Curriculum Vitae SERENA STANGA

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Languages: Italian, English, French

CAREER SUMMARY

October 2021 – present: Assistant Professor RTDb in Human Anatomy, Neuroscience Institute Cavalieri Ottolenghi (NICO), Università degli Studi di Torino, Torino (Italy)

- Prof. Alessandro Vercelli – Study of mitochondrial dysfunction as an early marker of aging and neurodegeneration.

June 2019 – September 2021: Assistant Professor RTDa in Human Anatomy, Neuroscience Institute Cavalieri Ottolenghi (NICO), Università degli Studi di Torino, Torino (Italy)

- Prof. Alessandro Vercelli – Research on mitochondrial dysfunction in Spinal Muscular Atrophy.

October 2018 – May 2019: Research Associate, NICO, Università degli Studi di Torino

- Prof. Alessandro Vercelli – Research on mitochondrial dysfunction in Spinal Muscular Atrophy.

October 2016 – July 2018: Research Associate, UCLouvain, Institute of Neuroscience (IoNS), Bruxelles (Belgium)

- Prof. Pascal Kienlen-Campard – Research on Alzheimer's Disease protein – control of neuromuscular function.

October 2014 – March 2016: Research Assistant, UCLouvain, IoNS, Bruxelles (Belgium)

- Prof. Pascal Kienlen-Campard - Alzheimer's Disease protein transcriptional activity.

February 2011 – September 2014: Postdoctoral Fellow, UCLouvain, IoNS, Bruxelles (Belgium)

- Prof. Jean-Noel Octave –Study of Amyloid Precursor Protein physiopathological functions.

October 2007 – December 2010: Ph.D. candidate, Università degli Studi di Pavia, Dep. of Drug Sciences, Pavia (Italy)

- Prof. Marco Racchi – Research activity on Alzheimer's Disease prevention and pathogenic mechanisms.

October 2004 – September 2005: Visiting Research Trainee, Innovate Biotechnology S.r.l., Tortona (Italy)

- Prof. Marco Terreni & Dr. Daniela Ubiali – Enzymatic synthesis of anti-cancer drugs from B. subtilis.

EDUCATION & QUALIFICATIONS

2nd Level Master Degree in Translational Medicine (Interdisciplinary Program of the Institute for interdisciplinary innovation in healthcare I3H & Université Libre de Bruxelles, ULB) (10CFU-300h February-March 2018),

Ph.D. in Pharmacological Sciences Università degli Studi di Pavia (Italy), (2007-2010) Ciclo XXIII 22/12/2010

Master's degree in Medical and Pharmaceutical Biotechnology Università degli Studi di Pavia (Italy), 110/110 cum laude (2005-2007) 20/07/2007

Bachelor's degree in Chemical and Pharmaceutical Biotechnology Università degli Studi di Pavia (Italy) (2002-2005)

Bilingual Scientific Baccalaureate Liceo Scientifico L. Da Vinci, Crema (CR – Italy)

2021: **IRIDI START** "Insegnamento di qualità in presenza e a distanza, valutazione e inclusione partecipante" (UniTO, 19/11/21);

2018: **Course on Laboratory Animal Science** (NICO – Torino, Italy) (11-12/10/2018);

2015: **Advanced Microscopy and Vital Imaging Course** (8-12 June Maastricht University);

2012: **Advanced Course on Laboratory Animal Science** (UCLouvain) FELASA requirements LEVEL C: MD2290 (3CFU 35h theory + 10h practice) and MD2291 "Maître d'expérience" (3CFU 29h theory + 6h practice);

2009: **Professional Biologist Qualification** (Università degli Studi di Pavia, Italy).

PROFESSIONAL EXPERIENCE

October 2021 – present Neuroscience Institute Cavalieri Ottolenghi (NICO), Università degli Studi di Torino, Orbassano (Italy) – Assistant Professor in tenure track (RTDb) in _Prof. Alessandro Vercelli's team_

My current research activity is focused on the study of mitochondrial dysfunction and iron metabolism in healthy aging and neurodegenerative diseases such as Alzheimer's disease (AD), Amyotrophic Lateral Sclerosis (ALS) and Spinal Muscular Atrophy (SMA). Unveiling the molecular mechanisms behind brain aging and degeneration will lead to finding new therapeutic targets and potential biomarkers for early diagnosis and to test treatments' efficacy.

▪ Teaching: "Human Anatomy and Neuroanatomy" at "Lauree Triennali Sanitarie": Terapia della Neuro e Psicomotricità dell' Età Evolutiva, Fisioterapia, Ortottica ed Assistenza Oftalmologica and Logopedia".

▪ Team work and supervision of a master student intern.

June 2019 – September 2021 Neuroscience Institute Cavalieri Ottolenghi (NICO), Università degli Studi di Torino, Orbassano (Italy) - Assistant Professor (RTDa) in _Prof. Alessandro Vercelli's team_

My current research activity is focused on the study of mitochondrial dysfunction in Spinal Muscular Atrophy (SMA). I investigate mitochondrial alterations and contribution to SMA etiology in the spinal cord, NMJs and muscles of the murine model of the disease (strain SMNdelta7). The aim of the research is to find specific mitochondrial alterations which could be used as new therapeutic targets and potential biomarkers of the disease, to monitor its progression and to test treatments' efficacy.

▪ Teaching: "Human Anatomy and Neuroanatomy" at "Lauree Triennali Sanitarie": Terapia della Neuro e Psicomotricità dell' Età Evolutiva, Fisioterapia, Ortottica ed Assistenza Oftalmologica and Logopedia".

▪ Team work and supervision of a master student intern.

October 2018 – May 2019 Neuroscience Institute Cavalieri Ottolenghi (NICO), Università degli Studi di Torino, Orbassano (Italy) - Research Associate in _Prof. Alessandro Vercelli's team_

My research activity is focused on the study of mitochondrial dysfunction and autophagy in Spinal Muscular Atrophy (SMA). I am currently investigating mitochondria alterations and contribution to SMA etiology in the three main districts affected by the disease: spinal cord, NMJs and muscles.

2016 – 2018 Université catholique de Louvain, Institute of Neuroscience (IoNS), Bruxelles (Belgium) - Research Associate (Chargée de Recherches) in _Prof. Pascal Kienlen-Campard's team_

My research activity was focused on the study of GDNF expression by Presenilin (PS) and on the implications in neurodegenerative and neuromuscular diseases such as Amyotrophic Lateral Sclerosis (ALS).

▪ Coordination of a multi-collaborative and translational project. Collaboration with Pr. Vincent Van Pesch and Pr. Adrian Ivanoiu (UC Louvain/Cliniques universitaires Saint-Luc) and Dr. Daniela Rossi (Fondazione Salvatore Maugeri, Pavia, Italy).

▪ Team work and supervision of a master student intern, a visiting master student from the Trinity College (Dublin), a Ph.D. student and a technician showing capacity to fine-tune and coordinate the activity of a unit.

2014 – 2016 Université catholique de Louvain, Institute of Neuroscience (IoNS), Bruxelles (Belgium) - Research Assistant in _Prof. Pascal Kienlen-Campard's team_

The main aim of the project was to understand the molecular mechanisms recruited by PS in the control of the _GDNF_ transcription.

▪ Team work and supervision of a master student intern, a Ph.D. student and a technician.

▪ Teaching: SBIM13 AY 2015 "Workshop on experimental strategy in cellular and molecular biology".

▪ Teaching: SBIM13 AY 2016 "Workshop on experimental strategy in cellular and molecular biology".

2011 – 2014 Université catholique de Louvain, Institute of Neuroscience (IoNS), Bruxelles (Belgium) - Postdoctoral Fellow in _Prof. Jean-Noel Octave's team_

Soon after having obtained the Ph.D., I started my postdoc fellowship as part of a team which aimed to discover Amyloid Precursor Protein (APP) physiopathological function. My studies demonstrated for the first time that APP controls the expression of a neurotrophic factor, the GDNF, fundamental for both CNS and PNS neuron survival and altered in Alzheimer's patients.

▪ Team work and supervision of a master student research intern.

▪ Teaching: SBIM13 AY 2014 "Workshop on experimental strategy in cellular and molecular biology".

2007 - 2010 Università degli Studi di Pavia, Dep. of Drug Sciences, Pavia (Italy) - Ph.D. student in *Prof. Marco Racchi's team*

As Ph.D. student in Pharmacological Sciences my research activity was dedicated to the prevention of Alzheimer's Disease and to the understanding of its pathogenic mechanism, in order to identify therapeutic targets. Thesis title: "p53 in Alzheimer's disease: from biomarkers to molecular mechanisms".

▪ Team work and supervision of a master student intern.

2004 - 2005 Innovate Biotechnology S.r.l., Tortona (Italy) - Visiting research trainee in *Prof. Marco Terreni & Dr. Daniela Ubiali's team*

During my experimental Bachelor's degree in Chemical and Pharmaceutical Biotechnology I collaborated as visiting research trainee to the research activity of the Company focused on the enzymatic synthesis of anti-cancer drugs from B. subtilis. Thesis title: "Enzymatic synthesis of thymidine and floxuridine by transglycosylation catalyzed by Uridine phosphorylase from B. subtilis".

ACADEMIC AWARDS AND FUNDED GRANTS

- **Funded Grant** as principal investigator (PI) from the "Fondazione CRT", Anno 2022-2024, for the project entitled: "Braccio di ferro con la demenza: ferro e mitocondri come nuovi target contro la Malattia di Alzheimer";
- **Funded Grant** as principal investigator (PI) from the "Finanziamento di progetti di ricerca dall'Università degli studi di Torino (ex 60%), Anno 2021, linea A" for the project entitled: "Study of mitochondrial dysfunction as an early marker of aging and neurodegeneration";
- **Funded Grant** as principal investigator (PI) from the "Finanziamento di progetti di ricerca dall'Università degli studi di Torino (ex 60%), Anno 2020, linea A" for the project entitled: "Role of mitochondrial dysfunctions in the aetiology and progression of neurodegenerative diseases";
- **Funded Grant** from The Company of Biologists PI: Pr. M. Boido, co-organizer: S. Stanga, of the Virtual Conference entitled "Motor neuron diseases: understanding the pathogenetic mechanisms to develop therapies", 6-7.11.2020;
- **Sponsorship** from Media System Lab for the organization of the Virtual Conference entitled "Motor neuron diseases: understanding the pathogenetic mechanisms to develop therapies", organizers: Pr. M. Boido and S. Stanga, 6-7.11.2020;
- Recipient of a **Starting Grant** from the Department of Neuroscience, University of Turin (Italy), for the position obtained as Assistant Professor (Tenure track); "Assegnazione **Fondo Dipartimentale** destinato ai nuovi ricercatori assunti nel 2019 - Dott.ssa STANGA Serena"
- Winner of a **Travel Grant** for the participation at the National Congress of the Italian Society for Neuroscience (SINS) September 26/29-2019, Perugia (Italy);
- Winner of 1 **PostDoctoral Grant** (Assegno di Ricerca) for PostDoc fellows with selection committee from the University of Torino (Italy): 01/01/2019-31/05/2019;
- **Winner of the 'Prix Lagast 2018'** from the **UCLouvain** for the work entitled: "A Role for GDNF and Soluble APP as Biomarkers of Amyotrophic Lateral Sclerosis Pathophysiology" Stanga S et al. Front. Neurol., 2018 doi.org/10.3389/fneur.2018.00384;
- **Funded Grant** as collaborator from the S.A.O./F.R.A. Stichting voor Alzheimer Onderzoek/Foundation for Research on Alzheimer's disease 2015-2017 Standard Award for the project entitled "Control of GDNF expression by Amyloid Precursor Protein & Presenilins and implications in neurodegenerative and neuromuscular diseases", PI: Pr. Pascal Kienlen-Campard (UCLouvain);
- Winner of 1 **PostDoctoral Grant** - **Postdoctoral fellowship**, dall'UCLouvain 14/02/2011-14/02/2014;
- **Career Upgrade** from Research Assistant to "Research Associate - Chargée de Recherches" from the selection committee of the Belgian Ministry for research "Fonds de la Recherche Scientifique (FNRS)", Bruxelles, Belgium: 1/10/2016;
- Winner of 3 **Doctoral Grants** (Assegno di Ricerca) for Ph.D. students with selection committee from the University of Pavia (Italy): 01/03/2008 – 31/12/2008; 01/01/2009 – 31/12/2009; 01/01/2010 – 31/12/2010.

PEER-REVIEWED PUBLICATIONS

Curriculum Vitae SERENA STANGA

H-index: 14 (Google Scholar), 12 (Scopus); **Citations**: 495 (Google Scholar), 352 (Scopus)

1. Contino S, Suelves N, Vrancx C, Vadukul MD, Payen VL, **Stanga S**, Bertrand L and Kienlen-Campard P. Presenilin-deficient neurons and astrocytes display normal mitochondrial phenotypes. **Front. Neurosci. 2021;** January 22; doi: 10.3389/fnins.2020.586108

2. **Stanga S***, Boido M and Kienlen-Campard P. How to build and to protect the neuromuscular junction: the role of the Glial cell line-Derived Neurotrophic Factor. **IJMS, 2021** *corresponding author online December 24 2020; doi: 10.3390/ijms22010136

3. Wyart E, Bindels LB, Mina E, Menga A, **Stanga S**, Porporato PE. Cachexia, a systemic disease beyond muscle atrophy. **IJMS, 2020** November 14; doi: 10.3390/ijms21228592

4. Menduti G*, Rasà DM*, **Stanga S***, Boido M. Drug screening and drug repositioning as promising therapeutic approaches for Spinal Muscular Atrophy treatment. **Front. Pharmacol, 2020** November 12; doi: 10.3389/fphar.2020.592234. ***co-first authors**

5. Calabrese C*, Panuzzo C*, **Stanga S**, Andreani G, Ravera S, Maglione A, Pironi L, Petiti J, Ali MS, Scaravaglio P, Fava C, De Gobbi M, Frassoni F, Saglio G, Bracco E, Pergolizzi B, Cilloni D. Deferasirox-dependent iron chelation enhances mitochondrial dysfunction and restores p53 signaling by stabilization of p53 family members in leukemic cells. **IJMS, 2020** October 16; doi: 10.3390/ijms21207674

6. Panuzzo C, Jovanovski A, Pergolizzi B, Pironi L, **Stanga S**, Fava C, Cilloni D. Mitochondria: A Galaxy in the Hematopoietic and Leukemic Stem Cell Universe**. IJMS, 2020** May 30;21(11):3928. doi: 10.3390/ijms21113928.

7. **Stanga S***, Caretto A, Boido M, Vercelli A. Mitochondrial Dysfunctions: A Red Thread across Neurodegenerative Diseases. **IJMS, 2020** May 25;21(10):3719. doi.org/10.3390/ijms21103719. ***corresponding author**

8. Opsomer R, Contino S, Perrin F, Gualdani R, Tasiaux B, Doyen P, Vergouts M, Vrancx C, Doshina A, Pierrot N, Octave JN, Gailly P, **Stanga S**, Kienlen-Campard P. Amyloid Precursor Protein (APP) controls excitatory/inhibitory synaptic inputs by regulating the transcriptional activator Neuronal PAS Domain Protein 4 (NPAS4). **eNeuro**. **2020** May 28;7(3) doi: 10.1523/ENEURO.0322-19.2020.

9. **Stanga S***, Brambilla L, Tasiaux B, Dang AH, Ivanoiu A, Octave JN, Rossi D, van Pesch V, Kienlen-Campard P. A Role for GDNF and Soluble APP as Biomarkers of Amyotrophic Lateral Sclerosis Pathophysiology. **Front. Neurol.**, **2018** May 30;9:384 doi.org/10.3389/fneur.2018.00384. ***corresponding author**

10. Contino S, Porporato PE, Bird M, Marinangeli C, Opsomer R, Sonveaux P, Bontemps F, Dewachter I, Octave JN, Bertrand L, Kienlen-Campard P*, **Stanga S***. Presenilin 2-Dependent Maintenance of Mitochondrial Oxidative Capacity and Morphology. **Front Physiol. 2017** Oct 12;8:796. doi: 10.3389/fphys.2017.00796. eCollection 2017. ***co-last author & *corresponding author**

11. **Stanga S**, Vrancx C, Tasiaux B, Marinangeli C, Karlström H, Kienlen-Campard P. Specificity of presenilin-1- and presenilin-2-dependent γ-secretases towards substrate processing. **J Cell Mol Med. 2017** Oct 10. doi: 10.1111/jcmm.13364.

12. Decock M, **Stanga S**, Octave JN, Dewachter I, Smith SO, Constantinescu SN, Kienlen-Campard P. Glycines from the APP GXXXG/GXXXA Transmembrane Motifs Promote Formation of Pathogenic Aβ Oligomers in Cells. **Front Aging Neurosci. 2016** May 10;8:107. doi: 10.3389/fnagi.2016.00107.

13. **Stanga S**, Zanou N, Audouard E, Tasiaux B, Contino S, Vendermeulen G, René F, Loeffler JP, Clotman F, Gailly P, Dewachter I, Octave JN, Kienlen-Campard P. APP-dependent Glial cell line-Derived Neurotrophic Factor (GDNF) gene expression drives neuromuscular junction formation. **FASEB J. 2016** May;30(5):1696-711. doi: 10.1096/fj.15-278739. Epub 2015 Dec 30.

14. Decock M, El Haylani L, **Stanga S**, Dewachter I, Octave JN, Smith SO, Constantinescu SN, Kienlen-Campard P. Analysis by a highly sensitive split luciferase assay of the regions involved in APP dimerization and its impact on processing. **FEBS Open Bio. 2015** Sep 6;5:763-73.

15. Hage S, **Stanga S**, Marinangeli C, Octave JN, Dewachter I, Quetin-Leclercq J, Kienlen-Campard P. Characterization of Pterocarpus erinaceus kino extract and its gamma-secretase inhibitory properties. **J Ethnopharmacol. 2015**; 2;163:192- 202.

16. Hage S, Marinangeli C, **Stanga S**, Octave JN, Quetin-leclercq J & Kienlen-Campard P. Gamma-Secretase Inhibitor Activity of a Pterocarpus erinaceus Extract. **Neurodegenerative Diseases, 2014**;14(1):39-51.

17. **Stanga S**, Lanni C, Sinforiani E, Mazzini G, & Racchi M. Searching for predictive blood biomarkers: misfolded p53 in mild cognitive impairment. **Current Alzheimer Research, 2012**; 26(3), 271-405 (1990).

18. **Stanga S**, Lanni C, Govoni S, Uberti D, D'Orazi G & Racchi M. Unfolded p53 in the pathogenesis of Alzheimer's disease: is HIPK2 the link?. **Aging 2010**, 2(9), 545-554.

19. Lanni C*, Nardinocchi L*, Puca R, **Stanga S**, Uberti D, Memo M, Govoni S, D'Orazi, G & Racchi M. Homeodomain interacting protein kinase 2: a target for Alzheimer's beta amyloid leading to misfolded p53 and inappropriate cell survival. **PLoS One**, **2010**, 5(4), e10171. doi :10.1371/journal.pone.0010171

20. Lenzken SC, **Stanga S**, Lanni C, De Leonardis F, Govoni S & Racchi M. Recruitment of casein kinase 2 is involved in AbetaPP processing following cholinergic stimulation. **Journal of Alzheimer's disease**, **2010**, 20(4), 1133-41,. doi :10.3233/JAD-2010- 090232.

21. Lanni C, **Stanga S**, Racchi M & Govoni S. The expanding universe of neurotrophic factors: therapeutic potential in aging and age-associated disorders. **Current Pharmaceutical Design, 2010**,16(6), 698-717.

22. Lanni C, Racchi M, **Stanga S**, Mazzini G, Ranzenigo A, Polotti R, Memo M, Govoni S & Uberti D. Unfolded p53 in blood as a predictive signature signature of the transition from mild cognitive impairment to Alzheimer's disease. **Journal of Alzheimer's Disease, 2010,** 20(1), 97-104. doi :10.3233/JAD-2010-1347.

23. Lanni C, Racchi M, Uberti D, Mazzini G, **Stanga S**, Sinforiani E, Memo M & Govoni S. Pharmacogenetics and pharmacogenomics, trends in normal and pathological aging studies: focus on p53. **Current Pharmaceutical Design, 2008**,14(26), 2665-2671.

PUBLISHED CONGRESS PROCEEDINGS

1. Mezzanotte M, Ammirata G, Boido M, Roetto A, **Stanga S.** Brain Iron Deposits During Aging: Activation Of The Hepc/Fpn1 Pathway. 31st National Conference of the Italian Group for the Study of Neuromorphology "Gruppo Italiano per lo Studio della Neuromorfologia" G.I.S.N. Milano, November 26-27, 2021. **EHJ, 2021** ISSN 1121-760X, volume 65/ supplement 3.

2. **Stanga S**, Pavarino G, Monteleone F, Pergolizzi B, Vercelli A, Boido M. Dysfunctions In Spinal Muscular Atrophy: Focus On Aconitase2. 93rd National Congress of the Italian Society of Experimental Biology Palermo, Italy, 22-25 April 2021, **Journal of Biological Research 2021**, Volume 94/Supplement 1.

3. **Stanga S**, Pavarino G, Monteleone F, Pergolizzi B, Boido M, Vercelli A. Mitochondrial Alterations In Spinal Muscular Atrophy. Proceedings of the 30th National Conference of the Italian Group for the Study of Neuromorphology "Gruppo Italiano per lo Studio della Neuromorfologia" G.I.S.N. 12-14th.11.20, University of Turin (online); **EHJ, 2020**; V(64)/supplement 3; ISSN 1121-760X

BOOK CHAPTER

1. Lanni C, **Stanga S**, Lucchelli A & Govoni S. Depressione: le nuove ipotesi sulle basi biologiche e il razionale di impiego e sviluppo dei farmaci antidepressivi. Italy: **Tema farmacia**, **2008**, anno XXVI 2, 24-39.

TEACHING AND MANAGEMENT

AY 2021/22: "Human Anatomy and Neuroanatomy" at Lauree Triennali Sanitarie: Terapia della Neuro e Psicomotricità dell' Età Evolutiva, Fisioterapia, Ortottica ed Assistenza Oftalmologica and Logopedia" (3CFU, 36h), Università degli Studi di Torino, Italy. "Human Anatomy II" at Medicina e Chirurgia, Canale D, Università degli Studi di Torino, Italy.

AY 2020/21: "Human Anatomy and Neuroanatomy" at Lauree Triennali Sanitarie: Terapia della Neuro e Psicomotricità dell' Età Evolutiva, Fisioterapia, Ortottica ed Assistenza Oftalmologica and Logopedia" (3CFU, 36h), Università degli Studi di Torino, Italy. "Human Anatomy II" at Medicina e Chirurgia, Canale D, Università degli Studi di Torino, Italy.

AY 2019/20: "Human Anatomy and Neuroanatomy" at Lauree Triennali Sanitarie: Terapia della Neuro e Psicomotricità dell' Età Evolutiva, Fisioterapia, Ortottica ed Assistenza Oftalmologica and Logopedia" (3CFU, 36h), Università degli Studi di Torino, Italy.

AY 2014/15 - 2015/16 - 2016/17: **Adjunct Professor of "Experimental strategy in cellular and molecular biology"**, Bachelor students from Biomedical Sciences (WSBIM1303, 6CFU 60h) UCLouvain, Belgium.

LABORATORY SUPERVISOR

2019- 2021: Daniela Rasà, junior fellow enrolled in the laboratory of Pr. Alessandro Vercelli for the project entitled: "Identification of new druggable targets and potential therapeutic compounds for SMA, using a C. elegans model of neurodegeneration", 2017-2020 Fondazione Telethon. Head of Unit: Pr. Vercelli; Research network coordinator: Dr. Elia di Schiavi (CNR, Napoli).

THESIS CO-SUPERVISOR

2014 – 2020: Sabrina Contino, PhD student in Biomedical and Pharmaceutical Sciences (UCL), with a project entitled: "Rôle des présénilines dans la morphologie et la fonctionnalité mitochondriale" discussed in September 30th 2020, Supervisor: Pr. Pascal Kienlen-Campard.

11-12/2017 & 04-06/2018: Anselmo Canciani, recipient of an EMBO fellow - visiting PhD student from IUSS University of Pavia, with a project entitled: "An integrative approach to the decryption of neurotrypsin functionality" discussed in May 8th 2020, Supervisor: Pr. Federico Forneris.

BACHELOR and MASTER THESIS CO-SUPERVISOR

2021/2022- present: Valentina Vaccaneo and Edoardo Zucco, bachelor students in Biotechnology, University of Turin;

2020/2021- present: Francesco Paolo Zummo master students in Biotechnology, University of Turin;

2020/2021: Gianna Pavarino master student in Biotechnology, University of Turin; "The study of mitochondrial dysfunctions in the pathogenesis of SMA revealed mACO2 as a possible marker of the disease", tesi discussa 14/10/2021;

2019/2020: Anna Grasso bachelor student in Biotechnology, University of Turin; "Morphofunctional Alterations Of Mitochondria In Neurodegenerative Diseases", discussed the 22/10/2020;

2019/2020: Federica Monteleone master student in 'Chimica e Tecnologia Farmaceutiche' - CTF, University of Turin; "Characterization of cellular and ultrastructural alterations in Spinal Muscular Atrophy affected motor neurons", discussed 19/10/2020;

2018/2019: Gianna Pavarino bachelor student in Biotechnology, University of Turin; "Il ruolo dell'agrina nella formazione e nel mantenimento della giunzione neuromuscolare e nella SMA", discussed the 23/07/2019;

2016: Emma Mary Hayes, master student from the Trinity College of Dublin for a stage of 3 months at the University of Louvain (UCL) (2016). The research project was focused on the contribution of Presenilin in GDNF expression;

2016: Ophélie Delcorte, master student in Biomedical Sciences, Faculty of Pharmacy and Biomedical Sciences (UCL). Experimental Stage entitled: "Étude du rôle de l'activité catalytique des présénilines dans la régulation de l'expression du Facteur Neurotrophe Dérivé de la Glie (GDNF)" (discussed in June 2016);

2015/2016: Céline Vrancx, master student in Biomedical Sciences, Faculty of Pharmacy and Biomedical Sciences (UCL). Her master thesis is entitled: "Analyse comparative de l'activité gamma-secretase dépendante de PS1 et de PS2 : effet de mutations et d'inhibiteurs pharmacologiques" (graduation on September 2016);

2013/2014: Sabrina Contino, master student in Biomedical Sciences, Faculty of Pharmacy and Biomedical Sciences (UCL). Her master thesis is entitled: "Rôle du Précurseur du Peptide Amyloïde (APP) dans l'expression du Facteur Neurotrophe dérivé de la glie (GDNF) et leur contribution à la formation des jonctions neuromusculaires" (graduated in September 2014);

2011: Eric Martineau, master student from the University of Montréal (UdeM, Canada) for a stage of 3 months at the University of Louvain (UCL) (2011). The research project was focused on the contribution of Presenilin 1 and 2 (PS1/PS2) in GDNF transcriptional activity;

2009/2010: Franco Sartori, master degree student from the School of Pharmacy, University of Pavia, with a thesis entitled: "p53 conformazionalmente alterata come marcatore predittivo per la malattia di Alzheimer" (graduated in 2010).

ORAL PRESENTATIONS AT CONFERENCES AND SEMINARS

1. **Stanga S**, Pavarino G, Monteleone F, Pergolizzi B, Vercelli A, Boido M. "Mitochondrial Morpho-functional Dysfunctions In Spinal Muscular Atrophy: Focus On Aconitase2" **93^ SIBS 2021** (Gruppo Italiano per lo Studio della Neuromorfologia) online meeting (Palermo), 22-25.04.2021;

2. **Stanga S**, Pavarino G, Monteleone F, Pergolizzi B, Boido M, Vercelli A. "Mitochondrial Alterations In Spinal Muscular Atrophy" **XXX GISN 2020** (Gruppo Italiano per lo Studio della Neuromorfologia) online meeting (Torino), 12-14.11.2020;

3. **Stanga S**, Caretto A, Boido M, Vercelli A. "Mitochondrial dysfunctions are the early event eliciting the shift towards pathological neurobiological processes" **Morfologia e dintorni**, 3° incontro Nazionale, Dip. di Neuroscienze, Torino, Italy 26.09.2020;

4. **Stanga S**. "Mitochondrial dysfunctions and mitophagy in Spinal Muscular Atrophy" **Morfologia e dintorni**, 2° incontro Nazionale, Dip. di Neuroscienze, Torino, Italy 22-23.02.2020;

5. **Stanga S**. "Meccanismi di morte neuronale nell'Atrofia Muscolare Spinale" **Giornate del Dipartimento**, Dip. di Neuroscienze, Torino, Italy, 12-14.12.2019;

6. **Stanga S**. " The crucial role of mitochondria in neurodegenerative diseases: focus on Alzheimer's disease and Spinal Muscular Atrophy" Metabolism meeting, **Molecular and Biotechnology Center MBC** , Torino, Italy, 12.11.2019;

7. **Stanga S**. "APP-dependent GDNF gene expression drives neuromuscular junction formation". **XXVIII GISN 2018** (Gruppo Italiano per lo Studio della Neuromorfologia) meeting, Firenze, Italy, 30.11-1.12.2018;

8. **Stanga S**. "APP and Presenilins: physiological function and role in neurodegenerative and neuromuscular diseases". **Neuroscience Institute Cavalieri Ottolenghi (NICO), University of Turin**, Italy 18.05.2018;

9. **Stanga S**. "APP and Presenilin: functions and role in neurodegenerative and neuromuscular diseases". Department of Biology and Biotechnology "Lazzaro Spallanzani", **University of Pavia**, Italy 14/09/2017;

10. **Stanga S**. "Control of GDNF expression by AD-related proteins and implications in neurodegenerative and neuromuscular diseases". IoNS PhD & Postdoc day, **Université catholique of Louvain**, Brussels, Belgium 9/11/2016;

11. **Stanga S**. "AD-related proteins biological functions" **École polytechnique fédérale de Lausanne (EPFL)**, Lausanne, Switzerland 1st September 2016;

12. **Stanga S**. "APP-dependent regulation of GDNF expression controls neuromuscular junctions formation". The immune-brain axis: from molecules to behavior, **University of Hasselt**, Belgium, March 12th and 13th, 2015;

13. **Stanga S**. "Amyloid Precursor Protein regulation of GDNF expression controls neuromuscular junctions' formation". NEUROBRAINNET network, "Interuniversity Attraction Poles" (IAP), **University of Antwerp**, Belgium, 03/10/2014;

14. **Stanga S**. "APP-dependent regulation of GDNF expression and its involvement in neuromuscular junction". NEUROBRAINNET network, "Interuniversity Attraction Poles" (IAP), **University of Antwerp**, Belgium, 06/05/2013;

15. **Stanga S**. "APP-dependent regulation of GDNF expression and its involvement in neuromuscular junction". CEMO Seminar, IoNS, **Université catholique of Louvain**, Brussels, Belgium 16/04/2013;

16. **Stanga S**. "Regulation of the Glial-Derived Neurotrophic Factor (GDNF) expression by the Amyloid-Precursor Protein (APP)". CEMO Seminar, IoNS, **Université catholique of Louvain**, Brussels, Belgium 20/03/2012.

17. **Stanga S**. "p53 and Alzheimer's disease: from biological marker to molecular mechanism", First Step in Research: Graduate Symposium, College A. Volta Pavia, **University of Pavia**, Italy 17/05/2010.

COMMUNICATIONS AT CONGRESS (Posters)

1. Mezzanotte M, Ammirata G, Boido M, Roetto A, **Stanga S.** Brain Iron Deposits During Aging: Activation Of The Hepc/Fpn1 Pathway. **31st National Conference of the Italian Group for the Study of Neuromorphology "Gruppo Italiano per lo Studio della Neuromorfologia" G.I.S.N. Milano, November 26-27, 2021. EHJ, 2021** ISSN 1121-760X, volume 65/ supplement 3.

2. **Stanga S**, Contino S, Vrancx C, Conrad L, Muccioli GG, Tyteca D and Kienlen-Campard P. "Presenilins γ-secretase independent functions: role of PS2 in cellular bioenergetic and lipid metabolism maintenance", **BraYn congress**, Pisa (Italy) 20-22/10/2021;

3. **Stanga S**. "Mitochondrial dysfunctions and mitophagy in Spinal Muscular Atrophy" **Secondo Incontro Nazionale Morfologia e dintorni**, Dip. Di Neuroscienze, Torino, Italy, 22-23.02.2020;

4. **Boido M**, Stanga S, Pasini G, Pergolizzi B, Vercelli A. "Mitochondrial Dysfunction In Spinal Muscular Atrophy" **2nd International Scientific & Clinical Congress on Spinal Muscular Atrophy**, Evry Genocentre, France, February 5th to 7th 2020;

5. **Stanga S**, Pasini G, Pergolizzi B, Mezzanotte M, Roetto A, Boido M, Vercelli A; "Mitochondrial dysfunction: a new biomarker candidate for Spinal Muscular Atrophy?". **2nd BraYn - Brainstorming Research Assembly for Young Neuroscientists**, Milano 14-16/11/2019.

6. **Stanga S**, Pasini G, Pergolizzi B, Boido M, Vercelli A; "Mitochondrial dysfunction in Spinal Muscular Atrophy". 18th National Congress of the Italian Society for Neuroscience, **SINS 2019**, Perugia 26-29/09/2019.

7. **Stanga S**, Tasiaux B, Dewachter I, Octave JN and Kienlen-Campard P; "Control of GDNF expression by AD-related proteins and implications in neurodegenerative and neuromuscular diseases". 13th International Conference on Alzheimer's and Parkinson's Diseases and Related Neurological Disorders, **AD/PD™ 2017**, Vienna, Austria, 29/03-2/04-2017.

8. **Stanga S**, Tasiaux B, Dewachter I, Octave JN, Kienlen-Campard P. "Control of GDNF expression by AD-related proteins and implications in neurodegenerative and neuromuscular diseases". NEUROBRAINNET network, "Interuniversity Attraction Poles" (IAP), **University of Antwerp**, Belgium, 18/11/2016.

9. **Stanga S**, Tasiaux B, Dewachter I, Octave JN, Kienlen-Campard P. "Control of GDNF expression by AD-related proteins and implications in neurodegenerative and neuromuscular diseases". **Belgian Brain Congress**, Mons, Belgium, 8/10/2016.

10. **Stanga S**, Tasiaux B, Dewachter I, Octave JN, Kienlen-Campard P. "Control of GDNF expression by AD-related proteins and implications in neurodegenerative and neuromuscular diseases". **The Brain Mosaic congress**, Leuven, Belgium, 22-23/09/2016.

11. **Stanga S**, Zanou N, Audouard E, Tasiaux B, Contino S, Clotman F, Gailly P, Dewachter I, Octave JN, Kienlen-Campard P. "APP regulates the Glial cell line-Derived Neurotrophic Factor (GDNF) gene expression driving functional neuromuscular junctions formation". 45th Annual Meeting **Neuroscience 2015**, Chicago, Illinois (USA), 17-21 October, 2015.

12. **Stanga S**, Zanou N, Audouard E, Tasiaux B, Contino S, Clotman F, Gailly P, Dewachter I, Octave JN, Kienlen-Campard P. "Amyloid precursor protein regulation of GDNF expression controls neuromuscular junctions formation". 12th **International Conference on Alzheimer's and Parkinson's Diseases**, Nice, France, 18-22/03/2015.

13. **Stanga S**, Zanou N, Audouard E, Tasiaux B, Contino S, Clotman F, Gailly P, Dewachter I, Octave JN, Kienlen-Campard P. "APP-dependent regulation of gdnf expression and its involvement in neuromuscular junction". The 11th **International Conference on Alzheimer's and Parkinson's Diseases**, AD/PD™, Florence, Italy 6-10 March, 2013.

14. **Stanga S**, Racchi M, Uberti D, Mazzini G, Sinforiani E, Memo M, Govoni S, Lanni C. "Conformationally altered p53: a potential predictive marker from MCI to Alzheimer's disease?" **Italian Society of Pharmacology (SIF)**: "III Monothematic Conference: Alzheimer's disease by clinical complexity to rational therapy", Pavia 11/06/2010.

15. **Stanga S**, Racchi M, Uberti D, Mazzini G, Sinforiani E, Memo M, Govoni S, Lanni C. "Conformationally altered p53: a potential predictive marker from MCI to Alzheimer's disease?" Project: **Young Researcher of the Lombardy Region** "From Materials Science to Biomedicine", Pavia (Italy) 17/11/2009.

16. **Stanga S**, Lanni C, Uberti D, Mazzini G, Sinforiani E, Memo M, Govoni S, Racchi M. "Conformationally altered p53: a potential predictive marker from MCI to Alzheimer's disease?" 34th **Italian Society of Pharmacology** (SIF), Rimini (Italy) 14-17/11/2009.

17. Lanni C, **Stanga S**, Uberti D, Mazzini G, Sinforiani E, Govoni S, Memo M, Racchi M. "Conformationally altered p53: a potential predictive marker from MCI to Alzheimer's disease?" **ICAD** 2009, Wien 11-16/07/2009.

SCIENTIFIC COLLABORATIONS:

Internazionali: Pr. Pascal KIENLEN-CAMPARD, Institute of Neuroscience, UCLouvain, Belgium; Pr. Giulio MUCCIOLI, Louvain Drug Research Institute - LDRI, UCLouvain, Belgium; Pr. Donatienne TYTECA, Institut de Duve, UCLouvain, Belgium; Pr. Vincent VAN PESCH, Cliniques Universitaires Saint-Luc, Belgium; Pr. Adrian IVANOIU, Cliniques Universitaires Saint-Luc, Belgium; Dr. Emilie Auoduard, Institut National de la Santé et de la Recherche Médicale (INSERM). Nazionali: Pr. Federico FORNERIS, Università degli Studi di Pavia; Dr. Daniela ROSSI, Fondazione Salvatore Maugeri, Pavia; Pr. Paolo Ettore Porporato, Università degli Studi di Torino; Dr. Antonella Roetto, Università degli Studi di Torino; Dr. Barbara Pergolizzi, Università degli Studi di Torino; Dr. Cristina Panuzzo, Università degli Studi di Torino; Prof. Andrea Graziani, Università degli Studi di Torino.

TECHNICAL SKILLS

Biochemical techniques: DNA and RNA extraction and dosage, SDS-PAGE and Western Blot, Immunoprecipitation, Mitochondria isolation from tissues and cells, 2DE-MALDI. **Cell biology techniques:** Cell culture (Fibroblasts, HEK, SH-SY5Y, NG108-15, C2C12, IMR, nerve-muscle co-cultures), Cell viability assay, Cell transfection, Mitochondria extraction from cells and tissues, Immunocytochemistry and Immunohistochemistry, Confocal microscopy, Cytofluorimetric analysis (FACS), ELISA, ECLIA. **Molecular biology techniques:** Classical PCR, RT-PCR, real-time PCR, Luciferase reporter assay. **Mouse handling:** Mouse breeding, genotyping, basic behavioral tests, mouse primary cell culture (neurons, astrocytes, fibroblasts and myoblasts), nerve-muscle primary co-cultures, mouse spinal cord isolation. **Biocatalysis techniques:** Use of free and immobilized enzyme in the synthesis of compounds of pharmaceutical interest, Spectrophotometer, High Performance Liquid Chromatography (HPLC), pH STAT. **Specific softwares:** Office Pack, CS-ChemDraw Ultra, SciFinder Scholar (Bibliographic Search online), Multi Manager HSM HPLC Merck-Hitachi D-7000, WinMDI, Scion Image, GraphPad Prism, Bio-Rad iQ5, FV10-ASW 3.1 Viewer, Image J, MiNA. Award of the European license, at the School 2F, for "Electronic and Computer Operator and Programmer" (July 2002).

POSITIONS OF RESPONSABILITY AND PUBLIC ENGAGEMENT

2022- present: Scientific Committee Member of the 94° meeting of the SIBS: Società Italiana di Biologia Sperimentale, Torino, 6-9.04.2022

2021- present: Review Editor for Scientific report

2020 – present: Review Editor for the International Journal of Molecular Sciences (certificate)

2019 – present: Organizational Committee Member of the Conference on "Motor neuron diseases: understanding the pathogenetic mechanisms to develop therapies", Dip. Di Neuroscienze, Torino, 6-7.11.2020

2020: Organizational Committee Member of the "Secondo Incontro Nazionale Morfologia e dintorni", Dip. Di Neuroscienze, Torino, Italy, 22-23.02.2020

2019: Support in the organization and development of the 'Alternanza scuola-lavoro', NICO, Orbassano (TO), Italy, 11-21.06.2019 and of the 'Porte Aperte @NICO', NICO, Orbassano, Torino, Italy, 11.05.2019

2019: Support in the organization and development of the 'Olimpiadi delle Neuroscienze' fase regionale, Dip. Di Neuroscienze, Torino, Italy, 16.03.2019

2019 – present: Member of the Società Italiana di Neuroscienze (SINS)

2018 – present: Review Editor for Neurobiology of Disease, Frontiers in Neuroscience, Frontiers in Neurology, Frontiers in Psychiatry

2018 – present: Member of the Gruppo Italiano per lo Studio della Neuromorfologia (GISN)

2017 – present: External expert for the European Commission. Independent expert of the European Commission; evaluation of proposals in connection with the Framework Programme for Research and Innovation

2015 – present: Member of the Society for Neuroscience (SfN)

2016 – July 2018: Member of "Corps scientifique" (CORSI) (UC Louvain)

2013 – July 2018: Animal Welfare Responsible for the Federal Public Service Health, Food Chain Safety and Environment, Bruxelles, Belgium. I am responsible for the animal welfare for the peripheral animal house of the Alzheimer group (Pr. Jean-Noël Octave, Pr. Pascal Kienlen-Campard and Pr. Ilse Dewachter) at the Université catholique de Louvain, IoNS, Brussels (Belgium)

2011 – 2016: Organizational Committee Member of the PhD and Postdoc Day, Université catholique de Louvain, IoNS, Brussels (Belgium). The program includes talks, round table discussions and posters presentations. I was responsible for: acquisition and management of sponsors; acquisition of speakers and moderation during the symposium; organization of the Poster Presentation session; Job Board organization

2007 - 2011: Executive Committee Member and **President** of the Association of Italian Ph.D. Students (ADI-Pavia), Università degli Studi di Pavia, Italy. Since 2007 I have been a member of the Executive Committee and from 2009 to 2011 I have been the President of the Association. ADI-Pavia represents Ph.D. students and Postdocs in the University and promotes their professional figure with the public administration and private enterprises by organizing interactive social, academic and career oriented events.