

UNIVERSITÀ DEGLI STUDI DI MILANO

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(avviso bando pubblicato sulla G.U. n. 68 del 01/09/2020) - Codice concorso 4436

## Francesca Talpo

### CURRICULUM VITAE

#### INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	TALPO
NOME	FRANCESCA
DATA DI NASCITA	[27, aprile, 1985]

#### Work Experience

##### RESEARCH FOCUS:

*Electrophysiological patch-clamp recordings on brain slices of mice/rats and on cell cultures aimed to investigate:*

- 1. Abnormal function of striatal cells in mouse models of Huntington's disease;*
- 2. Stem and fetal cells functional differentiation into mature neurons;*
- 3. Role of the Rac proteins in the brain: epilepsy and anomalies caused by the absence of Rac proteins in the hippocampus and neocortex;*
- 4. Muscarinic modulation of the perirhinal cortex (PRC) and resonance properties of the PRC neurons;*
- 5. Oxytocinergic modulation of the hippocampal cells;*
- 6. Recordings on cortical cells in vitro and ex vivo on different animal models (mice, pigs, monkeys) for evolutionary and neurodevelopmental studies.*

*April 2020 to date*

*Postdoctoral Assistant (borsa di ricerca Fondazione Umberto Veronesi)*

*University of Pavia*

*Dept. Biology and Biotechnology "L. Spallanzani" – Toselli & Biella Lab*

*Via Forlanini 6, 27100 Pavia (PV) (Italy)*

*October 2017 to March 2020*

*Postdoctoral Assistant (assegno di ricerca)*

*University of Pavia*

*Dept. Biology and Biotechnology "L. Spallanzani" – Toselli & Biella Lab*

*Via Forlanini 6, 27100 Pavia (PV) (Italy)*

*September 2016 – May 2017*

*Postdoctoral Assistant*

*Yale University*

*School of Medicine – Dept Neuroscience – Sestan Lab*

*333 Cedar Street, 06510 New Haven (CT) (USA)*

May 2015 – April 2016	<i>Postdoctoral Assistant (assegno di ricerca)</i> <i>University of Milano-Bicocca</i> <i>School of Medicine and Surgery – Sancini Lab</i> <i>Via Cadore 48, 20900 Monza (MB) (Italy)</i>
March 2013 – April 2015	<i>Postdoctoral Assistant (borsa di ricerca)</i> <i>University of Pavia</i> <i>Dept. Biology and Biotechnology "L. Spallanzani" – Toselli &amp; Biella Lab</i> <i>Via Forlanini 6, 27100 Pavia (PV) (Italy)</i>
November 2009 – October 2012	<i>PhD student</i> <i>University of Pavia</i> <i>Dept. Physiological-Pharmacological, Cellular, and Molecular Sciences – Toselli &amp; Biella Lab</i> <i>Via Forlanini 6, 27100 Pavia (PV) (Italy)</i>
September 2008 – September 2009	<i>Master's thesis internship</i> <i>University of Pavia</i> <i>Dept. Physiological-Pharmacological, Cellular, and Molecular Sciences</i> <i>Via Forlanini 6, 27100 Pavia (PV) (Italy)</i>
September 2006 – July 2007	<i>Bachelor's thesis internship</i> <i>IRCCS Policlinico San Matteo</i> <i>Dept. Pediatric Sciences - Research Laboratories</i> <i>Viale Camillo Golgi 19, 27100 Pavia (PV) (Italy)</i>

## Career Breaks

7 January 2019 – 15 June 2019	<i>Maternity leave</i>
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## Education

February 11, 2013	<i>Doctor of Philosophy degree in Physiology and Neuroscience (EQF 8)</i> <i>University of Pavia, Pavia, Italy</i>  <i>Thesis title: Electrophysiological analysis of the role of Rac1 and Rac3 in the development of the hippocampal circuit</i>  <i>Supervisor: Prof. Mauro Toselli</i>
September 14, 2009	<i>Master's degree in Neurobiology (EQF 7) – graduated with honors</i> <i>University of Pavia, Pavia, Italy</i>

	<p>Thesis title: <i>Effect of the muscarinic modulation on GABAergic interneurons of the mouse perirhinal cortex</i></p> <p>Supervisor: Prof. Gerardo Biella</p>
July 27, 2007	<p>Bachelor's degree in Biotechnology (EQF 6) – graduated with honors</p> <p>University of Pavia, Pavia, Italy</p> <p>Thesis title: <i>Analysis of hematopoietic reconstitution in a pediatric patient undergoing allogeneic transplantation of stem cells obtained from two umbilical cord blood units, one of which propagated ex vivo</i></p> <p>Supervisor: Prof. Daniela Montagna</p>
<b>Language Skills</b>	
Mother tongue	<i>Italian</i>
Other languages	<p><i>Fluent English</i></p> <p><i>Basic French</i></p>
<b>Publications</b>	
<b>h-index: 5 (source: Scopus)</b>	
<b>IN EXTENSO</b>	
1)	<p>Birolini G*, Valenza M*, Di Paolo E*, Vezzoli E, Talpo F, Maniezzi C, Caccia C, Leoni V, Taroni F, Bocchi VD, Conforti P, Sogne E, Petricca L, Cariulo C, Verani M, Caricasole A, Falqui A, Biella G, Cattaneo E (2020). <i>Striatal infusion of cholesterol promotes dose-dependent behavioral benefits and exerts disease-modifying effects in Huntington's disease mice</i>. <i>EMBO Mol Med.</i>, in press.</p> <p><u>Cited by 0; Journal IF2018/2019: 10.624</u></p> <p>*co-first authors</p>
2)	<p>Besusso D*, Schellino R*, Boido M, Belloli S, Parolisi R, Conforti P, Faedo A, Cernigoj M, Campus I, Laporta A, Bocchi VD, Murtaj V, Parmar M, Spaiardi P, Talpo F, Maniezzi C, Toselli MG, Biella G, Moresco RM, Vercelli A, Buffo A, Cattaneo E (2020 May 12). <i>Stem Cell-Derived Human Striatal Progenitors Innervate Striatal Targets and Alleviate Sensorimotor Deficit in a Rat Model of Huntington Disease</i>. <i>Stem Cell Reports</i>, 14(5):876-91.</p> <p>doi: 10.1016/j.stemcr.2020.03.018. Epub 2020 Apr 16.</p> <p><u>Cited by 1; Journal IF2018/2019: 4.697</u></p> <p>*co-first authors</p>
3)	<p>Maniezzi C*, Talpo F*, Spaiardi P, Toselli M, Biella G (2019 May 7). <i>Oxytocin Increases Phasic and Tonic GABAergic Transmission in CA1 Region of Mouse Hippocampus</i>. <i>Front Cell Neurosci.</i>, 13:178.</p> <p>doi: 10.3389/fncel.2019.00178. eCollection 2019.</p> <p><u>Cited by 5; Journal IF2018/2019: 3.900</u></p> <p>*co-first authors</p>

- 4) Vezzoli E\*, Caron I\*, Talpo F, Besusso D, Conforti P, Battaglia E, Sogne E, Falqui A, Petricca L, Verani M, Martufi P, Caricasole A, Bresciani A, Cecchetti O, Rivetti di Val Cervo P, Sancini G, Riess O, Nguyen H, Seipold L, Saftig P, Biella G, Cattaneo E, Zuccato C (2019 May 6). Inhibiting pathologically active ADAM10 rescues synaptic and cognitive decline in Huntington's disease. *J Clin Invest.*, 130:2390-403.  
doi: 10.1172/JCI120616. eCollection 2019 May 6.  
Cited by 5; Journal IF2018/2019: 12.282  
**\*co-first authors**
  
- 5) Vrselja Z\*, Daniele SG\*, Silbereis J, Talpo F, Morozov YM, Sousa AMM, Tanaka BS, Skarica M, Pletikos M, Kaur N, Zhuang ZW, Liu Z, Alkawadri R, Sinusas AJ, Latham SR, Waxman SG, Sestan N (2019 Apr 17). Restoration of brain circulation and cellular functions hours post-mortem. *Nature*, 568(7752):336-43.  
doi: 10.1038/s41586-019-1099-1. Epub 2019 Apr 17.  
Cited by 49; Journal IF2018/2019: 43.070  
**\*co-first authors**
  
- This publication received great international media coverage (e.g. The New York Times, The Washington Post, The Guardian, Daily Mail, ...)*
  
- 6) Dell'Anno MT\*, Wang X\*, Onorati M\*, Li M, Talpo F, Sekine Y, Ma S, Liu F, Cafferty WBJ, Sestan N, Strittmatter SM (2018 Aug 24). Human neuroepithelial stem cell regional specificity enables spinal cord repair through a relay circuit. *Nat Commun.*, 9(1):3419.  
doi: 10.1038/s41467-018-05844-8.  
Cited by 5; Journal IF2018/2019: 11.878  
**\*co-first authors**
  
- 7) Binini N\*, Sancini G\*, Villa C, Magro RD, Sansoni V, Rusconi R, Mantegazza M, Grioni D, Talpo F, Toselli M, Combi R (2017 Dec 15). Identification of two mutations in cis in the SCN1A gene in a family showing genetic epilepsy with febrile seizures plus (GEFS+) and idiopathic generalized epilepsy (IGE). *Brain Res.*, 1677:26-32.  
doi: 10.1016/j.brainres.2017.09.023. Epub 2017 Sep 23.  
Cited by 4; Journal IF2017: 3.125  
**\*co-first authors**
  
- 8) Pennucci R\*, Talpo F\*, Astro V, Montinaro V, Morè L, Cursi M, Castoldi V, Chiaretti S, Bianchi V, Marenga S, Cambiaghi M, Tonoli D, Leocani L, Biella G, D'Adamo P, de Curtis I (2016 Feb). Loss of Either Rac1 or Rac3 GTPase Differentially Affects the Behavior of Mutant Mice and the Development of Functional GABAergic Networks. *Cereb Cortex*, 26:873-90.  
doi: 10.1093/cercor/bhv274. Epub 2015 Nov 17.  
Cited by 12; Journal IF2016: 6.559  
**\*co-first authors**
  
- 9) Onorati M\*, Castiglioni V\*, Biasci D, Cesana E, Menon R, Vuono R, Talpo F, Goya RL, Lyons PA, Bulfamante GP, Muzio L, Martino G, Toselli M, Farina C, Barker RA, Biella G, Cattaneo E (2014 Dec). Molecular and Functional Definition of the Developing Human Striatum. *Nat Neurosci.*, 17(12):1804-15.  
doi: 10.1038/nn.3860. Epub 2014 Nov 10.  
Cited by 35; Journal IF2014: 16.095  
**\*co-first authors**
  
- 10) Vaghi V, Pennucci R, Talpo F, Corbetta S, Montinaro V, Barone C, Croci L, Spaiardi P, Consalez GG, Biella G, de Curtis I (2014 May). Rac1 and Rac3 GTPases Control Synergistically the Development of Cortical and Hippocampal GABAergic Interneurons. *Cereb Cortex*, 24(5):1247-58.  
doi: 10.1093/cercor/bhs402. Epub 2012 Dec 20.  
Cited by 21; Journal IF2014: 8.665

- 11) Delli Carri A\*, Onorati M\*, Lelos J, Castiglioni V, Faedo A, Menon R, Camnasio S, Vuono R, Spaiardi P, Talpo F, Toselli M, Martino G, Barker RA, Dunnett SB, Biella G, Cattaneo E (2013 Jan 15). Developmentally coordinated extrinsic signals drive human pluripotent stem cell differentiation toward authentic DARPP-32+ medium-sized spiny neurons. *Development*, 140(2):301-12.  
doi: 10.1242/dev.084608.  
Cited by 114; Journal IF2013: 6.273  
\*co-first authors

## ABSTRACTS & ORAL COMMUNICATIONS

- Attendance of 14 National Congresses, 3 International Congresses, and 1 International School
- 1) Biella G, Botta L, Faris P, Maniezzi C, Mattiello N, Moccia F, Negri S, Ratto D, Rossi P, Talpo F, Toselli M. "The role of ionic channels in the homeostasis and therapy of the cerebrovascular system". *Life Science 2020 (3rd Joint Annual Symposium of the Departments of Biology and Biotechnology, Molecular Medicine and CNR Institute of Molecular Genetics)*. Pavia (Italy), 19-21 February 2020.  
ORAL COMMUNICATION
  - 2) Valenza M, Birolini G, Di Paolo E, Vezzoli E, Maniezzi C, Talpo F, Biella G, Ruozi B, Tosi G, Cattaneo E. "Translational potential of cholesterol supplementation-based strategies for huntington's disease". *EHDN 2018 Plenary Meeting*. Vienna, 14-16 September 2018.  
POSTER  
  
Published as:  
I14 Translational potential of cholesterol supplementation-based strategies for huntington's disease. *Journal of Neurology, Neurosurgery & Psychiatry* 2018; 89:A93.
  - 3) Talpo F, Binini N, Maniezzi C, Pedrazzoli M, Ramat S, Yanagawa Y, Toselli M, Biella G. "Membrane resonance in pyramidal neurons and GABAergic interneurons of the mouse perirhinal cortex". *11th FENS Forum of Neuroscience*. Berlin (Germany), 7-11 July 2018.  
POSTER
  - 4) Maniezzi C, Talpo F, Cesana E, Conforti P, Besusso D, Balsamo G, Biella G, Cattaneo E, Toselli M. "Human pluripotent stem cells towards striatal medium spiny neurons in physiology and pathology: an electrophysiological point of view". *11th FENS Forum of Neuroscience*. Berlin (Germany), 7-11 July 2018.  
POSTER
  - 5) Talpo F, Zuccato C, Toselli M, Biella G. "Rescuing the corticostriatal synaptic impairments in two mouse models of Huntington's Disease (HD)". *Life Science 2018 (2nd Joint Annual Symposium of the Departments of Biology and Biotechnology, Molecular Medicine and CNR Institute of Molecular Genetics)*. Pavia (Italy), 20-22 June 2018.  
ORAL COMMUNICATION
  - 6) Maniezzi C, Cesana E, Talpo F, Conforti P, Manzella S, Cristofolini M, Morandotti B, Toselli M, Cattaneo E, Biella G. "The human induced pluripotent stem cells: an in vitro model to study possible functional markers of Huntington's Disease". *68th SIF National Congress (The Physiological Society of Italy)*. Pavia (Italy), 6-8 September 2017.  
POSTER
  - 7) Cerquetella C, Balsamo G, Masoli S, D'Angelo E, Talpo F, Maniezzi C, Toselli M, Biella G. "A NEURON model of a striatal medium spiny neuron (MSN)". *68th SIF National Congress (The Physiological Society of Italy)*. Pavia (Italy), 6-8 September 2017.  
POSTER
  - 8) Talpo F, de Curtis I, Pennucci R, Astro V, Biella G. "Lowering of the epileptogenic threshold in mouse models lacking Rac1 and Rac3 GTPases in neurons". *67th SIF National Congress (The Physiological Society of Italy)*. Catania (Italy), 21-23 September 2016.  
ORAL COMMUNICATION

- 9) Maniezzi C, Talpo F, Spaiardi P, Petrella M, Tamamaki N, Biella G, Toselli M. "Oxytocin modulates phasic and tonic GABAA receptor-mediated inhibition of firing in CA1 pyramidal cells". 10th FENS Forum of Neuroscience. Copenhagen (Denmark), 2-6 July 2016.  
POSTER
- 10) Biella G, Talpo F, Zuccato C, Cattaneo E, Sancini G, Toselli M. "Impairment of cortico-striatal glutamatergic synapses in two mouse models of Huntington's Disease (HD)". XVI National Congress of the Italian Society of Neuroscience. Cagliari (Italy), 8-11 October 2015.  
POSTER
- 11) Talpo F, Zuccato C, Cattaneo E, Sancini G, Toselli M, Biella G. "Impairment of cortical inputs towards striatal medium-spiny neurons and fast-spiking GABAergic interneurons in two mouse models of Huntington's Disease (HD)". 66th SIF National Congress (The Physiological Society of Italy). Genoa (Italy), 16-18 September 2015.  
POSTER
- 12) Talpo F, de Curtis I, Pennucci R, Astro V, Biella G "Rac1 and Rac3 GTPases influence the development of the hippocampal GABAergic circuits". 66th SIF National Congress (The Physiological Society of Italy). Genoa (Italy), 16-18 September 2015.  
POSTER
- 13) Battaglia E, Conforti P, Talpo F, Saftig P, Biella G, Cattaneo E, Zuccato C. "Role of ADAM10 in Huntington's Disease". XVIII Telethon Scientific Convention. Riva del Garda (Italy), 9-11 March 2015.  
POSTER
- 14) Cesana E, Talpo F, Bina L, Cobelli F, Motta B, Castiglioni V, Onorati M, Conforti P, Cattaneo E, Toselli M, Biella G. "Comparative functional evaluation of medium-sized spiny neurons differentiated from human embryonic- and induced- stem cells". 65th SIF National Congress (The Physiological Society of Italy). Anacapri (Italy), 28-30 September 2014.  
ORAL COMMUNICATION
- 15) Cesana E, Talpo F, Bina L, Cobelli F, Motta B, Castiglioni V, Onorati M, Delli Carri A, Cattaneo E, Toselli M, Biella G. "Functional characterization of medium-sized spiny neurons derived from human embryonic stem cells and human fetal cells". 9th FENS Forum of European Neuroscience. Milan (Italy), 5-9 July 2014.  
POSTER
- 16) Macco R, Pennucci R, Vaghi V, Talpo F, Croci L, Morè L, Botta M, Biella G, Consalez G, D'Adamo P, de Curtis I. "Role of Rac GTPases in the development of cortical GABAergic interneurons". 9th FENS Forum of European Neuroscience. Milan (Italy), 5-9 July 2014.  
POSTER
- 17) Binini N, Maniezzi C, Talpo F, Yanagawa Y, Spaiardi P, Toselli M, Biella G. "Resonance properties of the perirhinal neurons in the mouse". 9th FENS Forum of European Neuroscience. Milan (Italy), 5-9 July 2014.  
POSTER
- 18) Talpo F, Cesana E, Onorati M, Castiglioni V, Vuono R, Barker RA, Cattaneo E, Toselli M, Biella G. "Electrophysiological characterization of human cortical and striatal primary neurons". XV National Congress of the Italian Society of Neuroscience. Rome (Italy), 3-5 October 2013.  
POSTER
- 19) Binini N, Talpo F, Spaiardi P, Maniezzi C, Toselli M, Biella G. "Resonance, oscillations and muscarinic modulation in the mouse perirhinal cortex". XV National Congress of the Italian Society of Neuroscience. Rome (Italy), 3-5 October 2013.  
POSTER
- 20) Biella G, Onorati M, Cesana E, Talpo F, Castiglioni V, Vuono R, Toselli M, Barker RA, Cattaneo E. "Functional benchmarking of human fetus-derived cortical and striatal primary neurons". 11th Annual Meeting ISSCR (International Society for Stem Cell Research). Boston (MA, USA), 12-15 June 2013.  
POSTER

- 21) Talpo F, Spaiardi P, Biella G, Chini B, Toselli M. "Oxytocin modulates a class of hippocampal GABAergic interneurons in mice". 63th SIF National Congress (The Physiological Society of Italy). Verona (Italy), 21-23 September 2012.  
POSTER
  - 22) Cesana E, Spaiardi P, Talpo F, Delli Carri A, Onorati M, Toselli M, Cattaneo E, Biella G. "Electrophysiological characterization of human pluripotent stem cells differentiated towards authentic fully functional medium spiny neurons". 63th SIF National Congress (The Physiological Society of Italy). Verona (Italy), 21-23 September 2012.  
POSTER
  - 23) Talpo F, Spaiardi P, Biella G, Chini B, Toselli M. "Comparison of GABAergic synaptic activity in the hippocampus of wild-type and oxytocin receptor null mice". 8th FENS Forum of European Neuroscience. Barcelona (Spain), 14-18 July 2012.  
POSTER
  - 24) Pennucci R, Vaghi V, Talpo F, Barone C, Montinaro V, D'Adamo P, Biella G, de Curtis I. "Rac1 and Rac3 GTPases regulate the development of specific populations of cortical and hippocampal interneurons". 8th FENS Forum of European Neuroscience. Barcelona (Spain), 14-18 July 2012.  
POSTER
  - 25) Talpo F, Spaiardi P, Toselli P, de Curtis I, Biella G. "Analysis of the hyperexcitability of CA3 pyramidal neurons in a Rac1<sup>fl</sup>/Rac3<sup>ko</sup> knock-out mouse model". 62nd SIF National Congress (The Physiological Society of Italy). Sorrento (Italy), 25-27 September 2011.  
POSTER
  - 26) Talpo F, Spaiardi P, Toselli M, de Curtis I, Biella G. "Analysis of the Hyperexcitability of CA3 Pyramidal Neurons in a Mouse-Model Presenting the Inactivation of Rac1 and Rac3 GTPases." International School of Biophysics "Antonio Borsellino". EMBO/FEBS Lecture Course on Channels and Transporters. Erice (Italy), 11-17 May 2011.  
POSTER
  - 27) Talpo F, Spaiardi P, Marinoni A, Savazzi P, Toselli M, Favalli L, Biella G. "Muscarinic modulation of the perirhinal cortex: effects on GABAergic interneurons and pyramidal cells". 61st SIF National Congress (The Physiological Society of Italy). Varese (Italy), 15-17 September 2010.  
POSTER
  - 28) Biella G, Yanagawa Y, Talpo F, Toselli M, Spaiardi P. "Muscarinic effects on GABAergic and pyramidal neurons of the mouse perirhinal cortex". 7th FENS Forum of European Neuroscience. Amsterdam (Netherlands), 3-7 July 2010.  
POSTER
  - 29) Spaiardi P, Talpo F, Toselli M, Biella G, Marinoni A, Savazzi P, Favalli L (2010 Nov). "Analysis of the noise associated to the muscarinic modulation of the mouse perirhinal cortex". The 3rd International Symposium on Applied Sciences in Biomedical and Communication Technologies. Rome (Italy), 7-10 November 2010  
ORAL COMMUNICATION.
- Published as:  
Analysis of the noise associated to the muscarinic modulation of the mouse perirhinal cortex. In: proceedings of The 3rd International Symposium on Applied Sciences in Biomedical and Communication Technologies. Rome, 7-10 Nov 2010, Roma: CTIF, IEEE, p. 1-5, ISBN/ISSN: 9781424481316. doi: 10.1109/ISABEL.2010.5702765.
- 30) Talpo F, Spaiardi P, Marinoni A, Savazzi P, Favalli L, Yanagawa Y, Toselli M, Biella G. "Muscarinic modulation of the mouse perirhinal cortex and associated noise". Annual Meeting of Young Researchers in Physiology. Pisa (Italy), 16-19 June 2010.  
POSTER

## Invited presentations

- 1) Talpo F. "My Academic Path". Congress: "Career in Neurobiology". University of Pavia (Pavia, IT), 20 December 2019.

- 2) Talpo F. "Caronte Come Back. Restoration of cellular functions after death: scientific and bioethical implications". University of Pavia (Pavia, IT), 7 November 2019.
- 3) Talpo F. "Cell-specific anatomic and functional impairments in the striatum of two mouse models of Huntington's Disease". University of Pavia (Pavia, Italy), 21 November 2018.
- 4) Talpo F. "The cure within a cell: stem cells against neurodegenerative diseases". Board of physicians, surgeons and orthodontist of Bergamo (Bergamo, Italy), 27 September 2017.
- 5) Talpo F, de Curtis I, Biella G "Rac1 and Rac 3 contribute to build the GABAergic inhibitory network in the mouse hippocampus". 68th SIF National Congress (The Physiological Society of Italy). Pavia (Italy), 6-8 September 2017.
- 6) Talpo F. "Neuronal electrophysiology: how to study the electrical properties of the neurons". Yale University (New Haven, CT, USA), 4 May 2017.
- 7) Talpo F. "Role of the Rac1 and Rac3 proteins in the functional development of the hippocampal GABAergic circuits". University of Pavia (Pavia, Italy), 23 June 2016.
- 8) Talpo F. "Role of the Rac1 and Rac3 GTPases in the development of the hippocampal GABAergic circuits". Congress: Neurogenesis and Neural plasticity – in memory of Elda Scherini. Pavia (Italy), 24 September 2015.
- 9) Talpo F, Toselli M. "Laboratory of voltage-clamp data analysis". School of Physiology and Biophysics 2015: Molecular and cellular biophysics of excitable cells – SIF (The Physiological Society of Italy). Pavia (Italy), 29 June-2 July 2015.
- 10) Talpo F. "Rac1N/Rac3KO mice: a new model of epilepsy". Congress: The First 10 Years of the Master Program in Neurobiology at the University of Pavia. Pavia (Italy), 30 May 2014.

## Honors, Grants, and Awards

- 1) From April 2020 to March 2021 – Fondazione Umberto Veronesi Competitive Postdoctoral Fellowship  
Coordination of the project "Identifying interindividual impairments in the striatal cells of a mouse model of Huntington's Disease".
- 2) From January 2018 to March 2020 - FRG (Fondo Ricerca Giovani) Competitive Postdoctoral Fellowship, University of Pavia  
Coordination of the project "Dissecting the impairment of cortical inputs towards striatum in a mouse model of Huntington's Disease" (project that involves the collaboration of 5 research groups).
- 3) From September 2017 to date - Science Crowdfunding and Outreach  
I am actively involved in the crowdfunding campaign "The cure within a cell" hosted by "Universitiamo", the University Crowdfunding Platform by UNIPV (<https://universitiamo.eu/en/campaigns/cura-in-cellula/>). Our project raised 73.500 euros until now and received great local and national media coverage (<http://staminaliunipv.wixsite.com/home/blank> - section "Articoli esterni"). The 6th March 2018 I was invited to present "La Cura in Una Cellula" as a case study of a successful crowdfunding campaign at the meeting "Mission impossible: fundraising" organized by Activators Pavia in co-operation with the Unipv Innovation and Startup Europe Week. "La Cura in Una Cellula" has been presented as a successful crowdfunding case study also in the Master's Thesis in Economics, Finance and Markets by Pasqualina Valentino (University of Campania "Luigi Vanvitelli". Thesis title: "Crowdfunding: evolution, regulatory discipline and application in the scientific field". Supervisor: Prof. Mario Mustilli).
- 4) Travel Grant, International School of Biophysics "Antonio Borsellino". EMBO/FEBS Lecture Course on Channels and Transporters (Erice, Italy, 11-17 May 2011).
- 5) Best Poster Award. "62nd SIF National Congress (The Physiological Society of Italy)." (Sorrento, Italy, 25-27 September 2011).



- 6) Best Poster Award. "Annual Meeting of Young Researchers in Physiology" (Pisa, Italy, 16-19 June 2010).
- 7) Total tuition and Fees Exemption for School Merit for 1st year of Master's course (October 2007-September 2008), University of Pavia

## Membership in societies

September 2017 to date

The Physiological Society of Italy (SIF)

## Didactics

- 1) Assistant Lecturer (*culture della materia*) at the University of Pavia for the course of "Membrane biophysics and electrophysiology" (cod. 500829) (BIO/09 – Fisiologia) – Master's Degree in Neurobiology, University of Pavia. (2017 – present)
- 2) Assistant Lecturer (*culture della materia*) at the University of Pavia for the course of "General physiology" (cod. 502241) (BIO/09 – Fisiologia) – Bachelor's Degree in Biological Sciences. (2014 – present)
- 3) Assistant Lecturer (*culture della materia*) at the University of Pavia for the course of "Neural basis of behavior and general neuropsychology" (cod. 502342) (M-PSI/02 – Psicobiologia e Psicobiologia fisiologica) – Master's Degree in Neurobiology. (2014 – present)
- 4) Seminars for the course of "Fundamentals of physiology" (cod. 500710) (BIO/09 – Fisiologia) – Bachelor's Degree in Bioengineering. (2017-2018)
- 5) Seminars for the course of "General physiology" (cod. 502241) (BIO/09 – Fisiologia) – Bachelor's Degree in Biological Sciences. (2011-2012 & 2012-2013)
- 6) Seminars for the course of "Membrane biophysics and electrophysiology" (cod. 500829) (BIO/09 – Fisiologia) – Master's Degree in Neurobiology, University of Pavia. (2009-2010)

## Supervision of students and fellows

- 1) Master's Degree in Neurobiology (class 2019-2020 – University of Pavia) of Michelangelo Trucchi; Thesis title: Cell-specific functional impairments in the striatum of two mouse models of Huntington's disease.  
Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo
- 2) Bachelor's Degree in Biological Sciences (class 2017-2018 – University of Pavia) of Niccolò Mattiello; Thesis title: Electrophysiological characterization of SH-SY5Y cells differentiated in vitro into a functional neuronal phenotype.  
Supervisor: Mauro Toselli; Co-advisor: Francesca Talpo
- 3) Master's Degree in Neurobiology (class 2015-2016 – University of Pavia) of Beatrice Badone; Thesis title: Functional impairment of cortical inputs towards striatal cells in two mouse models of Huntington's disease.  
Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo
- 4) Master's Degree in Neurobiology (class 2015-2016 – University of Pavia) of Anna Fontana; Thesis title: Lowering of the epileptogenic threshold in mouse models lacking Rac1 and Rac3 proteins in the nervous system.  
Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo

- 5) *Master's Degree in Neurobiology (class 2014-2015 – University of Pavia) of Beatrice Ferrari; Thesis title: Anatomical and morphological alterations of striatal fast-spiking interneurons in two mouse models of Huntington's disease. Supervisor: Mariagrazia Bottone; Co-advisor: Francesca Talpo*
- 6) *Bachelor's Degree in Biological Sciences (class 2013-2014 – University of Pavia) of Beatrice Badone; Thesis title: Alterations of the excitatory synaptic input to the striatal neurons in a mouse model of Huntington's disease. Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo*
- 7) *Master's Degree in Neurobiology (class 2012-2013 – University of Pavia) of Claudia Maniezzi; Thesis title: Resonance, oscillations and muscarinic modulation in the mouse perirhinal cortex. Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo*
- 8) *Bachelor's Degree in Biological Sciences (class 2011-2012 – University of Pavia) of Lorenzo Bina; Thesis title: Oxytocin-dependent modulation of a class of GABAergic interneurons in mouse hippocampus. Supervisor: Mauro Toselli; Co-advisor: Francesca Talpo*
- 9) *Bachelor's Degree in Biological Sciences (class 2011-2012 – University of Pavia) of Federica Di Mauro; Thesis title: Analysis of the susceptibility to epileptiform activity induction in Rac1<sup>N</sup>/Rac3<sup>KO</sup> mice. Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo*
- 10) *Bachelor's Degree in Biological Sciences (class 2009-2010 – University of Pavia) of Mauro Piemontese; Thesis title: Noise analysis during the cholinergic modulation of the mouse perirhinal neurons. Supervisor: Gerardo Biella; Co-advisor: Francesca Talpo*

## Media Coverage

### PRESS

La Provincia Pavese – article

<https://laprovinciapavese.gelocal.it/tempo-libero/2019/11/07/news/il-corpo-muore-e-il-cervello-gli-sopravvive-ma-frankenstein-resta-ancora-fantascienza-1.37872424?ref=search>

Corriere della Sera – interview

[https://www.corriere.it/salute/19\\_aprile\\_17/cervelli-maiale-riattivati-la-morte-test-sull-uomo-ancora-lontani-6eff4342-6147-11e9-a327-0127d031f6b3.shtml?refresh\\_ce-cp](https://www.corriere.it/salute/19_aprile_17/cervelli-maiale-riattivati-la-morte-test-sull-uomo-ancora-lontani-6eff4342-6147-11e9-a327-0127d031f6b3.shtml?refresh_ce-cp)

Repubblica – interview

<https://www.repubblica.it/salute/medicina-e-ricerca/2019/04/17/news/quei-neuroni-riaccesi-dopo-la-morte-224276317/?ref=search>

Il Sole 24 Ore – interview

<https://www.ilsole24ore.com/art/la-scienziata-talpo-avanti-la-ricerca-cervello-il-test-yale-maiali-ABIFAfqB>

Il Messaggero – interview

<https://www.ilmessaggero.it/salute/ricerca/intervista-cellule-cervello-maiale-riattivate-dopo-morte-4436621.html>

Il Mattino – interview

<https://www.ilmattino.it/pelo-e-contropelo/intervista-cellule-cervello-maiale-riattivate-dopo-morte-4436632.html>

Gazzetta di Parma – interview

<https://www.gazzettadiparma.it/archivio/2019/04/17/news/cervelli-di-maiale-riattivati-dopo-la-morte-911284/>

La Provincia Pavese – interview

<https://laprovinciapavese.gelocal.it/tempo-libero/2019/04/19/news/riattivato-il-cervello-di-un-maiale-morto-ricercatrice-pavese-protagonista-negli-usa-1.30203282?ref=search>

	<p>ANSA – article  <a href="http://www.ansa.it/canale_scienza_tecnica/notizie/biotech/2019/04/17/riattivate-dopo-la-morte-cellule-del-cervello-di-maiali_5edd1384-94f6-420d-96ae-5de4948f23e3.html">http://www.ansa.it/canale_scienza_tecnica/notizie/biotech/2019/04/17/riattivate-dopo-la-morte-cellule-del-cervello-di-maiali_5edd1384-94f6-420d-96ae-5de4948f23e3.html</a></p> <p>ADNKRONOS – interview  <a href="https://www.adnkronos.com/fatti/cronaca/2019/04/23/cellule-riattivate-dopo-morte-ritorno-alla-vita-fantascienza_qnGy6AZo8mv4FszaxlucNP.html">https://www.adnkronos.com/fatti/cronaca/2019/04/23/cellule-riattivate-dopo-morte-ritorno-alla-vita-fantascienza_qnGy6AZo8mv4FszaxlucNP.html</a></p> <p>WIRED – article  <a href="https://www.wired.it/scienza/biotech/2019/04/18/riattivate-cellule-cervello-maiali-morti/">https://www.wired.it/scienza/biotech/2019/04/18/riattivate-cellule-cervello-maiali-morti/</a></p> <p>La Provincia Pavese – article  <a href="https://laprovinciapavese.gelocal.it/tempo-libero/2018/01/13/news/danza-musica-e-ricerca-1.16348512">https://laprovinciapavese.gelocal.it/tempo-libero/2018/01/13/news/danza-musica-e-ricerca-1.16348512</a></p> <p>La Provincia Pavese – article  <a href="https://laprovinciapavese.gelocal.it/tempo-libero/2017/11/25/news/disegna-le-nostre-cellule-sfida-per-aiutare-la-ricerca-1.16164774">https://laprovinciapavese.gelocal.it/tempo-libero/2017/11/25/news/disegna-le-nostre-cellule-sfida-per-aiutare-la-ricerca-1.16164774</a></p> <p>La Provincia Pavese – article  <a href="https://laprovinciapavese.gelocal.it/tempo-libero/2017/11/15/news/tra-scienza-e-arte-c-e-speranza-per-i-malati-1.16121360">https://laprovinciapavese.gelocal.it/tempo-libero/2017/11/15/news/tra-scienza-e-arte-c-e-speranza-per-i-malati-1.16121360</a></p> <p>La Provincia Pavese – article  <a href="https://laprovinciapavese.gelocal.it/pavia/cronaca/2014/11/19/news/malattia-di-huntington-la-cura-e-un-po-piu-vicina-1.10344617">https://laprovinciapavese.gelocal.it/pavia/cronaca/2014/11/19/news/malattia-di-huntington-la-cura-e-un-po-piu-vicina-1.10344617</a></p>
<b>RADIO</b>	<p>Radio2 GR2 18/04/2019 – interview</p> <p>Radio3 Scienza – roundtable  <a href="https://www.raipplayradio.it/audio/2019/04/RADIO3-SCIENZA-del-18042019----AI-confine-tra-vita-e-morte-b14143f5-52bf-49cf-b216-2acb40b10c66.html">https://www.raipplayradio.it/audio/2019/04/RADIO3-SCIENZA-del-18042019----AI-confine-tra-vita-e-morte-b14143f5-52bf-49cf-b216-2acb40b10c66.html</a></p>
<b>TV</b>	<p>Rai Scuola - Nautilus – interview  <a href="https://www.raipplay.it/video/2019/09/RAISCUOLA-PT-47-NAUTILUS-SANGUE-805d3c45-adb8-46ae-acfb-44349965e355.html">https://www.raipplay.it/video/2019/09/RAISCUOLA-PT-47-NAUTILUS-SANGUE-805d3c45-adb8-46ae-acfb-44349965e355.html</a></p>
<b>Outreach</b>	
September 8, 2020	<p>Interview about my research interests by Fondazione Umberto Veronesi  <a href="https://www.fondazioneveronesi.it/magazine/articoli/i-nostri-ricercatori/il-diverso-destino-dei-neuroni-basali-nella-malattia-di-huntington">https://www.fondazioneveronesi.it/magazine/articoli/i-nostri-ricercatori/il-diverso-destino-dei-neuroni-basali-nella-malattia-di-huntington</a></p>
May 18, 2020	<p><i>Researchers in the classroom</i>: webinar on what it means to do research and to be a researcher addressed to college students (Liceo Scientifico “Mascheroni”, Bergamo, IT)</p>
September 27, 2019	<p>“<i>MagicaMENTE!</i>” (“Magic MIND!”): Informative desk with puzzles, brain teasers, and optical illusions to explain the mysteries of the brain functionality at the European Researchers Night (Pavia, IT)</p>
23-26 September 2019	<p>“<i>Scatti di Scienza</i>” (“Shoot of Science”): Exhibition of scientific photos organized for the European Researchers’ Night (Pavia, IT)</p>
September 28, 2018	<p>“<i>Conosci te stesso?</i>” (“Do you know yourself?”): Informative desk with puzzles, brain teasers, and optical illusions to explain the mysteries of the brain functionality at the European Researchers’ Night (Pavia, IT)</p>
March 6, 2018	<p>Invited presentation at the meeting “<i>Mission impossible: fundraising</i>” organized by Activators Pavia in co-operation with the Unipv Innovation and Startup Europe Week to present the strategies for a successful crowdfunding campaign based on my experience with the campaign “The cure within a cell” (Pavia, IT)</p>

September 2017 - July 2019

Organization of more than 30 disseminative and public engagement events for the crowdfunding campaign "The cure within a cell" hosted by "Universitiamo", the University Crowdfunding Platform by UNIPV:

- 10 September 2017: informative desk and "books for science" at "Festa del Ticino" (Pavia, IT)
- 23 September 2017: informative desk at "Autunno Pavese" (Pavia, IT)
- 27 September 2017: disseminative seminar (Bergamo, IT)
- 5 October 2017: volley match VBC Pomi Casalmaggiore vs Volero Zurigo (Cremona, IT)
- 6 October 2017: disseminative seminar (Vigevano, IT)
- 8 October 2017: lunch at "Bormiadi" (Valdidentro, IT)
- 12 October 2017: disseminative seminar (Pavia, IT)
- 22 October 2017: disseminative seminar and bridal fashion show "Ricerca e solidarietà vanno a nozze" (Pavia, IT)
- 10 November 2017: ballet In Punta di Piedi per la Ricerca" at the *Fraschini* theater (with Oliviero Bifulco and professional ballet dancers from *La Scala* theater") (Pavia, IT)
- 14 November – 2 December 2017: art exhibition "Una vita per l'arte" (Pavia, IT)
- 14 November – 2 December 2017: design exhibition "Secondo nome:Huntington" (Pavia, IT)
- 25 November 2017: participation in solidarity concert "Concerto per La Vita" (Rimini, IT)
- 25 & 26 November 2017: secondary school students' drawings contest "Cellule e neuroni visti dagli occhi dei ragazzi" (Pavia, IT)
- 16 December 2017: disseminative seminar (Bormio, IT)
- 14 January 2018: music and dance show "Musica e danza per la ricerca" (Siziano, IT)
- 16 January 2018: concert "La ricerca in sinfonia" at the Almo Collegio Borromeo (Pavia, IT)
- 3 February 2018: theatrical show "Impronte Digitali Show" (Pavia, IT)
- 8 February 2018: lunch at Imbersago (Imbersago, IT)
- 10 February 2018: prizegiving and seminar for secondary school students (Pavia, IT)
- 14 April 2018: participation in "La Bellezza della Vita" project promoted by Carrefour-Pavia (Pavia, IT)
- 6 June 2018: "Burraco" tournament (Pavia, IT)
- 13 June – 17 June 2018: raku ceramic exhibition "Ceramica Raku: gioire per la ricerca" (Pavia, IT)
- 16 June 2018: dance recital (Attitude Dance School) (Pavia, IT)
- 07 October – 17 November 2018: participation in "Graffittiamoci" project promoted by Carrefour-Pavia (Pavia, IT)
- 20 October 2018: visit to the UNIPV Museums and Historical Classrooms (Pavia, IT)
- 20 October 2018: lunch and wine tasting (Pavia, IT)
- 25 November 2018: participation in solidarity concert "Concerto per La Vita" (Rimini, IT)
- 15 December 2018: disseminative seminar and concert "The Soul of Guarneri" (Pavia, IT)
- 4 April 2019: seminar for high school students (Dalmine, IT)
- 13 & 14 July 2019: informative desk at "Siziano Festival" (Siziano, IT)

## Personal skills

### Social skills

- Good teaching and training skills derived from the educational experiences and the supervision of students during their thesis internships.
- Good dissemination skills derived from the presentation of scientific research results to a non-specialist public in the context of conferences addressed to students, associations of patients and patient's relatives, general population.

### Organization skills

- Good organization skills derived from both the experimental planning and the management of the laboratory activities.
- Good event management skills acquired during the participation in the crowdresearching campaign *Universitiamo* by UNIPV (promoted by the University of Pavia) with the project "The Cure within a Cell". I organized and managed lots of different events (fashion shows, theater performances, ballets, dissemination conferences, sporting events, ...) aimed at promoting scientific research and disseminating research results.

### Technical Skills

- Fully competent in the use of the electrophysiological laboratory equipments and the patch-clamp set-up. Excellent command of the intracardiac perfusion procedure and murine brain dissection. Excellent knowledge of the whole-cell patch-clamp technique on isolated cells and brain slices. Full mastery of immunofluorescence techniques on free-floating brain slices.
- Fully competent in the use of biological and chemical laboratory instrumentation. Knowledge of the main techniques of chemistry, biochemistry, cell biology, genetics, and microbiology. Knowledge of specific molecular biology techniques: separation of mononuclear cells from whole blood; DNA extraction and purification; DNA amplification by PCR; electrophoresis on polyacrylamide gel.

### IT Skills

- Good knowledge of Windows operating system.
- Good knowledge of Microsoft Office (Word, Excel, and PowerPoint) and OpenOffice.
- Good knowledge of the main Internet Browsers and the database Entrez-Pubmed.
- Good knowledge of the software for acquisition and data analysis "p-Clamp" (Clampex & Clampfit).
- Good knowledge of the software for statistic and data analysis "Microcal Origin".
- Good knowledge of the graphics software "Adobe PhotoShop".
- Good knowledge of the software for image analysis "ImageJ".
- Basic knowledge of the statistic software R.
- Basic knowledge of the Matlab programming language.

Data

12/09/2020

Luogo

San Martino Siccomario (PV)