

Maria Luigia Pallotta,

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She received her Agricultural Sciences Master Degree from University of Bari-Italy (June 1986) final grade 110/110, with dissertation in Food Chemistry.

She taught some years Chemistry, Biology and Astronomical Geography at high school, (i.e. Classical Liceo in Ostuni and Fasano, Brindisi, Italy) and, after winning a public competition, she joined at University of Molise, October 1991.

Training

Proteins Separation– Institute of Neurobiology, National Research Council (CNR)–Rome 1993
Capillary Electrophoresis –Institute of Neurobiology National Research Council (CNR)–Rome 1993

Molecular Biology in diagnostic - BioResearch Center -Milan 1993

The Digoxigenin System for the Labeling and Detection of Nucleic Acids, National Research Council (CNR) Bari 1994 Molecular Biology–Advanced course, Biomedical International Science Park San Raffaele Milan, 1995

LC/MS advanced techniques in HPLC Perkin Elmer, Rome 1996

7th European PCR Seminar Tour, Università Cattolica Sacro Cuore, Faculty of Medicine, Rome 1996

HLA typing by sequencing: comparing experiences, Center of Advanced Biotechnology, San Martino's Hospital, Genoa 1997

Bio-technology applied to molecular diagnostic Center of studies on Mitochondria and Energetic Metabolism - SIBIOC Trani (Bari) 1997

Quantitative PCR- State of Art and new technology-Group of Clinical Biochemistry, University of Florence, 1998

Progetto Proteoma -Techniche integrate per lo studio di proteine, Perkin Elmer, Roma 1998
Italian–Japanese Bilateral Meeting on Bioenergetics, University of Bari, 1998.

Shaping the future: the impact of structural biology- M. Brunori (La Sapienza), R. Huber (Nobel Laureate), J. Walker (Nobel Laureate), D. Wiley (Harvard University), K.Holmes (Max Planck Institut fur Medizinische Forschung), S. Harrison. Rome 1999

Genes and Responsibility 's civil Scientist - G. Martini,G. Corbellini, E. Boncinelli, J. Beckwith, U. di Porzio. Italian Institute for Philosophical Studies, Naple, 2000

The next revolution: bio e biotec- J. Meldolesi, B. Sitia, F. Terragni, House of Culture, Milan 2000.

Structure and dynamics of RNA and DNA viruses –J.Johnson, the SCRIPP Research Institute La Jolla, L Gehrke Harvard Medical School, Boston December 2000.

MFCS/win Basic operator training- B. Braun Biotech International , Campobasso, 2001

Microarray User's Meeting-Istituto Nazionale Malattie infettive “L. Spallanzani”, Roma, 2001.

1st International Meeting on Yeast Apoptosis, University of Minho, Braga, Portugal 2002.

Yeast as a test tube for pharmacological drugs screening University of Washington, Seattle, WA. July 27- August 1, 2004

Mobility: a space for the exploitation of research. Rome, National Research Council (CNR) , 2005

World Day of Intellectual Property, Ministry of Economic Development, 2005, Rome.

Microfluids: lab-on-a-chip technology for protein and nucleic acid assays “ Experion System” – Campobasso, 2006

Nuove tecnologie e Sviluppi nell'analisi del Proteoma, Medical School,Università degli Studi di Roma "Tor Vergata"2006

Database searching-Basic Rules & Tools-FEBS working group on Teaching Biochemistry in Europe, Istanbul 2006

3rd International Conference on Functional Genomics of Aging, ISMETT Palerm 2007

3rd Cell Stress Society International Congress on Stress responses in Biology and Medicine and 2nd Word Conference of Stress Budapest 2007

Use of ultra-performance liquid chromatography (UPLC) for making real-time pooling decisions for process chromatography-Waters, CB 2008

EndNote and EndNote Web, Scientific Library, National Cancer Institute, Frederick, Maryland, US, 2014

Research Integrity Accademia Nazionale dei Lincei Rome, March 2015

Transdisciplinary Research in Energetics and Cancer (TREC) Workshop, ISBNPA Cancer Prevention & Management SIG, Edinburgh June 2015

English language courses

English language course-Centre of English Studies- July-August 1995 Dublin Ireland

English language course for Intermediate learners” Operational Program 1994/99”Research, Technological development and Advanced Training” From May To October 2001, Campobasso Italy

English language course for High Intermediate learners, Malta January 2002

English language course- English Language Center-Boston Massachusetts May-June 2005.

IELTS British Council Rome, 2011

Research topics:

Bioenergetics, metabolism and transport of metabolic biomolecules, cofactors and coenzymes by isolated and bioenergetically active mitochondria under physiological and stressful conditions

Realization and organization of the following symposium:

Meeting with joined sessions GIBB (Italian Group of Bioenergetics and Biomembranes)-Membrane and Bioenergetic Group of SIB (Italian Society of Biochemistry), Italy, June 1997.

From research to calendar Multiple Sclerosis 2015-2020 May 2015 Campobasso

Membership in scientific societies:

SIB (Italian Society of Biochemistry)and Italian Group of Bioenergetics and Biomembranes (since 1999); Women in Science, EUSTIM (European Society for Translational Medicine), ISM (International Society of Microbiota)

Member of the council of PhD in Applied Biochemistry and Chemistry, University of Molise (from 2003 to 2005); Member of the council of PhD in Health Science, University of Molise (since 2005).

Teaching activity

Taught different subjects, including: Propedeutics Biochemistry, Bioinformatics, Amino Acid metabolism, Nucleotide metabolism, Applied Biochemistry, Biochemistry

Academic appointments

She was Member of Senate of University of Molise 2003-2006, Area Activities A

Member of Committee for recognition credit transfer at the Faculty of Health Sciences, University of Molise, from 2003 to 2010

Member of Committee for the evaluation foreign students at the Faculty of Health Sciences, University of Molise, from 2004 to 2009.

She was invited academic guest at Metabolism and Cancer susceptibility, Center for Cancer Research, NIH, Frederick, Washington MD United States from April to May 2014 (Research: NAD(P)⁺/NAD(P)H pool studies by means of Fluorescence-Based Techniques in cancer cells).

Research Funding

Unimol, Dept Medicine 2016 Candidate probiotic strains, with health-improving properties, isolated from traditional Italian dairy products

PRIN 2006 Genomic and proteomic approach to investigate lateral root formation in woody plant under environmental stress.

PRIN 2004 Cross talk between organelles in response to oxidative stress and programmed cell death in plant.

FIRB 2003 Metodi teorici e computazionali per lo studio dell'interazione proteina-proteina e proteina-DNA (by means of BLOspectrum software)

PRIN 2001 Bioenergetics: genetic, biochemistry and physiopathology

CNR 2000 Subcellular organelles and regulation of metabolism

PRIN 1999 Bioenergetics and membrane transport.

Mi.C.I.A. Project "Cereal Improvement for Agro-Industrial Innovations" Ministry of Agricultural Policy

Project POP "Evaluation of antioxidant activity of Agro-Industrial products" Region of Molise.

Journal of Biological Methods (JBM) Board Member, San Francisco, California, US

Her Scientific activity is documented by papers, participation in International & Italian Meetings:

Papers

Bacteriocin Producing Cultures: A Sustainable Way for Food Safety Improvement and Probiotics with Additional Health Promoting Effects

F Rossi, **ML Pallotta**

International Journal of Medical and Biological Frontiers (2016) 22 (1):59-91, ISSN 1081-3829.

L-Proline uptake in *Saccharomyces cerevisiae* mitochondria can contribute to bioenergetics during nutrient stress as alternative mitochondrial fuel

ML Pallotta

World Journal of Microbiology and Biotechnology (2013) 30(1):19-21 DOI 10.1007/s11274-013-1415-0

Mitochondrial involvement to methylglyoxal detoxification: D-Lactate/Malate antiporter in *Saccharomyces cerevisiae*

ML Pallotta

Antonie van Leeuwenhoek (2012) 102:163–175. DOI 10.1007/s10482-012-9724-0

Evidence for the presence of a FAD pyrophosphatase and a FMN phosphohydrolase in yeast mitochondria: a possible role in flavin homeostasis

ML Pallotta

Yeast (2011) 28(10): 693-705. doi: 10.1002/yea.1897

Mitochondria-localized NAD biosynthesis by nicotinamide mononucleotide adenyltransferase in Jerusalem artichoke (*Helianthus tuberosus* L.) heterotrophic tissues

C. Di Martino, **ML Pallotta**

Planta 2011 234(4): 657-70 doi:10.1007/s00425-011-1428-6

Mitochondrial transport in proline catabolism in plants: the existence of two separate translocators in mitochondria isolated from durum wheat seedlings

C. Di Martino, R. Pizzuto, **ML. Pallotta**, A. De Santis and S. Passarella

Planta (2006) 223(6):1123-1133

Two separate pathways for D-lactate oxidation by *Saccharomyces cerevisiae* which differ in energy production and carrier involvement.

Maria Luigia Pallotta, Daniela Valenti, Michelina Iacovino and Salvatore Passarella

Biochim Biophys Acta –Bioenergetics (2004)1608(2-3):104-13

Increase of membrane permeability of mitochondria isolated from water stress adapted potato cells.

Fратиanni A., Pastore D., **Pallotta ML.**, Chiatante D. and Passarella S.

Bioscience Reports (2001) 21: 81-91

Metabolites transport in isolated yeast mitochondria: fumarate/malate and succinate/malate antiports

Pallotta ML., Fratianni A. and Passarella S.

FEBS Letters (1999) 462: 313-316

Saccharomyces cerevisiae mitochondria can synthesise FMN and FAD from externally added riboflavin and export them to the extramitochondrial phase

Pallotta ML, Brizio C, Fratianni A, De Virgilio C, Barile M, Passarella S.

FEBS Letters (1998) 428: 245-249

Effect of laser irradiation on the proliferative activity of Phaseolus vulgaris seedlings

A. Fratianni, **ML. Pallotta**, D. Chiatante, S. Passarella

Ital. J. Bioc. (1997) 46 (1):1-60

Increase in the proliferative activity of Phaseolus vulgaris seedlings by He-Ne Laser irradiation of embryos

D. Chiatante, A. Fratianni, **ML. Pallotta**, S. Passarella

Laser & Technology (1997) (7)1-2:13-18.

Identification of *Listeria monocytogenes* in food and environmental by polymerase chain reaction

G.Salzano, **ML. Pallotta**, M. F. Maddonni, R. Coppola, F. Villani, C. Sorlini

Journal of environmental science and health (1995) Part A: Environmental Science and Engineering & Toxic and Hazardous Substance Control A 30 (1): 63-71

Use of Polymerase Chain Reaction to detect *Listeria monocytogenes* in silages.

S. Torriani, **ML. Pallotta**

Biotechnology Techniques (1994) 8 (3): 157-160

Identification of *Listeria monocytogenes* in Mozzarella Cheese by Polymerase Chain Reaction employment.

G. Salzano, R. Coppola, M.F. Maddonni, **ML. Pallotta**, F. Villani e C. Sorlini.

Ann. Microbiol. Enzimol. (1993) 43: 159-163.

International Meetings

Pallotta ML Monitoring NAD(P)H levels and their relevance to bioenergetics using Fluorescence-Based Strategies in salivary samples: a possible biomarker in the detection of cancer and precancer

EUSTIM 2016

Pallotta ML L-proline homeostasis, substrate channeling and mitochondrial flavine turnover in tumour microenvironment: phenotypic landscape of *Saccharomyces cerevisiae* as stress model for pharmacological screening in silico and in vitro FEBS 2016, Epigenetics and cancer session

Pallotta ML 68 genes for Yeast Flavoproteoma: updates of Flavin Biosynthesis, Transport and Catabolism in *Saccharomyces cerevisiae* mitochondria^{3rd} International Conference on Integrative Biology, August 04-06 Valence Spain 2015.

Pallotta ML The Aquarian Age in cancer therapy: biobankers, biomarkers, and much more ↔ getting of the root of the problem ↔ NAD⁺ an ancient metabolite with surprising modernity ↔ Mitochondrial NAD pool, tumour microenvironment and metastasis

Cell Symposia, Multifaceted Mitochondria, Chicago July 19-21, 2015.

Pallotta ML Boosting NAD(P)⁺ biosynthesis with NAD(P)⁺ intermediates and monitoring mitochondrial NAD(P)⁺/NAD(P)H pool by means of Fluorescence-Based techniques could be a strategy for preventing and treating Woman's Cancers. FEBS 2015 Berlin July 4-9, 2015 Accession Number: WOS:000362570605033.

Rossi F., Colavita G., Amadoro C. and **Pallotta ML** Traditional Italian dairy products: a flavourful source of naturally occurring bacteria with beneficial effects on health. Bageco 2015, 13th Symposium on Bacterial Genetics and Ecology, The Microbiol Continuity Across Evolving Ecosystems, 14-18 June Milan.

Pallotta ML Mitochondrial NAD pool ad metastasis Cells, proteins and bioprocessing London (England) 17th-19th June 2014.

ML Pallotta NMN, an intermediate in the salvage pathway, helps to increase the intramitochondrial NAD⁺ concentration in yeast and influences NAD⁺/NADH ratio: possible function as metabolic read-out

65th Mosbacher Kolloquium, Molecular Protein Control in Health, Aging and Disease, March 27-29, 2014 Mosbach (Germany)

ML Pallotta New insights into L-Proline uptake and mitochondrial energetic metabolism in *Saccharomyces cerevisiae*

26th International Conference on Yeast Genetics and Molecular Biology. Frankfurt/Main, Germany. August 29-September 3, 2013.

Yeast (Chichester, England) Volume: 30 Suppl 1 Pages: S22-253 Published: 2013-Sep

ML Pallotta *Saccharomyces cerevisiae* mitochondria contain enzymes capable of hydrolyzing FMN and FAD to riboflavin: probably function in flavoprotein deflavination and reconstitution in cell grown under glucose limitation.

35th FEBS Congress, Gothenburg, Sweden 2010 FEBS Journal (2010) Vol: 277: 221-221

ML Pallotta and C Di Martino A new mitochondrial three-component pyridine nucleotide pathway, namely aNMN→NAD→NADP route, is functional in plant heterotrophic tissues

35th FEBS Congress, Gothenburg, Sweden 2010. FEBS Journal (2010) Vol: 277: 221-221

ML Pallotta Plant cells respond to ageing by implementing an emergency survival strategy: increase mitochondrial pyridine dinucleotides pool via NMN-AT.

Third SMBBM International Congress of Biochemistry, IUBMB Special Meeting on Plant Stress & 6th Congress of FASBMB 2009

ML Pallotta *Saccharomyces cerevisiae* as a model system for studying mitochondria natural flavin catabolism.

16th International Symposium on Flavins and Flavoproteins June 2008

ML. Pallotta and C. Di Martino Existence of intramitochondrial nicotinamide mononucleotide adenylyl-transferase activity, which allows for NAD⁺ synthesis from NMN and endogenous ATP in aged-dehydrated slices tubers of *Helianthus tuberosus*.

3rd Cell Stress Society International Congress on Stress responses in Biology and Medicine and 2nd Word Conference of Stress 23-26 August 2007 Budapest (Hungary) Cell Stress & Chaperones Online ISSN: 1466-1268 Print ISSN: 1355-8145 Vol. 12, Issue 2 (Summer 2007).

ML Pallotta D-Lactate/malate antiporter, in response to the cellular carbonyl stress mediated by methylglyoxal, in yeast mitochondria.

FEBS Journal (2006) Vol. 273 Supplement 1, 234-234 31st FEBS Congress Molecules in Health & Disease, Istanbul June 2006.

ML Pallotta The role of proline uptake in yeast mitochondria and the feast-famine regime. Yeast, Vol.22 Issue S1 August 2005, Supplement "XXII International Conference on Yeast Genetics and Molecular Biology" Bratislava Slovak Republic.

ML Pallotta Flavin adenine dinucleotide (FAD) and flavin mononucleotide (FMN) metabolism in *Saccharomyces cerevisiae* mitochondria.

Gene Transcription in Yeast: EuroConference. (European Science Foundation) Spain June 2004

ML Pallotta The existence in *Saccharomyces cerevisiae* of a protective mechanism in response to methylglyoxal: the role of D-lactate movement across the inner mitochondrial membrane and its function on gluconeogenesis. 2004 Yeast Genetics & Molecular Biology University of Washington, Seattle, WA. July 27 - August 1, 2004.

ML. Pallotta, D. Valenti, M. Iacovino and S. Passarella

D-lactate transport and metabolism in isolated *Saccharomyces cerevisiae* mitochondria.

"XXI International Conference on Yeast Genetics and Molecular Biology" Goteborg, Sweden. July 7-12, 2003. Yeast (2003) Jul, Supp 1, S11-390

Pallotta ML., Fratianni A., Simone S. and Passarella S

Fumarate/malate antiport in *Saccharomyces cerevisiae* mitochondria

International Symposium on Molecular Basis of Biomembrane Monopoli (Ba) June 1999

Metabolites transport in isolated yeast mitochondria: fumarate/malate and succinate/malate antiports

Fратиани A., **Pallotta ML.**, De Virgilio C., Chiatante D. and Passarella S.
 Water stress affects ADP/ATP and succinate/malate antiports in mitochondria isolated from potato (*Solanum tuberosum*) cell suspension cultures
 International Symposium on Molecular Basis of Biomembrane Monopoli (Ba) June 1999
 G. Salzano, R. Coppola, M.F. Maddonni, **ML. Pallotta**, F. Villani e C. Sorlini.
 Detection of *Listeria monocytogenes* in environment and food by means of Polymerase Chain Reaction in technique.
 Sixth European Congress on Biotechnology Firenze 1993.
 F. Dellaglio, S. Torriani, F. Gardini, **ML. Pallotta** Use of Polymerase Chain Reaction” (PCR) to detect *Listeria monocytogenes* in silage and modelling of the growth in relation of some chemico-physical factors.
 Silage Reserch 1993. 10th International Conference on Silage Research. Dublin (Ireland)
 F. Dellaglio, V. Giaccone, S. Torriani, G. Salzano, G. Colavita, A. Mazzeo and **ML Pallotta**.
 The Polymerase Chain Reaction (PCR) as a rapid method to detect *Salmonella* spp. in fresh meat and meat products.
 The International Committee on Food Microbiology and Hygiene Bingen (Germany) 1993.
 The Polymerase Chain Reaction (PCR) as a rapid method to detect *Salmonella* spp. in red meat.
 F. Dellaglio, V. Giaccone, S. Torriani, G. Colavita, G. Salzano and **ML. Pallotta**.
 The International Committee on Food Microbiology and Hygiene Bingen (Germany) 1993.

Italian meetings
 Effect of phosphorus availability on nitrogen assimilation in durum wheat mycorrhized plants.
 C Di Martino, **ML Pallotta** and G Palumbo.
 2ndCongress of the Italian Society of Plant Biology SIBV, Rome 2010
 Mitochondrion participates in the pathway of NAD(P) biosynthesis in *Saccharomyces cerevisiae*.
ML. Pallotta, C. Di Martino
 Federazione Italiana Scienze della Vita, IX National Congress September 2007
 New insights into the NAD synthesis in mitochondria isolated from fresh and aged-dehydrated tubers of Jerusalem artichoke
 C. Di Martino, **ML Pallotta**
 Federazione Italiana Scienze della Vita, IX National Congress September 2007
 Age-related changes in proline mitochondrial transport and metabolism in Jerusalem artichoke tubers
ML Pallotta, C Di Martino
 Federazione Italiana Scienze della Vita, IX National Congress September 2007
 Mitochondria isolated from fresh and aged-dehydrated slices tubers of Jerusalem artichoke can synthesize NAD(P) from NMN externally added
 C Di Martino and **ML Pallotta**
 Federazione Italiana Scienze della Vita, VIII National Congress October 2006
 Proline accumulation in durum wheat seedlings under salt stress conditions depends on its own mitochondrial transport.
 C Di Martino and **ML Pallotta**
 Federazione Italiana Scienze della Vita, VIII National Congress October 2006
 Proline catabolism and mitochondrial transport: the occurrence of the proline uniporter and of the proline/glutamate antiporter in mitochondria isolated from durum wheat.
 Catello Di Martino, Roberto Pizzuto, **Maria Luigia Pallotta**, Donato Pastore, Aurelio De Santis and Salvatore Passarella.
 5° Convegno Federazione Italiana Scienze della Vita, 2003
 The effect of water stress on certain features of ADP/ATP and Succinate/malate antiports in mitochondria isolated from *Solanum tuberosum* cell suspension cultures
 Fratianni A., **ML. Pallotta**, De Virgilio C., Chiatante D. and Passarella S.

GIBB, Scuola Superiore di Specializzazione Sant'Anna Pisa-September 1999.
Processi di trasporto in mitocondri di *Saccharomyces cerevisiae*
ML. Pallotta, A. Fratianni, C. Brizio, C. De Virgilio, M. Barile e S. Passarella
GIBB-SIB June 1997
Effetto del laser ad Helium-Neon sulla crescita di piantule di *Phaseolus vulgaris*
ML. Pallotta, A. Fratianni D. Chiatante and S. Passarella
II Convegno Nazionale Congiunto di Fotobiologia e Fotobiochimica Maratea June 1996
Alterazioni biochimiche in piantule di *Phaseolus vulgaris* derivate da embrioni irraggiati con laser ad Helium-Neon
A. Fratianni, **ML. Pallotta**, D. Chiatante S. Passarella
Sezioni meridionali SIB Potenza 1996
Influenza del polimorfismo genetico della Beta-lattoglobulina su alcune caratteristiche chimico fisiche e tecnologiche del latte di pecora
F. Pilla ,S. Dell'Aquila, L. Taibi, C. Tripaldi, S. Puppo, F. Napolitano, **ML. Pallotta**, M. Angelucci, A. Girolami XI Congresso A.S.P.A. Grado June 1995.
Distribuzione degli alleli A e B mediante PCR (Polymerase Chain Reaction) e RFLP (Restriction fragment length polymorphism).
ML. Pallotta, A. Bellitti, F. Pilla e A. Girolami.
Biotechnology for milk production Turin November 1994
Impiego della "Polymerase Chain Reaction" (PCR) per rilevare *Listeria monocytogenes* negli insilati.
S. Torriani, G. Salzano, **ML. Pallotta** e F. Dellaglio
S. I. M. 24° Congresso Nazionale. Genoa September 1992.
Uso della "Polymerase Chain Reaction" (PCR) per rilevare *Listeria monocytogenes* negli alimenti.
G. Salzano, **ML. Pallotta**, M. F. Maddonni, F. Villani, R. Coppola e C. Sorlini
S. I. M . 24° Congresso Nazionale. Genoa September 1992.

Chapter in book

Bacteriocins: Production, Applications and Safety

Edited by Troy Padilla (2016)

Chapter 1 : Bacteriocin Producing Cultures: A Sustainable Way for Food Safety Improvement and Probiotics with Additional Health Promoting Effects

F Rossi, **ML Pallotta**

Pallotta's interests include traveling, walking, reading history and biographies and..much more.