CURRICULUM VITAE

Pier Giorgio Mastroberardino, PhD, MBA

WORK ADDRESS

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CURRENT POSITION

Associate Professor, Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila, Italy

Academic Director, Master in Neurosciences, Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila, Italy

PERSONAL STATEMENT

My main research focus is on the molecular mechanisms underlying neurodegenerative diseases, particularly Parkinson's disease, with strong emphasis on mitochondrial function, redox balance, iron homeostasis, and DNA damage and repair. Recently, I have expanded my interests to cancer neuroscience, investigating how chemotherapy affects nerve function and how neuron-tumor interactions drive cancer progression. These themes represent critical challenges in public health and align closely with ISS's mission to promote health and prevent diseases.

My work is highly translational, integrating patient-derived biological data, functional -omics, and biomarker development to drive precision medicine. I have secured substantial national and international research funding from institutions such as AIRC, the Michael J. Fox Foundation, the NIH, and the EU. Beyond academia, my Global Executive MBA has allowed me to bridge science with industry, fostering technology transfer, startup creation, and public-private collaborations. I have served as an Advisor to the President of the ISS on technology transfer and act as an *in itinere* reviewer for a very large PNNR project on behalf of the Italian Ministry of Research and University, further demonstrating my ability to contribute at the national policy level.

Should I have the opportunity to serve as Director of the Department of Neuroscience at the ISS, my goal would be to promote ISS's role as a leading institution in neuroscience research and innovation. I will work to attract substantial research funding to strengthen the department's research capacity while supporting and enabling its members to secure competitive grants themselves. Leveraging my international network and experience in large-scale grants, I would work to foster collaborative research initiatives and enhance funding strategies. Through these initiatives, I will aim to accelerate translational impact, strengthen international partnerships, and contribute to the department's long-term scientific and public health mission.

EDUCATION

Italian National Habilitation as **Full Professor** in the discipline of *Comparative Anatomy and Cytology* (05/B2)	2018
Italian National **Habilitation** as **Full Professor** in the discipline of *Biochemistry* (05/E1)	2017
Global Executive Master in Business Administration OneMBA Rotterdam School of Management, Erasmus University, the Netherlands	June 2016
Qualification (*Idoneità*) as **Associate Professor** in *Cytology and Comparative Anatomy* (University or Rome "Tor Vergata", Rome, Italy, D.R. n. 2033 del 30.09.2014)	September 2014
Italian National **Habilitation** as **Associate Professor** in the disciplines of *Biochemistry* (05/E1), *Molecular Biology* (05/E2), and *Comparative Anatomy and Cytology* (05/B2).	2014
PhD, Cellular and Molecular Biology University of Rome "Tor Vergata", Italy *Advisor*: Mauro Piacentini *Focus*: Role of protein cross-linking enzymes in the brain *Dissertation*: Transglutaminase 2 regulates the mitochondrial respiratory chain assembly and function under physiological conditions	2000-2004
Laurea (Italian M.S.), Biology (LM6) - 110/110 cum Laude University of Rome "Tor Vergata", Italy *Advisor*: Mauro Piacentini *Focus*: Role of protein cross-linking enzymes in Huntington's disease *Thesis*: Role of tissue transglutaminase in a murine model of Huntington's disease	2000

Courses (selected)

Biological Basis of Neuropsychiatric Disorders University of Pittsburgh	2008
Course in Scientific Management and Leadership University of Pittsburgh	2008
"*IV course on proteomics*" University of Siena, Italy and Amersham Pharmacia	2001

ACADEMIC EXPERIENCE

Principal Investigator, Department of Molecular Genetics, Erasmus University Medical Centre, Rotterdam, the Netherlands	Feb 2010-Dec 2024
Principal Investigator, Genome instability and metabolism reprogramming in aging lab, IFOM the FIRC Institute of Molecular Oncology, Milan, Italy	2020-31st Dec 2024
Academic co-Director, Rotterdam School of Management-Erasmus MC joint MSc Medical Business and Innovation	2021-2022
Lecturer (RTD-B), Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila, Italy	2018-2021

Adjunct Faculty, Department of Neurology, Pittsburgh Institute for Neurodegenerative Diseases *Director*: J. Timothy Greenamyre, MD, PhD University of Pittsburgh, Pittsburgh, PA, USA	February 1st, 2010- present
Visiting Professor, Department of Life, Health and Environmental Sciences *Chair*: Grazia Cifone, MD University of L'Aquila, L'Aquila, Italy	2017
Post-doctoral associate, Department of Neurology Pittsburgh Institute for Neurodegenerative Diseases University of Pittsburgh, Pittsburgh, PA, USA *Advisor*: J. Timothy Greenamyre, MD, PhD *Focus*: Pathological molecular mechanisms in Parkinson's, and Huntington's disease	2005-2010
Post-doctoral fellow, Department of Neurology Center for Neurodegenerative Diseases Emory University, Atlanta, GA, USA *Advisor*: J. Timothy Greenamyre, MD, PhD *Focus*: Pathological molecular mechanisms in Parkinson's and Huntington's disease	2003-2005

LEADERSHIP & MANAGEMENT EXPERIENCE

International Roles:

- **Vice-Chair**, Marie Skłodowska-Curie Action Fellowships, **European Commission** (2021-Present)
- **Project Monitoring Reviewer**, Horizon Europe - **EIC Accelerator** (2024-2025)
- **Coordinator**, Large International Grants (e.g. **Michael J. Fox Foundation**)
- Member, **Organizing Committee Gordon Research Conference on Parkinson's disease** (2024-2025)

National Leadership:

- ***In itinere* Reviewer**, PNNR Age-IT (Ministry of University and Research, MUR)
- ***Evaluator*** and Member of the Scientific Panel for the National Recovery and Resilience Plan Proof-of-Concept (**PNRR- POC**) grants – Italian Ministry of Health (2022)
- **Advisor to the ISS** President**, Prof. Silvio Brusaferro, Technology Transfer** (2021-2023)
- **Academic Director, MSc in Neurosciences,** Universita' degli Studi dell'Aquila (2022-present)
- **Research Management Consultant**, "C. Mondino" National Neurological Institute, **Pavia** (2018)
- **Member of the Research Commission**, Department of Life, Health and Environmental Sciences, Universita' degli Studi dell'Aquila (2024-present)

RESEARCH FOCUS

- Molecular pathogenesis of neurodegenerative diseases
- Large-scale patient data analysis & biomarker development
- Redox systems and their role in aging and disease
- DNA damage, genomic instability, and neurodegeneration
- Mechanisms of metabolic redesign in response to cellular stress
- Impact of chemotherapy on neurons
- Impact of neuron-cancer interactions on tumor progression
- Public health implications of neurodegeneration & cancer neuroscience

GRANT SUPPORT

Pending

· **H2020-MSCA Doctoral Network** – third resubmission, previous score 92.4/100 – "The role of cellular mechanical stress in the pathogenesis of neurodegenerative disorders" – (**Coordinator**)
Results expected summer 2025

Active

· **Michael J. Fox Foundation** – invited submission by the Foundation in the Spring 2024 Request for Proposals mechanism – "*Alterations in DNA repair mechanisms in PD nervous system cells and their correlation with clinical variables*" (**PI**)
USD 350,000 2025-2027

· **AIRC IG** – "The mitochondrial-STING pathway in chemotherapy induced peripheral neuropathy" (**PI**)
EUR 774,000 2024-2029

· **Italian Ministry of Research National Research Plan** (PRIN) – "Interplay between Parkin and Transglutaminase 2 in DNA damage and repair in Parkinson's disease" (**Coordinator**)
EUR 227,091 total**, EUR 42,260** to PGM laboratory 2022-2025

· **Italian Ministry of Research National Research Plan** (PRIN) - ''Interplay between genotoxic and mechanical stress in neurodegeneration" (Responsible for a Research Unit)
EUR 172,799 to PGM laboratory 2022-2025

Completed

· **European Joint Programme on Rare Diseases (EJP RD)** – "Transcription stress Counteracted by Nutritional interventions of Exceptional importance for rare DNA Repair disorders" (**work-package leader**)
EUR 150,000 to PGM laboratory 2021-2024

· **Eurostars-Eureka Horizon 2020** - E! 114370 PD-IRONSYN – "Novel Parkinson's Disease therapy targeting iron-related cell death and alpha synuclein aggregation" (**work-package leader**)
EUR 1,020,000 total – EUR 307,150 to PGM laboratory 2020-2023

· **The Michael J. Fox Foundation for Parkinson's Research** – "Identifying a molecular signature of nuclear DNA damage in PD patients blood cells" – (**PI**)
USD 199,670.5 2022-23

· **The Michael J. Fox Foundation for Parkinson's Research** – "Orthogonal validation of mitochondrial anomalies in patients' derived multiple cellular systems" – (**PI**)
USD 149,975 2020-2021

- **University of L'Aquila, internal competitive grant** "Dysregulation of iron homeostasis in Parkinson's disease" 2019
  EUR 12,000
- **Italian Medicines Agency (AIFA)** - *"Biological markers of frailty in the physiological and pathological aging brain: correlations with pharmacological frailty"* (**work-package leader**)
  EUR 650.200 total - EUR 125.000 to PGM laboratory 2018-2021
- **The Michael J. Fox Foundation for Parkinson's Research** – "*Transferrin Receptor 2 as a target to halt nigral neurons iron overload in Parkinson's disease"* (**PI**);
  US$ 250.000 2015-2016
- **Stichting Alkemade-Keuls** – **"***Molecular markers of skin fibroblasts of Parkinson's disease***"** (**co-PI**)
  EUR 80.000 2015-2016
- **Ri.MED Foundation** – "*Zebrafish as a redox-sensitive vertebrate model to study redox homeostasis and to identify new potential treatments for PD*" (Supervisor);
  EUR 195.000 2014-2016
- Erasmus MC Pilot grant MRACE "Cancer Cachexia in Surgical Oncology – Mechanisms and Interventions" (co-project leader);
  EUR 56.100 2014-2015
- "*Dorpmans-Wigmans Stichting*" Foundation for Parkinson's and Alzheimer research
- Subsidy to purchase a Seahorse Extracellular Flux Analyzer (**PI**);
  EUR 53'105 2011
- **Dutch Center for Cancer Genomics,** Junior Group Leader subsidy (NGI/NWO 05040202) (**PI**);
  EUR 650'000 2010-2014
- FP7-Fission-2011, Proposal N° 295552, "CEREBRAD—Cognitive and Cerebrovascular Effects Induced by Low Dose Ionizing Radiation" (**work-package leader**);
  EUR 374'000 2011-2015
- Marie Curie Reintegration Grant (FP7) - Proposal N° 247918 – "The synergistic effect of DNA damage and oxidative stress in the aging brain**"** (**PI**)
  EUR 25'000/year – 4 years - **EUR 100'000** total 2009-2013
- NIH Pathway to Independence Award K99/R00, ES016352, "Oxidative modification of brain proteins in pesticide intoxication" (**PI**).
  - R00 phase: 2009-2012, **$249'000**/year – 3 years - **$747'000** total; upon acceptance of a tenure-track faculty position in the United States; funds for the R00 phase were returned to the Agency upon relocation to Europe.
- **Ri.MED Foundation** – "*Zebrafish as a redox sensitive vertebrate model to study oxidative damage in brain*" (Supervisor);
  EUR 120'000 2011-2012
- K99 supplement under the American Recovery and Reinvestment Act of 2009 (**PI**); **$89'758** 2009-2010
- Michael J. Fox Foundation Post Doctoral Fellowship 2004-2005
- European Science Foundation Scholarship 2002
- European Science Foundation short-term fellowship 2002
- University of Rome "Tor Vergata", grant for young researchers 2001

Other awards

- **Certificate of Reviewing Excellence** from Elsevier and the Editors of *Neurobiology of Disease*. 2014

- International Bioiron Society Travel Bursary 2009

SERVICE

EDITORIAL SERVICE

Associate Editor

Frontiers in Cellular Neuroscience 2015-present

Frontiers in Molecular Neuroscience 2020

Editorial Board

Cell Death and Disease (Nature Publishing Group) 2018-present

Antioxidants (MDPI) 2021-present

Neurobiology of Disease (Elsevier) 2010-2020

Guest Editor

Neurobiology of Disease - Guest Editor for the special issue "***Metals, the Brain, and Neurodegeneration***" (2015)

Frontiers in Cellular Neuroscience – Guest Editor for the Special Issue "***Neuronal self-defense: compensatory mechanisms in neurodegenerative disorders***" (2014)

Antioxidant & Redox Signaling – Guest Editor for the special issue "***Peripheral Neuropathies***" (published in volume 4, issue 2, August 2014)

International Journal of Cell Biology - Guest Editor for the special issue "***Redox Status and Bioenergetics Liaison in Cancer and Neurodegeneration***" (2012)

***Ad Hoc* Reviewer (selected)**

Cell Death and Differentiation
The Journal of Neurochemistry
Neurobiology of Disease
Neurochemical Research
The Journal of Neuroscience
Neurobiology of Aging
Nature Neuroscience
Nature
Biochimie
Movement Disorders
Nature Medicine
Cell Metabolism
The Journal of Cell Biology
Brain
Free Radical Biology and Medicine
Antioxidant & Redox Signaling
EMBO Molecular Medicine
Experimental Neurology
Neuropharmacology

OTHER SERVICE

Member of the organizing committee for the **2025 Parkinson's disease Gordon Research Conferenc**e	2024-2025
Project monitoring reviewer *Horizon Europe* - ***EIC Accelerator*** - European Innovation Council and SMEs Executive Agency (EISMEA)	2024
Evaluator and Member of the Scientific Panel for the National Recovery and Resilience Plan Proof-of-Concept (**PNRR- POC**) grants – Italian Ministry of Health	2022
Ad interim reviewer overseeing the progresses of the National Recovery and Resilience Plan (**PNRR**) program on Aging (>EUR 110M) - Italian Ministry of University	2022-2025
Evaluator and President of the Evaluating Panel, "*Extended Partnerships with universities, research centres and companies to fund basic research projects*" - within the framework of the National Recovery and Resilience Plan, Theme 8: Aging – Italian Ministry of University/Italian Ministry for Economic Development	2022
Vice Chair European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Postdoctoral Fellowships	2021-present
Ad hoc **grant reviewer** the Michael J. Fox Foundation for Parkinson's research	Aug-Oct 2021
Ad hoc **grant reviewer** Italian Ministry of University and Research (MIUR), FISR 2020 scheme	Dec 2020
Member of the **review study section** for the evaluation of research grants by the Italian Ministry of Health	Sept 2020
Ad hoc **grant reviewer** European Science Foundation – University of Antwerp Centres of Excellence scheme	2019
Ad hoc **grant reviewer** European Science Foundation – Research Foundation Flanders' (FWO) postdoctoral fellowship scheme	2019-present
Member of the **review study section** for the evaluation of Industry-Academia partnership project grants by the Italian Ministry of Health	Nov 2017
External member of the **selection committee** for an Assistant Professor position in General Pathology (S.S.D. MED/04), Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila, Italy	Aug 2017
Scientific Expert Reviewer for the Italian Medicines Agency (AIFA) grants	May 2017
Ad hoc **grant reviewer** European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Individual Fellowship	2018-2020
Ad hoc **grant reviewer** European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Research and Innovation Staff Exchange (RISE)	2017-2019
Ad hoc **grant reviewer** for the Association of British Neurologists	Jan 2016
Ad hoc **grant reviewer** and **member of the Review Committee** for the Michael J. Fox Foundation *Target Advancement Fall 2015* program	Sept 2015

Chair of the **study section** for the evaluation of the project grants "*Senior Researchers*" by the Italian Ministry of Health	June 2015
Contributed to formulate the Italian Ministry of Health **grant reviewers' guidelines** to be followed in the evaluation of the projects in the "*Ricerca Finalizzata*" and "*Giovani Ricercatori*" Calls.	May 2013
Representative for the Netherlands in the **Management Committee** of the European intergovernmental framework COST CM1001 "*Chemistry of non-enzymatic protein modification - modulation of protein structure and function*"	2012 - 2015
***Ad hoc* grant reviewer** for the Michael J. Fox Foundation for Parkinson's Research	Aug 2011
***Ad hoc* grant reviewer** for the Italian Telethon Foundation	Spring 2011
***Ad hoc* grant reviewer** for the Italian Ministry of Health projects "*Ricerca Finalizzata*" and "*Giovani Ricercatori*"	2009 - 2012
Member of the **review study section** for the evaluation of the project grants "*Giovani Ricercatori*" by the Italian Ministry of Health	2009 and 2011
Participated to the *WhyWeAge* workshop and final summit conference to define research priorities in the aging field. The topics were reported in the document "*A European road map for molecular biogerontology*", which constituted a reference for the European Commission to plan future funding strategies, in particular in Eight Framework Program (Horizon 2020).	Mar-May 2010
Abstract Reviewer for the 17th Annual Meeting of the *Society for Free Radical Biology and Medicine* (SFRBM), a joint meeting with the *Society for Free Radical Research International*.	Oct 2010

TEACHING ACTIVITIES AND STUDENTS' SUPPORT

Research supervisor 2002-present

- *University of Rome*: one undergraduate (Valentina Spina) and one graduate student (Irene Viti)
- *Emory University*: one graduate student (Adam Orr)
- *University of Pittsburgh*: one graduate student (Maxx Horowitz), two technicians (Hye Mee Na, Xiaoping Hu), and two junior post-doctoral fellows (Roberto Di Maio, Chiara Milanese)
- *Erasmus Medical Centre*: three visiting graduate student (Sara Sepe and Luana Barone, from Università Roma Tre, Italy, Giulia Ambrosi, from Università di Pavia, Italy), two technicians (Humaira Yousaf, Sylvia Gabriels), six postdoctoral fellows (Sara Sepe, Chiara Milanese, Cintia Bombardieri, Marshall Huston, Manuela D'Eletto, Stefania Farina), six undergraduate students (Casper Ouwerkerk, Marco Nigro, Robin de Jong, Leander Vermeer, Kawita Dihalu, Ronnie de Bor). **Co-tutor** in the European PhD of Luana Barone (Università Roma Tre, Italy,)
- *University of L'Aquila*: one PhD student (Martina Sette), three MSc undergraduate students (Sarah Pellegrino, Simone Pigliacelli, Martina Appignani)

- *IFOM*: Two post-docs (Chiara Milanese, Daisy Sproviero), two PhD student (Federica Terraneo, Anna Scalise)

Teaching

Visiting Professor 2018, 2020

University of Pavia, Scuola Universitaria Superiore Pavia (IUSS)
Master in Psychology, Neuroscience, and Human Sciences
Held lectures (24 hours total) to graduate and undergraduate on:

- Presentation skills and scientific communication
- Grant writing
- Navigating the scientific peer review process

Lecturer and Professor 2018-present

University of L'Aquila, Italy
Department of Life, Health and Environmental Sciences

- *Cellular and Developmental Neurobiology (90 hour/year, approx. 8students, 2024 -present)*
- *Histology (40 hours/year, approx. 120 Bachelor students, 2018-present)*
  the course is held in the BSc of Biology and discusses tissues and organs from the histological standpoint
- Cell biology and mechanisms of evolution *(30 hours/year, approx. 20 Bachelor students, 2018-2023)*
  The course is held in the BSc of environmental sciences and discusses cell biology from an evolutionary standpoint.
- Biotechnology of the nervous system (*45 hours/year, approx. 20 Master students, 2018-2021)*
  The course was held in the MSc of Biotechnologies and discussed methodologies to approach the study of the nervous system, for instance sequencing, techniques for metabolic analysis, advanced imaging methods, and optogenetics.
- Developmental Neurobiology (*30 hours/year, approx. 7 Master students, 2022-present*)
  The course is held in the MSc of Neurosciences and illustrates the fundamental mechanisms governing the development of the nervous system.
- Soft Skills in Biomedical Science *(20 hours/year, approx. 50 students, 2018-2020)*

Visiting Professor 2017

University of L'Aquila, Italy
Department of Life, Health and Environmental Sciences

Held lectures to graduate and undergraduate students on the topics of:
- Neurobiology of disease
- Bioenergetics and redox biochemistry
- DNA damage and repair
- In vitro models of neurodegenerative diseases

Held the "***Survival skills***" course for graduate students focused on:

- *Presentation skills and scientific communication*
- *Grant writing*
- *Navigating the scientific peer review process*

Teaching Assistant, Genetics 2011-2019
Erasmus University Medical Center
Lectured twice/week to 50 undergraduate students in Medicine
Taught for 7 semesters

Invited Panelist, *"K99/R00 Career Development Award Workshop"* 2007-2009
University of Pittsburgh
Office of Academic Career Development

Oral Examiner and member of exam board in Histology 2001-2003
University of Rome
Examined three times/year 50 undergraduate students in biology

Teaching Assistant, Histology 2001-2003
University of Rome
Lectured twice/week to 30 undergraduate students in biology
Taught for 3 semesters

Participation in Doctoral Dissertation Committees

President of the defense committee for the PhD in "*Cellular and Molecular Biotechnologies* – XXXII cycle" University of Teramo, Teramo, Italy 18 September 2020

President of the defence committee for the PhD in "*Cellular and Molecular Biotechnologies* – XXIX cycle" University of Teramo, Teramo, Italy 12 June 2017

Tutor in the following PhD thesis:

Candidate	Institution	Title of the thesis	Date
Anna Agata Scalise	Open University	Adhesion G protein-coupled receptor Gpr126 as a drug target for ischemic stroke	22 Oct 2024
Martina Sette	University of Teramo, University of L'Aquila, Italy	Unraveling the mechanisms of systemic iron regulation and their effects on the central nervous system	5 Jul 2024

Co-tutor in the following PhD thesis:

Candidate	Institution	Title of the thesis	Date
Luana Barone	University "Roma Tre", Rome, Italy	Alterations in peroxisomal function induced by genomic instability and their relevance for aging	17 Feb 2016
Sara Sepe	University "Roma Tre", Rome, Italy	Role of AMBRA1 in nervous tissue homeostasis and in neurodegeneration	19 Dec 2011

Examiner and **member of the commission** in the following PhD dissertations:

Candidate	Institution	Title of the thesis	Date
Kornvalee Meesilpavikkai	Erasmus University Medical Center	The State of STATs in Primary Immunodeficiencies: Molecular Diversity and Implications for Therapy	9 October 2019
Gloria Panella	University of L'Aquila, L'Aquila, Italy	Design and characterization of biocompatible scaffolds for tissue regeneration	March 2018
Monique Corbin	Vrije Univesiteit Medical Center Amsterdam (VUmc)	Mechanisms in the cellular defense against oxidative stress	9 Nov 2017
Alessia Buso	University of Udine, Udine, Italy	Mitochondrial oxidative phosphorylation plasticity/adaptation triggered by disturbances and stresses and targeted by therapies	30 May 2017
Nada Samari	Vrije Univestiteit Brussel and Studiumcentrum voor Kernenergie, Belgium	Molecular and morphological changes induced by ionizing radiation on maturing neurons	21 Feb 2013

Other

Member of the Academic Board of the Doctoral Program in Cellular and Molecular Biotechnologies, University of Teramo, Italy	2019-present
Member of the Academic Board of the Doctoral Program in System Medicine, University of Milan, Italy	2022-present
PhD Mini-Viva internal examiner – Open University	July 2021; Jan 2024
Member of the Admissions Committee in the European School of Molecular Medicine (SEMM)	Jun-Sept 2021

DISSEMINATION AND EXPLOITATION ACTIVITIES

Invited Seminars (selected)

- December 2024 – BioFIT meeting on academia-industry collaborations in Life Sciences Lille, France – participated in one-to-one partnering events for commercial development of patent application
- June 2024 – Biennial International LRRK2 meeting – Crete, Greece – ***Oral presentation***
- April 2023.- Dutch Society for Clinical Pharmacology (NVF) - ***Invited Speaker***
- June 2020 – Danish Cancer Center – VIII workshop on Nitric Oxide and Cancer; special focus on metabolism and aging – Copenhagen, Denmark - - ***Invited Speaker***
- June 2021 – Dutch Neuroscience Meeting – online - ***Invited Speaker***
- June 2019 – Gordon Research Conference on Parkinson's disease, Grand Summit Hotel at Sunday River, Newry, ME, ***Invited Speaker***
- Apr 2018 – Norwegian "NeuroMito" symposium on "Interconnected networks between DNA damage and mitochondrial dysfunction in neurodegeneration" – Bergen, Norway – ***Keynote Lecture***
- Apr 2018 – Dutch Society for Clinical Pharmacology and Biopharmacy Scientific Spring Meeting – Utrecht, the Netherlands, ***Invited speaker***

- Sept 2017- 6th EU-US Conference on Repair of endogenous DNA damage, Udine, Italy, ***invited speaker***
- Aug 2016 – Benzon Symposium no.62 – Genome Instability and Neurodegeneration, Copenhagen, Denmark
- May 2016 - Istituto Superiore di Sanità, Rome, Italy
- Dec 2015 – University of Cologne, Cologne, Germany
- June 2015 – Seahorse Biosciences User Group Meeting 2015, Amsterdam, the Netherlands, June 2-4 2015, ***invited speaker***
- Sept 2014 - Society for Free Radical Research-Europe, 2014 Meeting, Paris, France, ***invited speaker***
- June 2014 – Nitric Oxide - Nitrite/Nitrate Conference, Cleveland, OH, USA, ***invited speaker***
- June 2014 – University of Pittsburgh, Pittsburgh, PA, USA
- May 2014 – Universitá degli Studi di Chieti "G.D'Annunzio", Italy
- May 2014 - 4th Dutch Huntington's Disease Research Network (DHDRN) Symposium, Amsterdam, the Netherlands, ***Keynote Lecture***
- Jan 2014 - University of Rome, Tor Vergata, Department of Biology, Rome, Italy
- May 2013 – Helmholtz Zentrum München, Institute for Radiation Biology, in the "*TIETO: Non-cancer effects of low dose ionizing radiation Course*"**,** München, Germany**, *invited speaker***
- Apr 2013 – Gordon Research Conference "Oxidative Stress And Disease", ***abstract selected for oral presentation as invited speaker***
- Sept 2012- Neurological Institute "C.Mondino", Pavia, Italy, in the "XXIII OTTORINO ROSSI AWARD", ***invited speaker***
- Jun 2012 - A. I. Virtanen Institute for Molecular Sciences- University of Eastern Finland, in the "*Mitochondria and oxidative stress in the nervous system Course*", ***invited speaker***
- Dec 2012 – University of Rome "Roma Tre", Rome, Italy
- Jan 2011 - Institute for Ageing and Health, Newcastle University, UK, in the "*Academic Ageing Seminar Programme*"
- Nov 2010 – Institut Curie à Orsay, Centre Universitaire Paris-Sud 11, France
- May 2010 – A. I. Virtanen Institute, University of Eastern Finland Kuopio, Finland
- March 2009 – Dept. of Physiology, University of Texas San Antonio Health Science Center, San Antonio, TX, USA
- October 2008 – Hillman Cancer Center, University of Pittsburgh, PA, USA
- October 2008 – Erasmus Medical Center, Rotterdam, The Netherlands
- October 2007 – Buck Institute for Age Research, Novato, CA, USA
- March 2007 – Institute L. Spallanzani, Rome, Italy
- February 2007 – University of Rome, Tor Vergata, Italy

Abstracts (selected)

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Jul 2015
Inefficient DNA repair is an aging-related modifier of Parkinson disease
Gordon Research Conference "Parkinson disease", Colby-Sawyer College, NH, USA

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Dec 2013
Aging-related mild genomic instability perturbs the dopaminergic system and elicits salient pathogenic features of Parkinson's disease pathology
XX World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland, 8-11 December 2013 – **selected for oral presentation**

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Sept 2013
Aging-related mild genomic instability perturbs the dopaminergic system and elicits salient pathogenic features of Parkinson's disease
The 5th EMBO meeting, Amsterdam, the Netherlands
- Sara Sepe received an EMBO travel fellowship and the abstract has been selected for an oral presentation

Milanese C, Sepe S, Shiva S, Gladwin MT, and **Mastroberardino PG** — Sept 2013
Nitrite administration ameliorates mitochondrial bioenergetics and is neuroprotective in cellular and vertebrate models of Parkinson's disease
The 5th EMBO meeting, Amsterdam, the Netherlands
- Chiara Milanese received an EMBO travel fellowship and the abstract has been selected for a flash talk

Bombardieri C, Sepe S, Payan Gomez C, Wamelink M, de Wit A, Leen R, van Kuilenburg ABP, Hoeijmakers JH, and **Mastroberardino PG** — Aug 2013
DNA damage-induced transcription arrest elicits allosteric redesign of metabolism and activation of longevity pathways
Gordon Research Conference "Biology of Aging", Il Ciocco, Italy

Bombardieri C, Sepe S, Hoeijmakers J, and **Mastroberardino PG** — Aug 2012
The nucleotide pool integrates genomic stability, metabolism, and redox homeostasis
Gordon Research Conference "Thiol-based redox regulation & signaling", Bates College, ME, USA

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** — Sept 2010
Single-cell Redox Imaging Demonstrates a Peculiar Response of Dopaminergic Neurons to Oxidative Insults
2nd World Parkinson Congress, Glasgow, Scotland

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** — Aug 2010
Single‐cell redox imaging to determine variations in oxidative tolerance of dopaminergic neurons during aging
Gordon Research Conference "Biology of Aging" Les Diablerets, Switzerland

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** — May 2010
Single-cell redox imaging demonstrates a distinctive response of dopaminergic neurons to oxidative insults
Gordon Research Conference "Thiol-based redox regulation & signaling", Il Ciocco, Italy

Mastroberardino PG, Horowitz MP, Betarbet R, Gutekunst CA, Gearing M, Trojanowski JQ, Anderson M, Chu CT, Peng J and Greenamyre JT — Jun 2009
A novel transferrin/TfR2-mediated mitochondrial iron transport system is disrupted in Parkinson's disease
International BioIron Society 2009 Annual Meeting

Mastroberardino PG, Hoffman EH, Horowitz MP, Na HM, Chu CT, Gearing M, Greenamyre JT — Nov 2008
A novel transferrin/TfR2-mediated mitochondrial iron transport system is disrupted in Parkinson's disease
38th annual meeting of the Society for Neuroscience, Washington, DC.

Mastroberardino PG, Betarbet R, Uechi G, Chu CT, Gearing M, Greenamyre JT — May 2008
A novel transferrin/TfR2-mediated mitochondrial iron transport system is sensitive to thiol oxidation and is disrupted in Parkinson's disease
Gordon Research Conference "Thiol-based redox regulation & signaling", Il Ciocco, Italy

Mastroberardino PG, McComrack AL, Di Monte DA, Miller GW, Greenamyre JT — Mar 2008
Characterization of the differences in the oxidative events in two different pesticide models of Parkinson's disease
47th annual meeting of the Society of Toxicology meeting, Seattle, WA.

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SOCIETY MEMBERSHIPS

- Society for Neuroscience (2003-present)
- Nitric Oxide Society (2014)
- The New York Academy of Science (2007)
- Society of Toxicology (2008)
- Society for Free Radical Biology and Medicine (2004)

PATENTS

- *"METHOD TO PREDICT A NEURODEGENERATIVE DISEASE PROGRESSION"* - EP 23206348.7 – application filed on October 27th 2024
- "*Method of labeling biological samples*" – Patent Number(s): WO2009129472-A2 ; WO2009129472-A3 ; US2011039277-A1.

PUBLICATIONS

Submitted as last and corresponding author

Sproviero D, Payan-Gomez C, et al., Parkinson's disease patients display a DNA damage signature in blood that is predictive of disease progression. ***Under review***

Farina S, Barnhoorn S, et al., Elevated Baseline DNA Damage and Hypomethylated Circulating Free DNA Distinguish Frailty from Healthy Aging. ***Under review***

Peer Reviewed Book Chapters

Chiara Milanese and **Mastroberardino PG**
Genes, Aging, and Parkinson's Disease in *Oxidative Stress and Redox Signalling in Parkinson's Disease*
Oxidative Stress and Redox Signalling in Parkinson's Disease published by *The Royal Society of Chemistry, doi.org/10.1039/9781782622888-00389*

Peer Reviewed Articles

P.G. Mastroberardino has published 65 articles in international peer-reviewed scientific journals and 1 book chapter. His work has been cited more than 4400 times in total. His h-index is 35 based on Scopus (more than 6330 citations and h-index 38 based on Google Scholar).

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According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

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Presidente, Corso di Laurea Magistrale in lingua inglese in **Neurosciences**, Università degli Studi dell'Aquila, Italia

DICHIARAZIONE PERSONALE

Il mio principale focus di ricerca riguarda i meccanismi molecolari alla base delle malattie neurodegenerative, con particolare attenzione al morbo di Parkinson. Un'enfasi specifica è posta sulla funzione mitocondriale, l'equilibrio redox, l'omeostasi del ferro e il danno e la riparazione del DNA. Recentemente, ho ampliato i miei interessi all'oncologica, studiando gli effetti della chemioterapia sulla funzione nervosa e il ruolo delle interazioni tra neuroni e tumori nella progressione del cancro. Questi temi rappresentano sfide fondamentali per la salute pubblica e sono strettamente in linea con la missione dell'ISS, volta a promuovere la salute e prevenire le malattie.

Il mio lavoro è altamente traslazionale e integra dati biologici derivati da pazienti, analisi funzionale - omica e sviluppo di biomarcatori per favorire la medicina di precisione. Ho ottenuto finanziamenti significativi per la ricerca, sia a livello nazionale che internazionale, da enti come AIRC, la Michael J. Fox Foundation, i National Institutes of Health statunitensi e l'Unione Europea. Al di fuori dell'ambito accademico, il mio Global Executive MBA mi ha permesso di colmare il divario tra scienza e industria, promuovendo trasferimento tecnologico, creazione di startup e collaborazioni pubblico-private. Inoltre, ho ricoperto il ruolo di Consulente del Presidente dell'Istituto Superiore di Sanità per il trasferimento tecnologico e agisco come revisore in itinere per un importante progetto PNNR su incarico del Ministero Italiano dell'Università e della Ricerca, dimostrando ulteriormente la mia capacità di contribuire a livello strategico e politico nazionale.

Qualora mi venisse data l'opportunità di ricoprire il ruolo di Direttore del Dipartimento di Neuroscienze dell'ISS, il mio obiettivo sarebbe quello di rafforzare il ruolo dell'ISS come istituzione di riferimento nella ricerca e nell'innovazione in neuroscienze. Lavorerò per attrarre finanziamenti competitivi al fine di potenziare la capacità di ricerca del dipartimento, sostenendo al contempo i suoi membri nel garantire l'accesso a bandi e opportunità di finanziamento. Sfruttando la mia rete internazionale e l'esperienza nella gestione di grandi progetti, mi impegnerò per promuovere iniziative di ricerca collaborativa e migliorare le strategie di finanziamento. Attraverso queste iniziative, il mio obiettivo sarà quello di accelerare l'impatto traslazionale, rafforzare le collaborazioni internazionali e contribuire alla missione scientifica e di salute pubblica del dipartimento.

FORMAZIONE

Abilitazione Scientifica Nazionale (ASN) **Prima Fascia** in *Anatomia Comparata e Citologia* (05/B2)	2018
Abilitazione Scientifica Nazionale (ASN) **Prima Fascia** in *Biochimica* (05/E1)	2017
Global Executive Master in Business Administration OneMBA Rotterdam School of Management, Erasmus University, Paesi Bassi	Giugno 2016
Idoneità **Professore Associato** in *Anatomia Comparata e Citologia* (Università di Roma "Tor Vergata", Roma, Italia, D.R. n. 2033 del 30.09.2014)	Settembre 2014
Abilitazione Scientifica Nazionale (ASN) **Seconda Fascia in** *Biochimica* (05/E1), *Biologia Molecolare* (05/E2), *Anatomia Comparata e Citologia* (05/B2).	2014
Dottorato in Biologia Cellulare e Molecolare Università di Roma "Tor Vergata", Italia *Supervisore*: Mauro Piacentini *Oggetto ricerca*: Ruolo delle transglutaminasi nel cervello *Titolo tesi*: Transglutaminase 2 regulates the mitochondrial respiratory chain assembly and function under physiological conditions	2000-2004
Laurea, Biologia Università di Roma "Tor Vergata", Italia *Supervisore*: Mauro Piacentini *Oggetto ricerca*: Ruolo dell'attività cross-linking delle transglutaminasi nel cervello *Titolo tesi*: Ruolo della transglutaminasi tissutale in un modello murino di corea di Huntington	2000

ESPERIENZA ACCADEMICA

Principal Investigator, Erasmus MC Rotterdam, Paesi Bassi	2010- 2024
Principal Investigator, IFOM, Istituto FIRC di Oncologia Molecolare, Milano, Italia	2020-2024
Ricercatore (RTD-B), Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente (MESVA), Università degli Studi dell'Aquila, L'Aquila, Italia	2018-oggi
Group Leader, Department of Molecular Genetics *Direttore*: Roland Kanaar, PhD Erasmus University Medical Center, Rotterdam, The Netherlands	2010- oggi
Adjunct Faculty, Department of Neurology, Pittsburgh Institute for Neurodegenerative Diseases *Direttore*: J. Timothy Greenamyre, MD, PhD University of Pittsburgh, Pittsburgh, PA, USA	2010- oggi
Visiting Professor, Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente (MESVA), Università degli Studi dell'Aquila, L'Aquila, Italia *Direttore*: Grazia Cifone, MD	2017

Post-doctoral associate, Department of Neurology 2005-2010
Pittsburgh Institute for Neurodegenerative Diseases
University of Pittsburgh, Pittsburgh, PA, USA
Supervisore: J. Timothy Greenamyre, MD, PhD
Oggetto ricerca: Pathological molecular mechanisms in Parkinson's, and Huntington's disease

Post-doctoral fellow, Department of Neurology 2003-2005
Center for Neurodegenerative Diseases
Emory University, Atlanta, GA, USA
Supervisore: J. Timothy Greenamyre, MD, PhD
Oggetto ricerca: Pathological molecular mechanisms in Parkinson's and Huntington's disease

ESPERIENZA DI LEADERSHIP E GESTIONE

Ruoli internazionali:

- **Vice-Chair**, Marie Skłodowska-Curie Action Fellowships, **European Commission** (2021-oggi)
- **Project Monitoring Reviewer**, Horizon Europe - **EIC Accelerator** (2024-2025)
- **Coordinatore**, progetti internazionali (per es. **Michael J. Fox Foundation**)
- Membro, **comitato organizzatore Gordon Research Conference on Parkinson's disease** (2024-2025)

Ruoli nazionali:

- ***In itinere* Reviewer**, PNRR Age-IT (Ministero dell'Università e della Ricerca, MUR)
- ***Valutatore e membro del panel scientifico*** dei progetti Plan Proof-of-Concept, Ministero della Salute nell'ambito PNRR (**PNRR- POC**) (2022)
- **Consulente del Presidente dell'Istituto Superiore di Sanità, Prof. Silvio Brusaferro,** nell'ambito del trasferimento tecnologico (2021-2023)
- **Consulente per la gestione della ricerca,** Istituto Neurologico "C. Mondino", Pavia (2018)
- **Membro della Commissione Ricerca,** Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente, Università degli Studi dell'Aquila

FOCUS DI RICERCA

- Patogenesi molecolare delle malattie neurodegenerative
- Analisi di dati clinici e biologici derivati da pazienti su larga scala e sviluppo di biomarcatori
- Sistemi redox e ruolo nell'invecchiamento e nelle malattie
- Danno al DNA, instabilità genomica e neurodegenerazione
- Meccanismi di rimodellamento metabolico in risposta allo stress cellulare
- Impatto della chemioterapia sui neuroni
- Impatto delle interazioni neurone-cancro sulla progressione tumorale
- Implicazioni della neurodegenerazione e delle neuroscienze del cancro per la salute pubblica

FINANZIAMENTI DI RICERCA

In attesa di esito

- **H2020-MSCA Doctoral Network** – terza sottomissione, punteggio precedente 92.4/100 – "The role of cellular mechanical stress in the pathogenesis of neurodegenerative disorders" – (**Coordinatore**)
  Risultati previsti per l'estate 2025

Attivi

- **Michael J. Fox Foundation** – sottomissione su invito della Fondazione per "Spring 2024 Request for Proposals mechanism" – "*Alterations in DNA repair mechanisms in PD nervous system cells and their correlation with clinical variables*" (**PI**)
  USD 350.000 2025-2027
- **AIRC IG** – "The mitochondrial-STING pathway in chemotherapy induced peripheral neuropathy" (**PI**)
  EUR 774.000 2024-2029
- **Ministero dell'Università e della Ricerca, Piano di Ricerca Nazionale** (PRIN) - "Interplay between genotoxic and mechanical stress in neurodegeneration" (Responsible for a Research Unit)
  EUR 172.799 al laboratorio di PGM 2022-2025

Completati

- **Ministero dell'Università e della Ricerca, Piano di Ricerca Nazionale** (PRIN) – "Interplay between Parkin and Transglutaminase 2 in DNA damage and repair in Parkinson's disease" (**Coordinatore**)
  EUR 227.091 totali, **EUR 42.260** al laboratorio di PGM 2022-2024
- **European Joint Programme on Rare Diseases (EJP RD)** – "Transcription stress Counteracted by Nutritional interventions of Exceptional importance for rare DNA Repair disorders" (**work-package leader**)
  EUR 150.000 al laboratorio di PGM 2021-2024
- **Eurostars-Eureka Horizon 2020** - E! 114370 PD-IRONSYN – "Novel Parkinson's Disease therapy targeting iron-related cell death and alpha synuclein aggregation" (**work-package leader**)
  EUR 1.020.000 totali – EUR 307.150 al laboratorio di PGM 2020-2023
- **The Michael J. Fox Foundation for Parkinson's Research** – "Identifying a molecular signature of nuclear DNA damage in PD patients blood cells" – (**PI**)
  USD 199.670,5 2022-23
- **The Michael J. Fox Foundation for Parkinson's Research** – "Orthogonal validation of mitochondrial anomalies in patients' derived multiple cellular systems" – (**PI**)
  USD 149.975 2020-2021
- **Università degli Studi dell'Aquila, finanziamento competitivo di Ateneo** "Dysregulation of iron homeostasis in Parkinson's disease"
  EUR 12.000 2019
- **Agenzia Italiana del Farmaco (AIFA)** - *"Biological markers of frailty in the physiological and pathological aging brain: correlations with pharmacological frailty"* (**work-package leader**)
  EUR 650.200 total - EUR 125.000 al laboratorio di PGM 2018-2021
- **The Michael J. Fox Foundation for Parkinson's Research** – "*Transferrin Receptor 2 as a target to halt nigral neurons iron overload in Parkinson's disease"* (**PI**);
  USD 250.000 2015-2016
- **Stichting Alkemade-Keuls** – **"***Molecular markers of skin fibroblasts of Parkinson's disease***"** (**co-PI**)
  EUR 80.000 2015-2016

- **Ri.MED Foundation** – "*Zebrafish as a redox-sensitive vertebrate model to study redox homeostasis and to identify new potential treatments for PD*" (Supervisor);
  EUR 195.000 2014-2016
- Erasmus MC Pilot grant MRACE "Cancer Cachexia in Surgical Oncology – Mechanisms and Interventions" (co-project leader);
  EUR 56.100 2014-2015
- Fondazione "*Dorpmans-Wigmans Stichting*" per la ricercar su Parkinson e Alzheimer Fondo per l'acquisto di un Seahorse Extracellular Flux Analyzer (**PI**);
  EUR 53.105 2011
- **Dutch Center for Cancer Genomics,** Junior Group Leader subsidy (NGI/NWO 05040202) (**PI**);
  EUR 650.000 2010-2014
- FP7-Fission-2011, Proposal N° 295552, "CEREBRAD—Cognitive and Cerebrovascular Effects Induced by Low Dose Ionizing Radiation" (**work-package leader**);
  EUR 374.000 2011-2015
- Marie Curie Reintegration Grant (FP7) - Proposal N° 247918 – "The synergistic effect of DNA damage and oxidative stress in the aging brain" (**PI**)
  EUR 25.000/year – 4 years - **EUR 100.000** total 2009-2013
- NIH Pathway to Independence Award K99/R00, ES016352, "Oxidative modification of brain proteins in pesticide intoxication" (**PI**).
  - R00 phase: 2009-2012, **$249.000**/year – 3 years - **$747.000** total; questi fondi sono stati restituiti all'agenzia NIH in seguito a ricollocamento in Europa
- **Ri.MED Foundation** – "*Zebrafish as a redox sensitive vertebrate model to study oxidative damage in brain*" (Supervisor);
  EUR 120.000 2011-2012
- K99 supplement under the American Recovery and Reinvestment Act of 2009 (**PI**); **$89.758** 2009-2010
- NIH Pathway to Independence Award K99/R00, ES016352, "Oxidative modification of brain proteins in pesticide intoxication" (**PI**).
  - K99 phase: **$90.000**/year – 2 years - **$180.000** total 2007-2009
- Michael J. Fox Foundation Post Doctoral Fellowship 2004-2005
- European Science Foundation Scholarship 2002
- European Science Foundation short-term fellowship 2002
- Università di Roma "Tor Vergata", grant for young researchers 2001

Altri riconoscimenti

- **Certificate of Reviewing Excellence** from Elsevier and the Editors of *Neurobiology of Disease*. 2014
- International Bioiron Society Travel Bursary 2009

SERVIZIO

SERVIZIO EDITORIALE

Associate Editor

Frontiers in Cellular Neuroscience 2015-oggi

Frontiers in Molecular Neuroscience 2020

Editorial Board

Cell Death and Disease (Nature Publishing Group) 2018-oggi

Antioxidants (MDPI) 2021-oggi

Neurobiology of Disease (Elsevier) 2010-2020

Guest Editor

Neurobiology of Disease - Guest Editor per lo special issue "***Metals, the Brain, and Neurodegeneration***" (2015)

Frontiers in Cellular Neuroscience – Guest Editor per lo Special Issue "***Neuronal self-defense: compensatory mechanisms in neurodegenerative disorders***" (2014)

Antioxidant & Redox Signaling – Guest Editor per lo special issue "***Peripheral Neuropathies***" (pubblicato nel volume 4, issue 2, agosto 2014)

International Journal of Cell Biology - Guest Editor per lo special issue "***Redox Status and Bioenergetics Liaison in Cancer and Neurodegeneration***" (2012)

***Ad Hoc* Reviewer (selezionati)**

Cell Death and Differentiation
The Journal of Neurochemistry
Neurobiology of Disease
Neurochemical Research
The Journal of Neuroscience
Neurobiology of Aging
Nature Neuroscience
Nature
Biochimie
Movement Disorders
Nature Medicine
Cell Metabolism
The Journal of Cell Biology
Brain
Free Radical Biology and Medicine
Antioxidant & Redox Signaling
EMBO Molecular Medicine
Experimental Neurology
Neuropharmacology

ALTRE ATTIVITÀ

Membro del comitato organizzativo per **2025 Parkinson's disease Gordon Research Conference** 2024-2025

Project monitoring reviewer *Horizon Europe* - ***EIC Accelerator*** - European Innovation Council and SMEs Executive Agency (EISMEA) 2024

Valutatore e Membro del Panel Scientifico per progetti "Piano Nazionale di Ripresa e Resilienza Proof-of-Concept" (**PNRR- POC**) – Ministero della Salute 2022

Ad interim reviewer per la supervisione dei progressi del programma "Piano Nazionale di Ripresa e Resilienza" (**PNRR**) su invecchiamento (>EUR 110M) – Ministero dell'Università e della Ricerca 2022-2025

Valutatore e Presidente del Panel di Valutazione, "*Extended Partnerships with universities, research centres and companies to fund basic research projects*" – nell'ambito del Piano Nazionale di Ripresa e Resilienza, Tema 8: Aging – Ministero dell'Università e della Ricerca/Ministero dello Sviluppo Economico 2022

Vice Chair European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Postdoctoral Fellowships 2021-oggi

***Ad hoc* grant reviewer** the Michael J. Fox Foundation for Parkinson's research	Agosto-ottobre 2021
***Ad hoc* grant reviewer** Ministero dell'Università e della Ricerca (MUR), nel programma Fondo Integrativo Speciale per la Ricerca (FISR) 2020	Dicembre 2020
Membro della **review study section** per la valutazione di grant di ricerca finanziati dal Ministero della Salute	Settembre 2020
***Ad hoc* grant reviewer** European Science Foundation – University of Antwerp Centres of Excellence scheme	2019
***Ad hoc* grant reviewer** European Science Foundation – Research Foundation Flanders' (FWO) postdoctoral fellowship scheme	2019-oggi
Membro della **review study section** per la valutazione dei progetti di partenariato Industria-Università finanziati dal Ministero della Salute	Novembre 2017
Membro esterno del **comitato di selezione** per una posizione da Assistant Professor in Patologia Generale (S.S.D. MED/04), Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente, Università degli Studi dell'Aquila, L'Aquila, Italia	Agosto 2017
Scientific Expert Reviewer per grant dell'Agenzia Italiana del Farmaco (AIFA)	Maggio 2017
***Ad hoc* grant reviewer** European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Individual Fellowship	2018-2020
***Ad hoc* grant reviewer** European Commission Research Executive Agency (REA) – **Marie Skłodowska-Curie Action** – Research and Innovation Staff Exchange (RISE)	2017-2019
***Ad hoc* grant reviewer** per la Association of British Neurologists	Gennaio 2016
***Ad hoc* grant reviewer** e membro della **Review Committee** per la Michael J. Fox Foundation *Target Advancement Fall 2015* program	Settembre 2015
Presidente della **study section** per la valutazione dei progetti "*Senior Researchers*" finanziati dal Ministero della Salute	Giugno 2015
Contributo alla formulazione delle **linee guida per la revisione dei progetti** del Ministero della Salute da seguire nella valutazione dei progetti nei Bandi "*Ricerca Finalizzata*" e "*Giovani Ricercatori*".	Maggio 2013
Rappresentante per i Paesi Bassi nel **Management Committee** del European intergovernmental framework COST CM1001 "*Chemistry of non-enzymatic protein modification - modulation of protein structure and function*"	2012 - 2015
***Ad hoc* grant reviewer** per la Michael J. Fox Foundation for Parkinson's Research	Agosto 2011
***Ad hoc* grant reviewer** per la Fondazione italiana "Telethon"	Primavera 2011
***Ad hoc* grant reviewer** per i progetti "*Ricerca Finalizzata*" and "*Giovani Ricercatori"* del Ministero della Salute	2009 - 2012
Membro della **review study section** per la valutazione dei progetti "*Giovani Ricercatori*" finanziati dal Ministero della Salute	2009 e 2011

Partecipazione al workshop *WhyWeAge* e alla conferenza finale per definire le priorità di ricerca nell'ambito dell'invecchiamento. Gli argomenti sono stati riportati nel documento "*A European road map for molecular biogerontology*", che ha rappresentato un riferimento per la Commissione Europea per pianificare le future strategie di finanziamento, in particolare nel Eight Framework Program (Horizon 2020). Marzo-maggio 2010

Abstract Reviewer per il 17th Annual Meeting of the *Society for Free Radical Biology and Medicine* (SFRBM), un meeting in collaborazione con la *Society for Free Radical Research International*. Ottobre 2010

ATTIVITÀ DIDATTICA E SUPPORTO AGLI STUDENTI

Supervisore della Ricerca 2002-oggi

- *Università di Roma*: una studentessa della laurea a ciclo unico di Biologia (Valentina Spina) ed una studentessa di dottorato (Irene Viti)
- *Emory University*: uno studente di dottorato (Adam Orr)
- *University of Pittsburgh*: uno studente di dottorato (Maxx Horowitz), due tecnici (Hye Mee Na, Xiaoping Hu) e due junior post-doc (Roberto Di Maio, Chiara Milanese)
- *Erasmus Medical Centre*: tre studentesse di dottorato in mobilità estera (Sara Sepe e Luana Barone, dall' Università Roma Tre, Italia, Giulia Ambrosi, dall' Università di Pavia, Italia), due tecnici (Humaira Yousaf, Sylvia Gabriels), sei post-doc (Sara Sepe, Chiara Milanese, Cintia Bombardieri, Marshall Huston, Manuela D'Eletto, Stefania Farina), sei studenti magistrali (Casper Ouwerkerk, Marco Nigro, Robin de Jong, Leander Vermeer, Kawita Dihalu, Ronnie de Bor). **Co-tutor** nel Dottorato Europeo di Luana Barone (Università Roma Tre, Italia,)
- *Università dell'Aquila*: una studentessa di Dottorato (Martina Sette), tre studenti di Laurea Magistrale (Sarah Pellegrino, Simone Pigliacelli, Martina Appignani)
- *IFOM*: due post-doc (Chiara Milanese, Daisy Sproviero), due studentesse di Dottorato (Federica Terraneo, Anna Scalise)

Docenza

Visiting Professor 2018, 2020

Università di Pavia, Scuola Universitaria Superiore Pavia (IUSS)
Master in Psychology, Neuroscience, and Human Sciences in lingua inglese
Lezioni (24 ore totali) a studenti magistrali e di dottorato

Argomenti (in lingua inglese):
- *Presentation skills and scientific communication*
- *Grant writing*
- *Navigating the scientific peer review process*

Docente/Professore 2018-oggi

Università degli Studi dell'Aquila, Italia
Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente

- *Cellular and Developmental Neurobiology* (in lingua inglese*, 90 ore/anno, approssimativamente 8 studenti, 2024 - oggi)*
- *Istologia (40 ore/anno, approssimativamente 120 studenti di Laurea triennale, 2018-oggi).*
  Il corso si tiene nel programma di Laurea Triennale in Biologia e si concentra sullo studio di tessuti e organi dal punto di vista istologico.
- Biologia cellulare e meccanismi dell'evoluzione *(30 ore/anno, approssimativamente 20 studenti del Corso di Laurea Triennale, 2018-2023)*
  Il corso si teneva nel programma di Laurea Triennale in Scienze Ambientali e riguarda la biologia cellulare dal punto di vista evoluzionistico.
- Biotecnologie del sistema nervoso (*45 ore/anno, approssimativamente 20 studenti di Laurea Magistrale, 2018-2021).*
  Il corso si teneva nel programma di Laurea Magistrale in Biotecnologie e riguarda le metodologie di approccio allo studio del sistema nervoso, ad esempio sequenziamento, tecniche di analisi metabolica, metodi avanzati di imaging e optogenetica.
- Developmental Neurobiology ((in lingua inglese. *30 ore/anno, approssimativamente 7 studenti di Laurea Magistrale, 2022-oggi*).
  Il corso si tiene nel programma di Laurea Magistrale in Neurosciences ed illustra i meccanismi fondamentali che governano lo sviluppo del sistema nervoso.
- Soft Skills nelle discipline biomediche *(20 ore/anno, approssimativamente 50 studenti, 2018-2020).*

Visiting Professor 2017

Università degli Studi dell'Aquila, Italia
Dipartimento di Medicina Clinica, Sanità Pubblica, Scienze della Vita e dell'Ambiente

Ha svolto lezioni a studenti magistrali e di dottorato su i seguenti argomenti:
- *Neurobiology of disease*
- *Bioenergetics and redox biochemistry*
- *DNA damage and repair*
- *In vitro models of neurodegenerative diseases*

Svolgimento del Corso "***Survival skills***" per studenti di dottorato riguardo:
- *Presentation skills and scientific communication*
- *Grant writing*
- *Navigating the scientific peer review process*

Teaching Assistant, Genetics 2011-2019
Erasmus University Medical Center
Lezioni due volte/settimana a 50 studenti universitari di Medicina
Insegnamento per 7 semestri

Invited Panelist, *"K99/R00 Career Development Award Workshop"* 2007-2009
University of Pittsburgh
Office of Academic Career Development

2001-2003

Esaminatore e membro della commissione d'esame in Istologia
Università di Roma
Esami tre volte/anno 50 studenti della laurea in Biologia vecchio ordinamento

2001-2003

Teaching Assistant, Istologia
Università di Roma
Lezioni due volte/settimana a 30 studenti ella laurea in Biologia vecchio ordinamento
Insegnamento per 3 semestri

Partecipazioni a Commissioni di Tesi di Dottorato

Presidente della Commissione di Dottorato in "*Cellular and Molecular Biotechnologies* – ciclo XXXII" Università di Teramo, Teramo, Italia 18 Settembre 2020

Presidente della Commissione di Dottorato in "*Cellular and Molecular Biotechnologies* – ciclo XXIX" Università di Teramo, Teramo, Italia 12 Giugno 2017

Tutor nelle seguenti Tesi di Dottorato:

Candidati	Istituzione	Titolo della tesi	Data
Anna Agata Scalise	Open University	Adhesion G protein-coupled receptor Gpr126 as a drug target for ischemic stroke	22 ott 2024
Martina Sette	Università di Teramo, Università dell'Aquila, Italy	Unraveling the mechanisms of systemic iron regulation and their effects on the central nervous system	5 lug 2024

Co-tutor nelle seguenti Tesi di Dottorato:

Candidati	Istituzione	Titolo della tesi	Data
Luana Barone	Università "Roma Tre", Roma, Italia	Alterations in peroxisomal function induced by genomic instability and their relevance for aging	17 feb 2016
Sara Sepe	Università "Roma Tre", Roma, Italia	Role of AMBRA1 in nervous tissue homeostasis and in neurodegeneration	19 dic 2011

Esaminatore e **membro della commissione** nelle seguenti discussioni di tesi di dottorato

Candidati	Istituzione	Titolo della tesi	Data
Kornvalee Meesilpavikkai	Erasmus University Medical Center	The State of STATs in Primary Immunodeficiencies: Molecular Diversity and Implications for Therapy	9 Ott 2019
Gloria Panella	University of L'Aquila, L'Aquila, Italy	Design and characterization of biocompatible scaffolds for tissue regeneration	mar 2018

Monique Corbin	Vrije Univesiteit Medical Center Amsterdam (VUmc)	Mechanisms in the cellular defense against oxidative stress	9 nov 2017
Alessia Buso	University of Udine, Udine, Italy	Mitochondrial oxidative phosphorylation plasticity/adaptation triggered by disturbances and stresses and targeted by therapies	30 may 2017
Nada Samari	Vrije Univestiteit Brussel and Studiumcentrum voor Kernenergie, Belgium	Molecular and morphological changes induced by ionizing radiation on maturing neurons	21 feb 2013

Altro

Membro del collegio del corso di dottorato in Biotecnologie Cellulari e Molecolari, Università di Teramo, Italia	2019-oggi
Membro del collegio del corso di dottorato in System Medicine, Università di Milano, Italy	2022-oggi
PhD Mini-Viva esaminatore interno – Open University	lug 2021; gen 2024
Membro della Commissione per le ammissioni nella European School of Molecular Medicine (SEMM)	giu-sett 2021

ATTIVITA' DI DIVULGAZIONE

Seminari su invito (selezione)

- Dicembre 2024 – BioFIT meeting on academia-industry collaborations in Life Sciences Lille, France – participated in one-to-one partnering events for commercial development of patent application
- Giugno 2024 – Biennial International LRRK2 meeting – Crete, Greece – ***Oral presentation***
- Aprile 2023.- Dutch Society for Clinical Pharmacology (NVF) - ***Invited Speaker***
- Giugno 2020 – Danish Cancer Center – VIII workshop on Nitric Oxide and Cancer; special focus on metabolism and aging – Copenhagen, Denmark - - ***Invited Speaker***
- Giugno 2021 – Dutch Neuroscience Meeting – online - ***Invited Speaker***
- Giugno 2019 – Gordon Research Conference on Parkinson's disease, Grand Summit Hotel at Sunday River, Newry, ME, ***Invited Speaker***
- Aprile 2018 – Norwegian "NeuroMito" symposium on "Interconnected networks between DNA damage and mitochondrial dysfunction in neurodegeneration" – Bergen, Norway – ***Keynote Lecture***
- Aprile 2018 – Dutch Society for Clinical Pharmacology and Biopharmacy Scientific Spring Meeting – Utrecht, the Netherlands, ***Invited speaker***
- Settembre 2017- 6th EU-US Conference on Repair of endogenous DNA damage, Udine, Italy, ***invited speaker***
- Agosto 2016 – Benzon Symposium no.62 – Genome Instability and Neurodegeneration, Copenhagen, Denmark
- Maggio 2016 - Istituto Superiore di Sanità, Rome, Italy
- Dicembre 2015 – University of Cologne, Cologne, Germany
- Giugno 2015 – Seahorse Biosciences User Group Meeting 2015, Amsterdam, the Netherlands, June 2-4 2015, ***invited speaker***

- Settembre 2014 - Society for Free Radical Research-Europe, 2014 Meeting, Paris, France, ***invited speaker***
- Giugno 2014 – Nitric Oxide - Nitrite/Nitrate Conference, Cleveland, OH, USA, ***invited speaker***
- Giugno 2014 – University of Pittsburgh, Pittsburgh, PA, USA
- Maggio 2014 – Universitá degli Studi di Chieti "G.D'Annunzio", Italy
- Maggio 2014 - 4th Dutch Huntington's Disease Research Network (DHDRN) Symposium, Amsterdam, the Netherlands, ***Keynote Lecture***
- Gennaio 2014 - University of Rome, Tor Vergata, Department of Biology, Rome, Italy
- Maggio 2013 – Helmholtz Zentrum München, Institute for Radiation Biology, in the "*TIETO: Non-cancer effects of low dose ionizing radiation Course*"**,** München, Germany**, *invited speaker***
- Aprile 2013 – Gordon Research Conference "Oxidative Stress And Disease", ***abstract selected for oral presentation as invited speaker***
- Settembre 2012- Neurological Institute "C.Mondino", Pavia, Italy, in the "XXIII OTTORINO ROSSI AWARD", ***invited speaker***
- Giugno 2012 - A. I. Virtanen Institute for Molecular Sciences- University of Eastern Finland, in the "*Mitochondria and oxidative stress in the nervous system Course*", ***invited speaker***
- Dicembre 2012 – University of Rome "Roma Tre", Rome, Italy
- Gennaio 2011 - Institute for Ageing and Health, Newcastle University, UK, in the "*Academic Ageing Seminar Programme*"
- Novembre 2010 – Institut Curie à Orsay, Centre Universitaire Paris-Sud 11, France
- Maggio 2010 – A. I. Virtanen Institute, University of Eastern Finland Kuopio, Finland
- Marzo 2009 – Dept. of Physiology, University of Texas San Antonio Health Science Center, San Antonio, TX, USA
- Ottobre 2008 – Hillman Cancer Center, University of Pittsburgh, PA, USA
- Ottobre 2008 – Erasmus Medical Center, Rotterdam, The Netherlands
- Ottobre 2007 – Buck Institute for Age Research, Novato, CA, USA
- Marzo 2007 – Institute L. Spallanzani, Rome, Italy
- Febbraio 2007 – University of Rome, Tor Vergata, Italy

Abstract (selezione)

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Jul 2015

Inefficient DNA repair is an aging-related modifier of Parkinson disease

Gordon Research Conference "Parkinson disease", Colby-Sawyer College, NH, USA

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Dec 2013

Aging-related mild genomic instability perturbs the dopaminergic system and elicits salient pathogenic features of Parkinson's disease pathology

XX World Congress on Parkinson's Disease and Related Disorders, Geneva, Switzerland, 8-11 December 2013 – **selected for oral presentation**

Sepe S, Milanese C, Gabriels S, Derks K, Payan-Gomez C, van IJcken W, Battaglia G, van Cappellen G, Niggs A, Blandini F, Hoeijmakers JH, and **Mastroberardino PG** — Sept 2013

Aging-related mild genomic instability perturbs the dopaminergic system and elicits salient pathogenic features of Parkinson's disease

The 5th EMBO meeting, Amsterdam, the Netherlands

- Sara Sepe received an EMBO travel fellowship and the abstract has been selected for an oral presentation

Milanese C, Sepe S, Shiva S, Gladwin MT, and **Mastroberardino PG** Sept 2013
Nitrite administration ameliorates mitochondrial bioenergetics and is neuroprotective in cellular and vertebrate models of Parkinson's disease
The 5th EMBO meeting, Amsterdam, the Netherlands
- Chiara Milanese received an EMBO travel fellowship and the abstract has been selected for a flash talk

Bombardieri C, Sepe S, Payan Gomez C, Wamelink M, de Wit A, Leen R, van Kuilenburg ABP, Hoeijmakers JH, and **Mastroberardino PG** Aug 2013
DNA damage-induced transcription arrest elicits allosteric redesign of metabolism and activation of longevity pathways
Gordon Research Conference "Biology of Aging", Il Ciocco, Italy

Bombardieri C, Sepe S, Hoeijmakers J, and **Mastroberardino PG** Aug 2012
The nucleotide pool integrates genomic stability, metabolism, and redox homeostasis
Gordon Research Conference "Thiol-based redox regulation & signaling", Bates College, ME, USA

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** Sept 2010
Single-cell Redox Imaging Demonstrates a Peculiar Response of Dopaminergic Neurons to Oxidative Insults
2nd World Parkinson Congress, Glasgow, Scotland

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** Aug 2010
Single-cell redox imaging to determine variations in oxidative tolerance of dopaminergic neurons during aging
Gordon Research Conference "Biology of Aging" Les Diablerets, Switzerland

Horowitz M, Milanese C, Di Maio R, Hu X, Montero LM, Tapias V, Burton EA, Greenamyre, JT, **and Mastroberardino PG** May 2010
Single-cell redox imaging demonstrates a distinctive response of dopaminergic neurons to oxidative insults
Gordon Research Conference "Thiol-based redox regulation & signaling", Il Ciocco, Italy

Mastroberardino PG, Horowitz MP, Betarbet R, Gutekunst CA, Gearing M, Trojanowski JQ, Anderson M, Chu CT, Peng J and Greenamyre JT Jun 2009
A novel transferrin/TfR2-mediated mitochondrial iron transport system is disrupted in Parkinson's disease
International BioIron Society 2009 Annual Meeting

Mastroberardino PG, Hoffman EH, Horowitz MP, Na HM, Chu CT, Gearing M, Greenamyre JT Nov 2008
A novel transferrin/TfR2-mediated mitochondrial iron transport system is disrupted in Parkinson's disease
38th annual meeting of the Society for Neuroscience, Washington, DC.

Mastroberardino PG, Betarbet R, Uechi G, Chu CT, Gearing M, Greenamyre JT May 2008
A novel transferrin/TfR2-mediated mitochondrial iron transport system is sensitive to thiol oxidation and is disrupted in Parkinson's disease
Gordon Research Conference "Thiol-based redox regulation & signaling", Il Ciocco, Italy

Mastroberardino PG, McComrack AL, Di Monte DA, Miller GW, Greenamyre JT — Mar 2008
Characterization of the differences in the oxidative events in two different pesticide models of Parkinson's disease
47th annual meeting of the Society of Toxicology meeting, Seattle, WA.

Mastroberardino PG, Hoffman EH, Horowitz MP, Na HM, Chu CT, Gearing M, Greenamyre JT — Nov 2007
A novel transferrin/TfR2-mediated mitochondrial iron transport system is disrupted in Parkinson's disease
37th annual meeting of the Society for Neuroscience, Washington, DC.

Mastroberardino PG, Hoffman EH, Na HM, Gearing M, Chu CT, Greenamyre JT — Sep 2007
Transferrin(Tf) Transferrin Receptor 2 (TfR2) mediate a redox sensitive pathway for iron delivery to mitochondria
Academy conference on Mitochondria and Oxidative Stress in Neurodegenerative Disorders; The New York Academy of Science, New York

Mastroberardino PG, Orr AL, Li XJ, Panov A, Shalbuyeva N, Greenamyre JT — Aug 2006
Mitochondrial aspartate aminotransferase interacts with huntingtin in HD
Hereditary Disease Foundation $(CAG)_n$ meeting, Boston, MA.

Affiliazione a società professionali

- Society for Neuroscience (2003-oggi)
- Nitric Oxide Society (2014)
- The New York Academy of Science (2007)
- Society of Toxicology (2008)
- Society for Free Radical Biology and Medicine (2004)

BREVETTI

- *"METHOD TO PREDICT A NEURODEGENERATIVE DISEASE PROGRESSION"* - EP 23206348.7 – application filed on October 27th 2024
- "*Method of labeling biological samples*" – Patent Number(s): WO2009129472-A2 ; WO2009129472-A3 ; US2011039277-A1.

PUBBLICAZIONI

Inviati come autore senior (ultima posizione) a cui è destinata la corrispondenza

Sproviero D, Payan-Gomez C, et al., Parkinson's disease patients display a DNA damage signature in blood that is predictive of disease progression. ***Under review***

Farina S, Barnhoorn S, et al., *Elevated Baseline DNA Damage and Hypomethylated Circulating Free DNA Distinguish Frailty from Healthy Aging*
Submitted

Capitoli in libri soggetti a revisione tra pari

Chiara Milanese and **Mastroberardino PG**

Genes, Aging, and Parkinson's Disease in *Oxidative Stress and Redox Signalling in Parkinson's Disease*
Oxidative Stress and Redox Signalling in Parkinson's Disease published by *The Royal Society of Chemistry, doi.org/10.1039/9781782622888-00389*

Articoli in riviste soggette a revisioni tra pari

P.G. Mastroberardino ha pubblicato 65 articoli in riviste internazionali soggette a revisioni tra pari. I suoi lavori hanno ricevuto più di 4400 citazioni. Il suo h-index è di 35 come riportato da Scopus (più di 6330 citazioni e un h-index di 38 come riportato da Google Scholar).

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The modified 6-chromanol SUL-238 protects from accelerated vascular aging in vascular smooth muscle Ercc1 deficient mice
***The Journal of Cardiovascular Aging*. In press**

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Combination of Bremachlorin PDT and immune checkpoint inhibitor anti-PD-1 shows response in murine immunological T-cell high and T-cell low PDAC models
***Molecular Cancer Therapeutics.* In press**

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Orthogonal analysis of mitochondrial function in Parkinson's disease patients
***Cell Death Dis*. In press**

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The use of progeroid DNA repair-deficient mice for assessing anti-aging compounds, illustrating the benefits of nicotinamide riboside.
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Co-corresponding author and **equal contribution** with FB

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Equal contribution with RDM.

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