

BIOGRAPHICAL SKETCH

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NAME		POSITION TITLE	
Carmela Matrone		Associate professor	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
University of Naples Federico II, School of Pharmacy, Italy	Degree in Chemical and Pharmacological Technologies	07/1998	Molecular Biology
	Authorization for independent practice of Pharmacist	04/1999	
University of Naples Federico II, Dept of Neuroscience, School of Medicine, Italy	PhD in Neuroscience	02/2004	Hypoxia inducible factor regulation pathways in Brain Ischemia
University of Naples Federico II, School of Medicine, Italy	Specialization in Clinical Pharmacology	10/2005	Somatostatin analogues in pituitary tumours
European Center of Brain Research (CERC), Rome, Italy	Post doc fellowship (Prof. R.L. Montalcini's group)	2005-10	NGF and Alzheimer's Disease
Skirball Institute, New York University (NYU)	Invited Visiting Scientist (Prof. M.V. Chao's lab)	2009	NGF and Alzheimer's disease
Albert Einstein College of Medicine, NY, USA.	EMBO Short term fellow (Prof. L. D'Adamio's lab)	2010	NGF and Alzheimer's disease
European Center in Brain Research (CERC), Rome, Italy	Junior Researcher (art 23) National Research Council DPR 171/91 (prot.1845)	2010-12	Mechanisms responsible for Alzheimer's disease onset and development
Skirball Institute, New York University	Short Term Mobility (STM), National Research Council (CNR; STM-CNR-2011) (Prof. M.V. Chao's lab)	2011	Mechanisms responsible for Alzheimer's disease onset and development
Aarhus University, School of Health, Dept of Biomedicine	Post doc fellowship (International competition) (prof MS Nielsen's team)	2012-14	Protein trafficking regulation (autophagy) in Alzheimer's and Parkinson's disease
Danish University	International Teaching Qualification (School of Health)	2014	Qualification to teach in danish universities (written and practical test)
Danish University	Associate professor Qualification in Pharmacology (School of Health)	2014	Qualification based on teaching and scientific records
University of Aarhus, School of Health, Dept of Biomedicine	Associate professor position in Pharmacology	2014-18	Alzheimer's disease and neurodevelopmental diseases
MIUR "Ministero dell'Istruzione Ministero dell'Università e della Ricerca"	Associate professor Qualification in Pharmacology	2017	Alzheimer's disease and neurodevelopmental diseases
University of Naples Federico II, School of Medicine, Italy	Associate professor in Pharmacology	2018-ongoing	Chiamata diretta per chiara fama
Danish University Council	External Evaluator (Censor)	2018-23	Qualification to act as evaluator/censor in PhD as well as Bachelor and Master Programs in Danish Universities, School of Health

A. Personal Statement

I am currently an associate professor at the University of Naples Federico II. I have been working in the field of Neuroscience since 2000 when I started my PhD program, in the same department where I am currently working, under professor Lucio Annunziato's supervision.

In 2005, I was given a post doc position in the professor Rita Levi Montalcini's group, in the Center of Excellence in Brain Research (CERC/EBRI) in Rome, under the supervision of prof Pietro Calissano, where I worked until 2010, focusing on neurodegenerative diseases, and especially on Alzheimer's disease.

In 2010, I was invited researcher in Skirball Institute, NYU, under professor Chao Moses V, the former president of the Society for Neuroscience (SfN), where I also met one of the major worldwide exponents in Alzheimer's disease, professor D'Amadio Luciano., professor at Einstein Medical College, with whom I am still collaborating.

In 2012, when I returned to the CERC/EBRI in Italy, I received the position of independent young investigator (#art23). Later that same year I also received a position as group leader in Denmark, at Aarhus University (AU), where I moved and started my independent research career.

In 2014, I received the international qualification to teach in Danish universities and as such became an associate professor in pharmacology at the school Health of Aarhus University (Denmark). In addition, I was awarded the international qualification as a mentor and censor (external evaluator) for bachelors, masters and PhD students in all Danish Universities.

I have since supervised over 50 bachelor and master theses as well as research year and PhD students.

From 2014 to 2016, I was also the course coordinator for the pharmaceutical science program for molecular medicine students at Aarhus University.

In 2018, I became an associate professor in Pharmacology in Italy "*chiamata diretta per chiara fama*", at the University of Naples Federico II, where I am currently working and where I am the supervisor of one PhD student, one post doc, one master student and several bachelors enrolled in the Biotechnology program. I am also co-supervisor in two PhD programs at Aarhus University.

In the last 10 years, I have received a number of research awards as PI and in collaboration with partners from all around the globe, thanks to the support of international non-profit institutions (Aarhus University, the Danish Council, DK, and MIUR, IT), as well as partners from private foundations (Lundbeck foundation, Møller fonden and Augustinus fonden).

Since 2004, I have published over 45 scientific articles in peer-reviewed journals or congress proceedings, as well as one chapter in two books.

I serve as a reviewer in most of the international journals working in the field of Alzheimer's disease, as well as an reviewer editor in Frontiers in Neuroscience and Pharmacology.

I have recently joined Helyon's team, a new journal cell press/Elsevier, where I am currently working as associate editor.

B. Positions and Honors

▪ Positions and Employment

- 1998-05 Specialist in Clinical Pharmacology
- 2000-03 PhD in Neuroscience
- 2010-12 Young independent researcher at European Brain Research Inst (Rome, IT)
- 2014-18 Associate professor in Pharmacology at School of Health, University of Aarhus
- 2018- ongoing Associate professor in Pharmacology "*Chiamata diretta per chiara fama*" at Dept of Neuroscience, School of Medicine, University Federico II of Naples

▪ Scientific international awards and price

- 2009 Marie Curie International Outgoing Fellowship (IOF) FP7-People-2009 program (proposal n.25316), ELIGIBLE
- 2010 EMBO short-term Fellowship (ASTF 264-2010)
- 2011 Short Term Mobility (STM), National Research Council (CNR; STM-CNR-2011)

▪ Travel fellowships

- Fellowship towards travel and living expenses to Molecular Mechanisms of Neurodegeneration Conference (Milan, 2008)
- Travel Fellowship and Allowance, Alzheimer Association International Conference (AAIC13) (Boston, 13-18 July 2013).
- Travel Fellowship and Allowance, Alzheimer Association International Conference (AAI/ADPD) (Turin, 15-19 March 2018).

▪ Other Experience and Professional Memberships

- Società Italiana di Farmacologia (SIF)
- Società italiana di Neuroscienze (SINS)
- FENS (Federation of European Neuroscience Societies)
- Society for Neuroscience
- Alzheimer's Association

▪ Chairmen and/or speaker at international scientific congresses in the last 6 years

- Dementia Conference (Valencia, September 2014) (Invited speaker)

- International Alzheimer's Disease and Parkinson's Disease Conference (Nice, March 2015) (Selected from abstracts, Speaker)
- International Alzheimer Conference (London, June 2015) (Invited speaker)
- Symposium on Advances in Alzheimer therapy (Athens, March 2016) (Invited speaker)
- European CNS Summit (London, September 2016) (Selected from abstracts, Speaker)
- Dementia (London, September 2016) (Invited speaker)
- Parkinsonforeningen (Copenhagen, November 2016) (Invited speaker)
- Parkinsonforeningen (Copenhagen, November 2017) (Invited speaker)
- International Alzheimer's Disease and Parkinson's Disease Conference (Vienna, March 2017) (Selected from abstracts, Speaker and Chairmen)
- Neuroscience day May 2017 (Aarhus University) (Invited speaker)
- Advancing Alzheimer's Research meeting (London, June 2017) (Invited speaker)
- Alzheimer's Association round table (Varna, Oct 2017) (Selected from abstracts, Speaker)
- Advances in Alzheimer's and Parkinson's disease conference (Turin, March 2018) (Selected from abstracts, Speaker and Chairmen)
- Eurodementia 2018 (Venice, Sept 2018) (Invited Speaker and Chairmen)
- International Alzheimer's Disease and Parkinson's Disease Conference (Lisbon, March 2019) (Selected from abstracts, Speaker and Chairmen)
- Italian Society of Pharmacology (Florence, Nov 2019) (Simposia Organizer, Speaker and Chairmen)
- World congress on Neurology & Therapeutics (Madrid, Oct 2019) (Invited speaker and Chairmen)
- International Alzheimer's Disease and Parkinson's Disease Conference (Virtual, March 2021) (Invited speaker)
- **Associate editor in**
 - Heliyon J (Cell Press)
- **Review editor in**
 - Frontiers Neurodegeneration
 - Frontiers in Pharmacology
- **Guest associate editor** in Frontiers in Aging Psychiatry "Delirium Across the Lifespan: From Neural Basis to Social Impact"

C. **Selected Peer-reviewed Publications (15 best peer-reviewed publications)**

- **As corresponding and/or last author**
 1. Iannuzzi F, Frisardi V, Annunziato L, **Matrone C**. Might Fibroblasts from Patients with Alzheimer's Disease Reflect the Brain Pathology? A Focus on the Increased Phosphorylation of Amyloid Precursor Protein Tyr682 Residue. *Brain Sci.* 2021 Jan 14;11(1):103. doi: 10.3390/brainsci11010103.
 2. Iannuzzi F, Sirabella R, Canu N, Maier TJ, Annunziato L, **Matrone C**. Fyn Tyrosine Kinase Elicits Amyloid Precursor Protein Tyr682 Phosphorylation in Neurons from Alzheimer's Disease Patients. *Cells.* 2020 Jul 30;9(8):1807. doi: 10.3390/cells9081807.
 3. Poulsen ET, Rasmussen FH, Maier JT, Enghild JJ, Jørgensen LA, and **Matrone C**. An Aberrant Phosphorylation of Amyloid Precursor Protein Tyrosine Regulates Its Trafficking and the Binding to the Clathrin Endocytic Complex in Neural Stem Cells of Alzheimer's Disease Patients. *Frontiers in Molecular Neuroscience* 2017, Mar 15; 10:59.
 4. Poulsen ET, Jørgensen LA, Larsen A, Zollo A, Sanggaard KW, Enghild JJ, Maier TJ and **Matrone C**. New insights to Clathrin and Adaptor protein 2 for the design and development of therapeutic strategies. *Int J Molec Sci*, 2015, 16(12), 29446-29453.
 5. **Matrone C**. A new molecular explanation for age-related neurodegeneration: the Tyr682 residue of amyloid precursor protein. *BioEssays*, 2013; 35(10): 847-852. TWIJ ARTICLE.
 6. **Matrone C**, Luvisetto S, La Rosa LR, Tamayev R, Pignataro A, Canu N, Yang L, Barbagallo AP, Biundo F, Lombino F, Heng H, Ammassari-Teule, D, D'Adamio L. Tyr682 in the APP intracellular domain regulates synaptic connectivity, cholinergic function and cognitive performance. *Aging Cell*, 2012, 11(6): 1084-1093.
 7. **Matrone C**, Barbagallo APM, La Rosa LR, Florenzano F, Ciotti MT, Mercanti D, Chao MV, Calissano P and D'Adamio L. APP is phosphorylated by TrkA and regulates NGF/TrkA signaling. *J Neurosci*, 2011, 31(33): 11756-11761. TWIJ ARTICLE.

8. **Matrone C**, Marolda R, Ciotti MT, Ciafre S, Mercanti D, Calissano P. Tyrosine kinase NGF receptor switches from pro-survival to pro-apoptotic activity via Abeta mediated phosphorylation. *Proc Natl Acad Sci U S A*, 2009, 106:11358-1136.

▪ **As first author**

1. **Matrone C**, Di Luzio A, Meli G, D'Aguanno S, Severini C, Ciotti MT, Cattaneo A, Calissano P. Activation of the amyloidogenic route by NGF deprivation induces apoptotic death in PC12 cells. *J Alzheimers Dis*, 2008, 13(1): 81-96.
2. **Matrone C**, Ciotti MT, Marolda R, Mercanti D, Calissano P. NGF and BDNF signaling control amyloidogenic route and Abeta production in hippocampal neurons. *Proc Natl Acad Sci U S A*, 2008, 105(35): 13139-13144.

▪ **As co-author**

1. Kühn B, Brat C, (...), **Matrone C**, Urbschat A, Roos J, Steinhilber D, Maier TJ. Anti-inflammatory nitro-fatty acids suppress tumor growth by triggering mitochondrial dysfunction and activation of the intrinsic apoptotic pathway in colorectal cancer cells. *Biochem Pharmacol*. 2018, 155:48-60
2. Roos J, Peters M, (...), **Matrone C**, Heidlere J, Wittige I, Geisslinger G, Steinhilber D, Parnham M and Maier TJ. Drug-mediated intracellular donation of nitric oxide suppresses leukotriene biosynthesis in vitro and in vivo by site-directed cysteine-nitrosylation of 5-lipoxygenase. *Antioxidants & Redox Signaling*, 2018, 28(14):1265-1285

▪ **Reviews**

1. **Matrone C**, Iannuzzi F and Annunziato L. The Y682ENPTY687 motif of APP: progress and insights toward a targeted therapy for Alzheimer's disease patients. *Ageing Research Review* 2019
2. Roos J, Gröschb S, (...), **Matrone C**, Steinhilber D, Parnhami MJ, and Maier TJ. Regulation of tumorigenic Wnt signaling by cyclooxygenase-2, 5-lipoxygenase and their pharmacological inhibitors: a basis for novel drugs targeting cancer cells? *Pharmac and Therap*, 2016, P&T23101.
3. Calissano P, Amadoro G, **Matrone C**, et al., Does the term "trophic" actually means anti-amyloidogenic? The case of NGF. *Cell Death Differ*, 2010, 17(7): 1126-1133.

▪ **Book chapter**

- Trattato di Farmacologia. Matrone C and Sirabella R. Farmacologia del sistema simpatico. Ch X.
- Role of Lipoxygenases in Pathogenesis of Cancer. DOI:10.1007/978-3-319-27766-0_7. pp.131-157. In PROGRESS IN INFLAMMATION RESEARCH - ISSN:1422-7746

D. **Research Support**

▪ **Ongoing Research Support**

- 2019-23 PRIN 2017 Prot. n.4036 del 07/03/19

▪ **Completed Research Support**

- 2012-14 Lundbeckfonden Vortj nr. R108-A10719
- 2014-16 Lunbeckfonden Vortj nr. R151-2013-14806
- 2016-17 AUFF Recruitment Grant
- 2016-19 Aarhus University support for PhD fellow
- 2016-19 Lunbeckfonden Vortj. nr. R208-2015-307
- 2016-17 Parkinsonforeningen
- 2017-18 Lunbeckfonden Vortj. R275-2017-3696
- 2017-18 Augustinus Fonden
- 2017-18 Parkinsonforeningen
- 2015-18 Danish Council Independent Researcher (FSS/400400330B)
- 2018-20 Møller funden
- 2019-20 Lunbeckfonden Vortj. R275-2017-3696