| **Personal data** | | | |
|---|---|---|---|
| **Surname** | **Name** | **Organization and position** | **Date of birth** |
| Tapella | Laura Paola Ferilde | Associate Professor, University of Eastern Piedmont, Department of Pharmaceutical Sciences, Via Bovio, 6, 28100, Novara, ITALY.<br>e-mail: laura.tapella@uniupo.it | 17011982 Magenta (MI), ITALY. |

**Education and training**

2025 Associate Professor Physiology University of Eastern Piedmont, Department of Pharmaceutical Sciences, Actual position. Neurobiology and neuroscience study on glial cell-dependent dysfunction related to calcium signaling, ER-mitochondria contact sites, stress responses, and proteostasis in neurodegenerative diseases.

2020- ASN Physiology (05/D1)

2017- Postdoc, University of Eastern Piedmont, Department of Pharmaceutical Sciences. Neurobiology and neuroscience study on Astroglial dependent dysfunction in neurodegenerative diseases.

2014-2017 Postdoc, University of Milan, Milan, Italy. Neurobiology and neuroendocrinology study on GH-secreting tumors.

2014-2011 Postdoc, Mario Negri Institute for Pharmacological Research, Milan, Italy. Neurobiology, neuroscience, and biochemistry studies of prions and Alzheimer's disease.

2008-2011 Ph.D., Mario Negri Institute for Pharmacological Research, Milan, Italy. Biochemistry and neuroscience study on Prion and Alzheimer's disease.

2004-2007 Master's Degree in Medical and Pharmaceutical Biotechnology, University of Eastern Piedmont, Novara, Italy, (experimental biochemistry thesis).

2001-2004 Degree in Biotechnology, University of Eastern Piedmont, Novara, Italy (experimental organic chemistry thesis).

**Research and professional experience**

From 20217 at the University of Eastern Piedmont, DSF, via Bovio 6, Novara, Italy. I concentrate my studies on the role of astroglial calcineurin in both cellular and animal models of Alzheimer's disease. I have created a new line of research that links Endoplasmic Reticulum- Mithocondria interaction, Calcium signaling, and protein synthesis dysfunction in astroglial dysfunction in different pathological contexts on the CNS.

June 2014- March 2017 Postdoc researcher for the University of Milan at IRCCS-Istituto Auxologico, in the neuroendocrine Lab of Prof. F. Pecori Giraldi, Milan, Italy. At the University of Milan, I characterized the proliferative activity of endocrine disruptors on rat primary pituitary cells and human pituitary tumors to a possible role of pollution in cancer progression (in the lab of Prof.F. Pecori Giraldi).

2011-2014 Postdoc researcher: employment contract with Telethon Foundation in the Prion Neurobiology Lab of Dr. R. Chiesa, Mario Negri Institute, Milan, Italy. My Postdoc project at Mario Negri Institute was

to discover and characterize the mechanism of new therapeutic compounds for prion diseases using *in vitro* screening and *in vivo* study. During this time as a collaborator of Dr. G. Forloni, Dr. M. Salmona, and Dr. M, Gobbi, I contributed also to two publications studying the role and interaction of Prion protein and Aβ oligomers in AD pathology.

2008-2011 Ph.D. researcher: research fellow with Telethon Foundation in the Prion Neurobiology Lab of Dr. R. Chiesa, Mario Negri Institute, Milan, Italy. During my Ph.D. at Mario Negri Institute, I had the opportunity to improve my research skills in biochemistry, neurobiology, and neuroscience. I built up my technical research ability and network. I pick up biochemical and chromatographic analysis, cellular culturing, microscopy, cloning, and mouse handling. In particular, my Ph.D. research was on prion diseases, and structure-function correlation in different forms of inherited prion diseases utilizing various approaches, including protein chemistry, molecular biology, cell biology, and transgenic mice.

April 2007 - October 2007 Research fellow at the University of Eastern Piedmont in the Biochemistry Lab of Prof. F. Sinigaglia, Novara, Italy. At Novara, I investigated the role of membrane lipid rafts on estrogen-dependent signaling in human platelets with biochemical and cellular approaches. Finally, my first research study was in the Organic Chemist Lab of Prof. A. Appendino in which I optimized a method for extraction and fractionation of Furano cumarin from *Opopanax Chironium*.

**Other Experience and Professional Memberships**
Review Editor for Editorial Board di Neurodegeneration, di Frontiers in Neurology, Neuroscience and Psychiatry dal 2017
Reviewer for Biology dal 2020
Reviewer for Cell Calcium 2023
Reviewer for NRR 2023

**Member of a scientific society**
2021 SINS-società italiana di neuroscienze.
2022 SIF-Società italiana di fisiologia.

**Researcher profile**

SC 35424824200
https://orcid.org/0000-0002-8159-1628
Loop Profile 476312
Sci Profiles 1021113

**Most Relevat Scientific publications**

Total papers 36, h-index 17, citations 1291(Scopus 2026)
First author=10; co-first =3
Last author=3
Corresponding author=1

ER-mitochondria distance is a critical parameter for efficient mitochondrial Ca2+ uptake and oxidative metabolism.
Dematteis, G, **Tapella, L.,** Casali, C., Talmon, M., Tonelli, E., Reano, S., Ariotti, A., Pessolano, E., Malecka, J., Chrostek, G., Kulkovienė, G.,Umbrasas, D., Distasi, C., Grilli, M., Ladds, G., Filigheddu, N., Fresu, L.G., Mikoshiba, K., Matute, C., Ramos-Gonzalez, P., Jekabsone, A., Calì, T., Brini, M., Biggiogera, M., Cavaliere, F., Miggiano, R., Genazzani, A.A, Lim, D.
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Probing the endoplasmic reticulum-mitochondria interaction in Alzheimer's disease: searching far and wide

Dematteis, G., **Tapella, L.,** Lim, D.
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Astroglial calcium signaling and homeostasis in tuberous sclerosis complex.
Romagnolo A, Dematteis G, Scheper M, Luinenburg MJ, Mühlebner A, Van Hecke W, Manfredi M, De Giorgis V, Reano S, Filigheddu N, Bortolotto V, **Tapella L**, Anink JJ, François L, Dedeurwaerdere S, Mills JD, Genazzani AA, Lim D, Aronica E.
Acta Neuropathol. 2024 Feb 28;147(1):48. doi: 10.1007/s00401-024-02711-3. PMID: 38418708 Free PMC article.

Genetic deletion of astrocytic calcineurin B1 prevents cognitive impairment and neuropathology development in acute and chronic mouse models of Alzheimer's disease.
**Tapella L**, Dematteis G, La Vitola P, Leva S, Tonelli E, Raddi M, Delconti M, Dacomo L, La Macchia A, Murari E, Talmon M, Malecka J, Chrostek G, Grilli M, Colombo L, Salmona M, Forloni G, Genazzani AA, Balducci C, Lim D.
Glia. 2024 Jan 30. doi: 10.1002/glia.24509. Online ahead of print.
PMID: 38288580

A tetracationic porphyrin with dual anti-prion activity.
Masone A, Zucchelli C, Caruso E, Lavigna G, Eraña H, Giachin G, **Tapella L,** Comerio L, Restelli E, Raimondi I, Elezgarai SR, De Leo F, Quilici G, Taiarol L, Oldrati M, Lorenzo NL, García-Martínez S, Cagnotto A, Lucchetti J, Gobbi M, Vanni I, Nonno R, Di Bari MA, Tully MD, Cecatiello V, Ciossani G, Pasqualato S, Van Anken E, Salmona M, Castilla J, Requena JR, Banfi S, Musco G, Chiesa R.
iScience. 2023 Jul 27;26(9):107480. doi: 10.1016/j.isci.2023.107480. eCollection 2023 Sep 15.
PMID: 37636075 Free PMC article.

Immortalized hippocampal astrocytes from 3xTg-AD mice, a new model to study disease-related astrocytic dysfunction: a comparative review.
**Tapella L,** Dematteis G, Genazzani AA, De Paola M, Lim D.
Neural Regen Res. 2023 Aug;18(8):1672-1678. doi: 10.4103/1673-5374.363192.
PMID: 36751778 Free PMC article. Review.

The endoplasmic reticulum stress and unfolded protein response in Alzheimer's disease: A calcium dyshomeostasis perspective.
Lim D, **Tapella L,** Dematteis G, Genazzani AA, Corazzari M, Verkhratsky A.
Ageing Res Rev. 2023 Jun;87:101914. doi: 10.1016/j.arr.2023.101914. Epub 2023 Mar 21.
PMID: 36948230 Free article. Review.

Immortalized Alzheimer's Disease Astrocytes: Characterization of Their Proteolytic Systems.
Gong C, Bonfili L, Zheng Y, Cecarini V, Cuccioloni M, Angeletti M, Dematteis G, **Tapella L**, Genazzani AA, Lim D, Eleuteri AM.
Mol Neurobiol. 2023 May;60(5):2787-2800. doi: 10.1007/s12035-023-03231-z. Epub 2023 Feb 2.
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Calcineurin Signalling in Astrocytes: From Pathology to Physiology and Control of Neuronal Functions.
Lim D, **Tapella L,** Dematteis G, Talmon M, Genazzani AA.
Neurochem Res. 2023 Apr;48(4):1077-1090. doi: 10.1007/s11064-022-03744-4. Epub 2022 Sep 9.
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Quantification of the Chemical Chaperone 4-Phenylbutyric Acid (4-PBA) in Cell Culture Media via LC-HRMS: Applications in Fields of Neurodegeneration and Cancer.
Villani S, Dematteis G, **Tapella L,** Gagliardi M, Lim D, Corazzari M, Aprile S, Del Grosso E.
Pharmaceuticals (Basel). 2023 Feb 14;16(2):298. doi: 10.3390/ph16020298.
PMID: 37259441 Free PMC article.

Protein synthesis inhibition and loss of homeostatic functions in astrocytes from an Alzheimer's disease mouse model: a role for ER-mitochondria interaction.
**Tapella L**, Dematteis G, Moro M, Pistolato B, Tonelli E, Vanella VV, Giustina D, La Forgia A, Restelli E, Barberis E, Cali T, Brini M, Villani S, Del Grosso E, Grilli M, Manfredi M, Corazzari M, Grolla AA, Genazzani AA, Lim D.
Cell Death Dis. 2022 Oct 18;13(10):878. doi: 10.1038/s41419-022-05324-4.
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Store-Operated Ca2+ Entry Is Up-Regulated in Tumour-Infiltrating Lymphocytes from Metastatic Colorectal Cancer Patients.
Faris P, Rumolo A, **Tapella L,** Tanzi M, Metallo A, Conca F, Negri S, Lefkimmiatis K, Pedrazzoli P, Lim D, Montagna D, Moccia F.
Cancers (Basel). 2022 Jul 7;14(14):3312. doi: 10.3390/cancers14143312.
PMID: 35884372 Free PMC article.

Calcineurin Controls Cellular Prion Protein Expression in Mouse Astrocytes.
Dematteis G, Restelli E, Vanella VV, Manfredi M, Marengo E, Corazzari M, Genazzani AA, Chiesa R, Lim D, **Tapella L.**
Cells. 2022 Feb 10;11(4):609. doi: 10.3390/cells11040609.
PMID: 35203261 Free PMC article.

Deletion of calcineurin from astrocytes reproduces proteome signature of Alzheimer's disease and epilepsy and predisposes to seizures.
**Tapella L**, Dematteis G, Ruffinatti FA, Ponzoni L, Fiordaliso F, Corbelli A, Albanese E, Pistolato B, Pagano J, Barberis E, Marengo E, Balducci C, Forloni G, Verpelli C, Sala C, Distasi C, Sala M, Manfredi M, Genazzani AA, Lim D.
Cell Calcium. 2021 Dec;100:102480. doi: 10.1016/j.ceca.2021.102480. Epub 2021 Sep 26.

Ca2+ handling at the mitochondria-ER contact sites in neurodegeneration.
Lim D, Dematteis G, **Tapella L**, Genazzani AA, Calì T, Brini M, Verkhratsky A.
Cell Calcium. 2021 Sep;98:102453. doi: 10.1016/j.ceca.2021.102453. Epub 2021 Aug 5.
PMID: 34399235 Review.

Dual effects of 9-cis retinoic acid on ACTH-dependent hyperplastic adrenal tissues.
Pecori Giraldi F, Sesta A, **Tapella L**, Cassarino MF, Castelli L.
Sci Rep. 2021 Jul 12;11(1):14315. doi: 10.1038/s41598-021-93672-0.
PMID: 34253781 Free PMC article.

Assessment of a Silicon-Photomultiplier-Based Platform for the Measurement of Intracellular Calcium Dynamics with Targeted Aequorin.
Ruffinatti FA, Lomazzi S, Nardo L, Santoro R, Martemiyanov A, Dionisi M, **Tapella L**, Genazzani AA, Lim D, Distasi C, Caccia M.
ACS Sens. 2020 Aug 28;5(8):2388-2397. doi: 10.1021/acssensors.0c00277. Epub 2020 Aug 5.
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Proteomic analysis links alterations of bioenergetics, mitochondria-ER interactions and proteostasis in hippocampal astrocytes from 3xTg-AD mice.
Dematteis G, Vydmantaitė G, Ruffinatti FA, Chahin M, Farruggio S, Barberis E, Ferrari E, Marengo E, Distasi C, Morkūnienė R, Genazzani AA, Grilli M, Grossini E, Corazzari M, Manfredi M, Lim D, Jekabsone A, **Tapella L**.
Cell Death Dis. 2020 Aug 18;11(8):645. doi: 10.1038/s41419-020-02911-1.
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Calcineurin Controls Expression of EAAT1/GLAST in Mouse and Human Cultured Astrocytes through Dynamic Regulation of Protein Synthesis and Degradation.
Dematteis G, Restelli E, Chiesa R, Aronica E, Genazzani AA, Lim D, **Tapella L.**
Int J Mol Sci. 2020 Mar 23;21(6):2213. doi: 10.3390/ijms21062213.
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Deletion of calcineurin from GFAP-expressing astrocytes impairs excitability of cerebellar and hippocampal neurons through astroglial Na+ /K+ ATPase.
**Tapella L,** Soda T, Mapelli L, Bortolotto V, Bondi H, Ruffinatti FA, Dematteis G, Stevano A, Dionisi M, Ummarino S, Di Ruscio A, Distasi C, Grilli M, Genazzani AA, D'Angelo E, Moccia F, Lim D.
Glia. 2020 Mar;68(3):543-560. doi: 10.1002/glia.23737. Epub 2019 Oct 18.
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Conjugated polymers optically regulate the fate of endothelial colony-forming cells.
Lodola F, Rosti V, Tullii G, Desii A, **Tapella L**, Catarsi P, Lim D, Moccia F, Antognazza MR.
Sci Adv. 2019 Sep 27;5(9):eaav4620. doi: 10.1126/sciadv.aav4620. eCollection 2019 Sep.
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Gene expression, proteome and calcium signaling alterations in immortalized hippocampal astrocytes from an Alzheimer's disease mouse model.
Rocchio F, **Tapella L**, Manfredi M, Chisari M, Ronco F, Ruffinatti FA, Conte E, Canonico PL, Sortino MA, Grilli M, Marengo E, Genazzani AA, Lim D.
Cell Death Dis. 2019 Jan 10;10(1):24. doi: 10.1038/s41419-018-1264-8.
PMID: 30631041 Free PMC article.

TGF-β2 and TGF-β3 from cultured β-amyloid-treated or 3xTg-AD-derived astrocytes may mediate astrocyte-neuron communication.
**Tapella L**, Cerruti M, Biocotino I, Stevano A, Rocchio F, Canonico PL, Grilli M, Genazzani AA, Lim D.
Eur J Neurosci. 2018 Feb;47(3):211-221. doi: 10.1111/ejn.13819. Epub 2018 Jan 18.
PMID: 29283464

Transcriptional Remodeling in Primary Hippocampal Astrocytes from an Alzheimer's Disease Mouse Model.
Ruffinatti F, **Tapella L**, Gregnanin I, Stevano A, Chiorino G, Canonico PL, Distasi C, Genazzani AA, Lim D.
Curr Alzheimer Res. 2018;15(11):986-1004. doi: 10.2174/1567205015666180613113924.
PMID: 29895250 Free article.

Benzene and 2-ethyl-phthalate induce proliferation in normal rat pituitary cells.
**Tapella L**, Sesta A, Cassarino MF, Zunino V, Catalano MG, Pecori Giraldi F.
Pituitary. 2017 Jun;20(3):311-318. doi: 10.1007/s11102-016-0777-3.
PMID: 27853917 Free PMC article.

The Anti-Prion Antibody 15B3 Detects Toxic Amyloid-β Oligomers.
Stravalaci M, **Tapella L**, Beeg M, Rossi A, Joshi P, Pizzi E, Mazzanti M, Balducci C, Forloni G, Biasini E, Salmona M, Diomede L, Chiesa R, Gobbi M.
J Alzheimers Dis. 2016 Jul 6;53(4):1485-97. doi: 10.3233/JAD-150882.
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Effect of retinoic acid on human adrenal corticosteroid synthesis.
Sesta A, Cassarino MF, **Tapella L,** Castelli L, Cavagnini F, Pecori Giraldi F.
Life Sci. 2016 Apr 15;151:277-280. doi: 10.1016/j.lfs.2016.03.023. Epub 2016 Mar 12.
PMID: 26979774 Free article.

Transgenic fatal familial insomnia mice indicate prion infectivity-independent mechanisms of pathogenesis and phenotypic expression of disease.
Bouybayoune I, Mantovani S, Del Gallo F, Bertani I, Restelli E, Comerio L, **Tapella L**, Baracchi F, Fernández-Borges N, Mangieri M, Bisighini C, Beznoussenko GV, Paladini A, Balducci C, Micotti E, Forloni G, Castilla J, Fiordaliso F, Tagliavini F, Imeri L, Chiesa R.
PLoS Pathog. 2015 Apr 16;11(4):e1004796. doi: 10.1371/journal.ppat.1004796. eCollection 2015 Apr.
PMID: 25880443 Free PMC article.

Epitope scanning indicates structural differences in brain-derived monomeric and aggregated mutant prion proteins related to genetic prion diseases.
**Tapella L**, Stravalaci M, Bastone A, Biasini E, Gobbi M, Chiesa R.
Biochem J. 2013 Sep 15;454(3):417-25. doi: 10.1042/BJ20130563.
PMID: 23808898

The hydrophobic core region governs mutant prion protein aggregation and intracellular retention.
Biasini E, **Tapella L**, Restelli E, Pozzoli M, Massignan T, Chiesa R.
Biochem J. 2010 Sep 15;430(3):477-86. doi: 10.1042/BJ20100615.
PMID: 20626348

Synthetic amyloid-beta oligomers impair long-term memory independently of cellular prion protein.
Balducci C, Beeg M, Stravalaci M, Bastone A, Sclip A, Biasini E, **Tapella L**, Colombo L, Manzoni C, Borsello T, Chiesa R, Gobbi M, Salmona M, Forloni G.
Proc Natl Acad Sci U S A. 2010 Feb 2;107(5):2295-300. doi: 10.1073/pnas.0911829107. Epub 2010 Jan 19.PMID: 20133875 Free PMC article.

Immunopurification of pathological prion protein aggregates.
Biasini E, **Tapella L**, Mantovani S, Stravalaci M, Gobbi M, Harris DA, Chiesa R.
PLoS One. 2009 Nov 12;4(11):e7816. doi: 10.1371/journal.pone.0007816.
PMID: 19915706 Free PMC article.

**Congresses**

**Organization of symposia or congresses:**
2021 "10°National congress of Italian Society for neuroscience-SINS2021" organization of the symposium "Under 40" in the session "Proteinopathies in neurodegenerative diseases". Titled: "The complexity of proteinopathies in neurodegenerative diseases: a highlight of new models, mechanisms and possible therapies" Chair: **L. Tapella**.
2018 "Calcium Day", supporting staff and organizing committee, Novara.

**Oral Communication:**
2026 ICGEB, "Calcineurin in astrocytes and its role in proteostasis and neuroinflammation", Croatia2025 "National Congress of Italian Society for neuroscience-SINS2025"
2024 FEPS Granada "Calcineurin B1 deletion in astrocytes rescues memory loss and histopathology in Alzheimer's disease mouse models" **L.Tapella**
2023 "20°National Congress of Italian Society for neuroscience-SINS2023"
Deletion of the major Ca 2+ decoder in astrocytes, calcineurin, to rescue memory and neuroinflammation in Alzheimer's mouse models **L. Tapella.**
*2021 "*40° Congresso nazionale della società italiana di farmacologia*"*
*"*Proteomics analysis links alterations of bioenergetics, mitochondria-ER interaction and proteostasis in hippocampal astrocytes from 3xTg-AD mice*"* **L. Tapella.**
2021 "10°National Congress of Italian Society for neuroscience-SINS2021"
"Proteomics analysis links mitochondria-ER interaction and proteostasis in hippocampal astrocytes from 3xTg-AD mice" **L. Tapella**.
2021 "Junior European Calcium Society"

"Proteomics analysis links alterations of bioenergetics, mitochondria-ER interaction and proteostasis in hippocampal astrocytes from 3xTg-AD mice" **L. Tapella**.
2009 "Prion 2009", Thessaloniki
"Characterization of the molecular heterogeneity of mutant prion proteins" **L. Tapella**.

**Poster Presentation**:
15 -17December 2022: "More than Neurons", Torino
Deletion of the major Ca 2+ decoder in astrocytes, calcineurin, to rescue memory and neuroinflammation in Alzheimer's mouse models, Tapella L
29 November -1 December 2018: "More than Neurons", Torino
2 July 2018 "Calcium Day 2018" Novara-UNIUPO
Gene expression, proteome and calcium signalling alterations in immortalized hippocampal astrocytes from an Alzheimer's disease mouse model. Tapella L, Rocchio F, Manfredi M, Chisari M, Ronco F, Ruffinatti Federico A, Conte E, Canonico P, Sortino M, Grilli M, Marengo E, Genazzani AA and Lim D

4-6 December 2017: "European synapse meeting", Milano

11-13 February 2016 "4i" Turin.
Effect of benzene and phthalate on human GH-secreting pituitary adenomas
Tapella L, Sesta A, Losa M, Cavagnini F, Pecori Giraldi F

14-15 May 2011: "Prion 2011-Young researchers training in science communication", Montreal
16-19 May 2011: "Prion 2011", Montreal
A surface plasmon resonance-based immunoassay to investigate the structural diversity of brain-extracted PrP molecules. Tapella L, Stravalaci M , Biasini E, Bastone A, Gobbi M and Chiesa R.

8-11 September 2010: "Prion 2010", Salzburg
Characterization of mutant prion proteins extracted from the brains of transgenic mice
Tapella L, Stravalaci M , Biasini E, Gobbi M and Chiesa R.

8-9 May 2009: "IV Meeting on the Molecular Mechanisms of Neurodegeneration", Milano

23-25 October 2009: "Prion 2009", Thessaloniki
Characterization of the molecular heterogeneity of mutant prion proteins
Tapella L, Stravalaci M , Biasini E, Gobbi M and Chiesa R

26-28 July 2008: "Human and animal TSE", Grado
October 2008: "Dulbecco Telethon Institute Retreat", Bardolino
Characterization of the molecular diversity of infectious and non-infectious aggregates of PrP
Biasini E, Tapella L, Senatore A, Chiesa R and Harris DA

8-10 October 2008: "Prion 2008", Madrid
Characterization of the molecular diversity of mutant prion protein aggregates
Tapella L, Biasini E, and Chiesa R