MARIA GRAZIA BOTTONE *Curriculum vitae et studiorum*

Maria Grazia Bottone is Associated Professor from october 2019 of Department of Biology an Biotecnology "L. Spallanzani" of University of Pavia

2019-today: Member of the Guarantee Commission of the University of Pavia

2019: Member of the Commission for the state examination for the qualification to practice the profession of Biologist

2018-today: Member of the Scientific Technical Committee of the Linguistic Center of the University of Pavia

2017-2018: member of the Commission of Examiners of candidates a PhD in Genetics, Molecular and Cellular Biology

2017-present: Proponent of the PhD in Genetics, Molecular and Cellular Biology

2017: National Scientific Qualification as Full Professor in the scientific disciplinary sector BIO/06-Comparative Anatomy and Cytology (competition sector 05/B2- Comparative Anatomy and Cytology)

2016-today: Member of the Review Commission of the course of studies in Biological Sciences

2011-2016: Member of the Academic Board of the PhD in Genetics, Molecular and Cellular Biology

2011-2013: Responsible for the execution of experiments on laboratory animals for the realization of the research project "In vivo" evaluation of the neurotoxic effects of platinum compounds"

2010-2011: Member of the Academic Board of the PhD in Cell Biology

2004-2012: Associated with the Institute of Molecular Genetics of the National Research Council (CNR) of Pavia

2002-2019: Researcher at the Department of Biology and Biotechnology, University of Pavia

1998-2002: Technical officer of the technical-scientific area at the Cell Biology Laboratory of the Department of Animal Biology of the University of Pavia

1994-1996: Post-PhD at the Histology and Embriology laboratory of the University of Pavia

1993-1994, contract as a technician at the Flow Citometry Laboratory at the Centro Grandi Strumenti at the University of Pavia

1993: PhD in Citochimica e Citomorfologia at the University of Pavia.

1993-1994: Technician at the Flow Citometry Laboratory at the Centro Grandi Strumenti at the University of Pavia

1988: Graduated in Biological Sciences at the University of Pavia

1989: Post-graduate internship at the Centro di Studio per l'Istochemica del CNR (section of Histochemistry) of Pavia

SUPERVISION OF DOCTORAL AND POST-GRADUATE STUDENTS:

1998- present: supervisor and co-examiner of Biological Sciences, Master's Degree in Neurobiology, Master's Degree in Experimental and Applied Biology and Master's Degree in Molecular Biology and Genetics

2007- 2019: Scientific supervisor of the 6 thesis of the PhD:

1) Study of cell death induced by platinum compounds on rat neuroblastoma cultures: cisPt Vs PtAcacDMS.

2) Cell death and neurotoxicity: effects of platinum compounds

3) Cisplatin vs [Pt (O, O'-acac) (-acac) (DMS)]: induction of cell death in human glioblastoma (U251) cell cultures.

4) Brain Development in Prolidase Deficient Mice

5) Alternative strategies to overcome Cisplatin side effects and resistance

6) A new platinum-based prodrug: its anticancer effects and in vitro approaches to understand novel targets to treat Nervous System tumours

2012: Organizer of the course "Cellular bases of development and differentiation" for the Ph.D. in Genetic and Biomolecular Sciences: as a teacher held the seminar "Differentiation of neural cells in culture and cell organelles"

2016: Organizer of the course "Cellular networks in normal, pathological and experimental conditions" for the PhD program in Genetic and Biomolecular Sciences

2016- 2017: member of the Examining Commission for the PhD program in Genetics, Molecular and Cellular Biology (Cycle XXXII, Cycle XXXIII), University of Pavia
2020: Scientific supervisor of three PhD student

TEACHING ASSIGNMENTS
2005- 2010: Laboratorio di Tecniche Morfologiche e Cellulari (L.S. Scienze della Natura) CFU 4
2007- 2008: Patologia Clinica e Fisiopatologia- mod. 2 (L.S. Biologia Sperimentale Applicata) CFU 1
2009: Neuroanatomia Umana (L.S. Neurobiologia) CFU 5
2008: Metodi in Neuroscienze I- mod. 4 (L.S. Neurobiologia) CFU 1
2010- 2015: Neurogenesi e Neuromorfologia Comparata- mod. 2 (L.S. Neurobiologia) CFU 3
2010- 2014: Neuroanatomia Umana (L.S. Neurobiologia) CFU 6
2015- 2016: Neuroanatomia Umana (L.S. Neurobiologia) CFU 6
2013: Citologia ed Istologia (Laurea Triennale In Scienze Biologiche) CFU 9
2014: Didattica e Laboratorio della Biologia TFA (Tirocinio Formativo Attivo) CFU 1
2015: Didattica della Biologia PAS (Percorsi Abilitanti Speciali) CFU 1
2015- present: Neurocitologia e Neuroistologia (L.S. Neurobiologia) CFU 6
2015- present: Citologia ed Istologia (Laurea Triennale In Scienze Biologiche) CFU 9
2018-Didattica delle Scienze FIT (Formazione Iniziale Tirocinio) CFU 3

AUDITING ACTIVITIES
2003- present: Reviewer for international scientific journals including European Journal of Cancer, Cell Proliferation, Biochemistry Research International, Journal of Histochemistry & Cytochemistry, International Journal of Developmental Neuroscience, Life Sciences, Brain Research, biomedicines, International Journal of Molecular Sciences, Cellular and Molecular Neurobiology, Neurotoxicity Research.
2012: Commissioner for the final exams of the PhD in Neurochemistry and Neurobiology, University of Genoa
2012- 2013: Cineca Referee for FIRB project
2013- 2016: Referee projects of the National Science Center, Poland
2014: referee for SIR funding
2017-present: Associate Editor of the Journal of Embryology & Stem Cell Research (JES-MedWin Publishers)
2018-present. Guest Topic Editor for Frontieres in Neuroscience
2019- present Guest Associate Editor for Neuropharmacology, for special issue “Brain Cancers: New Perspectives and Therapies”

GRANTS
1998: Component of the research unit PRIN 1998 "Exogenous Factors and Nuclear Targeted Cellular Surveillance Adjustment" (National Coordinator N. Maraldi)
2002: Component of the research unit PRIN 2002 "Photosensitizing apoptogens, potentially usable in photodynamic therapy" (National Coordinator C. Pellicciari, University of Pavia)
2005: Component of the research unit PRIN 2005 "Photodynamic properties and cytotoxicity of hypocrhina B acetate, a new fluorogenic substrate of potential use in photodynamic therapy" (National Coordinator C. Pellicciari, University of Pavia).
2010: Component of the research ""in vivo” and “in vitro” effects of novel cisplatin analogues: evaluation of neurotoxicity, nephrotoxicity and hepatotoxicity", funded by Fondazione Banca Monte Lombardia (Coordinator C. Fenoglio, University of Pavia)
2011: Responsible for the management and coordination of the one Research Unit Prin 2009 "In vitro”and “in vivo” evaluation of the neurotoxicity of new platinum compounds" (National Coordinator FP. Fanizzi, University of Salento)

2017: Coordinator of a Crowdfunding Project of the University of Pavia, #lafelicitanonhapeso, on the study of Anorexia Nervosa

SCIENTIFIC ACTIVITY

1989-2011: research activity at the Department of Animal Biology of the University of Pavia

2012-today: research activity at the Department of Biology and Biotechnology "L. Spallanzani "of the University of Pavia

2014-today: responsible, of the Cell Biology and Neurobiology Laboratory of the Department of Biology and Biotechnology (Department of Excellence 2018-2022)

1988-1992: Quantitative evaluation of chromatin fractions with different transcriptional activity Physical and chemical methods of denaturing and renaturation, usually used on extracted DNA, have been applied in situ, for the study of chromatin in various differentiated cell models.

1992- present: Research, in the Laboratory of Cellular Biology and Neurobiology, also in collaboration with other groups, mainly through microscopic techniques, cytometric and biochemical immunocytochemistry, of pathway proliferation and cell death in "in vivo" and "in vitro",in physiological, pathological experimental conditions.

1997-2007: Development of cytochemical and cytometric methods for the quantitative study of DNA and proteins and for the dentification of apoptotic cells, in particular of the early events of the cell death process, investigating the modifications of Nuclear ribonucleoproteins (RNPs), normally involved in mRNA synthesis and maturation. Both cellular systems were used in which apoptosis occurs spontaneously in vivo (as in the case of thymocytes), and experimental induction models with apoptogenic drugs. Furthermore, the apoptogenic effect of photosensitizing molecules (Rosa bengala acetate and Ipocrellina B Acetate) on cultured cell systems and the intracellular redistribution of nuclear and nucleolar proteins (RNP, c-Myc, Ki-67, fibrillarin) in the course apoptosis, spontaneous and induced by pharmacological stimuli.

2005-present: Research activity in the field of Neurobiology, using microscopic techniques (fluorescence and confocal), immunocytochemicals, flow cytometry, molecular techniques and electron microscopy, with particular attention to the involvement of organelles and cellular components: 1) study of molecular events in the context of tissue morphology (cytoarchitecture) of some areas of the Central Nervous System (CNS), in order to evaluate the changes that characterize neuronal differentiation, remodeling and reorganization after experimental interventions; 2) in vitro study on cultured neural cells of the effects of chemotherapy and hadrontherapy to study the neurocytotoxic, apoptogenic and drug resistance effects caused by cisplatin, testing in parallel new platinum compounds that may decrease the side effects of cisplatin; 3) Understanding of the mechanisms underlying the neuroinflammatory and oxidative processes and their correlation with the development of glioblastoma and metastasis processes, also evaluating the effects of integration with mycotherapics (Hericium erinaceus and ganoderma lucidum).

2016-present: Study of the effects of new nutraceutical compounds in in vitro models (nerve and tumor cell lines) on modifications induced by oxidative stress (brain aging, metabolic modifications underlying eating disorders).

Research activities include 95 scientific publications in international journals, 140 communications to national and international conferences, 5 chapters of books and 1 textbook for college students of Biological Sciences.

H-index: 23, Citations 1424 by 1065 documents (Scopus).