017 Apr 27. PubMed PMID: 28456717.



16. Biggi S, **Buccarello L**\*<sup>co-firstauthor</sup>, Scip A, Lippiello P, Tonna N, Rumio C, Di Marino D, Miniaci MC, Borsello T. Evidence of Presynaptic Localization and Function of the c-Jun N-Terminal Kinase. *Neural Plast.* 2017; 2017:6468356. doi: 10.1155/2017/6468356. Epub 2017 Mar 7. PubMed PMID: 28367336; PubMed Central PMCID: PMC5359460.
17. **Buccarello L**, Grignaschi G, Castaldo AM, Di Giancamillo A, Domeneghini C, Melcangi RC, Borsello T. Sex Impact on Tau-Aggregation and Postsynaptic Protein Levels in the P301L Mouse Model of Tauopathy. *J Alzheimers Dis.* 2017;56(4):1279-1292. doi: 10.3233/JAD-161087. PubMed PMID: 28157099.
18. **Buccarello L**, Borsello T. The Tat-A $\beta$ 1-6A2V(D) peptide against AD synaptopathy. *Oncotarget.* 2017 Feb 14;8(7): 10773-10774. doi: 10.18632/oncotarget.14604. PubMed PMID: 28121622; PubMed Central PMCID: PMC5355218.
19. Burman O, **Buccarello L**, Redaelli V, Cervo L. The effect of two different Individually Ventilated Cage systems on anxiety-related behaviour and welfare in two strains of laboratory mouse. *Physiol Behav.* 2014 Jan 30;124:92-9. doi: 10.1016/j.physbeh.2013.10.019. Epub 2013 Oct 31. PubMed PMID: 24184492.
20. Book Chapter ANIMAL SCIENCE: WELFARE AND PRODUCTION Infrared Thermography in laboratory animals "MEASURING WELFARE OF RODENTS IN LABORATORY RESEARCH" G. Grignaschi, **L. Buccarello**.
21. Divulgative paper: Informative article published on the website of Institute "Mario Negri": "Animali e ricerca: un equilibrio difficile". **L. Buccarello**, G. Grignaschi, G. Marsella.

## Oral Communication

**2022: BraYn - 5th Brainstorming Research Assembly for Young Neuroscientists:** Eye as a mirror of brain neurodegeneration retinal characterization of neuroinflammatory and neurodegenerative aspects in a mouse model of NGF deprivation

**2018: Fens Berlin:** Synaptopathies and study of JNK role in synaptic dysfunction

**2016: National Congress of Angelman Syndrome:** Role of amino acid taurine in a mouse model of Angelman syndrome: analysis of behavioral and synaptogenic profiles

**2016: National Congress of PhD Neuroscience:** Sex impact on Tau- aggregation and postsynaptic protein levels in P301L mouse model of tauopathy

**2015: National Congress of Angelman Syndrome:** Understanding the role of amino acid taurine in a mouse model of Angelman syndrome

**2014: Abstract at FELASA:** "The effect of two different Individually Ventilated Cage systems on anxiety-related behaviour and welfare in two strains of laboratory mouse" Burman O, Buccarello L, Redaelli V, Cervo L.

Date

02/10/2024

Signature

Lucia Buccarello